

# **Drug and Alcohol Service Planning Model for Australia**



**Population-based planning for  
Drug and Alcohol Service Development**

## **TECHNICAL MANUAL for the Intergovernmental Committee on Drugs (IGCD)**

**FINAL VERSION 4.15  
26 August 2013**

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# Acknowledgments

The Project Team undertook the development of the Drug and Alcohol Service Planning Model for Australia ( the Model) with the guidance of the Project's Expert Reference Group, and in consultation with stakeholders.

The Project Team is comprised of staff from the Mental Health and Drug and Alcohol Office (MHDAO) in the NSW Ministry of Health (NSW MoH).

Contributions were made by:

- ☐ Director, Mental Health and Drug & Alcohol Programs, NSW MoH
- ☐ NSW Health Drug and Alcohol Clinical Advisor
- ☐ Steering Committee (membership: senior jurisdictional drug and alcohol representatives)
- ☐ Expert Reference Group (membership: modelling and drug and alcohol experts working in a variety of settings – university based research organisations, consultancy, government and community drug and alcohol services)
- ☐ NSW Drug and Alcohol Program Council
- ☐ Drug and Alcohol Aboriginal representatives
- ☐ Other Drug and Alcohol stakeholders.

A full list of the current members of the Steering Committee, Expert Reference Group and Indigenous Committee is to be found at:

## **Appendix 2 Project Governance/Committees/Terms of Reference.**

# Table of Contents

1.	Introduction	9
2.	Project Background	10
2.1	<b>Project Sponsorship and Funding</b>	<b>10</b>
2.2	<b>Project Aim</b>	<b>10</b>
2.3	<b>Project Governance</b>	<b>10</b>
2.3.1	Purposes, Membership and Process – Steering Committee	12
2.3.2	Purposes, Membership and Process - Expert Reference Group	12
2.3.3	Purposes, Membership and Process - Project Team	13
2.4	<b>Alignment with National Drug Strategy Objectives</b>	<b>13</b>
2.5	<b>Application of Project Outcomes</b>	<b>14</b>
2.6	<b>Links to Mental Health Clinical Care and Prevention Model</b>	<b>14</b>
3.	Project Scope	16
3.1	<b>In Scope</b>	<b>16</b>
3.1.1	Drug Types	16
3.1.2	Services	17
3.2	<b>Out of Scope</b>	<b>17</b>
3.2.1	Drug Types	17
3.2.2	Services	18
3.2.3	Modules started and proposed to be completed in the next iteration of the Model	19
4.	Summary Explanation of Model	21
5.	Structure of the Model	22
5.1	<b>Overview of Structure</b>	<b>23</b>
5.1.1	General Note	23
5.1.2	Drug Type	23
5.1.3	Population & Epidemiology	24
5.1.4	Demand	25
5.1.5	Service Mapping	28
5.1.6	Clinical Care Rate	30
5.1.7	SBI Screening Brief Intervention	33
5.1.8	Care Packages	33
5.1.9	Care Packages and Mental Health Comorbidity	34
5.1.10	Standalone Items (Sprinkles)	36
5.1.11	Modelling for Pregnant Women	36
5.1.12	Estimates/Predictions	37
6.	Modelling Withdrawal Management	39
7.	Age Group Specific Modelling	41
7.1	<b>0-11 months</b>	<b>41</b>
7.1.1	Early Intervention: Care Delivered To the Parent On Behalf Of the Child	41
7.1.2	Child of Parent Who Uses Substances – NAS Baby	41
7.1.3	Foetal Alcohol Spectrum Disorder (FASD)	42
7.2	<b>1-11 years</b>	<b>42</b>
7.2.1	Early Intervention: Care Delivered To the Parent On Behalf Of the Child	42
7.3	<b>12-17 years</b>	<b>43</b>
7.3.1	Family / Carer Engagement	43
7.3.2	Consultation Liaison to Obstetrics	43
7.4	<b>18-64 years</b>	<b>43</b>
7.4.1	Consultation Liaison to Obstetrics	43

7.4.2	Vocational Education, Training and Employment (VETE)	43
<b>7.5</b>	<b>65+ years</b>	<b>44</b>
7.5.1	Information and Education	44
7.5.2	Consultation Liaison To Residential Aged Care Facility	44
<b>8.</b>	<b>Model Parameters</b>	<b>45</b>
<b>8.1</b>	<b>Age groups</b>	<b>46</b>
<b>8.2</b>	<b>Population</b>	<b>46</b>
8.2.1	Standard Population	46
8.2.2	Australian and Other Jurisdictional Populations	47
<b>8.3</b>	<b>Prevalence Parameter</b>	<b>47</b>
8.3.1	Total 12 Month Epidemiological Prevalence	47
8.3.2	MILD, MODERATE and SEVERE Prevalence Rates	48
8.3.3	SBI Screening Brief Intervention Target Population	48
<b>8.4</b>	<b>Treatment Rate Parameters</b>	<b>49</b>
8.4.1	Treatment Rate Parameters - Total 12 Month Treatment Rates	49
8.4.2	MILD, MODERATE and SEVERE Treatment Rates	50
8.4.3	Treatment Rates for Care Packages	50
<b>8.5</b>	<b>FTE Hours of Service per Year</b>	<b>51</b>
8.5.1	Calculation of Clinical FTE Reportable Client Hours	51
<b>8.6</b>	<b>Bed Based Services</b>	<b>52</b>
8.6.1	Bed Days (BD)	53
8.6.2	Average Length of Stay (ALOS)	53
8.6.3	Readmission	53
8.6.4	Occupancy	53
8.6.5	Separations per Person	53
8.6.6	Available Bed Days (ABDs)	54
8.6.7	Occupied Bed Days (OBDs)	54
8.6.8	Persons per Bed Year	54
8.6.9	FTE/Bed	54
<b>8.7</b>	<b>Pricing</b>	<b>54</b>
<b>8.8</b>	<b>FTE Staff Prices</b>	<b>54</b>
<b>8.9</b>	<b>Bed Prices</b>	<b>55</b>
<b>8.10</b>	<b>Diagnostic Test Prices</b>	<b>55</b>
<b>8.11</b>	<b>Prescription Medicine Prices</b>	<b>55</b>
<b>9.</b>	<b>Epidemiology</b>	<b>57</b>
<b>9.1</b>	<b>Epidemiological Information Used to Inform The Model</b>	<b>57</b>
9.1.1	Epidemiological Prevalence	57
<b>10.</b>	<b>Description of MILD, MODERATE &amp; SEVERE (standard and complex)</b>	<b>58</b>
<b>10.1</b>	<b>Key Points - Summarised</b>	<b>58</b>
<b>10.2</b>	<b>Background</b>	<b>59</b>
<b>10.3</b>	<b>SEVERE, MODERATE and MILD Drug or Alcohol Use</b>	<b>59</b>
10.3.1	SEVERE	59
10.3.2	MODERATE	60
10.3.3	MILD	60
<b>10.4</b>	<b>Conceptualising Severity In Relation to the Prevalence Data</b>	<b>61</b>
<b>10.5</b>	<b>Applying Severity to Individual DRUG Groups</b>	<b>61</b>
<b>10.6</b>	<b>Modelling Severity</b>	<b>62</b>
<b>10.7</b>	<b>Revised Estimates of Illicit Opioids</b>	<b>63</b>
<b>10.8</b>	<b>Epidemiology and Treatment Rates and Numbers</b>	<b>65</b>
<b>11.</b>	<b>Screening and Brief Intervention</b>	<b>71</b>
<b>12.</b>	<b>Harm Reduction Estimates</b>	<b>75</b>

13.	Promotion and Prevention	80
13.1	Current Issues with modelling of Promotion and Prevention	80
13.2	Work Undertaken for Prevention and Promotion	81
13.3	Prevention Component Framework	87
14.	Preliminary Indigenous Adaptation to the Model	90
15.	Estimating the Number of Clinical Staff FTE Needed	92
15.1	Estimating the Annual Clinical Staff FTE Resource Requirement	94
15.1.1	Standard Clinical Staff FTE	94
15.1.2	Caretaker Clinical Staff FTE	96
15.1.3	Calculation of reportable client hours generated by a clinical FTE	97
15.2	Bed Based Staff Weighting Factors	99
15.2.1	Withdrawal Management (Detox) Beds & Residential Beds	99
15.2.2	Methodology for the calculation of overnight & weekend Detox bed FTEs	99
15.2.3	Methodology for the calculation of overnight Resi Rehab bed FTEs in DACCP	99
16.	Estimating the Number of Beds Needed	101
16.1	Estimating the Annual Bed Resource Requirement	101
17.	Estimating the Number of Diagnostic Tests Needed	105
17.1	Estimating the Annual Diagnostic Tests Requirement	105
18.	Estimating the Quantity of Doses of Prescription Medicine Needed	107
18.1	Estimating the Annual Prescription Medicine Requirement	108
19.	Pricing – Clinical Staff, Prescription Medicine and Diagnostic Tests	110
19.1	Pricing – Clinical Staff	111
19.1.1	Doctor – GP (not AMS)	111
19.1.2	Doctor AMS, Nurse/AH Staff, AOD Worker	113
19.2	Exclusions from Clinical Staff Estimates	113
19.2.1	Operating Costs	113
19.2.2	Capital Costs	114
19.3	Pricing – Beds	114
19.3.1	Source of Bed Overhead Costs	115
19.4	Pricing – Diagnostic Tests	116
	Source of Diagnostic Test Prices	116
19.5	Pricing – Prescription Medicine	117
20.	Cost	119
20.1	Calculating Clinical Staff FTE Cost	119
20.1.1	Clinical Staff FTE – Ambulatory & Bed Based	119
20.2	Calculating Cost of Bed Based Services	119
20.3	Calculating Cost of Diagnostic Tests	120
20.4	Calculating Cost of Prescription Medicines	120
21.	Population	122
22.	Appendices	124
	Appendix 1 Glossary and Acronyms	125
	Appendix 2 Project Governance/Committees/Terms of Reference	140
A2.1	Terms of Reference -Steering Committee	141
A2.2	Terms of Reference - Expert Reference Group	145
A2.3	Steering Committee Membership	149
A2.4	Expert Reference Group Membership	151
A2.5	Indigenous Committee – Membership	153
A2.6	Project Team – Membership	154
	Appendix 3 AN EXPLANATION ON severity and disability weights	155
A3.1	The burden of disease and injury in Australia, November 1999	155
A3.2	An explanation on severity and disability weights	156

A3.3	The definition of SEVERE, MODERATE and MILD mental illness	158
A3.4	Definition of SEVERE	158
A3.5	Definition of MODERATE	159
A3.6	Definition of MILD	159
A7.7	The ECA Surveys	160
A3.8	The NCS	160
A3.9	Supplement for MH-CCP Version 2.008	161
A3.10	Background to the definitions of levels of severity in CCP modelling.	165
A3.11	The Victorian legal definition of Severe Substance Dependence	167
	<b>Appendix 4 Review of Treatment rate parameters in DA-CCP</b>	<b>175</b>
A4.1	Background	177
A4.2	Direct Demand Estimates	179
A4.3	Estimates from Disability Weights	181
A4.4	Alcohol	182
	<b>Appendix 5 Using AUSBoD data in the age group 12-17 years</b>	<b>185</b>
A5.1	AUSBoD shows prevalence age 15+, calculations for 12-17 years age group in the model.	185
	<b>Appendix 6 Activities Included /Excluded from Care Packages and Clinical FTE</b>	<b>195</b>
	<b>Appendix 7 Calculations for Pricing – Clinical Staff</b>	<b>202</b>
A7.1	A comparison of prices for the different types of FTEs by source	202
A7.2	A comparison of prices for the different types of FTEs by source – South Australia	204
A7.3	A comparison of prices for the different types of FTEs by source – NSW data in the SA format	205
A7.4	Summary – salary only	206
A7.5	General Medical Practitioner	207
	<b>Appendix 8 Calculations For Presentations at Emergency Department</b>	<b>213</b>
A8.1	Method of Calculation - Presentations at Emergency Department	213
	<b>Appendix 9 Calculations for Average Length of Stay (ALOS)</b>	<b>215</b>
A9.1	Method of calculation ALOS for Beds used in 12 month care packages	215
A9.2	Method of calculation ALOS for Beds Stays for Standalone items	215
	<b>Appendix 10 Care Packages – 12 months</b>	<b>217</b>
A10.1	Standard and Complex	218
A10.2	Care Package Specifications	219
A10.3	Care Package Codes and Descriptions	220
	<b>Appendix 11 Standalone Care – Not for 12 months</b>	<b>222</b>
A11.1	Modelling for Pregnant women	222
A11.2	Modelling for Consultation Liaison to MH and General Beds	223
A11.3	Modelling for Info and Education	223
A11.4	Summary Of Standalone Items	225
A11.5	Example: Standalone Items for Alcohol Age 12-17	237
A11.6	Standalone Items Codes and Descriptions	239
	<b>Appendix 12 Key Parameters Bed Stats</b>	<b>241</b>
	<b>Appendix 13 Care Rates and Numbers for SEVERE Care Packages</b>	<b>248</b>
	<b>Appendix 14 Care Rates for the Standalone Items</b>	<b>261</b>
	<b>Appendix 15 Residential Rehabilitation</b>	<b>274</b>
A15.1	Who needs residential rehabilitation?	274
A15.2	How residential rehabilitation beds are modelled	275
A15.3	Summary of Residential Rehabilitation care	275
A15.4	Residential Rehabilitation and the estimator tool	278
A15.5	WHOS MTAR Program Schedule	279
A15.6	WHOS Gunyah (Mens) Program Schedule – Drug Free	281
A15.7	WHOS New Beginnings (Womens) Program Schedule – Drug Free	283

A15.8	WHOS RTOD - Program Schedule	285
A15.9	Logan House Weekly Timetable	286
A15.10	DASA Alice Springs- Withdrawal Management (Detox)and 8 week program	288
A15.11	The Buttery timetable	289
	<b>Appendix 16 Data Companion</b>	<b>290</b>
A16.1	Aus BOD drugs Prevalence, Mortality, Remission, Disability Weight	290
A16.2	ICD Codes Related to Aus BOD Drugs	292
A16.3	ASCDC Australian Standard Classification of Drugs of Concern	292
A16.4	ABS Populations Australia, 2006	296
A16.5	ABS Populations Australia, 2006 - 2031 by State and Age Group	300
A16.6	The 2010 National Drug Strategy Household Survey	311
	<b>Appendix 17 Harm Reduction Component Details and Estimates</b>	<b>315</b>
A17.1	Harm Reduction details and Resource Estimate	315
A17.2	Harm Reduction Intervention Costs Estimates	318
	<b>Appendix 18 Considerations for Next Revision of the Model</b>	<b>319</b>
	<b>Appendix 19 DRAFT Prevention Component</b>	<b>321</b>
	<b>Appendix 20 Data Sources and References</b>	<b>375</b>
	<b>Appendix 21 Frequently Asked Questions (FAQs)</b>	<b>386</b>
A21.1	Is the Model prescriptive?	386
A21.2	Why is the Model a “should” model?	386
A21.3	What is the difference between need and demand?	386
A21.4	What is the difference between the Model and a resource distribution formula?	386
A21.5	Why standard populations of 100,000?	386
A21.6	What of rural and remote communities, different socioeconomic status, Indigenous populations?	386
A21.7	What are the different age groups in the model?	387
A21.8	How were the MILD, MODERATE and SEVERE categories determined?	388
A21.9	Does the Project use ‘episodes of care’ in its modelling?	388
A21.10	Does the model show treatment completion rates?	389
A21.11	Are there different kinds of Staff Costs in the model?	389
A21.12	Does the model estimate future drug use and age projections?	389
A21.13	What is a care package?	389
A21.14	Why does a care package cover a 12 month period?	390
A21.15	Who provided the specifications for the care packages?	390
A21.16	What about the physical health needs of an individual?	390
A21.17	What if a person requires several years of treatment?	390
A21.18	How many care packages can a person have in a year?	391
A21.19	How do the care packages account for incident cases (new cases) of illness versus prevalent cases (ongoing cases) in a 12 months period?	391
A21.20	If a care package specifies a level of care for a year that is adequate or satisfactory, does this mean that services in the future may be at risk of being rationed to the levels prescribed in a care package?	391
A21.21	Are weightings applied for serious and complex cases?	391
A21.22	Why are there ‘standalone’ items that are NOT 12 month care packages?	392
	<b>Appendix 22 Gap Analysis</b>	<b>393</b>
A22.1	Using prevalence and treatment data to calculate different rates	394
A22.2	Gap Analysis for Jurisdictions	396
A22.3	Recommended Data Collection Items	396
	<b>Appendix 23 List of Tables</b>	<b>398</b>
	<b>Appendix 23 List of Figures</b>	<b>403</b>



# 1. Introduction

This Technical Manual accompanies and supports the Estimator Tool and its associated User Manual. The Technical Manual:

- ☐ summarises the model's genesis
- ☐ identifies the scope of the Model
- ☐ describes the model's underlying structure
- ☐ details elements of the model
- ☐ explains how key parameters used in the model have been derived
- ☐ explains how resource estimates are calculated
- ☐ answers questions about the model (FAQs).

## 2. Project Background

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### 2.1 PROJECT SPONSORSHIP AND FUNDING

The Drug and Alcohol Service Planning Model for Australia (the model) was commissioned early in 2010 by the Ministerial Council on Drug Strategy (MCDS) through the Intergovernmental Committee on Drugs (IGCD), as a project under the cost shared funding model (CSFM).

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### 2.2 PROJECT AIM

The project's aim was to develop a nationally agreed population based planning model to estimate the need and demand for drug and alcohol health services across Australia.

The project was originally funded for a two year period from 1 April 2010 to 31 March 2012, and was extended to 31 December 2012.

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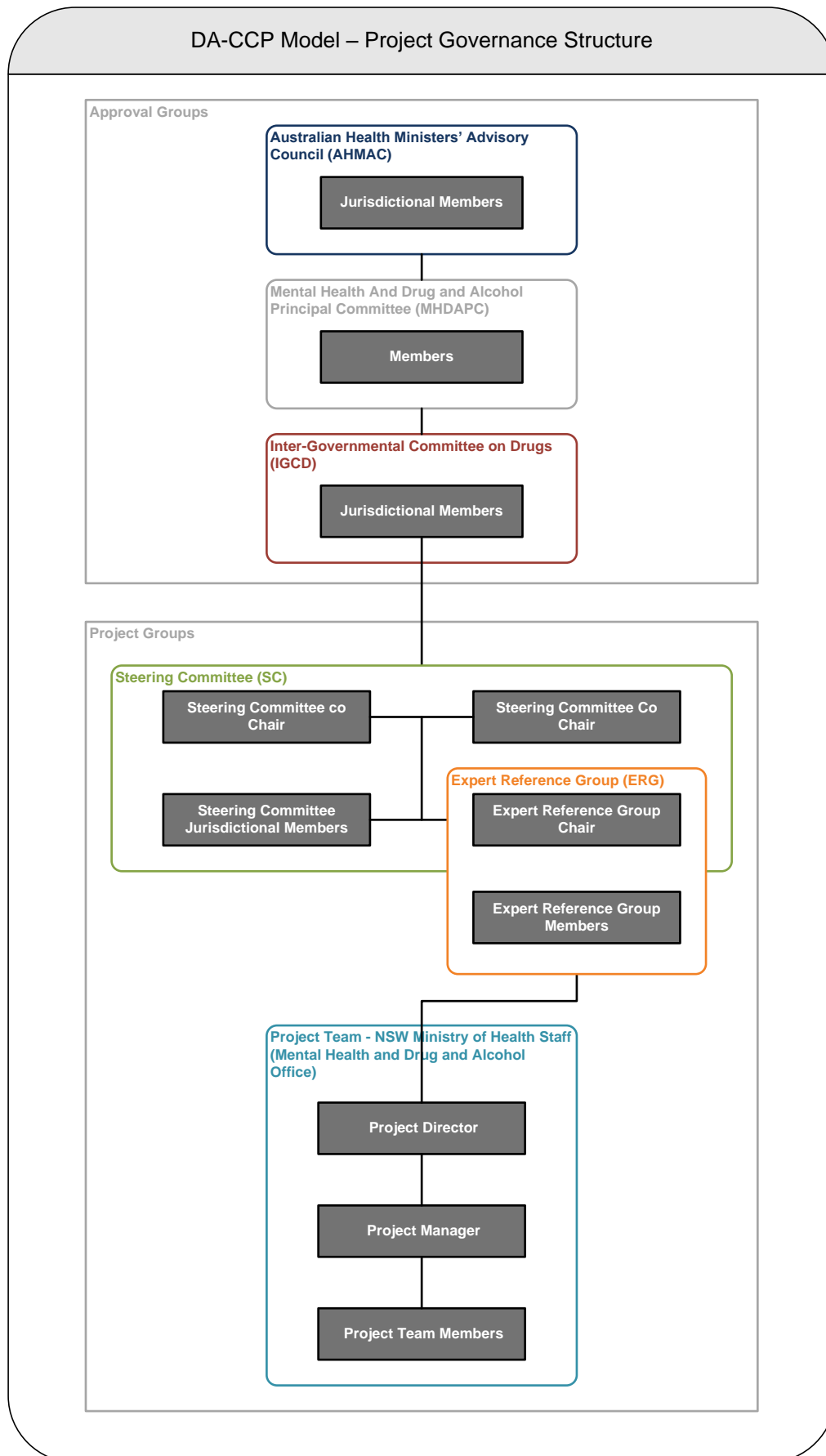
### 2.3 PROJECT GOVERNANCE

The Project was structured around the following project groups:

- Steering Committee (SC);
- Expert Reference Group (ERG); and
- Project Team.

The Governance Structure to support the Project is outlined in Figure 1 below.

**Figure 1 - Project Governance Structure**



The membership, key responsibilities, and relevant processes of the Project groups are identified in the following sections.

### **2.3.1 Purposes, Membership and Process – Steering Committee**

A Project Steering Committee (SC) comprised of senior health officials representing all jurisdictions provided final decisions on all matters related to the Model development, over an almost three year period from April 2010 through to February 2013.

Membership of the SC was determined by the Inter-Government Committee on Drugs (IGCD). Secretariat support was provided by the lead agency (Mental Health and Drug and Alcohol Office, NSW Ministry of Health<sup>1</sup>).

Typically the SC received a report on the modelling work undertaken, over the preceding six-month period by the Project Team on the advice of the Expert Reference Group (ERG). The report included areas where decisions or directions were needed. Sufficient time was factored in between the SC meeting and the time when papers had to be prepared for IGCD, so that it was possible for the Project Team to act on SC decisions and provide a paper to IGCD on the SC endorsed model as it existed at that time.

The contribution of the SC to the success of the Project was in deciding on issues that could not be resolved at the ERG level, facilitating discussion on jurisdictional level issues and priorities, and providing a platform for an initial National endorsement of the model.

The detailed terms of reference for the Steering Committee, and a list of members can be found at:

**Appendix A2.1      Terms of Reference -Steering Committee**  
**Appendix A2.3      Steering Committee Membership**

### **2.3.2 Purposes, Membership and Process - Expert Reference Group**

The Expert Reference Group (ERG) was responsible for advice and review of all matters related to components of the modelling for the Model, that is, epidemiological and clinical aspects of drug and alcohol treatment, and service delivery and planning. These included:

- identifying literature reviews and other literature relevant to the project
- consulting within jurisdictions and /or professional networks to obtain and supply information needed by the project
- providing detail of activities, diagnostic tests and prescription medicines, that make up the care packages
- advising on the epidemiological data underlying the model
- assessing outcomes of the Model, and advising on its correctness.

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<sup>1</sup> As at 6 October 2011, the NSW Department of Health was renamed the NSW Ministry of Health

Membership of the ERG was determined by the Project Steering Committee nominated by the Inter-Government Committee on Drugs (IGCD). Membership included experts across stakeholder organisations and jurisdictions, who could provide expert advice on one or more aspects of the modelling at the epidemiological level, clinical level, and service planning level and for their high level research expertise.

The ERG included the Director, Drug Policy Modelling Program, National Drug and Alcohol Research Centre (NDARC) as its Chairperson, representatives from the Australian National Council on Drugs (ANCD), the Alcohol and Other Drugs Council of Australia (ADCA), National Indigenous Drug and Alcohol Committee (NIDAC), Australasian Chapter of Addiction Medicine within the Royal Australian College of Physicians, Australian Therapeutic Communities Association (ATCA), and representatives from each State/Territory health jurisdiction.

Secretariat support was provided by the lead agency (Mental Health and Drug and Alcohol Office, NSW Ministry of Health).

The contribution of the ERG to the success of the Project was critical. A number of regular teleconferences and face-to-face meetings were scheduled over the course of the Project. Typically, each meeting reviewed the work done in accordance with actions required by the previous ERG meeting/s and the previous Steering Committee meeting, and made recommendations for the work to be prioritised by the Project Team over the next period. The commitment required from individual members varied considerably over the project life, as particular topics became the focus of attention.

The detailed Terms of Reference for the Expert Reference Group and a list of members can be found at:

**Appendix A2.2      Terms of Reference - Expert Reference Group**  
**Appendix A2.4      Expert Reference Group Membership**

### **2.3.3 Purposes, Membership and Process - Project Team**

The Project Team was responsible for the everyday modelling and development of the Model. The team was responsible for delivery of the three major products of the Project – an Estimator Tool and documentation, the Technical Manual, and a final report to the IGCD. The team created the Model template, identified and collated data and information, and acted on the expert advice of the ERG and direction of the SC to finalise the Model. The team also provided secretariat support to the SC and ERG.

The Project Team was made up of staff from the Lead Agency (Mental Health and Drug and Alcohol Office, NSW Ministry of Health), and comprised a Project Director, Project Manager, a Senior Project Officer, a Project Officer, and other Senior Project Officers and Project Officers as required.

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## **2.4 ALIGNMENT WITH NATIONAL DRUG STRATEGY OBJECTIVES**

The Project proposal to the IGCD met the following priority areas of the National Drug Strategy 2004-2009<sup>2</sup>:

- Prevention - the model will quantify the need for prevention, promotion and early intervention e.g. FTE staff per 100,000 of age specific population
- Reduction of drug use and related harms - by determining a level of service that is needed, and connecting this to epidemiological data on drug use and harms, a logical case can be made for the level of harm reduction that could be achieved with additional resources
- Improved access to quality treatment - by including clinically defined drug and alcohol care packages based on guidelines/ clinical consensus, and determining the resources needed to deliver those packages of care to those who need them, the model supports the use of quality treatments. For example FTE staff per 100,000 of age specific population, and beds per 100,000 of age specific population
- Development of the workforce organisations and systems - the drug and alcohol service planning model helps to define an adequate, comprehensive drug and alcohol service. The model serves to define the workforce capacity that is needed to deliver that care, e.g. FTE staff per 100,000 of age specific population.

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## **2.5 APPLICATION OF PROJECT OUTCOMES**

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As there was no national population based model for drug and alcohol service planning, it was considered that the provision of a nationally consistent drug and alcohol service planning model would provide a standardised measure across all jurisdictions for estimating the need for drug and alcohol services, across the spectrum from prevention<sup>3</sup> and early intervention to the most intensive treatment.

It would also provide a basis for all jurisdictions to consistently estimate of the gap between estimated need and current resources.

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## **2.6 LINKS TO MENTAL HEALTH CLINICAL CARE AND PREVENTION MODEL**

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In 2001 NSW Health developed a model for estimating mental health service needs. The model is called the Mental Health and Clinical Care and Prevention (MH-CCP) Model and has been favourably reviewed in international literature<sup>4</sup>.

Planning models endorsed by governments with service delivery and funding responsibilities are not easily built. The review of 31 mental health system plans from Australia, New Zealand, the UK, the US and Canada found that only four predicted overall resource requirements and only two had an epidemiological basis for the resource levels predicted. One was the MH-CCP Version 1.11 model from the NSW Ministry of Health, which laid its cards on the table in

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<sup>2</sup> **The National Drug Strategy (NDS) 2004-2009** – a policy framework that provides a coordinated, integrated approach to prevent and reduce the harms caused by drugs in the Australian community. It is the responsibility of the Ministerial Council on Drugs Strategy, which is the peak policy and decision making body on licit and illicit drugs. The 2004-2009 strategy has now expired and has been replaced by the [National Drug Strategy 2010-2015](#) that was endorsed by the Ministerial Council on Drugs on 25 February 2011

<sup>3</sup> Prevention has been recommended for inclusion in the development of the second iteration of the DA-CCP model.

<sup>4</sup> Pirkis J. Harris M. Buckingham W. Whiteford H. Townsend-White C. International planning directions for provision of mental health services. *Administration & Policy in Mental Health*, 2007; 34(4):377-87.

158 pages of documentation that have been available on the NSW Ministry of Health website since 2001.

Unexpectedly, the publicly available model was used by many other jurisdictions in Australia as a planning guide. This is partly because there was already an agreed national mental health service taxonomy, and the NSW mental health service planning model incorporated ambulatory care models from the Victorian Department of Human Services and inpatient optimal staffing profiles from Queensland Health.

## 3. Project Scope

The ERG revisited the scope of the funded project on several occasions. This proved an invaluable mechanism for maintaining the focus on the project completion.

### 3.1 IN SCOPE

#### 3.1.1 Drug Types

The following five drug types are included in the Model:

1. Alcohol
2. Amphetamine
3. Benzodiazepines
4. Cannabis
5. Illicit Opioids

The drugs explicitly included in the Project are the ones defined in the Australian Burden of Disease (AUSBoD) Study. These are detailed in the spreadsheets J01a through J01e (see **Section A16.1 Aus BOD drugs Prevalence, Mortality, Remission, Disability Weight**). These five drugs included in the Model, represent 93% of the sum of all [Alcohol and other drugs Treatment Services - National Minimum Data Set](#) (AODTS-NMDS) Closed Treatment Episodes in Australia from 2002-03 to 2008-09, excluding Tobacco/ Nicotine.

Table 1 - Principal Drugs of Concern AODTS-NMDS Closed Treatment Episodes in Australia from 2002-03 to 2008-09 below shows variation by year for these principal drugs of concern.

**Table 1 - Principal Drugs of Concern AODTS-NMDS Closed Treatment Episodes in Australia from 2002-03 to 2008-09**

Closed Treatment Episode as values		NSW	VIC	QLD	WA	SA	TAS	ACT	NT	State
Total (AusBoD Drugs only)	2002-03	96%	94%	95%	95%	94%	88%	86%	91%	94%
J01a Alcohol (Alcohol)	2003-04	96%	94%	91%	94%	93%	90%	96%	93%	94%
J01b Heroin (Heroin + Methadone)	2004-05	96%	93%	91%	94%	91%	90%	99%	86%	94%
J01c Benzodiazepine (Benzodiazepines)	2005-06	96%	92%	91%	94%	91%	91%	98%	85%	93%
J01d Cannabis (Cannabinoids)	2006-07	95%	92%	92%	93%	91%	93%	98%	86%	93%
J01e Stimulants (Amphetamines)	2007-08	95%	92%	91%	93%	92%	92%	95%	88%	93%
	2008-09	94%	93%	91%	93%	92%	89%	96%	86%	93%
	Year	95%	93%	91%	94%	92%	90%	96%	88%	93%



### 3.1.2 Services

The following drug and alcohol related services are included in the Model:

**Table 2 - Services that are in scope for the Model**

	Service
1	The bulk of Alcohol and Other Drug (AOD) treatment services such as: <ul style="list-style-type: none"> <li>– early interventions</li> <li>– psychosocial interventions (counselling)</li> <li>– withdrawal management</li> <li>– residential rehabilitation</li> <li>– Inpatient hospital admissions for AOD treatment in a designated D&amp;A bed.</li> </ul>
2	Consultation-liaison services delivered by AOD specialist staff to persons with AOD conditions who present in other healthcare settings. E.g. residential aged care facilities, and overnight hospital stays in a mental health bed, general bed, emergency department, or obstetrics bed.
3	AOD services delivered by general practitioners and allied health providers under Medicare.
4	Harm reduction

## 3.2 OUT OF SCOPE

### 3.2.1 Drug Types

The following drug types are out of scope for the Model:

1. Inhalants
2. Kronic / Synthetic Cannabis
3. Poly drug use
4. Steroids
5. Tobacco

**Note:** Tobacco is out of scope as it is not one of the five drugs type included in the Model. However, a tobacco intervention has been modelled, which applies to 80% of the SEVERE population, and like assertive follow up, it is a standard unit of service in all severe care packages only.

Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see **section: 10 Description of MILD, MODERATE & SEVERE (standard and complex)** .

See also **Appendix 18**      **Considerations for Next Revision of the Model**

### 3.2.2 Services

The following drug and alcohol related services are out of scope for the Model:

**Table 3 - Services out of scope for the Model**

	Services Out of Scope
1	Housing/homelessness services
2	Welfare support services, including non AOD outreach services
3	Correctional/crime systems (drug courts, prison-based programs)
4	Youth support services (not AOD specific)
5	No inclusion of co-morbid health services, for example: <ul style="list-style-type: none"> <li>– Hepatitis C Virus (HCV) treatment</li> <li>– Screening in AOD settings for co-morbid health conditions (e.g. Sexually transmitted infections)</li> <li>– Immunisation</li> <li>– Chronic pain services</li> </ul>
6	Alcohol Related Brain Injury (ARBI) or Substance Related Brain Injury (SRBI)
7	Involuntary inpatient/residential patients e.g. those in treatment under The Drug and Alcohol Treatment Act 2007 (NSW) (replaced Inebriates Act.)
8	Self-help programs, Alcoholics Anonymous(AA), Narcotics Anonymous (NA)
9	Crisis intervention
10	Internet, online, e-health
11	Peer support programs
12	Supported accommodation
13	Carers/families services that are not AOD specific
14	Poly drug use
15	Co-morbidity - mental health co-morbidity. The model does not include care packages that explicitly integrate AOD with MH services
16	Telephone Services

See **Appendix 18 Considerations for Next Revision of the Model**

**Note** although services mentioned above are out of scope for the model, the people within the services/systems are included, as this is an ‘all peoples’ model that covers the whole Australian population. For instance, the model still counts people within prisons, even though there are no specific care packages or epidemiology for prisoners. For example, the two OST/OTP care packages in illicit opioids provide estimates for people registered in Opioid Treatment Programs, be it in the community or prison.

### 3.2.3 Modules started and proposed to be completed in the next iteration of the Model

The following drug and alcohol related services are proposed for completion in the next iteration of the Model:

**Table 4 - Services proposed for completion in next iteration of the Model**

	Services proposed for completion in next iteration of the Model
1	Prevention. See <b>section 13 Promotion and Prevention</b>
2.	Indigenous. Although the indigenous adaptation to the model is currently out of scope in the current version of the model, this is an 'all peoples' model that covers the whole Australian population. For instance, the model still counts Indigenous people, even though in the current model, there are no specific care packages or epidemiology for Indigenous people. See <b>section 1 Error! Not a valid result for table.</b>
3	e-Health
4	Self help groups, e.g. AA, NA
5	Telephone Services

For further details, see:

### Appendix 18 Considerations for Next Revision of the Model.

#### 3.2.3.1 Telephone services

The ERG agreed to collect data for telephone services, but it was not included in the final Model as the Project Team collected some (e.g. data from the jurisdictions), but not all of the data (e.g. other specialist services e.g. Cannabis helpline). It was expected that the information regarding telephone services in the model would be similar to the format / presentation used for harm reduction. A recommendation has been made that telephone data be included in version 2.

These are the telephone services proposed to be considered for the next revision:

**Table 5 - Drug and Alcohol Support Services for consumers and families**

State/Territory	Name/Contact of Service
ACT	<b>24 Hour Alcohol &amp; Drug Telephone Line</b> Tel: (02) 6207 9977
NSW	<b>Alcohol and Drug Information Service (ADIS)</b> Tel: (02) 9361 800 or 1800 422 599 (rural)
NT	<b>Alcohol and Drug Information Service</b> Tel: 1800 131 350
QLD	<b>Alcohol and Drug Information Service</b> Tel: (07) 3837 5989 or 1800 177 833 (rural)
SA	<b>Alcohol and Drug Information Service</b> Tel: 1300 13 13 40
TAS	<b>Alcohol and Drug Information Service</b>

State/Territory	Name/Contact of Service
	Tel: 1800 811 994 (24 Hour)
<b>VIC</b>	<b>DirectLine</b> Tel: 1800 888 236 <b>DrugInfo</b> Tel: 1300 85 85 84 <b>Family Drug Helpline</b> Tel: 1300 660 068 <b>Youth Substance Abuse Service (YSAS Line)</b> Tel: (03) 9418 1020 or 1800 014 446 (rural)
<b>WA</b>	<b>Alcohol and Drug Information Service</b> Tel: (08) 9442 5000 or 1800 198 024 (rural) <b>Parent Drug Information Service</b> Tel: (08) 9442 5050 or 1800 653 203 (rural)

Table 6 - Other support services

State/Territory	Name/Contact of Service
	<b>Family Drug Support</b> Tel: 1300 368 186
	<b>National Cannabis Information and Helpline</b> Tel: 1800 30 40 50

Table 7 - Information Services for Professionals

State/Territory	Name/Contact of Service
<b>NSW &amp; ACT</b>	<b>NSW Drug and Alcohol Specialist Advisory Services (DASAS)</b> Tel: (02) 9361 8006 (city) and 1800 023 687 (rural)
<b>NT</b>	<b>Drug and Alcohol Clinical Advisory Service (DACAS)</b> Tel: (08) 8952 8412
<b>SA</b>	<b>Clinical Advisory Service (CAS) via ADIS</b> Tel: (08) 8363 8618 ADIS who then transfers through to CAS
<b>VIC &amp; TAS</b>	<b>Directline Advisory Service (DASAS)</b> Tel: 1800 812 804
<b>WA</b>	<b>Clinical Advisory Services (CAS)</b> Tel: (08) 9442 5042

## 4. Summary Explanation of Model

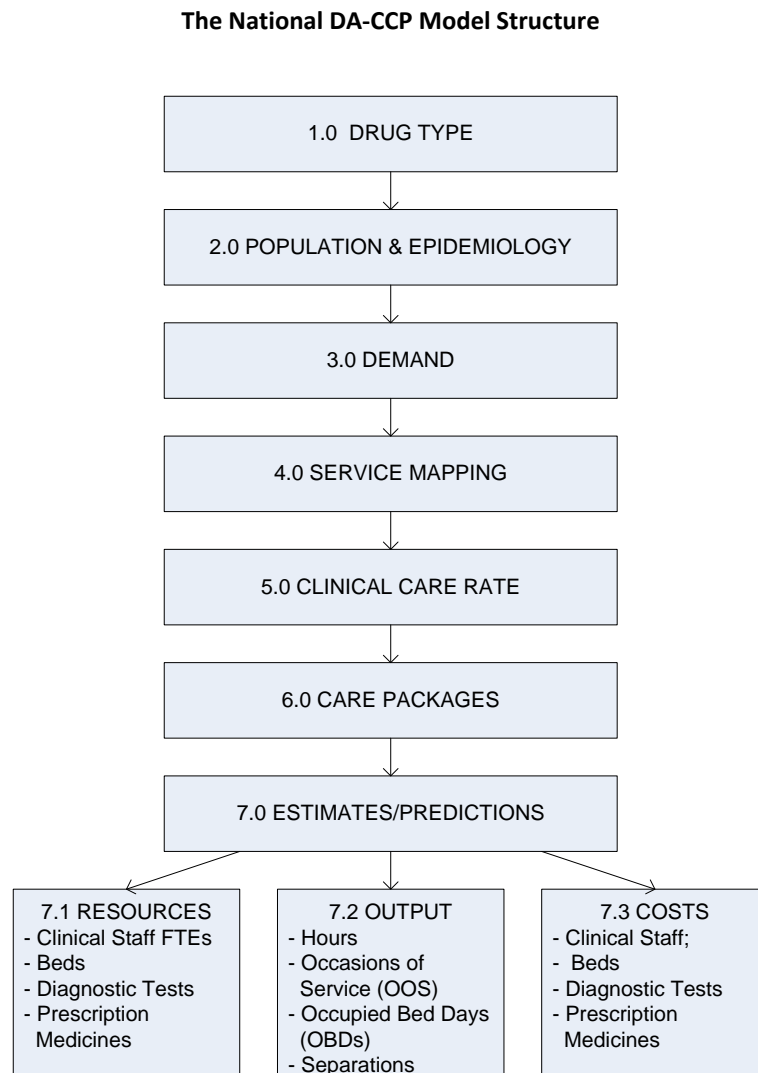
In summary, the Model:

- a. Identifies the different streams of care given over a year (care packages) to those firstly diagnostic positive, and secondly identified for treatment. For example, a particular care package could consist of a stay in a residential rehabilitation facility; weeks of ambulatory care in the community are then 'wrapped around' the residential rehabilitation stay.
- b. Estimates the numbers of persons who are diagnosed ill (**see a**) who would be classified with MILD, MODERATE or SEVERE illness;
- c. Estimates the numbers of persons who are diagnosed with MILD, MODERATE or SEVERE illness (**see b**) who would seek treatment.
- d. Estimates using epidemiological data the number of persons per 100,000 of age specific (e.g. adults 18-64 years old) population who would seek treatment under each care package.
- e. Details the drug and alcohol service activities that make up packages of care. Activities in a care package could consist of, for example - a consultation or assessment of 45 minutes, a medical review of 30 minutes, development of a care plan of 30 minutes, a case conference of 30 minutes, transfer and follow-up of 30 minutes etc along with a 7 day stay in a residential rehabilitation facility. **Note:** activities in a care package are measured in terms frequency and duration of contacts and are provided by one of four types of FTE staff. Diagnostic tests and prescription medicines may also be included.
- f. Identifies the number of times in a year services will be provided to a client through the activities (**see e**) listed under each care package.
- g. Calculates the staff time required under each care package by adding the minutes of care provided to a client through the activities under each care package.
- h. Identifies the number of bed days provided under a care package to a client in a year.
- i. Identifies the quantity of testing and medication received by a client under a package of care in a year.
- j. Estimates the numbers of persons who would be diagnosed ill with a drug and alcohol diagnosis (for each drug type modelled), per 100,000 of age specific population.
- k. Calculates estimates of staff FTE, beds, diagnostic tests and prescription medicines and costs per package of care for all persons seeking treatment per 100,000 of age specific population.
- l. Outputs estimates (described in **k above**) for a 100,000 of age specific population, which are scaled for jurisdictional and national population projections.

## 5. Structure of the Model

The structure of the Model is illustrated in Figure 2 below and described in the overview that follows.

**Figure 2 - The Model Structure**



## 5.1 OVERVIEW OF STRUCTURE

### 5.1.1 General Note

It should be noted that the Model is a model of averages, thus it assumes that levels of drug use/harmful use/dependence are uniformly distributed across jurisdictions. The table below illustrates that, in reality, demand varies across jurisdictions; in this example, demand for Opioid Pharmacotherapy as shown in the National Opioid Pharmacotherapy Statistics Annual Data 2012 collection (page 35).

**Table B1: Population rates for clients receiving pharmacotherapy, by state and territory, on a snapshot day in 2011 (number of clients per 1,000 population)**

Jurisdiction	Clients	Population	Clients per 1,000 population
NSW	18,831	7,303,690	2.6
Vic	13,755	5,624,090	2.4
Qld	5,702	4,580,725	1.2
WA	3,382	2,346,410	1.4
SA	3,183	1,657,001	1.9
Tas	645	510,560	1.3
ACT	825	365,421	2.3
NT	123	230,172	0.5
Australia	46,446	22,620,554	2.1

Source: ABS Australian Demographic Statistics, June 2011

### 5.1.2 Drug Type

The Model shows five different drug types for people ages 12+ years. A generic “all drugs” is modelled for children under 12 years. The table below summarises the alcohol and other drug types, and age groups modelled.

**Table 8 - Alcohol and Other Drug Types and Age Groups Modelled under the Model**

	Drug Type	Age Categories (✓- modelled; x - not modelled)				
		0 – 11 Months	01 – 11 Years	12 – 17 Years	18 – 64 Years	65+ Years
1	Alcohol	x	x	✓	✓	✓
2	Amphetamine	x	x	✓	✓	✓
3	Benzodiazepines	x	x	✓	✓	✓
4	Cannabis	x	x	✓	✓	✓
5	Illicit Opioids	x	x	✓	✓	✓
All	All Drugs	✓	✓	x	x	x

A simple calculation (counting the “ticks” in the above table) shows the Model will be made up of 17 different sub-models representing the alcohol and other drugs types by age groups.

### 5.1.3 Population & Epidemiology

#### *Population*

The population numbers used in the Model were sourced from the Australian Bureau of Statistics (ABS) online publication 3222.0 - *Population Projections, Australia, 2006 to 2101*<sup>5</sup>.

The population projections presented in this publication cover the period 30 June 2008 to 2101 for Australia and 30 June 2008 to 2056 for the states, territories, and capital cities/balances of state.

The ABS produces three main series of projections. The Series A, B and C, have been selected from a possible 72 individual combinations of various assumptions about future levels of fertility, mortality, internal migration and overseas migration over the projection period. Series B largely reflects current trends in fertility, life expectancy at birth, net overseas migration and net interstate migration, whereas Series A and Series C are based on high and low assumptions for each of these variables respectively.

The ABS Series B population projections have been chosen as the primary source for the Model on the basis that it provides a prudent 'middle ground' approach to the assumptions underlying the projections. The Estimator Tool which calculates estimates based on the Model is designed to provide users the flexibility to see impact of different population projections, for example those reported under Series A and C.

#### *Epidemiology*

The Model is based on a notional 'group' of 100,000 of age specific population. It identifies that the majority of the people in the 'group' are well.

A minority of the people in the 'group' have a diagnosable illness related to drug and alcohol. In CCP style modelling terms, these people receive clinical care that ranges from MILD to SEVERE.

In the model the percentage of people who have a diagnosable illness varies by drug and age category. For example in the Model (Drug: **Alcohol** Age Group: **18 – 64**), 6.355% of a population of 100,000 of age specific population, are identified as having a diagnosable illness. This group is also referred to as diagnostic positive. In the Model (Drug: **Cannabis** Age Group: **18 – 64**), 1.766% of 100,000 of age specific population are identified as having a diagnosable illness.

To simplify future maintenance and standardise the model, the general epidemiology is based on age-sex-illness-specific prevalence data from the Australian Burden of Disease (AUSBoD) study (Begg S, Vos T, Barker B, Stevenson C, Stanley L, Lopez AD. The burden of disease and injury in Australia 2003. PHE 82. Canberra: Australian Institute of Health and Welfare,

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<sup>5</sup> 3222.0 - Population Projections, Australia, 2006 to 2101, Released at 11:30 AM (CANBERRA TIME) 04/09/2008 <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>



2007). The Model used the following information from AUSBoD. Data for the five drug types in the model as obtained from three sources. For illicit opioids, where the AUSBoD estimates were low, a revised estimate was used.

For further information see:

## Section 10.7 Revised Estimates of Illicit Opioids

**Table 9 - Data Source Used in AUSBoD**

Drug Type for 12+ years	Data Source Used in AUSBoD
Alcohol	The Australian National Survey of Mental Health and Wellbeing, NSMHWB
Amphetamine	The Australian National Survey of Mental Health and Wellbeing, NSMHWB
Benzodiazepines	The Australian National Survey of Mental Health and Wellbeing, NSMHWB
Cannabis	NMDS-AODTS
Illicit Opioids	ANCD publication “modelling pharmacotherapy treatment in Australia: exploring affordability, availability, accessibility and quality using system dynamics”. The full report is at <a href="http://www.ancd.org.au/images/PDF/Researchpapers/rp19_modelling.pdf?phpMyAdmin=rGQ2XkOOsKjMp24r2sFwuVc5ibb">www.ancd.org.au/images/PDF/Researchpapers/rp19_modelling.pdf?phpMyAdmin=rGQ2XkOOsKjMp24r2sFwuVc5ibb</a> pub

Where AUSBoD shows prevalence for ages 15+, for Model ages 12,13,14, the Project Team inserted the AUSBoD prevalence of 0% for 12,13,14 years.

The AIHW’s triennial National Drug Strategy Household Survey does not contain any questions (and hence report) on diagnostic criteria. The National Drug Strategy Household Survey tells us about use, but does not provide diagnostic information such as severity.

### 5.1.4 Demand

The Model recognises that not all people (with a diagnosable illness) included in the clinical care numbers of the population and epidemiology section will demand clinical care or perceive a need for clinical care.

For example in the model a percentage of people diagnosed as MILD may be identified as not seeking treatment and so are excluded from estimates of need (for MILD illness). For example, in alcohol 18-64 years, 20% of the MILD group receive treatment and 80% do not. In Alcohol 18-64 years, 50% of the MODERATE group receive treatment and 50% do not.

The demand for services is quantified by excluding those persons who will not seek treatment.

Note that some people who are not modelled as receiving treatment under MILD or MODERATE may still receive treatment in any of the standalone items or in the harm reduction component of the Model.

In the Model, the SEVERE group Treatment Rate for most drugs is 100%. Amphetamine is modelled at 35%, to reflect a more realistic demand, given that data suggests that the current Treatment Rate is approximately 18%.

Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see **section 10 Description of MILD, MODERATE & SEVERE (standard and complex)** .

For reference, the following percentages have been used to estimate Service Demand.

**Table 10 - Service Demand**

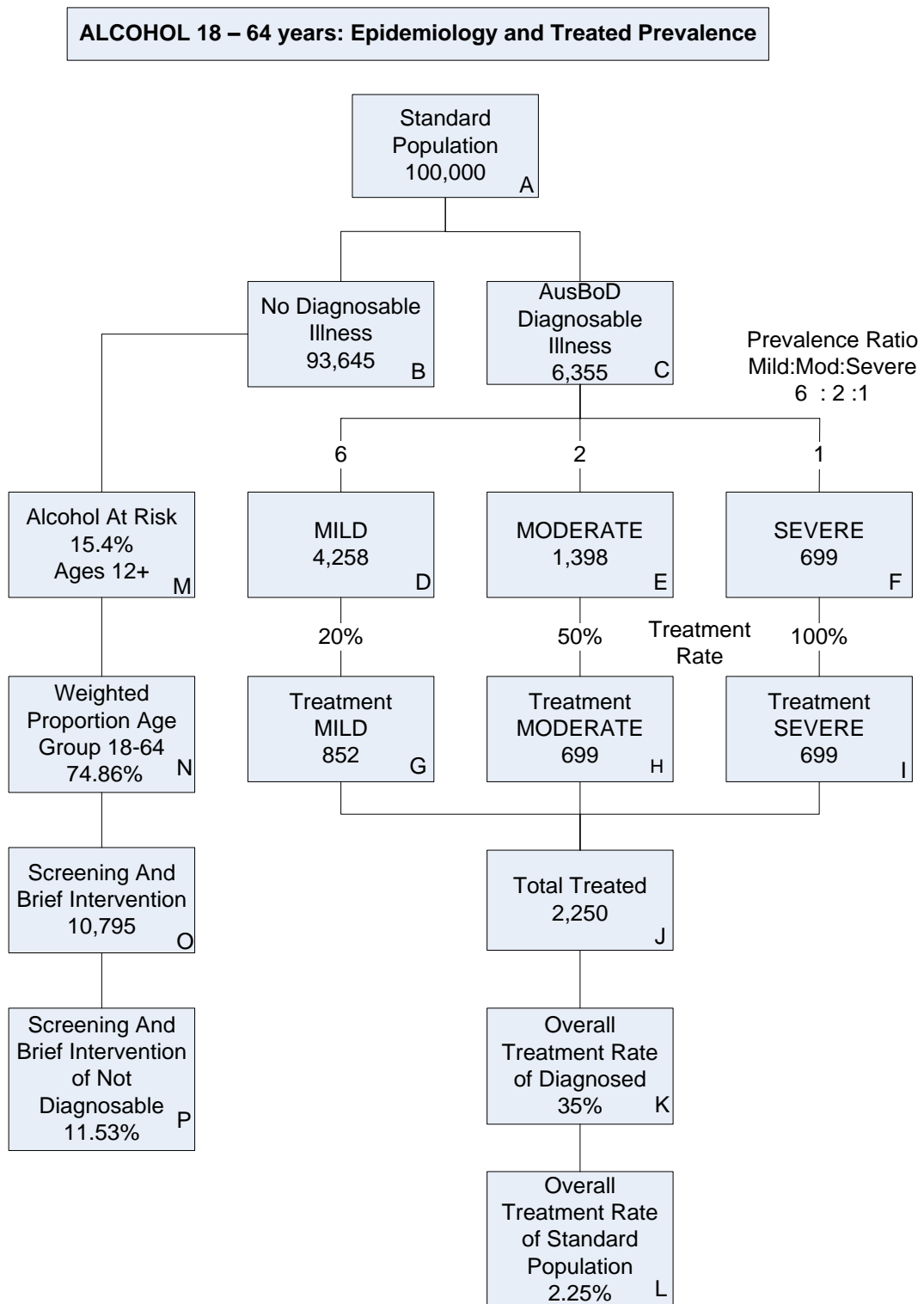
<b>Service Demand by Substance use Disorder (SUD)</b>	<b>Total Treated Prevalence %</b>	<b>MILD Treated Prevalence %</b>	<b>MODERATE Treated Prevalence %</b>	<b>SEVERE Treated Prevalence%</b>
Alcohol	35	20	50	100
Amphetamine	37 <sup>6</sup>	-	50	35
Benzodiazepines	45	20	50	100
Cannabis	35	20	50	100
Illicit Opioids	90	-	-	100

NB: Amphetamine has no MILD and Illicit Opioids has only SEVERE.

The following figure represents the Alcohol 18 – 64 Age Group, showing the of prevalence and treatment rates between MILD, MODERATE and SEVERE, and the calculations for Screening and Brief Intervention.

<sup>6</sup> Amphetamine:12-17 years is 36%, 18-64 years is 37% and 65+ years is 31%. The diagnosable numbers are so small that it affects the calculation of the overall treatment rate of Dx (ie small numbers can lead to greater variations in percentage terms)

**Figure 3 - Alcohol 18-64 Epidemiology and Treated Prevalence**



Note: the letters (A, B, C etc) refer to the details in tables in:

**Section 10.8 Epidemiology and Treatment Rates and Numbers.**

### 5.1.5 Service Mapping

The drug and alcohol service streams (care packages) to be modelled (across the spectrum of clinical care) are identified, and a quantified demand for these service streams is identified at this stage of the model.

At the MILD end of the clinical care spectrum services may include assessment or consultation, and at the more severe end of the clinical care spectrum this may also include a bed or a place in a treatment facility.

The *quantified demand for services* (see **Section 5.1.4 Demand**) is split among the services identified in this part of the model. To illustrate: in the Model (Drug: **Alcohol** Age Group: **18 – 64**), 699 persons per 100,000 of age specific population, are diagnosed with a SEVERE illness. The *quantified demand for services* is 699 persons, as under the model all persons diagnosed as SEVERELY ill receive treatment.

The 699 persons are then split (as a percentage), across the 15 drug and alcohol 12 month treatment streams (care packages) identified for SEVERE illnesses in the model.

For example, of the 699 persons:

- 12% will use the drug and alcohol care package identified as Psychosocial Interventions Without Relapse Prevention Medications – Standard (*sev\_12m amb psi stnd*)
- 12% will receive Psychosocial Interventions – With Relapse Prevention Medications – Standard (*sev\_12m amb psi w\_med\_stnd*)
- 76% (the remainder) is split amongst the 13 other drug and alcohol 12 month care packages for SEVERE illnesses.

The total of all splits add to 100% of the 699 persons.

The table below identifies 15 SEVERE care packages for Alcohol 18-64. Each of these 15 care packages specifies the type and amount of care provided to an ‘average person’ within the particular population cohort over a 12 month period.

**Table 11 - The 15 Drug and Alcohol Services Modelled as 12 month packages for the Alcohol 18 – 64 years**

Description	Code
Psychosocial Interventions Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd
Psychosocial Interventions - With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi w_med_stnd
Psychosocial Interventions– Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx
Psychosocial Interventions– With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi w_med_cmplx
Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm hb_stnd
Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd
Withdrawal Management - Daily Outpatient - With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_w_med_stnd
Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb wdm op_w_med_cmplx
Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard	sev_12m bb_res wdm w_med_stnd
Withdrawal management - residential – with relapse prevention pharmacotherapies – complex	sev_12m bb_res wdm w_med_cmplx
Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed
Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp
Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8
Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13
Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26

### 5.1.6 Clinical Care Rate

This part of the model summarises the treated prevalence (i.e. the numbers of people in a group of 100,000 of age specific population) who will be seeking treatment under each of the care packages modelled (see **Section 5.1.5 Service Mapping**).

The model splits persons receiving treatment by care package, as actual numbers and percentages per 100,000 of age specific population, at this part of the model.

For example under the Model (Drug: **Alcohol** Age Group: **18 – 64**), persons receiving the drug and alcohol service Psychosocial Interventions Without Relapse Prevention Medications – Standard (*sev\_12m amb psi std*) are identified here as 35 persons per 100,000 of age specific population.

The table below identifies the 15 SEVERE Alcohol care packages that are modelled as 12 month care packages in the Model (Drug: **Alcohol** Age Group: **18 – 64**) model:

**Table 12 - SEVERE Care Packages for Alcohol 18 – 64 years**

Care Package Name	Care Package Code	Care Rate (% of SEVERE)	People who receive Care Package per 100,000
Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi std	12.0%	83.9
Psychosocial Interventions - With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi w_med_std	12.0%	83.9
Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	5.5%	38.4
Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi w_med_cmplx	5.5%	38.4
Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm hb_std	4.8%	33.6
Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_std	14.0%	97.9
Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_w_med_std	4.8%	33.6
Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb wdm op_w_med_cmplx	10.0%	69.9
Withdrawal management - residential – with relapse prevention pharmacotherapies – complex	sev_12m bb_res wdm w_med_cmplx	5.1%	35.6

Care Package Name	Care Package Code	Care Rate (% of SEVERE)	People who receive Care Package per 100,000
Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard	sev_12m bb_res wdm w_med_stnd	11.7%	81.8
Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	5.6%	39.1
Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp	1.0%	7.0
Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8	2.5%	17.5
Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	3.0%	21.0
Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26	2.5%	17.5
<b>Total</b>		<b>100%</b>	<b>699</b>

For full list of care rate for all SEVERE care packages, for all drugs and age groups, see **Appendix 13 Care Rates and Numbers for SEVERE Care Packages**



### 5.1.7 SBI Screening Brief Intervention

Screening and Brief Intervention (SBI) refers to a care in which advice and information is provided to people 'at risk'. SBI is provided to a proportion of people who are not diagnostic positive or diagnostically ill, but who may be at risk.

Use: Identifies the number of persons who will receive the SBI item. This in turn is used to calculate the number of hours of staff time required (which is required to calculate clinical staff FTE).

**Figure 4 - calculation for SBI Screening Brief Intervention**

<b>SBI Screening Brief Intervention</b>	=	At Risk %	*	Age Group Proportion	*	Number of people with no Diagnosable Illness
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For more details, see:

#### **Section 8.3.3 SBI Screening Brief Intervention Target Population**

For full details, see:

#### **Section 11 Screening and Brief Intervention**

### 5.1.8 Care Packages

A care package specifies the care for a person with a specific need for a year.

Various combinations of contacts provided by one of the four types of FTEs have been agreed by the ERG. These care packages specify the care for a person for a year with a specific need.

The level of care that is specified in a care package is deemed adequate, anything less is considered inadequate. Care packages are identified for persons who meet the diagnostic criteria for MILD, MODERATE or SEVERE.

Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see **section: 10 Description of MILD, MODERATE & SEVERE (standard and complex)**.

It is important to note that the care package may show care over a number of weeks, and the weeks may not total to 52, however this is the required care for the person with a specific need for a year.

The care may be specified for ambulatory care in terms of frequency (Occasions of Service) and duration (minutes of Clinical FTE time), for inpatient stays in terms of Average Length of Stay, and Occupancy. Care may include care in the community and/or care requiring a bed or a place at a treatment facility. For example:

- A duration of care delivered in the community for an individual e.g. 1x30 minute assessment as part of a psychosocial assessment
- A one by seven day stay in a designated D& A hospital bed.

When developing the care packages the ERG recognised that for given care packages some persons would require more hours of care than others. The distinction between standard and complex is shown in the specifications within the care packages. Complex care packages typically specify an increased frequency and/or duration of care. In most cases for a given complex care package, the complex care package will have a longer assessment, more case management and more psychosocial interventions where required. Complex as used in this modelling project reflects that fact that persons may be designated as complex because of physical health needs (e.g. liver disease), mental health needs (e.g. comorbid diagnosis) or social circumstances (e.g. housing or welfare needs). This applies to SEVERE care packages only. The standard/complex distinction does not apply to MILD or MODERATE.

Readmission/ Recovery/ Relapse rates are not calculated within the Model as specific readmission and attrition data was not available. It was assumed that the readmission is 0%. The Model is a static, one year model.

### **5.1.9 Care Packages and Mental Health Comorbidity**

The Model does not include care packages that explicitly integrate AOD with MH services. The types of activities covered within each care package; do include attention to 'complex' needs. The 'complex' care packages have built in additional assessment resources, counselling services, care coordination, referral and liaison time with other providers. In that sense, the care packages do pick up the time (and resources) involved in providing care to someone with a comorbid mental health problem. But MH staff are not included in any care package; the resources mentioned above are for AOD services, not MH services.

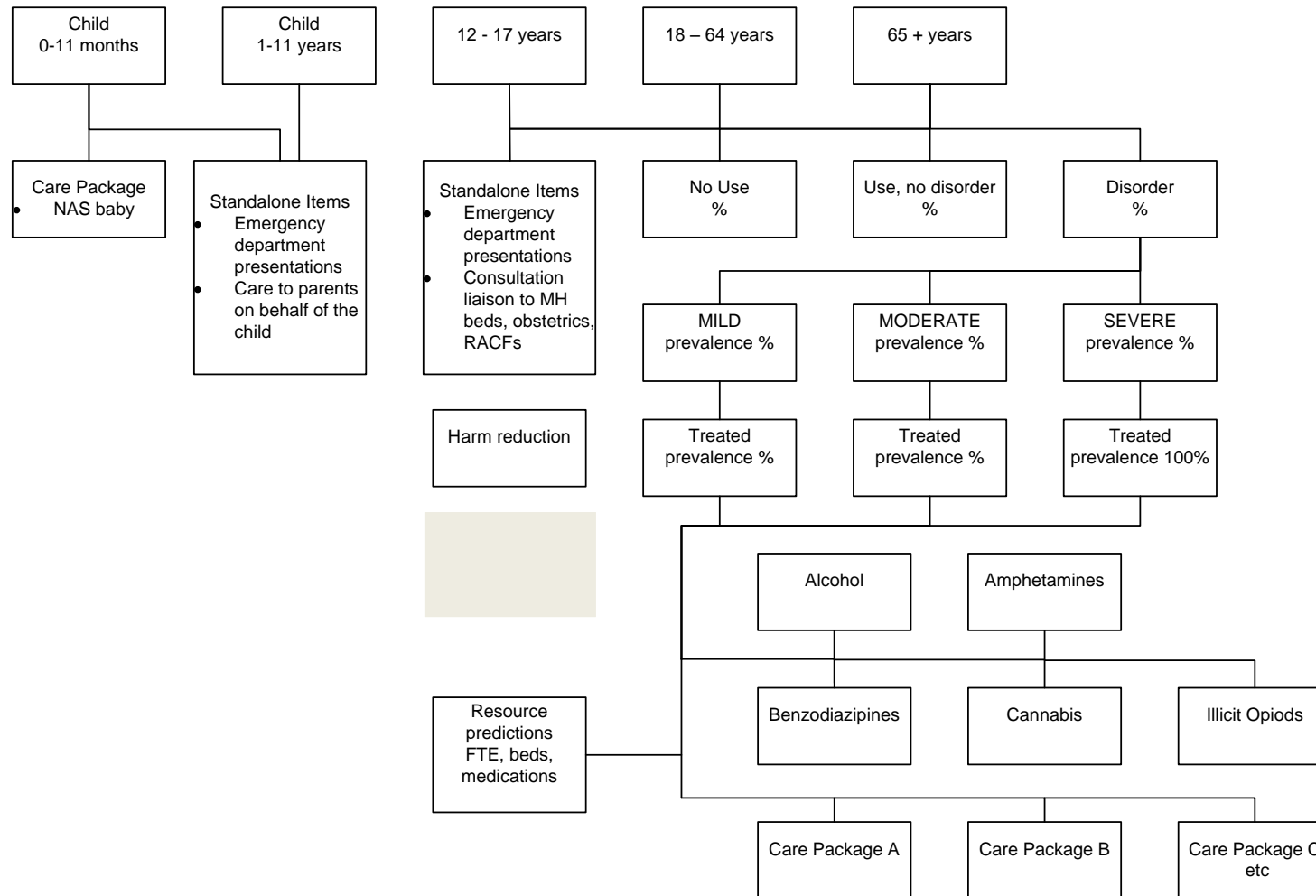
Note the components of each care packages are detailed at:

## **Appendix 10 Care Packages – 12 months**

The number of care packages identified illustrates the comprehensiveness and complexity of the model.

To illustrate - Figure 5 shows the overall Model Schema.

**Figure 5 - Model Schema**



### **5.1.10 Standalone Items (Sprinkles)**

Standalone items specify an amount of care provided by drug and alcohol staff (e.g. 1 x 30 minute assessment. 2 x 15 minute reviews etc). The standalone items do not include any prescription medications or diagnostic tests.

There are a number of standalone items that are NOT part of each 12 month care packages. These include: screening and brief intervention for presentations at emergency department (ED), consultation liaison to obstetrics, consultation liaison to residential aged care facility, consultation liaison to mental health beds, or consultation liaison to general beds, where person has a primary or secondary drug or alcohol diagnosis.

For these items, all that is described is the amount of care that an individual would receive during their actual admission. The amount of care described for the ED presentations is shown in consultation liaison (CL) minutes, and the amount of care shown for the inpatient admission to a mental health or general bed is the hours of Drug and Alcohol (D&A) care provided during the inpatient admission. These 'standalone' items are thus 'sprinkled' across the model. This means that the number of ED presentations or the number of inpatient admissions is not subtracted from the demand for any group. The demand for these standalone items are all based in actual rates of presentations.

Further, ED presentations represent an important resource component of AOD across a year. The model needs to include the AOD specialist component of ED presentations, that is the consultation and liaison services that are provided. The ED CL parts could be assigned across each care package, but it is simpler to apply them across the entire population in the model, based on the rates of current ED presentations.

Note: Standalone care is based on actual rates of presentations using NSW data 2010/11. These standalone items are completely separate to the AUSBoD epidemiology and the 12 month care packages.

For more information, see:

## **Appendix 11 Standalone Care – Not for 12 months**

### **5.1.11 Modelling for Pregnant Women**

Care for pregnant women has been included in the model. This care is now shown in the 12-17 years and 18-64 years components of the model. This care is captured in two parts. Firstly, the total number of days in the obstetrics ward is captured in the "sprinkles" under the heading "CL\_OBS". Secondly, the woman's care for the remainder of the year is captured in any one of the care packages for 12-17 years or 18-64 years. The rationale for this approach is that, in terms of drug and alcohol care, the woman is 'incidentally pregnant' (hence the sprinkle), but her care for the remainder of the year is picked up in one of the other care packages for the 12-17 or 18-64 years.

For more information, see:

## **Appendix 11                      Standalone Care – Not for 12 months**

### **5.1.12 Estimates/Predictions**

The Model enables estimation of:

#### **i.            Resources**

The resources (clinical staff FTE, beds, diagnostic tests and prescription medicine) required to provide the range of drug and alcohol services (care packages) to a target population.

#### **ii.          Outputs**

The quantum of activities and outputs (Hours Worked, Occasions of Service (OOS), Occupied Bed Days (OBDs) and Separations (Seps)) expected from providing a set range of drug and alcohol services (care packages) to a target population.

#### **lii         Cost**

The cost of resources (such as clinical staff FTE, pharmaceuticals and diagnostic test and pathology tests) used to provide a set range of drug and alcohol services (care packages) to a target population.

The Model estimates rates of resources, outputs and costs for each care package per 100,000 of age specific population That is the model will identify for each care package (under a drug and age group), where relevant:

- the number of ambulatory clinical staff FTE estimated required per 100,000 of age specific population
- the number of beds estimated required per 100,000 of age specific population (e.g. Detox beds, residential rehabilitation beds, D&A beds in a hospital)
- the number of diagnostic tests estimated required per 100,000 of age specific population
- the number of doses of prescription medicine estimated required per 100,000 of age specific population
- the hours, occasions of service, occupied bed days and separations estimated required per 100,00 of age specific population
- the cost per 100,000 of age specific population.

The model also provides the total resources (clinical staff FTE, beds, diagnostic tests and prescription medicine), outputs and price for each age group under each drug type, per 100,000 of age specific population (i.e. the cumulative total of individual care package estimates under the age group and drug).

It is then simple to calculate estimates of need for other population sizes. This is a function of the Estimator Tool.

For example if the Model (Drug: **Alcohol** Age Group: **18 – 64**) estimates 50.0 Clinical Staff FTE are required per 100,000 of 18 to 64 year olds, then for a population of 3 million 18-64 year olds, you would need 1,500 ( $50 \times (3,000,000 / 100,000)$ ) Clinical Staff FTE to provide the care packages in the model. [Note the 50.0 Clinical staff FTE is just for illustrative purposes and is not an actual estimate from the model].

## 6. Modelling Withdrawal Management

Withdrawal management describes the care given to people who are withdrawing from alcohol or other drug dependence. Withdrawal management was previously known as ‘detox’ or ‘detoxification’<sup>7</sup>.

The appropriate management of withdrawal is important to ensure the person’s safety and to avoid major medical complications. The severity of withdrawal varies by drug, level of dependency and individual. Most people experiencing withdrawal can be safely managed in an outpatient setting. A small proportion of people may benefit from additional social support that can be provided in residential settings. People who are prone to complications may require inpatient management and a number of people who enter hospital for other treatments may experience withdrawal in the course of their hospital stay.

It is important to note that where a bed based stay is included in the model (e.g. a 7 day stay as a hospital inpatient or a 7 day stay in a dormitory / residential / community setting), then up to another 51 weeks of ambulatory care is “wrapped” around that stay. For home based or outpatient withdrawal management, then we have specified up to an additional 52 weeks of care.

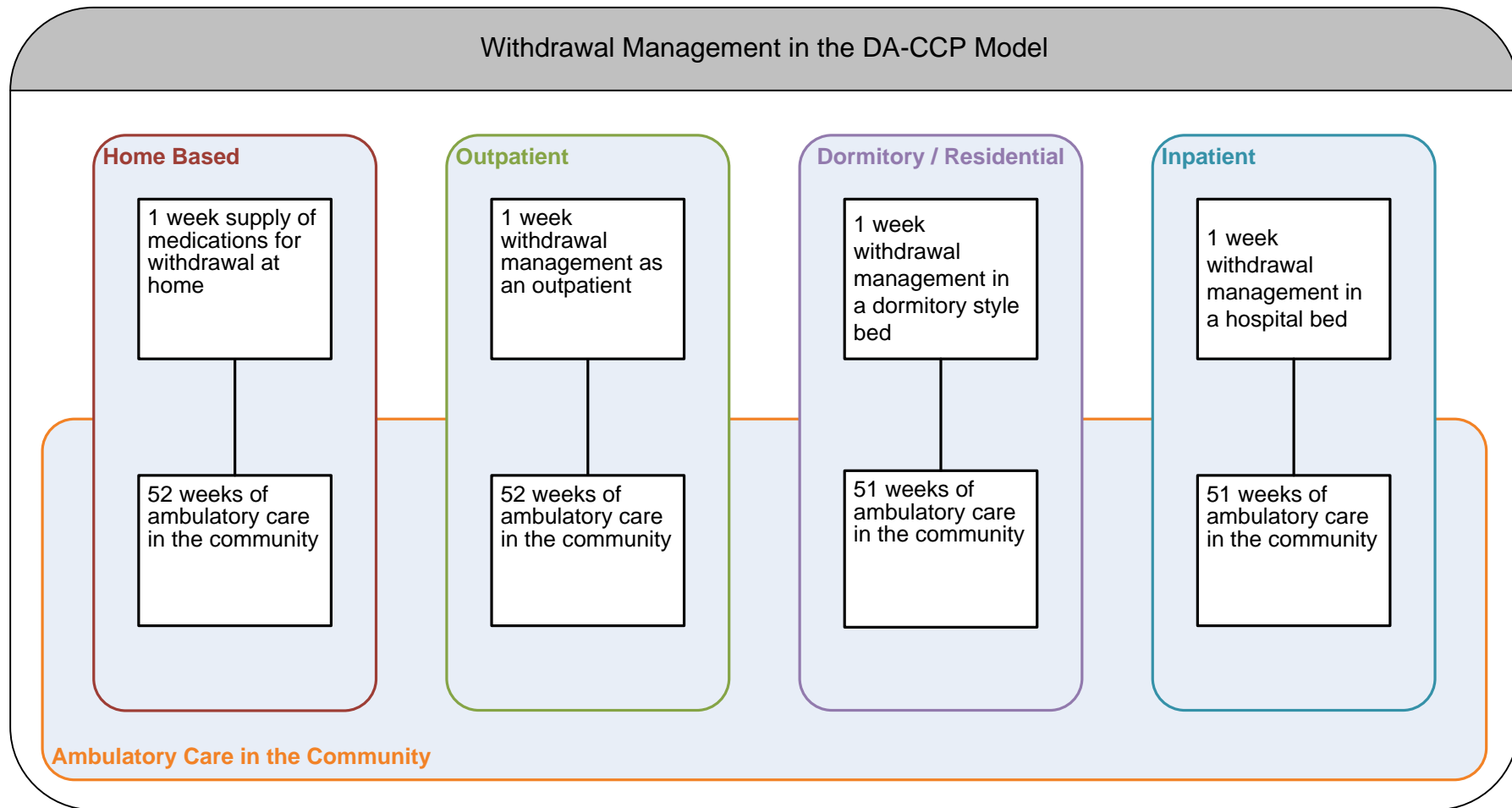
Figure 6 below gives an overview of withdrawal management, within ambulatory and bed based care packages, in the Model.

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<sup>7</sup> The DA-CCP Estimator tool refers to the dormitory style beds provided as part of withdrawal management treatment services as detoxification beds.



Figure 6 - Overview of Withdrawal Management



## 7. Age Group Specific Modelling

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### 7.1 0-11 MONTHS

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The services in the Model for children 0 – 11 months include:

- i. care delivered to the parent on behalf of the child.  
The care that is provided to parents aged 12-17, and aged 18-64 years is included in the modelling estimates for children aged 1-11 months;
- ii. care provided to the child (e.g. Clinical Liaison to emergency department.).

The care provided to the child is modelled in the same way as care provided to other age groups (e.g. Clinical Liaison to Emergency Department – Standard, etc).

#### 7.1.1 Early Intervention: Care Delivered To the Parent On Behalf Of the Child

This is care provided over 12 months to the parent on behalf of the child aged 1-11 months. This care identifies an additional input of Alcohol and Other Drugs Treatment Services (AODTS) consultation / liaison and case management meeting time to equip AODTS with the capacity to engage child and family and related services on behalf of the child and provide family support. The care provides for enough time for AODTS to be an effective partner in what they do.

#### 7.1.2 Child of Parent Who Uses Substances – NAS Baby

Neonatal abstinence syndrome (NAS) is a syndrome of drug withdrawal observed in infants of mothers physically dependent on drugs. Also known as neonatal withdrawal syndrome or passive addiction, NAS is a condition resulting from exposure in utero or postnatal exposure to opioids and other illicit drugs.

Within the Model, this is regarded as SEVERE, and there is a standalone item (Sprinkle) designed for this care of the child:

##### **Standalone item: NAS Baby**

This standalone item describes the consultation liaison provided by Drug and Alcohol staff during the child's 14 day hospital stay in a paediatric type bed. Note that as the bed is not a D&A specialist bed, the care is not shown as a 12 months care package, but as a standalone item.

Additional care in the community following discharge is also included. The 14 days stay was obtained from the NSW HIE for 2010/11 of inpatient episodes with any diagnosis (primary or secondary) of P96.1 (Neonatal Abstinence Syndrome).

Please note - the mother's care is shown in the 12-17 years or 18-64 years components of the model, which is captured in two parts. Firstly, the total number of days in the obstetrics ward is captured in the "sprinkles/ standalone item" under the heading "CL\_OBS". Secondly, the mother's care for the remainder of the year is captured in any one the care packages for 12-17 years and 18-64 year olds.

### **7.1.3 Foetal Alcohol Spectrum Disorder (FASD)**

There is no epidemiology for the age group 0-11.99 months in relation to Foetal Alcohol Spectrum Disorder. Once diagnosed, children with FASD are referred to a range of specialist and allied health services to address needs, however this is outside the scope of AODTS.

The care of the mother is shown in either the 12-17 year old or the 18-64 year old care packages, and care of the child is described under care delivered to the parent on behalf of the child.

Prevention activities are critical since FASD only occurs when alcohol is consumed during pregnancy, and for AOD populations, these are captured across the care packages for older age groups in the work of health workers when assessing their clients. Population level activities are also needed to raise awareness of the risks of FASD. Health workers have a critical role to play in the prevention, diagnosis and management of FASD.

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## **7.2 1-11 YEARS**

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The services in the Model for children 0 – 11 years includes:

- i. care delivered to the parent on behalf of the child.  
The care that is provided to parents aged 12-17, and aged 18-64 years is included in the modelling estimates for children aged 1-11 months;
- ii. care provided to the child (e.g. Clinical Liaison to emergency department.).

The care provided to the child is modelled in the same way as care provided to other age groups (e.g. Clinical Liaison to Emergency Department – Standard, etc).

### **7.2.1 Early Intervention: Care Delivered To the Parent On Behalf Of the Child**

This is care provided over 12 months to the parent on behalf of the child aged 1-11 years. This care identifies an additional input of Alcohol and Other Drugs Treatment Services (AODTS) consultation / liaison and case management meeting time to equip AODTS with the capacity to engage child and family and related services on behalf of the child and provide family support. The care provides for enough time for AODTS to be an effective partner in what they do.

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**7.3 12-17 YEARS**

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**7.3.1 Family / Carer Engagement**

Within the care packages for 12-17 years, service items can include case management and support, or outreach items where the Family / Carer Engagement is sought, as it is recognised that the care of the 12 – 17 year old needs the family/carers support. Family / carer engagement is shown in the 12 month care packages.

**7.3.2 Consultation Liaison to Obstetrics**

This describes the consultation liaison provided to a young woman (12-17 years) where obstetrics is the primary diagnosis, and there is a secondary alcohol or other drug diagnosis. This is a standalone item “CL\_OBS). Regarding care for the newborn, see **Section 7.1 0-11 months**.

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**7.4 18-64 YEARS**

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**7.4.1 Consultation Liaison to Obstetrics**

This describes the consultation liaison provided to a woman (18-64 years) where Obstetrics is the primary diagnosis, and there is a secondary Alcohol or other Drug Diagnosis. This is a standalone item “CL\_OBS). Regarding care for the newborn, see **Section 7.1 0-11 months**.

**7.4.2 Vocational Education, Training and Employment (VETE)**

This is a specific item in the Model for the 18-64 years, which is not included for any of the other age groups. VETE is included as an item within the longer duration residential rehabilitation care packages (longer than 8 weeks duration). VETE covers various activities including CV writing, mock interviews, attending TAFE (trade), pre-employment training (assume 1 staff and 15 participants per group), and active on the job learning (assume 1 staff and 15 participants per group).

**Example:** Alcohol Care Packages 18-64 yrs

Care package: Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program. The VETE item within this care package is shown below:

**Figure 7 - Example of VETE item within care package**

<b>END-STAGE-3</b>		
<b>START-13-WEEKS-AFTER-CARE/TRANSITION/RE-ENTRY</b>		
After-care	13-x-30-min-case-management- 13-x-30-relapse-prevention/-budgeting-skills 13-x-75-min-1:1-counselling 13-x-90-min-group-counselling-(assume-1-staff-and-10-participants-per-group) 13-x-60-mins-pre-employment-training-(assume-1-staff-1-participant)	Costed-at-AOD-Worker-rate
Vocational-Education,- Training-and- Employment-(VETE)	<b>Card-19B-x-1</b> 2-x-90-min-x-8-weeks-writing-CV,-mock-interviews,-attending-TAFE-(trade),-pre-employment-training-(assume-1-staff-and-15-participants-per-group) 5-x-4-hours-per-week-x-8-weeks-active-on-the-job-learning-(assume-1-staff-and-15-participants-per-group)	Duration-is-8-weeks. Costed-at-AOD-Worker-rate
<b>10-WEEKS-OF-EXIT-PROGRAM-/OUTCLIENT</b>		

## 7.5 65+ YEARS

In general, the care packages for 65+ years include more time for items such as: case management, assessment, review, medical review, nursing review. This has been applied consistently through the care packages and across the drug types for age 65+.

### 7.5.1 Information and Education

For the 65+ age group, this is only modelled for alcohol, as there were no separations for the other drugs, for this age group.

### 7.5.2 Consultation Liaison To Residential Aged Care Facility

This is a specific service in the Model for the 65 + years, which is not included for any of the other age groups. This standalone item “CL\_RACF” describes the consultation liaison provided to residential aged care facilities. We determined a rate of discharges from hospital to a residential aged care facility where a secondary Fxx diagnosis was recorded, e.g. alcohol (F10) as a secondary diagnosis.

## 8. Model Parameters

The Model relies on a number of key statistics and parameters to derive estimates of resource need, prices and costs.

These key parameters are:

- 1) Ages groups;
- 2) Population Numbers;
- 3) Prevalence Rates:
  - i) Illness Prevalence;
  - ii) Treatment Prevalence;
- 4) Mapping of Treatment Numbers to Care Packages
- 5) Ambulatory Services;
- 6) Bed Statistics;
- 7) Pricing:
  - i) Staff
  - ii) Beds
  - iii) Diagnostic Tests
  - iv) Prescription Medicine
- 8) Hours worked in a year by an FTE

The following subsections describe the main parameters used to develop the Model.

## 8.1 AGE GROUPS

Use: To deliver age specific models.

The table below summarises the age groups and drug type modelled in the Model.

**Table 13 - Alcohol and Other Drug Types and Age Groups Modelled**

	Drug Type	Age Categories (✓- modelled; x - not modelled)				
		0 – 11 Months	01 – 11 Years	12 – 17 Years	18 – 64 Years	65+ Years
1	Alcohol	x	x	✓	✓	✓
2	Amphetamine	x	x	✓	✓	✓
3	Benzodiazepines	x	x	✓	✓	✓
4	Cannabis	x	x	✓	✓	✓
5	Illicit Opioids	x	x	✓	✓	✓
All	All Drugs	✓	✓	x	x	x

Drug services are modelled in the Model by age group. For each of the drugs in the Model, three age groups 12-17, 18-64 and 65+ are modelled. In addition the age groups 0 – 11 months and 1 to 11 years are also modelled for all drugs (combined). Age groups have been modelled based on availability of appropriate epidemiological data, treatment data, actual delineations in service provision, and clinical advice.

Note: Within the Model, estimates for ages child 0-11 months and child 1-11 years are based on actual rates of presentation, unlike the other drugs and ages, where prevalence rates are used to estimate number diagnosable.

The age groups reflect a range of factors, for example, specific services available for children in their first year of life, approximate ages for attending primary school and secondary school, and the legal age of an adult.

## 8.2 POPULATION

### 8.2.1 Standard Population

Use: Provides a demographic neutral (except for age) population of appropriate size to base estimates, which can be easily used in extrapolating estimates for other population sizes. The standard population is set at 100,000 for each age group.

The National DA-CPP Model estimates are calculated using the epidemiological data (disease prevalence and treatment rates) for the age specific standard population of 100,000 persons.

This standard population is an average. It does not distinguish between gender, location (rural, remote and metropolitan areas) or aboriginality and ethnicity, which is the job of a resource distribution formula.

## 8.2.2 Australian and Other Jurisdictional Populations

Use: To enable the Model estimates for jurisdictional populations.

The detailed population numbers used in the Model, are contained in tables at:

**Appendix A16.4 ABS Populations Australia, 2006**

**Appendix A16.5 ABS Populations Australia, 2006 - 2031 by State and Age Group**

The population numbers used in the Model were sourced from the Australian Bureau of Statistics (ABS) online publication *3222.0 - Population Projections, Australia, 2006 to 2101*<sup>8</sup>. The population projections presented in this publication cover the period 30 June 2008 to 2101 for Australia and 30 June 2008 to 2056 for the states, territories, and capital cities/balances of state.

The ABS produces three main series of projections. The Series A, B and C, have been selected from a possible 72 individual combinations of various assumptions about future levels of fertility, mortality, internal migration and overseas migration over the projection period. Series B largely reflects current trends in fertility, life expectancy at birth, net overseas migration and net interstate migration, whereas Series A and Series C are based on high and low assumptions for each of these variables respectively.

The ABS Series B population projections have been chosen as the primary source for the Model on the basis that it provides a prudent ‘middle ground’ approach to the assumptions underlying the projections. The Estimator Tool is flexible and can be adjusted by users to see impact of different population projections, for example those reported under Series A and C, or customised population projections developed by their own Planning Departments.

## 8.3 PREVALENCE PARAMETER

### 8.3.1 Total 12 Month Epidemiological Prevalence

In the Model the Epidemiological Prevalence is the estimated number of people from a standard 100,000 age specific population diagnosed ill with a drug or alcohol problem.

Use: The total 12 Month Epidemiological Prevalence number is used to calculate the number of people diagnosed ill.

**Table 14 - Epidemiological Prevalence-**

Drug Type	Age	Prevalence
Alcohol	12-17	1,061
Alcohol	18-64	6,355
Alcohol	65+	1,422

<sup>8</sup> 3222.0 - Population Projections, Australia, 2006 to 2101, Released at 11:30 AM (CANBERRA TIME) 04/09/2008 <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>



Drug Type	Age	Prevalence
Amphetamine	12-17	127
Amphetamine	18-64	511
Amphetamine	65+	8
Benzodiazepine	12-17	13
Benzodiazepine	18-64	376
Benzodiazepine	65+	76
Cannabis	12-17	484
Cannabis	18-64	1,765
Cannabis	65+	51
Opioids	12-17	31
Opioids	18-64	655
Opioids	65+	107
All-child	0-11mnths	N/A
All-child	1-11	N/A

Note: Within the Model, estimates for ages child 0-11 months and child 1-11 years are based on actual rates of presentation, and thus do not have prevalence rates within the model.

### 8.3.2 MILD, MODERATE and SEVERE Prevalence Rates

The 12 month prevalence rates are subdivided into grades of severity/functional impairment labelled i) SEVERE and ii) MODERATE and iii) MILD.

Use: The model identifies the persons in each severity grade by applying the Prevalence Rates to the estimated number of people diagnosed ill. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use.

The table below shows the prevalence rates.

**Table 15 - MILD, MODERATE and SEVERE Prevalence Rates**

Drug Type	MILD	MODERATE	SEVERE
Alcohol	67%	22%	11%
Amphetamine	0%	10%	90%
Benzodiazepines	50%	30%	20%
Cannabis	67%	22%	11%
Illicit Opioids	0%	0%	90%
All Drugs			

For more information, see:

**Section: 10 Description of MILD, MODERATE & SEVERE (standard and complex).**

### 8.3.3 SBI Screening Brief Intervention Target Population

Screening and Brief Intervention refers to advice and information provided to people 'at risk' (not diagnosed) in the context of a consultation by a primary care worker. Such information is initially conveyed verbally and usually in the context of a primary care consultation for a

different purpose. The initial screening may be accompanied by a range of additional support, including the provision of printed information, or follow-up telephone calls.

**Figure 8 - calculation for SBI Screening Brief Intervention**

<b>SBI Screening Brief Intervention</b>	=	At Risk %	*	Age Group Proportion	*	Number of people with no Diagnosable Illness
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The table below shows where Screening and Brief Intervention is modelled within the age groups in the Model who receive this intervention.

**Table 16 - Screening and brief interventions included in the Model**

	Drug Type	Age Categories (✓ - included; n/a - not applicable)				
		0 – 11 Months	01 – 11 Years	12 – 17 Years	18 – 64 Years	65+ Years
1	Alcohol	n/a	n/a	✓	✓	✓
2	Amphetamine	n/a	n/a	✓	✓	✓
3	Benzodiazepines	n/a	n/a	n/a	n/a	n/a
4	Cannabis	n/a	n/a	✓	✓	✓
5	Illicit Opioids	n/a	n/a	n/a	n/a	n/a
All	All Drugs	n/a	n/a	n/a	n/a	n/a

Note Benzodiazepines and Illicit Opioids are not modelled for SBI, as there was no data available for “at risk/ need for screening”.

For full calculation details, see:

## Section 11 Screening and Brief Intervention.

### 8.4 TREATMENT RATE PARAMETERS

#### 8.4.1 Treatment Rate Parameters - Total 12 Month Treatment Rates

Also known as the Treated Prevalence, this is the estimated number of people in a standard population who are diagnosed ill<sup>9</sup> for a particular drug, AND will seek treatment.

Use: Estimates of need are based on the number of people who seek treatment in an age specific standard population of 100,000.

For detailed treatment rate tables for the Care Packages, see:

## Appendix 13 Care Rates and Numbers for SEVERE Care Packages

## Appendix 14 Care Rates for the Standalone Items

<sup>9</sup> For a specific alcohol or drug by each of the severity spectrum (mild, moderate, severe)

The treatment rates are based on the assumption that 100% of persons deemed to have a SEVERE impairment will seek and/or receive treatment, but only some of the people who meet MILD or MODERATE illness criteria will seek treatment, as only some will perceive that they are ill at all, or perceive a need for any type of help.

#### **8.4.2 MILD, MODERATE and SEVERE Treatment Rates**

These rates estimate the number of people who are treated when diagnosed ill at MILD, MODERATE and SEVERE levels in an age specific standard population of 100,000.

Use: Enables calculation of estimates of people to be treated by severity of impairment. For detailed treatment rate tables for the Care Packages, see:

**Appendix 13 Care Rates and Numbers for SEVERE Care Packages**  
**Appendix 14 Care Rates for the Standalone Items**

Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see:

#### **Section: 10 Description of MILD, MODERATE & SEVERE (standard and complex).**

The 12 month treatment rates are subdivided into grades of severity/functional impairment labelled SEVERE, MODERATE and MILD. The Model identifies a treatment rate for these categories. 100% of persons deemed to have a SEVERE impairment will seek and/or receive treatment (similar to the MH-CCP model), but only some of those deemed MODERATE or MILD would agree they were ill or seek any treatment.

#### **8.4.3 Treatment Rates for Care Packages**

Use: Estimates of need for the Care Package are based on the number of people who seek treatment in an age specific standard population of 100,000.

For detailed treatment rate tables for the Care Packages, see:

**Appendix 13 Care Rates and Numbers for SEVERE Care Packages**  
**Appendix 14 Care Rates for the Standalone Items**

## 8.5 FTE HOURS OF SERVICE PER YEAR

Use: To calculate estimates of FTE required to deliver the modelled hours of services.

The direct hours of services provided by an FTE is estimated at:

- 1,171 hours per year (NAH, AOD worker, and Addiction Medical Specialist)
- 1,374 hours per year for a General Practitioner.

Please note the three assumptions in the methodology, shown in the table below:

**Table 17 - Assumptions in Calculation of FTE Reportable Client Hours**

	Assumption	Nurse/Allied Health, AOD worker, and Addiction Medical Specialist	General Practitioner
1	Standard working week	38 hours	42.75 hours
2	Annual leave	6 weeks	4 weeks
3	Amount of a worker's time allocated to training, travel, clinical supervision. Described here as an 'overhead allowance'	one third	one third

See **Section 15.1.3 Calculation of reportable client hours generated by a clinical FTE** , for how this is used in calculating the estimated number Clinical Staff FTE required.

For how this number is calculated, see the next section below, **Section 8.5.1 Calculation of Clinical FTE Reportable Client Hours**.

### 8.5.1 Calculation of Clinical FTE Reportable Client Hours

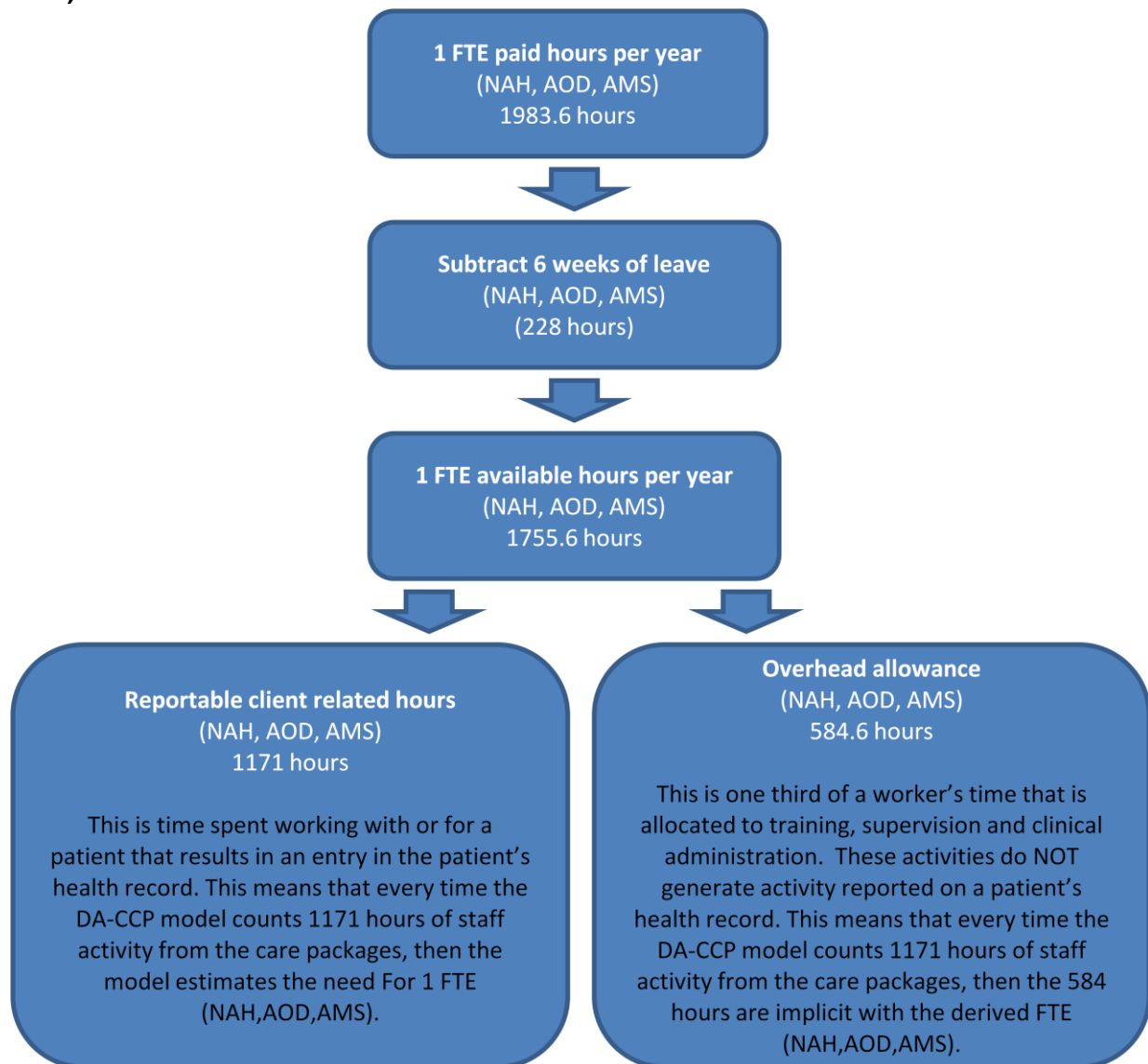
Table below outlines how **1,171**, the estimate of the average number of hours a clinical FTE (Nurse/Allied Health, AOD worker, and Addiction Medical Specialist) and **1,374** hours per year for a GP, spends each year on reportable client related work, is derived.

**Table 18 - What's included for total cost of clinical FTEs (non-GP)**

	Inclusions	Notes
<b>A</b>	Salary which recognises an amount for direct face-to-face clinical time and an amount for care activities not associated with direct minutes with direct clients.	67% and 33% (as discussed above)
<b>B</b>	On-costs, usually around 28-30% (tax, super, leave loading etc) , workers compensation.	28% will be used
<b>D</b>	Administration overheads (including personnel departments, CEO time, ward clerk, other clerical support, etc).	10% added to salary

For additional details, see **Section 15.1.1 Standard Clinical Staff FTE.**

**Figure 9 - Understanding the proportions of a worker's time - 67% vs 33% (NAH, AOD, AMS)**



## 8.6 BED BASED SERVICES

Bed Based Services are those provided on an inpatient basis.

Use: To calculate estimates of bed/place need.

Under this subsection, the parameters and statistics used in modelling the three types of beds are provided. The three types of beds are:

- Withdrawal Management
- Residential Rehabilitation (the RR bed excludes withdrawal management)
- Specialist Drug and Alcohol beds in a hospital.

### 8.6.1 Bed Days (BD)

The length of stay of an admitted patient is measured in bed days. A same-day patient is allocated a length of stay of one day. The length of stay of an overnight or multi-day stay is calculated by subtracting the admission date from the separation date and deducting total leave with and without permission days

### 8.6.2 Average Length of Stay (ALOS)

The average length of stay (ALOS) in days in a hospital per discharged in-patient, i.e. average duration of a single episode of hospitalization

Use: Part of calculation of Estimated Number of Beds.

See

## **Appendix 9 Calculations for Average Length of Stay (ALOS) for details.**

### **8.6.3 Readmission**

Readmission rates are not calculated within the Model. It is assumed that everyone stays for the full length of care. It is assumed no one comes back within a year. Readmission rates are assumed = 1. Readmission is not shown as zero, as this would make some calculations in the model equal to zero.

### **8.6.4 Occupancy**

The inpatient stays that have been modelled in the project are for stays in inpatient (specialist D&A beds), withdrawal and residential rehabilitation beds.

- The occupancy rate for residential rehabilitation beds is 76%.
- The occupancy rate for inpatient (specialist DA beds) is 87%
- The occupancy rate for withdrawal management (detox) is 87%

NB beds that are 'owned' by others, for example, mental health, paediatric or general bed, then all of the occupancy belongs to them.

### **8.6.5 Separations per Person**

Separation is the process by which an episode of care for an admitted patient ceases. The separations data was obtained from the AIHW Data cubes.

### **8.6.6 Available Bed Days (ABDs)**

Available Bed Days are number of days the bed will be available to patients in a year, this parameter is set as 365 days, for all 3 bed types in the Model.

### **8.6.7 Occupied Bed Days (OBDs)**

Occupied Bed Days are calculated by Multiplying Readmission Rate by Treatment Rate by Average Length of Stay to get the number of OBDs per 100,000 of age specific population.

### **8.6.8 Persons per Bed Year**

This provides an average estimate of the number of persons that will occupy a bed in a year. It is calculated by dividing the Average Occupied Bed Days (OBDs) per Year over the Average length Of Stay (ALOS) for a bed type.

### **8.6.9 FTE/Bed**

Costs for D&A owned bed-based units (specialist D&A beds) are not totally accounted for by the care package activities undertaken by clinical staff during a 16-hr, 5 day a week working model. Therefore, FTE/bed estimates are made, not only for the 8 hour nursing/caretaker overnight shift for these units, but also for the weekend.

**NOTE:** The Model does not use a nominal bed price such as bed day cost in calculating the cost of providing bed based services.

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## **8.7 PRICING**

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The Model includes total prices, of all the resources (staff FTE, consumables, medications and diagnostic tests) and the model delivered to the States/Territories will be such that they can replace the prices associated with FTE's (and other resources). This means that the dollar FTE values are indicative only, and each jurisdiction will then modify it as required.

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## **8.8 FTE STAFF PRICES**

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FTE Staff prices include prices for:

1. Doctor - GP, not AMS
2. Doctor - Addiction Medicine Specialist
3. Nurse/Allied Health
4. AOD workers.

For full details, see:



## Section

## 19.1 Pricing – Clinical Staff

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### 8.9 BED PRICES

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Costs in the Model are driven by salaries, with the addition of on-costs (28%) and administration costs (10%). This does not cover all the costs associated with an inpatient, withdrawal management (detox) or residential rehabilitation bed which is “owned” by D&A services. Missing ancillary (or overhead) costs include hotel costs (food, linen, etc), cleaning, electricity, etc, which should be applied on a per bed basis.

Bed prices are estimated for Inpatient and withdrawal management (detox) beds, and for residential rehabilitation beds.

**NOTE:** The Model does not use a nominal bed price such as bed day cost in calculating the cost of providing bed based services.

For full details, see:

## Section 19.3 Pricing – Beds

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### 8.10 DIAGNOSTIC TEST PRICES

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Estimated Quantity = multiply the treatment rate by the quantity (Quantity of Diagnostic Test prescribed under the care package) to get the price per 100,000 of age specific population.

The prices used for the diagnostic tests are obtained from the Medicare Benefits Schedule Book (Operating from 01 July 2011). This book can be found at:

[http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/\\$File/201107-Cat%206.pdf](http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/$File/201107-Cat%206.pdf)

For full details, see:

## Section 19.4 Pricing – Diagnostic Tests.

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### 8.11 PRESCRIPTION MEDICINE PRICES

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Estimated Quantity = multiply the treatment rate by the quantity (Quantity of Prescription Medicine prescribed under the care package) to get the price per 100,000 of age specific population.

The cost of medications has been estimated using the Pharmaceuticals Benefits Scheme (PBS) price ex manufacturer for Methadone, Buprenorphine, Buprenorphine-naloxone, and the PBS dispensed price for maximum quantity for all the remaining drugs, except Disulfiram, which is not on the PBS.

## **Diazepam**

Diazepam is included for the care packages for Benzodiazepines. Staged Supply is an annual payment for community pharmacies that supply PBS medicines in instalments to consumers, under the Commonwealth Government program Pharmacy Practice Incentive (PPI) Program started under the Fifth Community Pharmacy Agreement (5CPA), Staged Supply.

This operates in approx 90% of community pharmacies, where the pharmacist is paid about \$1000 per year to dispense the diazepam (and thus monitor) to any number of persons.

In the Model, it has been assumed that a pharmacist dispenses the Diazepam to five persons, at \$200 per person per year.

For full details, see:

## **Section**

## **19.5 Pricing – Prescription Medicine.**

## 9. Epidemiology

### 9.1 EPIDEMIOLOGICAL INFORMATION USED TO INFORM THE MODEL

To simplify future maintenance and standardise the model, all the general epidemiology is based on age-sex-illness-specific prevalence data from the Australian Burden of Disease (AUSBoD) study (Begg S, Vos T, Barker B, Stevenson C, Stanley L, Lopez AD. The Burden of Disease and Injury in Australia 2003. PHE 82. Canberra: Australian Institute of Health and Welfare, 2007).

The 1997 NSMHWB is the source for the AUSBoD data as it contains diagnostic criteria (i.e. the distinguishing characteristics of the disease, via symptoms, signs, patterns of behaviour, sometimes including duration criteria for example 'persistent' or 'continued'). The AIHW's triennial National Drug Strategy Household Survey does not contain any questions (and hence report) diagnostic criteria.

#### 9.1.1 Epidemiological Prevalence

This is the estimated number of people from a standard 100,000 age specific population diagnosed ill with a drug or alcohol problem.

**Table 19 - Epidemiological Prevalence**

Drug Type	Age	Prevalence
Alcohol	12-17	1,061
Alcohol	18-64	6,355
Alcohol	65+	1,422
Amphetamine	12-17	127
Amphetamine	18-64	511
Amphetamine	65+	8
Benzodiazepine	12-17	13
Benzodiazepine	18-64	376
Benzodiazepine	65+	76
Cannabis	12-17	484
Cannabis	18-64	1,765
Cannabis	65+	51
Opioids	12-17	31
Opioids	18-64	655
Opioids	65+	107
All-child	0-11mnths	N/A
All-child	1-11	N/A

Note: Within the Model, estimates for ages child 0-11 months and child 1-11 years are based on actual rates of presentation, and thus do not have prevalence rates within the model.

## 10. Description of MILD, MODERATE & SEVERE (standard and complex)

### 10.1 KEY POINTS - SUMMARISED

The treatment and care an individual needs varies, depending on the clinical significance, or severity, of the illness. For the Model drug and alcohol related illness has been measured at three levels: MILD, MODERATE and SEVERE. Since there can be considerable variations in what is understood by these terms, it is important for the Model to have an agreed understanding, and definition of what is meant by these three levels of severity.

The terms MILD, MODERATE and SEVERE are not arbitrary labels, but have explicit meaning. The Project Team has capitalised the labels MILD, MODERATE and SEVERE to indicate that they are not just words with their ordinary (and variable) meaning, but the result of the processes that operationally define them in the model. This is the process that the Project Team stated would be used, in conjunction with the AUSBoD epidemiology, in the proposal that was approved by the IGCD and endorsed by the MCDS in 2009. This is a transparent process in the sense that the basis for each numerical decision is documented. However, it is noted that for many people it may not be a concept that can be readily understood in a short period of time.

It should be noted that the MILD, MODERATE and SEVERE concept has already had considerable usage in mental health planning models through the operational NSW MH-CCP and now in the development of a National Mental Health Service Planning Framework (NMHSPF).

During the development of the Model the following table provided a quick guide to understanding some of the distinction between MILD, MODERATE and SEVERE categories.

**Table 20 - Understanding MILD, MODERATE and SEVERE**

MILD	MODERATE	SEVERE
Person is <u>not</u> hospitalised	Person is <u>not</u> hospitalised	Person may be hospitalised
Person is <u>not</u> using specialist services	Person is <u>not</u> using specialist services	Person is typically using specialist services

In the Model the following steps were used to determine severity numbers in the model.

**Step 1.** Identify the number of persons in a standard population that would be classified as diagnosed ill.

**Step 2.** Identify the number of persons in a standard population that would be classified as having MILD / MODERATE / SEVERE illness.

There are three methods used in the Model to determine the boundaries of severity:

1. In conceptualising a continuum of distress and impairment, the severity of drug and alcohol related illness can also be expressed as proportions along a continuum. The Australian Burden of Disease data set used disability weights (DW) to determine the following cut offs for severity:
  - i. MILD as 1.0 standard deviations below the mean;
  - ii. MODERATE as 2.0 standard deviations below the mean; and
  - iii. SEVERE as 3.0 standard deviations below the mean.
2. Identifying diagnostic weightings using inpatient separation data.
3. Applying a general ratio for alcohol and cannabis of 6:2:1 (MILD : MODERATE : SEVERE) to prevalence helps stabilise and generalise statistics.

Of critical importance is to ensure the statistical validity of the model through the use of robust, empirical and transparent data and analytical processes. The methods described in this technical manual meet these requirements and form a fundamental basis of analyses that firmly validates the modelling underlying the Project.

The following sections outline the key data sources and definitions of SEVERE, MODERATE and MILD illness as determined by the Model and further discuss the use of the terms in relation to modelling.

## 10.2 BACKGROUND

The MILD, MODERATE and SEVERE definitions in the Model build on the definitions in the NSW modelling for MH-CCP. MH-CCP used a definition of SEVERE illness that was originally developed by the National Advisory Mental Health Council (NAMHC) in the United States to meet a request from the Senate Appropriations Committee for "... a report on the cost of covering medical treatment for severe mental illness commensurate with other illnesses ..." <sup>10</sup> (emphasis added). In developing principles for defining "severe" illnesses, the NAMHC gave the example that 2.5% of the American population had diabetes, but 93% of the entire cost of diabetes was generated by a "severe" group equal to about one third of the total – only 0.83% of the population – defined by hospitalisation.

## 10.3 SEVERE, MODERATE AND MILD DRUG OR ALCOHOL USE

### 10.3.1 SEVERE

In the Model, the SEVERE group Treatment Rate for most drugs is 100%. Amphetamine is modelled at 35%, to reflect a more realistic demand, given that data suggests that the current Treatment Rate is approximately 18%.

<sup>10</sup> National Advisory Mental Health Council. Health care reform for Americans with severe mental illnesses: Report of the National Advisory Mental Health Council. American Journal of Psychiatry 1993;150(10):1447-1465.

### 10.3.2 MODERATE

In this MODERATE group, many perceive no need for any treatment (percentage varies by drug). In the Model, treatment demand is modelled as 50% for Alcohol and Cannabis, 50% for Benzodiazepines, and 50% for Amphetamine. (NB there is no MILD for Amphetamine, and Illicit Opioids has no MILD nor MODERATE).

### 10.3.3 MILD

In this MILD group, many perceive no need for any treatment (percentage varies by drug). In the Model, treatment demand is modelled as 20% for Alcohol and Cannabis, 20% for Benzodiazepines, and 0% for Amphetamine and Illicit Opioids (because there is no MILD for Amphetamine and Illicit Opioids).

**Table 21 - MILD, MODERATE and SEVERE – table summary**

MILD	MODERATE	SEVERE
Apply symptomatic diagnostic criteria	Apply symptomatic diagnostic criteria	Apply symptomatic diagnostic criteria
Person is <u>not</u> hospitalised	Person is <u>not</u> hospitalised	Person is hospitalised
Person is <u>not</u> using specialist services	Person is <u>not</u> using specialist services	Person is using specialist services
		Person is impaired based on Global Assessment of Functioning (GAF)
		Person has made suicide attempt (re mental health)
		Only some people under the severe category would be considered complex



## 10.4 CONCEPTUALISING SEVERITY IN RELATION TO THE PREVALENCE DATA

The prevalence of drug and alcohol related illness is now generally described in terms of the three levels of severity. Once the Project Team obtained the number of people per 100,000 in each age group who are SEVERE, different ratios according to drug type are then applied.

As an example, for alcohol 18-64, the total diagnostically ill/ diagnostically positive group is 6,355 per 100,000. Using various calculations the Project Team determined that the ratio (MILD : MODERATE : SEVERE) for Alcohol is 6.09 : 2 : 1, with the percentage splits being 67% in MILD, 22% in MODERATE and 11% in SEVERE. Thus for alcohol 18-64 years, the prevalence by severity per 100,000 is:

1. MILD = 4,258
2. MODERATE = 1,398
3. SEVERE = 699

In broad terms, the prevalence of MODERATE Alcohol disorders is approximately triple that of SEVERE, and the prevalence of MILD disorders is approximately twice that of MODERATE.

Similar generalised ratios are used for the other drugs.

**Generalised** ratio (MILD : MODERATE : SEVERE):

- Alcohol 6.09 : 2 : 1
- Amphetamine 0 : 1 : 9
- Benzodiazepines 5 : 3 : 2
- Cannabis 6.09 : 2 : 1
- Illicit Opioids 0 : 0 : 1 (they are all in SEVERE)

More simply, if it is accepted that severity of impairment and distress associated with illness varies along a continuum, then the continuum itself can be divided at appropriate and agreed proportions and labelled MILD, MODERATE and SEVERE.

## 10.5 APPLYING SEVERITY TO INDIVIDUAL DRUG GROUPS

Using the generalised ratios shown above, we can see that different prevalence ratios for MILD, MODERATE and SEVERE are applied for different drugs.

In the case of alcohol and cannabis, the prevalence ratio is 6.09 : 2 : 1 (MILD : MODERATE : SEVERE).

For illicit opioids the prevalence ratio is 0 : 0 : 1. (MILD : MODERATE : SEVERE). This means that all the prevalent cases are considered SEVERE. There are no MILD or MODERATE care packages, or MILD or MODERATE epidemiological data for this drug type.

For benzodiazepines the prevalence ratio is 5 : 3 : 2 (MILD : MODERATE :SEVERE). The Project Team has assigned a 2 in SEVERE because the disability weight for benzodiazepines is approximately twice that of alcohol or cannabis.

In the case of amphetamines, the prevalence ratio is 0 : 1 : 9 (MILD : MODERATE :SEVERE). This means most of the prevalent cases are considered SEVERE. There are no MILD and a small number of MODERATE.

## 10.6 MODELLING SEVERITY

To ensure the statistical validity of the model it is important to ensure that both the data and processes used to analyse it are themselves robust, empirical and transparent. The primary source of epidemiological data used by the Model to identify prevalence is the Australian Burden of Disease (AUSBoD). AUSBoD uses disability weights (DW) from 0.0 to 1.0 on a vertical axis. The horizontal axis represents scores on the 'SF12' measure of functioning that was used in the Australian National Survey of Mental Health and Wellbeing (SMHWP-1997)<sup>11</sup>. Since this was available for every respondent in SMHWP-1997, AUSBoD labelled the following cut offs for severity:

1. MILD as 1.0 standard deviations below the mean.
2. MODERATE as 2.0 standard deviations below the mean.
3. SEVERE as 3.0 standard deviations below the mean.

A second method to generalise and stabilise the statistics is to apply the general ratio in the case of alcohol or cannabis, of 6:2:1 (MILD : MOD : SEVERE) to prevalence as also discussed earlier.

Using the premise that help-seeking behaviours increase with impairment and distress, it is important to consider the proportion of the prevalent population that identify the need for service. Therefore, incorporated within these methods is the ratio of treatment demand within each severity category that is used in the Model to determine service usage.

The table below shows recommended\_number of people to be treated for any drug type for the age group 18-64.

<sup>11</sup>Australian Bureau of Statistics, National Survey of Mental Health and Wellbeing: Summary of Results, 2007. Canberra: Commonwealth of Australia, 2008. (ABS Cat No 4326.0).

**Table 22 - Service Demand by Substance use Disorder, age group 18-64**

	<b>Total Treated Prevalence Of Dx %</b>	<b>MILD %</b>	<b>MODERATE %</b>	<b>SEVERE %</b>	<b>SEVERE Qty</b>
Alcohol	35	20	50	100	699
Amphetamine	37 <sup>12</sup>	n/a	50	35	161
Benzodiazepine	45	20	50	100	75
Cannabis	35	20	50	100	194
Illicit Opioids	90	n/a	n/a	100	590

**Note:** there is no MILD for Amphetamine, and Illicit Opioids has no MILD nor MODERATE.

## 10.7 REVISED ESTIMATES OF ILLICIT OPIOIDS

The original AUSBoD estimate for each age group was:

- 12-17 yrs = 17/100,000 or 289 Australians aged 12-17.
- 18-64 years= 353 /100,000 or 46,319 Australians aged 18-64.
- 65+ = 58/100,000 or 1,562 Australians aged 65+.

The AUSBoD estimates were sourced from the NDARC Technical Report #198, published in 2004 as “Estimating the number of regular heroin users in NSW and Australia in 1997-2002”. The AUSBoD estimate thus dates back to 2002. The full report is at:

<http://ndarc.med.unsw.edu.au/resource/estimating-number-current-regular-heroin-users-nsw-and-australia-1997-2002> .

Further, the AIHW’s NOPSAD data shows that in the year 2002, there were 34,210 Australians registered in Opioid Treatment Programs. The NOPSAD data shows that in 2010 there were 46,078 Australians registered in Opioid Treatment Programs. This means that the total number of people in OTP/OST programs in 2010 almost exceeds the original AUSBoD estimate of 48,169 across the three major age groups. The NOPSAD report is at <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737419326&libID=10737419325> .

A revised estimate was calculated by adding the AUSBoD original estimate of the total number for each age group to the age relevant proportion of the 41,100 Australians "between treatment" for each age group. The ‘between treatment’ data was taken from the ANCD publication “modelling pharmacotherapy treatment in Australia: exploring affordability, availability, accessibility and quality using system dynamics”. The full report is at: [www.ancd.org.au/images/PDF/Researchpapers/rp19\\_modelling.pdf?phpMyAdmin=rGQ2XkO0sKjMp24r2sFwuVc5ibb.pub](http://www.ancd.org.au/images/PDF/Researchpapers/rp19_modelling.pdf?phpMyAdmin=rGQ2XkO0sKjMp24r2sFwuVc5ibb.pub) .

This new total was then calculated and expressed as a rate /100,000 for each age group. For example for 18-64 years, AUSBoD original estimate was 46,319 Australians aged 18-64, the

<sup>12</sup> Amphetamine :12-17 years is 36%, 18-64 years is 37% and 65+ years is 31%.

The diagnosable numbers are so small that it affects the calculation of the overall treatment rate of Dx (ie small numbers can lead to greater variations in percentage terms)

Project Team then added the age relevant proportion of the 41,100 Australians "between treatment" for this age group, which was 39,521 (based on  $0.96 \times 41,100$ ) to get a new total of 85,840 Australians aged 18-64. The 85,840 is then expressed 655/100,000 for the age group 18-64 years.

In summary, the revised illicit opioid rates are: 12-17 years (31/100,000), 18-64 years (655/100,000), 65+ years (107/100,000).

## 10.8 EPIDEMIOLOGY AND TREATMENT RATES AND NUMBERS

The following figure represents the Alcohol 18 – 64 Age Group, showing the prevalence and treatment rates between MILD, MODERATE and SEVERE, and the calculations for Screening and Brief Intervention.

**Figure 10 - Alcohol 18-64 Epidemiology and Treated Prevalence**

**ALCOHOL 18 – 64 years: Epidemiology and Treated Prevalence**

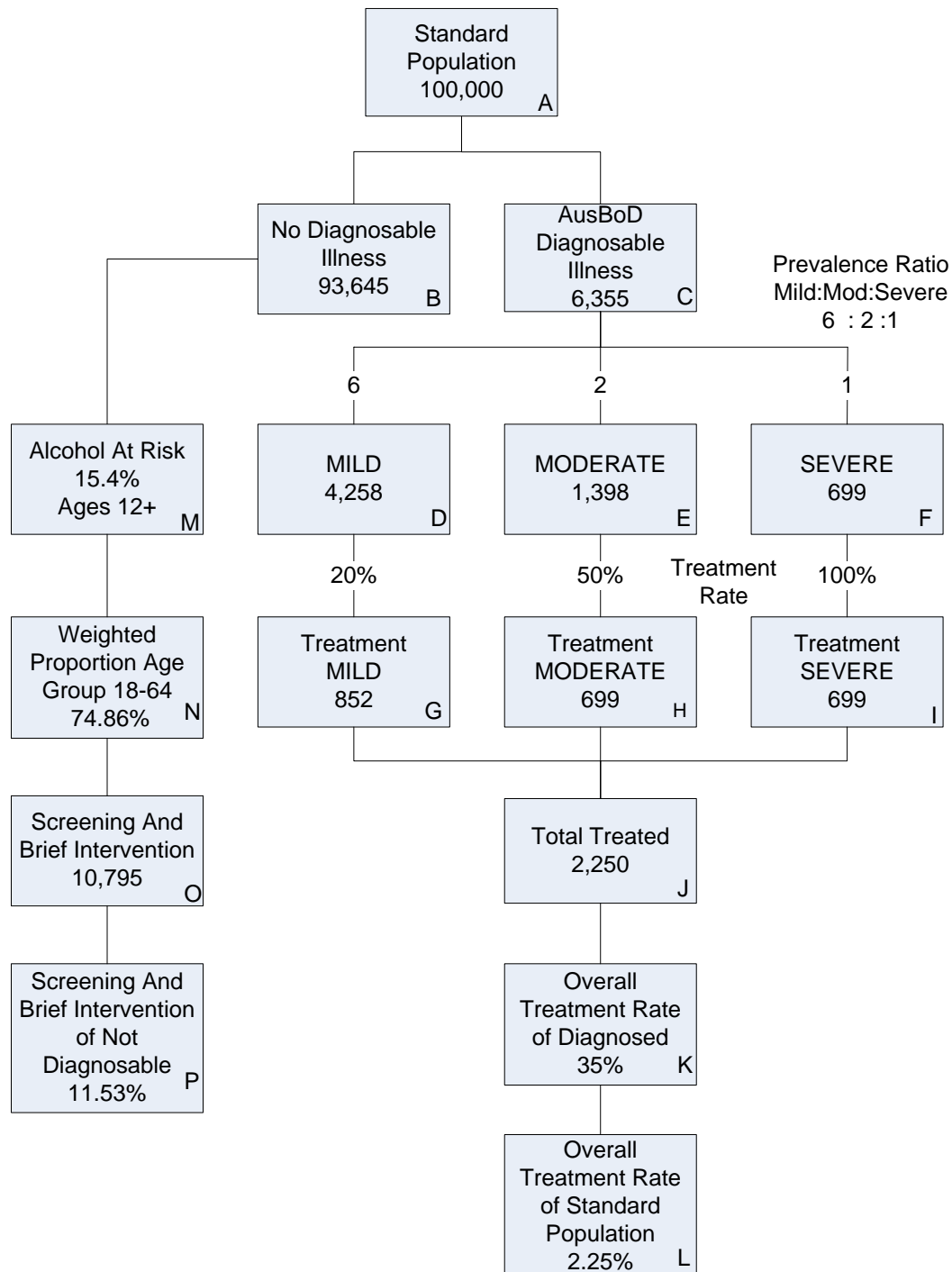


Table 23 - Alcohol Epidemiology and Treatment Rates and Numbers

			ALCOHOL		
			12-17	18-64	65+
A	Standard population		100,000	100,000	100,000
B	Not diagnosable		98,939	93,645	98,578
C	Diagnosable		1,061	6,355	1,422
Division into MILD, MODERATE and SEVERE by prevalence %					
D	MILD	67%	711	4,258	953
E	MODERATE	22%	233	1,398	313
F	SEVERE	11%	117	699	156
	Total	100%	1,061	6,355	1,422
Division into numbers treated by applying Treatment rate%					
G	MILD	20%	142	852	191
H	MODERATE	50%	117	699	156
I	SEVERE	100%	117	699	156
J	Total Treated		376	2,250	503
K	Overall Treatment Rate (K = J / C) Of Dx		35%	35%	35%
L	Overall Treatment Rate Of Standard Population (L = J / A)		0.376%	2.25%	0.503%
M	At Risk % Ages 12+		15.4%	15.4%	15.4%
N	Weighted Proportion of age group		8.98%	74.86%	16.16%
O	Screening and Brief Intervention		1,369	10,795	2,453
P	Screening and Brief Intervention % Of Not Diagnosable % (P = O / B)		15.4%	15.4%	15.4%

Table 24 - Amphetamine Epidemiology and Treatment Rates and Numbers

		AMPHETAMINE		
		12-17	18-64	65+
A	Standard population	100,000	100,000	100,000
B	Not diagnosable	99,873	99,489	99,992
C	Diagnosable	127	511	8
Division into MILD, MODERATE and SEVERE by prevalence %				
D	MILD	0%	0	0
E	MODERATE	10%	13	1
F	SEVERE	90%	114	7
	Total	100%	127	8
Division into numbers treated by applying Treatment rate%				
G	MILD	0%	0	0
H	MODERATE	50%	6	0
I	SEVERE	35%	40	3
J	Total N treated	46	187	3
K	Overall Treatment Rate (K = J / C) Of Dx	36%	37%	38%
L	Overall Treatment Rate Of Standard Population (L = J / A)	0.046%	0.187%	0.003%
M	At Risk % Ages 14+	0.9%	0.9%	0.9%
N	Weighted Proportion of age group	6.24%	77.11%	16.65%
O	Screening and Brief Intervention	56	690	150
P	Screening and Brief Intervention % Of Not Diagnosable % (P = O / B)	0.06%	0.69%	0.15%

**Note:** the 65+ age group diagnosable number (C=8) is so small that it affects the calculation of the overall treatment rate of Dx (K=38%) (i.e. small numbers can lead to greater variations in percentage terms).

**Table 25 - Benzodiazepine Epidemiology and Treatment Rates and Numbers**

		BENZODIAZEPINE			
			12-17	18-64	65+
A	Standard population		100,000	100,000	100,000
B	Not diagnosable		99,987	99,624	99,924
C	Diagnosable		13	376	76
Division into MILD, MODERATE and SEVERE by prevalence %					
D	MILD	50	7	188	38
E	MODERATE	30	4	113	23
F	SEVERE	20	3	75	15
	Total	100	13	376	76
Division into numbers treated by applying Treatment rate%					
G	MILD	20	1	38	8
H	MODERATE	50	2	56	11
I	SEVERE	100	3	75	15
J	Total N treated		6	169	34
K	Overall Treatment Rate (K = J / C) Of Dx		45%	45%	45%
L	Overall Treatment Rate Of Standard Population (L = J / A)		0.006%	0.169%	0.034%

**Note:** Benzodiazepines and Illicit Opioids are not modelled for SBI, as there was no data available for “at risk/ need for screening”.



Table 26 - Cannabis Epidemiology and Treatment Rates and Numbers

			CANNABIS		
			12-17	18-64	65+
A	Standard population		100,000	100,000	100,000
B	Not diagnosable		99,516	98,235	99,949
C	Diagnosable		484	1,765	51
Division into MILD, MODERATE and SEVERE by prevalence %					
D	MILD	67%	324	1,183	34
E	MODERATE	22%	106	388	11
F	SEVERE	11%	53	194	6
	Total	100%	484	1,765	51
Division into numbers treated by applying Treatment rate%					
G	MILD	20%	65	237	7
H	MODERATE	50%	53	194	6
I	SEVERE	100%	53	194	6
J	Total Treated		171	625	18
K	Overall Treatment Rate (K = J / C) Of Dx		35%	35%	35%
L	Overall Treatment Rate Of Standard Population (L = J / A)		0.171%	0.625%	0.018%
M	At Risk % Ages 12+		9.4%	9.4%	9.4%
N	Weighted Proportion of age group		8.98%	74.86%	16.16%
O	Screening and Brief Intervention		840	6,912	1,518
P	Screening and Brief Intervention % Of Not Diagnosable % (P = O / B)		9.4%	9.4%	9.4%

Table 27 - Illicit Opioids Epidemiology and Treatment Rates and Numbers

		ILLCIT OPIOIDS		
		12-17	18-64	65+
A	Standard population	100,000	100,000	100,000
B	Not diagnosable	99,969	99,345	99,893
C	Diagnosable	31	655	107
Division into MILD, MODERATE and SEVERE by prevalence %				
D	MILD	0%	0	0
E	MODERATE	0%	0	0
F	SEVERE	90%	28	590
	Total	100%	28	590
Division into numbers treated by applying Treatment rate%				
G	MILD	0%	0	0
H	MODERATE	0%	0	0
I	SEVERE	100%	28	590
J	Total N treated		28	590
K	Overall Treatment Rate (K = J / C) Of Dx		90%	90%
L	Overall Treatment Rate Of Standard Population (L = J / A)		0.03%	0.59%

**Note:** Benzodiazepines and Illicit Opioids are not modelled for SBI, as there was no data available for “at risk/ need for screening”.

# 11. Screening and Brief Intervention

Screening and Brief Intervention (SBI) refers to advice and information provided to people 'at risk' in the context of a consultation by a primary care worker. Such information is initially conveyed verbally and usually in the context of a primary care consultation for a different purpose. The initial screening may be accompanied by a range of additional support, including the provision of printed information, or follow-up telephone calls.

**Figure 11 - calculation for SBI Screening Brief Intervention**

<b>SBI Screening Brief Intervention</b>	=	At Risk %	*	Age Group Proportion	*	Number of people with no Diagnosable Illness
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The table below shows the estimated numbers for Screening and Brief Intervention, where modelled within the Model.

**Table 28 - Estimated Numbers for Screening and Brief Interventions**

Drug	Age Group	SBI number
Alcohol	12-17	1,369
Alcohol	18-64	10,795
Alcohol	65+	2,453
Amphetamine	12-17	56
Amphetamine	18-64	690
Amphetamine	65+	150
Cannabis	12-17	840
Cannabis	18-64	6,912
Cannabis	65+	1,518

**Note:** Benzodiazepines and Illicit Opioids are not modelled for SBI, as there was no data available for "at risk/ need for screening".

The table below shows the Calculation for SBI Screening Brief Intervention.

**Table 29 - Calculation for SBI Screening Brief Intervention**

Step #	Step - Summary	Step – Detailed	Example
A	Identify drug for SBI Screening Brief Intervention.	NB SBI is modelled only for Alcohol, Amphetamine and Cannabis	Drug: <b>Alcohol</b>
B	Identify Age Group	Select age group for this example	Age: <b>18-64</b>
C	Identify At Risk source data	Alcohol At Risk percentages were calculated from data from the NDSHS <sup>13</sup> page 57.	
D	Identify At Risk%	Alcohol At Risk drinker for SBI was defined as: 'at least weekly' and 'every day/ most days' for single occasion risk in 2010	For ages 12+ the total of at risk drinkers is <b>15.4%</b> (10.8 +4.6) note: includes age groups 12-17,18-64 and 65+
E	Identify Weighted Proportion for age group	Identify age group share using 2011 % by age group	Of 12+ years: 12-17 years is 8.98% <b>18-64 years is 74.86%</b> 65+ years is 16.16%
F	Identify number of people in age group with "No Diagnosable Illness".	Of 100,000 standard population of age group 18 - 64 years, 93,645 people have "No Diagnosable Illness". (1,061 are diagnosable)	<b>93,645</b>
G	Calculate SBI Screening Brief Intervention	SBI = Weighted Proportion for age group, of the At Risk % of people with "No Diagnosable Illness".	<b>G = D * E * F</b> <b>= 15.4% * 74.86% *</b> <b>93,645</b> <b>= 10,795</b>

The following tables show the calculations for SBI Screening Brief Intervention, where modelled within the Model.

<sup>13</sup> AIHW 2011. 2010 National Drug Strategy Household Survey report. Drug statistics series no. 25. Cat. no. PHE 145. Canberra: AIHW.

**Alcohol At Risk %:** data source: NDSHS, 2010 aged 12+ (include only 'at least weekly' and 'every day/ most days' for single occasion risk)

**Table 30 - Alcohol Screening and Brief Intervention Calculations**

A	B	C	D	E = B * C * D
Age Group	census 2011 % by age group	Alcohol At Risk%	Not diagnosed ill	SBI. Risky drinker by age group /100,000 population
12-17	8.98%	15.4%	98,939	1,369
18-64	74.86%	15.4%	93,645	10,795
65+	16.16%	15.4%	98,578	2,453
total 12+	100.00%			14,617

**Amphetamine at Risk %:** data source: NDSHS, 2010 aged 12+ (i.e. used in last month and last week)

**Table 31 - Amphetamine Screening and Brief Intervention Calculations**

A	B	C	D	E = B * C * D
Age Group	census 2011 % by age group	Amphetamine At Risk%	Not diagnosed ill	SBI. Risky user by age group /100,000 population
14-17	6.24%	0.9%	99,873	56
18-64	77.11%	0.9%	99,489	690
65+	16.65%	0.9%	99,992	150
total 14+	100.00%			896

**Note:** the 99,873 not diagnosed ill is per 100,000 of age 12-17 years. We do not have the numbers for 14 -17 years. We would not expect great variation between the 14-17 years and 12-17 years, as it is per 100,000.

**Cannabis at Risk %:** data source: NDSHS, 2010 aged 12+ (i.e. used in last month and last week)

**Table 32 - Cannabis Screening and Brief Intervention Calculations**

A	B	C	D	E = B * C * D
Age Group	census 2011 % by age group	Cannabis At Risk%	Not diagnosed ill	SBI. Risky user by age group /100,000 population
12-17	8.98%	9.4%	99,516	840
18-64	74.86%	9.4%	98,235	6,912
65+	16.16%	9.4%	99,949	1518
total 12+	100.00%			9,271

The NDSHS tables were the source for the At Risk %. For further information, see:

## Appendix A16.6 The 2010 National Drug Strategy Household Survey

The table below was used to identify At Risk% for drug = Alcohol, age 12+ years for single occasion risk). The At Risk % used includes only 'at least weekly'(10.8) and 'every day/ most days' (4.6) at risk drinkers is 15.4% (=10.8 +4.6). Similar tables were used to identify At Risk for Amphetamines and Cannabis.

**Table 33 - NDSHS of 2010, ages 12 + Alcohol single occasion risk**

Table 4.5 (continued): Alcohol consumption (2009 guidelines), people aged 12 years or older at risk of injury on a single occasion of drinking, by age and sex, 2007 and 2010 (per cent)

Age group (years)	Abstainers <sup>(a)</sup>		Low risk <sup>(b)</sup>		Single occasion risk										
					At least yearly <sup>(c)</sup>		At least monthly <sup>(d)</sup>		At least weekly <sup>(e)</sup>		Every day/most days <sup>(f)</sup>				
	2007	2010	2007	2010	2007	2010	2007	2010	2007	2010	2007	2010			
Persons															
12–15	69.8	77.2	↑	20.7	14.8	↓	3.5	2.8	4.2	4.3	1.6	*0.9	0.2	—	
16–17	24.4	31.6	↑	31.0	27.5		9.0	10.7	21.6	19.4	12.2	10.0	1.8	*0.8	
18–19	10.9	13.7		19.1	20.0		17.2	8.2	↓	20.1	25.7	29.1	28.7	3.5	3.7
20–29	12.9	14.7		22.4	24.8		15.2	14.2		21.1	20.4	24.3	22.0	4.2	3.8
30–39	12.2	15.7	↑	36.4	34.1		18.1	16.5		15.8	16.0	12.8	12.6	4.7	5.1
40–49	12.4	14.3		43.0	42.6		15.5	13.8		12.6	12.3	10.6	11.0	6.0	6.0
50–59	14.0	16.5	↑	50.9	48.6		12.4	11.4		9.5	8.8	6.4	7.7	6.8	7.0
60–69	21.0	19.8		56.9	58.0		7.6	6.5		5.9	6.1	3.5	4.1	5.1	5.6
70+	29.3	30.4		60.1	60.4		3.5	2.7		2.2	2.0	1.8	1.6	3.2	2.8
Total (12+)	19.3	21.7	↑	40.5	39.7		12.4	11.0	↓	12.2	12.2	10.9	10.8	4.6	4.6
14–19	28.9	35.4	↑	27.0	23.4		10.8	8.0	↓	16.6	17.8	14.7	13.8	1.9	1.5
14+	17.1	19.5	↑	41.5	40.7		12.8	11.3	↓	12.6	12.5	11.3	11.2	4.8	4.7
18+	15.6	17.6	↑	42.2	41.8		13.1	11.6	↓	12.5	12.4	11.5	11.6	5.1	5.0

(a) Not consumed alcohol in the previous 12 months.

(b) Never had more than 4 standard drinks on any occasion.

(c) Had more than 4 standard drinks at least once a year but not as often as monthly.

(d) Had more than 4 standard drinks at least once a month but not as often as weekly.

(e) Had more than 4 standard drinks at least once a week but not as often as most days.

(f) Had more than 4 standard drinks on most days or every day.

\* Estimate has a relative standard error of 25% to 50% and should be used with caution.

\*\* Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

## 12. Harm Reduction Estimates

The harm reduction component of the model is underpinned by the following considerations:

### *The scope of the harm reduction*

Harm reduction has is a core component of public health – for example, school children being required to wear sun hats in the playground, or of frangible power poles being installed at the roadside. It is the central organising principle for the area in public health known as ‘injury prevention and control’; the control aspect is, in fact, harm reduction. Many people believe – incorrectly - that the harm reduction concept, language and practice entered the substance abuse field with the 1980s emergence of the HIV/AIDS epidemic. In fact, it was established before that era.<sup>14</sup>

In Australia, the idiosyncratic approach of defining ‘harm minimisation’ (as it applies to drugs policy) as encompassing demand reduction, supply reduction and harm reduction is a source of confusion both to people in the AOD field and beyond. That said, harm reduction has been one of the focuses of Australia’s National Drug Strategy and its predecessor the National Campaign Against Drug Abuse, since the latter’s inception in 1985.

No broadly agreed definition of harm reduction exists. The term ‘harm reduction’ was first used in Australia’s National Drug Strategy in 1993 when the three pillars approach was introduced, along with an explicit statement as to the meaning of harm reduction in the context of the Strategy.<sup>15</sup> Although not defined in the current NDS strategy document, the following definition was included in the document describing the previous (2004-2009) phase of the NDS:

Harm-reduction strategies: strategies that are designed to reduce the impacts of drug-related harm on individuals and communities. Governments do not condone illegal risk behaviours such as injecting drug use: they acknowledge that these behaviours occur and that they have a responsibility to develop and implement public health and law-enforcement measures designed to reduce the harm that such behaviours can cause.<sup>16</sup>

For the purposes of the Model, harm reduction interventions are those aimed at reducing the harms caused by drugs, drug use and societal responses to drugs, drug use and people who use drugs, but not aimed at reducing drug use as such, at least in the short term.

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<sup>14</sup> For example ‘problem prevention’: Pittman, DJ 1980, *Primary prevention of alcohol abuse and alcoholism: an evaluation of the control of consumption policy*, Social Science Institute, Washington University, St. Louis, Mo.; ‘harm reduction’: Casswell, S 1981, ‘A harm-reduction education programme’, in *Man, drugs and society current perspectives: proceedings of the first Pan-Pacific Conference on Drugs and Alcohol, Canberra, Australia, February 26 to March 5, 1980*, Australian Foundation on Alcoholism and Drug Dependence, Canberra, p. 164.

<sup>15</sup> Ministerial Council on Drug Strategy 1993, *National Drug Strategic Plan 1993-97*, AGPS, Canberra.

<sup>16</sup> Ministerial Council on Drug Strategy 2004, *The National Drug Strategy: Australia’s integrated framework 2004-2009*, Dept of Health and Ageing, Canberra.

Harm reduction interventions focus on diverse populations, with the result that some are universal, some selective and some indicated, to use a familiar taxonomy.<sup>17</sup> For example, seat belts in motor cars are a universal harm reduction intervention, plastic alcoholic beverage containers are a selective intervention and NSPs are an indicated intervention. Some overlap exists, both conceptually and in programmatic terms, between prevention and harm reduction. The key difference is that much prevention is aimed at stopping or delaying the uptake of drug use (a prevalence approach) whereas harm reduction aims to prevent the occurrence of drug-related harm, or to minimise the extent of harm.

#### *An evidence-based comprehensive approach*

A significant body of research evidence underpins the design and implementation of harm reduction initiatives in the AOD field. For this reason, only initiatives with a reasonably sound evidence base are included in the model.

#### *A standard population approach*

Consistent with the treatment and prevention components of the Model, the harm reduction component estimates are based on the amount of harm reduction services that *should be provided* to 100,000 of age specific population. This is directed to the entire population, not to those dependent and therefore resource estimates are required at a population rather than individual level. These estimates are based on the best available evidence of what works. In some instances, the harm reduction activity can be expressed as an FTE per 100,000 of age specific population, whereas at other times the estimates may be based on a program cost per 100,000 of age specific population. Although the decision about whether to use an FTE or program cost amount will depend on the availability of data, for the purposes of the model it does not matter which source is used.

#### *Boundary setting: the scope of the harm reduction component*

For pragmatic reasons the harm reduction component of the Model focuses on expenditures within the health sector. It is acknowledged that significant drug harm reduction expenditures occur in other sectors such as law enforcement and corrections. Initiatives and expenditures in these areas are excluded.

In the international literature, and frequently in Australia as well, opioid substitution treatment (OST) is considered to be a harm reduction intervention. This is based on the fact that the goals of OST include reducing a range of harms related to illicit opioid use. For the purposes of the Model, however, OST is excluded from the harm reduction component of the model, being more appropriately dealt with as a treatment intervention.<sup>18</sup>

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<sup>17</sup> Gordon, RS, Jr. 1983, 'An operational classification of disease prevention', *Public Health Reports*, vol. 98, pp. 107-9, p. 109:

'Universal measures are recommended for essentially everyone. Selective measures are advisable for population subgroups distinguished by age, sex, occupation, or other evident characteristics, but who, on individual examination, are perfectly well. Indicated measures are those that should be applied only in the presence of a demonstrable condition that identifies the individual as being at higher than average risk for the future development of a disease.'

<sup>18</sup> This boundary setting is consistent with that used in Ritter, A & Cameron, J 2006, 'A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs', *Drug Alcohol Rev*, vol. 25, no. 6, pp. 611-24.



Blood-borne virus (BBV) prevention programs are not to be included in the harm reduction component at present, but they should be considered in future stages of development of the Model. Quantifying the expenditures on and outputs of BBV prevention programs, and projecting future needs and expenditures in this area, should receive attention in the reviews of the Third National Hepatitis C Strategy and Sixth National HIV Strategy, given that people who inject drugs are a priority population within both strategies.

### *Drug classes*

The harm reduction component is consistent with the treatment and prevention components, addressing the same drug classes, namely:

- Alcohol
- Amphetamines
- Benzodiazepines
- Cannabis
- Illicit Opioids

In practice, some harm reduction interventions address more than one drug class, for example NSPs that provide sterile injecting equipment suitable for injecting a range of drugs. In contrast, some harm reduction interventions target the use of specific drugs, for example the distribution of Naloxone in the context of opioid overdose.

### *Age groups*

The harm reduction component applies to people in all age groups.

The table below (next page) provides evidence for effectiveness for the six harm reduction interventions endorsed by the ERG as being within scope.

For more details, see:

### **A17.1 Harm Reduction details and Resource Estimate**

### **A17.2 Harm Reduction Intervention Costs Estimates**

**Table 34 - Harm Reduction Component – Evidence for Effectiveness**

Harm reduction activity	Notes on evidence for effectiveness
1. Needle and syringe programs	Assessed as effective and cost-effective in key reviews. <sup>19</sup> Estimated that Australian NSPs reduced incidence of :HIV by 60-77% (564-1,284 cases) and HCV by 27-43% (39,496-78,331 cases) during 2000-2010 <sup>20</sup>
2A Distribution of Naloxone	The evidence is largely from descriptive studies but is strong enough, especially from the USA, for the intervention to be supported. <sup>21</sup> A national program has been implemented in Scotland. <sup>22</sup> , now part of the USA National Drug Control Strategy, on the basis of experience and evidence from that country.
2B Overdose prevention programs other than supervised injection facilities (e.g.Save a mate)	Given the apparently poor responses to overdose, improving heroin users' responses to the overdoses of their peers may well reduce overdose fatalities and morbidity. <sup>23</sup> SaveAMate Program staff and volunteers demonstrated use of skills learnt, behaviour change and increased confidence to recognise an overdose. <sup>24</sup>
2C Supervised injection facilities	Fair evidence of effectiveness from observational studies in Sydney and abroad. <sup>25</sup>

<sup>19</sup> Ritter, A & Cameron, J 2006, 'A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs', *Drug Alcohol Rev*, vol. 25, no. 6, pp. 611-24; Babor, T, Caulkins, JP, Edwards, G, Fischer, B, Foxcroft, DR, Humphreys, K, Obot, IS, Rehm, J, Reuter, P, Room, R, Rossow, I & Strang, J 2010, *Drug policy and the public good*, Oxford University Press, Oxford.

<sup>20</sup> Kwon, JA, Anderson, J, Kerr, CC, Thein, H-H, Zhang, L, Iversen, J, Dore, GJ, Kaldor, JM, Law, MG, Maher, L & Wilson, DP 2012, 'Estimating the cost-effectiveness of needle-syringe programs in Australia', poster presented to XIX International AIDS Conference, Washington, DC, 22-27 July.

<sup>21</sup> Open Society Foundations 2011, *Stopping overdose: peer-based distribution of naloxone*, Open Society Foundations Public Health Program, New York;  
Ritter, A & Cameron, J 2006, 'A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs', *Drug Alcohol Rev*, vol. 25, no. 6, pp. 611-24;  
Babor, T, Caulkins, JP, Edwards, G, Fischer, B, Foxcroft, DR, Humphreys, K, Obot, IS, Rehm, J, Reuter, P, Room, R, Rossow, I & Strang, J 2010, *Drug policy and the public good*, Oxford University Press, Oxford.

<sup>22</sup> The Scottish Government 2012, *Naloxone kits issued across Scotland*, <<http://www.scotland.gov.uk/News/Releases/2012/07/naloxone31072012>>.

<sup>23</sup> Darke, S & Hall, W 2003, 'Heroin overdose: research and evidence-based intervention', *Journal of Urban Health*, vol. 80, no. 2, p. 193.

<sup>24</sup> Project Evaluation, 2011, 'Red Cross Save A Mate'

<sup>25</sup> KPMG 2010, *Further evaluation of the Medically Supervised Injecting Centre during its extended Trial period (2007-2011): final report*, KPMG, [Sydney]; Marshall, BD, Milloy, MJ, Wood, E, Montaner, JS & Kerr, T 2011, 'Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study', *Lancet*, vol. 377, no. 9775, pp. 1429-37.

3A Peer support programs	<p>‘Good evidence for reducing drug use, crime. and infections. A very cost-effective way to manage chronic drug users.’<sup>26</sup></p> <p>WHO also recommends this approach: ‘It is suggested to offer peer interventions to people who inject drugs to reduce the incidence of viral hepatitis’.<sup>27</sup></p>
3B Consumer advocacy services	<p>Benefits of consumer participation in health services range from increased individual consumer self-esteem and confidence to improvements in the quality of healthcare and outcomes.<sup>28</sup></p>
4 Interventions for intoxication – night patrols; sobering up centres; places of safety.	<p>Gray et al "Indigenous specific alcohol and other drugs interventions: continuities, changes and areas of greatest need" 2010. Australian National Council on Drugs (ANCD) research paper 20.</p> <p><a href="http://www.ilc.unsw.edu.au/sites/ilc.unsw.edu.au/files/mdocs/Report%20NIDAC_ANCD%20research%20paper_Apr10.pdf">http://www.ilc.unsw.edu.au/sites/ilc.unsw.edu.au/files/mdocs/Report%20NIDAC_ANCD%20research%20paper_Apr10.pdf</a></p>

<sup>26</sup> Babor, T, Caulkins, JP, Edwards, G, Fischer, B, Foxcroft, DR, Humphreys, K, Obot, IS, Rehm, J, Reuter, P, Room, R, Rossow, I & Strang, J 2010, *Drug policy and the public good*, Oxford University Press, Oxford, p.265, and see Garfein, R et al. 2007, ‘A peer-education intervention to reduce injection risk behaviors for HIV and hepatitis C virus infection in young injection drug users’, *AIDS*, vol. 21, no. 14, pp. 1923-32; Medley, A, Kennedy, C, O'Reilly, K & Sweat, M 2009, ‘Effectiveness of peer education interventions for HIV prevention in developing countries: a systematic review and meta-analysis’, *AIDS Education and Prevention*, vol. 21, no. 3, pp. 181-206; Australian Injecting and Illicit Drug Users League 2006, *A framework for peer education by drug-user organisations*, Australian Injecting and Illicit Drug Users League (AIVL), Canberra.

<sup>27</sup> World Health Organization 2012, *Guidance on prevention of viral hepatitis B and C among people who inject drugs*, WHO/HIV/2012.18, World Health Organization, Geneva.

<sup>28</sup> National Resource Centre for Consumer Participation in Health

## 13. Promotion and Prevention

In the original Project proposal it was stated the Model would quantify the need for prevention, promotion and early intervention. It is intended that the Model have a comprehensive evidence based Prevention and Promotion module; underlaid by a sound methodology that aligns with the rest of the model. To enable this to happen, and to preserve the integrity of the remaining model the Prevention and Promotion module has been recommended for inclusion in the next iteration of the Model.

### 13.1 CURRENT ISSUES WITH MODELLING OF PROMOTION AND PREVENTION

Significant work was undertaken by the Project Team and Expert Reference Group to build a Prevention and Promotion component into this first version of the Model. However, it was concluded that the Prevention and Promotion module should be completed and included in the next iteration of the Model, due to time, information and resource constraints leading to the following issues being unresolved:

1. Obtaining reliable evidence based detailed information on health sector drug and alcohol promotion and prevention activities in Australia is challenging.
2. Inconsistency with the rest of the Model:
  - a. While activities in the rest of the Model are categorised by drug and age group, the identified promotion and prevention activities generally went across drugs and ages; The specific drug/s and age group/s covered by promotion and prevention activities were not easily identifiable; Furthermore it was found that promotion and prevention activities that went across drug and age groups, could go across all drugs and/or age groups, some drugs and/or age groups or impacted only one drug and/or age group; Where promotion and prevention activities went across drug and age groups, the relative weighting of activity resources between the drugs and age groups were not identifiable by the information at hand; Age groups covered by promotion and prevention activities were not always consistent with the age groups reported on in the rest of the model; These issues mean reporting resource need by drug and age group, as per the remainder of the Model was not possible for Promotion and Prevention, by Project completion.
  - b. The Model focuses on AOD use and the Health sector. Promotion and Prevention activities, sometimes more than other parts of the model are managed or carried out by non drug and alcohol agencies( e.g. Education or Law Enforcement). While it is recognised that other areas such as crime prevention and law enforcement play an important preventative role, to be consistent with the remaining model, they need to be considered within scope to the extent that Health interacts with them. Identifying this separation of responsibilities and resources was difficult with the information at hand.

The following sections detail the work undertaken in Promotion and Prevention.

## 13.2 WORK UNDERTAKEN FOR PREVENTION AND PROMOTION

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Prevention was discussed at the Project Steering Committee (SC) teleconferences in November 2011 and April 2012.

The Steering Committee discussed in meetings, the appropriateness of developing a prevention component of the model to determine the amount of prevention initiatives that should be provided within the community. It was agreed that a draft model would be developed for the Committee's consideration.

The work was undertaken by Western Australian representatives in collaboration with the Chair of the ERG and the Project Team.

At the conclusion of the SC's April 2012 teleconference it was agreed that "The SC supported the ERG to further explore and develop an approach based on the work being undertaken by Western Australia."

The Western Australian representatives and the ERG Chair provided a detailed set of papers with 19 prevention activities for consideration at the 23 July 2012 ERG meeting.

The prevention activities in these tables were grouped together to form a list of 9 prevention activities for presentation and discussion in the 23 July 2012 ERG meeting. For all the details see:

### **Appendix 19 DRAFT Prevention Component**

Based on the advice provided by the ERG at their meeting on 23 July 2012, the WA-DAO prepared a set of papers for discussion at the September 2012 Joint meeting of the Steering Committee and Expert Reference Group.

The 9 items included in the prevention paper and their costs are shown in the table below. The Project Team calculated some further costs of interest.

The Steering Committee noted the discussion on prevention and issues inherent in integrating it into the model. It was proposed the Project Team test another approach to the prevention modelling, described below in simple terms:

- a) Rename each of the nine prevention items in the meeting papers by function e.g. using the terminology as tabled in a paper by Neil Guard at the joint meeting.
- b) Count the target group/population or the FTE/ workers' time for a given prevention activity.
- c) Determine the amount of time an individual/ average person, in the target group/population receives for that prevention activity.
- d) Apply a cost to the amount of time an individual/average person in the target group/population receives for that prevention activity.

The project team found the ideas rely on a set of factors, some of which would work in the modelling and some of which wouldn't. For full details, see:

## **Appendix 19 DRAFT Prevention Component.**

The table below summarises the work done on prevention.

Table 35 - Prevention Items and Costs

	A	B	C	D
	Cost range calculated by WA-ADO (Document that is just table)	Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)	Project Team Assumptions	Total cost (AUS)
School drug education (on-off switch)	<p>Initial development: \$204k per jurisdiction</p> <p>Primary and high school: \$400,000 to \$520,000 per 100,000 students</p> <p>High school only: Maximum \$650,000 per 100,000 students</p>	<p>High school only★</p> <p>Initial development - \$204,000 per jurisdiction</p> <p>Ongoing: MAXIMUM \$650,000 per 100,000 high school students</p> <p>Primary and high school ♦</p> <p>\$400,000 to \$520,000 per year per 100,000 students</p>	<p>Primary school is DA-CCP age group 5-11. High school is the DA-CCP age 12-17</p> <p>Assume primary &amp; high school is \$460,000</p> <p>Total students (5-11): 1,900,343</p> <p>Total students: (12-17): 1,666,111</p>	<p><b>5-11 years</b></p> <p>\$8.7 million</p> <p><b>12-17 years</b></p> <p>\$20.1 million</p>
Mass media campaigns (within context of social marketing model) - TV	<p>Development (formative research, testing, production and post-campaign evaluation) \$280,000 per campaign, per jurisdiction, per year.</p> <p>Media scheduling (700 Targeted Audience Rating Point (TARP) @ \$560 – per month, per</p>	<p>TV: Development (formative research, testing, production and post-campaign evaluation) \$280,000 per campaign, per jurisdiction, per year.★</p> <p>Media scheduling (700 Targeted Audience Rating Point (TARP) @ \$560 – per month, per jurisdiction, per year) - \$4.7m per campaign♦</p>	<p>Assume all age groups in the model</p> <p>We assume a number of campaigns e.g. 2</p>	<p><b>All ages</b></p> <p>\$80 million</p>

	A	B	C	D
	Cost range calculated by WA-ADO (Document that is just table)	Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)	Project Team Assumptions	Total cost (AUS)
	jurisdiction, per year) - \$4.7m per campaign  TOTAL: \$5m per year per jurisdiction per campaign	TOTAL: \$5m per year per jurisdiction per campaign		
Mass media campaigns (within context of social marketing model) Other media:	Development (formative research, testing, production and post-campaign evaluation) \$135,000 to \$210,000 per campaign per jurisdiction  Media scheduling – \$110,000 to \$250,000 per year, per jurisdiction, per campaign.  TOTAL: \$245,000 to \$460,000 per year, per campaign, per jurisdiction	Other media: Development (formative research, testing, production and post-campaign evaluation) \$135,000 to \$210,000 per campaign per jurisdiction  Media scheduling –\$110,000 to \$250,000 per year, per jurisdiction, per campaign.●  TOTAL: \$245,000 to \$460,000 per year, per campaign, per jurisdiction	Assume all age groups in the model  Assume development per campaign per jurisdiction is \$172.5  Assume media cost of 1 campaign is 352.5K.  We assume a number of campaigns e.g. 2	<b>All ages</b> \$5.6 million



	A	B	C	D
	Cost range calculated by WA-ADO (Document that is just table)	Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)	Project Team Assumptions	Total cost (AUS)
University/ education institution AOD prevention programs	Minimum of \$43,000 plus cost of 2.8 FTE staff Maximum of initial development of \$64,000 and ongoing costs of \$92,000 per year per university/educational institution	Minimum \$43,000 plus cost of 2.8 FTE staff★ Maximum: initial development - \$64,000 and ongoing - \$92,000◆	Assume FTE cost is 43K + (2.8 x cost of AOD worker @\$ 82,401= \$230,722) per university/education institution per year. Thus FTE Cost \$273 722 per university/education institution per year  Assume only ongoing development of \$90,000 per university/education institution per year  Modelled on 39 universities only. (61 TAFE colleges excluded).	<b>18-64 years</b> \$14.2 million
Community action / mobilisation	Maximum of \$130,000 per 100,000 people	MAXIMUM \$130,000 per 100,000 people★	Assume age group is 18 +	<b>18+</b> \$21.5 million
Good Sports	\$65,000 per 100,000 people	\$65,000 per 100,000 people★	Assume age group is 18 +	<b>18+</b> \$10.75 million
Health support for liquor licensing	\$10,800 to \$20,000 per 100,000 people	\$10,800 to \$20,000 per 100,000 people.★	Assume age group is 18 +  Assume cost is \$15,400 per	<b>18+</b> \$2.5 million

	A	B	C	D
	Cost range calculated by WA-ADO (Document that is just table)	Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)	Project Team Assumptions	Total cost (AUS)
regulation			100,000 people	
Local government initiatives	\$7,000 per 100,000 people	\$7,000 per 100,000 people★	Assume age group is 18 +	<b>18+</b> \$1.15 million
Health role in supporting and promoting policy change across government and community	\$84,000 per 100,000 people	55c – 84c per head or \$55,000 to \$84,000 per 100,000 people.★	Assume age group is 18 + Assume cost is \$69,500 per 100,000 people	<b>18+</b> \$11.5 million
Pharmaceutical monitoring schemes	\$33,000 to \$105,000 per 100,000 people	\$33,000 to \$105,000 per 100,000 people★	Assume age group is 18 + Assume cost is \$69,000 per 100,000 people	<b>18+</b> \$11.5 million
Total - all items above				\$187.5 million

★Based on Victorian figures of what is currently provided

◆Based on Western Australian figures of what is currently provided

### 13.3 PREVENTION COMPONENT FRAMEWORK

The Steering Committee discussed the appropriateness of developing a prevention component of the model to determine the amount of prevention initiatives that should be provided within the community. It was agreed that a draft model be developed for the Committee's consideration. This section outlines the framework, scope and proposed process of the prevention components development.

The prevention component framework is underpinned by the following principles:

- ***Primary prevention***

The prevention component of the model focuses on primary prevention activities. That is prevention that aims to reduce the risk of developing chronic disease or suffering caused by AOD use. This may include targeted or universal approaches, and direct and indirect interventions. Secondary (early intervention) and tertiary (treatment) initiatives are not the primary focus of the prevention model however it is expected that some primary prevention initiatives will, at times, 'overlap' into these areas.

- ***An evidence based comprehensive approach to prevention activities***

Evidence supports a comprehensive approach to prevention activity to address the complex range of influences on AOD related harm. Therefore, each initiative listed within the model should not be viewed in isolation but rather as part of a complementary and comprehensive approach. Only items with a sound evidence base, individually or in combination, have been included.

- ***A focus on Health prevention initiatives and AOD use***

For pragmatic reasons the prevention component of the Model focuses on AOD use and the Health sector as opposed to other sectors that may have a role in the prevention of AOD related harms. While it is recognised that other areas such as crime prevention and law enforcement play an important preventative role they will only be considered within scope to the extent that Health interacts with them. For example areas such as liquor licensing regulation enforcement and advocacy are included but only to the point where Health works in this area. While addressing the social determinants of health can also have significant impact on AOD related harm, specific initiatives addressing these are also considered beyond the scope of the model.

- ***Standard population approach***

Consistent with the treatment component of the Model, the prevention component estimates are based on the amount of prevention services that *should be provided* to 100,000 of age specific population. This is directed to the entire population, not to those dependent and therefore resource estimates are required at a population rather than individual level. These estimates are based on the best available evidence of what works. In some cases, where evidence does not exist regarding the required funding that *should*

be provided for each prevention initiative, the funding which is *currently* provided for these initiatives has been used as evidence. In some instances, the prevention activity can be expressed as an FTE per 100,000 of age specific population, whereas at other times the estimates may be based on a program cost per 100,000 of age specific population. The decision about whether it is an FTE or program cost amount will depend on available data, however for the purposes of the model it does not matter whether it is an FTE or program cost amount.

- ***Consistency with the treatment component of the model***

As far as possible, the prevention component of the Model is consistent with the treatment component. Specific consideration is given to drug classes, age groups and areas considered outside the scope of the model.

## **SCOPE**

The scope of the prevention component is briefly outlined below.

### ***Drug classes***

The Prevention component of the Model is consistent with the scope of the treatment component, addressing the same drug classes, which are as follows:

- Alcohol
- Amphetamine
- Benzodiazepines
- Cannabis
- Illicit Opioids

In practice there are not necessarily distinctions between the prevention activities and drug classes. For example, strengthening families programs are aimed at preventing any substance misuse (alcohol, cannabis and injected drugs), along with other issues such as anti-social behaviours. On the other hand, some prevention programs do target a specific group, such as taxation for alcohol and health involvement in liquor licensing decisions. In addition, it is also recognised that polydrug use is a significant issue that will be addressed by the 'overlapping' of prevention activities.

### ***Age groups***

In most cases the prevention component applies to the entire population (that is all ages). Where estimates refer to specific population groups (e.g. children/young people), this has been noted. Ideally, the prevention resource estimates would be specific to each drug and age group as identified in the treatment component of the Model. However, in reality prevention is not necessarily subdivided in this way.

## Developmental process

The work undertaken as part of the Model prevention model is developmental and should not limit prevention spending.

## PROCESS

The process for the development of the draft prevention component of the Model is outlined the table below. It should be noted that the final work presents 9 prevention items or activities from an initial list of 35 items or activities at April 2012

**Table 36 - Development of the draft prevention component**

Steps	Process
<b>Step 1: Mapping</b>	Mapping of prevention activities for inclusion against each of the five drug classes for 12 to 17 and 18+ to provide a comprehensive overview of which prevention activities that are included within the scope of the model, directed toward which target group (but ultimately the model will not distinguish these components in the excel spreadsheets).
<b>Step 2: Simplification of assumptions</b>	Make some simplifying assumptions (combining drugs, age groups) and document where the evidence base may come from for the inclusion, and the type of metric that we may be able to use (FTE, program costs, dollar amount etc.).
<b>Step 3: Establishment of full evidence base</b>	Generate the full evidence-base, noting that there will be gaps.
<b>Step 4: Review</b>	Review by the Expert Reference Group to determine the final array for inclusion in the model.

For more information see:

## Appendix 19 DRAFT Prevention Component

## 14. Preliminary Indigenous Adaptation to the Model

The Model is an 'all peoples' model, and the parameters (diagnosis, treatment rates) will be different for Indigenous populations. The Estimator Tool shows values for the "all peoples" model.

An indigenous adaptation of the model has not been included in the current version, as only indigenous specific care packages have been developed to date. In particular the indigenous adaptation to the Model requires substantial work on the epidemiological component of such a model.

**Note** the model still counts Indigenous people, even though in the current model, we have no specific care packages or epidemiology for Indigenous people.

The development of a Preliminary Indigenous adaption to the Model care packages commenced in the second half of 2011. This working group contained representatives from the Expert Reference Group (ERG), the National Indigenous Drug and Alcohol Committee (NIDAC) and other nominated experts.

Work was completed on the adaptation of the care packages for a preliminary Indigenous adaptation to the Model. The duration of many of the contacts as specified in the care packages were increased, included face to face meetings rather than telephone follow-ups, time allocations to transport people to appointments and includes return to country. The return to country is there as a heading, but as yet does not specify activities or the duration/frequency. The Steering Committee indicated that they were delighted with this work.

### **More work still needs to be done.**

The proportion of Indigenous people who will require the Indigenous specific care packages, as against the proportion who will use the 'all people' model, still needs to be estimated. This will probably vary considerably between jurisdictions.

It would be a combination of the all people's model and the Indigenous specific care packages. This would allow jurisdictions to set the proportions appropriately to match their population and service configurations.

The incorporation of the Indigenous care packages into a preliminary Indigenous adaptation to the model is an unfunded body of work, and could be undertaken once the 'all peoples' model is finalised, as resources permit.

In the final report to the IGCD, 4 April, 2013, the Steering Committee and Expert Reference Group made a number of recommendations, including:

That the IGCD, in collaboration with NIDAC, identify a source of funding for the completion of the Indigenous adaptation of the model. This would include completing the Indigenous epidemiology, Indigenous services demand, the allocation of patients to care packages and the re-entry of some data into the new spreadsheets. Further work is also required regarding Indigenous prevention, and harm reduction estimates.

The Indigenous Adaptation of the Model has been included in recommendations for the next revision of the model; see:

## **Appendix 18 Considerations for Next Revision of the Model**

# 15. Estimating the Number of Clinical Staff FTE Needed

As stated in **Section 4 Summary Explanation of Model**, one of the primary aims of the Model is the estimation of staff resource requirements. This aim is achieved by the classification of individual care packages into timed activities, which are assigned to different staff types by service setting, providing a profile of annual total clinical staff. In addition, a costing (wage) component in the model allows estimation of the annual cost of Clinical Staff FTE.

The method used to estimate the number of Clinical Staff FTE needed is described in this section and:

## Section 15.1 Estimating the Annual Clinical Staff FTE Resource Requirement.

The method used to calculate the cost of Clinical Staff FTE beds is detailed in:

## Section 20.1 Calculating Clinical Staff FTE Cost.

Clinical Staff FTE need is estimated for four clinical staff types in six different service settings. The four clinical staff types are further distinguished as either *standard* staff or *caretaker* staff. The four clinical staff types modelled are:

1. Medical – General Practitioner
2. Medical – Addiction Medicine Specialist
3. Nursing/Allied Health
4. Alcohol and Other Drug Worker

The six service settings for which clinical staff are modelled are:

1. Ambulatory
2. Residential Rehabilitation – Type 1 (RR1; typically this part of a care package contains more hours of care/staff activity)
3. Residential Rehabilitation – Type 2 (RR2; this is not included in the model as a bed stay, it only models staff FTEs)
4. Residential Rehabilitation – Type 3 (RR3; applies to two Illicit Opioid care packages only, where people are registered in opioid substitution programs; a) Methadone-to-Abstinence Residential (MTAR) and b) Maintenance Treatment for Opioid Dependence (MTOD)
5. Withdrawal (community – dormitory setting)
6. Inpatient (hospital inpatient).

**Note:** Clinical staff are identified as *caretaker* staff where they are providing overnight and/or weekend care in Residential Rehabilitation and Withdrawal (residential – dormitory) service settings.



The table below describes how the components were modelled and why.

**Table 37 - Beds, overhead costs and care package descriptions**

	<b>Inpatient bed</b>	<b>Dormitory style withdrawal management (detox) bed</b>	<b>Residential bed, not used for detox</b>
Overhead/ non salary ancillary cost per day	\$183	\$183	\$37
Was an 8 hour overnight FTE component calculated?	No, because the Project Team have described a quantum of care provided by medical officers and nurse allied health staff for this 7 day stay, which is based on the staffing profile of a 12 bed unit for 7 days	Yes, because the care package activity that is listed specifies care for 16 hrs per day. Thus the Project Team has modelled an 8 hour overnight shift costed as the nurse allied health rate.	Yes, because the care package activity that is listed specifies care for 16 hrs per day. Thus the Project Team has have modelled an 8 hour overnight shift costed as the AOD worker rate.
Was a weekend “care taker” FTE component calculated?	No, for the same reason as above	Yes, because the care package activity listed specifies activity for 5 days of the week, but the average length of stay is 7 days. The weekend caretaker is costed at the nurse allied health rate.	No, because of the extensive list of activity specified in the care packages for all days of the week.

**Note** the Project team have NOT calculated ancillary costs for ambulatory/ community services as we do not have data for this.

Parameters used in calculating Clinical Staff FTE numbers include:

1. Treatment Rates for care packages – for details, see:

**Appendix 13 Care Rates and Numbers for SEVERE Care Packages and Appendix 14 Care Rates for the Standalone Items.**

2. Reportable client hours generated by a clinical FTE – for details see:

**Section 20.1 Calculating Clinical Staff FTE Cost**

3. Bed Based Staff Weighting (fraction of an FTE) for estimating Caretaker Staff – for details, see:

**Section 15.2 Bed Based Staff Weighting Factors.**

## 15.1 ESTIMATING THE ANNUAL CLINICAL STAFF FTE RESOURCE REQUIREMENT

The Clinical Staff FTE required for a package of care is calculated by dividing the Clinical Staff Hours associated with that package of care by 1,171 (an estimate of the average number of hours a clinical FTE (NAH,AOD,AMS) spends each year on reportable client related work), or 1,374 for a General Practitioner.

The calculation of the number of *Clinical Staff FTE* is explained in the following sections.

### 15.1.1 Standard Clinical Staff FTE

The following formulas (figure 12 and figure 13) summarise the calculations used to estimate the number of *standard* clinical staff FTE needed to deliver a treatment activity in a care package. The same formula applies for each of the four clinical staff FTE types, across the drugs and age groups.

**Note:** The estimated clinical staff FTE needed for each activity within a care package is summed to get the total estimated clinical staff FTE needed for a care package. Clinical Staff FTE estimates for care packages are summed to arrive at the total Clinical Staff FTE needed for each drug type and age group.

**Figure 12 - Standard Clinical Staff FTE estimate formula – Step 1**

$$\text{Clinical Staff FTE Hours} = \frac{\text{Minutes of treatment per activity provided to a person} \times \text{Occasions Of Service (OOS) per activity provided to a person} \times \text{Care Package Treatment Rate}^{29}}{60 \text{ (minutes in an hour)}}$$

**Figure 13 - Standard Clinical Staff FTE estimate formula – Step 2**

$$\text{Number of Clinical Staff FTE} = \frac{\text{Clinical Staff FTE Hours (calculated at Step 1 – Figure 12)}}{1,171 \text{ (Reportable client hours generated by a clinical FTE, or 1,374 for a General Practitioner, see section: 8.5.1 Calculation of Clinical FTE Reportable Client Hours).}}$$

<sup>29</sup> where treatment rate is the number of people who receive that care package

The *standard* Clinical Staff FTE number estimate formula at figure 13, is detailed in the table below:

**Table 38 - Estimating the annual Standard Clinical Staff FTE resource requirement per 100,000 of age specific population**

Step #	Step - Summary	Step – Detailed	Example
A	Identify care package	Identify care package, that includes clinical staff FTE	Care package: <i>sev_12m amb psi stnd</i> Drug: <b>Alcohol</b> Age: <b>18-64</b>
B	Identify staff activity	Identify the activity that requires clinical staff time	Assertive follow up - phone call
C	Identify staff minutes	Identify staff minutes required for that activity	10 minutes
D	Identify Occasions of Service	Identify number of instances (OOS) of that activity required per person	Once (1)
E	Identify - Treatment Rate for Care Package (TR-CP)	Identify the estimated number of persons seeking treatment under the care package, per 100,000 of age specific population.	112 people
F	Identify total minutes per year of treatment	Multiply staff time for one person by number of people annually requiring that service.	$F = C * D * E$ $1,120 = 112 * 10 * 1$
G	Convert minutes of treatment to hours	Divide the total minutes of treatment per year, into hours.	$G = F / 60$ $1,120/60 = 18.66$ hours
H	Convert to Clinical Staff FTEs	Divide hours of FTE time by 1,171 (non-GP) or 1,374 (GP) to obtain Clinical Staff FTE per year.	$H = G / 1,171$ (or 1,374 for GP)  Standard Clinical Staff FTE required (non GP) = $0.016 = 18.66 / 1,171$

Note:

1. This means that 0.016 of an FTE (assuming a non GP) is needed to deliver the 10 minute phone call to the 112 people in this care package (where the drug is alcohol), and the population is 100,000 people aged 18 – 64.
2. The Clinical Staff FTE number (0.016) calculated at H in Table above is for 100,000 of age specific population. For different population sizes this Clinical Staff FTE number needs to be scaled proportionately. For example, for an age specific population of 200,000 the estimate would be 0.032 Clinical Staff FTE ( $0.016 * (200,000/100,000)$ ).

### 15.1.2 Caretaker Clinical Staff FTE

Caretaker Clinical Staff are a small additional component of Clinical staffing FTE resources and costs, in residential rehabilitation and withdrawal (residential – dormitory) bed settings. The Caretaker Clinical Staff component of total Clinical Staff is derived from Bed resource computations.

The Model includes two Caretaker Clinical Staff types:

1. Alcohol and other Drug Worker in a residential rehabilitation setting (RR-AOD); and
2. Nursing/Allied Health Worker in a withdrawal setting (DT-NAH)

**Figure 14 - Caretaker Clinical Staff FTE estimate formula**

Number of Caretaker Clinical Staff FTE	=	Beds	*	Weighting Factor (fraction of FTE) see <b>section 15.2 Bed Based Staff Weighting Factors</b>
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The *caretaker* Clinical Staff FTE number estimate formula at figure above, is detailed in the table below:

**Table 39 - Estimating Caretaker Clinical Staff FTE numbers**

Step #	Step - Summary	Step – Detailed	Example
A	Identify care package	Identify care package, that includes residential rehabilitation or withdrawal bed stay	Care package: <i>sev_12m bb_res rehab rr_13</i> has a Residential Rehabilitation bed stay Drug: <b>Alcohol</b> Age: <b>18-64</b>
B	Identify bed resources	Calculate the number of residential rehabilitation beds required (see <b>section 1 Error! Not a valid result for table.</b> )	B = 13 beds estimated for RR 13
C	Use bed-based staff weighting	Weighting is a computed number that estimates total Clinical Staff resources per bed resource See <b>section 15.2 Bed Based Staff Weighting Factors</b>	0.05 for RR-AOD 0.26 for DT-NAH
D	Calculate Caretaker Staff FTE per 100k population	Multiply bed numbers by weighting factor	D = B * C  Caretaker Clinical Staff FTE (RR-AOD) required = 0.7 = 13 * 0.05

Note:

1. For example in the care package *sev\_12m bb\_res rehab rr\_13* the caretaker clinical staff component was included in the model as the activity listed in the care package covers approximately 16 hours of the day. The care taker clinical staff component is included to cover the remaining 8 hours of the day.

- For example in the bed based withdrawal care packages we have modelled not only an overnight 8 hour caretaker, but also a weekend care taker to reflect reduced activity but care still required on weekends.

The calculation of the number of *Clinical Staff FTE* is explained in the following sections.

### 15.1.3 Calculation of reportable client hours generated by a clinical FTE

The table below outlines how **1,171**, (non-GP) or **1,374** (GP) the estimate of the average number of hours a clinical FTE spends each year on reportable client related work, is derived. Please note the three assumptions in the methodology:

- That a working week is a standard 38 hours per week (42.75 for GP)
- That there is a total of 6 weeks annual leave (4 weeks for GP)
- That one third of a worker's time is allocated to training, travel, clinical supervision. Described here as an 'overhead allowance'.

**Table 40 - Calculation of reportable client related hours generated by a clinical FTE**

	Item	Non GP	GP	Formula
<b>A</b>	<b>Standard Award (Paid) Hours per week</b> Assumption: 38 hours standard for Clinical Staff(e.g. Medical, Nursing and Allied Health Staff) and 42.75 for a GP.	<b>38</b>	<b>42.75</b>	<b>A</b>
<b>B</b>	<b>Average Number of Weeks in a Year</b>	<b>52.2</b>	<b>52.2</b>	<b>B</b>
<b>C</b>	<b>Standard Award (Paid) Hours in a Year</b>	<b>1,983.60</b>	<b>2231.55</b>	<b>C = A * B</b>
<b>D</b>	<b>Annual Weeks Leave</b>	<b>6</b>	<b>4</b>	
<b>E</b>	<b>Average Annual and Other Leave</b> Assumption: an average of 6 weeks (non-GP ) and 4 weeks (GP)	<b>228</b>	<b>171</b>	<b>D = 6 * A (non GP)</b> <b>D = 4 * A (GP)</b>
<b>F</b>	<b>Productive Hours</b>	<b>1,755.60</b>	<b>2060.55</b>	<b>F = C - E</b>
<b>G</b>	<b>Overhead Allowance</b> Assumption 1/3 of time for administration, training, travel, clinical supervision and other activities that do not generate activity reportable on client/patient records	<b>584.61</b>	<b>686.16</b>	<b>G = F * 0.333</b>
<b>H</b>	<b>Reportable Client Related Hours</b>	<b>1,171</b>	<b>1374</b>	<b>H = F - G</b>

**Note:** Row B takes into account that every 4<sup>th</sup> year is a leap year.

**Note:** sick leave is not included because it is not a fixed amount.

**Note:** the non direct care allowance includes administrative/clerical functions undertaken by the clinician. E.g. a clinician writing case notes.

**Table 41 - Definitions used in the Calculation of the Client Related Hours Generated by a Clinical FTE**

Term	Definition	Notes
Productive hours	The estimated total time a worker is actually available for duties. After removing the provision for annual and other leave, there are <b>1,755.60</b> productive hours assumed for a NAH, AOD, AMS worker in a year. <b>2,060.55</b> productive hours assumed for a General Practitioner	The Model does not use the terms “clinical direct FTE” and “clinical indirect FTE”.
Overhead allowance	<p>That one third of a worker’s time is allocated to training, travel, clinical supervision,</p> <p>Including: Service administration meetings, Writing case notes, Completing information system data input, Reporting stats (monthly) Ordering equipment (e.g.. sterile injecting equipment, specimen jars, gloves, etc) Professional development activities, training sessions, seminars, conferences, Performance appraisal, Service development activities, e.g. developing standardised referral form; quality assurance meetings; Collaboration/liaison with other service providers (e.g. developing care pathways, processes for referral service agreements, MOUs, etc), Promoting access to treatment – info sessions, awareness raising; Information &amp; Education sessions for health and welfare staff, primary care staff etc. (training provision); Monitoring and evaluation; Research; Mandatory clients; court reports etc (where writing reports).</p> <p>This equates to:  <b>584.61</b> hours for a NAH,AOD,AMS worker,  <b>686.16</b> hours for a General Practitioner</p>	When assessing the number of full time equivalent clinical staff needed to provide this time, an “overhead” allowance of 1/3 of all paid “on duty” time is provided to reflect the state wide average of all time by reported clinical FTE staff spent in administration, training, travel, clinical supervision, and other activities that do not generate activity reportable on consumer records.
Reportable client related hours	<p>The reportable time spent working with <u>OR</u> for a client.</p> <p>Including Direct clinical activity (as specified in the Care Packages) which includes assessment, counselling, support, case management, assertive follow-up); Clinical review meetings (weekly); Clinical handover meetings (daily); Case conferences; Referral into and out of service letters/phone calls; Pharmacy – faxing scripts, calls to pharmacists, organising takeaways; Organising client transfers to other services; Transporting clients (patient transport); Clinician travel time; Mandatory clients; court reports etc (where on or behalf of the client).</p> <p>This equates to:  <b>1,171</b> hours for a NAH,AOD,AMS worker,  <b>1,374</b> for a General Practitioner.</p>	<p>The duration of a contact in a care package is the amount of clinical time spent performing the given activity.</p> <p>For an assessment, it may include less time face to face with the consumer and more time recording the assessment.</p>

## 15.2 BED BASED STAFF WEIGHTING FACTORS

### 15.2.1 Withdrawal Management (Detox) Beds & Residential Beds

In the Model, it is assumed:

- that AOD workers act as caretakers overnight in Residential Rehabilitation bed services; and
- NAH will act as caretakers overnight and weekend for Withdrawal Management (detox) bed services.

### 15.2.2 Methodology for the calculation of overnight & weekend Detox bed FTEs

- Costs for D&A owned bed-based units (specialist D&A detox beds) are not totally accounted for by the care package activities undertaken by clinical staff during a 16-hr, 5 day a week working model. FTEs need to be estimated not only for the 8 hour nursing/caretaker overnight shift for these units, but also for the weekend.
- For detox beds, it is assumed that NAH workers act as caretakers for overnight and weekends. According to advice received from Concord Hospital Ward 64, there are a total of .66 nursing FTEs per residential bed. Based upon numbers of nursing FTEs that work overnight (2 out of 8 in a 24-hr period), overnight nursing FTEs should account for 25% of the total nursing FTEs employed over a 24-hr period. Applying this nursing overnight percentage to the NAH worker component of 0.66 per detox bed figure gives **0.165** overnight clinical NAH worker FTEs per residential bed.
- For the weekend component, the assumption is that there is no structured care package activity undertaken during those days (based upon the number of activities specified within the care package). Using the same methodology as for the overnight component, the 0.66 NAH FTEs per detox bed is applied to the weekend hours not included in the overnight FTE calculation. The calculation is: 168 hrs/wk, minus 56 hrs O/N per week, minus 80 hrs per week in care package activity. Remainder of hours is divided against total weekly hours (i.e. 32 / 168).
- The weekend FTEs (6 out of 8 in a 24-hr period) should account for 75% of the total nursing FTEs employed over a 24-hr period. Applying this to the NAH worker component of 0.66 per detox bed figure, and adjusted for the weekend hours (32/168), gives a figure of **0.094** weekend clinical NAH worker FTEs per residential bed.

### 15.2.3 Methodology for the calculation of overnight Resi Rehab bed FTEs in DACCP

- Costs for D&A owned bed-based units (specialist D&A residential rehabilitation beds) are not totally accounted for by the care package activities undertaken by clinical staff during a 16-hr, 7 day a week working model. FTEs need to be estimated for the 8 hour nursing/caretaker overnight shift for these units.
- For residential beds, it is assumed that AOD workers act as caretakers for overnight shift. According to the 2005 NSW Alcohol and Drug Residential Rehabilitation Costing Study by Health Policy Analysis (Jim Pearce), there are a total of .33 clinical FTEs per residential bed. The AOD worker component is 71.6% of the total clinical FTEs. This produces an AOD worker component of 0.236314 per residential bed.
- To work out the overnight rostering numbers, the Project Team consulted the Queensland Health Best Practice Framework for Rostering Nursing Personnel (2003). According to this, overnight nursing FTEs should account for 22.5% of the total nursing

FTEs employed over a 24-hr period. Applying this nursing overnight percentage to the AOD worker component of 0.236314 per residential bed figure gives **0.05** overnight clinical AOD worker FTEs per residential bed.

- Because the residential rehabilitation care packages run over seven days, there is no need for a separate weekend FTE adjustment.



# 16. Estimating the Number of Beds Needed

As stated in **Section Error! Reference source not found.**, the Model estimates inter alia the number of beds needed for Drug and Alcohol treatment services, and the cost of these beds.

The method used to estimate the number of beds needed is described in the next **Section 16.1 Estimating the Annual Bed Resource Requirement.**

The method used to calculate the cost of beds is detailed in **Section 19.3 Pricing – Beds**

Bed need is estimated for three bed types:

1. Residential Rehabilitation (RR)
2. Withdrawal (residential – dormitory setting)
3. Inpatient (hospital inpatient D&A bed).

It is noted that Residential Rehabilitation bed number estimates are not modelled by sub category, unlike in **Section 15.1 Estimating the Annual Clinical Staff FTE Resource Requirement**, where estimates for beds are calculated for subcategories of Residential Rehabilitation beds (known as RR1, and RR3).

Parameters used in calculating the number of beds needed include:

1. Treatment Rates for care packages – for details, see **Appendix 13 Care Rates and Numbers for SEVERE Care Packages** and **Appendix 14 Care Rates for the Standalone Items**
2. Readmission Rates for beds by Drug and Age Group
3. Average Length of Stay for beds by Drug and Age Group
4. Available Beds Days by Drug and Age Group
5. Occupancy Rate for beds by Drug and Age Group.

## 16.1 ESTIMATING THE ANNUAL BED RESOURCE REQUIREMENT

The following formula (figure 15) summarises the calculation used to estimate the number of beds needed, for a care package. It is consistent with the NSW Mental Health Clinical Care and Prevention Model methodology. The same formula is applied to each of the three bed types.

**Figure 15 - Bed estimate formula**

$$\begin{array}{l} \text{Number} \\ \text{Of Beds} \end{array} = \begin{array}{l} \text{Readmission} \\ \text{Rate} \end{array} * \begin{array}{l} \text{Care Package} \\ \text{Treatment Rate} \end{array} * \begin{array}{l} \text{Average Length of} \\ \text{Stay} \end{array} \\ \hline \text{(Available Bed Days (365) * Occupancy Rate \%)} \end{array}$$

Note, in the model it is assumed:

- I. Client readmission and dropout rates cancel each other out. Therefore a zero readmission (for all bed types across drugs and age groups) is modelled. However, as multiplying a number by zero results in a 0 result, the number **1** is used in the formula to represent the zero readmission and keep the remaining factors constant.
- II. The **Average Length of Stay (ALOS)** varies for beds across care packages, drugs and age groups, and is detailed in

- III. **Appendix 9      Calculations for Average Length of Stay (ALOS).**
- IV. The **Available Bed Days** (ABDs) is 365 days (for all bed types across drugs and age groups).
- V. Residential Rehabilitation and Withdrawal (Residential – Dormitory setting) beds have an Occupancy Rate of 76% and Hospital Inpatient beds have an Occupancy Rate of 87%, (for all bed types across drugs and age groups).

The Bed number estimate formula at figure above, is detailed in the table below:

**Table 42 - Estimating the annual Bed resource requirement per 100,000 of age specific population**

Step #	Step - Summary	Step – Detailed	Example
A	Identify care package	Identify care package, under a drug and age group that includes a bed stay.	Care package: <i>Residential Rehabilitation - 13 Week Stay, 13 After Care, 13 Weeks Exit Program - sev_12m bb_res rehab rr_13</i>  Drug: <b>Alcohol</b> Age Group: <b>18-64</b>
B	Identify bed type	Identify the type of bed - either Residential Rehabilitation, Withdrawal or Inpatient	Residential Rehabilitation
C	Identify the Readmission Rate	Identify the average number of times a person is readmitted under the care package.	The number <b>1</b> is used in the formula to represent the zero readmission rate, assumed by the model.
D	Identify Care Package Treatment Rate ( <b>CP-TR</b> )	Identify the estimated number of persons seeking treatment under the care package, per 100,000 of age specific population.	20 persons per 100,000
E	Identify Average Length of Stay ( <b>ALOS</b> )	Identify the Average Length of Stay for these beds, under the care package.	182 days
F	Calculate Occupied Bed Days ( <b>OBD</b> )	Multiply Readmission Rate by Treatment Rate by ALOS to get number of OBDs per 100,000 of age specific population.	$F = C * D * E$  $3,640 = 1 * 20 * 182$
G	Identify Available Bed Days ( <b>ABDs</b> )	Identify the number of days the bed will be available to people in a year, under the care package.	365 days
H	Identify the Occupancy Rate ( <b>OR</b> )	Identify the average % beds are occupied at any given time under the care package.	76%
I	Calculate the number of Beds needed	To get the number of Beds needed to meet the demand estimate, divide Occupied Bed Days by the product of (Available Bed Days multiplied by the Occupancy Rate).	$I = F / (G * H)$  Residential Rehabilitation beds required = $13.12 = 3,640 / (365 * 76\%)$

Note:

1. This means that 13.12 beds are required for the 20 people in this care package (RR13) where the drug is alcohol, and the population is 100,000 people aged 18 – 64.
2. The Residential Rehabilitation bed quantity (13.12) calculated at I in the table above, is for 100,000 of age specific population. For different population sizes this bed quantity estimate needs to be scaled proportionately. For example, for an age specific population of 200,000 the estimate would be 26.24 Residential Rehabilitation beds  $(13.12 \times (200,000 / 100,000))$ .

# 17. Estimating the Number of Diagnostic Tests Needed

As stated in **Section Error! Reference source not found.**, the Model estimates inter alia the number of diagnostic tests needed for Drug and Alcohol treatment services, and the cost of these diagnostic tests.

The method used to calculate the number of diagnostic tests needed is described in this section, the method used to calculate the cost of diagnostic tests is detailed in:

## Section 19.4 Pricing – Diagnostic Tests.

Diagnostic test need is estimated for four diagnostic tests:

1. Full Blood Examination
2. Liver Function Tests
3. Urea, Electrolytes, Creatine
4. Urinary Drug Screen.

Parameters used in calculating the number of Diagnostic Tests needed include Treatment Rates for care packages – for details, see:

**Appendix 13 Care Rates and Numbers for SEVERE Care Packages**

**Appendix 14 Care Rates for the Standalone Items.**

### 17.1 ESTIMATING THE ANNUAL DIAGNOSTIC TESTS REQUIREMENT

The following formula summarises the calculation used to estimate the number of diagnostic tests needed, for a care package. The same formula applies for each of the four diagnostic tests.

**Figure 16 - Diagnostic Test estimate formula**

Number of Diagnostic Tests	=	Care Package Treatment Rate	*	Number of Diagnostic Tests identified for an individual in Care Package
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The formula above, is detailed in the table below:

**Table 43 - Estimating the Annual Diagnostic Test Requirement per 100,000 of Age Specific Population-**

Step #	Step - Summary	Step – Detailed	Example
A	Identify care package	Identify care package, under a drug and age group that includes diagnostic test/s.	Care package: <i>sev_12m amb psi w_med_cmplx</i> Drug: Alcohol Age Group: 18-64
B	Identify Diagnostic Test/s	Identify the type of Diagnostic Test/s provided under the care package.	All 4 diagnostic tests provided under care package. For purposes of this example we will focus on one – <i>Full Blood Examination</i>
C	Identify Care Package Treatment Rate (CP-TR)	Identify the estimated number of persons seeking treatment under the care package, per 100,000 of age specific population.	53 persons per 100,000
D	Identify quantity required per individual	Quantity of Diagnostic Test prescribed under the care package for an individual receiving treatment.	1 per person
E	Calculate the number of Diagnostic Tests needed	Multiply Treatment Rate by number of Diagnostic Tests required per individual to get the quantity per 100,000 of age specific population.	$E = C * D$ Full Blood Examinations = 53 = $53 * 1$

Note:

1. This means that 53 Full Blood Examinations are required for the 53 people in this care package (RR13) where the drug is alcohol, and the population is 100,000 people aged 18 – 64.
2. The Full Blood Examination estimate (53) calculated at E in the table above, is for 100,000 of age specific population. For different population sizes this Diagnostic Test quantity estimate needs to be scaled proportionately. For example, for an age specific population of 200,000 the estimate would be 106 Full Blood Examinations ( $53 * (200,000 / 100,000)$ ).

## 18. Estimating the Quantity of Doses of Prescription Medicine Needed

As stated in **Section Error! Reference source not found.**, the Model estimates inter alia the quantity of Prescription Medicine doses needed for Drug and Alcohol treatment services, and the cost of this medication.

In this section, the method used to calculate the quantity of Prescription Medicine doses needed is described. The method used to calculate the cost of these doses is detailed in the **Section**



### **19.5 Pricing – Prescription Medicine.**

Additionally, to calculate the total cost of prescription medicines, the number of times an annual dosing cost for methadone or Buprenorphine or Buprenorphine naloxone, and the annual cost of dispensing medication under the Pharmacy Practice Incentive (PPI) Program Staged Supply needs to be charged, is also calculated.

Parameters used in calculating the quantity of Prescription Medicine needed include Treatment Rates for care packages – for details, see:

**Appendix 13 Care Rates and Numbers for SEVERE Care Packages**

**Appendix 14 Care Rates for the Standalone Items.**

The table on the next page shows Prescription Medicines that are estimated within the Model.

The quantity of Prescription Medicine doses is estimated for these prescriptions:

**Table 44 - Prescription Medicine doses is estimated for these prescriptions**

Code	Description
RX01	Annual dosing cost for methadone or Buprenorphine or Buprenorphine naloxone
RX02	Annual cost of dispensing medication under the PPI Program Staged Supply
RX03	Methadone for OST program (age 12-17)
RX04	Methadone for OST program (age 18+)
RX05	Buprenorphine for OST program - 8mg (age 12-17)
RX06	Buprenorphine for OST program - 8mg (age 18+)
RX07	Buprenorphine-naloxone for OST program - 8mg (age 12-17)
RX08	Buprenorphine-naloxone for OST program - 8mg (age 18+)
RX09	Buprenorphine for withdrawal management - 8mg
RX10	Buprenorphine for OST program - 2mg
RX11	Buprenorphine-naloxone for OST program - 2mg
RX12	Buprenorphine for withdrawal management - 2mg
RX13	Acamprosate calcium
RX14	Naltrexone
RX15	Thiamine for withdrawal meds
RX16	Thiamine for relapse prevention
RX17	Diazepam - 5mg counted as per dose
RX18	Diazepam - 5mg counted as per tablet
RX19	Disulfiram
RX20	Tobacco Interventions: 21mg patch
RX21	Tobacco Interventions: Varencline
RX22	Tobacco Interventions: Bupropion

## 18.1 ESTIMATING THE ANNUAL PRESCRIPTION MEDICINE REQUIREMENT

The following formula (figure 17) summarises the calculation used to estimate for 100,000 of age specific population, the number of prescriptions needed, for a care package. The same formula applies for each of the 19 prescriptions.

**Figure 17 - Prescription Medicine Estimate Formula**

Prescription Medicine Quantity	=	Care Package Treatment Rate	*	Number of Prescriptions identified for an individual in Care Package
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The Prescription Medicine quantity estimate formula at figure above is detailed in the table below:

**Table 45 - Estimating the Annual Prescription Medicine Requirement per 100,000 of Age Specific Population**

Step #	Step - Summary	Step – Detailed	Example
A	Identify care package	Identify care package, under a drug and age group that includes prescription medicines.	Care package: <i>sev_12m amb psi w_med_cmplx</i>  Drug: <b>Alcohol</b> Age Group: <b>18-64</b>
B	Identify Diagnostic Test/s	Identify the type of Prescription Medicine provided under the care package.	7 Prescription Medicines provided under care package. For this example we will focus on one – <i>Acamprosate calcium</i>
C	Identify Care Package Treatment Rate (CP-TR)	Identify the estimated number of persons seeking treatment under the care package, per 100,000 of age specific population.	53 persons per 100,000
D	Identify quantity of dose/ cost/ injection required per individual	Quantity of Prescription Medicine prescribed under the care package for an individual receiving treatment.	108 doses per person
E	Calculate the doses of Prescription Medicine needed	Multiply the Treatment Rate by the quantity required per individual to get the quantity per 100,000 of age specific population.	$E = C * D$  Acamprosate calcium doses = $5,724 = 53 * 108$

**Note**

1. This means that 5,724 Acamprosate calcium doses are required for the 53 people in this care package, where the drug is alcohol, and the population is 100,000 people aged 18 – 64.
2. The Acamprosate calcium doses (5,724) calculated at E in the table above, is for 100,000 of age specific population. For different population sizes this Prescription Medicine quantity estimate needs to be scaled proportionately. For example, for an age specific population of 200,000 the estimate would be 11,448 Acamprosate calcium doses ( $5,724 * (200,000 / 100,000)$ ).

## 19. Pricing – Clinical Staff, Prescription Medicine and Diagnostic Tests

The Model report includes a total price of all the resources (clinical staff FTE, beds, diagnostic tests, prescription medicine) and the model delivered to the States/Territories will be such that they can replace the prices associated with FTE (and other resources).

Therefore, the dollar FTE values are indicative only, and each jurisdiction will then modify it as required.

In this sense, the Model will be more focussed on quantity of “**resources**” rather than their associated price/cost. This means that key outputs from the model will be in terms of the following resources:

- Number of FTE medical officers – either GPs or Addiction Medicine Specialist, Nursing/Allied Health Worker; Alcohol and Other Drug (AOD) workers, for :1) Ambulatory setting 2) Bed Based setting
- Number of beds
- Number of doses of medications - methadone, Naltrexone, Bupropion etc
- Number of diagnostic tests.

The jurisdictions can then assign prices to clinical staff types and other resources with ‘caution’ as they see fit and in accord with what is consistent with their own approach.

For the purposes of the final report, the prices that have been used are described below.

## 19.1 PRICING – CLINICAL STAFF

The total column in the table below identifies the final agreed Clinical Staff FTE prices (salaries and on-costs) to be used in the Model. Jurisdictions may decide to modify these amounts for their own internal use.

**Table 46 - Clinical Staff FTE Prices**

Clinical Staff Type	Base Salary	28% on costs	10% administration overheads	Total
A	B	C	D	E= B +C+D
Doctor – General Practitioner (GP)	NA	NA	NA	275,000
Doctor - Addiction Medicine Specialist (AMS)	222,503.00	62,300.84	22,250.30	307,054.14
Nurse/Allied Health	81,590.00	22,845.20	8,159.00	112,594.20
AOD worker	59,711.00	16,719.08	5,971.10	82,401.18

The following subsections describe how the final salary of the GP and base salaries of an AMS doctor, Nurse/Allied Health staff and AoD worker were derived, (Column B, in the table above).

### 19.1.1 Doctor – GP (not AMS)

The final salary of the Doctor-GP was derived through an examination of data from a number of sources, including the Australian Bureau of Statistics and GP Australia. Two different salary amounts were calculated by the project team using ABS data. The first gave an amount of \$250,482 (based on the reported average salary for 0.725 of a GP being \$181,600) and the second \$298,010.48 (based on ABS average no. of contacts per week). The final salary amount used in the model (\$275,000) was approximately an average of the two calculated amounts (\$250,482 & \$298,010.48), as illustrated below:

Row	Step 1 - using % of all employees from ABS data	Explanation
1	55% of all employees work permanent full time	ABS data
2	25% of all employees work permanent part time	ABS data
3	20% of all employees work as casuals	ABS data
4	55% of all GPs work permanent full time	DA-CCP Project Team assumes that working arrangements for GPs is same as for all employees
5	25% of all GPs work permanent part time	DA-CCP Project Team assumes that working arrangements for GPs is same as for all employees
6	20% of all GPs work as casuals	DA-CCP Project Team assumes that working arrangements for GPs is same as for all employees
7	if 55% GP work fulltime, then fraction is $0.55 \times 1 = 0.55$	DA-CCP Project Team assumes that full time = working 100% of the time
8	if 25 % GP work part time, then fraction is $0.25 \times 0.5 = 0.125$	DA-CCP Project Team assumes that part time = working 50% of the time
9	if 20% GP work as casuals, then fraction is $0.2 \times 0.25 = 0.05$	DA-CCP Project Team assumes that casual = working 25% of the time
10	sum of fractions for rows 7+8+9= 0.725	Thus 0.725 of GP has salary of \$181 600. ABS data shows average salary is \$181 600
11	salary of one FTE GP	If 0.725 of a GP has average salary of \$181 600, then one FTE GP has salary of \$250, 482

Row	Step 2 - using ABS average number of contacts / week	Explanation
1	124	ABS data shows an average of 124 contacts per week
2	0.725	DA-CCP Project Team assumes that average GP is 0.725 of an FTE (from step 1, row 10)
3	171	Number of contacts by one FTE GP per week ( i.e. row 1 divide by row 2). GP thus 42.75 hrs /week
4	42.75	GP works 42.75 hours per week (171 contact x 15 minutes). DEEWR data shows GP works 42.2 hrs / week**
5	\$36.30	Cost of Medicare item 23, which is most frequently used item (approx 75% of the time)
6	\$6,208.55	GP earnings per week (row 4 x row 5)
7	48	DA-CCP Project Team assumes GP works 48 weeks per year
8	\$298,010.48	one FTE GP earnings per year (row 7 x row 6)
		** Department of Education Employment and Workplace Relations. Job outlook: General Medical Practitioner . 2010

### 19.1.2 Doctor AMS, Nurse/AH Staff, AOD Worker

#### Doctor - Addiction Medicine Specialist Nurse/Allied Health Staff Alcohol and Other Drug Worker

The table below outlines the steps taken to calculate the base salary for an Addiction Medicine Specialist doctor, Nurse and Allied Health Staff, and Alcohol and Other Drug worker.

**Table 47 - How the Pricing – Clinical Staff estimates were determined**

	Step	Summary	Details
<b>Doctor - Addiction Medicine Specialist,  Nurse /Allied Health,  AOD worker</b>	1	Collect Data from different jurisdictions for these three different types of FTEs	Salary data was collected for Doctor - Addiction Medicine Specialist, Nurse/Allied Health and AOD workers from jurisdictions SA, QLD, NT and NSW (NSW Summary data, NMDS NSW Dual Diagnosis Units, and NMDS MH NSW)
	2	Calculate Base Salary Figure	Average the data from jurisdictions SA, QLD, NT and NSW (NSW Summary data, NMDS NSW Dual Diagnosis Units)  NB (NMDS MH NSW was excluded from this average)
	3	ADD 28% On Costs	tax, super, leave loading etc
	4	ADD 10% Administrative Overheads	including personnel departments, CEO time, ward clerk, other clerical support etc
<b>Doctor - GP, not AMS</b>	1		ABS Health Care Services, 2009-10 data and made some assumptions with this data to determine the average salary for a full time GP.

**Note:** the admin costs (10%) need to be enough to ensure that the agency/service runs smoothly. Given we assume 67% of clinician's time is spent with or for the patient that generates activity reportable on the patient's record, client activities/care, then the agency needs to ensure that clinicians are freed from unnecessary administrative duties/burdens by employing sufficient clerical and support staff.

## 19.2 EXCLUSIONS FROM CLINICAL STAFF ESTIMATES

### 19.2.1 Operating Costs

The operating costs include stationery, telephone, car, medical records, maintenance staff and all other non salary costs (e.g. electricity – heat, light, power, medical supplies, food supplies, patient transport) etc. These are excluded from Clinical Staff Estimates, as they are

calculated as an overhead/non salary ancillary cost per bed per day, and have been applied to all “bed based” components within the Model.

There is no data to calculate ancillary costs for ambulatory services, hence ancillary costs has only been applied to 12 month care packages which contain a bed based component. For example, the care package *sev\_12m\_bb\_spcl\_d&a\_wdm\_da\_bed (Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies (Alos 7 Days) - F10)* has a 7 day stay as an inpatient in a hospital bed. This means that the ancillary cost for this care package has only been applied to the 7 day stay. For the remaining 51 weeks of the year where ambulatory care is provided, an ancillary cost is not calculated.

Many of the standalone items involved in the model are bed based, for example, Emergency Department presentations or Consultation Liaison provided by drug and alcohol staff to general hospital beds or to mental health beds. Since these beds are not “owned” by drug and alcohol services, the Project Team has only modelled the care provided by drug and alcohol staff during the stay, and thus not calculated an overhead/non salary ancillary cost per bed per day for those standalone items.

## 19.2.2 Capital Costs

E.g. Building and other asset costs are excluded. That is, bricks and mortar are excluded.

## 19.3 PRICING – BEDS

**NOTE:** The Model does not use a nominal bed price such as bed day cost in calculating the cost of providing bed based services. Bed costs in the model are based on the cost of bed based clinical staff FTE along with an overhead component (for details on the costing of beds, see:

### Section 19.3.1 Source of Bed Overhead Costs).

The overhead costs associated with the various bed settings are detailed in the table below:

**Table 48 -Bed Overhead Costs by Service Setting**

Service Setting	Service Setting Code	Daily Overhead Cost \$	Annual Cost \$
A	B	C	D = C * 365
Residential Rehabilitation	RR	37	13,505
Withdrawal Management (Detoxification)	DT	183	66,795
Inpatient	IN	183	66,795



### 19.3.1 Source of Bed Overhead Costs

#### *Residential Rehabilitation*

The daily Residential Rehabilitation overhead cost of \$37 was calculated as follows:

Daily Residential Rehabilitation Overhead Cost	=	Estimated daily cost for residential rehabilitation services - \$126	*	Estimated % of daily costs that are non salary related operating costs - 30%
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The estimated daily cost for residential rehabilitation services was \$126. In a discussion on 25/7/2012, it was advised<sup>30</sup> that the bed cost for Residential Rehabilitation bed was \$126 per day, including Centrelink payments, but excluding rent (assuming rent is \$10 per bed per day) where relevant.

In the 2005 NSW Alcohol and Drug Residential Rehabilitation Costing Study by Health Policy Analysis it was found that the estimated salary and administration costs were 70% of daily costs. Therefore 30% of the daily costs are taken to be non salary related operating costs (overheads). The accuracy of the \$37 a day cost was tested by estimating the overhead costs of NGOs reported in the Mental Health Establishments Database (\$35.15) and reported in the NSW Drug and Alcohol Treatment Services report (\$30).

#### *Withdrawal Management (Detoxification) and Inpatient*

The daily withdrawal management (detoxification) and inpatient overhead cost of \$183 was derived from the non clinical operating costs of four dual diagnosis units reported in the 2009/10 NSW Mental Health Establishment Database. The four dual diagnosis units were:

- HNE Mater MH Substance Use Inpatient Service – North
- HNE Mater MH Substance Use Inpatient Service – South
- Macquarie Hospital Figtree Rehabilitation Service
- Macquarie Hospital Henley Rehabilitation Service

The following table details these costs.

**Table 49 - Calculation of Withdrawal Management (Detox) and Inpatient Daily Overhead Cost per Bed**

	Detail		Amount
A	Total non clinical operating costs for four dual diagnosis units		\$4,260,000
B	Number of beds in the four dual diagnosis units		64
C	Annual overhead cost per bed	C = A/B	\$66,562.50
D	Available Bed Days		365
E	Rounded daily rate	E = C/D	\$183

<sup>30</sup> Garth Popple, Executive Director (WHOS), Representing Australian National Council on Drugs

## 19.4 PRICING – DIAGNOSTIC TESTS

The final agreed Diagnostic Test prices used in the Model are identified in the table below, (column B).

**Table 50 - Price of Pathology Services**

Group	Fee (\$)	Benefit (\$)
A	B	C
<b>DX01 Full Blood Examination</b>	\$17.05	75% = \$12.80 85% = \$14.50
<b>DX02 Liver Function Tests</b>	\$17.80	75% = \$13.35 85% = \$15.15
<b>DX03 Urea, Electrolytes, Creatine</b>	\$17.80	75% = \$13.35 85% = \$15.15
<b>DX04 Urinary Drug Screen</b>	\$24.25	75% = \$18.20 85% = \$20.65

### Source of Diagnostic Test Prices

The prices detailed in the table above are obtained from the Medicare Benefits Schedule Book (Operating from 01 July 2011). This book can be found at:

[http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/\\$File/201107-Cat%206.pdf](http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/$File/201107-Cat%206.pdf)

While the Project Team has shown the benefit for each of the tests, the total cost of Diagnostic Tests has been estimated using the fee only, thus excluding any benefit/patient co-payment.

## 19.5 PRICING – PRESCRIPTION MEDICINE

The final agreed Prescription Medicine prices to be used in the Model are identified in the table below (column= Cost).

**Table 51 - Price of Prescription Medicine**

Prescription Medicine	Code	Unit	Cost (\$)
A	B	C	D
Annual dosing cost for methadone or Buprenorphine or Buprenorphine naloxone	RX01	Annual cost	1,800.00
Annual cost of dispensing medication under the Pharmacy Practice Incentive (PPI) Program Staged Supply	RX02	Annual cost	200.00
Methadone for OST program (age 12-17)	RX03	Dose	0.40
Methadone for OST program (age 18+)	RX04	Dose	0.66
Buprenorphine for OST program - 8mg (age 12-17)	RX05	Dose	4.30
Buprenorphine for OST program - 8mg (age 18+)	RX06	Dose	8.60
Buprenorphine-naloxone for OST program - 8mg (age 12-17)	RX07	Dose	4.73
Buprenorphine-naloxone for OST program - 8mg (age 18+)	RX08	Dose	9.46
Buprenorphine for withdrawal management - 8mg	RX09	Tablet	4.30
Buprenorphine for OST program - 2mg	RX10	Dose	3.00
Buprenorphine-naloxone for OST program - 2mg	RX11	Dose	3.30
Buprenorphine for withdrawal management - 2mg	RX12	Tablet	1.50
Acamprosate calcium	RX13	Dose	1.85
Naltrexone	RX14	Dose	4.52
Thiamine for withdrawal meds	RX15	Dose	0.16
Thiamine for relapse prevention	RX16	Dose	0.12
Diazepam - 5mg counted as per dose	RX17	Dose	0.79
Diazepam - 5mg counted as per tablet	RX18	Tablet	0.16
Disulfiram	RX19	Dose	1.99
Tobacco Interventions: 21mg patch	RX20	Dose	2.46
Tobacco Interventions: Varencline	RX21	Dose	2.08
Tobacco Interventions: Bupropion	RX22	Dose	1.95

Like the cost applied to Diagnostic Tests, we have estimated the cost of medications using the Pharmaceuticals Benefits Scheme (PBS) price ex manufacturer for Methadone, Buprenorphine, Buprenorphine-naloxone, and the PBS dispensed price for maximum quantity for all the remaining drugs, except Disulfiram, which is not on the PBS.

### Diazepam

Staged Supply is an annual payment for community pharmacies that supply PBS medicines in instalments to persons, under the Commonwealth Government program Pharmacy Practice

Incentive (PPI) Program started under the Fifth Community Pharmacy Agreement (5CPA), Staged Supply. This operates in approx 90% of community pharmacies, where the pharmacist is paid about \$1000 per year to dispense the diazepam (and thus monitor) to any number of persons. In the Model, we have assumed that a pharmacist dispenses the Diazepam to 5 persons, at a \$200 per person per year figure.

## 20. Cost

An output of the Model is the cost of drug and alcohol resources. The following resources are costed:

- Clinical Staff FTE – Ambulatory;
- Clinical Staff FTE – Bed Based;
- Bed Based Services (Clinical Staff FTE + Overheads);
- Diagnostic Tests; and
- Prescribed Medications.

The calculation of costs generally require a quantity of resource (discussed in sections **14** through **17**) and a price for the resource (discussed in **section 1**

**Pricing – Clinical Staff, Prescription Medicine and Diagnostic Tests).****20.1 CALCULATING CLINICAL STAFF FTE COST****20.1.1 Clinical Staff FTE – Ambulatory & Bed Based**

The cost of Ambulatory Clinical Staff FTE is calculated by multiplying the FTE quantity of each Clinical Staff type needed by the nominated price for that staff.

The following table provides an example of the costing of Clinical Staff FTE.

**Table 52 - Example of Costing of Staff**

#	Staff Type	Quantity of Resource Needed	Price per Unit of Resource \$	Cost of Resource \$
A	B	C	D	E = C * D
1	Medical – General Practitioner	10	275,000	2,750,000
2	Medical – Addiction Medicine Specialist	12	307,054	3,684,648
3	Nursing/Allied Health	50	112,594	5,629,700
4	Alcohol and Other Drug Worker	45	82,401	3,708,045
<b>Total Cost of Ambulatory Clinical Staff FTE</b>				<b>15,772,393</b>

**20.2 CALCULATING COST OF BED BASED SERVICES**

The cost of bed based services in the Model is calculated by adding the following components:

1. Cost of Clinical Staff FTE (Bed Based) – see **section 20.1.1 Clinical Staff FTE – Ambulatory & Bed Based** ; and
2. Overheads.

Overheads for bed based services are calculated as follows:

**Figure 18 - Calculation of Overheads for Bed Based Services**

Estimated Cost of Bed Based Services	=	Estimated number of Beds needed	*	Overhead rate applicable to that bed type (see <b>section 19.3 Pricing – Beds</b> )
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The overhead cost only applies to “bed based” stay within a care package. The Model was not able to calculate an overhead costs for any ambulatory care.

**20.3 CALCULATING COST OF DIAGNOSTIC TESTS**

The cost of Diagnostic Tests is calculated as follows;

**Figure 19 - Calculation of Diagnostic Test Costs**

Estimated Cost of Diagnostic Tests	=	Estimated quantity of Diagnostic Test	*	Price of relevant Diagnostic Test
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An example follows:

**Table 53 - Costing of Diagnostic Tests**

#	Diagnostic Test	Quantity Needed	Price per Unit \$	Cost of Resource \$
A	B	C	D	E = C * D
1	Full Blood Examination	10	\$17.05	170.50
2	Liver Function Tests	12	\$17.80	213.60
3	Urea, Electrolytes, Creatine	50	\$17.80	890.00
4	Urinary Drug Screen	45	\$24.25	1,091.25
<b>Total Cost: Diagnostic Tests</b>				<b>2,365.35</b>

## 20.4 CALCULATING COST OF PRESCRIPTION MEDICINES

The cost of prescription medicines is calculated as follows:

**Figure 20 - Calculation of Prescription Medicine Costs**

Estimated Cost of Prescription Medicines	=	Estimated quantity of Prescription Medicines	*	Price of relevant Prescription Medicines
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An example follows:

**Table 54 -Example of Costing Prescription Medicine**

Code	Prescription Medicine	Quantity Needed	Price per Unit \$	Cost of Resource \$
A	B	C	D	E = C * D
RX01	Annual dosing cost for methadone or Buprenorphine or Buprenorphine naloxone	2	\$1,820.0	3,640.00
RX02	Annual cost of dispensing medication under the PPI Program Staged Supply	2	\$200.00	400.00
RX03	Methadone for OST program (age 12-17)	0	\$0.40	0
RX04	Methadone for OST program (age 18+)	20	\$0.66	13.20
RX05	Buprenorphine for OST program - 8mg (age 12-17)	0	\$4.30	0
RX06	Buprenorphine for OST program - 8mg (age 18+)	10	\$8.60	86.00
RX07	Buprenorphine-naloxone for OST program - 8mg (age 12-17)	0	\$4.73	0
RX08	Buprenorphine-naloxone for OST program - 8mg (age 18+)	5	\$9.46	47.30
RX09	Buprenorphine for withdrawal management - 8mg	10	\$4.30	43.00
RX10	Buprenorphine for OST program - 2mg	0	\$3.00	0
RX11	Buprenorphine-naloxone for OST program - 2mg	0	\$3.30	0
RX12	Buprenorphine for withdrawal management - 2mg	0	\$1.50	0
RX13	Acamprosate calcium	0	\$1.85	0
RX14	Naltrexone	0	\$4.52	0
RX15	Thiamine for withdrawal meds	0	\$0.16	0
RX16	Thiamine for relapse prevention	0	\$0.12	0
RX17	Diazepam - 5mg counted as per dose	0	\$0.79	0
RX18	Diazepam - 5mg counted as per tablet	0	\$0.16	0
RX19	Disulfiram	0	\$1.99	0
RX20	Tobacco Interventions: 21mg patch	20	\$2.46	49.20
RX21	Tobacco Interventions: Varencline	2	\$2.08	4.16
RX22	Tobacco Interventions: Bupropion	0	\$1.95	0
<b>Total Cost: Prescription Medicines</b>				<b>4282.86</b>

Note: a zero quantity indicates the medication is not relevant for the care package.



## 21. Population

The Model uses Australian Bureau of Statistics (ABS) Estimated Resident Populations for the census year of 2006 for the standard national model. In planning applications, however, jurisdictions would be applying it to their own population projections for future years. This document reports the jurisdiction-level population projections that are available on relevant web-sites for this purpose.

For the Model and Estimator Tool two sources of population projections were considered:

### **Jurisdictional Population Projections**

Each state and territory's government health organisation has population projections for their jurisdiction, which they use for planning services.

The Project Team did not seek or utilise these customised population projections. This was primarily as the underlying assumptions for the projections may vary across jurisdictions. It was preferred that a national model provides comparison on an equivalent or standardised basis.

The model and Estimator Tool population numbers are modifiable for the jurisdiction (e.g. by individual states and territories, or smaller areas). This will enable individual jurisdictions to enter their own population numbers should they wish.

### **Australian Bureau of Statistics (ABS) Population Projections**

The population numbers used in the Model were sourced from the Australian Bureau of Statistics (ABS) online publication *3222.0 - Population Projections, Australia, 2006 to 2101*<sup>31</sup>. The population projections presented in this publication cover the period 30 June 2008 to 2101 for Australia and 30 June 2008 to 2056 for the states, territories, and capital cities/balances of state.

The ABS produces three main series of projections. The Series A, B and C, have been selected from a possible 72 individual combinations of various assumptions about future levels of fertility, mortality, internal migration and overseas migration over the projection period. Series B largely reflects current trends in fertility, life expectancy at birth, net overseas migration and net interstate migration, whereas Series A and Series C are based on high and low assumptions for each of these variables respectively.

The ABS Series B population projections have been chosen as the primary source of population numbers for the Model, on the basis that it provides a prudent "middle ground" approach to the assumptions underlying the projections. The Model Estimator Tool is flexible

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<sup>31</sup> 3222.0 - Population Projections, Australia, 2006 to 2101, Released at 11:30 AM (CANBERRA TIME) 04/09/2008  
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>

and can be adjusted by users to see impact of different population projections, for example those reported under Series A and C, or customised population projections developed by their Planning Departments.

See population tables in **Appendix A16.4 ABS Populations Australia, 2006**

Population tables can also be viewed within the estimator tool.

## 22. Appendices

Appendix 1	Glossary and Acronyms
Appendix 2	Project Governance/Committees/Terms of Reference
Appendix 3	AN EXPLANATION ON severity and disability weights
Appendix 5	Using AUSBoD data in the age group 12-17 years
Appendix 6	Activities Included /Excluded from Care Packages and Clinical FTE
Appendix 7	Calculations for Pricing – Clinical Staff
Appendix 8	Calculations For Presentations at Emergency Department

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## Appendix 9      Calculations for Average Length of Stay (ALOS)

## Appendix 9      Calculations for Average Length of Stay (ALOS)

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Appendix 10	Care Packages – 12 months
Appendix 10	Care Packages – 12 months
Appendix 11	Standalone Care – Not for 12 months
Appendix 12	Key Parameters Bed Stats
Appendix 13	Care Rates and Numbers for SEVERE Care Packages
Appendix 14	Care Rates for the Standalone Items
Appendix 15	Residential Rehabilitation
Appendix 16	Data Companion

Appendix 17	Harm Reduction Component Details and Estimates
Appendix 18	Considerations for Next Revision of the Model
Appendix 19	DRAFT Prevention Component
Appendix 20	Data Sources and References
Appendix 21	Frequently Asked Questions (FAQs)
Appendix 22	Gap Analysis

## APPENDIX 1 GLOSSARY AND ACRONYMS

Term	Description and Notes
Activity	An activity is an item listed within a unit of service. For example the unit of service “ assessment simple’ is made up of two activities: 1x 60 minute assessment, 1 x 60 minute transfer/ referral of care/ follow up. Each activity has duration and a frequency.
Aetiological Fractions	Aetiological fractions are not used in the modelling
AIHW	<b>Australian Institute of Health and Welfare.</b> The AIHW is a major national agency set up by the Australian Government under the <a href="#">Australian Institute of Health and Welfare Act</a> to provide reliable, regular and relevant information and statistics on Australia's health and welfare. They are an independent statutory authority established in 1987, governed by a <a href="#">management Board</a> , and accountable to the Australian Parliament through the Health and Ageing portfolio. The AIHW produces authoritative and interesting reports, and other information products, on key health and welfare issues in Australia. One of its primary roles is to collect, analyse and report information drawn from health services, community services and housing assistance services.
Alcohol	One of the principal drugs of concern in the Model. The term ‘alcohol’ describes a series of organic chemical compounds, but only one type, <i>ethyl alcohol</i> or <i>ethanol</i> , is found in drinks intended for human consumption, and this is the type that is the subject of the Model. Other forms of alcohol, including methanol, are more toxic to humans than ethanol, and are not suitable for human consumption. Reference: Australian guidelines to reduce health risks from drinking alcohol.
ALOS	The average length of stay (ALOS) in days in a hospital per discharged in-patient, i.e. average duration of a single episode of hospitalization. See <b>Error! Not a valid result for table.</b> for details.
Amphetamine	One of the principal drugs of concern in the model .The amphetamine family of drugs includes ice, base and speed. Ice is the purest form of the drug followed by base and then speed. Speed is also known by a variety of other names, including: whizz, go-ee, snow, zip, point, eve, gogo, pure, and gas. Reference : <a href="http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx">http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx</a>
AMS	Addiction Medicine Specialist, refers to ‘Doctor - Addiction Medicine Specialist’ one of the staff types included in the model. Costs are modelled both for ambulatory and bed based services, for these staff types:- <ul style="list-style-type: none"> <li>• Doctor - GP, not AMS,</li> <li>• Doctor - Addiction Medicine Specialist;</li> <li>• nurses/Allied Health</li> <li>• AOD workers</li> </ul>
AODTS	The Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS) was created to assist in the monitoring and



	evaluation of key objectives of the <a href="#">National Drug Strategy</a> and will continue to provide an important source of information for monitoring the National Drug Strategy. The AODTS-NMDS captures the number of closed treatment episodes. This number does not equate to the total number of people in Australia receiving treatment for alcohol and other drug use. The current collection methodology does not identify when a client receives multiple treatment episodes in the same or different agencies, either concurrently or consecutively.
ASCDC	<b>A</b> ustralian <b>S</b> tandard <b>C</b> lassification of <b>D</b> rugs of <b>C</b> oncern, is the Australian statistical standard for classifying data relating to drugs which are considered to be of concern in Australian society.
Assertive Follow Up	This term is used within care packages to describe a single contact with each person after treatment is concluded. (it comprises 1 x 10 min 'phone call) and is included in every care package.
AUSBoD	<b>A</b> ustralian <b>B</b> urden of <b>D</b> isease was the first study to measure the national burden of disease in a developed country using the disability-adjusted life year (DALY), a new summary measure of population health developed for the Global Burden of Disease (GBD) study.
BEACH	<b>B</b> ettering the <b>E</b> valuation <b>A</b> nd <b>C</b> are of <b>H</b> ealth are one of the data sources referred to and used to provide background data for the discussion of care packages for the Model. <b>BEACH</b> provides an invaluable source of timely data to describe general practice activity and inform improvements in primary health care service provision. The <b>BEACH</b> program continuously collects information about the clinical activities in general practice in Australia including: characteristics of the GPs; patients seen; reasons people seek medical care; problems managed, and for each problem managed (direct link); medications prescribed, advised, provided, clinical treatments and procedures provided; referrals to specialists and allied health services; test orders including pathology and imaging. The <b>BEACH</b> database uses a cross-sectional, paper based data collection system developed and validated over 30 years at the University of Sydney. Data generated is used by researchers, government, industry and non-government organisations. <sup>32</sup>
Benzodiazepines	One of the principal drugs of concern in the model. Benzodiazepines are a group of drugs called minor tranquillisers, often known as benzos. These drugs are prescribed by a doctor to help people with anxiety or sleep problems. There are about 30 different types (generic names) of benzodiazepines. Each one of these generic name drugs may be sold under several different brand names - all the same drug, but made by different companies. <ul style="list-style-type: none"> <li>• diazepam - Valium, Ducene, Antenex</li> <li>• oxazepam - Serepax, Murelax, Alepam</li> <li>• nitrazepam - Mogadon, Alodorm</li> <li>• temazepam - Euhypnos, Normison, Temaze</li> <li>• lorazepam - Ativan</li> <li>• flunitrazepam - Rohypnol, Hypnodorm</li> </ul>

<sup>32</sup> Source: <http://www.fmrc.org.au/beach.htm>

	<ul style="list-style-type: none"> <li>• bromazepam - Lexotan</li> <li>• clonazepam - Rivotril</li> </ul> <p>Some slang names for benzodiazepines include: benzos, rowies, serries, moggies, vals, V, normies, downers, tranks and sleepers. Reference : <a href="http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx">http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx</a></p>
BI/MI	<p><b>Brief Intervention/Motivational Intervention</b></p> <p>See <b>section 8.3.3 SBI Screening Brief Intervention</b></p>
Cannabis	<p>One of the principal drugs of concern in the model, Cannabis is the most common illegal drug used in Australia. It is made from the dried flowers and leaves of a plant called Cannabis Sativa. Some slang names for cannabis include: grass, marijuana, mull, pot, dope, and yarndi. Reference : <a href="http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx">http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx</a></p>
Care Package	<p>The care package specifies the care <u>for a person with a specific need for a year</u>. There are many care packages in the model. There is a care package for prevention and promotion. There are care packages along the clinical care spectrum which reflect the people in the “town” with diagnosable illness that range from mild to most intense. It is important to note that the care package may show care in different areas over a number of weeks, and the weeks may not total to 52, however this is the required care for the person with a specific need for a year.</p>
Co-morbidity in the Model	<p>‘Co-morbidity’ may refer to multiple, co-existing physical, mental health and problematic drug and alcohol use issues, which may meet formal diagnostic criteria for a defined disorder such as in the diagnostic and statistical manual of mental disorders (38)<sup>33</sup>. However, mental health/problematic drug and alcohol use/other symptoms do not need to meet this formal criteria in order for co-morbidity to be present, and for these conditions to impact significantly on client functioning and thereby be worthy of treatment (189).<sup>34, 35</sup> In the SEVERE complex care packages, more time is specified for psychosocial and physical assessments.</p>
Complex (versus standard) Care Packages	<p>When developing the care packages the Expert Reference Group recognised that for a given care packages some people would require more hours of care than others. The distinction between standard and complex is shown in the specification within the SEVERE care packages. In most cases for a given care package, the complex care package will have a longer assessment, more case management and more psychosocial interventions where required. Complex as used in this modelling project reflects that fact that people may be designated as complex because of physical health needs (e.g. liver disease), mental health needs ( e.g. co morbid diagnosis) or social circumstances (e.g.</p>

<sup>33</sup> 38. Kay-Lambkin, F.J., et al. 'The 'Co-morbidity Roundabout': a Framework to Guide Assessment and Intervention Strategies and Engineer Change Among People With Co-morbid Problems'. *Drug and Alcohol Review* 2004; 23(4): p407-424.

<sup>34</sup> 189. Kavanagh, D.J., et al., 'Management of Co- Morbidity', in *Co-Morbid Mental Disorders and Substance Use Disorders: Epidemiology, Prevention and Treatment*, M. Teesson, Editor. 2003, Commonwealth of Australia: Canberra. p78-107.

<sup>35</sup> (Source: Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines [http://www.health.nsw.gov.au/policies/gl/2008/pdf/GL2008\\_009.pdf](http://www.health.nsw.gov.au/policies/gl/2008/pdf/GL2008_009.pdf))

	housing or welfare needs).
CSFM	<b>Cost Shared Funding Model</b> (MCDS-CSFM). The <i>Cost Shared Funding Model of the Ministerial Council on Drug Strategy</i> (MCDS-CSFM) was adopted in 2002 to cost-share funding for projects of national significance in the AOD field to provide a forum for the Australian Government, State and Territory Governments and the NZ Government to fund projects of mutual and national interest concerning drugs; promote a consistent and coordinated national approach to research and projects; and fund projects equitably. The Australian Government provides 50% of the CSFM's funds, and the remainder is provided by the States and Territories calculated and adjusted yearly on a <i>per capita</i> . NZ contributes a fixed amount annually. DoHA is the fund holder responsible for collecting, holding and administering funds.
CYMHS	<b>Child and Youth Mental Health Service</b>
CTE	<b>Closed Treatment Episodes</b> , are counted in the NMDS-AODTS. A closed treatment episode refers to a period of contact, with defined dates of commencement and cessation, between a client and a treatment agency.
DA-CCP (previous name of this project) now "Drug and Alcohol Service Planning Model for Australia"	The National Drug and Alcohol-Clinical Care and Prevention (DA-CCP) model project, referred to in this document as the Model. A project commissioned by the Ministerial Council on Drug Strategy through the Cost Shared Funding Model. The Model is a nationally agreed population based model for drug and alcohol service planning. It will provide transparency and consistency across all jurisdictions for estimating the need for drug and alcohol services, across the spectrum from prevention and early intervention to the most intensive treatment. It will also provide a basis for all jurisdictions to consistently estimate the gap between current need being met, and the resources required to fill that gap.
Project Team	The NSW Ministry of Health is the lead agency for the Project. The Ministry's Mental Health and Drug and Alcohol Office (MHDAO), <b>Project Team</b> is responsible for providing secretariat support to committees, for assembling the model, and for producing a technical report and spreadsheets that perform the population-based calculations. Modelling work that the MHDAO <b>Project Team</b> has undertaken since 2000 will inform this development.

<p>Model's Schema</p>	<p>A visual aid/ a diagrammatic representation of the whole model, for example</p> <p><b>DA-CCP SCHEMA</b></p>
<p>Model's Template</p>	<p>The <b>template</b> was used in development of the model. It has two dimensions. The model has a logical flow from top to bottom and from left to right. The top to bottom flow of the model will allow us to provide estimates which may include: need for beds or places at treatment facilities per 100,000 of age specific population, and need for FTE staff per 100,000 of age specific population. The left to right flow of the model illustrates the spectrum of the Clinical Care and Prevention (CCP) aspect of the modelling. The CCP spectrum is retained in all 8 panels of the model from top to bottom. The model has eight panels:</p> <ul style="list-style-type: none"> <li>Population epidemiology</li> <li>Demand</li> <li>Service mapping</li> <li>Clinical care rate</li> <li>Care packages</li> <li>Resource predictions</li> <li>Output predictions</li> <li>Staff predictions &amp; prices.</li> </ul>
<p>Demand for Treatment</p>	<p>Demand for Treatment is the number of people who meet diagnostic criteria and would benefit from treatment <u>and seek</u> treatment. Need is always higher than demand because not all people who need treatment are desirous of obtaining it. Findings from the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics 2007) demonstrate this point. The survey respondents ranged in age from 16-85 years of whom 85.7% identified by the survey as having met criteria for a mental illness did not perceive that they had a mental illness or perceive a need for any type of help. Of note is the fact that 94% of this group did not even want information.</p>

Diversion Programs	Diversion Programs are a graduated series of interventions aimed to prevent first offenders from entering the criminal justice system and to divert offenders with drug problems into appropriate treatment. Patients treated in diversion programs are included in the model if the treatment facility they attended provides data to the NMDS – AODTS. We expect that a person receiving a withdrawal management care package would receive the same withdrawal management care package regardless of whether their treatment was under a diversion program or not. For example, all diversion clients in the Australian Capital Territory (ACT) AOD system and the Western Australia (WA) AOD system are recorded in the NMDS- AODTS.
Drop-Out From Treatment	Drop-out from treatment (and readmission to treatment within one year) are not included within the Model. We assume that everyone stays for the full length of care. We assume no one comes back within a year.
DSM-IV	<b>Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.</b> Psychiatric Diagnoses Manual, published by the American Psychiatric Association and covers all mental health disorders for both children and adults.
E–Counselling /Online Interventions	At this time, e–counselling has not been included in the care packages or as a price in any other part of the model. If e- counselling is not included in this version 1 of the Model, then it will be listed as an item for consideration in any future review of the Model.
Emergency Department Inclusions within the Model	One of the ‘should’ assumptions is that everyone that presents in the emergency department who meets primary diagnoses of alcohol and other drugs disorder should receive consultation liaison. In addition, everyone who presents to emergency and then gets subsequently admitted to a hospital and meets primary or secondary diagnosis of alcohol or other drug should have received consultation liaison in ED. See <b>Appendix 8 Calculations For Presentations at Emergency Department</b> for how we estimated of the amount of consultation liaison required to cover ED presentations.
Episodes of Care	This term is not used in the Model because it models people, not episodes. The model shows the number of people per 100,000 of a certain age, e.g. 18-64 years, who receive each care package over the course of a year. We have used episode data from the NMDS- AODTS in order to make expert judgements about the distribution of people across care packages.
ERG	The <b>Expert Reference Group</b> determined by the Steering Committee ( <b>SC</b> ), provide advice and review of all matters related to components of modelling, i.e. epidemiological and clinical aspects of drug and alcohol treatment, and service delivery and planning issues including : <ul style="list-style-type: none"> <li>Identifying literature reviews and other literature relevant to the Consulting with jurisdictions and/or professional networks to obtain and supply information needed by the project.</li> </ul> The ERG includes representatives from – <ul style="list-style-type: none"> <li>Chapter of Addiction Medicine, within the Royal Australian College of Physicians</li> <li>state and territory health departments</li> <li>National Drug and Alcohol Research Centre (NDARC)</li> </ul>

	<ul style="list-style-type: none"> <li>• Department of Health &amp; Ageing (DoHA)</li> <li>• Alcohol and other Drugs Council of Australia (ADCA)</li> <li>• Australian National Council on Drugs (ANCD)</li> <li>• Australasian Therapeutic Communities Association (ATCA)</li> <li>• National Indigenous Drug and Alcohol Committee (NIDAC)</li> </ul> <p>For list of members, see <b>Appendix A2.4 Expert Reference Group Membership</b></p>
F Code	See <b>ICD in glossary</b> , and for full details, see <b>section A16.2 ICD Codes Related to Aus BOD Drugs</b>
Families and Carers in the Care Packages	Some of the activities listed in the care packages specify clinician time with the person/ carer/supporter. For example, in the alcohol care packages for the three age groups 12-17, 18-64 and 65+ the unit of service “psychosocial interventions” specifies 5 x 60 min 1:1 psychosocial intervention/family/supporter as one of the activities. For these same three age groups the unit of service for ‘case management’ specifies 1 x 30 min family / carer engagement. In the 12-17 years in particular there is a unit of service called ‘family interventions’ which specifies 4x 60 min family interventions as an activity, and an ‘outreach’ unit of service which specifies 2 x 30 min family engagement.
FASD	Foetal Alcohol Spectrum Disorder (FASD). This is a non-diagnostic term which refers to a range of conditions caused by prenatal exposure to alcohol, including Foetal Alcohol Syndrome, Partial Foetal Alcohol Syndrome and related neurodevelopmental disorders. The effects of Foetal alcohol exposure are life-long and may not be seen at birth. A minority of children will have Foetal Alcohol Syndrome or Partial Foetal Alcohol Syndrome which can be identified by abnormal facial features (with or without other birth defects), poor growth and abnormalities of the brain or neurological problems. The majority of children with FASD will look normal but will have learning or behavioural problems associated with the primary brain damage. See <b>Section 7.1.3 Foetal Alcohol Spectrum Disorder (FASD)</b>
FTE	<p><b>Full Time Equivalent</b> staff units. The estimated average number of hours a clinical FTE spends each year on reportable client related work, is <b>1,171</b>. (Nurse/Allied Health, AOD worker, and Addiction Medical Specialist) <b>1,374</b> for General Practitioner. Please note the three assumptions in the methodology, with different values for General Practitioner, compared to the other staff types:</p> <ol style="list-style-type: none"> <li>1. That there is a standard working week.(38 for non-GP, 42.75 for GP)</li> <li>2. That there is annual leave (6 weeks for non-GP, 4 weeks for GP)</li> <li>3. That one third of a worker’s time is allocated to training, travel, clinical supervision. Described within the Model as an ‘overhead allowance’.</li> </ol> <p>For full details of these calculations, see <b>Section 15.1 Estimating the Annual Clinical Staff FTE Resource Requirement</b></p>
FTE – Costs Included	The costs included in the ‘all inclusive’ FTE costs are: a)salary, b)on costs – 28%, c)administrative overheads – 10%, for example, CEO time, personnel department, ward clerk, other clerical support etc . Other jurisdictions can modify the costs to suit their needs. For full details, see



	<b>Section 15.1 Estimating the Annual Clinical Staff FTE Resource Requirement</b>
ICD	The International Classification of Diseases is the standard diagnostic tool for epidemiology, health management and clinical purposes. This includes the analysis of the general health situation of population groups. It is used to monitor the incidence and prevalence of diseases and other health problems. Also referred to as 'F' codes. See <b>Section A16.2 ICD Codes Related to Aus BOD Drugs</b>
IGCD	Inter Governmental Committee on Drugs - The IGCD is an executive body that reports to Ministerial Council on Drug Strategy (MCDS). It provides policy advice to MCDS on drug-related matters and is responsible for implementing the NDS policies and programs decided upon by MCDS. The IGCD consists of senior officers representing health and law enforcement agencies in each Australian jurisdiction and in NZ. Other committee members include experts in identified priority areas (Australian Department of Education, Employment and Workplace Relations (DEEWR), and the Australian Customs Service (ACS). Meetings of the IGCD take place twice a year in February and September, with an annual strategic direction workshop usually held in July.
Indigenous Adaption to the Model	The Indigenous Adaption to the Model is not complete. The development of a Preliminary Indigenous adaption to the Model care packages commenced in the second half of 2011. This working group contained representatives from the Expert reference Group (ERG), the National Indigenous Drug and Alcohol Committee (NIDAC) and other nominated experts. In the indigenous adaptation of the care packages, the duration of many of the contacts as specified were increased, and included face to face meetings rather than telephone follow-ups, and includes return to country. When complete, the indigenous adapted model is expected to include services such as shelters, night patrols, sobering up centres. It is not included in the current version of the model, It is included in the Recommendations for Next Revision of the Model. For more information, see <b>Section 1 Error! Not a valid result for table.</b>
MCDS	Ministerial Council on Drug Strategy, a cooperative venture between Australian, state and territory governments and the non-government sector.
MHDAO	Mental Health and Drug and Alcohol Office, part of NSW Ministry of Health.
MSIC	Medically Supervised Injecting Centre. see <b>Section A17.1 Harm Reduction details and Resource Estimate</b>
MODERATE, (MILD and SEVERE) Categories in the Model	The division of MILD, MODERATE and SEVERE are based on disability weightings (extent of functional impairment), which will provide parity with the NSW mental health planning model (MH-CCP) and other international approaches. At the mild end of clinical care spectrum this may include treatment e.g. assessment and counselling in a community setting. At the severe end of the clinical care spectrum it may represent attendances at emergency departments, a bed or a place in a treatment facility/program. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see <b>Section 10</b>

	<b>Description of MILD, MODERATE &amp; SEVERE (standard and complex)</b>
MTAR	Methadone to Abstinence Residential. Some of the Residential Rehabilitation Care Packages include MTAR components, some others include Residential Treatment for Opioid Dependence (RTOD) components.
NAH	<b>Nursing/Allied Health Worker</b> , one of the staff types included in the model. Costs are modelled both for ambulatory and bed based services, for these staff types: <ul style="list-style-type: none"> <li>• Doctor - GP, not AMS</li> <li>• Doctor - Addiction Medicine Specialist</li> <li>• Nurses/Allied Health</li> <li>• AOD workers</li> </ul>
NAS	Neonatal Abstinence Syndrome (NAS). Occurs in newborns going through withdrawal as a result of the mother's dependence on drugs during pregnancy. It is characterised by signs and symptoms of central nervous system hyperirritability, gastrointestinal dysfunction and respiratory distress, and by vague autonomic symptoms that include yawning, sneezing, mottling and fever. This syndrome usually begins within 72 hours, but may appear up to two weeks after birth. In the 0-12 months age group, there is a standalone item: NAS BABY, for this care.
NDSHS	The 2010 <b>National Drug Strategy Household Survey</b> . Australian Institute of Health and Welfare 2011. 2010 National Drug Strategy Household Survey report. Drug statistics series no. 25. Cat. No. PHE 145. Canberra: AIHW.
NDARC	<b>National Drug and Alcohol Research Centre</b> .
Need for Treatment	Need is defined as the proportion of the population who meet diagnostic criteria for substance use disorders and are specified within the model as receiving treatment.
NMDS	<b>National Minimum Data Set</b> - is a minimum set of data elements agreed for mandatory collection and reporting at a national level. The Model used the NMDS in developing the Model by examining the spread of episodes of care within the ATODS NMDS. We have used episode data from the NMDS- AODTS in order to make expert judgements about the distribution of people across care packages. A basic principle in the NSW MH-CCP and Models is that existing levels and types of service use reflect a history of demand that should not be ignored unless there is clear evidence (including consensus of expert opinion) that it is not appropriate. Thus the National Minimum Data Set – Alcohol and Other Drug Treatment Services (NMDS-AODTS) closed treatment episodes provide a reference point for modelling the Model <a href="http://www.aihw.gov.au/publication-detail/?id=10737422552">http://www.aihw.gov.au/publication-detail/?id=10737422552</a>
NMHSPF	National Mental Health Service Planning Framework
NOPSAD	The <b>National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD)</b> collection is an administrative by-product collection. Data are collated in each jurisdiction from a census of clients in pharmacotherapy on any one day. NOPSAD data informed the numbers of heroin dependent people receiving treatment in the model.



NRT	<b>Nicotine Replacement Therapy</b>
NSMHWB	The Australian <b>N</b> ational <b>S</b> urvey of <b>M</b> ental Health and <b>W</b> ellbeing, NSMHWB was a national epidemiological survey of mental disorders that used similar methodology to the NCS. It aimed to answer three main questions: How many people meet DSM-IV and ICD-10 diagnostic criteria for the major mental disorders? How disabled are they by their mental disorders? And How many have seen a health professional for their mental disorder?
NSWH	<b>N</b> ew <b>S</b> outh <b>W</b> ales <b>H</b> ea <b>l</b> th
NSP	<b>N</b> eedle & <b>S</b> yringe <b>P</b> rogram
Occasions Of Service	Any examination, consultation, treatment or other service provided by a health service provider in a non-admitted setting to a client/patient on each occasion such service is provided. A distinct visit to a hospital or outpatient clinic where treatment is received. Reference <a href="#">The Next Step: Funding Reform - NSW Health</a>
Occupancy Rate	The inpatient stays that have been modelled in the project are for stays in inpatient, withdrawal and residential rehabilitation beds. The occupancy rate is generally 76% but higher for DA beds (87%). NB beds that are 'owned' by others, for example, mental health or general, then all of the occupancy and all of the un-occupancy belongs to them.
Online interventions	Online interventions have not been included in the care packages or as a cost in any other part of the model. It will be listed as an item for consideration in any future review of the model.
Opioid Pharmaceutical Misuse	There is no epidemiology for opioid pharmaceutical misuse. However, the project's Expert Reference Group has agreed to include a specific care package for this group, but it is not included in the current model. It is included in the Recommendations for Next Revision of the Model. See <b>Appendix 18 Considerations for Next Revision of the Model.</b>
Opioids	One of the principal drugs of concern in the model Opioid drugs include: opium, morphine, codeine, pethidine and methadone.). Some slang names for heroin include: smack, skag, hammer, H, or horse. Reference : <a href="http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx">http://www.health.nsw.gov.au/mhdao/Pages/drug-and-alcohol-factsheets.aspx</a>
Physical Health Needs of An Individual	The care packages do not include the physical care needs of people (only their ATOD needs) The care package describes 12 months' drug and alcohol care for an individual. A care package may, however, specify referral to another clinician regarding physical health needs.
Pregnant Women	Care for pregnant women has been included in the model. This care is now shown in the 18-64 years component of the model. This care is captured in two parts. Firstly, the total number of days in the obstetrics ward is captured in the Standalone Item "sprinkles" under the heading "CL_OBS". Secondly, the woman's care for the remainder of the year is captured in any one the care packages for 18-64 year olds. The rationale for this approach is that, in terms of drug and alcohol care, the woman is "incidentally pregnant" (hence the sprinkle), but her care for the remainder of the year is picked up in one of the other care packages for the 18-64 years. The same approach applies for 12-17 year olds.
Primary Care in the	Care provided by general practitioners or primary care is included in the

Model	MILD care packages and to a lesser extent in the MODERATE care packages. For example, in the alcohol care packages for 18-64 years we have included care provided by GPs based on the use of BEACH data (Helena Britt, University of Sydney). Liaison between GPs and allied health professional is specified in the MODERATE care package for alcohol 18-64 years. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see: <b>Section 10 Description of MILD, MODERATE &amp; SEVERE (standard and complex)</b>		
Principal Drug of Concern	The main drug of concern to the client, the focus of the client's treatment episode.		
Psychosocial Interventions in the Model	Psychosocial Interventions appear in most care packages, and these items are tailored for the care packages: standard vs. complex, for the different age specific populations. For example Amphetamine 12-17 has more sessions of "1:1 psychosocial intervention/family/supporter" than the Amphetamine 65+. Example (partial extract from Amphetamine 65+ years.)		
	Name of Unit of Service (from Card)	No. of Unit of Service (Activity from the Card)	
	Individual Psychosocial interventions	<b>Card 6A x1</b> 1 x 15 min intake 1 x 75 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination	
Readmission Rate	Readmission rates are not calculated within the Model. We assume that everyone stays for the full length of care. We assume no one comes back within a year.		
Recovery (Treatment Outcomes)	The model does not make any estimates about the outcomes of treatment or recovery rates. The purpose of the model is to provide a consistent and transparent basis for all jurisdictions to estimate the gaps between current services and what is required (or what should be in place to provide an adequate drug and alcohol service).		
Relapse Rate	Relapse rates are not calculated within the Model. (it is a static, one year model). We assume that everyone stays for the full length of care.		
Residential Rehabilitation in the P Model	There are a number of care packages of residential rehabilitation (for both alcohol and other drugs). The key features of the residential rehabilitation packages are One week withdrawal management in a dormitory bed, followed by a number of weeks stay in a residential rehabilitation facility, followed by care in the community. The Residential Rehabilitation Program includes a number of weeks program, with i.tem such as: group therapy, group psycho education,1:1 counselling, care planning (history taking, psychometric testing, collection/entry), psychosocial activity(work and recreation), routine review, family engagement ,peer support, medical care/ clinical intervention, and medical consultation. Vocational Education, Training and Employment		

	(VETE) may also be included, for the age group 18-64, for residential rehabilitation stays over 8 weeks duration.
Resource Distribution Formula	This model doesn't tell you where you should spend your resources. It tells you how much you should have. A resource distribution formula takes into account socio-economic and other factors (age, gender, ethnicity etc).
RTOD	Residential Treatment for Opioid Dependence. Some of the Residential Rehabilitation Care Packages include RTOD components, some others include Methadone to Abstinence Residential (MTAR) components.
Rural and Remote Communities	The model does not take into account factors such a rurality, or remoteness, which may affect the relative need and demand for services, the relative price of delivering the same quality of service, or both. Instead we are modelling the "Australian average", where one standard notional "group" of 100,000 of age specific population is exactly the same as the next standard notional "group" of 100,000 of age specific population. There is a whole other field of modelling for the relativities in demand and/or price for all sorts of services, including health services, such as the work of the Commonwealth Grants Commission in distributing GST revenue, or the Resources Distribution Formulae used in some jurisdictions for allocations of health funding. Similarly, there are pricing mechanisms (or models) for health service activity, which are used in Activity Based Funding or to determine the Medical Benefits Schedule. Each of these has its own rationale and its own development processes and methods. However, none of them address the issue addressed in the Model, namely the actual level of services that is judged to be clinically adequate. The Model is not a prescriptive mechanism for setting targets, nor does it aim to replace distribution formulae of this type. The model may be adapted by users in many ways to deal with the particular needs of particular groups within that standard Australian population
Separation	Separations refers to an episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation). Separation also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

SEVERE (MODERATE, and MILD) Categories in the Model	Severity of use is categorised as MILD, MODERATE or SEVERE. MILD: Person is <u>not</u> hospitalised and <u>not</u> using specialist services. MODERATE: Person is <u>not</u> hospitalised and <u>not</u> using specialist services. SEVERE: Person may be hospitalised, and is typically using specialist services. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see: <b>Section 10 Description of MILD, MODERATE &amp; SEVERE (standard and complex)</b>
'Should' Model	The model specifies the amount of treatment that 'should' be provided, consistent with best available evidence of treatment effectiveness. The types and quantities of care specified in the care packages are defined as "adequate" to provide good care, and based on evidence. This means that anything less would be unsatisfactory or inadequate. We could design the Rolls Royce treatment service but the reality is that in some instances the evidence is that small and simple and short interventions work just as well as long and complex interventions depending on the person and depending on the drug. In some cases the evidence is lacking so we can't confidently say in randomised controlled trials this treatment beats this treatment. We can for some treatments where we have good evidence. So again it's a combination of research evidence and expert judgement. We're not expecting everyone that has a problem should receive treatment but we're not assuming the lowest common denominator of unmet treatment demand. Also we are assuming that we need an array of different treatment types ranging from withdrawal management (detox) therapeutic to therapeutic communities. The purpose of the model is to provide a consistent and transparent basis for all jurisdictions to estimate the gaps between current services and what is required (or what should be in place to provide an adequate drug and alcohol service).
Standard Populations of 100,000	The model uses populations of 100,000 for convenience because some substance use conditions are very rare, and some services are required only rarely. It is simply easier (and less error-prone) to work with whole numbers rather than the fractions that would result if we used percentages (that is, a base population of 100,000). The model uses the standard census population (of 2006) as a reference point because these numbers are fixed. Each jurisdiction will typically have its own way of producing local population projections for other years, but will base them on the census data for census years.
Steering Committee	The Steering Committee is responsible for providing final decisions on all matters related to the Model and its development over a two year period from April 2010 to March 2012. The Steering Committee comprises of health officials representing all jurisdictions who will provide final decisions on all matters related to the Model and its development over this two year period. For list of members, see <b>Appendix A2.3 Steering Committee Membership</b> .
TARP	Targeted Audience Rating Point. This is a media term to describe average audience, e.g. Mass media campaigns. The average number of people who tuned into the given time selected and expressed in thousands or as a percentage (also known as a Rating) of the total potential audience of the demographic selected. Source:

	<a href="http://www.nielsenmedia.co.nz/en/pdf/mri/28/mediaterms.pdf">www.nielsenmedia.co.nz/en/pdf/mri/28/mediaterms.pdf</a>
Treatment Episode Data Set	Treatment Episode Data Set ( <b>TEDS</b> ) of linked admission and discharge records maintained by Substance Abuse & Mental Health Services Administration (SAMHSA) in USA.
Tobacco	The Model does not model treatment services for Tobacco/ Nicotine as a principal drug of concern. It models the drugs for which epidemiology is available from the Australian Burden of Disease study, namely alcohol, opioids, cannabis, stimulants and benzodiazepines are included in the model. The project's Expert Reference Group, however, has modelled a tobacco intervention in the care package panel of the model. This intervention is specified for all people in the SEVERE group. Tobacco is not included as a principal drug of concern in the epidemiology panel of the model. Given that approximately 80% of people in the SEVERE category smoke (i.e. the group of people that we would expect to attend specialist drug and alcohol services), the project's Expert Reference Group has included a brief intervention for tobacco in all of the SEVERE care packages. It should be noted that the tobacco brief intervention was modelled for 80% of people in the SEVERE group receiving a brief intervention for approximately 30 mins, hence we have shown this in the model as each person receiving the brief intervention for 80% x 30 mins = 24 mins per person in the SEVERE group.
Tolkien II	Published in 2006, a needs-based, costed, stepped-care model for mental health services: recommendations, executive summaries, clinical pathways, treatment flowcharts, costing structures. It included Alcohol use disorders.
Treated Prevalence	<p><b>(see also need and demand for treatment, in this glossary)</b></p> <p>The project's Expert Reference Group determined the clinical care rate. This was done in several steps. An example for drug = <b>alcohol</b>, age group <b>18-64</b> years is shown below. Firstly, the AUSBoD data, provided the number of people with a diagnosable illness, that is 6,355 per 100,000 of age specific population. The ERG then agreed that the definition of SEVERE was based on the AUSBoD disability weights (akin to days out of role). This means that the estimate for SEVERE in this current example is 699 per 100,000 of age specific population. The number of people with a diagnosable illness in the MODERATE group was 1398 and MILD group was 4,258. We know that not all people with a diagnosable illness need treatment or perceive a need for treatment. Data from Tolkien II indicates that 11% of people sought treatment for substance use disorder, but that same report recommended a figure of 50% should receive treatment. The Expert Reference Group then agreed that the overall treatment rate for Alcohol, for MILD to be 20% and MODERATE 50%. It was agreed that the SEVERE group Treatment Rate for most drugs is 100%. Amphetamine is modelled at 35%, to reflect a more realistic demand, given that data suggests that the current Treatment Rate is approximately 18%. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see: <b>Section 10 Description of MILD, MODERATE &amp; SEVERE (standard and complex)</b></p>

Unit of Service	<p>A 'unit of service' is a term devised by the Project's Expert Working Group. The units of services represented the building blocks for developing the care packages. An example of a unit of service is one component of a treatment, such as medication prescribing, assessment or counselling. The entire care package comprises multiple units of service. We developed them in this way to make sure that across a typical year; the care package reflected all the various units of service that should be delivered consistent with the evidence-base and to ensure adequate care. For example, the service element "assessment" specifies the number of hours of staff time, diagnostic testing, referral/ transfer of care. Then we apply the assessment unit of service to build up a care package (in this example, every care package has assessment, which is specified identically across all care packages).</p>
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## APPENDIX 2 PROJECT GOVERNANCE/COMMITTEES/TERMS OF REFERENCE

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### Committees

The Project Team comprises of members of Mental Health and Drug and Alcohol Office (MHDAO)<sup>36</sup>, NSW Ministry of Health (NSW MoH).

Contributions were made by:

- ☐ Director, Mental Health and Drug & Alcohol Programs, NSW MoH;
- ☐ NSW Drug and Alcohol Clinical Advisor;
- ☐ Steering Committee (membership: Jurisdictional Government Drug and Alcohol representatives at a senior e.g.. Director level);
- ☐ Expert Reference Group (membership: modelling and Drug and Alcohol experts working in a variety of settings – University based research organisations, consultancy, Government, and Drug and Alcohol Services);
- ☐ NSW Drug and Alcohol Program Council;
- ☐ Other Drug and Alcohol stakeholders.

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<sup>36</sup> The Associate Director, Programs Development and Coordination and the Strategic Planning and Evaluation (SPE) team



## A2.1 Terms of Reference -Steering Committee

### Purposes of Steering Committee

A project steering committee comprising of health officials representing all jurisdictions will provide final decisions on all matters related to the DA-CCP drug and alcohol service planning model development over a two year period from April 2010 through March 2012.

The IGCD may wish to nominate others to this steering committee.

### The primary purpose of the project is to:

Develop the DA-CCP model in accordance with the broad methodology in the “*DA-CCP Version 1.000 Discussion Document*” that was submitted as part of the original proposal endorsed by the Inter-Government Committee on Drugs (IGCD) in September 2009 and the Ministerial Council on the Drug Strategy (MCDS) in November 2009.

The report on DA-CCP will include:

- A description of the estimates of the resources needed in a national population based model for drug and alcohol service planning e.g. FTE staff per 100,000 population, and beds per 100,000 population.
- A tool to calculate the resources needed. E.g. FTE staff per 100,000 population, and beds per 100,000 population (Excel spreadsheets)

### Functions and Objectives:

This document outlines the role and responsibilities of the DA-CCP project’s Steering Committee (SC). Membership of the SC is determined by the Inter-Government Committee on Drugs (IGCD). Secretariat support is provided by the lead agency (Mental Health & Drug & Alcohol Office, NSW Health).

### The SC is responsible for:

Providing final decisions on all matters related to the DA-CCP drug and alcohol service planning model development over a two year period from April 2010 through March 2012.

Typically the SC will receive a report on the modelling work undertaken over the preceding six-month period by the Lead Agency on the advice of the Expert Reference Group, and this report will identify areas where decisions or directions are needed. There will be five weeks between the SC meeting and the time when papers have to be prepared for IGCD, so the aim is that it will have been possible to act on SC decisions and provide a paper to IGCD on the SC-endorsed model as it exists at that time.

The contribution of the SC to the success of the DA-CCP project will be in deciding on issues that cannot be resolved at the ERG level. Overall, two-hour meetings of the SC will be convened by four times during the course of the project, usually by teleconference. Two meetings are scheduled in the first year of the project, and two meetings in the second year. Typically, each meeting will review the work done in accordance with actions required by the previous Steering Committee meeting, and make recommendations for the work to be prioritised by the ERG and modelling team over the next period. The commitment required



from individual members is likely to vary considerably over the two-year time frame, as particular topics are the focus of attention.

The broad approach taken to modelling is indicated in the attached “*DA-CCP Version 1.000 Discussion Document*”.

### **Lead agency responsibilities for SC:**

NSW Health will be responsible for providing timely secretariat support and papers for meetings of the SC; for conducting modelling in accordance with SC decisions on priorities and options to be considered; and for providing feedback and preparing papers for IGCD. NSW Health will also provide the mid-term draft report and the final report for the project that will be submitted via the SC and IGCD to the MCDS.

NSW Health will also provide a venue for any face-to-face meetings of the Steering Committee. Jurisdictions will be responsible for any travel and accommodation for attendance of their representatives.

### **The model development will consist of:**

- An initial joint meeting of the Steering Committee and Expert Reference group in the first week of April 2010 to select a Chair for the ERG, to agree the key principles for the work and develop the detailed work plan for the first six months.
- Thereafter the typical cycle will be two ERG meetings five weeks apart, followed by a report to the Steering Committee five weeks later, followed by a report to the IGCD.
- A draft discussion document will be provided to all jurisdictions for comment mid way through the project (at month 12). Comments will be sought over the following 6-month period.
- The final model will be submitted to the MCDS in May 2012.

**Term of appointment:** Ideally, for 2 years

**Meeting attendance (or responses to queries) expectation:** 100%

### **Chair Name & Position**

To be selected at the joint Steering Committee / Expert Reference Group meeting in April 2010.

### **Other members:**

The MCSD approved a DA-CCP project that stated the SC would include representatives of all jurisdictions and that the IGCD might wish to appoint others. E.g. Departmental representative from OATSIH. Note that the SC is the decision-making body and that expert advice will be obtained from the Expert Reference Group.

**Frequency: The SC will meet once in every six month cycle of the project.**

Notional dates (within a week) calculated back from the notional dates of IGCD meetings are:

- April 2010 - **Cycle #1 for IGCD September 2010 (Joint meeting with ERG)**

- July 2010 – ordinary date prior to IGCD meeting, teleconference omitted if initial meeting in April is sufficient, but feedback provided from preceding ERG meetings prior to IGCD meeting paper. SC to decide on endorsement method for 2<sup>nd</sup> IGCD report.
- Dec 2010 - **Cycle #2 for IGCD February 2011**
- July 2011 - **Cycle #3 for IGCD September 2011**
- Dec 2011 - **Cycle #4 for IGCD February 2012**

**Duration:** Approximately 2 hours

**Time:** Wednesday afternoons 2-4 (AEST time)

**Location:** NSW Department of Health, 73 Miller St North Sydney, NSW 2060

**Standing agenda items:**

Apologies

Update on Progress

Next steps

**Meeting agenda:** The agenda and papers will be distributed at least seven days prior to the meeting.

**Minutes:** Minutes will be recorded during each meeting. Five weeks has been allowed after a SC meeting for work to be done on Action items where ERG may have presented multiple options and the SC has identified the preferred one. This would allow the IGCD report to include the model in the form as decided by the SC meeting. Relevant decisions and or other actions from the Steering Committee will be fed back to the ERG also, as will relevant decisions and or other actions from the IGCD meeting that closes the cycle. The aim of this process is to keep the ERG informed roughly every 5 weeks on matters of concern, and having a definite decision from the SC each 6 months.

**Reporting:** The SC would be expected to endorse suitable summary progress reports for each IGCD meeting, papers prepared by the lead agency. Key reports would be the mid-term Draft Discussion Document reports in Cycle #2 for appropriate feedback to MCDS in May 2011. The last SC meeting in Dec 2011 would issue final decisions for the finalisation of the model and report for IGCD February 2012. This would allow project funding through to end March 2012 to cover this work, with submission to the MCDS in May 2012.

**Sub-committees:** There are no formal sub-committees in the approved proposal, but there is nothing to prevent the SC creating them.

**Formal reporting to:** MCDS via IGCD.

**Lead Agency SC Contact:**

Ms Anna Kollias,  
Strategic Planning and Evaluation  
Mental Health and Drug and Alcohol Office  
NSW Department of Health

Phone Number: (02) 9391 9153

Email Address: [AKOLL@doh.health.nsw.gov.au](mailto:AKOLL@doh.health.nsw.gov.au)

Postal Address: Locked Mail Bag 961 North Sydney NSW 2059

Responsibilities: Project Support and secretariat function

**Endorsed by: IGCD, March 2010**

## A2.2 Terms of Reference - Expert Reference Group

### Purposes of Expert Reference Group

To provide a consistent source of expert advice on, and review of the DA-CCP model as it develops, over a two year period from April 2010 through March 2012.

### The primary purpose of the project is to:

Develop the DA-CCP model in accordance with the broad methodology in the “*DA-CCP Version 1.000 Discussion Document*” that was submitted as part of the original proposal endorsed by the Inter-Government Committee on Drugs (IGCD) in September 2009 and the Ministerial Council on the Drug Strategy (MCDS) in November 2009.

The report on DA-CCP will include:

- A description of the estimates of the resources needed in a national population based model for drug and alcohol service planning e.g. FTE staff per 100,000 population, and beds per 100,000 population.
- A tool to calculate the resources needed. E.g. FTE staff per 100,000 population, and beds per 100,000 population (Excel spreadsheets)

### Functions and Objectives:

This document outlines the role and responsibilities of the DA-CCP project's Expert Reference Group (ERG). Membership of the ERG is determined by the DA-CCP project Steering Committee nominated by the Inter-Government Committee on Drugs (IGCD). Secretariat support is provided by the lead agency (Mental Health & Drug & Alcohol Office, NSW Health).

### The ERG is responsible for:

Advice and review of all matters related to components of the DA-CCP modelling, that is, epidemiological and clinical aspects of drug and alcohol treatment, and service delivery and planning issues, including:

- Identifying literature reviews and other literature relevant to the DA-CCP project.
- Consulting within jurisdictions and /or professional networks to obtain and supply information needed by the DA-CCP project.

The contribution of the ERG to the success of the DA-CCP project will be critical. Overall, two-hour meetings of the ERG will be convened by teleconference eight times during the course of the project, usually by teleconference. Four meetings are scheduled in the first year of the project, and four meetings in the second year. Typically, each meeting will review the work done in accordance with actions required by the previous ERG meeting/s and the previous Steering Committee meeting, and make recommendations for the work to be prioritised by the modelling team over the next period. The commitment required from individual members is likely to vary considerably over the two-year time frame, as particular topics are the focus of attention.

The broad approach taken to modelling is indicated in the attached “*DA-CCP Version 1.000 Discussion Document*”.

### **Lead agency responsibilities for ERG:**

NSW Health will be responsible for providing timely secretariat support and papers for meetings of the ERG; for conducting modelling in accordance with ERG advice on priorities and options to be considered; and for providing feedback between meetings on additional inputs and priorities received from the Steering Committee and IGCD. NSW Health will also provide the mid-term draft report and the final report for the project.

NSW Health will also provide a venue for any face-to-face meetings of the Steering Committee. Jurisdictions will be responsible for any travel and accommodation for attendance of their representatives.

### **The model development will consist of:**

- An initial joint meeting of the Steering Committee and Expert Reference group in the first week of April 2010 to select a Chair for the ERG, to agree the key principles for the work and develop the detailed work plan for the first six months.
- Thereafter the typical cycle will be two ERG meetings five weeks apart, followed by a report to the Steering Committee five weeks later, followed by a report to the IGCD.
- A draft discussion document will be provided to all jurisdictions for comment mid way through the project (at month 12). Comments will be sought over the following 6-month period.
- The final model will be submitted to the MCDS in May 2012.

**Term of appointment:** Ideally, for 2 years

**Meeting attendance (or responses to queries) expectation:** 100%

### **Chair Name & Position**

To be selected at the joint Steering Committee / Expert Reference Group meeting in April 2010.

### **Other members:**

Ideally the ERG should include a representative from the Chapter of Addiction Medicine within the Royal Australian College of Physicians.

The ERG may also include representatives from the Australian National Council on Drugs (ANCD) and the Alcohol and Other Drugs Council of Australia (ADCA).

Other members should be able to provide expert advice on one or more aspects of the modelling at the epidemiological level, clinical level, and service planning level. This might require representatives for each jurisdiction to ensure that urban and rural issues and other local considerations are considered. Other suggested members might represent private or NGO providers.

Since DA-CCP models only the health service delivery part of the overall system, a representative from the National Drug and Alcohol Research Centre (NDARC) and / or the

National Drug Research Institute (NDRI) might be included to ensure that the model can interface appropriately with supply models, and for their high level research expertise.

The ERG may also include input from other experts as agreed by the ERG

**Frequency: The ERG will meet twice in every six month cycle of the project.**

Notional dates (within a week) calculated back from the notional dates of IGCD meetings are:

- April 2010, June 2010 - **Cycle #1 for IGCD September 2010:**
- September 2010, November 2010 - **Cycle #2 for IGCD February 2011**
- April 2011, June 2011 - **Cycle #3 for IGCD September 2011**
- September 2012, November 2012 - **Cycle #4 for IGCD February 2012**

**Duration:** Approximately 2 hours

**Time:** Wednesday afternoons 2-4 (AEST time)

**Location:** NSW Department of Health, 73 Miller St North Sydney, NSW 2060

**Standing agenda items:**

Apologies

Update on Progress

Next steps

**Meeting agenda:** The agenda and papers will be distributed at least seven days prior to the meeting.

**Minutes:** Minutes will be recorded during each meeting, but they are treated as a single meeting for the purposes of reporting to the Steering Committee. Minutes (mainly intended as rapid feedback on actions arising) will be distributed (to the ERG only) from the first meeting in each cycle, prior to the second meeting in each cycle. Similar feedback from the second meeting will go to the ERG and to the Steering Committee. Relevant decisions and/or other actions from the Steering Committee will be fed back to the ERG also, as will relevant decisions and/or other actions from the IGCD meeting that closes the cycle. The aim of this process is to keep the ERG informed roughly every 5 weeks on matters of concern to them.

**Reporting:** No specific reporting will be required of the ERG itself.

**Sub-committees:** There are no formal sub-committees, though the ERG might divide work amongst sub-groups

**Formal reporting to:** the project's Steering Committee

**Lead Agency ERG Contact:**

Ms Anna Kollias  
Strategic Planning and Evaluation

Mental Health and Drug and Alcohol Office

NSW Department of Health

Phone Number: (02) 9391 9153

Email Address: [AKOLL@doh.health.nsw.gov.au](mailto:AKOLL@doh.health.nsw.gov.au)

Postal Address: Locked Mail Bag 961 North Sydney NSW 2059

Responsibilities: Project Support and secretariat function

**Endorsed by: IGCD, March 2010**

### A2.3 Steering Committee Membership

**Table 55 - Steering Committee Membership**

First Name	Surname	Title	Jurisdiction
David	McGRATH (co Chair of the Steering Committee)	Director Mental Health & Drug & Alcohol Programs	NSW (co chair of the Steering Committee)
Colleen	KRESTENSEN (Co Chair of the Steering Committee)	Assistant Secretary Drug Strategy Branch Population Health Division	DoHA (co chair of the Steering Committee)
Alison	RITTER (Chair of the Expert Reference Group)	<b>Prof Alison Ritter</b>   Director, DPMP Drug Policy Modelling Program   National Drug and Alcohol Research Centre. <b>The University of New South Wales</b> Sydney NSW AUSTRALIA 2052 T: +61 2 9385 0236   F: +61 2 9385 0222	(chair of the Expert Working Group)
Judith	ABBOTT	Mental Health and Drugs Division Department of Health	VIC Health
Sylvia	ENGELS	Manager, Policy Development Unit, Statewide & Mental Health Services Dept of Health & Human Services	Tasmania Dept of Human Health & Services
John	ALDERDICE		
John	SHEVLIN	Assistant Secretary Substance Misuse & Indigenous Wellbeing Programs Branch Mental Health and Drug Treatment Division	DoHA
Helene	DELANY	Manager, Alcohol and Other Drug Policy Unit	ACT Health
Sarah	GOBBERT	Manager, Tobacco, Alcohol and Other Drugs Services , Dept of Health	NT



Tony	WOOLLACOTT	Manager – Research & Ethics Policy Policy and Intergovernmental Relations Division	SA Health
Neil	GUARD	Executive Director, Drug and Alcohol Office	WA Health

**Former Project Steering Committee Members:**

- Mr Simon Cotterell (former member DoHA, co chair)
- Ms Gayle Anderson (former member, OATSIH)
- Mr Steve Anstis (former member, QLD Health)
- Mr Pier DeCarlo (former member, Department of Health, VIC)
- Mr Eric Dillon, (former member, Drug & Alcohol Office, WA)
- Mr Anthony Sievers (former member, Department of Health, NT)
- Mr John Walker (former member, OATSIH)

## A2.4 Expert Reference Group Membership

**Table 56 - Expert Reference Group Membership**

First Name	Surname	Title	Jurisdiction
Alison	RITTER (chair)	Associate Professor, Acting Director, (NDARC) Director, Drug Policy Modeling Program (NDARC) Univ. of NSW	NDARC
Robert	ALI	Associate Professor Director, Community Based Treatment Interventions, Drug and Alcohol Services – SA	SA
Robyn	DAVIES	Assistant Director Drug Strategy Analysis Unit Drug Strategy Branch (Dept of Health & Ageing)	DoHA
Helene	DELANY	Manager , Alcohol and Other Drugs Policy Unit (ACT)	ACT
Meredythe	CRANE	Senior Policy Officer Strategic Communications & Policy Alcohol & Other Drugs Council of Aust.	ADCA
Dennis	GRAY	Prof. & Deputy Director, National Drug Institute - Curtin University	WA
James	HUNTER	Acting Director Client Services & Development WA Drug and Alcohol Office	WA
Susan	ALARCON	Director Operations Next Step Drug & Alcohol Service	WA
Nick	LINTZERIS	Fellow of Australasian Chapter of Addiction Medicine Director, SESI AHS Drug & Alcohol	Fellow of Australasian Chapter of Addiction Medicine
Dan	LUBMAN	Clinical Director, Turning Point	VIC
Lynne	MAGOR-BLATCH	Executive Officer Australasian Therapeutic Communities Association	ATCA

Garth	POPPLER	Executive Director (WHOS) Representing Australian National Council on Drugs	ANCD
Anita	REIMANN	Manager, Clinical Practice Development & Performance Alcohol & Drug Services, SMHS, DHHS (TAS)	TAS
Sarah	GOBBERT	Manager Tobacco Alcohol and Other Drugs	NT
Debbie	KAPLAN	A/Manager Drug & Alcohol Clinical Program Mental Health & Drug & Alcohol Office, NSW Ministry of Health	NSW
Gavin	STEWART	Principal Modeller/Developer Applied Epidemiology	

**Former Expert Reference Group Members:**

- Prof Robert Batey (former member, MHDAO, NSW Ministry of Health)
- Ms Myra Brown (former member, WA)
- Ms Liz Davis (former member, Mental Health, Alcohol & Other Drugs Directorate, QLD)
- Ms Ashleigh Lynch (former member, OATSIH, DoHA)
- Ms Tania Murray (former member, QLD)
- Ms Elise Newton (former member, OATSIH, DoHA)
- Mr Anthony Sievers (former member, Department of Health, NT)

## A2.5 Indigenous Committee – Membership

**Table 57 - Indigenous Committee – Membership**

First Name	Surname	Title
Dennis	GRAY	Prof. & Deputy Director, National Drug Institute - Curtin University
Coralie	OBERS	
Denise	GILCHRIST	Manager NATIONAL INDIGENOUS DRUG AND ALCOHOL COMMITTEE AUSTRALIAN NATIONAL COUNCIL ON DRUGS (ANCD) Level 2, 210 City Walk CANBERRA CITY ACT 2600 PO Box 205 CIVIC SQUARE ACT 2608
Richard	CHALK (assisted Denise)	Policy and Project Officer NATIONAL INDIGENOUS DRUG AND ALCOHOL COMMITTEE AUSTRALIAN NATIONAL COUNCIL ON DRUGS Level 2, 210 City Walk CANBERRA CITY ACT 2600 PO Box 205 CIVIC SQUARE ACT 2608
Wendy	CASEY	

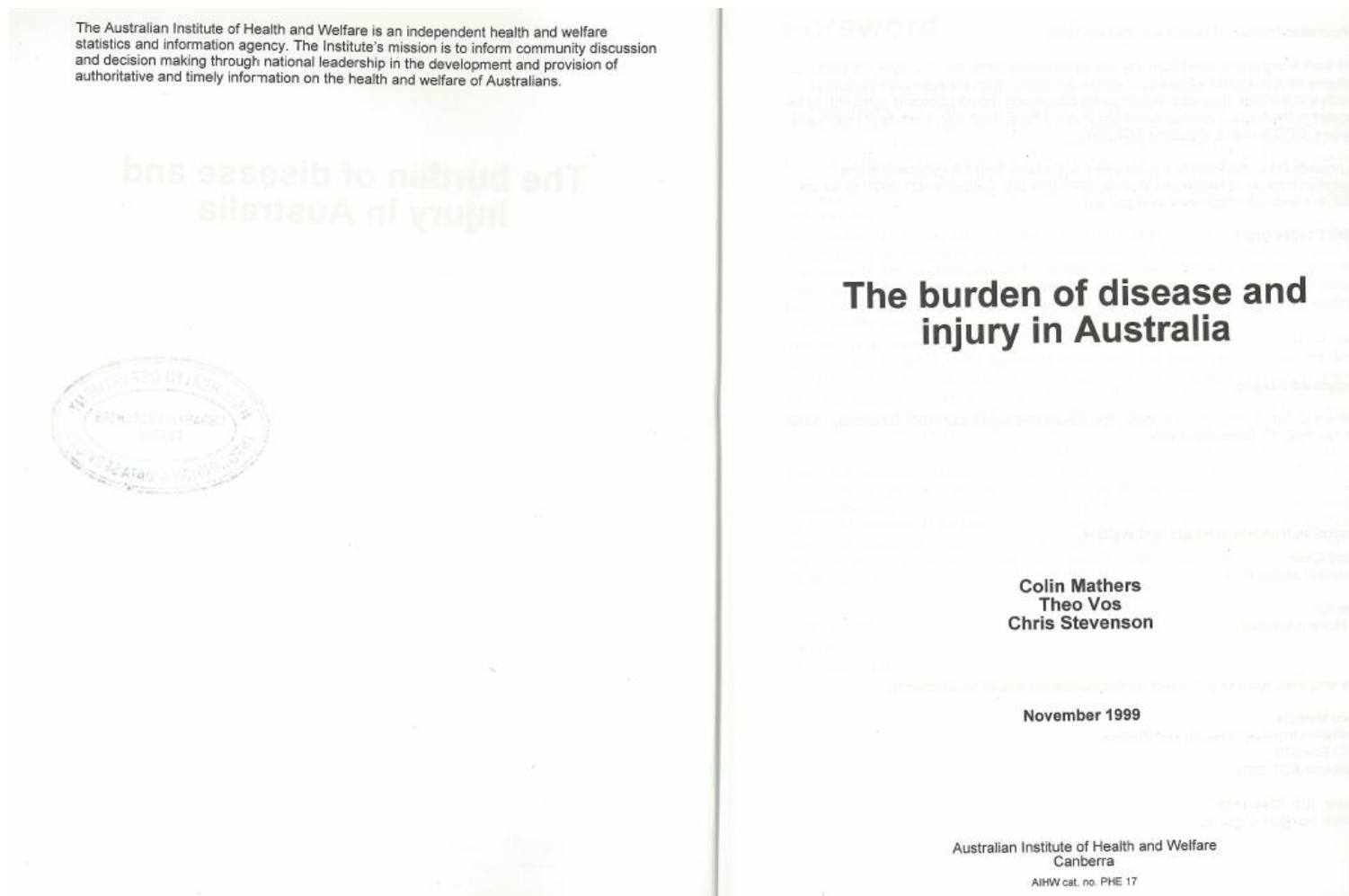
## A2.6 Project Team – Membership

**Table 58 - Project Team – Membership**

First Name	Surname	Title
Brian	WOODS	A/Associate Director, Programs Development & Co-ordination, Mental Health & Drug & Alcohol Office NSW Ministry of Health
Judith	BURGESS	Manager, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office NSW Ministry of Health
Sue	HAILSTONE	Senior Project Officer, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Ravneet	RAM	Senior Project Officer, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Alex	CANDUCI	Senior Project Officer, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Harry	PERLICH	Senior Project Officer, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Linda	SMITH	Project Officer, Strategic Planning & Evaluation Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Meredith	SIMS	Secretariat Mental Health & Drug & Alcohol Office, NSW Ministry of Health
Anna	KOLLIAS	Secretariat Mental Health & Drug & Alcohol Office, NSW Ministry of Health

## APPENDIX 3 AN EXPLANATION ON SEVERITY AND DISABILITY WEIGHTS

### A3.1 The burden of disease and injury in Australia, November 1999



### A3.2 An explanation on severity and disability weights

This paper was tabled during teleconference held on 18 May 2011

**Ref No:** NDP ERG 11-01      **Agenda 6 Tab 3**      **Authors:** G Stewart  
**Date:** 4 March 2011

#### **RECOMMENDATION:**

That the members of the Expert Reference Group

1. **NOTE** the additional information that has been added to this paper following the ERG's teleconference on 2 March 2011 at Tabs A and B
2. **REVIEW** the attached paper at tab C which describes the method and rationale for estimating levels of severity – in the National DA-CCP Project proposal which was endorsed by the MCDS.
3. **ADVISE** how this technical paper at Tab C can best be utilised/ summarised for its use in future project reporting.

#### **BACKGROUND:**

Additional information has been added to this paper following the ERG's teleconference on 2 March 2011 at Tab A and Tab B.

The paper prepared by Gavin Stewart and tabled at the ERG teleconference on 2 March is attached at Tab C.

#### **ATTACHMENT:**

Tab A - Defining mild, moderate and severe – table summary (page 2)

Tab B - Defining mild, moderate and severe – notes from NSW mental health modelling (pages 3-10)

Tab C – Background and definition of severity levels in clinical care and prevention in the National DA-CCP Project proposal which was endorsed by the MCDS. (pages 11-22)

Tab A

Table 59 - Defining mild, moderate and severe – table summary

Mild	Moderate	Severe
Apply symptomatic diagnostic criteria	Apply symptomatic diagnostic criteria	Apply symptomatic diagnostic criteria
Person is <u>not</u> hospitalised	Person is <u>not</u> hospitalised	Person is hospitalised
Person is <u>not</u> using specialist services	Person is <u>not</u> using specialist services	Person is using specialist services
		Person is impaired based on Global Assessment of Functioning (GAF)
		Person has made suicide attempt (re mental health)
		Only some people under the severe category would be considered complex



## Defining mild, moderate and severe – notes from NSW mental health modelling

**This section is a slightly edited extract from MH-CCP Version 1.11. There has been no subsequent information that requires changing it. However, some supplementary evidence has been added in a second section.**

### A3.3 The definition of SEVERE, MODERATE and MILD mental illness

“...most mental health service use is highly related to acute symptoms and disability, factors that can be measured independently and are found in the absence of a full diagnostic syndrome.”<sup>37</sup>

The term SEVERE, as used in this model is not an arbitrary label, but has an explicit definition which has been followed in most of the epidemiological literature in mental health since the [ECA](#) studies. For that reason it is always in capitals. It was originally devised by the US National Advisory Mental Health Council in response to a request by the US Senate Committee on Appropriations for a report on “the cost of insurance coverage of medical treatment for severe mental illness commensurate with the coverage of other illnesses”.

The outcome of that analysis of the ECA and [NCS](#) data, based on an operational definition of “SEVERE”, was that 22 per cent of the US population experience “any mental disorder” in a year, that 2.8 per cent (3.2 per cent in the younger NCS group) experienced “SEVERE mental disorder”, and that 1.7 per cent experienced SEVERE disorder and used mental health services. The definitions below are quoted in full from the source document<sup>38</sup>, and can be applied in both epidemiological and service settings, given quite basic information on an individual.

### A3.4 Definition of SEVERE

“Severity criteria were defined in the domains of recent treatment, symptoms, and social/ occupational/ school functioning. Diagnostic information and criteria for severity were applied to five [ECA] data sets in the following way.

For individuals who were diagnosed as having schizophrenia, schizoaffective disorder, bipolar disorder type 1 [characterized by occurrence of a manic episode], or autism in the year before the study’s data collection, no additional indicator of severity was required to designate them as severely mentally ill [because] the DSM-III-R criteria for schizophrenia, bipolar disorder, type 1, autistic disorder, and, by inference, schizoaffective disorder, require marked disturbance in functioning during an active episode of illness.

<sup>37</sup> Regier DA, Narrow WE, Rae DS, Manderscheid RW, Locke BZ, Goodwin FK. The de facto US mental and addictive disorders service system; Epidemiological catchment area prospective 1-year prevalence rates of disorders and services. *Archives of General Psychiatry* 1993;50:85-94.

<sup>38</sup> National Advisory Mental Health Council. Health Care Reform for Americans with severe mental illnesses: Report of the National Advisory Mental Health Council. *American Journal of Psychiatry*. 1993;150:1447-1465.

For individuals who had received a diagnosis of schizophrenia, bipolar disorder [including type 2 – characterised by occurrence of a hypomanic episode], schizoaffective disorder, or autistic disorder at some point during their lives but who did not meet the diagnostic criteria during the past year, further evidence was required to ensure their appropriate inclusion in the group with severe mental disorders. For this group, evidence of severity included at least one of the following within the past year: any inpatient psychiatric hospitalization or nursing home placement; any outpatient mental health treatment in a specialty mental health or general medical setting; psychotic symptoms (criterion A for DSM-III-R schizophrenia); use of antipsychotic medication; or a Global Assessment of Functioning (GAF) scale rating of 50 or less (i.e., functioning at or below the level of ‘serious symptoms ... or any serious impairment in social, occupational or school functioning’ (DSM-III-R).

Individuals diagnosed as having major depression, bipolar disorder, type 2, panic disorder, or obsessive-compulsive disorder during the previous year (or at any point in their life for bipolar disorder, type 2) were considered severely mentally ill if there was evidence of severity in the past year. Evidence of severity for this group included inpatient psychiatric hospitalization, psychotic symptoms, use of antipsychotic medication, or a GAF scale rating of 50 or less.”

This definition resulted in a highly comorbid group equal to 2.8 per cent of the population 18 and over, with 54% meeting criteria for schizophrenia (1.5% of population); 39% for major depression (1.1% of population); 36% bipolar disorder (1.0% of population); 21% obsessive-compulsive disorder (0.6% of population); and 14% panic disorder (0.4% of population). In other words, the separate diagnoses add up to 4.6% of the population, but were concentrated in this group of 2.8 per cent – an average of almost two diagnoses per person.

**In this SEVERE group, all have a need for treatment, modelled as 100% in MH-CCP Version 2.008.**

### A3.5 Definition of MODERATE

The definition of MODERATE used here is based on the ECA data indicating that 7% of people have mental disorders that persist at full diagnostic levels for a year or more<sup>39</sup>. Subtracting the 2.8 per cent who qualify as “SEVERE”, yields an estimate of 4.2% who meet diagnostic criteria for a year, but without falling within the “SEVERE” category.

**In this MODERATE group, about 4 in 5 perceive a need for any treatment, modelled as 80% in MH-CCP Version 2.008.**

### A3.6 Definition of MILD

<sup>39</sup> Regier DA, Narrow WE, Rae DS, Manderscheid RW, Locke BZ, Goodwin FK. The de facto US mental and addictive disorders service system; Epidemiological catchment area prospective 1-year prevalence rates of disorders and services. *Archives of General Psychiatry* 1993;50:85-94.

The definition of MILD used here is simply the overall 12-month prevalence estimate for mental illness, less the SEVERE and MODERATE groups. Thus these illnesses do not persist at diagnostic levels for a year, and do not meet the diagnosis / treatment / disruption of functioning criteria for SEVERE.

**In this MILD group, about half perceive no need for any treatment, modelled as 50% in MH-CCP Version 2.008.**

## A7.7 The ECA Surveys

The most comprehensive source of population epidemiology in mental health remains the US series of five community surveys sponsored by the National Institute of Mental Health, and collectively known as the Epidemiologic Catchment Area (ECA) program<sup>40,41,42,43</sup>. The ECA program was conducted in 1980-85, interviewed more than 20,000 people and included institutionalised respondents and clinical reappraisals. It also incorporated a 1-year follow-up, which is critical for estimating the duration of the disorders identified in the first survey. A specific structured interview, the Diagnostic Interview Schedule<sup>44</sup> (DIS) was developed for the ECA studies, and has since been developed further and adopted by WHO as the Composite International Diagnostic Interview<sup>45,46,47</sup> (CIDI).

## A3.8 The NCS

Similar versions of the CIDI were used in both the first nationally representative US National Comorbidity Survey<sup>48</sup> (NCS: N=8,098, 15-54 years, Sep 1990- Feb 1992, 83% response rate, all persons in household); and in the Australian National Survey of Mental Health and Wellbeing<sup>49</sup> (NSMHW: N=10,600, 18 and above, May-Aug 1997, 78% response rate, one person per household). The sample population in both these studies was non-institutionalised, which was estimated to reduce prevalence by at most 0.3% in the NCS<sup>50</sup>.

<sup>40</sup> Regier DA, Myers JK, Kramer M, Robins LN, Blazer DG, Hough RL, Eaton WW, Locke BZ: The NIMH Epidemiologic Catchment Area Program: historical context, major objectives, and study population characteristics. *Archives of General Psychiatry* 1984;41:934-941.

<sup>41</sup> Eaton WW, Kessler LG (Eds). *Epidemiologic field methods in psychiatry: The NIMH Epidemiologic Catchment Area program*. Orlando, Florida: Academic Press, 1985.

<sup>42</sup> Robins LN, Regier DA (Eds). *Psychiatric disorders in America: The Epidemiologic Catchment Area Study*. New York: Free Press, 1991.

<sup>43</sup> Regier DA, Narrow WE, Rae DS, Manderscheid RW, Locke BZ, Goodwin FK. The de facto US mental and addictive disorders service system: Epidemiologic Catchment Area prospective 1-year prevalence rates of disorders and services. *Archives of General Psychiatry* 1993; 50:85-94.

<sup>44</sup> Robins LN, Helzer JE, Croughlan JL, Ratcliff KS. National Institute of Mental Health Diagnostic Interview Schedule: its history, characteristics and validity. *Archives of General Psychiatry* 1981;38:381-389.

<sup>45</sup> World Health Organisation. *Composite International Diagnostic Interview (CIDI) Version 1.0*. Geneva: World Health Organisation, 1990.

<sup>46</sup> Robins LN, Wing J, Wittchen H-U, Helzer JE. The Composite International Diagnostic Interview: an epidemiologic instrument suitable for use with different diagnostic systems and in different cultures. *Archives of General Psychiatry* 1988;45:1069-1077.

<sup>47</sup> Wittchen H-U, Robins LN, Cottler LB, Sartorius N, Burke JD, Regier DA, and participants in the WHO/ADAMHA Field Trials. Cross-cultural feasibility, reliability and sources of variance in the Composite International Diagnostic Interview (CIDI). *British Journal of Psychiatry* 1991;159:645-653.

<sup>48</sup> Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen H-U, Kendler KS. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry* 1994;51:8-19.

<sup>49</sup> Australian Bureau of Statistics. *Mental Health and Wellbeing Profile of Adults*. Canberra: Commonwealth of Australia, 1998. (ABS Cat No 4326.0).

<sup>50</sup> Kessler RC, Frank RG, Edlund M, Katz SJ, Lin E, Leaf P. Differences in the use of psychiatric outpatient services between the United States and Ontario. *New England journal of medicine* 1997;336:551-557.

The NCS was a more sophisticated survey, including a supplementary sample survey of non-respondents, who were offered financial incentives to complete a shorter interview, and were found to have a higher rate of illness than in the main sample. Because the CIDI does not adequately address psychotic illness, the NCS involved clinical reinterviewing of all participants who reported evidence of psychotic symptoms, using a more specific instrument, the Structured Clinical Interview for DSM-III-R<sup>51,52</sup>. In parallel with the NCS, the same CIDI interview was applied in the Mental Health Supplement to the Ontario Health Survey<sup>53,54,55,56,57</sup> (OHS-MHS: N=9,953, 15 and above, Dec 1990- May 1991, 67.4% response rate, 1 person per household).

### A3.9 Supplement for MH-CCP Version 2.008

**This section is an extract from the detailed analysis in Appendix J, which is not included in this discussion document. It explains how the three-level SEVERE/ MILD/ MODERATE division can be applied to individual diagnostic groups by using Australian average inpatient separation rates per prevalent case; relative to those for Schizophrenia.**

The three-level division of overall prevalence by severity has been widely adopted in Australasia, with minor variations and rounding, as described elsewhere. In general, this results in a division in which the prevalence of MODERATE is about twice that of SEVERE, and the prevalence of MILD is about twice that of MODERATE. For reference, the following percentages have been used: (12%/4%/3%=19% in Victoria; 12%/5%/3% = 20% in Tasmania and New Zealand; 10%/ 5%/ 2% = 17% in the ACT; with Queensland adopting the NSW partition).

This leads to an alternative way of conceptualising "severity" of MI within a definition of MI that identifies about 15-20% of the population as "ill" in a 12-month period. This is the result when structured diagnostic interview are used, and it is also the result when "gold standard" symptom checklists are used (usually for children and adolescents) because the cut off core is typically at one standard deviation above the mean of the score distribution in a "normative" reference population, which defines about 17% as "abnormally high".

Obviously, terms like MILD, MODERATE and SEVERE have no absolute meaning. In practice the meaning of SEVERE is anchored because it means "as SEVERE as Schizophrenia or Bipolar Disorder", and it is widely agreed that about 3% of the population meet this definition. However, there are very few mental health data sets that have the

<sup>51</sup> Spitzer RL, Williams JBW, Gibbon M, First MB. The structured clinical interview for DSM-III-R (SCID). I: history, rationale, and description. *Archives of General Psychiatry* 1992;49:624-629.

<sup>52</sup> Williams JBW, Gibbon M, First MB, Spitzer RL, Davies M, Borus J, Howes MJ, Kane J, Harrison GP Jr, Rounsaville B, Wittchen H-U. The structured clinical interview for DSM-III-R (SCID). II: multisite test-retest reliability. *Archives of General Psychiatry* 1992;49:630-636.

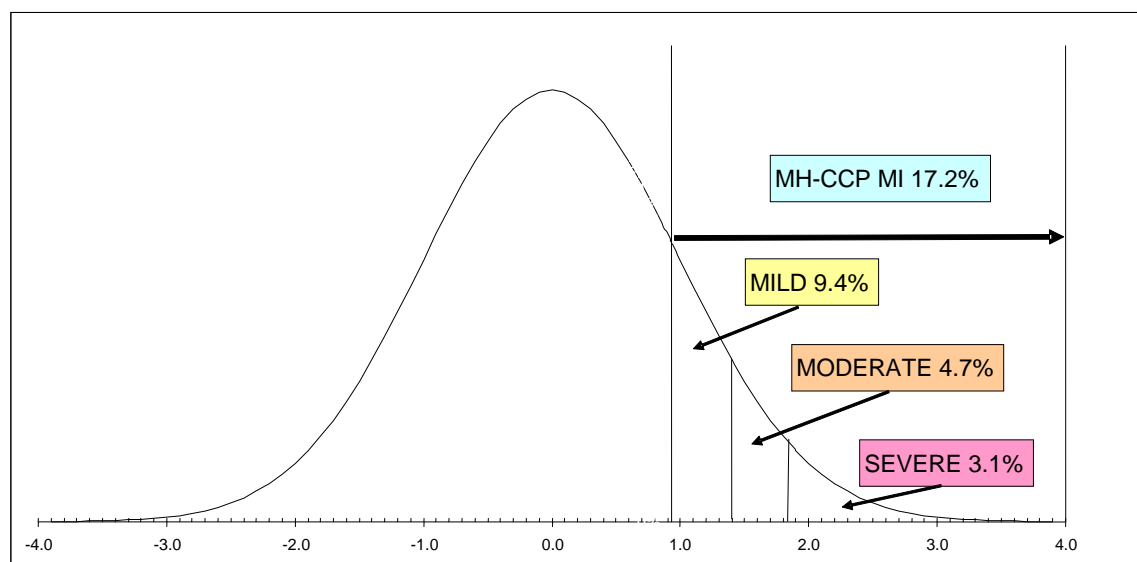
<sup>53</sup> Bland RC. Editorial: The Mental Health Supplement to the Ontario Health Survey. *Canadian Journal of Psychiatry* 1996;41:541-542.  
<sup>54</sup> Boyle MH, Offord DR, Campbell D, Catlin G, Goering P, Lin E, Racine YA. Mental Health Supplement to the Ontario Health Survey: Methodology. *Canadian Journal of Psychiatry* 1996;41:549-558.

<sup>55</sup> Offord DR, Boyle MH, Campbell D, Goering P, Lin E, Wong M, Racine YA. One-year prevalence of psychiatric disorder in Ontarians 15 to 64 years of age. *Canadian Journal of Psychiatry* 1996;41:559-563.

<sup>56</sup> Goering P, Lin E, Campbell D, Boyle MH, Offord DR. Psychiatric disability in Ontario. *Canadian Journal of Psychiatry* 1996;41:564-571.

<sup>57</sup> Lin E, Goering P, Offord DR, Campbell D, Boyle MH. The use of mental health services in Ontario: Epidemiologic findings. *Canadian Journal of Psychiatry* 1996;41:72-77.

relevant 12-month repeated diagnostic observations needed to explicitly define the MODERATE percentage. There are some that use "disability" measures, so that AusBoD 2007 (for example) used scores on the SF-12 measure to assign *Disability Weights* to each respondent (and thus diagnosis) in the Survey of Mental Health and Wellbeing (Adult) data of SMHWB 1997. In SMHWB 2007 another attempt has been made to define "severity" in term of self-reported "interference with life" and "days out of role" data, but assigning the labels "Mild", "Moderate" and "Severe" to this scale is still quite arbitrary.



There is another and simpler way of conceptualising the definitions of MILD, MODERATE and SEVERE. If we accept the view that the severity of impairment and distress associated with illness varies along a continuum, there is absolutely no reason why we cannot divide it at any points we choose, in any proportions we choose, and label them MILD, MODERATE, and SEVERE. By various means, we seem to have agreed that a suitable definition of "Mental Illness" for epidemiological studies begins about one standard deviation away from the middle of the general population - that is, somewhere around the 80<sup>th</sup> to the 85<sup>th</sup> percentile (i.e., prevalence is 15-20%); and that it is not until around the 97<sup>th</sup> percentile (prevalence = 3%) that we agree to call it SEVERE.

We also know that (when the relevant observations are available) a MODERATE group can be defined who meet diagnostic criteria on two occasions 12 months apart without being SEVERE, and they are 4-5% of the population. Lastly, we know that if we call the residual group MILD, about half of them will not agree that they have any "Mental Illness" at all, and will deny that they have any need for treatment, and will show little or no evidence of any impairment in functioning. On the other hand, despite strenuous efforts<sup>58,59</sup>, no-one has yet found a point within this range where there is an obvious "break" or discontinuity in risk that

<sup>58</sup> Narrow WE, Rae DS, Robins LN, Regier DA. Revised prevalence estimates of mental disorders in the United States: using a clinical significance criterion to reconcile 2 surveys' estimates. *Archives of General Psychiatry* 2002. 59(2):115-23.

<sup>59</sup> Regier DA, Narrow WE, Rae DS. For DSM-V, it's the "disorder threshold," stupid. *Archives of General Psychiatry* 2004. 61(10):1051; author reply 1051-2.

might suggest that there is a categorical distinction to be made between one group and another<sup>60,61</sup>.

Where the leading authorities in a field disagree strongly, there is usually a good reason, and in the United States it is clear that the debate is about eligibility for health insurance coverage<sup>62</sup>. Other aspects of this were discussed at length in Appendix J of MH-CCP Version 1.11 and will not be repeated here.

The preceding discussion is simply the rationale for many of the numbers in the MH-CCP "control panel" that might otherwise seem entirely arbitrary.

**Table 60 - MH-CCP All Ages (Weighting by Diagnosis)**

MH-CCP ALL AGES (Weighting by Diagnosis)					
Dx=PRIMARY Diagnosis (MI)	Dx(%)	MI-wt	MILD-wt	MOD-wt	SEV-wt
J02 Schizophrenia	0.44%	1.00	-	-	1.00
J04 Bipolar Disorder	0.45%	1.00	-	-	1.00
J03 Anxiety/Depression	8.89%	1.00	0.57	0.29	0.14
J05 Personality Disorder, isolated	2.10%	1.00	0.65	0.32	0.03
J06 Anorexia Nervosa	0.06%	1.00	-	0.35	0.65
J06 Bulimia Nervosa	0.06%	1.00	-	0.35	0.65
J07a ADHD	0.63%	1.00	0.57	0.29	0.14
SMHWB(C&A) - Balance	2.29%	1.00	0.57	0.29	0.14
Subtotal (Dx of Primary MI)	14.91%	14.9%	8.1%	4.1%	2.7%
Dx=PRIMARY Diagnosis (non-MI)	Dx(%)	MI-wt	MILD-wt	MOD-wt	SEV-wt
J07b Autism - Excess over K09	0.3%	0.27	0.57	0.29	0.14
J07b Asperger's Syndrome + PDD (nos)	0.1%	-	-	-	-
K01 Dementia - BPSD	1.0%	0.61	0.49	0.26	0.24
K09 Intellectual Disability-MI	2.1%	0.34	0.57	0.29	0.14
J01a Alcohol-MI	4.3%	0.14	0.57	0.29	0.14
J01b Heroin-MI	0.2%	0.41	0.57	0.29	0.14
J01c Benzodiazepines-MI	0.2%	0.28	0.57	0.29	0.14
J01d Cannabis-MI	1.2%	0.14	0.57	0.29	0.14
J01e Stimulants-MI	0.3%	0.14	0.57	0.29	0.14
Subtotal (Dx with MI Concurrent)	9.68%	2.3%	1.3%	0.7%	0.4%
<b>TOTAL MI% for MH-CCP</b>		<b>17.2%</b>	<b>9.4%</b>	<b>4.7%</b>	<b>3.1%</b>

Taking the practical meaning of SEVERE to be "as severe as J02 Schizophrenia and J04 Bipolar Disorder", and recognising that any other diagnostic group will have individuals who qualify as SEVERE, the most important thing for MH-CCP is to estimate how many there are. If the total is agreed to be about 3%, then the most common other diagnoses could easily overwhelm the low prevalence disorders if the SEVERE proportion is large.

This allows a conservative estimate of SEVERE % to be based on inpatient data, since only about 1/3 of that group will receive inpatient care in a year, and they are unequivocally experiencing SEVERE illness.

<sup>60</sup> Kessler RC. Merikangas KR. Berglund P. Eaton WW. Koretz DS. Walters EE. Mild disorders should not be eliminated from the DSM-V. *Archives of General Psychiatry* 2003; 60(11):1117-22.

<sup>61</sup> Druss BG. Wang PS. Sampson NA. Olfson M. Pincus HA. Wells KB. Kessler RC. Understanding mental health treatment in persons without mental diagnoses: results from the National Comorbidity Survey Replication. *Archives of General Psychiatry* 2007; 64(10):1196-203.

<sup>62</sup> Mechanic D. Is the prevalence of mental disorders a good measure of the need for services? *Health Affairs*. Chevy Chase: Sep/Oct 2003. Vol.22, Iss. 5; pg. 8



Since receipt of inpatient care is part of the reference definition of SEVERE for all diagnostic groups, and we also know that everyone with *J02 Schizophrenia* qualifies as SEVERE on diagnostic grounds alone, we can use the Mental Health-related separation rates for Australia averaged over 5 years, by diagnostic group, to create an index of the SEVERE proportion of each diagnostic group, relative to 100% for *J02 Schizophrenia*.

That is, for *J02 Schizophrenia* the separation rate per prevalent case is about 33%; and 100% of the prevalent cases of *J02 Schizophrenia* qualify as SEVERE.

If, for another diagnostic group the separation rate per prevalent case is also 33%, then we can regard it as equivalent to *J02 Schizophrenia*. However, if the separation rate is say 3.3% per prevalent case, then we can suppose that only one tenth (3.3% / 33%) of the group qualify as being as SEVERE as for *J02 Schizophrenia*,

In other words, for any diagnosis (say XYZ) in the inpatient data, we can take the ratio: Separation rate per prevalent case for Diagnosis XYZ / Separation rate per prevalent case of Schizophrenia and related disorders as the SEVERE proportion of Diagnosis XYZ.

This is the critical one for state-funded services. We can then scale it up to include MODERATE and MILD by assuming that MODERATE has about twice the prevalence of SEVERE, and MILD has twice the prevalence of MODERATE. For the most critical (because largest) diagnostic group of J03 Anxiety/ Depression, this must be true, since most of the diagnoses used in the original definition of MILD/ MODERATE /SEVERE come from that group.

The outcome of this approach is generally supported by the similarity of the *Treated Prevalence* and separation rate profiles .

Ref No: NDP ERG 11-01 Agenda 6 Tab 6

Authors: G Stewart

Date: 1 March 2011

## **BACKGROUND AND DEFINITION OF SEVERITY LEVELS IN CLINICAL CARE AND PREVENTION (CCP) MODELLING IN THE NATIONAL DA-CCP PROJECT PROPOSAL WHICH WAS ENDORSED BY THE MCDS.**

### **A3.10 Background to the definitions of levels of severity in CCP modelling.**

The simplest logical presentation of CCP modelling draws on the two dimensions of the spreadsheets that represent the model. Thus we talk about the structure as:

- “Top To Bottom” - starting with general epidemiology and service demand, and ending with indicative costing; and
- “Left to Right” - starting with general health promotion for the population who are well and prevention for those at risk, and ending with those who have most intensive and extensive treatment needs for the most severe conditions.

It is natural to suppose that we have to define things in the same top-down, left-to- right way, and thus that defining the MILD / MODERATE and SEVERE groups in the general epidemiology is a critical feature. However, this is not so.

#### Two ways of arriving at an estimate for SEVERE:

There are two ways of arriving at working estimates for the group to be defined as SEVERE (in the model) that can work across all drugs. This definition is aligned with the SEVERE group in the MH-CCP models, which in turn is based on the concept of “parity” with conditions regarded as “severe” in physical illnesses. A key feature of the definition is that it is associated with an unequivocal need for specialist treatment. When MH-CCP 2000 was developed in NSW, existing specialist services met only about half of the demand estimated in this way.

1. One group of criteria applies to the epidemiology. We use the principle of “parity” (equivalence of disability with other illnesses) to carve up the general AOD epidemiology, using benchmarks of various kinds for severity (relative disability weights, relative admission rates, relative treatment rates).

To obtain a working estimate of demand (that is, self-perceived need in adults, and parent-perceived need for children and adolescents), we need to consider the data sources and the severity levels within the groups studied, plus anything they may say about treatment rates and perceived need. Fortunately, this is documented in the Australian Burden of Disease (AusBoD) epidemiology used for MH-CCP and DA-CCP, and it is generally clear whether they cover the whole range of severity or only the more severe end (as for example with Eating Disorders). On principle, we model demand as 100% for people with SEVERE illnesses. For MILD and MODERATE, there is ample evidence that many people do not perceive themselves as ill, do not report impairment of functioning or distress, and do not want



treatment. There is also some evidence that treatment seeking increases with impairment and distress, so we can reasonably suppose that demand will be higher in a MODERATE group than in a MILD group. If we have no idea how to change the perceptions of people in these groups, then it is quite reasonable to model demand at the current levels of perceived need. Alternatively, if we have a defensible process by which treatment-seeking might be increased, we could model demand at a higher level.

Collectively, those processes give us our model estimate of the numbers of people with MILD, MODERATE and SEVERE illness who need to be served by appropriate care packages.

2. The other approach to definition of the severity spectrum starts from the Service Mapping area of the model, and recognises that the role of the MILD, MODERATE and SEVERE groups in the model is to group levels of service together. It goes like this:
  - WELL = Those who are well and not at risk → general health promotion
  - RISK = Those who are well but at risk → various prevention options
  - MILD → Those whose condition warrants primary care (only)
  - MODERATE → more intensive / extensive primary care
  - SEVERE → Those who require specialist care

This perspective lets us use service data from existing sources to get an idea of the “treated SEVERE” group. Typically this information is not available directly from services for MILD and MODERATE groups.

This allows a basic “gap analysis”, which was the aim of Gavin Stewart’s presentation to the ERG meeting of 10 November 2010. It showed that the estimated number of adults with SEVERE alcohol conditions was more or less equal to the number of hospital admissions plus the number of Closed Treatment Episodes (CTEs) in the AODTS National Minimum Data Set.

Since the “good practice” care packages identified by the ERG generally involve two or more units of service, this first analysis indicated that specialist services have the resources to meet only about half the population’s requirements in the age group 18-64. Even this assumes that the existing CTEs and hospital admissions are “good practice” as defined by the ERG. And even this is achieved by leaving nothing for those 65 and over or 17 and younger.

The ERG had a general concern that the estimated level of demand for the SEVERE group was low (about 0.9% of population). There was also a practical concern that some of the care packages had been developed against a concept of SEVERE that was broader. Lastly, there was concern that the analysis considered all the substantial AODTS services as “specialist” and thus focused on the SEVERE group, as against a belief that AODTS serve a broader population.

These concerns are briefly addressed below:

### A3.11 The Victorian legal definition of Severe Substance Dependence

Coincidentally, on 1<sup>st</sup> March 2011 the new **Victorian Severe Substance Dependence Treatment Act 2010** came into force, permitting involuntary treatment in certain circumstances. A necessary (but not sufficient) condition is that the person must have a “severe substance dependence” (SSD), which is a subset of the “dependence” group. That is, in accordance with this legislative definition, not all of those with dependence are ‘severe’ – which bears on the approach in the DA-CCP modelling. SSD is defined in S.5 of the Act as follows:

**For the purposes of this Act, a person has a severe substance dependence if—**

- (a) the person has a tolerance to a substance; and**
- (b) the person shows withdrawal symptoms when the person stops using, or reduces the level of use of, the substance; and**
- (c) the person is incapable of making decisions about his or her substance use and personal health, welfare and safety due primarily to the person's dependence on the substance.**

The first two criteria are a subset of the standard definitions of dependence, but the last narrows the focus a great deal. It operates together with the conditions for involuntary detention for treatment in S.8.

**(1) A person must not be detained, or continue to be detained, for treatment under this Act unless—**

- (a) the person is 18 years of age or older; and**
- (b) each of the criteria specified in subsection (2) applies to the person.**

**(2) The criteria for the detention and treatment of a person under this Act are that—**

- (a) the person has a severe substance dependence; and**
- (b) because of the person's severe substance dependence, immediate treatment is necessary as a matter of urgency to save the person's life or prevent serious damage to the person's health; and**
- (c) the treatment can only be provided to the person through the admission and detention of the person in a treatment centre; and**
- (d) there is no less restrictive means reasonably available to ensure the person receives the treatment.**

If we set aside this much more restricted group, what about the broader group who would satisfy this Victorian definition of “severe substance dependence”? There is no population survey information on self-reported “incapacity to make decisions about ... substance use and personal health, welfare and safety” and it is hard to see how there could be valid data on this topic by self-report. Thus, in the case of alcohol, it would be impossible to divide the dependent group into a SSD group and “other” on the basis of actual data. But what about illicit drugs?

All users of illicit drugs are ingesting substances of unknown chemical properties, and perhaps in unsafe ways? Many engage in illegal and/or unsafe behaviours to fund their substance use. If they persist in so doing, can they be considered capable of making (rational) decisions about their substance use, personal health, welfare and safety? In that case, all dependent users of illicit drugs could be considered to have “severe substance dependence”. This would

be consistent with the usual CCP criteria because of the level of impairment of functioning associated with opiate use, and with a view that all should receive treatment.

On the other hand, since the vast majority of those who meet symptom criteria for dependence on alcohol perceive no need for treatment and report little or no distress of functional impairment, how should we treat this group? Do we take the view that they should perceive a need for treatment, so that if they do not, they are clearly experiencing “severe substance dependence” because they are incapable of making (rational) decisions about their substance use and personal health, welfare and safety? Or do we note that they report no distress or impairment, and regard their decision not to seek treatment as evidence of capacity to make rational decisions?

The more general point is that, interesting as it is to find the concept of severe dependence being legally defined, it is mainly of interest in demonstrating that a distinction between dependence in general and severe dependence is consistent with the CCP approach. It is also consistent with the observed data that 80% of those who meet diagnostic criteria for alcohol dependence do not receive treatment, and the vast majority of that 80% do not want it. It is the last point which has the main impact of reducing the SEVERE group to about a third of those who meet diagnostic criteria.

### **Are AODTS serving a broader population, or only those with severe disorders?**

National AODTS data in Australia does not state the consumer’s main source of income. However, the NSW data set does. The majority of AODT clients in NSW have no income other than welfare benefits. In fact the proportion is much the same as in the Treatment Episode Data Set (TEDS) in the US. This is not a general population, but a “welfare” population, like the population served by specialist mental health services.

It is presumably true in principle that AODTS are available to all, irrespective of severity, and that some services operate more at this general population end of the spectrum. Nevertheless, the available data suggest strongly that the main consumers of AODTS reporting to the National Minimum Data Set are seeing a specialist service for severe problems.

### **Care Packages and Definitions**

We capitalise the labels MILD, MODERATE and SEVERE to indicate that they are not just words with their ordinary (and variable) meaning, but the result of the processes that operationally define them in the model. This is a transparent process in the sense that the basis for each numerical decision is documented, but it is not transparent in the sense of being readily understood in a short time. It is also the process we stated would be used, in conjunction with the AusBoD epidemiology, in the DA-CCP proposal that was approved by the IGCD and endorsed by the MCDS in 2009.

Although the epidemiological estimates do not pay any attention to levels of service provision, there are practical limits on primary care (other than by GPs) in providing the kind of care that publicly funded mental health and AODTS do.

The following material from the Australian Psychological Society - it refers to mental health, which in this context includes substance use conditions. After psychologists were given access to MBS items, there were various criticisms, which the Australian Psychological Society sought to answer by surveying its members. The media release of the survey data<sup>63</sup> made two statements that sit reasonably well with the definition of SEVERE used in MH-CCP modelling:

'Most importantly the results show that Medicare funded psychological services are reaching a population with very significant psychological needs, with psychologists in both city and country locations reporting that 81% of clients that they have seen under the initiative presented with psychological disorders in the moderate to severe range.'

The survey results showed that the majority of clients require and complete between 5 and 12 sessions (approximately 70%). However, a substantial number of clients (14 – 17%) were found to require more than 12 sessions.

In the NSW mental health modelling of MH-CCP, the 5-12 specialist sessions would be consistent with a MILD / MODERATE condition, and in practical terms it might be reasonable to assign the shorter sequence to MILD and the longer one to MODERATE if the groups are treated separately in modelling. The more immediately relevant point is that 14-17% of those attending – that is, about one-seventh – required more sessions than could be provided under Medicare, and this would be consistent with classification as SEVERE.

Another report by the APS on severe mental illness<sup>64</sup> notes the practical limitations of the Medicare 'fee for service' private practice model in the context of severe illness:

Medicare rebates are limited to 12 sessions per year (six further sessions are possible only in 'exceptional circumstances'), so an initial consideration is whether a standard intervention of this length is sufficient in treating more severe and complex problems. Between acute episodes, clients often present with multiple chronic and comorbid problems, the full range of which could not be addressed within such a brief course of therapy. However, interventions focused upon specific areas of need might be possible. ...  
Overall, it appears that Medicare-based service provision may be suited only to a subset, rather than the full range, of clients. ...

They define a subset of "severe" clients who could have some of their problems managed in the private Medicare system, as against those who require ongoing multidisciplinary care from a public mental health team. It seems very likely that the same distinction would apply to those who would need a public AODTS team.

#### **Suited to private Medicare system**

Client readily engaged  
Specific treatment goals achievable within 12 sessions  
Risk easily managed

#### **Requiring public mental health team provision**

Gradual or assertive engagement required

<sup>63</sup> <http://www.psychology.org.au/Assets/Files/MR-Medicare-11Apr08.pdf>

<sup>64</sup> Thomas N, Gleeson J. Medicare and severe and enduring mental health problems. *InPsych*, June 2008. URL: [http://www.psychology.org.au/inpsych/medicare\\_health/](http://www.psychology.org.au/inpsych/medicare_health/)

Complex case with multiple needs Regular ongoing multidisciplinary communication required
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To complicate matters further, there is a discussion on the Department of Health and Ageing website for which submissions closed on 11<sup>th</sup> February 2011, in relation to Flexible Care Packages (FCPs) for people with severe mental illness, which again includes AOD problems. It is a very good discussion paper that spells out the intended complementary role of the FCPs and state public mental health services. The relevance is that it uses a definition of severe mental illness that includes substance use conditions, and offers a form of extended care that goes to an average of 12 sessions and includes case management and complementary psychosocial support provided by NGOs. This is another treatment option and one that extends primary care into the SEVERE range.

**Flexible Care Packages for People with Severe Mental Illness**

People diagnosed with severe mental illness referred to ATAPS by a general practitioner (GP) or a psychiatrist will be able to access a package of care.

A Flexible Care Package (FCP) is a package of care which is tailored to meet an individual's needs and will comprise of the following components:

- . funding to purchase clinical services
- . the capacity of funding case coordinators to work closely with the referring GP or psychiatrist and assist individuals navigate the clinical and social support they need
- . new funding to purchase the required community/social support services and
- . an emphasis on links and flexible pathways to broader clinical and support services, including Commonwealth, state and territory and NGO services such as specialist mental health services, acute services, crisis support, and broader vocational and community support.

The total number of ATAPS flexible care services provided to an individual (both clinical and case coordination) will depend on the individual's particular needs. It is estimated that an average of 20 clinical services in a calendar year will be provided to each individual, although it is recognised that some clients may need more clinical services in a calendar year depending on the level of severity of their illness and associated disability. In addition non-clinical support will be available to the individual, subject to their needs and care plan

**Definition**

There are no simple definitions of mental illness and severe mental illness. However, for the purposes of FCPs, it is proposed to use a broad definition that reflects that people experience different phases and impacts of illness and allows some clinical flexibility. Therefore, the following definition, based on the definition in the Fourth National Mental Health Plan<sup>1</sup>, is proposed:

To be referred for a FCP, a person is required to be diagnosed by a General Practitioner or Psychiatrist as having a severe mental illness. The severity of the mental disorder is to be judged according to the type of illness (diagnosis), intensity of symptoms, duration of illness (chronicity), and the degree of disability caused.

Bearing in mind the need for flexibility and the FCPs target population, does this definition of 'severe mental illness' fit the purpose of FCPs?

As described (very briefly) at the 10 November 2010 meeting, in the NSW modelling for MH-CCP we have used a definition of SEVERE illness that was originally developed by the National Advisory Mental Health Council (NAMHC) in the United States to meet a request from the Senate Appropriations Committee for "... a report on the cost of covering medical

treatment for severe mental illness commensurate with other illnesses ...”<sup>65</sup> (emphasis added). In developing principles for defining “severe” illnesses, the NAMHC gave the example that that 2.5% of the American population had diabetes, but 93% of the entire cost of diabetes was generated by a “severe” group equal to about one third of the total – only 0.83% of the population – defined by hospitalisation.

The NAMHC had a rich data source to draw on to arrive at their estimates, and there is nothing equivalent in Australia. However, if we take Schizophrenia as a benchmark diagnosis, there are two ways we can approximate a severity estimate for alcohol use conditions.

#### Method 1: Using the disability weights (DW) from AusBoD

One uses the disability weights (DW) from AusBoD, which are shown in the figure below (from the AusBoD spreadsheets). The vertical axis is the disability weights from 0.0 to 1.0. The horizontal axis is scores on the SF12 measure of functioning that was used in the Survey of Mental Health and Wellbeing 1997, from which AusBoD produced the “Alcohol Harmful Use and/or Dependence” prevalence data used here. Since this was available for every respondent in SMHWB-1997, the AusBoD team decided to label the cut offs as: MILD as 1.0 standard deviations below the mean, MODERATE as 2.0 standard deviations below the mean, and SEVERE as 3.0 standard deviations below the mean.

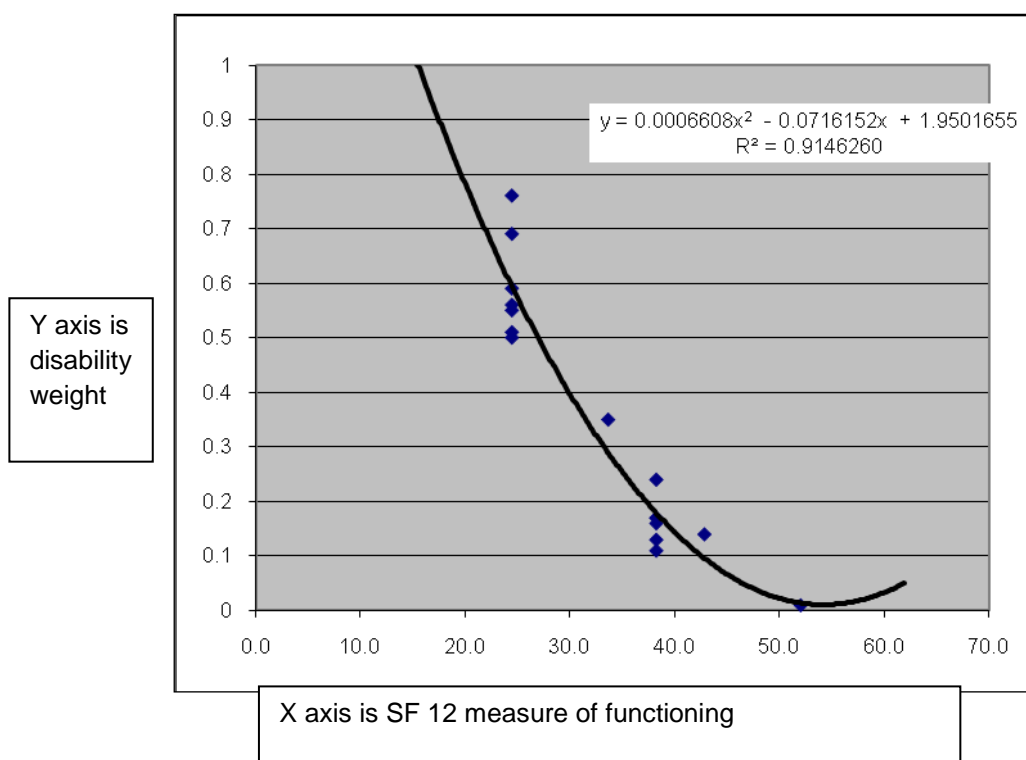
They fitted the quadratic regression line shown (over) to a set of DWs for mild/ moderate and severe psychiatric disorders, so that a DW could be calculated for each SF12 score.

For the 6.3% of the population in the AusBoD group J01a - Alcohol Harmful Use and Dependence, the average DW calculated in this way was 0.09, which corresponds to about 1 standard deviation below the SF12 mean, and the AusBoD DW label “mild”. That is, if we wanted to treat the whole 6.3% who were diagnosis positive, our average care package would be for a mild disorder – perhaps 6 contact hours.

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<sup>65</sup> National Advisory Mental Health Council. Health care reform for Americans with severe mental illnesses: Report of the National Advisory Mental Health Council. American Journal of Psychiatry 1993;150(10):1447-1465.





On the other hand, we know that in this same group (that is the 6.3% of the population in the Aus BOD group J01a - Alcohol Harmful Use and Dependence) only 11% sought and obtained treatment, and within the other 89% , one third expressed an unmet need for some treatment. Thus only 40% of the diagnosis positive group expressed a need for treatment, i.e. those who sought and obtained it, plus those who had unmet need. Thus we now have 2.56% of people with alcohol disorders who want treatment.

If we suppose that all the disability was concentrated in this group, then the average DW becomes 0.22, which is still in the “mild” range but now at the upper rather than lower end. If we now use Schizophrenia as our benchmark for SEVERE as defined in CCP modelling (DW=0.434), we can suppose that some proportion (say x%) of the alcohol disorder group have equivalent severity, and a proportion (2.56% - x%) have a DW corresponding to MILD/MODERATE. If we suppose that this is at the middle range of MILD (DW = 0.15), then x% = 0.66%. Other assumptions about the DW in the non-SEVERE remainder will change the percentage estimated as SEVERE. It is completely determined by the DW chosen for the “non-SEVERE” group (and vice-versa).

## Method 2: Using hospital admission rates

There is another way of coming at the same topic, again using Schizophrenia as the benchmark. The hospital admission rate for people with Schizophrenia is about 33% of the prevalence in a given year. The hospital admission rate for alcohol and 100% alcohol-related disorders<sup>66</sup> is about 2.7% of the prevalence. Since all people with a diagnosis of Schizophrenia are (by definition) SEVERE, and all people who are admitted for an illness are (by definition) SEVERE, we know from the benchmark diagnosis that there are three times as

<sup>66</sup> Rehm J, Patra J, Baliunas D, Popova S, Roerecke M, Taylor B. Alcohol: The Burden of Disease. In Patel V, Woodward A, Feigin VL, Hegggenhougen HK, Quah SR (eds). *Mental and neurological public health: A global perspective*. Amsterdam: Elsevier, 2010. Especially Table 1: “Disease and injury conditions that are by definition alcohol related (AAF=1 or 100%)”, p 14.

many people in the Schizophrenia group (all SEVERE) as in the Schizophrenia admitted group. We can reasonably suppose this is true of alcohol disorders too. Thus  $3 \times 2.7\% = 8.1\%$  gives us an estimate of the percentage of the overall Alcohol disorder group who are SEVERE. This gives us  $8.1\% \times 6.3\%$  (that is the 6.3% of the population in the Aus BOD group J01a - Alcohol Harmful Use and Dependence) = 0.52% as the prevalence of SEVERE alcohol disorders.

Now we have two estimates for SEVERE, one of around 0.66%, and another of 0.52%. If we choose the latter to plug into the DW calculation, it raises the average DW of the residual MILD / MODERATE group to 0.17, which is still in the MILD range.

For a variety of reasons, mainly to do with the wish to have stable estimates that did not depend on subtleties of data, assumptions about disability weights and other obscure things, for MH-CCP 2010 in NSW we applied a general rule that was a reasonable fit to the various estimates (where available) for the more common diagnoses, namely that the ratio of SEVERE : MODERATE : MILD was 1:2:4 where the overall diagnostic rate was based on a low-ish threshold about 1 SD above (or below) the mean of a general population of interest.

On this basis, where there is no stronger evidence, we take one-seventh of the overall prevalence as SEVERE, with twice as many MODERATE, and twice as many again as MILD. Most people find this a lot easier to keep in mind, for obvious reasons.

This implies that 14% (one-seventh) of 6.3% = 0.909% of the population would have SEVERE alcohol disorders. If we plug that in to the DW equations earlier, and re-solve, the average DW of the MILD / MODERATE group is 0.11, which is at the low end of the MILD range.

In summary, while there are various ways of estimating the number of people with Alcohol disorders of severity equivalent to that of Schizophrenia (or an AusBoD DW of 0.434), each has various assumptions built into it. Neither of the more complex approaches helps us with the MILD/ MODERATE division, so we have found it convenient to “round” the ratio of approximately 1:2:4 that fits the original US data for mental illness as a whole, and apply it uniformly, using these more complicated calculations as a validity check.

Thus, although the ERG discussion on 10 November 2010 suggested that 0.909% of the population having SEVERE alcohol disorders tended toward a low estimate, any estimate in the range from about 0.5% to 1.0% (but no higher) is consistent with the residual MILD / MODERATE group having a Disability Weight indicative of MILD illness. At a higher estimate of SEVERE, the level of illness in the residual treatment-wanting MILD / MODERATE group becomes implausibly low, simply because the observed average disability in the SMHWB 1997 was so low for Alcohol disorders (as also is the treatment rate).

Since we will be moving on to opioids next, I will also note that the AusBoD average DW for Heroin and polydrug use is 0.27, which is a MODERATE average. Thus although at first glance it seems that 100% of this group should be classed as SEVERE, the comparison with the DW for Schizophrenia (0.434) suggests that maybe 60% of the opioid group would be SEVERE, and the others MILD/ MODERATE. Given that the “epidemiology” is the opiate mortality rate multiplied by the inverse of the annual mortality rates of 0.8% (multiplier 125) or 1% (multiplier 100) in some cohort studies of heroin users in other places at other times (and



AusBoD uses the average – multiplier 112.5), we are dealing with rather crude and uncertain calculations and should not be overly concerned as to the percentage chosen as SEVERE.

Figure 21 - Estimating SEVERE for alcohol in model, 10 November 2010

ADULTS (18-64 years)							
GENERAL EPIDEMIOLOGY							
	Existing total treatment rate is			11% of Dx+	0.700%		of pop
	Untreated			89% of Dx+	5.662%		of pop
	% of untreated who have unmet need for Tx			33% of Dx+Tx-	1.868%		of pop
14.3%	Implies that demand for (some) Tx is			40.37% of Dx+	2.568%		of pop
	Existing Admission rates imply (max ) that			2.70% of Dx+ are admitted			
SEVERE	Implies that	8.1%	are equivalent to SCZ = MH SEVERE standard = 33% of Dx+ admitted				
909	MH-CCP USES	14.3%	of Dx eq to MH "SEVERE"				
	DA-CCP uses	14.3%			0.909%		of pop
SERVICE DEMAND							
SEVERE	AOD-Rel	0.025%	of Pop	0.389%	of Dx+		
100%	AOD-Co	0.361%	of Pop	5.670%	of Dx+		
	AOD Admit			8.100%	of Dx+	(x 3)	
				14.159%			
909							

Figure 22 - Estimating SEVERE for alcohol in model, 10 November 2010 (con't)

ADULTS (18-64 years)							
GENERAL EPIDEMIOLOGY							
Alc is		AUSBOD Dx	Opiates	Benzo	Cann		
72%		6.36%	0.35%	0.38%	1.77%		
of all AOD							
	Diagnosable Alcohol Dx+						
	6,362						
	791744		354	377	1,766		
			44049	46934	219761		
SERVICE DEMAND							
		Tx+					
Existing	11%	40%	50%	Tolkien II			
		2,568					
		319627					

## APPENDIX 4 REVIEW OF TREATMENT RATE PARAMETERS IN DA-CCP

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Paper presented to ERG meeting on 23 July 2012.

**Ref No:** NDP ERG 23-07    **Agenda Tab**

**Authors:** Gavin Stewart

**Date:** 18-23 July 2012

### Technical Note: Review of Treatment rate parameters in DA-CCP

Gavin Stewart, 18-23 July 2012



#### Issue

That the ERG revise the defence of the treatment rate parameters to reflect the evidence presented here.

#### Introduction

I should begin with an apology for this review arriving much later than I had intended. I am unable to attend the ERG meeting on 23 July, because I am in Perth running a week of workshops for mental health service planners under the auspices of the WA Mental Health Commission. I am in fact finishing this document at 4am -7am local time on 23 July so that it is available for the meeting.

At a previous ERG meeting/ teleconference we agreed to use an overall “demand” or “treatment rate” parameter of 51% for alcohol and extend it for all the other drug groups except opiates.

The work I did to review the estimates in March this year showed that there were problems with this choice. My initial concern was that the choice of 51% as the overall treatment rate for four of the groups could not be logically defended by citing the draft (2006) version of the Tolkien II model of Gavin Andrews and others, because the final (2007) version had revised that estimate down to 38%. We had agreed to use the Alcohol parameter for other drugs groups except opiates, on the basis that the disability weights in the Australian Burden of Disease (AusBoD) data were similar. However, there was a query over Benzodiazepines because its disability weight was about twice that of the other three groups, and a query over stimulants because the prevalence estimates and the disability estimates came from very different sources.

The figure of 38% in the final version of the Tolkien II model was much closer to the 40% I had supplied to the ERG a year earlier. The latter was a direct estimate of demand based on asking respondents in the Survey of MH and Wellbeing of 1997 (SMHWB 1997) about unmet need. If anything, 40% was a high estimate, since it was an average across the three

diagnosis groups (Mood, Anxiety, Substance) in SMHWB 1997, and treatment rates for Mood and Anxiety disorders was higher than that for Substance use conditions. Lastly, treatment rates for Substance use conditions had either remained stable or declined between 1997 (28%) and 2007 (24%), which made it hard to present a plausible argument that they might double during the life of the model for the four drug groups in question.

However, my main concern in March was to review the percentages we chose to represent SEVERE conditions. So long as we had a defensible estimate of the numbers in the SEVERE group where the specialised AODTS services are concentrated, the only effect of changing the overall treatment rate is to change the estimated numbers in MILD and MODERATE, where the treatment burden falls mainly or wholly on Medicare. Medicare is an uncapped program in which services are supplied by thousands of individual practitioners in response to decisions made on the day. The DA-CCP demand estimates for MILD and MODERATE can reasonably be seen as indications of what the demand might be if public attitudes to seeking treatment for these conditions should change, and if professional identification of them and preparedness to treat them should change to match it.

This sets a lower bar for the plausibility of the demand estimates than the one in the Tolkien II model, since the focus of that model was an argument that a significant reduction in disability could be obtained by a redistribution of treatment services and a small increase overall. The model focussed mainly on mental health treatment and happened to include alcohol harmful use and dependence. This was largely an argument for the Commonwealth, which partly funded the development of the model.

For all of these reasons I have refocused this review on the main concerns of DA-CCP, which lie at the SEVERE end and the estimated demand for specialised AODTS services. If the SEVERE estimates are defensible, then it is unwise to weaken the overall argument by over-estimating demand elsewhere. On the other hand, the very weakness of the evidence that makes the MILD/ MODERATE end more difficult allows a different approach to the way this aspect of the model is presented. One can treat the MILD and MODERATE end as an area where we emphasise the range of possible scenarios between existing treatment rates and the upper limit that might be reached if possible estimates of demand were translated into actual demand.

With that in mind I explored some plausible scenarios in the available disability weight and prevalence data for the four drugs in question, treating our existing estimates of SEVERE as fixed, and exploring the implications for MILD and MODERATE. The conclusions vary across drugs, and prove to be very sensitive to rather small changes in the average disability weights and the assumptions one makes about the factors that lead people to seek care. The scenario we chose in November sits inside the space of “reasonable” possibilities, and not always at the high end, as in the case of Benzodiazepines, where the average disability is nearly twice that of the other drugs, and where the more plausible solutions would entail raising the SEVERE proportion.

Given the time constraints on getting Version 1 of DA-CCP out the door, I would recommend staying with what we have, but changing the rationale for the overall treatment rate in the way indicated here – as one of many possible scenarios that are more or less plausible for the MILD/MODERATE end, provided as an indication of what might be made to happen if a

significant effort were put into it, and which should happen if the primary care end of the health system is to relieve a burden of disease which is relatively MILD or MODERATE in individual terms, but which in the aggregate is a major burden on the Australian population. This relieves us of the burden of proof that the particular number we have chosen is the most plausible of the options, or the one we expect to occur. From a betting point of view, given the data from 1997 to 2007, the most plausible scenario is that nothing much will change in the MILD/ MODERATE area, since the most powerful levers are matters of public policy that lie beyond the power of a model to change. We can then focus our efforts on providing a defensible account of the SEVERE estimates as what SHOULD happen in an area where the burden had a high impact on individuals.

Subject to the query on Benzodiazepines, where the SEVERE proportion might be doubled or tripled quite defensibly if the ERG wished to do so, I recommend that we merely change the explanation as it affects MILD/ MODERATE and this the overall treatment rate.

#### **A4.1 Background**

What I say here only applies to the four drug groups other than Opiates. For these groups, we decided in November to use the notional treatment rate (or estimated demand) for Alcohol throughout, since the disability weights in the Australian Burden of Disease data were similar. This rate was 51%, based on the “optimal coverage” in the Tolkien II model of Gavin Andrews and others. I think I said at the time that I would check all this, since the disability weights are not exactly the same and I had a niggling doubt about the 51%. Moreover it is nearly four times the actual treatment rate in the 1997 Survey of MH and Wellbeing (14%), and I wanted to check the 2007 data to see if such an increase in service penetration could be plausibly defended, which I doubted.

I reviewed all this between 21-23 March, and it was all a lot more complicated than it might seem at first glance. The Tolkien II “optimal coverage” turned out to be the one published in the widely distributed draft copy of the model (April 2006) rather than the much rarer final version (2007). I happen to have a personal copy of the latter, where the rates are revised down to 38%. This is much closer to the rate of 40% I presented to the ERG early on, based on direct demand estimates from the 1997 SMHWB. No rationale for the change was given in the Final version, and there is no source cited for either. I note that I worked with Gavin Andrews in 1987-89 and occasionally since, and am acknowledged as one of the contributors to the Tolkien II model, just as the Tolkien 1991 and 1994 models are acknowledged as ancestors of MH-CCP. However, I think it is fair to say that the MH-CCP models are more transparent about their sources of numbers. It may be worth showing the comparison between the Tolkien II numbers before going further.

**Table 61 - Comparison between the Tolkien II numbers**

		Andrews 2004 Ideal for 1997		Andrews 2004 Status Quo 1997	
Dx (Princ Comp)	Dx+(N)	Coverage %	Tx (N)	Dx+(N)	Coverage Tx (N)
SMHWB 997					
ALCOHOL	479,342	51%	244,567	479,342	11% 51,993
Harmful Use	251,911	70%	176,338	251,911	8% 20,153
Dependence	227,431	30%	68,229	227,431	14% 31,840
		Andrews 2007 Ideal for 1997			
Dx		Coverage %	Tx (N)		
ALCOHOL	492,970	38%	187,005		
Harmful Use	255,050	50%	127,525		
Dependence	237,920	25%	59,480		

As you see, the 51% rate is a combination of separate rates for Alcohol Harmful Use (70% as against 8% actual) and 30% for Dependence (as against 14% actual). Also, it comes from a 2004 publication that is repeated in Tolkien II. That is, it assumes that treatment coverage could be doubled for Dependence, which may be reasonably plausible over the life of DA-CCP if suitable initiatives were taken, but it also assumes a nine-fold increase in coverage for harmful use, which is not plausible at all. Work by Tony Jorm and others on the 2007 survey has shown that for young people aged 18-24, and particularly young males, the perceived need for treatment was extremely low. I doubt this would surprise ERG members.

Perhaps for these reasons, the final edition of Tolkien II revised the coverage of harmful use down from 70% to 50% - which is still an implausible 6-fold increase, and dropped the coverage of dependence from 30% to 25%, leading to an overall coverage of 38%.

Since I now had two separate lines of evidence pointing to a figure like 40%, I was going to do a paper for the ERG on the topic. However, it made sense to extend the analysis to the other drugs to which we had applied the 51% rate on the basis of similar levels of disability. Tolkien II only dealt with alcohol, so it was not a direct source for the others, and thus I set about working with the AusBoD disability weights and prevalence numbers directly. The idea was to arrive at treatment rates for MILD and MODERATE that were based on extending the disability weight analysis that we had agreed for SEVERE.

This opened up a can of worms that I shall describe below, but oddly enough an overall treatment rate around 50% turned out to be a reasonably defensible option. Given that we already had chosen 51% it would make no great difference to the spreadsheets, and we could simply change the rationale when we came to do the explanatory text. Thus we did not bother the ERG with a paper on the topic, and I left this issue to get on with my paid work for DoHA on the NMHSPF project.

I intended to do the paper before the teleconference, but there were four EWGs in the NMHSPF project to be introduced to the joys of making up Care Packages on 16/17 July, and I am sure ERG members will appreciate that this is not the easiest job in the world.

Thus I summarised the situation at the teleconference by saying that the revised rationale offered a choice of one number for the four drug groups that was not very different from 51% (but with a more defensible rationale), but it also opened up the option of having different rates for each. I was hoping to avoid writing the paper I am now doing, since describing

epidemiological cans of worms in the detail needed to present options is apt to take a lot of time, and is not needed for the write-up of the final decision. Nevertheless, here we go.

## A4.2 Direct Demand Estimates

I begin by reminding ERG members of the direct demand estimates that are can be extracted from the SMHWP 1997 and SMHWP 2007 by using the fact that diagnosis-positive respondents are asked if they need various forms of care, of which one is just “information”. I note that, amongst those who were diagnosis positive in 1997, but were not receiving treatment, a majority (67%) wanted nothing at all, not even “information”, so it ought hardly to be surprising that they were not getting any. In fact the percentage would be even higher, since in 1997 these questions were not asked of people whose only diagnosis was harmful use. However, in 2007 the questions were asked of all, and this time 86% of the untreated diagnosis-positive treatment group wanted nothing at all.

If you take “demand” to be limited to diagnosis-positive people, who are either getting treatment or who are untreated but wanted something (which might only be “information”), then you would have the rate of 40% that I proposed to the ERG about a year ago in the first Alcohol spreadsheet. It was an overestimate, because all I had handy was the overall rate of wanting treatment (i.e., for Mood and/or Anxiety and/or Substance) and the Substance-specific one would be lower, but in the absence of 1997 data for harmful use, using the overall rate could be defended.

Since then, however, Philip Burgess and Graham Meadows have kindly supplied me with various relevant papers.

**Table 62 - Burgess Meadows 2009 Mood and/or Anxiety and/or Substance**

Dx	Dx+(N)	PRV %	<b>Meadows Burgess 2009</b>	
SMHWP2007			Any Need %	Any Need (N)
Total	16,013,000	100%	13.8%	2,212,000
No MAS	<b>12,815,000</b>	80.0%	<b>6.45%</b>	<b>827,000</b>
Any MAS	<b>3,198,000</b>	20.0%	<b>43.3%</b>	<b>1,385,000</b>
Any Mood	<b>996,000</b>	6.2%	<b>70.1%</b>	<b>698,000</b>
Any Anx	<b>2,303,000</b>	14.4%	<b>45.9%</b>	<b>1,057,000</b>
Any Sub	<b>820,000</b>	5.1%	<b>31.6%</b>	<b>259,000</b>

In 2007, across all substance use conditions, only 31.6% of diagnosis-positive people reported any need at all. Note that “Any substance” includes people who also have one of the other disorders as Comorbidity, and the “need” assessed may not be a perceived need for treatment of the substance use condition. Thus 31.5% is an UPPER estimate of the perceived need for AODTS. Not 40%, and certainly not 51%.

At this point we introduce the largest and wriggliest of the worms.



**Table 63 - Principal complaint**

		Andrews 2004 Ideal for 1997		Andrews 2004 Status Quo 1997	
Dx (Princ Comp)	Dx+(N)	Coverage %	Tx (N)	Dx+(N)	Coverage Tx (N)
SMHWB 997					
ALCOHOL	479,342	51%	244,567	479,342	11% 51,993
Harmful Use	251,911	70%	176,338	251,911	8% 20,153
Dependence	227,431	30%	68,229	227,431	14% 31,840
		Andrews 2007 Ideal for 1997			
Dx		Coverage %	Tx (N)		
ALCOHOL	492,970	38%	187,005		
Harmful Use	255,050	50%	127,525		
Dependence	237,920	25%	59,480		

I have repeated the Tolkien II tabulations to draw attention to the phrase (Princ Comp) up in the top left. This stands for “Principal complaint”. Tolkien II divides up the epidemiology without double counting of Comorbidity by assigning a principal complaint. Thus this coverage rate is not for people with alcohol use disorders in general, but only for those where the alcohol use disorder is the principal complaint, i.e., either the only diagnosis, or the main one alongside a mood and/or anxiety disorder. A person who had a Mood or Anxiety Disorder as the principal complaint goes into one of the other care pathways in the Tolkien II model, and carries with them any AOD diagnoses they may have.

**Table 64 - Mood and/or Anxiety and/or Substance AU,US,NZ**

						AU 1997	US 2002	NZ 2004	AU 2007
Any Anx+/-MS	2,303,000	14.4%	37.8%	871,514	46%	45.2%	42.2%	39.4%	37.8%
Any Mood+/-AS	998,900	6.2%	58.7%	586,654	31%	60.4%	56.4%	55.1%	58.7%
Any Sub+/-MA	819,900	5.1%	24.0%	196,577	10%	27.9%	38.1%	29.9%	24.0%
ANY MAS	3,197,900	20.0%	34.9%	1,116,884	59%	32.5%	41.1%	38.9%	34.9%

From another paper, we can compare the actual treatment rates across surveys, including overseas ones. We may note that a 38% treatment rate for a person with a substance use condition (with or without a Mood and/or Anxiety Disorder) is feasible, since it applied to the USA in 2002. We also note that the 1997 treatment rate in Australia was only 28%, which nevertheless is more than twice the rate (11%) for Alcohol Use disorders, as a principal complaint. Lastly, we note that the treatment rate in Australia in 2007 was 24%, which is either the same or lower.

In summary, nothing that happened between 1997 and 2007 in Australia provides the slightest justification for supposing that we could achieve a 51% treatment rate within the life of the DA-CCP model, let alone for alcohol as a principal complaint.

But read on, since there are some more worms in this can.

**Table 65 - 2007 survey results - more detail**

			Serv Use %		
Total	16,013,000	100%	11.9%	1,898,599	
No MAS	12,815,000	80.0%	<b>6.10%</b>	<b>781,715</b>	<b>41%</b>
Mood only	<b>350,000</b>	2.2%	<b>48.8%</b>	170,800	9%
Anx Only	<b>1,554,900</b>	9.7%	<b>27.3%</b>	424,488	22%
Sub Only	<b>480,700</b>	3.0%	<b>11.8%</b>	56,723	3%
MA only	<b>473,100</b>	3.0%	<b>68.7%</b>	325,020	17%
MS only	<b>64,200</b>	0.4%	<b>27.8%</b>	17,848	1%
AS only	<b>163,400</b>	1.0%	<b>30.0%</b>	49,020	3%
MAS	<b>111,600</b>	0.7%	<b>65.4%</b>	72,986	4%

From the same paper just shown, showing the 2007 survey results, the diagnostic groups are broken up in more detail, and we see that the treatment rate for people who only have a substance use condition is 11.8%. Remembering that those who had alcohol conditions as a principal complaint had a treatment rate of 11% in 1997, and that treatment rates were the same or higher in 1997, it seems fairly clear that most of the people who had an alcohol use disorder as a principal complaint had it as their only complaint, simply because the treatment rates are around 30% if it was in conjunction with a Mood or Anxiety disorder, and six times higher in the presence of both.

So, in summary, the “optimal coverage” of 51% in the draft of Tolkien II (and the 2004 paper that underlies it) is simply not a plausible or defensible estimate of what might be achieved, from a base of around 11%, over the lifetime of DA-CCP. Even 38% would seem overly optimistic, if it were not for the fact that the US has achieved it and we might hope to emulate that if we knew how it was done.

At this point, I abandoned Tolkien II as a source of numbers, and I would strongly suggest that the ERG does likewise. Instead, I opened a different can of worms.

### A4.3 Estimates from Disability Weights

AusBoD uses the SF12 measures as a measure of individual disability to assign disability weights for individuals in the SMHWB1997, via a regression equation that I described in a previous note on estimating the proportion of SEVERE. Since this approach can be criticised, it may be useful to cite the fact that the SF12 was also used as a disability measure by NIAAA in the United States for the NESARC study, which is by far the largest study of MH/DA Comorbidity ever done. Thus for example they use SF12 data to argue for the validity of the AUDADIS-IV diagnoses in:

#### **Co-occurrence of 12-Month Alcohol and Drug Use Disorders and Personality Disorders in the United States: Results From the National Epidemiologic Survey on Alcohol and Related Conditions**

Bridget F. Grant, PhD, PhD, Frederick S. Stinson, PhD, Deborah A. Dawson, PhD, S. Patricia Chou, PhD, W. June Ruan, MA, Roger P. Pickering, MS

*Arch Gen Psychiatry*. 2004;61(4):361-368. doi:10.1001/archpsyc.61.4.361





If we accept the AusBoD conversion of SF12 scores into disability weights, then the average disability weight for all respondents in a diagnosis-positive group might be taken as a measure of the average severity of the condition diagnosed and represented in the prevalence data in AusBoD. Even without access to the original data we know the Total of all the disability weights in the group, since it is just the average disability weight multiplied by the number of diagnosed cases.

In a previous note I described how this can be used to estimate a likely proportion of SEVERE, given an overall treatment rate. That is, we know that a significant proportion of people who meet diagnostic criteria report no disability at all. If we suppose that all disability is concentrated in those with a demand for treatment, then we can apportion it across three groups using the standard disability weights for MILD (0.15), MODERATE (0.30) and SEVERE (0.50). There is no unique solution, but since SEVERE people will account for a large proportion of the disability in the group as a whole, and we have to have enough left to cover a MODERATE and a MILD group as well, this sets some limits to the plausible SEVERE percentage.

The original note I did on this was limited to Alcohol and done at a time when the ERG was merging MILD and MODERATE, so I did not try to use the same technique to split those groups.

I have now broadened the approach to deal with all the drug groups, and to explicitly require that the MILD and MODERATE groups have the relevant average disability.

#### A4.4 Alcohol

The only data we have to fit is the total disability across four levels of severity and the total prevalence. We need to estimate the numbers in four groups: those with zero disability, who do not contribute to the total, but who determine the overall treatment rate; plus those in the three other groups. The total must add up to the prevalence, so only three of the numbers are unknowns. When weighted by disability, they must add up to the total disability, but this simply determines a “solution space” containing infinitely many combinations. To arrive at any particular solution, we need to specify additional constraints.

I begin with the solution I illustrated in the previous note, for ages 18-64, in which the overall treatment rate is externally determined at 40%, and we group MILD/MODERATE together.

**Table 66 - an example modelling treatment rate of 40%**

	dw	N	Tot DW	Treat %	Treat N	Tot DW		Prev	%Demand
				40%	348,431			2,659	
								PER 100k	
Avg	0.09	871,078	78716			78,716	0.01	6,356	6,356
None	-			60%	522,647	-		2,659	3,697
Mild	0.15			29%	250,482	37,572	50%	1911.6	3,816
Mod	0.30			1%	7,494	2,248	3%	57.2	1,880
SEVERE	0.43			10%	90,455	38,896	100%	660.0	660.0

In this case, as I said earlier, the rate of 660/ 100,000 for SEVERE is at the upper limit of plausibility because the average severity in the MILD/ MODERATE group is so low, and in fact most cases would have to be MILD (29%) rather than MODERARE (1%).

What happens if we use a treatment rate of 51%? The results appear below.

**Table 67 - an example modelling treatment rate of 51%**

	dw	N	Tot DW	Treat %	Treat N	Tot DW		Prev	%Demand
				51%	444,250			3,390	
								PER 100k	
Avg	0.09	871,078	78716			78,716	0.01	6,356	6,356
None	-			49%	426,828	-		3,390	2,965
Mild	0.15			51%	442,120	66,318	88%	3374.2	3,816
Mod	0.30			-10%	88,325	26,497	-36%	-674.1	1,880
SEVERE	0.43			10%	90,455	38,896	100%	660.0	660.0

Basically this table is saying that if the overall treatment rate is 51%, you cannot have so many being SEVERE, since the remaining disability is spread over a much larger number of people, and averages less than MILD. Mathematically there is a solution, but only if you allow percentages to go negative.

When taken together with the fact that Professor Andrews and his colleagues reduced their own estimate of coverage from 51% to 38%, this should be fairly convincing evidence that we would have trouble defending such a high value for the treatment rate.

However, I also considered another option. The tables in the first section show that a large number of people with substance use conditions also have mood or anxiety disorders. To avoid double counting of the Burden of Disease, AusBoD divided the total disability weight for each individual across the diagnoses. Thus, the average disability we have been using is only the proportion attributable to the Alcohol diagnoses. However, in DA-CCP we are interested in the demand for care, not the Burden of Disease. Moreover, in the MILD/MODERATE area we are looking at the demand for primary care, mainly by GPs, and we are not particularly concerned with why the person attends, but just that there is an opportunity to treat their alcohol disorder.

Since it is the overall disability that tends to lead people to want care, I used the data in the tables shown in the first section to estimate the number of people who would have one or two other diagnoses, and added in a correction. I show the calculation for Alcohol below.

**Table 68 - Alcohol disability weights**

					0.0903664	ALC
SUB	ONLY	480,700	43%	1	0.0903664	43,439
	+Anx	163,400	15%	2	0.1807328	29,532
	+Mood	350,000	32%	2	0.1807328	63,256
	+MA	111,600	10%	3	0.2710992	30,255
	ALL	1,105,700	100%	1.67	0.15	166,482

The average disability weight for Alcohol is 0.0903664. I do not have published data on the specific comorbidities for each drug, so I have used the general ones for "substance". A

simple correction is just to double the “alcohol only” disability weight if there are two diagnoses, and to triple it if there are three. The end result is that for the “alcohol” group as a whole, their average disability is around 0.15.

If we re-run the last model with this revised disability weight, we get the solution below.

**Table 69 - revised disability weight**

	dw	N	Tot DW	Treat %	Treat N	Tot DW		Prev	%Demand
				51%	444,250			3,390	
							PER 100k		
Avg	0.15	871,078	131156			131,156	0.00	6,356	6,356
None	-			49%	426,828	-		3,390	2,965
Mild	0.15			11%	92,523	13,878	19%	706.1	3,816
Mod	0.30			30%	261,272	78,381	106%	1994.0	1,880
SEVERE	0.43			10%	90,455	38,896	100%	660.0	660.0

Note that of the average disability weight across the whole group is 0.15 (i.e., a MILD level), and we assume it is all concentrated in the half who are treated, the average within this treatment group is twice as large, that is, 0.30 or MODERATE. This explains why there is such a large MODERATE group in the solution.

Note that about half of these people will be seeking treatment for their Mental Health problem rather than their Substance problem, and thus their demand is included in the MH-CCP model. However, they also have a substance use problem that warrants treatment, and since MILD and MODERATE are expected to be seen in general health services, it is reasonable to include them in DA-CCP also.

## APPENDIX 5 USING AUSBOD DATA IN THE AGE GROUP 12-17 YEARS

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### A5.1 AUSBOD shows prevalence age 15+, calculations for 12-17 years age group in the model.

Alcohol - The AUSBOD source data for alcohol was the 1997 NSMHWB. AUSBOD then takes the 1997 NSMHWB data and uses DISMOD 2, which is a computer software program developed for the Global Burden of Disease. DISMOD allows the user to check if the assumptions on incidence, prevalence, remission, case fatality rates and observed mortality rates are consistent with one another. This means that the AUSBOD generates an output prevalence. In the case of any alcohol use disorder (alcohol dependence or harmful alcohol use) AUSBOD's output prevalence is different to the prevalence of the 1997 NSMHWB. A screen shot of the AUSBOD alcohol data is below.

DISEASE: Alcohol use disorder												
REGION: Australia 2003												
AUSBod Code: 2J01a												
YLD	Population	Incident cases	Incidence per 1000	Duration	Disability Weight	% of time symptomatic	YLDs (3,0)	age at onset	YLDs (3,1)	YLDs (0,0)	Prev YLDs (0,0)	Prevalent cases
Males												
0-1	126,631						0					
1-4	521,635						0					
5-9	686,149						0					
10-14	706,517						0					
15-19	703,874	19,953	28.3	3.9	0.09	26%	1725	18	2,568	1829	667	28480
20-24	700,428	39,480	56.4	4.0	0.09	26%	3447	22	5,249	3656	2178	93036
25-29	683,150	26,732	39.1	4.1	0.09	24%	2281	27	3,428	2424	2285	103573
30-34	751,904	22,841	30.4	4.2	0.09	24%	1974	32	2,838	2100	2106	95496
35-39	724,527	18,697	25.8	4.2	0.09	28%	1859	37	2,508	1978	2034	80074
40-44	762,199	15,986	21.0	4.2	0.09	28%	1586	42	1,974	1687	1808	71179
45-49	694,878	12,058	17.4	4.1	0.09	40%	1695	47	1,925	1803	1983	54823
50-54	652,802	8,926	13.7	4.1	0.09	40%	1245	52	1,274	1323	1531	42345
55-59	583,508	6,716	11.5	4.0	0.09	20%	456	57	418	484	560	31379
60-64	439,155	4,187	9.5	3.9	0.09	20%	278	62	226	295	353	19789
65-69	354,970	2,707	7.6	3.8	0.09	19%	170	67	123	180	232	13234
70-74	301,236	1,690	5.6	3.6	0.09	19%	101	72	64	106	156	8875
75-79	240,098	1,039	4.3	3.3	0.09	24%	69	77	39	73	116	5435
80-84	146,560	589	4.0	2.9	0.09	24%	35	82	17	36	59	2747
85-89	64,456	233	3.6	2.5	0.09	24%	12	87	5	12	23	1073
90-94	21,180	59	2.8	2.1	0.09	24%	3	92	1	3	6	303
95-99	4,586	8	1.8	1.7	0.09	24%	0	97	0	0	1	48
100+	1,199	2	1.4	1.6	0.09	24%	0	102	0	0	0	9
TOTAL	9,871,642	181,904	18.43				16936		22,658	17988	16098	651898

DISEASE: Alcohol use disorder												
REGION: Australia 2003												
AUSBod Code: 2J01a												
Females												
0-1	120,420						0					
1-4	495,975						0					
5-9	650,156						0					
10-14	671,927						0					
15-19	672,913	247	0.4	4.0	0.09	20%	16	19	25	17	7	368
20-24	676,408	6,732	10.0	3.5	0.09	20%	401	23	612	423	160	8976
25-29	678,633	17,414	25.7	3.5	0.09	21%	1085	28	1,632	1143	714	37752
30-34	765,313	12,628	16.5	3.9	0.09	21%	870	32	1,257	921	945	49961
35-39	734,000	6,315	8.6	4.1	0.09	28%	611	37	825	650	848	34000
40-44	769,261	5,524	7.2	4.2	0.09	28%	539	42	672	574	683	27362
45-49	705,606	3,589	5.1	4.2	0.09	25%	321	47	365	341	446	19503
50-54	656,972	2,088	3.2	4.1	0.09	25%	186	52	190	197	294	12856
55-59	570,437	1,080	1.9	4.1	0.09	72%	272	57	251	289	478	7306
60-64	430,450	496	1.2	4.1	0.09	72%	125	62	102	132	223	3409
65-69	365,102	219	0.6	4.0	0.09	8%	6	67	4	6	12	1760
70-74	328,641	127	0.4	3.8	0.09	8%	3	73	2	3	6	912
75-79	297,882	144	0.5	3.5	0.09	0%	0	78	0	0	0	637
80-84	221,629	120	0.5	3.2	0.09	0%	0	82	0	0	0	483
85-89	126,497	66	0.5	2.7	0.09	0%	0	87	0	0	0	281
90-94	54,801	29	0.5	2.3	0.09	0%	0	92	0	0	0	120
95-99	14,237	7	0.5	1.9	0.09	0%	0	97	0	0	0	31
100+	2,567	1	0.5	1.8	0.09	0%	0	103	0	0	0	6
TOTAL	10,009,827	56,827	5.68				4436		5,936	4697	4818	205723

NSW Health then calculated the rates for persons in 5 year age brackets.

AGE	CODE	SEQ	INC	DURATION	DW	AGE_ONSET	PREV
0			0.00%				0.00%
1			0.00%				0.00%
5			0.00%				0.00%
10			0.00%				0.00%
15			1.47%				2.10%
20			3.35%				7.38%
25			3.24%				10.37%
30			2.34%				9.59%
35			1.71%				7.81%
40			1.40%				6.44%
45			1.12%				5.30%
50			0.84%				4.20%
55			0.67%				3.33%
60			0.53%				2.65%
65			0.41%				2.08%
70			0.29%				1.55%
75			0.22%				1.14%
80			0.20%				0.89%
85			0.16%				0.73%
90			0.12%				0.55%
95			0.08%				0.40%
100			0.07%				0.35%
			1.19%				4.27%

So, if AUSBoD shows prevalence data for age 15+, how did NSW Health calculate prevalence for 12-17 years?

- 1 We used the AUSBoD prevalence rate for 15, 16 and 17 years for the DA\_CCP ages of 15, 16 and 17 years.
- 2 For DA-CCP ages of 12, 13, 14 we inserted the AUSBoD prevalence of 0% for 12, 13, and 14 years.

Using AUSBoD data in the DA-CCP age group of 12-17 years. Opioids as an example.

<b>DISEASE: Heroin and poly drug use</b> <b>REGION: Australia 2003</b>											
<b>AUSBod Code:</b>	<b>2J01b</b>										
	<b>Population <sup>(p)</sup></b>	<b>Incidence <sup>(i)</sup></b>	<b>Incidence <sup>(i,10)</sup></b>	<b>Duration <sup>(d)</sup></b>	<b>Disability <sup>(dw)</sup></b>	<b>YLDs</b>	<b>age at</b>	<b>YLDs</b>	<b>YLDs</b>	<b>Prev YLDs</b>	<b>Prevalent</b>
			<b>per 1000</b>		<b>Weight</b>	<b>(3,0)</b>	<b>onset</b>	<b>(3,1)</b>	<b>(0,0)</b>	<b>(0,0)</b>	<b>cases</b>
<i>Males</i>											
0-1	126631	0	0.0	16.3	0.27	0	0.5	0	0	0	0
1-4	521635	0	0.0	16.3	0.27	0	3.0	0	0	0	0
5-9	686149	0	0.0	16.2	0.27	0	9.0	0	0	0	1
10-14	706517	0	0.0	16.0	0.27	0	13.9	0	0	9	35
15-19	703874	493	0.7	15.9	0.27	1680	18.2	2,520	2112	262	971
20-24	700428	911	1.3	15.7	0.27	3081	22.4	4,575	3865	1090	4038
25-29	683150	458	0.7	15.5	0.27	1532	27.1	2,193	1915	1585	5871
30-34	751904	248	0.3	15.2	0.27	816	32.3	1,100	1016	1687	6248
35-39	724527	87	0.1	14.8	0.27	280	36.9	353	347	1386	5134
40-44	762199	8	0.0	14.3	0.27	24	41.6	28	29	1125	4167
45-49	694878	7	0.0	13.6	0.27	21	47.5	22	26	763	2827
50-54	652802	7	0.0	12.8	0.27	19	52.5	18	23	534	1976
55-59	583508	6	0.0	11.8	0.27	16	57.4	13	19	359	1329
60-64	439155	4	0.0	10.7	0.27	11	62.4	8	13	202	748
65-69	354970	4	0.0	9.4	0.27	8	67.4	5	9	123	456
70-74	301236	3	0.0	7.9	0.27	6	72.5	3	6	78	290
75-79	240098	2	0.0	6.5	0.27	4	77.3	2	4	48	176
80-84	146560	1	0.0	5.2	0.27	2	82.2	1	2	22	82
85-89	64456	0	0.0	4.0	0.27	0	87.1	0	0	8	28
90-94	21180	0	0.0	3.1	0.27	0	91.8	0	0	2	7
95-99	4586	0	0.0	2.4	0.27	0	96.7	0	0	0	1
100+	1199	0	0.0	2.2	0.27	0	102.3	0	0	0	0
<b>TOTAL</b>	<b>9871642</b>	<b>2,238</b>	<b>0.2</b>			<b>7,499</b>		<b>10,841</b>	<b>9,385</b>	<b>9,284</b>	<b>34,385</b>



DISEASE: Heroin and poly drug use											
REGION: Australia 2003											
AUSBod Code:	2J01b										
<i>Females</i>											
0-1	120420	0	0.0	16.3	0.27	0	0.5	0	0	0	0
1-4	495975	0	0.0	16.3	0.27	0	3.0	0	0	0	0
5-9	650156	0	0.0	16.2	0.27	0	9.0	0	0	0	0
10-14	671927	13	0.0	16.1	0.27	46	14.0	68	58	3	12
15-19	672913	175	0.3	15.9	0.27	599	18.2	898	753	95	351
20-24	676408	325	0.5	15.8	0.27	1102	22.4	1,635	1383	398	1475
25-29	678633	156	0.2	15.5	0.27	523	27.1	749	654	583	2158
30-34	765313	92	0.1	15.1	0.27	302	32.4	406	375	625	2316
35-39	734000	37	0.1	14.7	0.27	118	36.9	148	146	516	1911
40-44	769261	8	0.0	14.2	0.27	24	42.0	28	29	419	1553
45-49	705606	7	0.0	13.7	0.27	21	47.5	22	26	285	1056
50-54	656972	7	0.0	13.1	0.27	19	52.5	18	23	197	728
55-59	570437	6	0.0	12.4	0.27	16	57.4	13	19	129	476
60-64	430450	4	0.0	11.4	0.27	11	62.4	8	13	73	269
65-69	365102	4	0.0	10.3	0.27	9	67.4	6	10	47	174
70-74	328641	0	0.0	9.0	0.27	0	72.5	0	0	32	120
75-79	297882	0	0.0	7.5	0.27	0	77.4	0	0	23	86
80-84	221629	0	0.0	5.9	0.27	0	82.2	0	0	14	51
85-89	126497	0	0.0	4.4	0.27	0	87.2	0	0	6	23
90-94	54801	0	0.0	3.3	0.27	0	91.9	0	0	2	8
95-99	14237	0	0.0	2.6	0.27	0	96.6	0	0	0	1
100+	2567	0	0.0	2.4	0.27	0	102.7	0	0	0	0
TOTAL	10009827	833	0.1			2789		4,000	3,490	3,447	12,768

SEX	AGE	CODE	SEQ	INC	DURATION	DW	AGE_ONSET	PREV
Persons	0			0.00%				0.00%
Persons	1			0.00%				0.00%
Persons	5			0.00%				0.00%
Persons	10			0.00%				0.00%
Persons	15			0.05%				0.10%
Persons	20			0.09%				0.40%
Persons	25			0.05%				0.59%
Persons	30			0.02%				0.56%
Persons	35			0.01%				0.48%
Persons	40			0.00%				0.37%
Persons	45			0.00%				0.28%
Persons	50			0.00%				0.21%
Persons	55			0.00%				0.16%
Persons	60			0.00%				0.12%
Persons	65			0.00%				0.09%
Persons	70			0.00%				0.07%
Persons	75			0.00%				0.05%
Persons	80			0.00%				0.04%
Persons	85			0.00%				0.03%
Persons	90			0.00%				0.02%
Persons	95			0.00%				0.01%
Persons	100			0.00%				0.00%
				0.02%				0.23%

So, if AUSBoD shows prevalence data for age 15+, how did NSW Health calculate prevalence for 12-17 years?

- 1 We used the AUSBoD prevalence rate for 15, 16 and 17 years for the DA\_CCP ages of 15, 16 and 17 years.
- 2 For DA-CCP ages of 12, 13, 14 we inserted the AUSBoD prevalence of 0% for 12, 13, and 14 years.

Using AUSBoD data in the DA-CCP age group of 12-17 years. Amphetamines as an example.

DISEASE: Stimulant dependence												
REGION: Australia 2003												
AUSBod Code:	2J01e											
	Population	Incident cases	Incidence per 1000	Duration	Disability Weight	% of time symptomatic	YLDs (3,0)	age at onset	YLDs (3,1)	YLDs (0,0)	Prev YLDs (0,0)	Prevalent cases
<b>Males</b>												
0-1	126,631						0					
1-4	521,635						0					
5-9	686,149						0					
10-14	706,517						0					
15-19	703,874	1,118	1.6	8.2	0.07	20%	108	18	162	122	28	2100
20-24	700,428	2,183	3.1	8.2	0.07	20%	210	22	318	237	106	7965
25-29	683,150	1,354	2.0	8.1	0.07	20%	130	27	192	146	146	11008
30-34	751,904	396	0.5	8.1	0.07	20%	38	32	54	43	131	9829
35-39	724,527	11	0.0	8.0	0.07	20%	1	36	1	1	74	5593
40-44	762,199	5	0.0	7.9	0.07	20%	0	42	1	0	43	3244
45-49	694,878	3	0.0	7.8	0.07	20%	0	47	0	0	22	1630
50-54	652,802	2	0.0	7.5	0.07	20%	0	52	0	0	11	842
55-59	583,508	2	0.0	7.2	0.07	20%	0	57	0	0	6	422
60-64	439,155	0	0.0	6.8	0.07	20%	0	62	0	0	2	172
65-69	354,970	0	0.0	6.3	0.07	20%	0	67	0	0	1	75
70-74	301,236	0	0.0	5.8	0.07	20%	0	72	0	0	0	34
75-79	240,098	0	0.0	5.2	0.07	20%	0	76	0	0	0	15
80-84	146,560	0	0.0	4.1	0.07	20%	0	82	0	0	0	5
85-89	64,456	0	0.0	3.2	0.07	20%	0	88	0	0	0	1
90-94	21,180	0	0.0	2.7	0.07	20%	0	92	0	0	0	0
95-99	4,586	0	0.0	2.3	0.07	20%	0	96	0	0	0	0
100+	1,199	0	0.0	2.1	0.07	20%	0	102	0	0	0	0
<b>TOTAL</b>	<b>9,871,642</b>	<b>5,074</b>	<b>0.51</b>				<b>487</b>		<b>729</b>	<b>549</b>	<b>571</b>	<b>42935</b>

Theo:  
ignore dismod incidence  
below 15 years of age

Theo:  
because of erratic age  
pattern decided to use one  
DW

DISEASE: Stimulant dependence												
REGION: Australia 2003												
AUSBod Code:	2J01e											
	Population	Incident cases	Incidence per 1000	Duration	Disability Weight	% of time symptomatic	YLDs (3,0)	age at onset	YLDs (3,1)	YLDs (0,0)	Prev YLDs (0,0)	Prevalent cases
<i>Females</i>												
0-1	120,420						0					
1-4	495,975						0					
5-9	650,156						0					
10-14	671,927						0					
15-19	672,913	673	1.0	8.3	0.07	34%	114	18	171	128	31	1360
20-24	676,408	1,224	1.8	8.2	0.07	34%	206	22	313	233	109	4707
25-29	678,633	676	1.0	8.2	0.07	34%	114	27	168	128	144	6251
30-34	765,313	184	0.2	8.2	0.07	34%	31	32	44	35	125	5431
35-39	734,000	7	0.0	8.1	0.07	34%	1	37	2	1	70	3053
40-44	769,261	4	0.0	8.0	0.07	34%	1	42	1	1	41	1775
45-49	705,606	3	0.0	7.9	0.07	34%	0	47	1	1	21	904
50-54	656,972	1	0.0	7.8	0.07	34%	0	52	0	0	11	464
55-59	570,437	1	0.0	7.5	0.07	34%	0	57	0	0	5	225
60-64	430,450	0	0.0	7.2	0.07	34%	0	62	0	0	2	92
65-69	365,102	0	0.0	6.9	0.07	34%	0	67	0	0	1	42
70-74	328,641	0	0.0	6.4	0.07	34%	0	72	0	0	0	20
75-79	297,882	0	0.0	5.8	0.07	34%	0	76	0	0	0	10
80-84	221,629	0	0.0	4.5	0.07	34%	0	83	0	0	0	4
85-89	126,497	0	0.0	3.7	0.07	34%	0	87	0	0	0	1
90-94	54,801	0	0.0	3.0	0.07	34%	0	92	0	0	0	0
95-99	14,237	0	0.0	2.4	0.07	34%	0	97	0	0	0	0
100+	2,567	0	0.0	2.2	0.07	34%	0	103	0	0	0	0
TOTAL	10,009,827	2,773	0.28				467		699	527	561	24339

SEX	AGE	CODE	SEQ	INC	DURATION	DW	AGE_ONSET	PREV
Persons	0			0.00%				0.00%
Persons	1			0.00%				0.00%
Persons	5			0.00%				0.00%
Persons	10			0.00%				0.00%
Persons	15			0.13%				0.25%
Persons	20			0.25%				0.92%
Persons	25			0.15%				1.27%
Persons	30			0.04%				1.01%
Persons	35			0.00%				0.59%
Persons	40			0.00%				0.33%
Persons	45			0.00%				0.18%
Persons	50			0.00%				0.10%
Persons	55			0.00%				0.06%
Persons	60			0.00%				0.03%
Persons	65			0.00%				0.02%
Persons	70			0.00%				0.01%
Persons	75			0.00%				0.00%
Persons	80			0.00%				0.00%
Persons	85			0.00%				0.00%
Persons	90			0.00%				0.00%
Persons	95			0.00%				0.00%
Persons	100			0.00%				0.00%
				0.04%				0.33%

AUSBoD shows prevalence data for age 15+, how did NSW Health calculate prevalence for 12-17 years?

1. We used the AUSBoD prevalence rate for 15, 16 and 17 years for the DA\_CCP ages of 15, 16 and 17 years.
2. For DA-CCP ages of 12, 13, 14 we inserted the AUSBoD prevalence of 0% for 12, 13, and 14 years.

**APPENDIX 6 ACTIVITIES INCLUDED /EXCLUDED FROM CARE PACKAGES AND CLINICAL FTE**

This following table summarises whether the activities listed below are picked up in the Care Packages (as minutes/hours) or are picked up in the indirect care component of the Clinical FTE , or are currently excluded.

**Further information regarding the columns in the In the Table A6.1, below:**

**67% time with/for patient** :Included in the 67% of time with or for the patient

**33 % Overhead:** Included in 33% overhead for training, professional development, clinical supervision, evaluation and monitoring

**Administration/Management Cost (10%)**

The 10% administration/management cost is meant to account for the direct support structure needed to run a clinical drug and alcohol service. It reflects the wages of the staff directly employed by the drug and alcohol service to support the clinical staff (ward clerks and other clerical support) as well as the employment of management staff, such as the Director of the D&A service. In the model, these costs are absorbed by applying a figure of 10% on top of the clinical salaries.

Note that this 10% does not include costs incurred by the larger health infrastructure, or the broader structural supports, needed to run a Local Health District or a hospital. Examples of things that are not included in the 10% include the proportion of costs assigned to the D&A service for:

- The running of Medical Record and Human Resources departments
- The LHD Chief Executive or Hospital CEO salaries
- Maintenance departments
- Cost of the bus driver utilised for patient transportation

These types of associated costs are expressed as an additional bed day cost, and is applied to bed or place based services.

**Personnel Cost (28%)**

This is the additional on-cost that is borne by the health service when employing any staff, over and above their clinical salary. It includes:

- The employer superannuation contribution
- Workers compensation insurance
- Long service and other leave entitlements (including sick leave)
- Shift loading and other working entitlements

**Table 70 - Activities Included/Excluded from care Packages and Clinical FTE**

	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
1	Direct clinical activity (as specified in the Care Packages) which includes assessment, counselling, support, case management, assertive follow-up)	Yes	No	NA	NA	
2	Service administration meetings	No	Yes	NA	NA	
3	Clinical review meetings (~ weekly)	Yes	No	NA	NA	Yes –item added to each care package that covers this
4	Clinical handover meetings (~ daily)	Yes	No	NA	NA	
5	Case conferences	Yes	No	NA	NA	
6	Writing case notes	No	Yes	NA	NA	
7	Completing information system – data input	No	Yes	NA	NA	
8	Reporting stats (monthly)	No	Yes	NA	NA	
9	Referral into and out of service letters/phone calls	Yes		NA	NA	
10	Ordering equipment (e.g. sterile injecting equipment, specimen jars, gloves, etc)	No	Yes	NA	NA	
11	Pharmacy – faxing scripts, calls to pharmacists, organising takeaways.	Yes	No	NA	NA	
12	Organising client transfers to other services	Yes	No	NA	NA	
13	Transporting clients (patient transport) e.g. Illicit opioid care packages	Yes	No	NA	NA	E.G: the car's petrol, mechanical repair costs, a driver who is not employed by the drug and

	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
	Methadone to Abstinence Residential (MTAR) Residential Treatment for Opioid Dependence (RTOD)					alcohol service etc are covered only in the overhead/ non salary ancillary costs related to bed based stays. We do not have data to calculate overhead/ non salary / ancillary costs in an ambulatory setting. Patient transport - e.g. include cost of bus and driver but not Clinical staff accompanying the patient.
14	Clinician travel time	Yes	No	NA	NA	
15	Professional development activities, training sessions, seminars, conferences	No	Yes	NA	NA	
16	Clinical supervision	No	Yes	NA	NA	
17	Performance appraisal	No	Yes	NA	NA	
18	Service development activities, e.g. developing standardised referral form; quality assurance meetings etc.	No	Yes	NA	NA	
19	Collaboration/liaison with other service providers (e.g. developing care pathways, processes for referral service agreements, MOUs, etc)	No	Yes	NA	NA	
20	Promoting access to treatment – info sessions, awareness raising	No	Yes	NA	NA	
21	Information & Education sessions for health and welfare staff, primary care staff etc. (training provision)	No	Yes	NA	NA	



	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
22	Monitoring and evaluation	No	Yes	NA	NA	
23	Research	No	Yes	NA	NA	
24	Mandatory clients; court reports etc.	Yes,	Yes	NA	NA	67% : Yes, where on or behalf of the client\ 33% :Yes, where writing reports
25	Worker (as modelled in the care packages) taking annual leave	No	No	NA	NA	See table above, row D. The workers 6 weeks' annual leave is a total of 228 hours. The 228 hours is deducted from the 1983 total hours to leave 1755 productive hours
26	Worker (as modelled in the care packages) taking sick leave:	No	No	NA	NA	Sick leave is not included because it is not a fixed amount.
27	Hotel items e.g. food	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
28	Linen	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
29	Electricity - heat, light , power	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
30	Cleaning	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost

	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
						per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
31	Cars	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
32	Telephones	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
33	IT	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
34	Stationary	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
35	Medical records	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u>

	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
						calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
36	Medical supplies	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as there is no data that we can go to for this information.
37	Depreciation	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services, as s there is no data that we can go to for this information. Administrative salaries related to bed based stays have been excluded from the over head / non salary cost
38	Portion of the CEO	NA	NA	NA	NA	Included in Overhead/ non salary ancillary cost per day for any bed based stay. We have <u>not</u> calculated ancillary costs for ambulatory services , as there is no data that we can go to for this information.
39	salaries of ward clerk, administrative assistant	NA	NA	Yes	No	The salaries of these workers have been included in the total salary cost per FTE in the model , that is, this cost has been included in the final salary of the AMS, NAH, and AOD worker
40	Salaries of direct management staff	No	No	Yes	No	The salaries of these workers have been

	Item	67% time with / for patient	33% overhead	Admin/ management cost (10%)	Personnel cost (28%)	Other / Note
						included in the total salary cost per FTE in the model , that is, this cost has been included in the final salary of the AMS, NAH, and AOD worker
41	Capital expenditure e.g. brick and mortar	NA	NA	NA	NA	Excluded from model entirely

## APPENDIX 7 CALCULATIONS FOR PRICING – CLINICAL STAFF

### A7.1 A comparison of prices for the different types of FTEs by source

**Table 71 - A comparison of prices for the different types of FTEs by source**

		Certificate IV AOD worker	Nursing and Allied Health	Medical Officer	Notes
1	National Mental Health Report 2010	No	No	No	This report can only provide one average FTE price which is calculated as total expenditure (page 105) divided by total direct care clinical FTE (page 137). Average direct care clinical FTE price is \$153, 237
2	NSW Health Drug and Alcohol Costing Project Final Report, 2005.	No	No	No	Provides prices for 13 NSW pharmacotherapy services and 14 NSW non pharmacotherapy services. Sample represents 426 staff. Prices are reported on a per client basis or a per week basis. If a measure of total expenditure can be found, then an average prices/ FTE may be determined or if number of staff by staff type can be found, along with total expenditure, then price per type of FTE can be determined
3	Victorian mental health contractual cost paid to NGOs to deliver Community Based Outreach support (CBOS)	Paid at a rate of \$83.04 per hour	No	No	This is a contractual price that is paid by the Victorian government to NGOs to provide community based mental health services derived from the Department of Human Services Annual Report 2008-09 and detailed planning report is available from the on the North West Region, which covers 29.7% of the Victorian population and includes 30 Psychiatric Disability Rehabilitation and Support Services (PDRSS). See State and territory expenditure on mental health services

4	National Minimum Data Set - Mental Health Establishments – validator	Av sal=\$ 50,158 Low cut off=\$ 25,079 High cut off=\$ 75,238	<b>Nurse:</b> Av sal=\$ 80, 893 Low cut off=\$ 40, 447 High cut off=\$ 121,340 <b>Allied Health:</b> Av sal=\$ 73,228 Low cut off=\$ 36,614 High cut off=\$ 109,843	Av sal=\$176, 957 Low cut off=\$ 88 ,479 High cut off=\$265, 436	This provides averages for the staffing categories as reported in the Mental Health Establishments NMDS validator. It should be noted that this validator is applied to all of the NMDS establishment data set which represent s 26 500 mental health FTEs. The prices shown for the validator are average salary prices only (and is not adjusted for non salary costs) with a low and high cut off for validation. Data is for staffing salary categories only, and <u>not</u> adjusted for non salaries because the data source is for validation purposes. The prices shown under the Cert IV are a proxy. We have used the staff type “other personal carer” as a proxy.
5	NSW Health Mental Health Establishments Data set - analysed for all 6 dual diagnosis units in NSW only	Sal= \$ 59, 212 Adj sal =\$ 91, 719	<b>Nurse:</b> Sal= \$ 84, 807 Adj sal=\$119, 148  <b>Allied Health:</b> Sal= \$ 79, 372 Adj sal=\$113, 695	Sal= \$171,912 Adj sal =\$207, 940	This is an analysis of the NSW Health Mental Health Establishments Data Set for 2 community/ ambulatory dual diagnosis services and 4 inpatient units in NSW for the FY 09-10. There were 104.52 staff in total, being 11.37 medical officers, 0.78 VMOs, 77.22 nurses, 15.16 Cert IV. FTEs and "Salary" are adjusted for overhead FTEs and associated salaries. Adjusted salary includes a proportion of non-salary prices (such as Superannuation, electricity, drugs, etc). . VMOs do not have salaries as such, but the prices incurred by the service for employing the VMO are included here. Certificate IV figures are taken from the combined "Other Personal Care" and "Domestic & Other" staffing categories. For interest one full VMO salary =\$236 032, and the VMO adjusted salary =\$ 271 871
6	South Australian estimates	Yes	Yes	Yes	Estimates following the information session in Sept 2011. See data and notes in separate table 4B below
7	Tasmania estimate	\$115,000	No	No	Estimates following the information session in Aug 2011.

8	National Centre for Education and Training on Addiction (NCETA) reports	No	No	No	See other tables in this appendix, but 1 of the 5 reports we examined did show prices for “community drug service team counsellors”
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## A7.2 A comparison of prices for the different types of FTEs by source – South Australia

**Table 72 - A comparison of prices for the different types of FTEs by source – South Australia**

Employment category	Base	With 28% on costs	Say Total S&W	Infrastructure Costs	Total Price	Notes
Medical Consultant- MD2	\$305,970	\$391,642	\$ 400,000	\$ 15,000	\$415,000	MD2 Medical Consultant is a specialist (e.g. Addiction Medicine Specialist)
Senior Medical Practitioner- MDP4	\$147,829	\$189,221	\$ 200,000	\$ 15,000	\$215,000	MDP4 Senior Medical Officer is a non-specialist medico. NB there is a substantial difference in base price for MD2 / MDP4.(In future modelling work, it may be useful to have a better sense of role split between these two)
Registered Nurse/Allied Health Professional- RN2/AHP2	\$ 79,000	\$101,120	\$110,000	\$ 15,000	\$125,000	Nursing (RN2) and allied health professionals (e.g.. psychologists, social workers) (AHP2). We have taken a middle level nurse/AHP position for the present purpose. This middle level represents the largest category of Nurses/Allied Health Professionals we employ
Operational Services- OPS3	\$ 55,465	\$ 70,995	\$ 80,000	\$ 15,000	\$ 95,000	Cert IV drug workers – Operational workers are a very small employee group in our service, but more common in the NGO sector in SA. We have taken a middle level position (OPS3) for pricing.

**Notes:** S&W on-costs include (SA Health guidelines): superannuation, workers compensation admin fee, conference leave, etc. Infrastructure prices include: accommodation, electricity, ICT support, shared services, finance and HR support, other corporate overheads, etc

**A7.3 A comparison of prices for the different types of FTEs by source – NSW data in the SA format**

**Table 73 - A comparison of prices for the different types of FTEs by source – NSW data in the SA format**

<b>Employment category</b>	<b>Base salary for direct FTEs only</b>	<b>Salary &amp; Wages from overhead FTEs</b>	<b>Say Total S&amp;W</b>	<b>Infrastructure (Non-Salary) Prices</b>	<b>Total Price</b>
Medical Officer	\$180,700	\$219,068	\$220,000	\$46,000	\$266,000
Nurse	\$83,535	\$90,855	\$95,000	\$37,000	\$132,000
Allied Health	\$79,466	\$90,782	\$95,000	\$40,000	\$135,000
Certificate IV AOD Worker	\$59,212 (using Overhead FTEs)	N/A - No data available	\$60,000	\$53,000	\$113,000



This table pulls the various data sources together and summarises the “salary only” component. Once we agree on the salary only component, we can then apply the on costs (28%), the reportable hours; the operating costs; and the admin overheads.

#### A7.4 Summary – salary only

Table 74 - Summary – salary only

	NSW summary data	SA data	NMDS MH NSW	NMDS NSW dual diagnosis units	Vic	Awards rates
<b>Doctor</b>	180,771	147,829 – 305,970	176,957	171.912		?
<b>Nurse/Allied Health</b>	79,466 - 83,535	79,000	73,228- 80,893	79,372 - 84,807		?
<b>AOD worker</b>	59,212	55,465	50,158	59,212		SACS

## A7.5 General Medical Practitioner

### ISSUES:

1 The DA-CCP Project Team could not source the average salary for a full time GP from publically available data. Hence we have used ABS Health Care Services, 2009-10 data and made some assumptions with this data to determine the average salary for a full time GP.

2 Data from the ABS indicates that just over half of all employees (note this is all employees, not GPs) in general practice work permanent fulltime time (55%) and the remainder work as part time or casuals. Average fee for service income earned per practitioner was \$181,600, but remember this average income reflects the incomes of all GPs working fulltime, part time and on a casual basis. It is not the average income of one FTE GP

3 Data from GP Australia shows more detailed information, but the summary information is:

**A GP registrar in their first term- estimated earnings**

Urban GP registrar (with no procedural) \$103,576 –\$113,933

Rural & remote registrar (with procedural work) \$145,006 – \$186, 437

**A GP registrar in their second term- estimated earnings**

Urban GP registrar (with no procedural) \$153,364 –\$170,900

Rural & remote registrar (with procedural work) \$217,510 – \$279,656

Information from Australian Bureau of Statistics

8570.0 - Health Care Services, 2009-10

Latest ISSUE Released at 11:30 AM (CANBERRA TIME) 05/07/2011 First Issue

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8570.0Explanatory%20Notes12009-10?OpenDocument>

### INTRODUCTION

1 This publication presents estimates of the economic and financial performance of health care services businesses/organisations for 2009-10. The primary purpose of these estimates is to present detailed information on the financial performance and type of activity of businesses/organisations primarily engaged in the provision of health care services. Estimates were produced using directly collected data from the Health Care Services Survey conducted by the Australian Bureau of Statistics (ABS).

### SCOPE

2 The scope of the collection consisted of 'for profit' and 'not for profit' private sector business entities and organisations operating in the Australian economy during 2009-10, classified to the following ANZSIC classes:

- 8511 General practice medical services
- 8512 Specialist medical services
- 8520 Pathology and diagnostic imaging services
- 8531 Dental services
- 8532 Optometry and optical dispensing services
- 8533 Physiotherapy services
- 8534 Chiropractic and osteopathic services
- 8539 Other allied health services
- 8591 Ambulance services

- 8599 Other health care services

Information from the publication use to determine the cost of one FTE GP

**Persons working - general practice medical services** There were 107,213 persons engaged in the general practice medical industry at the end of June 2010. Of this number 61,651 or 57.5% were registered medical/health practitioners and other staff providing health care. The remainder were administrative and support staff.

Of those providing direct health care services 51,414 persons were employed by businesses and 10,238 persons (16.6%) were working on contract. Working proprietors and partners accounted for 15,085 or 29.3% of persons employed by businesses while the remaining 36,329 or 70.7% were employees. Of all employees (note this is all employees, not just GPs), 55.4% were permanent full-time, 24.4% were permanent part-time and the remaining 20.3% were casual/temporary .

At the end of June 2010, there were 61,651 registered medical/health practitioners and other staff providing health care employed or working on contract in general practice medical businesses. Just under 60% of this number consisted of registered general practitioners with male practitioners accounting for 64% (or 23,289) of this total. Of total general practitioners the overwhelming majority (88.9%) were vocationally registered. The DA-CCP Project Team has taken data from the ABS data cube to show a total of 36,392 GPs. Thus the GPs represent 34% of all employees in the general practice medical industry.

There were 10,981 registered nurses working in general practice medical businesses with female nurses accounting for 94.5% of the total. A further 14,280 registered practitioners and other persons providing direct health care, other than general practitioners or nurses worked in general practice medical businesses. This indicates the presence of multi-disciplinary medical clinics.

**Table 75 - Characteristics of general practitioners**

Row	<b>85700DO002_200910 Health Care Services, 2009-10</b>	
	Released at 11:30 am (Canberra time) Tues 5 Jul 2011	
	<b>Table 5 Characteristics of registered medical practitioners and professionals, General practice medical services</b>	
		<b>Australia</b>
		no.
	<b>MALES</b>	
1	<b>General medical practitioners</b>	
2	Vocational	
3	less than 46 years of age	5,592
4	46 years to less than 65 years of age	13,040
5	65 years of age or more	2,021
6	<i>Total</i>	<b>20,654</b>
7	Non-vocational	
8	less than 46 years of age	1,288
9	46 years to less than 65 years of age	1,077
10	65 years of age or more	270
11	<i>Total</i>	<b>2,635</b>
12	Total general medical practitioners	
13	less than 46 years of age	6,880
14	46 years to less than 65 years of age	14,118
15	65 years of age or more	2,291

16	Total	23,289
17	Nurses	
18	Total	608
19	Other health practitioners and professionals	
20	less than 46 years of age	3,312
21	46 years to less than 65 years of age	5,494
22	65 years of age or more	1,677
23	Total	10,484
24	<b>FEMALES</b>	
25	General medical practitioners	
26	Vocational	
27	less than 46 years of age	5,238
28	46 years of age or more	6,477
29	Total	11,715
30	Non-vocational	
31	less than 46 years of age	592
32	46 years of age or more	796
33	Total	1,388
34	Total general medical practitioners	
35	less than 46 years of age	5,830
36	46 years of age or more	7,273
37	Total	13,103
38	Nurses	
39	less than 46 years of age	4,620
40	46 years of age or more	5,753
41	Total	10,373
42	Other health practitioners and professionals	
43	less than 46 years of age	2,550
44	46 years of age or more	1,246
45	Total	3,796
	© Commonwealth of Australia 2011	
	<b>DA-CCP Project Team calculations</b>	
	total all GPs ( sum rows 16 +37)	36,392
	total all nurses ( sum rows 18 +41)	10,981
	total all Other health practitioners and professionals ( sum rows 23+45)	14,280
	total all GPs + nurses+ other health ( sum rows 16 +37+18 +41+23+45)	61,653
	% GPs of all (GPs+ nurses+other health)	59
	total all employees included in data ( from ABS table 1 and written in report)	107213
	% all GPs of all employees included in the data	34

### Income and expenses- general Income and expenses- general practice medical services

During the 2009-10 financial year, total income of \$14.7b was generated by general practice medical businesses, of which fee for service accounted for \$11.1b or 75.6% of total income.

Of the total fee for service \$6.2b or 55.3% comprised of bulk billing payments and \$3b or 26.5% was from patient payments. Other income from medical/health related services accounted for \$1.2b or 8.5% of total income, and included contract income earned by medical and health practitioners contracting their services to other medical businesses, one-off incentive payments made to practitioners and a number of other health related services. General practitioner businesses operating on 30 June 2010 generated an average income of \$519,400 per business. Average fee for service income earned per practitioner was \$181,600 (but note this is not the salary of full time GP).

### Patients- general practice medical services

General practitioners had an average of 124 patient contacts per working week  
DA-CCP Project Team calculates salary of one FTE GP using ABS data:

**Table 76 - using % of all employees from ABS data**

Step	Step 1 - using % of all employees from ABS data	Explanation
A	55% of all employees work permanent full time	ABS data
B	25% of all employees work permanent part time	ABS data
C	20% of all employees work as casuals	ABS data
D	55% of all GPs work permanent full time	Assumption: working arrangements for GPs is same as for all employees
E	25% of all GPs work permanent part time	Assumption: working arrangements for GPs is same as for all employees
F	20% of all GPs work as casuals	Assumption: working arrangements for GPs is same as for all employees
G	if 55% GP work fulltime, then fraction is $0.55 \times 1 = 0.55$	Assumption: full time = working 100% of the time
H	if 25 % GP work part time, then fraction is $0.25 \times 0.5 = 0.125$	Assumption: part time = working 50% of the time
I	if 20% GP work as casuals, then fraction is $0.2 \times 0.25 = 0.05$	Assumption: casual = working 25% of the time
J	sum of fractions for rows G + H + I = 0.725	Thus 0.725 of GP has salary of \$181,600. ABS data shows average salary is \$181,600
K	salary of one FTE GP	<b>If 0.725 of a GP has average salary of \$181,600, then one FTE GP has salary of \$250,482</b>

Table 77 - using ABS average number of contacts / week

Step	Step 2 - using ABS average number of contacts / week	Explanation
A	124	ABS data shows an average of 124 contacts per week
B	0.725	Assumption: average GP is 0.725 of an FTE (from step 1, row J)
C	171	Number of contacts by one FTE GP per week (i.e. A divide by row B). GP thus 42.75 hrs /week
D	42.75	GP works 42.75 hours per week (171 contact x 15 minutes). DEEWR data shows GP works 42.2 hrs / week**
E	\$36.30	Cost of Medicare item 23, which is most frequently used item (approx 75% of the time)
F	\$6,208.55	GP earnings per week (row D x E)
G	48	DA-CCP Project Team assumes GP works 48 weeks per year
H	<b>\$298,010.48</b>	<b>one FTE GP earnings per year (F x G)</b>

\*\* Department of Education Employment and Workplace Relations. Job outlook: General Medical Practitioner. 2010

### Information from GP Australia

<http://www.gpaustralia.org.au/content/what-can-you-earn>

For 2012, the minimum salary in (accordance with the NMT&C) is:

#### REGISTRAR MINIMUM SALARY

GP term 1	\$71,400 per annum plus super or 45% of billings (whichever is greater)
GP term 2	\$85,845 per annum plus super or 45% of billings (whichever is greater)

When registrars first start in general practice they are typically on the base rate, but as soon as they are settled and start seeing a modest number of patients they quickly swap to a percentage of billings instead.

### GP Registrar Sample Salaries

#### EXAMPLE 1

##### A GP registrar in term 1

- with 45% of billings earned for regular hours
- seeing 3 patients an hour
- doing 8 clinical sessions a week,
- billing 45% of patients privately at \$65 an hour
- with no "after - hours" or "on call" duty and • with 4 weeks annual leave

#### Estimated Earnings

Urban GP registrar (with no procedural) **\$103,576 – \$113,933**

Rural & remote registrar (with procedural work) **\$145,006 – \$186,437**

## **EXAMPLE 2**

### **A GP registrar in term 2**

- with 45% of billings earned for regular hours
- seeing 4 patients an hour
- doing 9 clinical sessions a week,
- billing 45% of patients privately at \$65 an hour
- with no "after hours" or "on call" duty and • with 4 weeks annual leave

### **Estimated Earnings**

Urban GP registrar (with no procedural) **\$153,364 – \$170,900**

Rural & remote registrar (with procedural work) **\$217,510 – \$279,656**

**APPENDIX 8 CALCULATIONS FOR PRESENTATIONS AT EMERGENCY DEPARTMENT**

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**A8.1 Method of Calculation - Presentations at Emergency Department**

It is known that the number and rate of drug and alcohol presentations at emergency departments is under represented, so the following method was used to calculate drug and alcohol presentations at emergency departments:

1. Count the number of presentations at NSW EDs for alcohol, amphetamine, benzodiazepines, cannabis and illicit opioids, for a consecutive four year period commencing 2007-08 and finishing 2010-11 (data source: InforMH).
2. Calculated the mean number of presentations per year for each drug type. We refer to this as the baseline count rate of ED presentations.
3. Generate a linked data set from the NSW Health Information Exchange (HIE), that includes all patients who present at ED and have subsequent inpatient admission for any diagnosis
4. From linked data set, using alcohol (F10) as an example, then
  - At) count all patients who presented at ED only with F10 diagnosis (N=11,475) for SNOMED<sup>67</sup> and non-SNOMED sites.
  - B) Count all admitted patients with F10 primary or secondary diagnosis who were not coded with F10 in the ED (n=12,022) for SNOMED and non-SNOMED sites.
5. The “NSW all Age ED –Inpatient multiplier” was generated by dividing the sum total of the inpatient episodes by sum total of the ED only presentations. In the case of alcohol, the multiplier is 1.05.
6. Use the baseline count rate of ED presentations, then multiplied this by the “NSW all Age Ed –Inpatient multiplier” and then added the baseline number of ED presentations again to obtain the final rate of presentations /100,000 of age specific population.
7. For those episodes where more than one secondary D&A diagnosis was recorded during their inpatient stay, the highest ranked secondary code was selected for categorising the patient into the appropriate Fx code group. Linkage this analysis was achieved using Facility\_identifier and Person\_identifier for 2010/11 data.

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<sup>67</sup> [SNOMED Clinical Terms](#) (SNOMED CT® )



The following table summarises the Emergency Department Inpatient multiplier.

**Table 78 -ED Inpatient Multiplier calculations**

		<b>Alcohol</b>	<b>Amphet amine</b>	<b>Benzodia zepines</b>	<b>Cannabis</b>	<b>Illicit Opioids</b>
	<b>F Code</b>	F10	F15	F13	F12	F11
<b>1</b>	<b>Average rate /100,000 (baseline count rate of ED presentations) e.g. 18-64 years</b>	242.68	6.27	3.76	2.33	18.07
<b>3A</b>	<b>DA Emergency Department Diagnosis – ICD sites</b>	5,745	27	7	69	103
<b>3A</b>	<b>DA Emergency Department Diagnosis – SNOMED sites</b>	5,730	202	175	102	707
<b>3A</b>	<b>Total Emergency Department Diagnosis (ICD + SNOMED) sites</b>	11,475	229	182	171	810
<b>3B</b>	<b>DA inpatient Diagnosis No Emergency Department –ICD sites</b>	5,467	395	268	884	668
<b>3B</b>	<b>DA inpatient Diagnosis No Emergency Department – SNOMED sites</b>	6,555	492	341	1,832	1,202
<b>3B</b>	<b>Total DA inpatient Diagnosis No Emergency Department Dx (ICD+ SNOMED)</b>	12,022	887	609	2,716	1,870
<b>4</b>	<b>Emergency Department inpatient multiplier</b>	<b>1.05</b>	<b>3.9</b>	<b>3.3</b>	<b>15.9</b>	<b>2.3</b>
<b>5</b>	<b>Using inpatient multiplier to the baseline rate for 18- 84 years</b>	<b>494.94</b>	<b>30.54</b>	<b>16.33</b>	<b>39.30</b>	<b>59.80</b>

## APPENDIX 9 CALCULATIONS FOR AVERAGE LENGTH OF STAY (ALOS)

### A9.1 Method of calculation ALOS for Beds used in 12 month care packages

**Table 79 - Calculating ALOS for beds used in 12 month care packages**

Bed Type	Bed code in Estimator Tool	Description
Residential rehabilitation, not used for withdrawal management (detox)	RR	The ERG members provided ALOS data for : 13, 18, and 26 week RR care packages.
withdrawal management	Detox	NSW data ALOS = 7 days HIW 2010;/11
Inpatient D + A specialist	INPT	NSW data ALOS = 7 days HIW 2010;/11

### A9.2 Method of calculation ALOS for Beds Stays for Standalone items

- 1) Determine primary and secondary separations by bed type, per 100,000 of age specific population
- 2) Analysis of NSW data (NSW HIE 10/11) by F code (F10, F11, F12, F13, F15)
- 3) If separations based on NSW data = 0, then we used the number of separations nationally, derived from the AIHW data cube called "Mental health-related hospital separations, 2001-02 to 2006-07" for the year 06-07. See <http://www.aihw.gov.au/data-cube/?id=10737418756&libID=10737418755>

**Note 1** This is analysis of NSW data, that is, NSW rate of separations and ALOS, which has then been included in the model. There is no readmission rate for modelling the consultation liaison as this is an actual count of all separations, thus it includes people who were admitted once and people who were admitted more than once.

**Note 2** The 100% D+A 'owned' beds are modelled as part of 12 month care packages, and thus are excluded from standalone items. E.g. beds coded RR, Detox and INPT.

**Note 3** For general and mental Health beds, the different ALOSs were used to specify the amount of D+A consultation liaison to the bed, which are modelled as Sprinkles, not part of 12 month care packages.

**Note 4** NSW HIE 10/11 data was used in this analysis, as the most recent publically available national data from the AIHW that provides information for different bed types e.g. mental health and general is dated 2006.

**Note 5** For Discharges to Residential Aged Care Facility, an ALOS is not relevant to this analysis. It is a count of discharges from hospitals to RACF only.

For full information on the F codes, see:

### Appendix A16.2 ICD Codes Related to Aus BOD Drugs .

### A9.2.1 Example Specialist D& A beds (INPT)

In the ET Specialist Drug and Alcohol beds are coded as INPT (inpatient).

The population in the tables below is Population NSW (Series B Projections 2010).

Where the rate per 100,000 was low, specialist D& A beds were not modelled for the drug and age group.

**Table 80 - Alcohol Separations**

Age	Separations	Population	Rate per 100,000	Modelled
12-17	0	554,500	0	N
18-64	2,035	4,465,600	45.6	Y
65+	46	101,440	4.5	Y

**Table 81 - Amphetamine Separations**

Age	Separations	Population	Rate per 100,000	Modelled
12-17	2	554,500	0.4	N
18-64	156	4,465,600	3.5	Y
65+	0	101,440	0	N

**Table 82 - Benzodiazepine Separations**

Age	Separations	Population	Rate per 100,000	Modelled
12-17	0	554,500	0	N
18-64	250	4,465,600	5.6	Y
65+	4	101,440	0.4	N

**Table 83 - Cannabis Separations**

Age	Separations	Population	Rate per 100,000	Modelled
12-17	11	554,500	2	Y
18-64	455	4,465,600	10.2	Y
65+	0	101,440	0	N

**Table 84 - Illicit Opioids Separations**

Age	Separations	Population	Rate per 100,000	Modelled
12-17	3	554,500	0.5	N
18-64	1,085	4,465,600	24.3	Y
65+	1	101,440	0.1	N

## APPENDIX 10 CARE PACKAGES – 12 MONTHS

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The care packages model the care given to someone, who over the course of one year, receives a cluster of services.

The items within a care package may include:

- assessment,
- reviews;
- withdrawal management,
- pharmacotherapies ,
- outpatient support and preadmission (residential rehabilitation only),
- diagnostic tests e.g. urinary drug screen;
- discharge and transfer of care,
- after care / ongoing care,
- vocational education, training and employment (VETE),(18-64 years residential rehabilitation care packages only)
- tobacco intervention (for SEVERE, 18-64 years or 65+ years only),
- psychosocial interventions,
- case management and support,
- family interventions, and
- assertive follow up

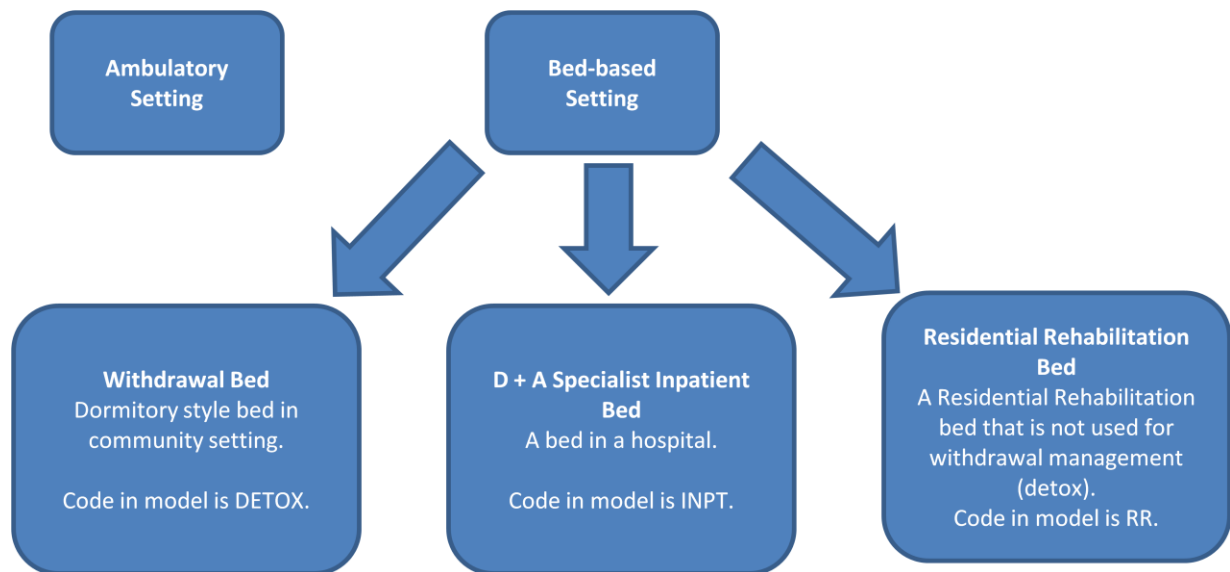
In modelling care, the first distinction is care in a) ambulatory setting, b) bed based setting.

The ALOS for the Withdrawal bed and the D + A Specialist Inpatient bed was determined by using the NSW Health HIE data for 10/11.

Members of the project's ERG provided the ALOS for the Residential Rehabilitation bed.

The figure on below shows how ambulatory and bed based care was modelled.

**Figure 23 - Modelling ambulatory and bed based care**



See also

## **Appendix 9                      Calculations for Average Length of Stay (ALOS)**

Standard care packages are modelled for a 'standard' presentation (i.e. low Comorbidity).  
Complex care packages are modelled for a 'complex' presentation (i.e. high Comorbidity).

### **A10.1 Standard and Complex**

The distinction between standard and complex is shown in the specifications within the care packages. Complex care packages typically specify an increased frequency and/or duration of care. In most cases for a given complex care package, the complex care package will have a longer assessment, more case management and more psychosocial interventions where required. Complex as used in this modelling project reflects that fact that persons may be designated as complex because of physical health needs (e.g. liver disease), mental health needs (e.g. comorbid diagnosis) or social circumstances (e.g. housing or welfare needs). This applies to SEVERE care packages only. The standard/complex distinction does not apply to MILD or MODERATE.

The Model does not include care packages that explicitly integrate AOD with MH services. The types of activities covered within each care package, do include attention to 'complex' needs. The 'complex' care packages, have built in additional assessment resources, counselling services, care coordination, referral and liaison time with other providers. In that sense, the care packages do pick up the time (and resources) involved in providing care to someone with a comorbid mental health problem. But MH staff are not included in any care package; the resources mentioned above are for AOD services, not MH services.

## A10.2 Care Package Specifications

In most cases the members of the project's Expert Reference Group provided the specifications for the care packages using best available evidence, but only in terms of the broad types and quantity of care to provide an adequate level of service for people based on their Need Group. When required, expertise was sought from additional clinicians e.g. some specifications regarding care packages for people aged 65+. The care packages do not attempt to prescribe services or providers in detail.

There are a total of 17 sets of Care Package documents (for drug and age groups) that have been included in the model.

The table below summarises the alcohol and other drug types, and age groups modelled.

**Table 85 - Alcohol and Other Drug Types and Age Groups Modelled**

	Drug Type	Age Categories (✓ - modelled; x - not modelled)				
		0 – 11 Months	01 – 11 Years	12 – 17 Years	18 – 64 Years	65+ Years
1	Alcohol	x	x	✓	✓	✓
2	Amphetamine	x	x	✓	✓	✓
3	Benzodiazepines	x	x	✓	✓	✓
4	Cannabis	x	x	✓	✓	✓
5	Illicit Opioids	x	x	✓	✓	✓
All	All Drugs	✓	✓	x	x	x

Each Care Package document for the drug and age specific population, details the specific care packages and also includes Standalone Items (Sprinkles). For more information on Standalone Items (Sprinkles), see next appendix:

### Appendix 11 Standalone Care – Not for 12 months.

### A10.3 Care Package Codes and Descriptions

This information can also be viewed in the DACCP-ET, on the tab = CP Codes (second from the right)

Note: for modelling purposes, both care packages and standalone items codes are recorded on this tab.

**Table 86 - Care Package Codes and Descriptions**

Short Code	Description
sev_12m amb otp cmplx	Patients Registered In Opioid Substitution Treatment Programs – Complex
sev_12m amb otp stnd	Patients Registered In Opioid Substitution Treatment Programs – Standard
sev_12m amb psi cmplx	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex
sev_12m amb psi stnd	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard
sev_12m amb psi w_med_cmplx	Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Complex
sev_12m amb psi w_med_stnd	Psychosocial Interventions - With Relapse Prevention Pharmacotherapies – Standard
sev_12m amb rehab nrr_dp	Rehabilitation – Day Program – 25 Days – Standard
sev_12m amb wdm c_out	Long Term Patient - Outpatient Stabilisation By 6 Months – Complex
sev_12m amb wdm c_out_pc	Long Term Patient - Outpatient Stabilisation After 6 Months – Complex
sev_12m amb wdm hb_stnd	Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard
sev_12m amb wdm op_cmplx	Withdrawal Management - Daily Outpatient– Complex
sev_12m amb wdm op_stnd	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard
sev_12m amb wdm op_w_med_cmplx	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex
sev_12m amb wdm op_w_med_stnd	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard
sev_12m bb_res rehab rr_13	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program



Short Code	Description
sev_12m bb_res rehab rr_18_mtar	Residential Rehabilitation – 18 Weeks Stay – MTAR
sev_12m bb_res rehab rr_18_rtod	Residential Rehabilitation – 18 Weeks Stay - RTOD
sev_12m bb_res rehab rr_26	Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program
sev_12m bb_res rehab rr_26_mtar	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry/transition/re-entry, 13 week of exit program/outclient in the community - methadone to abstinence residential (mtar)
sev_12m bb_res rehab rr_26_rtod	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry, 15 weeks of exit program/outclient stay, 5 weeks of exit program in the community - residential treatment for heroin dependence stabilisation program (rtod)
sev_12m bb_res rehab rr_8	Residential Rehabilitation 8 Week Stay
sev_12m bb_res rehab rr_mtar	Residential Rehabilitation – Methadone To Abstinence Residential (MTAR)
sev_12m bb_res rehab rr_rtod	Residential Rehabilitation – Residential Treatment For Opioid Dependence Stabilization Program (RTOD)
sev_12m bb_res wdm cmplx	Withdrawal Management – Residential – Complex
sev_12m bb_res wdm stnd	Withdrawal Management – Residential – Standard
sev_12m bb_res wdm w_med_cmplx	Withdrawal management - residential – with relapse prevention pharmacotherapies – complex
sev_12m bb_res wdm w_med_stnd	Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard
sev_12m bb_spcl_d&a wdm c_inpt	Long Term Patient - Inpatient Stabilisation By 6 Months – Complex
sev_12m bb_spcl_d&a wdm c_inpt_pc	Long Term Patient - Inpatient Stabilisation After 6 Months – Complex
sev_12m bb_spcl_d&a wdm da_bed	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies
sev_12m bb_spcl_Paed NAS	Children Of Parents Who Use Substances - NAS Baby

## APPENDIX 11 STANDALONE CARE – NOT FOR 12 MONTHS

Standalone items specify an amount of care provided by drug and alcohol staff, (e.g. 1 x 30 minute assessment. 2 x 15 minute review etc). The standalone items do not include any prescription medications or diagnostic tests.

There are a number of standalone items that are NOT part of each 12 month care packages. These include: screening and brief intervention for presentations at emergency department (ED), consultation liaison to obstetrics, consultation liaison to residential aged care facility, consultation liaison to mental health beds, or consultation liaison to general beds, where person has a primary or secondary drug or alcohol diagnosis.

For these items, all that is described is the amount of care that an individual would receive during their actual admission. The amount of care described for the ED presentations is shown in consultation liaison (CL) minutes, and the amount of care shown for the inpatient admission to a mental health or general bed is the hours of Drug and Alcohol (D+A) care provided during the inpatient admission. These 'standalone' items are thus 'sprinkled' across the model. This means that the number of ED presentations or the number of inpatient admissions is not subtracted from the demand for any group. The demand for these standalone items are all based in actual rates of presentations.

Further, ED presentations represent an important resource component of AOD across a year. The model needs to include the AOD specialist component of ED presentations, that is the consultation and liaison services that are provided. The ED CL parts could be assigned across each care package, but it is simpler to simply apply them across the entire population in the model, based on the rates of current ED presentations.

Note: Standalone care is based on actual rates of presentations using NSW data 2010/11. These standalone items are completely separate to the AUSBoD epidemiology and the 12 month care packages.

### A11.1 Modelling for Pregnant women

Care for pregnant women has been included in the model. This care is now shown in the 12-17 years and 18-64 years components of the model. This care is captured in two parts. Firstly, the total number of days in the obstetrics ward is captured in the "sprinkles" under the code "sev\_sal bb\_non\_spcl\_d&a cl obs".

Secondly, the woman's care for the remainder of the year is captured in any one the care packages for 12-17 years or 18-64 years. The rationale for this approach is that, in terms of drug and alcohol care, the woman is "incidentally pregnant" (hence the sprinkle), but her care for the remainder of the year is picked up in one of the other care packages for the 12-17 or 18-64 years.

### **A11.2 Modelling for Consultation Liaison to MH and General Beds**

The Consultation liaison standalone items were modelled first by determining the primary and secondary separations in a general or mental health bed, for Drug and Alcohol disorders (by F codes) and calculating the Average Length of Stay (ALOS), then modelling the D+A care provided during each stay.

Also see

## Appendix 9 Calculations for Average Length of Stay (ALOS).

### A11.3 Modelling for Info and Education

We used the NMDS - AODTS 09 -10 and identified where information and education was the main treatment type for each of the 5 types of drugs modelled, as the NMDS-AODTS reports in age groups that are different to those in this model. We have made the following adjustments.

**Table 87 - Methodology for Info and Education**

Model age group	NMDS age group	Methodology for Info and Education
12-17	10-19	We have calculated the age group 12-17 on a pro rata basis. That is, we took 0.6 of the NMDS closed treatment episodes. This measure excluded the ages 10, 11, 18 and 19.
18-64	20-59	We have calculated the age group 18-64 on a pro rata basis. That is, we took 0.2 of the 10-19 year olds NMDS closed treatment episodes (thus the 18-19 years old only) and added them to the total of the closed treatment episodes of the 20-59 years.
55+	60+	The national NMDS-AODTS reports in age group of 60+. To obtain a more reliable rate of Info and Ed for this particular age group we used the NSW NMDS-AODTS. The NSW data showed that Info and Ed was provided for alcohol 65+ only. All other drug types for 65 + were recorded as 0 result for Info and Ed.

red cell means we did not enter this data into the model because 60+ is a poor proxy for age group 65+. Instead we used NSW data for 65+ obtained from Kieron Mc G at InforMH. Alcohol 65+ was the only drug for this age group where any Info and Ed was reported.

	Model age group	Age Group proxy from NMDS	CTEs (n) Aust NMDS 09-10	pop	100000	rate/ 100000
DA_CCP	12-17	12-17	358.8	1700706	100000	21.1
Alcohol	18-64	18-59	2321.6	12829902	100000	18.1
	65+	60+	97	4191418	100000	2.3
		Total	2777.4			

	Model age group	Age Group proxy from NMDS	CTEs (n) Aust NMDS 09-10	pop	100,000	rate/ 100000
DA_CCP	12-17	12-17	25.2	1,700,706	100,000	1.5
amphet	18-64	18-59	460.4	12,829,902	100,000	3.6
	65+	60+	1	4,191,418	100,000	0.0
		Total	486.6			

	Model age group	Age Group proxy from NMDS	CTEs (n) Aust NMDS 09-10	pop	100000	rate/ 100000
DA_CCP	12-17	12-17	1.8	1700706	100000	0.1
benzo	18-64	18-59	30.6	12829902	100000	0.2
	65+	60+	2	4191418	100000	0.0
		Total	34.4			

	Model age group	Age Group proxy from NMDS	CTEs (n) Aust NMDS 09-10	pop	100000	rate/ 100000
DA_CCP	12-17	12-17	1337.4	1700706	100000	78.6
Cannabis	18-64	18-59	5409.8	12829902	100000	42.2
	65+	60+	29	4191418	100000	0.7
		Total	6776.2			

	Model age group	Age Group proxy from NMDS	CTEs (n) Aust NMDS 09-10	pop	100000	rate/ 100000
DA_CCP	12-17	12-17	1.8	1700706	100000	0.1
heroin	18-64	18-59	153.6	12829902	100000	1.2
	65+	60+	0	4191418	100000	0
		Total	155.4			

#### A11.4 Summary Of Standalone Items

The following tables indicate the scope and detail of the standalone Items. The tables are shown by drugs and age groups.

**Table 88 - Standalone items for All Drugs, ages 0-11 Months, 1-11 years**

Standalone Item (the day stay number refers to ALOS of the F codes)	0-11 Months	1-11 Years
Consultation Liaison For Emergency Department – Complex	✓	✓
Consultation Liaison For Emergency Department – Standard	✓	✓
Early Intervention – Care Delivered To The Parent On Behalf Of The Child	✓	✓

NOTE: Information and education is not included, as it targets ages 12 years and over.

The names of most of the standalone items include the Average Length of Stay, Bed Type and Primary or Secondary diagnosis. They were determined by use of the “F” codes.

**Table 89 - Standalone items for Alcohol, ages 12-17, 18-64, 65+ years**

Care Package Description	Care Package Code	F Codes	12-17	18-64	65+
Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx		✓		
Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx			✓	
Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx				✓
Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd		✓		
Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd			✓	
Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd				✓
Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed	*		
Consultation liaison for inpatient 1 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a General Bed	✓		
Consultation liaison for inpatient 1 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	F10.5-F10.7. Long Stay Admission in a Mental Health Bed	✓		
Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	F10.5-F10.7. Long Stay Admission in a General Bed	✓		
Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	F10.0.for acute intoxication in a general bed	✓		
Consultation liaison for inpatient 1.4 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	F10.0.for acute intoxication in a general bed		✓	
Consultation liaison for inpatient 1.8 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	F10.0. Acute Intoxication in a Mental Health Bed	✓		
Consultation liaison for inpatient 1.9 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	F10.0.for acute intoxication in a general bed			✓
Consultation liaison for inpatient 10.3 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	any admission to a general bed with a secondary F10 diagnosis.			✓

Care Package Description	Care Package Code	F Codes	12-17	18-64	65+
Consultation liaison for inpatient 14.6 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	F10.5-F10.7. Long Stay Admission in a General Bed		✓	
Consultation liaison for inpatient 14.9 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	F10.5-F10.7. Long Stay Admission in a Mental Health Bed		✓	
Consultation liaison for inpatient 15.5 days stay in mental health bed (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	any admission to a mental health bed with a secondary F10 diagnosis.		✓	
Consultation liaison for inpatient 21.1 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	F10.5-F10.7. Long Stay Admission in a General Bed			✓
Consultation liaison for inpatient 3 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	F10.0. Acute Intoxication in a Mental Health Bed		✓	
Consultation liaison for inpatient 3.2 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	any admission to a general bed with a secondary F10 diagnosis.	✓		
Consultation liaison for inpatient 31 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed			✓
Consultation liaison for inpatient 37.8 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	any admission to a mental health bed with a secondary F10 diagnosis.			✓
Consultation liaison for inpatient 4.5 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a General Bed		✓	
Consultation liaison for inpatient 43.3 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	F10.5-F10.7. Long Stay Admission in a Mental Health Bed			✓
Consultation liaison for inpatient 5.3 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	any admission to a mental health bed with a secondary F10 diagnosis.	✓		
Consultation liaison for inpatient 6.2 days stay in general bed (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	any admission to a general bed with a secondary F10 diagnosis.		✓	
Consultation liaison for inpatient 6.6 days stay in mental health bed (primary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_int	F10.0. Acute Intoxication in a Mental Health Bed			✓



Care Package Description	Care Package Code	F Codes	12-17	18-64	65+
Consultation liaison for inpatient 7.6 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a General Bed			✓
Consultation liaison for inpatient 8.9 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	F10.1-F10.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed		✓	
Consultation liaison to obstetrics, 0 days	sev_sal bb_non_spcl_d&a cl obs	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F10 diagnosis.	*		
Consultation liaison to obstetrics, 13.9 days (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl obs	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F10 diagnosis.		✓	
Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	discharges from hospital to a residential aged care facility where a secondary F10 diagnosis was recorded.			✓
Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	discharges from hospital to a residential aged care facility where a secondary F10 diagnosis was recorded.		✓	
Information and education	sev_sal amb info_ed		✓		
Information and education	sev_sal amb info_ed			✓	
Information and education	sev_sal amb info_ed				✓

\* There were no separations, thus no activity is listed. This type of stay has only been included for completeness.

**Table 90 - Standalone items for Amphetamine, ages 12-17, 18-64, 65+ years**

Standalone Item (the day stay number refers to ALOS of the F codes)	"F" Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for emergency department – complex		✓	✓	✓
Consultation liaison for emergency department – standard		✓	✓	✓
Consultation liaison for inpatient 0 days stay in general bed (primary diagnosis)	F15.0.for acute intoxication in a general bed			*
Consultation liaison for inpatient 1.5 days stay in general bed (primary diagnosis)	F15.0.for acute intoxication in a general bed		✓	
Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis)	F15.0.for Acute Intoxication in a general bed	✓		
Consultation liaison for inpatient 2 day stay in general bed (primary diagnosis)	F15.1-F15.4, .8, .9. Withdrawal & Dependence in a general bed		✓	
Consultation liaison for inpatient 4 day stay in general bed (primary diagnosis)	F15.1-F15.4, .8, .9. Withdrawal & Dependence in a General Bed	✓		
Consultation liaison for inpatient 5.3 day stay in general bed (primary diagnosis)	F15.4, .8, .9. Withdrawal & Dependence in a General Bed			✓
Consultation liaison for inpatient 1.9 days stay in general bed (primary diagnosis)	F15.5-F15.7. Long Stay Admission in a General Bed		✓	
Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis)	F15.5-F15.7. Long Stay Admission in a General Bed	✓		
Consultation liaison for inpatient 4 days stay in general bed (primary diagnosis)	F15.5-F15.7. Long Stay Admission in a General Bed			✓
Consultation liaison for inpatient 5 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F15 diagnosis.	✓		
Consultation liaison for inpatient 6.1 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F15 diagnosis.		✓	
Consultation liaison for inpatient 7.5 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F15 diagnosis			✓
Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis)	F15.0. Acute Intoxication in a Mental Health Bed			*
Consultation liaison for inpatient 2.9 days stay in mental health bed (primary diagnosis)	F15.0. Acute Intoxication in a Mental Health Bed	✓		
Consultation liaison for inpatient 4.1 days stay in mental health bed (primary diagnosis)	F15.0. Acute Intoxication in a Mental Health Bed		✓	
Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis)	F15.1-F15.4, .8, .9). Withdrawal & Dependence in a Mental Health Bed			*
Consultation liaison for inpatient 4.7 day stay in mental health bed (primary diagnosis)	F15.1-F15.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed	✓		
Consultation liaison for inpatient 5.5 day stay in mental health bed (primary diagnosis)	F15.1-F15.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed		✓	
Consultation liaison for inpatient 4.3 day stay in mental health bed (primary diagnosis)	F15.5-F15.7). Long Stay Admission in a Mental Health Bed			✓

Standalone Item (the day stay number refers to ALOS of the F codes)	“F” Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for inpatient 17 day stay in mental health bed (primary diagnosis)	F15.5-F15.7). Long Stay Admission in a Mental Health Bed.	✓		
Consultation liaison for inpatient 8 day stay in mental health bed (primary diagnosis)	F15.5-F15.7. Long Stay Admission in a Mental Health Bed		✓	
Consultation liaison for inpatient 0 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F15 diagnosis.			*
Consultation liaison for inpatient 9.5 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F15 diagnosis	✓		
Consultation liaison for inpatient 17.2 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F15 diagnosis.		✓	
Consultation liaison to obstetrics, 0 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F15 diagnosis.	*		
Consultation liaison to obstetrics, 4.9 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F15 diagnosis.		✓	
Consultation liaison to residential aged care facility	Discharges from hospital to a residential aged care facility where a secondary F15 diagnosis was recorded.		✓	*
Harm reduction		✓	✓	✓
Information and education		✓	✓	✓

\* There were no separations, thus no activity is listed. This type of stay has only been included for completeness.

**Table 91 - Standalone items for Benzodiazepine, ages 12-17, 18-64, 65+ years**

Standalone Item (the day stay number refers to ALOS of the F codes)	"F" Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for emergency department – complex		✓	✓	✓
Consultation liaison for emergency department – standard		✓	✓	✓
Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis)	F13.0.for Acute Intoxication in a General Bed	✓		
Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis)	F13.0.for Acute Intoxication in a General Bed		✓	
Consultation liaison for inpatient 23 days stay in general bed (primary diagnosis)	F13.0.for Acute Intoxication in a General Bed			✓
Consultation liaison for inpatient 4.9 day stay in general bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a General Bed		✓	
Consultation liaison for inpatient 5.3 day stay in general bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a General Bed	✓		
Consultation liaison for inpatient 6.1 day stay in general bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a General Bed			✓
Consultation liaison for inpatient 6 days stay in general bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a General Bed		✓	
Consultation liaison for inpatient 14 days stay in general bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a General Bed	✓		
Consultation liaison for inpatient 18 days stay in general bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a General Bed			✓
Consultation liaison for inpatient 0 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F13 diagnosis.	*		
Consultation liaison for inpatient 8 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F13 diagnosis.		✓	
Consultation liaison for inpatient 13.3 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F13 diagnosis.			✓
Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis)	F13.0.for Acute Intoxication in a mental health bed	*		
Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis)	F13.0. Acute Intoxication in a Mental Health Bed			*
Consultation liaison for inpatient 4.8 days stay in mental health bed (primary diagnosis)	F13.0.for Acute Intoxication in a mental health bed		✓	
Consultation liaison for inpatient 8 day stay in mental health bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed	✓		
Consultation liaison for inpatient 8.6 day stay in mental health bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed		✓	
Consultation liaison for inpatient 24 day stay in mental health bed (primary diagnosis)	F13.1-F13.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed			✓
Consultation liaison for inpatient 2.5 day stay in mental health bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a Mental Health Bed.	✓		

Standalone Item (the day stay number refers to ALOS of the F codes)	“F” Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for inpatient 8.5 day stay in mental health bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a Mental Health Bed.		✓	
Consultation liaison for inpatient 18 day stay in mental health bed (primary diagnosis)	F13.5-F13.7. Long Stay Admission in a Mental Health Bed.			✓
Consultation liaison for inpatient 2.5 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F13 diagnosis.	✓		
Consultation liaison for inpatient 15.4 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F13 diagnosis.		✓	
Consultation liaison for inpatient 33.2 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F13 diagnosis.			✓
Consultation liaison to obstetrics, 5.5 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F13 diagnosis.		✓	
Consultation liaison to residential aged care facility	Discharges from hospital to a residential aged care facility where a secondary F13 diagnosis was recorded.		*	✓
Harm reduction		✓	✓	✓
Information and education		✓	✓	✓

\* There were no separations, thus no activity is listed. This type of stay has only been included for completeness.

**Table 92 - Standalone items for Cannabis, ages 12-17, 18-64, 65+ years**

Standalone Item (the day stay number refers to ALOS of the F codes)	"F" Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for emergency department – complex		✓	✓	✓
Consultation liaison for emergency department – standard		✓	✓	✓
Consultation liaison for inpatient 0 day stay in general bed (primary diagnosis)	F12.1-F12.4, .8, .9. Withdrawal & Dependence in a general bed			*
Consultation liaison for inpatient 2.7 day stay in general bed (primary diagnosis)	F12.1-F12.4, .8, .9. Withdrawal & Dependence in a general bed		✓	
Consultation liaison for inpatient 3 day stay in general bed (primary diagnosis)	F12.1-F12.4, .8, .9. Withdrawal & Dependence in a General Bed	✓		
Consultation liaison for inpatient 1.4 days stay in general bed (primary diagnosis)	F12.5-F12.7). Long Stay Admission in a General Bed		✓	
Consultation liaison for inpatient 9 days stay in general bed (primary diagnosis)	F12.5-F12.7 Long Stay Admission in a General Bed.			✓
Consultation liaison for inpatient 14 days stay in general bed (primary diagnosis)	F12.5-F12.7). Long Stay Admission in a General Bed	✓		
Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis)	F12.0.for Acute Intoxication in a General Bed			✓
Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis)	F12.0.for Acute Intoxication in a General Bed		✓	
Consultation liaison for inpatient 1.3 days stay in general bed (primary diagnosis)	F12.0.for Acute Intoxication in a General Bed	✓		
Consultation liaison for inpatient 4.1 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F12 diagnosis.		✓	
Consultation liaison for inpatient 5.2 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F12 diagnosis.	✓		
Consultation liaison for inpatient 8.3 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F12 diagnosis.			✓
Consultation liaison for inpatient 1.7 days stay in mental health bed (primary diagnosis)	F12.0. Acute Intoxication in a Mental Health Bed	✓		
Consultation liaison for inpatient 3 days stay in mental health bed (primary diagnosis)	F12.0. Acute Intoxication in a Mental Health Bed			✓
Consultation liaison for inpatient 4.2 days stay in mental health bed (primary diagnosis)	F12.0. Acute Intoxication in a Mental Health Bed		✓	
Consultation liaison for inpatient 2.9 day stay in mental health bed (primary diagnosis)	F12.1-F12.4, .8, .9). Withdrawal & Dependence in a Mental Health Bed	✓		
Consultation liaison for inpatient 6.1 day stay in mental health bed (primary diagnosis)	F12.1-F12.4, .8, .9). Withdrawal & Dependence in a Mental Health Bed **		✓	
Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis)	F12.1-F12.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed			*
Consultation liaison for inpatient 5 day stay in mental health bed (primary diagnosis)	F12.5-F12.7. Long Stay Admission in a Mental Health Bed			✓

Standalone Item (the day stay number refers to ALOS of the F codes)	“F” Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for inpatient 8.7 day stay in mental health bed (primary diagnosis)	F12.5-F12.7). Long Stay Admission in a Mental Health Bed.	✓		
Consultation liaison for inpatient 11.3 day stay in mental health bed (primary diagnosis)	F12.5-F12.7). Long Stay Admission in a Mental Health Bed*		✓	
Consultation liaison for inpatient 13.2 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F12 diagnosis.	✓		
Consultation liaison for inpatient 13.5 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F12 diagnosis			✓
Consultation liaison for inpatient 21.2 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F12 diagnosis		✓	
Consultation liaison to obstetrics, 3.2 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F12 diagnosis.	✓		
Consultation liaison to obstetrics, 4 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F12 diagnosis.		✓	
Consultation liaison to residential aged care facility	Discharges from hospital to a residential aged care facility where a secondary F12 diagnosis was recorded.		*	✓
Harm reduction		✓	✓	✓
Information and education		✓	✓	✓

\* There were no separations, thus no activity is listed. This type of stay has only been included for completeness.

**Table 93 - Standalone items for Illicit Opioids, ages 12-17, 18-64, 65+ years**

Standalone Item (the day stay number refers to ALOS of the F codes)	"F" Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for emergency department – complex		✓	✓	✓
Consultation liaison for emergency department – standard		✓	✓	✓
Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis)	F11.0.for Acute Intoxication in a General Bed	✓		
Consultation liaison for inpatient 1.6 days stay in general bed (primary diagnosis)	F11.0.for acute intoxication in a general bed.		✓	
Consultation liaison for inpatient 3.3 days stay in general bed (primary diagnosis)	F11.0.for acute intoxication in a general bed.			✓
Consultation liaison for inpatient 2.5 day stay in general bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a general bed			✓
Consultation liaison for inpatient 4.2 day stay in general bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a general bed		✓	
Consultation liaison for inpatient 4.8 day stay in general bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a General Bed	✓		
Consultation liaison for inpatient 0 days stay in general bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a General Bed	*		
Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a General Bed		✓	
Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a General Bed			✓
Consultation liaison for inpatient 9 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F11 diagnosis.		✓	
Consultation liaison for inpatient 12.1 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F11 diagnosis.			✓
Consultation liaison for inpatient 15.8 days stay in general bed (secondary diagnosis)	Any admission to a general bed with a secondary F11 diagnosis.	✓		
Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis)	F11.0. Acute Intoxication in a Mental Health Bed	*		*
Consultation liaison for inpatient 6 days stay in mental health bed (primary diagnosis)	F11.0. Acute Intoxication in a Mental Health Bed		✓	
Consultation liaison for inpatient 1.5 day stay in mental health bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a mental health bed	✓		
Consultation liaison for inpatient 7.4 day stay in mental health bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed **		✓	
Consultation liaison for inpatient 19.5 day stay in mental health bed (primary diagnosis)	F11.1-F11.4, .8, .9. Withdrawal & Dependence in a Mental Health Bed			✓
Consultation liaison for inpatient 7 day stay in mental health bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a Mental Health Bed			✓
Consultation liaison for inpatient 8.3 day stay in mental health bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a Mental Health Bed	✓		



Standalone Item (the day stay number refers to ALOS of the F codes)	"F" Codes	12 – 17 Years	18 – 64 Years	65+ Years
Consultation liaison for inpatient 12.2 day stay in mental health bed (primary diagnosis)	F11.5-F11.7. Long Stay Admission in a Mental Health Bed		✓	
Consultation liaison for inpatient 4 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F11 diagnosis.	✓		
Consultation liaison for inpatient 19.1 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F11 diagnosis		✓	
Consultation liaison for inpatient 69 days stay in mental health bed (secondary diagnosis)	Any admission to a mental health bed with a secondary F11 diagnosis			✓
Consultation liaison to obstetrics, 1 day stay	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F11 diagnosis.	✓		
Consultation liaison to obstetrics, 6.1 days	Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F11 diagnosis.		✓	
Consultation liaison to residential aged care facility	Discharges from hospital to a residential aged care facility where a secondary F11 diagnosis was recorded.		*	✓
Harm reduction		✓	✓	✓
Information and education		✓	✓	✓

\* There were no separations, thus no activity is listed. This type of stay has only been included for completeness.

### A11.5 Example: Standalone Items for Alcohol Age 12-17

#### Consultation liaison for inpatient 1 day stay in general bed (primary diagnosis)

This standalone item describes the consultation liaison provided on average for an admitted patient with a primary alcohol diagnosis. The average length of stay is modelled as 1 day. This inpatient stay has been determined by using “F” codes, in this case F10.1-F10.4, .8, .9. Withdrawal & Dependence in a General Bed

#### Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis)

This standalone item describes the consultation liaison provided on average for an admitted patient with a primary alcohol diagnosis. The average length of stay is modelled as 1 days. This inpatient stay has been determined by using “F” codes, in this case (F10.5-F10.7). Long Stay Admission in a General Bed.

**Note:** although this standalone item has the **same name** as the previous item, it was derived from different F codes. This happens when they have the same ALOS Average Length Of Stay in the same bed type.

We need not worry about any confusion between them, as the unit of service is the same for both standalone items:

1 x 30 min nurse assessment/consultation, Costed at NAH rate

#### Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis)

This standalone item describes the consultation liaison provided on average for an admitted patient with a primary alcohol diagnosis. The average length of stay is modelled as 1.1 days. This inpatient stay has been determined by using “F” codes, in this case F10.0 for Acute Intoxication in a General Bed

#### Consultation liaison for inpatient 3.2 days stay in general bed (secondary diagnosis)

The average length of stay is modelled as 3.2 days. This inpatient stay has been determined by using “F” codes, in this case any admission to a general bed with a secondary F10 diagnosis.

#### Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis)

There were no separations for (F10.1-F10.4, .8, .9). Withdrawal & Dependence in a Mental Health Bed.

**Note:** There were no separations, thus no activity is listed here. This type of stay has only been included for completeness. This will assist in the next revision, when separations may exist and activity may be listed.

#### Consultation liaison for inpatient 1 day stay in mental health bed (primary diagnosis)

This standalone item describes the consultation liaison provided on average for an admitted patient with a primary alcohol diagnosis. The average length of stay is modelled as 1 day. This inpatient stay has been determined by using “F” codes, in this case (F10.5-F10.7). Long Stay Admission in a Mental Health Bed

Consultation liaison for inpatient 1.8 days stay in mental health bed (primary diagnosis)

This standalone item describes the consultation liaison provided on average for an admitted patient with a primary alcohol diagnosis. The average length of stay is modelled as 1.8 days. This inpatient stay has been determined by using “F” codes, in this case F10.0. Acute Intoxication in a Mental Health Bed

Consultation liaison for inpatient 5.3 days stay in mental health bed (secondary diagnosis)

The average length of stay is modelled as 5.3 days. This inpatient stay has been determined by using “F” codes, in this case any admission to a mental health bed with a secondary F10 diagnosis.

Consultation liaison for emergency department – complex

This standalone item describes the consultation liaison provided on average for a complex presentation to an Emergency Department. It also includes a brief intervention provided by Drug and Alcohol staff.

Consultation liaison for emergency department – standard

This standalone item describes the consultation liaison provided on average for a standard presentation to an Emergency Department. It also includes a brief intervention provided by Drug and Alcohol staff.

Consultation liaison to obstetrics

This standalone item describes the consultation liaison provided to a woman where Obstetrics (O99.3) is the primary diagnosis, and there is a secondary F10 diagnosis.

Note: There were no separations, thus no activity is listed here. This type of stay has only been included for completeness.

Harm reduction

This standalone item includes those who use drug and alcohol. An estimate of the costs of harm reduction activities is included in the model

Information and education

This standalone item includes the provision of information and education to people who use drugs and alcohol, and to those seeking information on their behalf. We have determined the number of people in this group by analysing AIHW – NMDS - AODTS data.

## A11.6 Standalone Items Codes and Descriptions

This information can also be viewed in the **-ET**, on the tab = CP Codes (second from the right)

**Note:** for modelling purposes, both care packages and standalone items codes are recorded on this tab.

**Note:** some have been included for modelling purposes and are not used, for example, mild amb .

**Table 94 - Standalone Items Codes and Descriptions**

Short Code	Description
prev	Prevention
harm_red	Harm Reduction
atrisk amb sbi	Screening and Brief Intervention
mild amb	Mild - ambulatory
mod amb	Moderate- ambulatory
mild-mod amb	
sev_sal amb cl_ed cmplx	Consultation Liaison For Emergency Department – Complex
sev_sal amb cl_ed stnd	Consultation Liaison For Emergency Department – Standard
sev_sal amb info_ed	Information And Education
sev_sal bb_non_spcl_d&a cl ccei_1to11mnths	Early Intervention – Care Delivered To The Parent On Behalf Of The Child
sev_sal bb_non_spcl_d&a cl ccei_1to11yrs	Early Intervention – Care Delivered To The Parent On Behalf Of The Child
sev_sal bb_non_spcl_d&a cl gen_co_morbid	Consultation Liaison For Inpatient N Days Stay In General Bed (Secondary Diagnosis- Fnn.0))
sev_sal bb_non_spcl_d&a cl gen_int	Consultation Liaison For Inpatient N Days Stay In General Bed (Primary Diagnosis - Fnn.0)
sev_sal bb_non_spcl_d&a cl gen_ls	Consultation Liaison For Inpatient N Days Stay In General Bed (Primary Diagnosis- Fnn.5,.6.7)

Short Code	Description
sev_sal bb_non_spcl_d&a cl gen_withdr	Consultation Liaison For Inpatient N Day Stay In General Bed (Primary Diagnosis-Fnn.1,.2,.3,.4,.8,.9)
sev_sal bb_non_spcl_d&a cl mh_co_morbid	Consultation Liaison For Inpatient N Days Stay In Mental Health Bed (Secondary Diagnosis-Fnn.0))
sev_sal bb_non_spcl_d&a cl mh_int	Consultation Liaison For Inpatient N Days Stay In Mental Health Bed (Primary Diagnosis-Fnn.0)
sev_sal bb_non_spcl_d&a cl mh_ls	Consultation Liaison For Inpatient N Day Stay In Mental Health Bed (Primary Diagnosis-Fnn.5,.6.7)
sev_sal bb_non_spcl_d&a cl mh_withdr	Consultation Liaison For Inpatient N Day Stay In Mental Health Bed (Primary Diagnosis Fnn.1,.2,.3,.4,.8,.9)

## APPENDIX 12 KEY PARAMETERS BED STATS

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### Bed Statistics

The Model uses the following bed related statistics in calculating estimates of bed resources:

1. Average Length of Stay (ALOS);
2. Occupancy Rate (OR);
3. Annual Bed Days Available (ABD); and
4. Readmission Rate (Rdm. Rate).

The following tables detail for each drug and relevant care package, the actual bed related statistics used in the -ET to calculate bed estimates.

**Note:** Bed Type codes are RR- Residential Rehabilitation, DT- Detoxification (Withdrawal management), In – Inpatient, Ot- Other (e.g. paediatric bed)

Table 95 - Bed Statistics – Alcohol

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Alcohol	12-17	sev_12m bb_res rehab rr_18	RR	126.0	76%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_26	RR	273.0	76%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_26	RR	273.0	76%	365.0	0%
Alcohol	12-17	sev_12m bb_res wdm w_med_stnd	DT	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_res wdm w_med_stnd	DT	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_res wdm w_med_stnd	DT	7.0	87%	365.0	0%
Alcohol	12-17	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Alcohol	12-17	sev_12m bb_res rehab rr_18	DT	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_8	DT	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_8	DT	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_res rehab rr_26	DT	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_res rehab rr_26	DT	7.0	87%	365.0	0%
Alcohol	12-17	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%
Alcohol	18-64	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%
Alcohol	65+	sev_12m bb_spcl_d&a wdm da_bed	IN	7.4	87%	365.0	0%

**Table 96 - Bed Statistics – Amphetamine**

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Amphetamine	12-17	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Amphetamine	18-64	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Amphetamine	65+	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Amphetamine	18-64	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Amphetamine	65+	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Amphetamine	12-17	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Amphetamine	18-64	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Amphetamine	65+	sev_12m bb_res wdm w_med_cmplx	DT	7.0	87%	365.0	0%
Amphetamine	12-17	sev_12m bb_spcl_d&a wdm da_bed	IN	5.5	87%	365.0	0%
Amphetamine	18-64	sev_12m bb_spcl_d&a wdm da_bed	IN	6.9	87%	365.0	0%



**Table 97 - Bed Statistics – Benzodiazepine**

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Benzodiazepine	12-17	sev_12m bb_res rehab rr_18	RR	126.0	76%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_13	RR	182.2	76%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_26	RR	273.0	76%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_26	RR	273.0	76%	365.0	0%
Benzodiazepine	12-17	sev_12m bb_res wdm stnd	DT	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res wdm w_med_stnd	DT	7.0	87%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res wdm w_med_stnd	DT	7.0	87%	365.0	0%
Benzodiazepine	12-17	sev_12m bb_res rehab rr_18	DT	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_8	DT	7.0	87%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_8	DT	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_res rehab rr_26	DT	7.0	87%	365.0	0%
Benzodiazepine	65+	sev_12m bb_res rehab rr_26	DT	7.0	87%	365.0	0%
Benzodiazepine	12-17	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%
Benzodiazepine	65+	sev_12m bb_spcl_d&a wdm da_bed	IN	7.4	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_spcl_d&a wdm c_inpt	IN	7.0	87%	365.0	0%
Benzodiazepine	18-64	sev_12m bb_spcl_d&a wdm c_inpt_pc	IN	7.0	87%	365.0	0%

**Table 98 - Bed Statistics – Cannabis**

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Cannabis	12-17	sev_12m bb_res rehab rr_18	RR	126.0	76%	365.0	0%
Cannabis	18-64	sev_12m bb_res rehab rr_13	RR	182.0	76%	365.0	0%
Cannabis	65+	sev_12m bb_res rehab rr_13	RR	182.0	76%	365.0	0%
Cannabis	12-17	sev_12m bb_res rehab rr_18	DT	7.0	87%	365.0	0%
Cannabis	18-64	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Cannabis	65+	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Cannabis	12-17	sev_12m bb_res wdm stnd	DT	7.0	87%	365.0	0%
Cannabis	18-64	sev_12m bb_res wdm stnd	DT	7.0	87%	365.0	0%
Cannabis	65+	sev_12m bb_res wdm stnd	DT	7.0	87%	365.0	0%
Cannabis	12-17	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%
Cannabis	18-64	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%

Table 99 - Bed Statistics – Illicit Opioids

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Opioids	18-64	sev_12m bb_res rehab rr_13	RR	91.0	76%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18	RR	126.0	76%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_18	RR	126.0	76%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18_mtar	RR	126.0	76%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18_rtod	RR	126.0	76%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26	RR	182.2	76%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26_mtar	RR	182.2	76%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26_rtod	RR	182.2	76%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_8	RR	56.0	76%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_mtar	RR	182.2	76%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_rtod	RR	182.2	76%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_13	DT	9.0	87%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_13	DT	7.0	87%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18	DT	16.0	87%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18_mtar	DT	9.0	87%	365.0	0%
Opioids	12-17	sev_12m bb_res rehab rr_18_rtod	DT	10.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26	DT	10.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26_mtar	DT	11.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_26_rtod	DT	12.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res rehab rr_8	DT	8.0	87%	365.0	0%
Opioids	65+	sev_12m bb_res rehab rr_8	DT	7.0	87%	365.0	0%
Opioids	12-17	sev_12m bb_res wdm cmplx	DT	7.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res wdm cmplx	DT	7.0	87%	365.0	0%
Opioids	65+	sev_12m bb_res wdm cmplx	DT	7.0	87%	365.0	0%
Opioids	18-64	sev_12m bb_res wdm std	DT	7.0	87%	365.0	0%

Drug	Age	Care Package Code	Bed Type Code	ALOS (Days)	OR (%)	ABD (Days)	Rdm. Rate (%)
Opioids	65+	sev_12m bb_res wdm stnd	DT	7.0	87%	365.0	0%
Opioids	12-17	sev_sal bb_non_spcl_d&a cl mh_withdr	DT	5.7	87%	365.0	0%
Opioids	12-17	sev_12m bb_spcl_d&a wdm da_bed	IN	5.7	87%	365.0	0%
Opioids	18-64	sev_12m bb_spcl_d&a wdm da_bed	IN	7.1	87%	365.0	0%
Opioids	65+	sev_12m bb_spcl_d&a wdm da_bed	IN	7.0	87%	365.0	0%

# APPENDIX 13 CARE RATES AND NUMBERS FOR SEVERE CARE PACKAGES

These care rates can also be viewed in the **ET**, on the tab =Parameters, Category = Treatment rate per 100k , however in the table below, the care package descriptions have also been added for convenience.

The care package descriptions can also be viewed in the **ET**, on the tab = CP Codes.

**Care Rate %** = % of severe under this care package.

**People who receive care package per 100,000**= Number of SEVERE per 100,000 \* Care Rate % for care package.

**Table 100 - Care Rates for Alcohol Care Packages**

Age Group	SEVERE per 100,000	ALCOHOL		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	117	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	83.0%	97.1
12-17	117	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_w_med_stnd	6.0%	7.0
12-17	117	Withdrawal management - residential – with Pharmacotherapies – standard	sev_12m bb_res wdm w_med_stnd	2.0%	2.3
12-17	117	Withdrawal management - residential – with Pharmacotherapies – complex	sev_12m bb_res wdm w_med_cmplx	2.0%	2.3
12-17	117	Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp	2.5%	2.9
12-17	117	Residential Rehabilitation – 18 Week Stay + 13 Weeks Aftercare In Community	sev_12m bb_res rehab rr_18	4.5%	5.3
12-17		<b>Total</b>		<b>100%</b>	<b>117</b>
18-64	699	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	12.0%	83.9
18-64	699	Psychosocial Interventions - With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi w_med_stnd	12.0%	83.9

Age Group	SEVERE per 100,000	ALCOHOL		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
18-64	699	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	5.5%	38.4
18-64	699	Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi w_med_cmplx	5.5%	38.4
18-64	699	Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm hb_std	4.8%	33.6
18-64	699	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_std	14.0%	97.9
18-64	699	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_w_med_std	4.8%	33.6
18-64	699	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb wdm op_w_med_cmplx	10.0%	69.9
18-64	699	Withdrawal management - residential – with relapse prevention pharmacotherapies – complex	sev_12m bb_res wdm w_med_cmplx	5.1%	35.6
18-64	699	Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard	sev_12m bb_res wdm w_med_std	11.7%	81.8
18-64	699	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	5.6%	39.1

Age Group	SEVERE per 100,000	ALCOHOL		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
18-64	699	Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp	1.0%	7.0
18-64	699	Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8	2.5%	17.5
18-64	699	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	3.0%	21.0
18-64	699	Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26	2.5%	17.5
18-64		<b>Total</b>		<b>100%</b>	<b>699</b>
65+	156	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	15.0%	23.4
65+	156	Psychosocial Interventions - With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi w_med_stnd	7.0%	10.9
65+	156	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	3.0%	4.7
65+	156	Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi w_med_cmplx	8.0%	12.5
65+	156	Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm hb_stnd	8.4%	13.1
65+	156	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd	8.4%	13.1

Age Group	SEVERE per 100,000	ALCOHOL		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+	156	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_w_med_stnd	8.4%	13.1
65+	156	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex	sev_12m amb wdm op_w_med_cmplx	11.2%	17.5
65+	156	Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard	sev_12m bb_res wdm w_med_stnd	13.2%	20.6
65+	156	Withdrawal management - residential – with relapse prevention Pharmacotherapies – complex	sev_12m bb_res wdm w_med_cmplx	6.0%	9.4
65+	156	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	6.4%	10.0
65+	156	Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp	2.0%	3.0
65+	156	Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8	0.9%	1.4
65+	156	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	1.5%	2.3
65+	156	Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26	0.7%	1.1



Age Group	SEVERE per 100,000	ALCOHOL		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+			<b>Total</b>	<b>100%</b>	<b>156</b>

**Care Rate %** = % of severe under this care package.

**People who receive care package per 100,000**= Number of SEVERE per 100,000 \* Care Rate % for care package.

**Table 101 - Care Rates for Amphetamine Care Packages**

Age Group	SEVERE per 100,000	AMPHETAMINE		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	114	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	32.0	32.0	32.0
12-17	114	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	2.0	2.0	2.0
12-17	114	Withdrawal management - residential – with relapse prevention Pharmacotherapies – complex	2.0	2.0	2.0
12-17	114	Residential Rehabilitation – 18 Week Stay + 13 Weeks Aftercare In Community	4.0	4.0	4.0
12-17		<b>Total</b>	<b>100%</b>		40.0
18-64	460	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	119.1	119.1	119.1

Age Group	SEVERE per 100,000	AMPHETAMINE	Care Package Code	Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name			
18-64	460	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	16.4	16.4	16.4
18-64	460	Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Complex	8.2	8.2	8.2
18-64	460	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	2.7	2.7	2.7
18-64	460	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	14.5	14.5	14.5
18-64	<b>Total</b>			<b>100%</b>	161.0
65+	7	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	1.7	1.7	1.7
65+	7	Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	0.7	0.7	0.7
65+	7	Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Complex	0.5	0.5	0.5
65+	7	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	0.2	0.2	0.2

Age Group	SEVERE per 100,000	AMPHETAMINE		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+			<b>Total</b>	<b>100%</b>	3.0

**Care Rate %** = % of severe under this care package.

**People who receive care package per 100,000**= Number of SEVERE per 100,000 \* Care Rate % for care package.

**Table 102 - Care Rates for Benzodiazepine Care Packages**

Age Group	SEVERE per 100,000	BENZODIAZEPINE		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	3	Long Term Patient - Outpatient Stabilisation By 6 Months – Complex	sev_12m amb wdm c_out	100.0%	3.0
12-17			<b>Total</b>	<b>100%</b>	
18-64	75	Long Term Patient - Outpatient Stabilisation By 6 Months – Complex	sev_12m amb wdm c_out	13.0%	9.8
18-64	75	Long Term Patient - Outpatient Stabilisation After 6 Months – Complex	sev_12m amb wdm c_out_pc	72.0%	54.0
18-64	75	Long Term Patient - Inpatient Stabilisation By 6 Months – Complex	sev_12m bb_spcl_d&a wdm c_inpt	2.0%	1.5
18-64	75	Long Term Patient - Inpatient Stabilisation After 6 Months – Complex	sev_12m bb_spcl_d&a wdm c_inpt_pc	13.0%	9.8
18-64			<b>Total</b>	<b>100%</b>	<b>75</b>
65+	15	Long Term Patient - Outpatient Stabilisation By 6 Months – Complex	sev_12m amb wdm c_out	15.0%	2.3

Age Group	SEVERE per 100,000	BENZODIAZEPINE		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+	15	Long Term Patient - Outpatient Stabilisation After 6 Months – Complex	sev_12m amb wdm c_out_pc	85.0%	12.8
65+		<b>Total</b>		<b>100%</b>	<b>15</b>

**Care Rate %** = % of severe under this care package.

**People who receive care package per 100,000**= Number of SEVERE per 100,000 \* Care Rate % for care package.

**Table 103 - Care Rates for Cannabis Care Packages**

Age Group	SEVERE per 100,000	CANNABIS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	53	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	53.0%	28.1
12-17	53	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	22.0%	11.7
12-17	53	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd	11.4%	6.0
12-17	53	Withdrawal Management – Residential – Standard	sev_12m bb_res wdm stnd	4.2%	2.2
12-17	53	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	1.4%	0.7

Age Group	SEVERE per 100,000	CANNABIS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	53	Residential Rehabilitation – 18 Week Stay + 13 Weeks Aftercare In Community	sev_12m bb_res rehab rr_18	8.0%	4.2
12-17		<b>Total</b>		<b>100%</b>	<b>53</b>
18-64	194	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	49.0%	95.1
18-64	194	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	21.0%	40.7
18-64	194	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd	12.6%	24.4
18-64	194	Withdrawal Management – Residential – Standard	sev_12m bb_res wdm stnd	6.3%	12.2
18-64	194	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	2.1%	4.1
18-64	194	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	9.0%	17.5
18-64		<b>Total</b>		<b>100%</b>	<b>194</b>
65+	6	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	56.0%	3.4
65+	6	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	22.0%	1.3

Age Group	SEVERE per 100,000	CANNABIS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+	6	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd	12.0%	0.7
65+	6	Withdrawal Management – Residential – Standard	sev_12m bb_res wdm stnd	8.0%	0.5
65+	6	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	2.0%	0.1
65+		<b>Total</b>		<b>100%</b>	<b>6</b>

**Care Rate %** = % of severe under this care package.

**People who receive care package per 100,000**= Number of SEVERE per 100,000 \* Care Rate % for care package.

**Table 104 - Care Rates for Illicit Opioids Care Packages**

Age Group	SEVERE per 100,000	ILLICIT OPIOIDS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	28	Patients Registered In Opioid Substitution Treatment Programs – Complex	sev_12m amb otp cmplx	20.0%	5.6
12-17	28	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	30.0%	8.4
12-17	28	Withdrawal Management - Daily Outpatient– Complex	sev_12m amb wdm op_cmplx	15.0%	4.2
12-17	28	Withdrawal Management – Residential – Complex	sev_12m bb_res wdm cmplx	15.0%	4.2

Age Group	SEVERE per 100,000	ILLECT OPIOIDS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
12-17	28	Residential Rehabilitation – 18 Week Stay + 13 Weeks Aftercare In Community	sev_12m bb_res rehab rr_18	20.0%	5.6
12-17		<b>Total</b>		<b>100%</b>	<b>28</b>
18-64	590	Patients Registered In Opioid Substitution Treatment Programs – Standard	sev_12m amb otp stnd	49.0%	289.1
18-64	590	Patients Registered In Opioid Substitution Treatment Programs – Complex	sev_12m amb otp cmplx	21.0%	123.9
18-64	590	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb psi stnd	10.5%	61.95
18-64	590	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	4.5%	26.55
18-64	590	Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	sev_12m amb wdm op_stnd	4.0%	23.6
18-64	590	Withdrawal Management - Daily Outpatient– Complex	sev_12m amb wdm op_cmplx	1.2%	7.08
18-64	590	Withdrawal Management – Residential – Standard	sev_12m bb_res wdm stnd	2.5%	14.75
18-64	590	Withdrawal Management – Residential – Complex	sev_12m bb_res wdm cmplx	1.1%	6.49
18-64	590	Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	sev_12m bb_spcl_d&a wdm da_bed	1.2%	7.08

Age Group	SEVERE per 100,000	ILLICT OPIOIDS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
18-64	590	Rehabilitation – Day Program – 25 Days – Standard	sev_12m amb rehab nrr_dp	1.7%	10.03
18-64	590	Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8	1.0%	5.9
18-64	590	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	1.7%	10.03
18-64	590	Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26	0.2%	1.18
18-64	590	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry/transition/re-entry, 13 week of exit program/outclient in the community - methadone to abstinence residential (mtar)	sev_12m bb_res rehab rr_26_mtar	0.2%	1.18
18-64	590	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry, 15 weeks of exit program/outclient stay, 5 weeks of exit program in the community - residential treatment for heroin dependence stabilisation program (rtod)	sev_12m bb_res rehab rr_26_rtod	0.2%	1.18
18-64		<b>Total</b>		<b>100%</b>	<b>590</b>
65+	96	Patients Registered In Opioid Substitution Treatment Programs – Complex	sev_12m amb otp cmplx	90.0%	86.4
65+	96	Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	sev_12m amb psi cmplx	5.0%	4.8



Age Group	SEVERE per 100,000	ILLICT OPIOIDS		Care Rate (% of SEVERE)	People who receive Care Package per 100,000
		Care Package Name	Care Package Code		
65+	96	Withdrawal Management – Residential – Complex	sev_12m bb_res wdm cmplx	4.0%	3.84
65+	96	Residential Rehabilitation 8 Week Stay	sev_12m bb_res rehab rr_8	1.0%	0.96
65+		<b>Total</b>		<b>100%</b>	<b>96</b>

## APPENDIX 14 CARE RATES FOR THE STANDALONE ITEMS

These care rates can also be viewed in the **ET**, on the tab =Parameters, Category = Treatment rate per 100k , however the descriptions have also been added to the table below.

These descriptions can also be viewed in the **ET**, on the tab = CP Codes.

**Note:** These are all based on actual rates of presentations.

Note: Where treatment rate is zero and ALOS shows as zero, there were no presentations. These standalone items are included for completeness only.

**Table 105 - Care Rates for All Drugs - Child Standalone Items**

Age Group	ALL DRUGS - CHILD		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
0-11mnths	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	1.38
0-11mnths	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	3.21
0-11mnths	Early intervention – care delivered to the parent on behalf of the child	sev_sal bb_non_spcl_d&a cl ccei_1to11mnths	30.32
1-11 years	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	0.6
1-11 years	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	1.5
1-11 years	Early intervention – care delivered to the parent on behalf of the child	sev_sal bb_non_spcl_d&a cl ccei_1to11yrs	315.43

**Table 106 - Care Rates for Alcohol Standalone Items**

Age Group	ALCOHOL		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	126
12-17	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	294
12-17	Information and education	sev_sal amb info_ed	21
12-17	Consultation liaison for inpatient 3.2 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	22
12-17	Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	29
12-17	Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0
12-17	Consultation liaison for inpatient 1 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1
12-17	Consultation liaison for inpatient 5.3 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	11
12-17	Consultation liaison for inpatient 1.8 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	1
12-17	Consultation liaison for inpatient 1 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0
12-17	Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0
12-17	Consultation liaison to obstetrics, 0 days	sev_sal bb_non_spcl_d&a cl obs	0
18-64	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	149
18-64	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	348
18-64	Information and education	sev_sal amb info_ed	18
18-64	Consultation liaison for inpatient 6.2 days stay in general bed (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	233
18-64	Consultation liaison for inpatient 1.4 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	35
18-64	Consultation liaison for inpatient 14.6 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	2

Age Group	ALCOHOL	Standalone Item Code	People who receive Standalone item per 100,000
	Standalone Item Name		
18-64	Consultation liaison for inpatient 4.5 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	32
18-64	Consultation liaison for inpatient 15.5 days stay in mental health bed (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	75
18-64	Consultation liaison for inpatient 3 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	9
18-64	Consultation liaison for inpatient 14.9 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	2
18-64	Consultation liaison for inpatient 8.9 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	15
18-64	Consultation liaison to obstetrics, 13.9 days (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl obs	1.0
18-64	Consultation liaison to residential aged care facility (secondary diagnosis fnn)	sev_sal bb_non_spcl_d&a cl racf	1.5
65+	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	47
65+	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	109
65+	Information and education	sev_sal amb info_ed	1
65+	Consultation liaison for inpatient 10.3 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	361
65+	Consultation liaison for inpatient 1.9 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	22
65+	Consultation liaison for inpatient 21.1 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	4
65+	Consultation liaison for inpatient 7.6 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	17
65+	Consultation liaison for inpatient 37.8 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	14
65+	Consultation liaison for inpatient 6.6 days stay in mental health bed (primary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_int	1
65+	Consultation liaison for inpatient 43.3 day stay in mental health bed	sev_sal bb_non_spcl_d&a cl mh_ls	2

Age Group	ALCOHOL	Standalone Item Code	People who receive Standalone item per 100,000
	Standalone Item Name (primary diagnosis- fnn.5,.6.7)		
65+	Consultation liaison for inpatient 31 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	3
65+	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	21.1

**Table 107 - Care Rates for Amphetamine Standalone Items**

Age Group	AMPHETAMINE	Standalone Item Code	People who receive Standalone item per 100,000
	Standalone Item Name		
12-17	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	6.0
12-17	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	13.0
12-17	Information and education	sev_sal amb info_ed	1.5
12-17	Consultation liaison for inpatient 5 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	0.9
12-17	Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.2
12-17	Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.4
12-17	Consultation liaison for inpatient 4 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0.2
12-17	Consultation liaison for inpatient 9.5 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	1.1
12-17	Consultation liaison for inpatient 2.9 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.3
12-17	Consultation liaison for inpatient 17 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.4
12-17	Consultation liaison for inpatient 4.7 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.8

Age Group	AMPHETAMINE		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison to obstetrics, 0 days	sev_sal bb_non_spcl_d&a cl obs	0.0
18-64	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	9.0
18-64	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	21.0
18-64	Information and education	sev_sal amb info_ed	3.6
18-64	Consultation liaison for inpatient 6.1 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	0.9
18-64	Consultation liaison for inpatient 1.5 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.7
18-64	Consultation liaison for inpatient 1.9 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	1.1
18-64	Consultation liaison for inpatient 2 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1.4
18-64	Consultation liaison for inpatient 17.2 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	10.5
18-64	Consultation liaison for inpatient 4.1 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.7
18-64	Consultation liaison for inpatient 8 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	7.2
18-64	Consultation liaison for inpatient 5.5 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	2.4
18-64	Consultation liaison to obstetrics, 4.9 days	sev_sal bb_non_spcl_d&a cl obs	0.5
18-64	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	0.0
65+	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	0.0
65+	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	0.0
65+	Information and education	sev_sal amb info_ed	0.0
65+	Consultation liaison for inpatient 7.5 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	0.8
65+	Consultation liaison for inpatient 0 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.0

Age Group	AMPHETAMINE		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
65+	Consultation liaison for inpatient 4 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	1.1
65+	Consultation liaison for inpatient 5.3 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0.3
65+	Consultation liaison for inpatient 0 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	0.0
65+	Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.0
65+	Consultation liaison for inpatient 4.3 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1
65+	Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.0
65+	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	0.0

**Table 108 - Care Rates for Benzodiazepine Standalone Items**

Age Group	BENZODIAZEPINE		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	1.0
12-17	Consultation liaison for emergency department – standard	sev_sal amb cl_ed std	3.0
12-17	Information and education	sev_sal amb info_ed	0.1
12-17	Consultation liaison for inpatient 0 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	0.0
12-17	Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.1
12-17	Consultation liaison for inpatient 14 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.0
12-17	Consultation liaison for inpatient 5.3 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0.1

Age Group	BENZODIAZEPINE		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for inpatient 2.5 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	0.4
12-17	Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.0
12-17	Consultation liaison for inpatient 2.5 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1
12-17	Consultation liaison for inpatient 8 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.1
18-64	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	5.0
18-64	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	11.0
18-64	Information and education	sev_sal amb info_ed	0.2
18-64	Consultation liaison for inpatient 8 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	4.2
18-64	Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.3
18-64	Consultation liaison for inpatient 6 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.0
18-64	Consultation liaison for inpatient 4.9 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1.2
18-64	Consultation liaison for inpatient 15.4 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	4.1
18-64	Consultation liaison for inpatient 4.8 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.1
18-64	Consultation liaison for inpatient 8.5 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1
18-64	Consultation liaison for inpatient 8.6 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	1.1
18-64	Consultation liaison to obstetrics, 5.5 days	sev_sal bb_non_spcl_d&a cl obs	0.1
18-64	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	0.0
65+	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	2.0



Age Group	BENZODIAZEPINE		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
65+	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	5.0
65+	Information and education	sev_sal amb info_ed	0.0
65+	Consultation liaison for inpatient 13.3 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	16.3
65+	Consultation liaison for inpatient 23 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.1
65+	Consultation liaison for inpatient 18 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.0
65+	Consultation liaison for inpatient 6.1 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1.4
65+	Consultation liaison for inpatient 33.2 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	3.4
65+	Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.0
65+	Consultation liaison for inpatient 18 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.0
65+	Consultation liaison for inpatient 24 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.1
65+	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	2.3

**Table 109 - Care Rates for Cannabis Standalone Items**

Age Group	CANNABIS		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	16
12-17	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	38
12-17	Information and education	sev_sal amb info_ed	78.6
12-17	Consultation liaison for inpatient 5.2 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	15.3

Age Group	CANNABIS		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for inpatient 1.3 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.7
12-17	Consultation liaison for inpatient 14 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.7
12-17	Consultation liaison for inpatient 3 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0.2
12-17	Consultation liaison for inpatient 13.2 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	18
12-17	Consultation liaison for inpatient 1.7 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.5
12-17	Consultation liaison for inpatient 8.7 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	2.7
12-17	Consultation liaison for inpatient 2.9 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	1.8
12-17	Consultation liaison to obstetrics, 3.2 days	sev_sal bb_non_spcl_d&a cl obs	1.6
18-64	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	12
18-64	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	28
18-64	Information and education	sev_sal amb info_ed	42.2
18-64	Consultation liaison for inpatient 4.1 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	25.9
18-64	Consultation liaison for inpatient 1.1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.2
18-64	Consultation liaison for inpatient 1.4 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.7
18-64	Consultation liaison for inpatient 2.7 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1.7
18-64	Consultation liaison for inpatient 21.2 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	47.1
18-64	Consultation liaison for inpatient 4.2 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.4

Age Group	CANNABIS	Standalone Item Code	People who receive Standalone item per 100,000
	Standalone Item Name		
18-64	Consultation liaison for inpatient 11.3 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	7.7
18-64	Consultation liaison for inpatient 6.1 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	3.6
18-64	Consultation liaison to obstetrics, 4 days	sev_sal bb_non_spcl_d&a cl obs	3.7
65+	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	0.6
65+	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	1
65+	Information and education	sev_sal amb info_ed	0
65+	Consultation liaison for inpatient 8.3 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	1.5
65+	Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.04
65+	Consultation liaison for inpatient 9 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.1
65+	Consultation liaison for inpatient 0 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0
65+	Consultation liaison for inpatient 13.5 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	0.2
65+	Consultation liaison for inpatient 3 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.1
65+	Consultation liaison for inpatient 5 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1
65+	Consultation liaison for inpatient 0 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0
65+	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	0

**Table 110 - Care Rates for Illicit Opioids Standalone Items**

Age Group	ILLICIT OPIOIDS		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
12-17	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	2
12-17	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	6
12-17	Information and education	sev_sal amb info_ed	0.1
12-17	Consultation liaison for inpatient 15.8 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	0.7
12-17	Consultation liaison for inpatient 1 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.4
12-17	Consultation liaison for inpatient 0 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0
12-17	Consultation liaison for inpatient 4.8 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	1.2
12-17	Consultation liaison for inpatient 4 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	0.2
12-17	Consultation liaison for inpatient 0 days stay in mental health bed (primary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_int	0
12-17	Consultation liaison for inpatient 8.3 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1
12-17	Consultation liaison for inpatient 1.5 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.4
12-17	Consultation liaison to obstetrics, 1 day stay	sev_sal bb_non_spcl_d&a cl obs	0.2
18-64	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	18
18-64	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	42
18-64	Information and education	sev_sal amb info_ed	1.2
18-64	Consultation liaison for inpatient 9 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	47
18-64	Consultation liaison for inpatient 1.6 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.4
18-64	Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.2

Age Group	ILLECT OPIOIDS		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
18-64	Consultation liaison for inpatient 4.2 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	4.6
18-64	Consultation liaison for inpatient 19.1 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	11
18-64	Consultation liaison for inpatient 6 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0.2
18-64	Consultation liaison for inpatient 12.2 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.8
18-64	Consultation liaison for inpatient 7.4 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	2.2
18-64	Consultation liaison to obstetrics, 6.1 days	sev_sal bb_non_spcl_d&a cl obs	5.5
18-64	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	0.1
65+	Consultation liaison for emergency department – complex	sev_sal amb cl_ed cmplx	4
65+	Consultation liaison for emergency department – standard	sev_sal amb cl_ed stnd	10
65+	Information and education	sev_sal amb info_ed	0
65+	Consultation liaison for inpatient 9 days stay in general bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl gen_co_morbid	10.4
65+	Consultation liaison for inpatient 1.6 days stay in general bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl gen_int	0.3
65+	Consultation liaison for inpatient 2 days stay in general bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl gen_ls	0.1
65+	Consultation liaison for inpatient 4.2 day stay in general bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl gen_withdr	0.4
65+	Consultation liaison for inpatient 19.1 days stay in mental health bed (secondary diagnosis)	sev_sal bb_non_spcl_d&a cl mh_co_morbid	0.7
65+	Consultation liaison for inpatient 6 days stay in mental health bed (primary diagnosis- fnn.0)	sev_sal bb_non_spcl_d&a cl mh_int	0
65+	Consultation liaison for inpatient 12.2 day stay in mental health bed (primary diagnosis- fnn.5,.6.7)	sev_sal bb_non_spcl_d&a cl mh_ls	0.1

Age Group	ILLICT OPIOIDS		People who receive Standalone item per 100,000
	Standalone Item Name	Standalone Item Code	
65+	Consultation liaison for inpatient 7.4 day stay in mental health bed (primary diagnosis- fnn.1,.2,.3,.4,.8,.9)	sev_sal bb_non_spcl_d&a cl mh_withdr	0.1
65+	Consultation liaison to obstetrics, 6.1 days	sev_sal bb_non_spcl_d&a cl obs	0
65+	Consultation liaison to residential aged care facility	sev_sal bb_non_spcl_d&a cl racf	1

## APPENDIX 15 RESIDENTIAL REHABILITATION

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### A15.1 Who needs residential rehabilitation?

It is clear, from a substantial body of research from Australia and abroad, that non-residential AOD interventions are by far the most cost-effective overall. Nonetheless, residential rehabilitation is more effective, and more cost-effective, than non-residential rehabilitation for particular groups of people experiencing substance use disorders. Careful screening and assessment is required to ensure that the people admitted to the facility are those who need and can benefit from residential treatment, having found non-residential options to not meet their needs.

The *Oxford Handbook of Addiction Medicine* indicates which people with substance use disorders are most suited to residential rehabilitation rather than the less expensive non-residential options<sup>68</sup>. For people with alcohol related problems the following criteria for residential rehabilitation are proffered:

- Completion of comprehensive assessment and diagnosis
- Failure to respond to out-patient treatment or unable to comply with this treatment
- Lack of social support including homeless, unstable living environment, surrounded by other heavy drinkers
- Co-morbid psychiatric or medical complications, or malnutrition
- Rural domicile with no out-patient services
- Severe life crises
- Co-existing severe drug dependence.

The same source provides guidance about who is most suitable for residential rehabilitation for opioid-related problems:

While the cost effectiveness of residential in-patient treatment and rehabilitation programmes are subject to debate, residential in-patient treatment programmes are appropriate for some patients who have failed to respond to out-patient treatment, who are poly-substance users (e.g. alcohol and/or benzodiazepines, or chaotic stimulant use), have no social support, and who have co-morbid psychiatric or medical illness. Such programs have demonstrated efficacy.

In addition, many Aboriginal and Torres Strait Islander people have become disconnected from community, culture and the healing properties of interaction with elders, land and country. Residential services are sometimes ideally suited for addressing these problems.

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<sup>68</sup> Latt, N, et al. (eds) 2009, *Addiction medicine*, Oxford Specialist Handbooks, Oxford University Press, pp. 136, 235.

## A15.2 How residential rehabilitation beds are modelled

We have modelled 2 types of RR beds. These are RR1 and RR3 (RR2; is no longer included in the model as a bed stay, it only models staff FTEs.

Note: The benzodiazepine care packages do not specify any residential rehabilitation care.

The table below shows which type of residential rehabilitation bed applies to the drug types included , and describes the type of stay.

**Table 111 - Residential Rehabilitation bed and Drug type**

Residential Rehabilitation bed type	Drug type and description of stay
RR1	Applies to alcohol, cannabis, opioids, amphetamines. This stay has very high levels of activities scheduled each week, ranging from 50 to 90 hours per week The benzodiazepine care packages do not specify any care at a residential rehabilitation
RR2	No longer included in the model as a bed stay, it only models staff FTEs.
RR3	Applies to opioids only for the care packages called “RTOD” (Residential Treatment for Opioid Dependence) and “MTAR”(Methadone to Abstinence Residential) Like the RR1, this stay has very high levels of activities scheduled each week, ranging from 76 to 90 hours per week , however RR3 includes extras related to methadone or Buprenorphine dosing for weeks 1-16

## A15.3 Summary of Residential Rehabilitation care

We have modelled 6 types of Residential Rehabilitation stay of varying lengths and intensities, with and without methadone or Buprenorphine dosing. The benzodiazepine care packages do not specify any Residential Rehabilitation care. sev\_12m bb\_res rehab rr\_13 is modelled only for age 12-17 years , and is the only residential rehabilitation care package for this age group. The table below is indicative of the care within the residential rehabilitation care packages, and shows an example of a drug and age group for whom the care package is modelled.

**Note:** other drugs and age groups can also receive care under the care packages, e.g. rr\_18 is also for amphetamine / cannabis / opioids 12-17.

**Table 112 - Residential Rehabilitation care summary**

Drug	Age	Care Package Description	Care Package Code	Bed type	# of Weeks	Client hrs per	Notes
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						week	
Opioids	18-64	Residential rehabilitation 8 week stay	sev_12m bb_res rehab rr_8	RR1	2	75.92	
				RR1	4	90.83	
				RR1	2	85.33	
Opioids	18-64	Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	sev_12m bb_res rehab rr_13	RR1	2	75.92	
				RR1	4	90.83	
				RR1	2	85.33	
				RR1	5	90.83	Stage 2
Alcohol	12-17	Residential rehabilitation – 18 week stay + 13 weeks aftercare in community	sev_12m bb_res rehab rr_18	RR1	4	57.53	
				RR1	4	57.28	
				RR1	4	59.28	
Opioids	18-64	Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	sev_12m bb_res rehab rr_26	RR1	2	75.92	
				RR1	4	90.83	
				RR1	2	85.33	
				RR1	5	90.83	Stage 2
				RR1	13	85.33	Stage 3
Opioids	18-64	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry/transition/re-entry, 13 week of exit program/outclient in the community - methadone to abstinence residential (mtar)	sev_12m bb_res rehab rr_26_mtar	RR3	2	75.92	RR3 methadone or Buprenorphine dosing for weeks 1-16
				RR3	4	90.83	
				RR3	2	85.33	
				RR3	8	90.83	
Opioids	18-64	Residential rehabilitation – 16 week stay, 12 weeks of after care/transition/re-entry, 15 weeks of exit program/outclient stay, 5 weeks of exit program in the community - residential treatment for heroin dependence stabilisation program (rtod)	sev_12m bb_res rehab rr_26_rtod	RR3	2	75.92	RR3 methadone or Buprenorphine dosing for weeks 1-16
				RR3	4	90.83	
				RR3	2	85.33	
				RR3	8	90.83	
				RR3	2	4.75	

### Vocational Education, Training and Employment (VETE)

This is a specific item in the Model for the 18-64 years, which is not included for any of the other age groups.

VETE is included as an item within the longer duration Residential Rehabilitation care packages (longer than 8 weeks duration). VETE covers various activities including CV writing, mock interviews, attending TAFE (trade), pre-employment training (assume 1 staff and 15 participants per group), and active on the job learning (assume 1 staff and 15 participants per group).

**Example** : Alcohol Care Packages 18-64 yrs

Care package: Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program  
The VETE item within this care package is shown below

**Figure 24 - Example of VETE item within care package**

END STAGE 3		
START 13 WEEKS AFTER CARE/TRANSITION/RE-ENTRY		
After-care	13 x 30-min case management 13 x 30-relapse prevention/ budgeting skills 13 x 75-min 1:1 counselling 13 x 90-min group counselling (assume 1 staff and 10 participants per group) 13 x 60-mins pre-employment training (assume 1 staff: 1 participant)	Costed at AOD Worker rate
Vocational Education, Training and Employment (VETE)	<b>Card 19B x 1</b> 2 x 90-min x 8 weeks writing CV, mock interviews, attending TAFE (trade), pre-employment training (assume 1 staff and 15 participants per group) 5 x 4 hours per week x 8 weeks active on the job learning (assume 1 staff and 15 participants per group)	Duration is 8 weeks Costed at AOD Worker rate
10 WEEKS OF EXIT PROGRAM / OUTCLIENT		

#### A15.4 Residential Rehabilitation and the estimator tool

The Estimator Tool is able to provide:

- bed estimates for RR1 and RR3 type services;
- provide estimates of staff numbers by staff type for each of the 3 RR bed types.

This is summarised in the following table.

**Table 113 - Residential Rehabilitation and the Estimator Tool**

Estimate type	Report in the Estimator Tool
Total RR bed estimate	Yes
RR1 bed estimate	Yes
RR2 bed estimate	Not applicable as RR2 does not include beds
RR3 bed estimate	Yes
Total RR staff estimate	Yes
RR1 staff estimate	Yes
RR2 staff estimate	Yes
RR3 staff estimate	Yes

### A15.5 WHOS MTAR Program Schedule

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>7:00 am</b>	Wake up Shower/ tidy room	Wake up Shower/ tidy room	Wake up Shower/ tidy room	Wake up Shower/ tidy room	Wake up Shower/ tidy room	Wake up Shower/ tidy room	Wake up Shower/ tidy room
<b>8:00 am</b>	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
<b>8:30 am</b>	Morning group	Morning group	Morning group	Morning group	Morning group	Morning group	Morning group
<b>9:30 am</b>	Dosing	Dosing and Job Functions	Dosing	Dosing	Dosing	Dosing	Dosing And job functions
<b>10:30 am</b>	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea	10.30am Brunch
<b>11:00 am</b>	Job Functions	GESE group	Job Functions	Job Functions	Job Functions	House Care	
<b>12:00 pm</b>	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
<b>1:00 pm</b>	Relapse Prevention group	Harm Reduction & Seniors Group	TAFE Outreach	Treatment Task Group	Men's and Women's Group	House Care	Activities/ Scheduled Family & Friends Visits
<b>2:00 pm</b>	Afternoon tea	Afternoon tea	Afternoon tea (part of TAFE)	Afternoon tea	Afternoon tea	Afternoon tea	
<b>2:15 pm</b>	Community Unity group	Family Support group	Appointments/ Shopping	GESE feedback group	Assignment Group	House Care	
<b>3:15 pm</b>	Stress Management	Stress Management	Psycheck group/ Stress Management	Stress Management	Psycheck group Stress Management	Outdoor group activity/ Walk	
<b>5:00 pm</b>	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Evening Program</b>	Senior Reso Dinner/  Aftercare & Induction Group	Stress Management/Fun Night	Aftercare & Induction group	Aftercare	Aftercare	MTAR Ex- residents Aftercare	Aftercare  Family Visit Debrief Group following Family Visits
<b>11:00 pm</b>	Bed	Bed	Bed	Bed	Bed	Bed	Bed
<b>11:30 pm</b>	Lights out	Lights out	Lights out	Lights out	Lights out	Lights out	Lights out

### A15.6 WHOS Gunyah (Mens) Program Schedule – Drug Free

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
7.00 am	Wake Up	Wake Up	Wake Up	Wake Up	Wake Up	Wake Up 8.00 am	Wake Up 8.00 am
	Shower Tidy Room	Shower Tidy Room	Shower Tidy Room	Shower Tidy Room	Shower Tidy Room	Shower Tidy Room	Shower Tidy Room
8.00 am	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
8.30 am	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Morning Group	9:30 Morning Group
9.00 am	Morning Group	Morning Group	Morning Group	Morning Group	Morning Group	House Care	Morning Group Living Skills
10.00 am	Stress Management	Stress Management	Living Skills	Stress Management	Stress Management		
	Meditation/Walk	Meditation/Walk		Meditation/Walk	Meditation/Walk		
10.30 am	Seniors Group/ Living Skills	Living Skills	Stress Management	Living Skills	TAFE access		
11.30 am	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
12.00 pm	Aftercare Meeting	Aftercare Meeting	Aftercare Meeting	Aftercare Meeting	Community Unity Group	House Care	Activities Scheduled visits/ Children visits
2.30 pm	Free Time	Stress Management	Bank/ Shop Run	Stress Management	Community Unity Group	Children's visits	
3.00 pm	Afternoon Tea	Afternoon Tea	Bank/ Shop Run	Afternoon Tea	Afternoon Tea	& Free Time	
3.30 pm	GESE Group	GESE Task	GESE Feedback	Harm	Assignment		

		Group	Group	Minimisation Group	Group		
<b>5.00 pm</b>	Free Time (1/2 way House Group)	Free Time	Free Time	Free Time	Free Time	Dinner Wash Up	Dinner Wash Up
<b>5.30 pm</b>	Dinner Wash Up	Dinner Wash Up	Dinner Wash Up	Dinner Wash Up Senior Dinner – 6.00	Dinner Wash Up	Aftercare Mtg	Aftercare Mtg
<b>7.00 pm</b>	Aftercare Mtg	Aftercare Mtg	Aftercare Mtg	Aftercare Mtg Induction Group	Aftercare Mtg	Fun Activity Night	Free Time
<b>11.00 pm</b>	Bed	Bed	Bed	Bed	Bed	Bed (11:30)	Bed
<b>11.30 pm</b>	Lights Out	Lights Out	Lights Out	Lights Out	Lights Out	Lights Out (12:00 am)	Lights Out

### A15.7 WHOS New Beginnings (Womens) Program Schedule – Drug Free

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
<b>7.00 am</b>	Wake Up  Shower Tidy Room	Wake Up  Shower Tidy Room	Wake Up  Shower Tidy Room	Wake Up  Shower Tidy Room	Wake Up  Shower Tidy Room	Wake Up 8.00 am  Shower Tidy Room	Wake Up 8.00 am  Shower Tidy Room
<b>7.30 am</b>	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
<b>8.00 am</b>	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)	Living Skills 1 (basic)
<b>9.00 am</b>	Morning Group (end 9:45)	Morning Group	Morning Group	Morning Group GESE Feedback	Morning Group	Morning Group	Job Functions  9:30 -Morning, Group
<b>10.00 am</b>	Stress Management/ Seniors Group	Relapse Prevention Group	Meditation Group	Stress Management	Meditation Group	House Care	Brunch or prep for Lunch
<b>11.00 am</b>	Lunch	Lunch 11:30	Lunch	Lunch  12:30 Snr Resident's Lunch	Lunch	Lunch	Leave for Activity
<b>12.00 pm</b>	Aftercare Meeting	Community Unity Group	Aftercare Meeting	TAFE Access	Aftercare Meeting	House Care	Activities
<b>2.30 pm</b>	Afternoon Tea	Afternoon Tea	Afternoon Tea	Afternoon Tea	Afternoon Tea	Afternoon Tea	Scheduled visits/  Children visits
<b>3.00 pm</b>	Assignment Group	Harm Minimisation Group	Doctor/ Shop/ Bank	Pilates 3:30 - 4:30	Topic Group	Free Time (Kids Visit 2-4)	Free Time
<b>4.00 pm</b>	Finish Living Skills	GESE Group 4.15 pm	Run		Living Skills		



<b>5.00 pm</b>	Free Time	Free Time	Free Time	Free Time	Free Time	Aftercare Meeting	Aftercare Meeting
<b>6.00 pm</b>	Dinner Wash Up	Dinner Wash Up	Dinner Wash Up	Dinner Wash Up	Dinner Wash Up		
<b>7.00 pm</b>	Aftercare Meeting	Aftercare Meeting	Ex-Resident's Dinner or Fun Night	Aftercare Meeting	Aftercare Meeting	Dinner Wash Up – 8:00 (Free time)	Dinner Wash Up – 8:00
<b>11.00 pm</b>	Bed	Bed	Bed	Bed	Bed	Bed (11:30)	Bed
<b>11.30 pm</b>	Lights Out	Lights Out	Lights Out	Lights Out	Lights Out	Lights Out (12:00)	Lights Out

### A15.8 WHOS RTOD - Program Schedule

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
7.00 am	Wake/Shower & Tidy Room	Wake/Shower & Tidy Room	Wake/Shower & Tidy Room	Wake/Shower & Tidy Room	Wake/Shower & Tidy Room	Wake/Shower & Tidy Room	
7.30 am	<b>Breakfast</b>	<b>Breakfast</b>	<b>Breakfast</b>	<b>Breakfast</b>	<b>Breakfast</b>	<b>Breakfast</b>	
8.00 am	Job Functions	Job Functions	Job Functions	Job Functions	Job Functions	Job Functions	Wake/Shower & Tidy Room
9.00 am	Morning Group	Morning Group	Morning Group	Morning Group	Morning Group	Morning Group	<b>Breakfast</b> Morning Group
10.00 am	<b>Dosing</b>	<b>Dosing</b>	<b>Dosing</b>	<b>Dosing</b>	<b>Dosing</b>	<b>Dosing</b>	<b>Dosing</b>
10.15 am	<b>Morning Tea</b>	<b>Morning Tea</b>	<b>Morning Tea</b>	<b>Morning Tea</b>	<b>Morning Tea</b>	<b>Morning Tea</b>	Activities
11.00 am	Psycheck Grp Stress Mgmt	Introduction to CBT	Psycheck Grp Stress Mgmt	SMART Recovery	Stress Mgmt	House Duties	
12.00 pm	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
1.00 pm	GESE group	Stress Mgmt	Induction/ Family Support	Stress Mgmt	TAFE	House Duties	Activities
2.00 pm	Walk	Walk	Walk	Walk	Walk	Walk	
2.30pm	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	<b>Afternoon Tea</b>	Scheduled visits/ Children visits
3.00 pm	Relapse Preventn	Community Unity	Harm Minimisation	Task Group	GESE Feedback	House Duties	
4.00 pm	Free Time	Free Time	Free Time	Free Time	Free Time	Free Time	
5.00 pm	(Staff Approval)	(Staff Approval)	(Staff Approval)	(Staff Approval)	(Staff Approval)	(Staff Approval)	
6.00 pm	<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>
<b>Evening Program</b>	Aftercare Mtg	Stress Mgmt	Men's Group	Aftercare Mtg	Women's Group	Activity Night	Aftercare Mtg
11.00pm /11.30pm	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>	<b>Bed/ 11.30 Lights Out</b>

### A15.9 Logan House Weekly Timetable

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
07:00 AM	Exercise 3 (.5)	Exercise 3 (.5)	Exercise 3 (.5)	Exercise 3 (.5)	Exercise 3 (.5)			
07:30 AM	Meds	Meds	Meds	Meds	Meds			
08:00 AM	Villa Clean 3 (.5)	Villa Clean 3 (.5)	Villa Clean 3 (.5)	Villa Clean 3 (.5)	Villa Clean 3 (.5)	4 (.5)	4 (.5)	
08:30 AM	Villa Inspection 3 (.5)	Villa Inspection 3 (.5)	Villa Inspection 3 (.5)	Villa Inspection 3 (.5)	Villa Inspection 3 (.5)	4 (.5)	4 (.5)	
08:45 AM		Feelings 1 (.25)	Feelings 1 (.25)	Feelings 1 (.25)	Feelings 1 (.25)	4 (.5)	4 (.5)	
09:00 AM	Feelings 1 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	Feelings 1 (.5)	Feelings 1 (.5)	
09:30 AM	Meditation 2 (.5)	Phase Groups 1 (2)	Meditation 2 (.5)	Phase Groups 1 (2)	Meditation 2 (.5)	Meds	Meds	
10:00 AM	4 (.5)		4 (.5)		4 (.5)	Villa Clean 3 (2)	4 (.5)	
10:30 AM	House Group 1 (.5)		Shop Run		4 (.5)		4 (.5)	
11:00 AM	4 (.5)		4 (.5)		4 (.5)		4 (.5)	
11:15 AM	Catering Work Function 3 (.25)	Catering Work Function 3 (.25)	Catering Work Function 3 (.25)	Catering Work Function 3 (.25)	Work Functions 3 (1.5)	Villa Inspection 3 (.5)	Family support group every fourth Sunday 5 (1.5)	
11:30 AM	4 (.5)	4 (.5)	4 (.5)	4 (.5)				4 (.5)
12:00 PM	4 (.5)	4 (.5)	4 (.5)	4 (.5)				
12:30 PM	Lunch	Lunch	Lunch	Lunch	Lunch		Visiting time every second Sunday 5 (4)	
01:00 PM	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)			
01:30 PM	Gender Group 1 (1.5)	House Group 1 (.5)	House Group 1 (.5)	House Group 1 (.5)	Graduation 4 (2)			Shop Run
02:00 PM		Phase Groups 1(1)	4 (.5)	Phase Groups 1(1)				
02:30 PM			4 (.5)					
03:00 PM	Work Functions 3	Work Functions 3	Work Functions 3	Work Functions 3 (2)				4 (.5)

03:30 PM	(2)	(2)	(2)		4 (.5)	4 (.5)	
04:00 PM					4 (.5)	4 (.5)	
04:30 PM					4 (.5)	4 (.5)	4 (.5)
05:00 PM	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)
05:30 PM	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res
06:00 PM	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)
06:30 PM	Feelings 1 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	Senior's Meeting 2 (.5)
07:00 PM	In-house AA/NA 4 (1)	Feelings 1 (.5)	Feelings 1 (.5)	Feelings 1 (.5)	Feelings 1 (.5)	Feelings 1 (.5)	Feelings 1 (.5)
07:30 PM		4 (.5)	4 (.5)	4 (.5)	4 (.5)	4 (.5)	Resident House Meeting 1 (.5)
08:00 PM	Meds	Meds	Meds	Meds	Meds	Meds	Meds
08:30 PM	Off other villa verandahs	Off other villa verandahs	Off other villa verandahs	Off other villa verandahs			Off other villa verandahs
09:00 PM	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res	Duty Res
09:30 PM	Return to Villas	Return to Villas	Return to Villas	Return to Villas	Off other villa verandahs	Off other villa verandahs	Return to Villas
10:00 PM							
10:30 PM					Return to Villas	Return to Villas	

### A15.10DASA Alice Springs- Withdrawal Management (Detox)and 8 week program

TIMES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7.30am-8.45am	Wake Up, Shower, Room Cleaning 3 (1.25)	Wake Up, Shower, Room Cleaning 3 (1.25)	Wake Up, Shower, Room Cleaning 3 (1.25)	Wake Up, Shower, Room Cleaning 3 (1.25)	Wake Up, Shower, Room Cleaning 3 (1.25)
	Breakfast, Medication	Breakfast, Medication	Breakfast, Medication	Breakfast, Medication	Breakfast, Medication
8.45am-9.15am	Morning meeting 2 (.5)	Morning meeting 2 (.5)	Morning meeting 2 (.5)	Morning meeting 2 (.5)	Morning meeting 2 (.5)
9.15am-10.15am	House Function	House Function	House Function	House Function	House Function
	Work Crews 3 (.5)	Work Crews 3 (.5)	Work Crews 3 (.5)	Work Crews 3 (.5)	Work Crews 3 (.5)
	Counselling 1:1/Group	Counselling 1:1/Group	Counselling 1:1/Group	Counselling 1:1/Group	Counselling 1:1/Group
10.15am-10.30am	Morning tea	Morning tea	Morning tea	Morning tea	Morning tea
10.30am-12noon	House Meeting 2 (1.5)	Feelings Group 1 (1.5)	Drug Awareness 2 (1.5)	Communication 2 (1.5)	Health 2 (1.5)
12noon-1pm	Lunch & Wash up Medication	Lunch & Wash up Medication	Lunch & Wash up Medication	Lunch & Wash up Medication	Lunch & Wash up Medication
1pm-3pm	Living Skills 2 (2)	Human Relationships 2 (2)	Education & training Horticulture & Hospitality  3 (4)	Feelings Group 1 (2)	Stress Management 2 (2)
3.00pm-3.15pm	Afternoon tea	Afternoon tea		Afternoon tea	Afternoon tea
3.15pm-5.00pm	Arts & Crafts	Recovery information Videos etc		Sport/recreation 3 (1.75)	Activities/outing 3 (1.75)
5.00pm-6.30pm	Free time	Free time	Free time	Free time	Free time
6.30pm-7.30pm	Dinner & Wash up Medication	Dinner & Wash up Medication	Dinner & Wash up Medication	Dinner & Wash up Medication	Dinner & Wash up Medication
8.00pm-9.00pm	AA Meeting DASA 4 (1)	NA Meeting DASA 4 (1)	AA Meeting DASA 4 (1)	AA Meeting DASA 4 (1)	AA Meeting Hospital 4 (1)
9.00pm-9.30pm	Supper	Supper	Supper	Supper	Supper
9.30pm-10.30pm	Free time	Free time	Free time	Free time	Free time
10.30pm-11.00pm	Bed/lights out	Bed/lights out	Bed/lights out	Bed/lights out	Bed/lights out



# A15.11 The Buttery timetable

- ① GROUP THERAPY - New Res - 3.5  
Older gp - 2.25.
- ② GROUP PSYCHOEDUC. - New - 12  
Older gp - 12

- ③ PSYCHOEDUCIAL ACTIVITY - New Res - 9.75  
Older - 9.
- ④ PEER - New - 31.5  
Older - 33.5.
- ⑤ Family - 3



the Buttery

\* Total 59.75  
+ Additional Peer Time (18)  
Total - 77.75

## Therapeutic Community Weekly Timetable

All Out of Bed by 7am - Breakfast Together at 7.30am

Community Meetings will be scheduled as required

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Time
8.30	Older New	Older New	Older New	Both	Both	Both	Community Outings	8.30
8.45								8.45
9.00	M. Meeting (8.45 to 10.15am) 2 (1.25)	M. Meeting (8.45 to 10.15am) 2 (1.25)	M. Meeting (8.45 to 10.15am) 2 (1.25)	M. Meeting (8.45 to 10.15am) 2 (1.25)	M. Meeting (8.45 to 10.15am) 2 (1.25)	Yoga (optional)		9.00
9.15								9.15
9.30						Community Responsos 3 (1.75)		9.30
9.45								9.45
10.00								10.00
10.15								10.15
10.30	Morning Tea (10.15 am to 10.45 am)	Morning Tea (10.15 am to 10.30 am)	Morning Tea	Morning Tea	Morning Tea			10.30
10.45	Week 1 House Meeting 2 (.75)	Week 2 Case Load Group (.75)	Meditation P1 3 (.75)	Work 4 (.75)	Work 4 (.75)	House Cleaning 4 (1.25)		10.45
11.00			Topic 2 2 (.75)					11.00
11.15								11.15
11.30	Break (11.45 am to 12.00 pm)	Break (11.45 am to 12.00 pm)	Break	Break	Break	House Inspections 4 (1)		11.30
11.45								11.45
12.00	Week 1 Self-Nurture 2 (.75)	Week 2 Case Load Group (.75)	Meditation P2 3 (.75)	Work 4 (.75)	Reviews & Applications 4 (.75)			12.00
12.15			Topic 1 2 (.75)					12.15
12.30								12.30
12.45								12.45
1.00								1.00
1.15								1.15
1.30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch / free time		1.30
1.45								1.45
2.00	Peer Bookings 4 (.5)	Peer Bookings 4 (.5)	Peer Bookings 4 (.5)	Peer Bookings 4 (.5)	Peer Bookings 4 (.5)			2.00
2.15								2.15
2.30	Topic 1 2 (1)	Dialogue 1 (1)	Choir 3 (1)	Week 1 Reviews & Applications 4 (1)	Week 2 Gender 1 (1)	Community Responsos 3 (3)		2.30
2.45		New Residents Self-Nurture 2 (1)			Misc 4 (1)	Approved Visitors 5 (3)		2.45
2.55					Relapse Prevention 2 (1)			2.55
3.00								3.00
3.15	Afternoon Tea (3.15 pm to 3.30pm)	Afternoon Tea	Afternoon Tea	Afternoon Tea	Afternoon Tea			3.15
3.30								3.30
3.45								3.45
4.00	Topic 2 2 (1.25)	Farewells or Reviews & Applications 4 (1.25)	Reviews & Applications 4 (1.25)	Life Story or Awarenesses 1 (1.25)	Self-Nurture / Outing 4 (1.25)			4.00
4.15				New Residents 2 (1.25)				4.15
4.30								4.30
4.45								4.45
5.00	Peer Time	Peer Time	Peer Time	Peer Time	Peer Time	Peer Time	Time	5.00
Evening	NA / AA Community 4 (2)	NA / GA or Free Night 4 (2)	House Meeting 2 (2)	NA or Free Night or Massage / Haircuts 4 (2)	Free Night 4 (2)	Free Night 4 (2)	Community Meal Free Night 4 (2)	Evening

  Morning meeting
   House meetings
   Process groups
   Topic Groups
   Applications & Reviews
   Self Development
   Work
   Self Nurture/Recreational
   12-Step

## APPENDIX 16 DATA COMPANION

## A16.1 Aus BOD drugs Prevalence, Mortality, Remission, Disability Weight

Table 114 - Aus BOD drugs Mortality, Remission, Disability Weight

Drug Type	Prevalence	Mortality	Remission	Disability Weight
<b>J01a - Alcohol</b>	12 Month Alcohol Harmful Use and Dependence from SMHWB 1997. [NB: not adjusted for disability because SF-12 disability weight used.]	Meta-analysis of world literature (Harris & Barraclough). Alcohol use disorder is associated with elevated mortality risk. The SMR for all-cause mortality reported in the meta-analysis of Harris and Barraclough (1998) is 1.8 in males and 3.84 in females	Publication. Remission of 37.7% at two years reported by Booth (2001); this translates into an instantaneous remission rate of $23.7\% = -\ln(0.623)/2$	Dutch weights imputed from SMHWB 1997 SF12 disability
<b>J01b – Heroin Dependence</b>	Prevalence – [Service data x NSW survey multiplier] “NDARC Technical Report NO. 198 presents higher estimates of regular heroin users based on triangulation between 5 data sources: ABS opioid deaths; ambulance attendances for drug overdose in NSW; NSW Health heroin pharmacotherapy client database; NSW data on arrests for drug offenses; and data from Alcohol and Drug information Service on calls related to heroin use. While the detailed comparison of databases was done for NSW extrapolations were made for all jurisdictions by extrapolation of relationship between numbers under treatment/in contact with police and opioid mortality figures from NSW and the opioid deaths in each jurisdiction. The figures in blue below (in original Aus BOD spreadsheets) are from the NDARC report: national prevalence by age	Mortality – “Total attributable opiate deaths in Australians in 1996 (Stevenson 1998) were used to estimate overall deaths rates in total heroin users and general population and RR of dying if heroin user”.	Remission – “NDARC uses 5% remission in its back projection methods. We decide to use this figure	DW – “DW extrapolated by local alcohol/drug experts for Victorian BoD study 1996: 0.27“

	and the overall proportion of male users of 73%. We extrapolate age-and-sex specific prevalence			
<b>J01c – Sedative/Benzodiazepine Dependence</b>	Prevalence – 12-month Sedative Dependence from SMHWB 1997. [NB: not adjusted for disability because SF-12 disability weight used.]	Meta-analysis of world literature (Harris & Barraclough, “legal drug use”)	No data on remission. Assume same remission as for cannabis dependence: 8%. I.e. Sydney data on Cannabis Dependence remission (Swift / Hall/ Copeland 2000)	Dutch weights imputed from SMHWB 1997 SF12 disability
<b>J01d - Cannabis</b>	Prevalence – 12 Month Cannabis Dependence from SMHWB 1997. [NB: not adjusted for disability because SF-12 disability weight used.]	We assume no elevated risk of mortality from cannabis dependence	Remission Sydney data (Swift / Hall/ Copeland 2000)	
<b>J01e - Stimulants</b>	<p>Prevalence – – [Service data x NSW survey multiplier]</p> <p>“Prevalence of stimulant dependence is estimated from the number of closed treatment episodes in 2002-2003 where the principle drug of concern was listed as amphetamines, by age and sex. This data is available from the Australian Institute of Health and Welfare’s Alcohol and Other Drug Treatment Datacube containing information on the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS) collection (<a href="http://www.aihw.gov.au/drugs/datacubes/index.cfm">http://www.aihw.gov.au/drugs/datacubes/index.cfm</a> accessed 15/12/05).</p> <p>We inflate these figures by 5.5 as described by McKetin et al (2005) NDARC.</p> <p>We decided to use the treatment figures rather than the estimates of prevalence of stimulant dependence from the 1997 Mental Health Survey (see sheet MHS data) as</p> <p>(a) there has been a marked increase in the use of stimulants since 1997; and</p> <p>(b) the survey results show erratic age patterns as only few cases were identified.</p>	Mortality – Meta-analysis of world literature (Harris & Barraclough, “legal drug use”)	Remission – “We estimate remission by first entering prevalence, RR=0, CFR=0, into DisMod2. We thus ask DisMod to produce an estimate of remission that best replicates the age pattern of prevalence. The average remission across all ages was 12%. Subsequently we run the dismod model again with same prevalence this remission rate and a RR for excess mortality as described below (again, in original Aus BOD spreadsheets).”	



## A16.2 ICD Codes Related to Aus BOD Drugs

The International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) is a coding of diseases and signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or diseases, as classified by the World Health Organization (WHO).

There are 22 chapters in the ICD- 10 and each chapter has its own block of codes. Chapter 5 relates to Mental and behavioural disorders, and the codes for this chapter are from F00-F99. Within Chapter 5 of the ICD -10, the Project has analysed non same day hospital separations that cover codes (F10–F19) Mental and behavioural disorders due to psychoactive substance use.

**Table 115 - Mental and behavioural disorders due to psychoactive substance use F10-F19**


F10	Alcohol related disorders
F11	Opioid related disorders
F12	Cannabis related disorders
F13	Sedative, hypnotic, or anxiolytic related disorders
F14	Cocaine related disorders
F15	Other stimulant related disorders
F16	Hallucinogen related disorders
F17	Nicotine dependence
F18	Inhalant related disorders
F19	Other psychoactive substance related disorders

## A16.3 ASCDC Australian Standard Classification of Drugs of Concern

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1248.0Main+Features12011?OpenDocument>

The Australian Standard Classification of Drugs of Concern (ASCDC) is the Australian statistical standard for classifying data relating to drugs which are considered to be of concern in Australian society. The ASCDC is essentially a classification of type of drug of concern based on the chemical structure, mechanism of action and effect on physiological activity of the drugs of concern. The classification of Type of Drug is described as the 'main classification structure' throughout the ASCDC document. The ASCDC is intended for use in the collection, classification, storage and dissemination of all statistical, administrative and service delivery data relating to drugs of concern.

Table 116 - Australian Standard Classification of Drugs of Concern

 <b>Australian Bureau of Statistics</b>	
<b>1248.0 Australian Standard Classification of Drugs of Concern, Second Edition, 2011</b> Released at 11.30am (Canberra time) 06 July 2011	
<b>Table 1.3 Broad groups, narrow groups and base level units</b>	
Broad groups	
Narrow groups	
Base level units	
<b>Broad groups</b>	
<b>Narrow groups</b>	
<b>Base level units</b>	
<b>1 ANALGESICS</b>	
<b>11 Organic Opiate Analgesics</b>	
1101	Codeine
1102	Morphine
1199	Organic Opiate Analgesics, nec
<b>12 Semisynthetic Opioid Analgesics</b>	
1201	Buprenorphine
1202	Heroin
1203	Oxycodone
1299	Semisynthetic Opioid Analgesics, nec
<b>13 Synthetic Opioid Analgesics</b>	
1301	Fentanyl
1302	Fentanyl analogues
1303	Levomethadyl acetate hydrochloride
1304	Meperidine analogues
1305	Methadone
1306	Pethidine
1307	Tramadol
1399	Synthetic Opioid Analgesics, nec
<b>14 Non Opioid Analgesics</b>	
1401	Acetylsalicylic acid
1402	Paracetamol
1403	Ibuprofen
1499	Non Opioid Analgesics, nec
<b>2 SEDATIVES AND HYPNOTICS</b>	
<b>21 Alcohols</b>	
2101	Ethanol
2102	Methanol
2199	Alcohols, nec

<b>22</b>	<b>Anaesthetics</b>
2202	Ketamine
2203	Nitrous oxide
2204	Phencyclidine
2205	Propofol
2299	Anaesthetics, nec
<b>23</b>	<b>Barbiturates</b>
2301	Amylobarbitone
2302	Methylphenobarbitone
2303	Phenobarbitone
2399	Barbiturates, nec
<b>24</b>	<b>Benzodiazepines</b>
2401	Alprazolam
2402	Clonazepam
2403	Diazepam
2404	Flunitrazepam
2405	Lorazepam
2406	Nitrazepam
2407	Oxazepam
2408	Temazepam
2499	Benzodiazepines, nec
<b>25</b>	<b>GHB Type Drugs and Analogues</b>
2501	Gamma-hydroxybutyrate
2502	Gamma-butyrolactone
2503	1,4-butanediol
2599	GHB Type Drugs and Analogues, nec
<b>29</b>	<b>Other Sedatives and Hypnotics</b>
2901	Chlormethiazole
2902	Kava lactones
2903	Zopiclone
2904	Doxylamine
2905	Promethazine
2906	Zolpidem
2999	Other Sedatives and Hypnotics, nec
<b>3</b>	<b>STIMULANTS AND HALLUCINOGENS</b>
<b>31</b>	<b>Amphetamines</b>
3101	Amphetamine
3102	Dexamphetamine
3103	Methamphetamine
3104	Amphetamine analogues
3199	Amphetamines, nec
<b>33</b>	<b>Ephedra Alkaloids</b>
3301	Ephedrine

	3302	Norephedrine
	3303	Pseudoephedrine
	3399	Ephedra Alkaloids,nec
<b>34</b>	<b>Phenethylamines</b>	
	3401	DOB
	3402	DOM
	3403	MDA
	3404	MDEA
	3405	MDMA
	3406	Mescaline
	3407	PMA
	3408	TMA
	3411	DOI
	3412	PMMA
	3413	2C-B
	3414	Phenethylamine analogues
	3499	Phenethylamines, nec
<b>35</b>	<b>Tryptamines</b>	
	3501	Atropinic alkaloids
	3502	Diethyltryptamine
	3503	Dimethyltryptamine
	3504	Lysergic acid diethylamide
	3505	Psilocybin or Psilocin
	3506	Tryptamine analogues
	3599	Tryptamines, nec
<b>36</b>	<b>Volatile Nitrates</b>	
	3601	Amyl nitrate
	3602	Butyl nitrate
	3699	Volatile Nitrates, nec
<b>37</b>	<b>Cathinones</b>	
	3701	Cathinone
	3702	Methcathinone
	3703	Cathinone analogues
	3799	Cathinones, nec
<b>38</b>	<b>Piperazines</b>	
	3801	1-Benzylpiperazine
	3802	1-(3-Trifluoromethylphenyl)- piperazine
	3803	1-(3-Chlorophenyl)-piperazine
	3804	Phenylpiperazine analogues
	3899	Piperazines, nec
<b>39</b>	<b>Other Stimulants and Hallucinogens</b>	
	3901	Caffeine
	3903	Cocaine
	3905	Methylphenidate

3906	Nicotine
3999	Other Stimulants and Hallucinogens, nec

#### A16.4 ABS Populations Australia, 2006

The population numbers used in the Model were sourced from the Australian Bureau of Statistics (ABS) online publication *3222.0 - Population Projections, Australia, 2006 to 2101*<sup>69</sup>. The population projections presented in this publication cover the period 30 June 2008 to 2101 for Australia and 30 June 2008 to 2056 for the states, territories, and capital cities/balances of state.

The ABS produces three main series of projections. The Series A, B and C, have been selected from a possible 72 individual combinations of various assumptions about future levels of fertility, mortality, internal migration and overseas migration over the projection period. Series B largely reflects current trends in fertility, life expectancy at birth, net overseas migration and net interstate migration, whereas Series A and Series C are based on high and low assumptions for each of these variables respectively.

The ABS Series B population projections have been chosen as the primary source for the Model on the basis that it provides a prudent ‘middle ground’ approach to the assumptions underlying the projections. The Estimator Tool is flexible and can be adjusted by users to see impact of different population projections, for example those reported under Series A and C, or customised population projections developed by their Planning Departments.

The following population tables (Table A16.6.1 to A16.6.3) illustrate some of the analytical work carried out on population numbers.

The figures given in the “% of Population” column are a population-weighted average of those for each age group, in the proportions in which they occurred in the 2006 Australian population.

They can be used as a fair guide when calculating service figures for a total population, because variations in the age distribution between (say) States and Territories in Australia are relatively small. That is why they are presented.

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<sup>69</sup> 3222.0 - Population Projections, Australia, 2006 to 2101, Released at 11:30 AM (CANBERRA TIME) 04/09/2008  
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>

**Table 117 - ABS Populations Australia, 2006 with Analysis (Ages 0 to 17)**

Jurisdiction	Year	Age	Population - Persons	Age Categories	Age Category Population - Persons	% of Aust. Population
Australia	2006	0	270,091	0 - 11.99 months	270,091	1.3%
Australia	2006	1	261,729	1- 11 Years	2,934,634	14.2%
Australia	2006	2	259,546			
Australia	2006	3	258,577			
Australia	2006	4	260,139			
Australia	2006	5	265,039			
Australia	2006	6	267,365			
Australia	2006	7	268,044			
Australia	2006	8	268,130			
Australia	2006	9	271,631			
Australia	2006	10	273,908			
Australia	2006	11	280,526			
Australia	2006	12	280,307	12- 17 Years	1,697,481	8.2%
Australia	2006	13	281,907			
Australia	2006	14	283,506			
Australia	2006	15	285,588			
Australia	2006	16	285,730			
Australia	2006	17	280,443			

**Table 118 - ABS Populations Australia, 2006 With Analysis (Ages 18 to 64)**

Jurisdiction	Year	Age	Population - Persons	Age Categories	Age Category Population - Persons	% of Aust. Population
Australia	2006	18	279,820	18 - 64	13,103,015	63.3%
Australia	2006	19	283,624			
Australia	2006	20	291,028			
Australia	2006	21	295,346			
Australia	2006	22	294,721			
Australia	2006	23	297,404			
Australia	2006	24	293,359			
Australia	2006	25	288,993			
Australia	2006	26	281,382			
Australia	2006	27	278,368			
Australia	2006	28	276,682			
Australia	2006	29	278,505			
Australia	2006	30	281,449			
Australia	2006	31	287,564			
Australia	2006	32	296,127			
Australia	2006	33	305,495			
Australia	2006	34	319,169			
Australia	2006	35	324,063			
Australia	2006	36	308,700			
Australia	2006	37	304,494			
Australia	2006	38	295,197			
Australia	2006	39	292,402			
Australia	2006	40	294,742			
Australia	2006	41	299,140			
Australia	2006	42	309,887			
Australia	2006	43	314,516			
Australia	2006	44	314,269			
Australia	2006	45	311,848			
Australia	2006	46	304,204			
Australia	2006	47	297,870			
Australia	2006	48	292,189			
Australia	2006	49	287,319			
Australia	2006	50	284,735			
Australia	2006	51	276,389			
Australia	2006	52	270,184			
Australia	2006	53	269,720			
Australia	2006	54	261,275			
Australia	2006	55	258,337			
Australia	2006	56	255,791			
Australia	2006	57	247,584			
Australia	2006	58	250,261			
Australia	2006	59	259,521			
Australia	2006	60	218,611			
Australia	2006	61	209,580			
Australia	2006	62	200,636			
Australia	2006	63	181,604			
Australia	2006	64	178,911			

**Table 119 - ABS Populations Australia, 2006 With Analysis (Ages 65+)**

Jurisdiction	Year	Age	Population - Persons	Age Categories	Age Category Population - Persons	% of Aust. Population
Australia	2006	65	167,924	65+	2,692,659	13.0%
Australia	2006	66	162,762			
Australia	2006	67	156,719			
Australia	2006	68	149,225			
Australia	2006	69	144,789			
Australia	2006	70	138,017			
Australia	2006	71	129,235			
Australia	2006	72	124,310			
Australia	2006	73	121,243			
Australia	2006	74	118,025			
Australia	2006	75	119,099			
Australia	2006	76	116,366			
Australia	2006	77	110,378			
Australia	2006	78	106,413			
Australia	2006	79	100,293			
Australia	2006	80	95,497			
Australia	2006	81	88,587			
Australia	2006	82	80,503			
Australia	2006	83	73,702			
Australia	2006	84	67,459			
Australia	2006	85 and over	322,113			



### **A16.5 ABS Populations Australia, 2006 - 2031 by State and Age Group**

The ABS population projections for the years 2006 to 2031 are summarised by jurisdiction and age group in Tables 1 to 10 below. The proportion of each age group (0-17, 18-64 and 65+) to the total population is also included in the tables.

*Sourced from ABS 04\_10\_2011 TABLE B9. Population projections, By age and sex, Australia - Series B*

3222.0 - Population Projections, Australia, 2006 to 2101, Released at 11:30 AM (CANBERRA TIME) 04/09/2008 <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>

**Table 120 - Australian Population Projections – 2006 to 2031 (ABS Series B)**

	Age Category									
Year	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages	% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
Jun-2006	270,091	2,934,634	1,697,481	4,902,206	13,103,015	2,692,659	<b>20,697,880</b>	23.68%	63.31%	13.01%
Jun-2007	273,846	2,951,577	1,716,047	4,941,470	13,308,461	2,765,111	<b>21,015,042</b>	23.51%	63.33%	13.16%
Jun-2008	281,217	2,976,241	1,720,406	4,977,864	13,525,511	2,836,098	<b>21,339,473</b>	23.33%	63.38%	13.29%
Jun-2009	282,729	3,008,061	1,721,736	5,012,526	13,728,222	2,923,813	<b>21,664,561</b>	23.14%	63.37%	13.50%
Jun-2010	284,988	3,042,259	1,721,333	5,048,580	13,924,347	3,018,084	<b>21,991,011</b>	22.96%	63.32%	13.72%
Jun-2011	287,528	3,076,397	1,722,518	5,086,443	14,113,597	3,119,026	<b>22,319,066</b>	22.79%	63.24%	13.97%
Jun-2012	290,231	3,111,077	1,724,896	5,126,204	14,264,653	3,256,607	<b>22,647,464</b>	22.63%	62.99%	14.38%
Jun-2013	293,068	3,148,224	1,724,792	5,166,084	14,428,410	3,381,873	<b>22,976,367</b>	22.48%	62.80%	14.72%
Jun-2014	295,991	3,190,535	1,726,425	5,212,951	14,591,468	3,501,479	<b>23,305,898</b>	22.37%	62.61%	15.02%
Jun-2015	298,944	3,234,929	1,728,683	5,262,556	14,747,327	3,626,226	<b>23,636,109</b>	22.26%	62.39%	15.34%
Jun-2016	301,855	3,278,699	1,735,371	5,315,925	14,900,388	3,750,669	<b>23,966,982</b>	22.18%	62.17%	15.65%
Jun-2017	304,657	3,320,526	1,744,593	5,369,776	15,053,316	3,874,721	<b>24,297,813</b>	22.10%	61.95%	15.95%
Jun-2018	307,284	3,354,552	1,762,407	5,424,243	15,200,204	4,003,986	<b>24,628,433</b>	22.02%	61.72%	16.26%
Jun-2019	309,690	3,388,018	1,783,169	5,480,877	15,346,967	4,130,780	<b>24,958,624</b>	21.96%	61.49%	16.55%
Jun-2020	311,846	3,416,517	1,813,628	5,541,991	15,485,572	4,260,527	<b>25,288,090</b>	21.92%	61.24%	16.85%
Jun-2021	313,746	3,445,653	1,844,764	5,604,163	15,616,929	4,395,453	<b>25,616,545</b>	21.88%	60.96%	17.16%
Jun-2022	315,919	3,474,422	1,874,582	5,664,923	15,749,224	4,529,518	<b>25,943,665</b>	21.84%	60.71%	17.46%
Jun-2023	318,372	3,502,824	1,902,082	5,723,278	15,881,452	4,664,886	<b>26,269,616</b>	21.79%	60.46%	17.76%
Jun-2024	320,580	3,530,985	1,921,680	5,773,245	16,018,427	4,802,348	<b>26,594,020</b>	21.71%	60.23%	18.06%
Jun-2025	322,582	3,558,515	1,940,923	5,822,020	16,152,039	4,942,425	<b>26,916,484</b>	21.63%	60.01%	18.36%
Jun-2026	324,401	3,585,119	1,955,721	5,865,241	16,284,887	5,086,522	<b>27,236,650</b>	21.53%	59.79%	18.68%
Jun-2027	326,070	3,610,585	1,971,957	5,908,612	16,415,973	5,229,227	<b>27,553,812</b>	21.44%	59.58%	18.98%
Jun-2028	327,628	3,634,803	1,988,842	5,951,273	16,546,968	5,369,408	<b>27,867,649</b>	21.36%	59.38%	19.27%
Jun-2029	329,121	3,657,773	2,005,990	5,992,884	16,683,203	5,501,749	<b>28,177,836</b>	21.27%	59.21%	19.53%
Jun-2030	330,588	3,679,606	2,023,066	6,033,260	16,830,334	5,620,573	<b>28,484,167</b>	21.18%	59.09%	19.73%
Jun-2031	332,080	3,700,497	2,039,706	6,072,283	16,982,123	5,732,080	<b>28,786,486</b>	21.09%	58.99%	19.91%

**Table 121 - ACT Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	4,430	45,238	26,847	76,515	225,745	31,859	<b>334,119</b>	22.90%	67.56%	9.54%
Jun-2007	4,503	45,760	26,756	77,019	229,560	33,182	<b>339,761</b>	22.67%	67.57%	9.77%
Jun-2008	4,669	46,221	26,491	77,381	231,978	34,447	<b>343,806</b>	22.51%	67.47%	10.02%
Jun-2009	4,675	46,763	26,265	77,703	234,204	35,925	<b>347,832</b>	22.34%	67.33%	10.33%
Jun-2010	4,695	47,367	26,075	78,137	236,451	37,443	<b>352,031</b>	22.20%	67.17%	10.64%
Jun-2011	4,712	47,936	26,013	78,661	238,380	39,184	<b>356,225</b>	22.08%	66.92%	11.00%
Jun-2012	4,732	48,531	25,905	79,168	239,720	41,516	<b>360,404</b>	21.97%	66.51%	11.52%
Jun-2013	4,752	49,163	25,735	79,650	241,308	43,611	<b>364,569</b>	21.85%	66.19%	11.96%
Jun-2014	4,775	49,849	25,695	80,319	242,798	45,604	<b>368,721</b>	21.78%	65.85%	12.37%
Jun-2015	4,795	50,499	25,660	80,954	244,276	47,629	<b>372,859</b>	21.71%	65.51%	12.77%
Jun-2016	4,813	51,008	25,823	81,644	245,667	49,672	<b>376,983</b>	21.66%	65.17%	13.18%
Jun-2017	4,832	51,515	25,971	82,318	247,093	51,672	<b>381,083</b>	21.60%	64.84%	13.56%
Jun-2018	4,850	51,824	26,338	83,012	248,503	53,642	<b>385,157</b>	21.55%	64.52%	13.93%
Jun-2019	4,865	52,162	26,712	83,739	249,925	55,539	<b>389,203</b>	21.52%	64.21%	14.27%
Jun-2020	4,877	52,384	27,269	84,530	251,355	57,331	<b>393,216</b>	21.50%	63.92%	14.58%
Jun-2021	4,883	52,611	27,785	85,279	252,757	59,158	<b>397,194</b>	21.47%	63.64%	14.89%
Jun-2022	4,900	52,828	28,184	85,912	254,177	61,046	<b>401,135</b>	21.42%	63.36%	15.22%
Jun-2023	4,920	53,041	28,579	86,540	255,685	62,818	<b>405,043</b>	21.37%	63.13%	15.51%
Jun-2024	4,940	53,251	28,784	86,975	257,289	64,650	<b>408,914</b>	21.27%	62.92%	15.81%
Jun-2025	4,955	53,464	29,017	87,436	258,863	66,444	<b>412,743</b>	21.18%	62.72%	16.10%
Jun-2026	4,967	53,665	29,139	87,771	260,484	68,269	<b>416,524</b>	21.07%	62.54%	16.39%
Jun-2027	4,980	53,859	29,281	88,120	262,052	70,077	<b>420,249</b>	20.97%	62.36%	16.68%
Jun-2028	4,990	54,046	29,428	88,464	263,706	71,743	<b>423,913</b>	20.87%	62.21%	16.92%
Jun-2029	4,999	54,228	29,570	88,797	265,373	73,343	<b>427,513</b>	20.77%	62.07%	17.16%
Jun-2030	5,009	54,392	29,719	89,120	267,170	74,753	<b>431,043</b>	20.68%	61.98%	17.34%
Jun-2031	5,019	54,547	29,855	89,421	269,008	76,078	<b>434,507</b>	20.58%	61.91%	17.51%

**Table 122 - NT Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	3,662	37,854	19,636	61,152	139,736	9,739	<b>210,627</b>	29.03%	66.34%	4.62%
Jun-2007	3,655	38,095	19,961	61,711	142,681	10,537	<b>214,929</b>	28.71%	66.39%	4.90%
Jun-2008	3,860	38,419	19,903	62,182	146,213	11,148	<b>219,543</b>	28.32%	66.60%	5.08%
Jun-2009	3,923	38,984	19,784	62,691	149,134	11,873	<b>223,698</b>	28.02%	66.67%	5.31%
Jun-2010	3,973	39,374	19,798	63,145	151,480	12,578	<b>227,203</b>	27.79%	66.67%	5.54%
Jun-2011	4,013	39,982	19,598	63,593	153,676	13,457	<b>230,726</b>	27.56%	66.61%	5.83%
Jun-2012	4,052	40,517	19,613	64,182	155,642	14,441	<b>234,265</b>	27.40%	66.44%	6.16%
Jun-2013	4,093	40,939	19,732	64,764	157,731	15,324	<b>237,819</b>	27.23%	66.32%	6.44%
Jun-2014	4,132	41,519	19,764	65,415	159,754	16,218	<b>241,387</b>	27.10%	66.18%	6.72%
Jun-2015	4,171	42,069	19,944	66,184	161,594	17,191	<b>244,969</b>	27.02%	65.97%	7.02%
Jun-2016	4,211	42,761	19,920	66,892	163,507	18,167	<b>248,566</b>	26.91%	65.78%	7.31%
Jun-2017	4,253	43,441	20,064	67,758	165,351	19,065	<b>252,174</b>	26.87%	65.57%	7.56%
Jun-2018	4,293	43,977	20,304	68,574	167,233	19,988	<b>255,795</b>	26.81%	65.38%	7.81%
Jun-2019	4,331	44,550	20,442	69,323	169,239	20,862	<b>259,424</b>	26.72%	65.24%	8.04%
Jun-2020	4,367	45,013	20,808	70,188	171,133	21,737	<b>263,058</b>	26.68%	65.06%	8.26%
Jun-2021	4,404	45,485	21,159	71,048	173,014	22,635	<b>266,697</b>	26.64%	64.87%	8.49%
Jun-2022	4,443	45,945	21,617	72,005	174,850	23,487	<b>270,342</b>	26.63%	64.68%	8.69%
Jun-2023	4,485	46,410	22,056	72,951	176,715	24,329	<b>273,995</b>	26.62%	64.50%	8.88%
Jun-2024	4,527	46,880	22,366	73,773	178,740	25,144	<b>277,657</b>	26.57%	64.37%	9.06%
Jun-2025	4,572	47,354	22,708	74,634	180,710	25,982	<b>281,326</b>	26.53%	64.24%	9.24%
Jun-2026	4,614	47,824	22,962	75,400	182,711	26,891	<b>285,002</b>	26.46%	64.11%	9.44%
Jun-2027	4,654	48,294	23,219	76,167	184,786	27,725	<b>288,678</b>	26.38%	64.01%	9.60%
Jun-2028	4,695	48,760	23,483	76,938	186,880	28,535	<b>292,353</b>	26.32%	63.92%	9.76%
Jun-2029	4,736	49,227	23,745	77,708	189,047	29,275	<b>296,030</b>	26.25%	63.86%	9.89%
Jun-2030	4,778	49,687	24,008	78,473	191,329	29,907	<b>299,709</b>	26.18%	63.84%	9.98%
Jun-2031	4,818	50,138	24,277	79,233	193,624	30,533	<b>303,390</b>	26.12%	63.82%	10.06%

**Table 123 - NSW Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	90,467	967,538	552,107	1,610,112	4,285,363	920,612	<b>6,816,087</b>	23.62%	62.87%	13.51%
Jun-2007	89,635	968,454	555,857	1,613,946	4,332,017	942,051	<b>6,888,014</b>	23.43%	62.89%	13.68%
Jun-2008	88,768	971,046	555,019	1,614,833	4,386,487	962,943	<b>6,964,263</b>	23.19%	62.99%	13.83%
Jun-2009	88,998	972,971	553,483	1,615,452	4,436,750	989,558	<b>7,041,760</b>	22.94%	63.01%	14.05%
Jun-2010	89,493	976,015	551,474	1,616,982	4,486,317	1,017,999	<b>7,121,298</b>	22.71%	63.00%	14.30%
Jun-2011	90,084	979,650	549,680	1,619,414	4,533,760	1,048,439	<b>7,201,613</b>	22.49%	62.95%	14.56%
Jun-2012	90,741	982,721	549,450	1,622,912	4,569,659	1,089,319	<b>7,281,890</b>	22.29%	62.75%	14.96%
Jun-2013	91,453	987,406	547,888	1,626,747	4,608,672	1,126,788	<b>7,362,207</b>	22.10%	62.60%	15.31%
Jun-2014	92,203	994,271	546,486	1,632,960	4,647,860	1,161,803	<b>7,442,623</b>	21.94%	62.45%	15.61%
Jun-2015	92,959	1,001,366	545,558	1,639,883	4,684,705	1,198,569	<b>7,523,157</b>	21.80%	62.27%	15.93%
Jun-2016	93,688	1,009,039	545,352	1,648,079	4,720,809	1,234,911	<b>7,603,799</b>	21.67%	62.08%	16.24%
Jun-2017	94,411	1,016,148	546,420	1,656,979	4,756,457	1,270,917	<b>7,684,353</b>	21.56%	61.90%	16.54%
Jun-2018	95,090	1,020,999	549,330	1,665,419	4,790,559	1,308,810	<b>7,764,788</b>	21.45%	61.70%	16.86%
Jun-2019	95,689	1,027,032	552,580	1,675,301	4,823,765	1,345,966	<b>7,845,032</b>	21.35%	61.49%	17.16%
Jun-2020	96,238	1,033,873	557,006	1,687,117	4,853,799	1,384,113	<b>7,925,029</b>	21.29%	61.25%	17.47%
Jun-2021	96,708	1,040,969	561,201	1,698,878	4,882,602	1,423,218	<b>8,004,698</b>	21.22%	61.00%	17.78%
Jun-2022	97,218	1,048,021	565,661	1,710,900	4,910,352	1,462,644	<b>8,083,896</b>	21.16%	60.74%	18.09%
Jun-2023	97,792	1,054,979	569,410	1,722,181	4,937,810	1,502,666	<b>8,162,657</b>	21.10%	60.49%	18.41%
Jun-2024	98,276	1,061,862	570,868	1,731,006	4,967,388	1,542,461	<b>8,240,855</b>	21.01%	60.28%	18.72%
Jun-2025	98,680	1,068,527	573,432	1,740,639	4,994,512	1,583,211	<b>8,318,362</b>	20.93%	60.04%	19.03%
Jun-2026	99,012	1,074,843	576,774	1,750,629	5,019,295	1,625,132	<b>8,395,056</b>	20.85%	59.79%	19.36%
Jun-2027	99,281	1,080,725	580,576	1,760,582	5,043,401	1,666,722	<b>8,470,705</b>	20.78%	59.54%	19.68%
Jun-2028	99,499	1,086,155	584,578	1,770,232	5,067,725	1,707,245	<b>8,545,202</b>	20.72%	59.30%	19.98%
Jun-2029	99,685	1,091,082	588,695	1,779,462	5,094,103	1,744,870	<b>8,618,435</b>	20.65%	59.11%	20.25%
Jun-2030	99,851	1,095,531	592,818	1,788,200	5,124,859	1,777,272	<b>8,690,331</b>	20.58%	58.97%	20.45%
Jun-2031	100,010	1,099,553	596,822	1,796,385	5,157,684	1,806,762	<b>8,760,831</b>	20.50%	58.87%	20.62%

**Table 124 - Other Territories (OT) Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	35	402	191	628	1,623	128	<b>2,379</b>	26.40%	68.22%	5.38%
Jun-2007	22	396	210	628	1,615	151	<b>2,394</b>	26.23%	67.46%	6.31%
Jun-2008	27	384	222	633	1,619	161	<b>2,413</b>	26.23%	67.09%	6.67%
Jun-2009	27	363	244	634	1,622	177	<b>2,433</b>	26.06%	66.67%	7.27%
Jun-2010	26	343	255	624	1,634	195	<b>2,453</b>	25.44%	66.61%	7.95%
Jun-2011	27	331	250	608	1,660	205	<b>2,473</b>	24.59%	67.12%	8.29%
Jun-2012	27	322	252	601	1,670	221	<b>2,492</b>	24.12%	67.01%	8.87%
Jun-2013	28	322	240	590	1,686	236	<b>2,512</b>	23.49%	67.12%	9.39%
Jun-2014	26	324	236	586	1,683	263	<b>2,532</b>	23.14%	66.47%	10.39%
Jun-2015	28	323	214	565	1,696	290	<b>2,551</b>	22.15%	66.48%	11.37%
Jun-2016	29	330	197	556	1,701	313	<b>2,570</b>	21.63%	66.19%	12.18%
Jun-2017	29	328	193	550	1,707	332	<b>2,589</b>	21.24%	65.93%	12.82%
Jun-2018	28	328	190	546	1,701	361	<b>2,608</b>	20.94%	65.22%	13.84%
Jun-2019	29	333	190	552	1,683	391	<b>2,626</b>	21.02%	64.09%	14.89%
Jun-2020	28	337	187	552	1,678	415	<b>2,645</b>	20.87%	63.44%	15.69%
Jun-2021	29	340	188	557	1,675	430	<b>2,662</b>	20.92%	62.92%	16.15%
Jun-2022	28	340	190	558	1,669	451	<b>2,678</b>	20.84%	62.32%	16.84%
Jun-2023	29	345	184	558	1,663	472	<b>2,693</b>	20.72%	61.75%	17.53%
Jun-2024	29	346	180	555	1,669	484	<b>2,708</b>	20.49%	61.63%	17.87%
Jun-2025	28	340	187	555	1,664	504	<b>2,723</b>	20.38%	61.11%	18.51%
Jun-2026	29	338	188	555	1,654	527	<b>2,736</b>	20.29%	60.45%	19.26%
Jun-2027	30	344	190	564	1,640	545	<b>2,749</b>	20.52%	59.66%	19.83%
Jun-2028	28	346	190	564	1,641	556	<b>2,761</b>	20.43%	59.43%	20.14%
Jun-2029	29	342	193	564	1,632	577	<b>2,773</b>	20.34%	58.85%	20.81%
Jun-2030	28	338	198	564	1,621	599	<b>2,784</b>	20.26%	58.23%	21.52%
Jun-2031	28	342	194	564	1,613	616	<b>2,793</b>	20.19%	57.75%	22.06%

**Table 125 - QLD Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	55,156	603,982	347,865	1,007,003	2,589,509	494,396	<b>4,090,908</b>	24.62%	63.30%	12.09%
Jun-2007	54,771	612,692	355,986	1,023,449	2,646,473	511,509	<b>4,181,431</b>	24.48%	63.29%	12.23%
Jun-2008	59,247	620,861	360,058	1,040,166	2,704,942	528,612	<b>4,273,720</b>	24.34%	63.29%	12.37%
Jun-2009	59,855	633,495	363,096	1,056,446	2,762,520	549,477	<b>4,368,443</b>	24.18%	63.24%	12.58%
Jun-2010	60,647	646,309	365,606	1,072,562	2,819,504	572,902	<b>4,464,968</b>	24.02%	63.15%	12.83%
Jun-2011	61,507	659,491	368,028	1,089,026	2,876,137	596,990	<b>4,562,153</b>	23.87%	63.04%	13.09%
Jun-2012	62,373	672,502	370,874	1,105,749	2,925,152	628,723	<b>4,659,624</b>	23.73%	62.78%	13.49%
Jun-2013	63,240	684,966	374,152	1,122,358	2,976,956	658,071	<b>4,757,385</b>	23.59%	62.58%	13.83%
Jun-2014	64,116	698,605	377,530	1,140,251	3,028,327	686,862	<b>4,855,440</b>	23.48%	62.37%	14.15%
Jun-2015	65,001	713,294	380,457	1,158,752	3,078,461	716,586	<b>4,953,799</b>	23.39%	62.14%	14.47%
Jun-2016	65,867	727,407	384,310	1,177,584	3,128,720	746,133	<b>5,052,437</b>	23.31%	61.92%	14.77%
Jun-2017	66,700	740,387	389,740	1,196,827	3,178,486	775,885	<b>5,151,198</b>	23.23%	61.70%	15.06%
Jun-2018	67,496	751,798	396,573	1,215,867	3,227,509	806,659	<b>5,250,035</b>	23.16%	61.48%	15.36%
Jun-2019	68,256	764,238	401,890	1,234,384	3,277,524	836,996	<b>5,348,904</b>	23.08%	61.27%	15.65%
Jun-2020	68,964	773,432	411,572	1,253,968	3,325,655	868,111	<b>5,447,734</b>	23.02%	61.05%	15.94%
Jun-2021	69,626	782,738	421,979	1,274,343	3,371,957	900,159	<b>5,546,459</b>	22.98%	60.79%	16.23%
Jun-2022	70,388	791,917	431,753	1,294,058	3,418,626	932,370	<b>5,645,054</b>	22.92%	60.56%	16.52%
Jun-2023	71,253	801,018	440,410	1,312,681	3,465,711	965,195	<b>5,743,587</b>	22.85%	60.34%	16.80%
Jun-2024	72,075	810,119	447,456	1,329,650	3,513,564	998,761	<b>5,841,975</b>	22.76%	60.14%	17.10%
Jun-2025	72,860	819,154	455,509	1,347,523	3,559,343	1,033,267	<b>5,940,133</b>	22.69%	59.92%	17.39%
Jun-2026	73,611	828,092	460,595	1,362,298	3,606,665	1,069,028	<b>6,037,991</b>	22.56%	59.73%	17.71%
Jun-2027	74,338	836,875	465,981	1,377,194	3,653,125	1,105,076	<b>6,135,395</b>	22.45%	59.54%	18.01%
Jun-2028	75,044	845,496	471,461	1,392,001	3,699,841	1,140,431	<b>6,232,273</b>	22.34%	59.37%	18.30%
Jun-2029	75,738	853,957	476,945	1,406,640	3,747,493	1,174,425	<b>6,328,558</b>	22.23%	59.22%	18.56%
Jun-2030	76,423	862,282	482,380	1,421,085	3,797,442	1,205,666	<b>6,424,193</b>	22.12%	59.11%	18.77%
Jun-2031	77,119	870,513	487,695	1,435,327	3,848,538	1,235,279	<b>6,519,144</b>	22.02%	59.03%	18.95%

**Table 126 - SA Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	18,009	207,846	124,068	349,923	981,404	236,561	<b>1,567,888</b>	22.32%	62.59%	15.09%
Jun-2007	18,738	207,354	124,704	350,796	992,280	241,121	<b>1,584,197</b>	22.14%	62.64%	15.22%
Jun-2008	19,452	207,761	124,866	352,079	1,002,519	245,847	<b>1,600,445</b>	22.00%	62.64%	15.36%
Jun-2009	19,492	209,330	124,562	353,384	1,011,866	251,582	<b>1,616,832</b>	21.86%	62.58%	15.56%
Jun-2010	19,586	211,059	123,848	354,493	1,020,681	258,065	<b>1,633,239</b>	21.70%	62.49%	15.80%
Jun-2011	19,700	212,589	123,533	355,822	1,028,501	265,039	<b>1,649,362</b>	21.57%	62.36%	16.07%
Jun-2012	19,821	214,301	123,411	357,533	1,032,649	275,270	<b>1,665,452</b>	21.47%	62.00%	16.53%
Jun-2013	19,951	216,542	122,481	358,974	1,038,593	283,958	<b>1,681,525</b>	21.35%	61.76%	16.89%
Jun-2014	20,088	218,927	121,669	360,684	1,044,475	292,436	<b>1,697,595</b>	21.25%	61.53%	17.23%
Jun-2015	20,224	221,598	121,104	362,926	1,049,471	301,271	<b>1,713,668</b>	21.18%	61.24%	17.58%
Jun-2016	20,357	224,053	120,994	365,404	1,054,284	310,057	<b>1,729,745</b>	21.12%	60.95%	17.93%
Jun-2017	20,466	226,664	120,628	367,758	1,059,274	318,727	<b>1,745,759</b>	21.07%	60.68%	18.26%
Jun-2018	20,559	228,910	120,791	370,260	1,063,712	327,727	<b>1,761,699</b>	21.02%	60.38%	18.60%
Jun-2019	20,634	230,639	121,939	373,212	1,067,865	336,476	<b>1,777,553</b>	21.00%	60.08%	18.93%
Jun-2020	20,688	231,779	123,789	376,256	1,071,662	345,378	<b>1,793,296</b>	20.98%	59.76%	19.26%
Jun-2021	20,723	232,929	125,811	379,463	1,074,855	354,594	<b>1,808,912</b>	20.98%	59.42%	19.60%
Jun-2022	20,769	234,028	127,594	382,391	1,078,124	363,850	<b>1,824,365</b>	20.96%	59.10%	19.94%
Jun-2023	20,827	235,055	129,496	385,378	1,081,295	372,991	<b>1,839,664</b>	20.95%	58.78%	20.27%
Jun-2024	20,871	236,025	131,030	387,926	1,084,511	382,342	<b>1,854,779</b>	20.91%	58.47%	20.61%
Jun-2025	20,902	236,911	132,123	389,936	1,087,957	391,793	<b>1,869,686</b>	20.86%	58.19%	20.96%
Jun-2026	20,928	237,703	132,701	391,332	1,091,534	401,494	<b>1,884,360</b>	20.77%	57.93%	21.31%
Jun-2027	20,946	238,391	133,372	392,709	1,095,440	410,605	<b>1,898,754</b>	20.68%	57.69%	21.62%
Jun-2028	20,961	238,973	134,084	394,018	1,099,268	419,561	<b>1,912,847</b>	20.60%	57.47%	21.93%
Jun-2029	20,974	239,466	134,802	395,242	1,103,518	427,850	<b>1,926,610</b>	20.51%	57.28%	22.21%
Jun-2030	20,989	239,889	135,488	396,366	1,108,453	435,213	<b>1,940,032</b>	20.43%	57.14%	22.43%
Jun-2031	21,010	240,261	136,132	397,403	1,113,627	442,074	<b>1,953,104</b>	20.35%	57.02%	22.63%



**Table 127 - TAS Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	6,369	69,500	41,484	117,353	301,160	71,438	<b>489,951</b>	23.95%	61.47%	14.58%
Jun-2007	6,632	69,093	41,661	117,386	302,966	73,019	<b>493,371</b>	23.79%	61.41%	14.80%
Jun-2008	6,674	69,499	41,510	117,683	305,262	74,802	<b>497,747</b>	23.64%	61.33%	15.03%
Jun-2009	6,650	69,881	41,198	117,729	306,974	77,050	<b>501,753</b>	23.46%	61.18%	15.36%
Jun-2010	6,641	70,430	40,826	117,897	307,996	79,331	<b>505,224</b>	23.34%	60.96%	15.70%
Jun-2011	6,634	70,742	40,642	118,018	308,916	81,724	<b>508,658</b>	23.20%	60.73%	16.07%
Jun-2012	6,630	71,160	40,241	118,031	308,702	85,310	<b>512,043</b>	23.05%	60.29%	16.66%
Jun-2013	6,629	71,728	39,623	117,980	308,996	88,404	<b>515,380</b>	22.89%	59.95%	17.15%
Jun-2014	6,630	72,380	39,181	118,191	309,258	91,224	<b>518,673</b>	22.79%	59.62%	17.59%
Jun-2015	6,633	73,152	38,627	118,412	309,227	94,284	<b>521,923</b>	22.69%	59.25%	18.06%
Jun-2016	6,630	73,933	38,305	118,868	308,968	97,290	<b>525,126</b>	22.64%	58.84%	18.53%
Jun-2017	6,625	74,494	38,008	119,127	308,802	100,330	<b>528,259</b>	22.55%	58.46%	18.99%
Jun-2018	6,616	74,695	38,172	119,483	308,343	103,494	<b>531,320</b>	22.49%	58.03%	19.48%
Jun-2019	6,600	74,666	38,693	119,959	307,884	106,456	<b>534,299</b>	22.45%	57.62%	19.92%
Jun-2020	6,576	74,565	39,351	120,492	307,291	109,405	<b>537,188</b>	22.43%	57.20%	20.37%
Jun-2021	6,550	74,474	40,090	121,114	306,293	112,576	<b>539,983</b>	22.43%	56.72%	20.85%
Jun-2022	6,525	74,375	40,822	121,722	305,333	115,611	<b>542,666</b>	22.43%	56.27%	21.30%
Jun-2023	6,509	74,259	41,344	122,112	304,552	118,580	<b>545,244</b>	22.40%	55.86%	21.75%
Jun-2024	6,488	74,131	41,527	122,146	304,022	121,540	<b>547,708</b>	22.30%	55.51%	22.19%
Jun-2025	6,467	73,984	41,509	121,960	303,498	124,595	<b>550,053</b>	22.17%	55.18%	22.65%
Jun-2026	6,448	73,824	41,439	121,711	302,809	127,755	<b>552,275</b>	22.04%	54.83%	23.13%
Jun-2027	6,424	73,644	41,412	121,480	302,206	130,674	<b>554,360</b>	21.91%	54.51%	23.57%
Jun-2028	6,405	73,445	41,397	121,247	301,774	133,283	<b>556,304</b>	21.80%	54.25%	23.96%
Jun-2029	6,384	73,240	41,380	121,004	301,396	135,703	<b>558,103</b>	21.68%	54.00%	24.32%
Jun-2030	6,362	73,030	41,357	120,749	301,428	137,580	<b>559,757</b>	21.57%	53.85%	24.58%
Jun-2031	6,346	72,809	41,327	120,482	301,711	139,071	<b>561,264</b>	21.47%	53.76%	24.78%

**Table 128 - VIC Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	65,041	706,221	410,221	1,181,483	3,259,514	685,543	<b>5,126,540</b>	23.05%	63.58%	13.37%
Jun-2007	67,221	709,696	413,595	1,190,512	3,311,595	702,719	<b>5,204,826</b>	22.87%	63.63%	13.50%
Jun-2008	69,524	716,305	414,034	1,199,863	3,365,732	719,027	<b>5,284,622</b>	22.70%	63.69%	13.61%
Jun-2009	69,710	724,835	413,761	1,208,306	3,414,886	739,121	<b>5,362,313</b>	22.53%	63.68%	13.78%
Jun-2010	70,063	734,024	413,119	1,217,206	3,461,590	760,216	<b>5,439,012</b>	22.38%	63.64%	13.98%
Jun-2011	70,513	742,790	412,838	1,226,141	3,505,953	783,754	<b>5,515,848</b>	22.23%	63.56%	14.21%
Jun-2012	71,042	751,807	412,318	1,235,167	3,541,461	816,034	<b>5,592,662</b>	22.09%	63.32%	14.59%
Jun-2013	71,636	761,510	411,194	1,244,340	3,579,744	845,441	<b>5,669,525</b>	21.95%	63.14%	14.91%
Jun-2014	72,257	772,007	411,096	1,255,360	3,618,175	872,946	<b>5,746,481</b>	21.85%	62.96%	15.19%
Jun-2015	72,897	782,737	411,339	1,266,973	3,654,758	901,818	<b>5,823,549</b>	21.76%	62.76%	15.49%
Jun-2016	73,558	793,098	413,201	1,279,857	3,690,187	930,717	<b>5,900,761</b>	21.69%	62.54%	15.77%
Jun-2017	74,195	803,548	414,888	1,292,631	3,725,731	959,582	<b>5,977,944</b>	21.62%	62.32%	16.05%
Jun-2018	74,794	812,087	418,913	1,305,794	3,759,484	989,783	<b>6,055,061</b>	21.57%	62.09%	16.35%
Jun-2019	75,342	819,540	424,744	1,319,626	3,793,000	1,019,443	<b>6,132,069</b>	21.52%	61.86%	16.62%
Jun-2020	75,800	825,388	432,960	1,334,148	3,824,743	1,049,978	<b>6,208,869</b>	21.49%	61.60%	16.91%
Jun-2021	76,183	831,491	441,014	1,348,688	3,854,542	1,082,153	<b>6,285,383</b>	21.46%	61.33%	17.22%
Jun-2022	76,657	837,599	448,453	1,362,709	3,885,177	1,113,671	<b>6,361,557</b>	21.42%	61.07%	17.51%
Jun-2023	77,198	843,710	455,765	1,376,673	3,915,133	1,145,619	<b>6,437,425</b>	21.39%	60.82%	17.80%
Jun-2024	77,667	849,819	461,069	1,388,555	3,945,757	1,178,583	<b>6,512,895</b>	21.32%	60.58%	18.10%
Jun-2025	78,078	855,801	465,371	1,399,250	3,976,934	1,211,674	<b>6,587,858</b>	21.24%	60.37%	18.39%
Jun-2026	78,432	861,571	468,165	1,408,168	4,008,545	1,245,504	<b>6,662,217</b>	21.14%	60.17%	18.70%
Jun-2027	78,747	867,056	471,391	1,417,194	4,039,446	1,279,154	<b>6,735,794</b>	21.04%	59.97%	18.99%
Jun-2028	79,029	872,203	474,885	1,426,117	4,069,941	1,312,447	<b>6,808,505</b>	20.95%	59.78%	19.28%
Jun-2029	79,292	877,004	478,541	1,434,837	4,101,619	1,343,809	<b>6,880,265</b>	20.85%	59.61%	19.53%
Jun-2030	79,551	881,482	482,245	1,443,278	4,135,157	1,372,595	<b>6,951,030</b>	20.76%	59.49%	19.75%
Jun-2031	79,817	885,687	485,897	1,451,401	4,169,394	1,399,967	<b>7,020,762</b>	20.67%	59.39%	19.94%

**Table 129 - WA Population Projections – 2006 to 2031 (ABS Series B)**

Year	Age Category							% of total population (all ages) 0 - 17	% of total population (all ages) 18 - 64	% of total population (all ages) 65+
	0 - 11 months	1-11 years	12-17 years	0-17 years	18-64 years	65+ years	All Ages			
Jun-2006	26,922	296,053	175,062	498,037	1,318,961	242,383	<b>2,059,381</b>	24.18%	64.05%	11.77%
Jun-2007	28,669	300,037	177,317	506,023	1,349,274	250,822	<b>2,106,119</b>	24.03%	64.06%	11.91%
Jun-2008	28,996	305,745	178,303	513,044	1,380,759	259,111	<b>2,152,914</b>	23.83%	64.13%	12.04%
Jun-2009	29,399	311,439	179,343	520,181	1,410,266	269,050	<b>2,199,497</b>	23.65%	64.12%	12.23%
Jun-2010	29,864	317,338	180,332	527,534	1,438,694	279,355	<b>2,245,583</b>	23.49%	64.07%	12.44%
Jun-2011	30,338	322,886	181,936	535,160	1,466,614	290,234	<b>2,292,008</b>	23.35%	63.99%	12.66%
Jun-2012	30,813	329,216	182,832	542,861	1,489,998	305,773	<b>2,338,632</b>	23.21%	63.71%	13.07%
Jun-2013	31,286	335,648	183,747	550,681	1,514,724	320,040	<b>2,385,445</b>	23.09%	63.50%	13.42%
Jun-2014	31,764	342,653	184,768	559,185	1,539,138	334,123	<b>2,432,446</b>	22.99%	63.28%	13.74%
Jun-2015	32,236	349,891	185,780	567,907	1,563,139	348,588	<b>2,479,634</b>	22.90%	63.04%	14.06%
Jun-2016	32,702	357,070	187,269	577,041	1,586,545	363,409	<b>2,526,995</b>	22.84%	62.78%	14.38%
Jun-2017	33,146	364,001	188,681	585,828	1,610,415	378,211	<b>2,574,454</b>	22.76%	62.55%	14.69%
Jun-2018	33,558	369,934	191,796	595,288	1,633,160	393,522	<b>2,621,970</b>	22.70%	62.29%	15.01%
Jun-2019	33,944	374,858	195,979	604,781	1,656,082	408,651	<b>2,669,514</b>	22.66%	62.04%	15.31%
Jun-2020	34,308	379,746	200,686	614,740	1,678,256	424,059	<b>2,717,055</b>	22.63%	61.77%	15.61%
Jun-2021	34,640	384,616	205,537	624,793	1,699,234	440,530	<b>2,764,557</b>	22.60%	61.46%	15.93%
Jun-2022	34,991	389,369	210,308	634,668	1,720,916	456,388	<b>2,811,972</b>	22.57%	61.20%	16.23%
Jun-2023	35,359	394,007	214,838	644,204	1,742,888	472,216	<b>2,859,308</b>	22.53%	60.95%	16.52%
Jun-2024	35,707	398,552	218,400	652,659	1,765,487	488,383	<b>2,906,529</b>	22.45%	60.74%	16.80%
Jun-2025	36,040	402,980	221,067	660,087	1,788,558	504,955	<b>2,953,600</b>	22.35%	60.56%	17.10%
Jun-2026	36,360	407,259	223,758	667,377	1,811,190	521,922	<b>3,000,489</b>	22.24%	60.36%	17.39%
Jun-2027	36,670	411,397	226,535	674,602	1,833,877	538,649	<b>3,047,128</b>	22.14%	60.18%	17.68%
Jun-2028	36,977	415,379	229,336	681,692	1,856,192	555,607	<b>3,093,491</b>	22.04%	60.00%	17.96%
Jun-2029	37,284	419,227	232,119	688,630	1,879,022	571,897	<b>3,139,549</b>	21.93%	59.85%	18.22%
Jun-2030	37,597	422,975	234,853	695,425	1,902,875	586,988	<b>3,185,288</b>	21.83%	59.74%	18.43%
Jun-2031	37,913	426,647	237,507	702,067	1,926,924	601,700	<b>3,230,691</b>	21.73%	59.64%	18.62%

## A16.6 The 2010 National Drug Strategy Household Survey<sup>70</sup>

These tables were used in calculating Risk for Alcohol, Amphetamines and Cannabis, for the Screening And Brief Intervention

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<sup>70</sup> AIHW 2011. 2010 National Drug Strategy Household Survey report. Drug statistics series no. 25. Cat. no. PHE 145. Canberra: AIHW.

**Table 130 - Alcohol, Risk of Injury on a Single occasion of drinking**

(NDSHS 2010 page 57: the 15.4% is sum of 2010 age 12+ for at least weekly and every day/ most days)

Table 4.5 (continued): Alcohol consumption (2009 guidelines), people aged 12 years or older at risk of injury on a single occasion of drinking, by age and sex, 2007 and 2010 (per cent)

Age group (years)	Abstainers <sup>(a)</sup>		Low risk <sup>(b)</sup>		Single occasion risk							
					At least yearly <sup>(c)</sup>		At least monthly <sup>(d)</sup>		At least weekly <sup>(e)</sup>		Every day/most days <sup>(f)</sup>	
	2007	2010	2007	2010	2007	2010	2007	2010	2007	2010	2007	2010
Persons												
12–15	69.8	77.2	↑	20.7	14.8	↓	3.5	2.8	4.2	4.3	1.6	*0.9
16–17	24.4	31.6	↑	31.0	27.5		9.0	10.7	21.6	19.4	12.2	10.0
18–19	10.9	13.7		19.1	20.0		17.2	8.2	↓	20.1	25.7	29.1
20–29	12.9	14.7		22.4	24.8		15.2	14.2		21.1	20.4	24.3
30–39	12.2	15.7	↑	38.4	34.1		18.1	16.5		15.8	16.0	12.8
40–49	12.4	14.3		43.0	42.6		15.5	13.8		12.6	12.3	10.6
50–59	14.0	16.5	↑	50.9	48.6		12.4	11.4		9.5	8.8	6.4
60–69	21.0	19.8		56.9	58.0		7.6	6.5		5.9	6.1	3.5
70+	29.3	30.4		60.1	60.4		3.5	2.7		2.2	2.0	1.8
<b>Total (12+)</b>	<b>19.3</b>	<b>21.7</b>	<b>↑</b>	<b>40.5</b>	<b>39.7</b>		<b>12.4</b>	<b>11.0</b>	<b>↓</b>	<b>12.2</b>	<b>12.2</b>	<b>10.9</b>
14–19	28.9	35.4	↑	27.0	23.4		10.8	8.0	↓	16.6	17.8	14.7
14+	17.1	19.5	↑	41.5	40.7		12.8	11.3	↓	12.6	12.5	11.3
18+	15.6	17.6	↑	42.2	41.8		13.1	11.6	↓	12.5	12.4	11.5

(a) Not consumed alcohol in the previous 12 months.

(b) Never had more than 4 standard drinks on any occasion.

(c) Had more than 4 standard drinks at least once a year but not as often as monthly.

(d) Had more than 4 standard drinks at least once a month but not as often as weekly.

(e) Had more than 4 standard drinks at least once a week but not as often as most days.

(f) Had more than 4 standard drinks on most days or every day.

\* Estimate has a relative standard error of 25% to 50% and should be used with caution.

\*\* Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

**Table 131 - Amphetamine Use**

DSHS 2010 page 129: the 0.9% is sum of 2010 age 14+ for used in the last month or in the last week.

**Table 8.4: Meth/amphetamines use, people aged 14 years or older, by age, 2010 (per cent)**

Period	Males	Females	Persons
In lifetime	8.2	5.9	7.0
In the last 12 months	2.5	1.7	2.1
In the last month	0.9	0.6	0.7
In the last week	0.3	0.2	0.2

**Table 132 - Cannabis Use**

NDSHS 2010 page 104, the 9.4% is sum of 2010 age 12+ for used in the last month or in the last week.

## Cannabis use, by sex

In 2010, it was estimated that about 1.9 million people aged 14 years or older had used cannabis in the previous 12 months, and more than 700,000 people had used it in the week before the survey (tables 6.2 and 6.3). Females were less likely than males to have used cannabis at any frequency. Males were twice as likely as females to have smoked cannabis in the previous week (5.2% for males compared with 2.6% for females).

Table 6.2: Cannabis use, people aged 12 years or older, by age, 2010 (per cent)

Period	Age group (years)					Total (12+)	14-19	14+	18+
	12-17	18-19	20-29	30-39	40+				
In lifetime	11.0	32.0	48.9	55.7	27.8	34.3	21.5	35.4	36.8
In the last 12 months	8.8	21.3	21.3	13.6	4.7	10.0	15.7	10.3	10.1
In the last month	3.3	13.3	11.1	7.8	3.0	5.6	7.8	5.8	5.8
In the last week	1.4	7.8	7.2	5.5	2.3	3.8	4.1	3.9	4.0

## APPENDIX 17 HARM REDUCTION COMPONENT DETAILS AND ESTIMATES

### A17.1 Harm Reduction details and Resource Estimate

The table below provides details and estimates covering the six harm reduction interventions endorsed by the ERG as being within scope.

**Table 133 - Harm Reduction Details and Resource Estimate**

Harm reduction activity	Drug types covered	considerations for resource	Resource amount
1. Needle and syringe programs	amphetamines heroin benzodiazepines	Maximum return would be achieved at 125% to 200% of current levels. The lower multiplier is used as the evidence in Kwon et al. 2012 (referenced below) is that Australia is already on track to achieve positive dollar returns from the intervention: 'Financial investment in NSPs over 2000-2010 is estimated to be entirely recovered in healthcare cost savings by 2024 with a total future return on investment of \$1.3-2.8 for every \$1 invested'. Approximately 50% of all injections are currently with a sterile syringe. Australian investment as 2007/2008 \$27.38 million <sup>71</sup> (includes injecting & disposal equipment, safe sex packs, primary NSP operations, support for secondary NSPs, transport and vending machines).	\$34.23 million (125% of 2007/2008 expenditure) = \$1.86 per capita of population 15 years and older
2A.Distribution of Naloxone	heroin benzodiazepines alcohol	Scale up from ACT naloxone distribution program budget: \$64.00 for 5 doses and \$6 for resuscitation mask per participant over 2 years. Costs of training and program management excluded. <b>Priority populations:</b> <ul style="list-style-type: none"> <li>Those on opioid substitution therapy programs: 46,446 clients in 2011.<sup>72</sup></li> <li>Those leaving detention with a history of opioid misuse: In 2009, 71% of prison entrants reported using illicit drugs in the 12 months prior to prison entry. The most commonly used substances for non-medical purposes in the</li> </ul>	\$2,152,500 per year for Australian population as a whole  46,446 on OST 8,000 per year leaving prison and at high risk of illegal opioid use

<sup>71</sup> National Centre in HIV Epidemiology and Clinical Research 2009, *Return on investment 2: evaluating the cost-effectiveness of needle and syringe programs in Australia*, National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales, Sydney.

<sup>72</sup> Australian Institute of Health and Welfare 2012, *National Opioid Pharmacotherapy Statistics Annual Data collection: 2011 report*, Drug Treatment series no. 15, cat. no. HSE 12, Australian Institute of Health and Welfare, Canberra.



		<p>previous 12 months by prison entrants included heroin (19%), analgesics/pain killers (18%), and other analgesics (10%).<sup>73</sup></p> <p>March 2012 there were 29,226 people in full-time custody in Australian prisons, an imprisonment rate of 166 per 100,000. In 2011 there were 30,860 receptions of sentenced prisoners. To this needs to be added remandees and periodic detention detainees.<sup>74</sup></p> <p>In 2011, 3,335 prisoners were on OST in correctional facilities, 11% of all prisoners.<sup>75</sup></p> <p>Assume about 40,000 discharges from prison annually with 20% at high risk of opioid use = 8,000 p.a.</p> <p>Around 1,000 young people are in detention on an 'average day'.<sup>76</sup> Neither AIHW nor the Productivity Commission publishes flow data on juveniles entering or leaving detention.</p> <ul style="list-style-type: none"> <li>Those leaving withdrawal management (detox) with high likelihood of resuming illegal opioid use: 12% of closed episodes of withdrawal management (detox) in 2009-10 were for heroin, <math>22,534 \times 12\% = 2,704</math>.<sup>77</sup></li> </ul> <p>Those leaving residential rehabilitation with opioid misuse history: in 2009-10, 140,769 closed treatment episodes of own drug use (nationally), of which 4,343 were residential rehabilitation for opioids.<sup>78</sup></p>	<p>2,704 per year leaving opioid withdrawal management (detox), all at high risk of overdose</p> <p>4,343 per year leaving resi rehab programs with history of opioid misuse</p> <p>= 61,500 @ \$70.00 = \$4,305,000</p> <p>Divided by 2 = \$2,152,500</p>
2B.Overdose prevention programs other than supervised injection facilities	heroin benzodiazepines	<p>Low cost since little of this is done; probably needs expansion</p> <p>Resource amount derived using average cost of NSW and WA programs.</p> <p>N.S.W Red Cross Save A Mate Program - funded by NSW Health \$256,000 pa</p> <p>W.A. DROPPED Program (Drug Risk and Overdose Prevention Strategies and Costings) \$150,000 pa</p>	<p>.054981924</p> <p>Per capita expenditure on Save A mate</p>

<sup>73</sup> Australian Institute of Health & Welfare 2011, *The health of Australia's prisoners 2010*, AIHW cat. no. PHE 149, Australian Institute of Health & Welfare, Canberra.

<sup>74</sup> Australian Bureau of Statistics 2012, *Corrective Services, Australia, March 2012*, cat. no. 4512.0, Australian Bureau of Statistics, Canberra.

<sup>75</sup> Australian Institute of Health and Welfare 2012, *National Opioid Pharmacotherapy Statistics Annual Data collection: 2011 report*, Drug Treatment series no. 15, cat. no. HSE 12, Australian Institute of Health and Welfare, Canberra.

<sup>76</sup> Australian Institute of Health & Welfare 2012, *Juvenile detention population in Australia 2011*, cat. no. JUV 9, AIHW, Canberra.

<sup>77</sup> Australian Institute of Health and Welfare 2011, *Alcohol and other drug treatment services in Australia 2009-10: report on the National Minimum Data Set*, Drug Treatment Series no. 14, cat. no. HSE 114, AIHW, Canberra.

<sup>78</sup> Australian Institute of Health and Welfare 2011, *Alcohol and other drug treatment services in Australia 2009-10: report on the National Minimum Data Set*, Drug Treatment Series no. 14, cat. no. HSE 114, AIHW, Canberra, (calculated from data on p. 95).

(e.g. Save a mate)		-development and dissemination of resources and overdose identification, management and prevention workshops.	
2C. Supervised injection facilities	amphetamines heroin benzodiazepines	ERG agreed to include in the model an 'on-off' switch so that jurisdictions would have the option to include or exclude this intervention. Scale up to five sites using data from Sydney's MSIC.  The Sydney Medically Supervised Injecting Centre (MSIC) is not the only model. For example, mobile services in NSP vans and facilities at fixed-site NSPs are possible. Their costs are likely to be similar to the MSIC.	\$0.64 per capita of population 15 years and older
3A. Peer support programs	Alcohol amphetamines benzodiazepines cannabis illicit opioids	Funding of Australian Injecting and Illicit Drug Users League (AIVL), and member organisations. This figure excludes funding for operating needle and syringe programs as this is considered under that activity.	Include with NIL amount as not possible to estimate but important to include in model based on evidence.
3B. Consumer advocacy services	Alcohol amphetamines benzodiazepines cannabis illicit opioids	The ERG agreed to pro-rata costs across Australia at \$6 million, noting that it is probably underestimating the cost, and the need to include an NGO component as an 'add on' cost. NSW cost estimates of implementing stages two and three of a consumer representative framework for drug and alcohol treatment at \$1,434,000 per year which is made up of 17 Local Health District (LHD) positions 1 FTE x 17 = 1,084,000, NGO grant for policy work and training = 100,000 DACAG staff (1 x CEO and 2-3 x support staff) = 200,000, - Sitting fees, training, travel = 50,000	\$6, 349 740 = \$0.X35 per capita of population 15 years and older
4. Interventions for intoxication; sobering up centres; places of safety.	All	Gray et al "Indigenous specific alcohol and other drugs interventions: continuities, changes and areas of greatest need" 2010. <b>Australian National Council on Drugs (ANCD)</b> research paper 20. <a href="http://www.ilc.unsw.edu.au/sites/ilc.unsw.edu.au/files/mdocs/Report%20NIDAC_ANCD%20research%20paper_Apr10.pdf">http://www.ilc.unsw.edu.au/sites/ilc.unsw.edu.au/files/mdocs/Report%20NIDAC_ANCD%20research%20paper_Apr10.pdf</a>	

## A17.2 Harm Reduction Intervention Costs Estimates

The table below provides costs estimates covering the six harm reduction interventions endorsed by the ERG as being within scope.

**Table 134 - Harm Reduction Intervention Costs Estimates**

	Item name	Item description	Cost for Aust based on actual expenditure	Cost for Australia based on more than current expenditure
1	Needle and syringe programs	Needle and syringe programs	NA	\$34.23 million (125% of 2007/2008 expenditure)
2A-1	Overdose prevention	Distribution of naloxone	\$2,150,800 total per year for Australian population as a whole.	NA
2A-2	Overdose prevention	Distribution of naloxone-doctor cost to prescribe	\$1, 439, 089 for population 15 years and older	NA
2B	Overdose prevention	Overdose prevention programs other than supervised injection facilities (e.g. Save a mate)	\$868,000 for population 15 years and older	NA
2C	Overdose prevention	Supervised injection facilities	\$11.1 million total for 5 facilities for population 15 years and older	NA
3A	Consumer advocacy services	Peer support programs	NIL	NA
3B	Consumer advocacy services	Consumer advocacy services	\$6.3 million total for population 15 years and older	NA
4	Interventions for intoxication	Sobering up centres and places of safety	NA	\$28,309,330

## APPENDIX 18 CONSIDERATIONS FOR NEXT REVISION OF THE MODEL

Future iterations of the Model should be informed by the “issues log”. The issue log shows these items for further development

- completing Indigenous adaptation of the Model,
- consider including other drugs e.g. Kronic/ synthetic cannabis/ inhalants/ steroids,
- deriving epidemiology for Pharmaceutical Opioid Misuse,
- further development of model for forensic/justice health/corrections.
- modelling e-counselling/e-health,
- more detailed modelling of serious and complex presentations and multiple co-morbidities,
- modelling supported accommodation,
- modelling the inclusion of Blood-Borne Virus (BBV) Prevention in harm reduction component,
- pending available data, further modelling for the 0-11 months and 1-11 years age group,
- review epidemiology for all the drugs,
- more detailed modelling of prevention and harm reduction
- modelling telephone services

### Completion of the Indigenous adaptation

Completion of the Indigenous adaptation of the Model This would include completing the Indigenous epidemiology, Indigenous services demand, the allocation of people to care packages and the re-entry of some data into the new spreadsheets. Further work is also required regarding Indigenous prevention, and harm reduction estimates. See **section 1**

**Preliminary Indigenous Adaptation to the Model** , for work that has already been done for the Indigenous Adaptation of the model.

### **Pharmaceutical Opioid Misuse**

Pharmaceutical Opioid Misuse, should be considered for the next revision of the Model. It is recognised as an increasing area of concern. Two Care Packages have been created for the age groups 12-17, 18-64 and 65+, indicative of the care required. These can be used to inform the process of review.

### **Prevention and Harm Reduction**

Considerations around prevention and harm reduction include:

- Develop a prevention policy framework that defines a taxonomy for prevention. In order to model prevention effectively an agreed policy framework is required that identifies level of need within the population for given prevention activities.
- This policy framework provides for the implementation of national prevention activities
- Develop a research program and literature review process that provides the necessary data for inclusion of prevention in DACCP version 2

### **Telephone services**

This would be a standalone item to include clients/patients; families; carers; and clinicians who contact Drug and Alcohol telephone services.

## APPENDIX 19 DRAFT PREVENTION COMPONENT

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In the original project proposal it was stated the model would quantify the need for prevention, promotion and early intervention.

It is intended that the Model have a comprehensive evidence based Prevention and Promotion module; underlaid by a sound methodology that aligns with the rest of the model.

To enable this to happen, and to preserve the integrity of the remaining model the Prevention and Promotion module has been recommended for inclusion in the next iteration of the Model.

The following information included in this appendix shows some of the papers that were tabled and discussed at meeting throughout the course of the Project.

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Below is a copy of prevention that was discussed by the SC meeting on the 4 April 2012. A key point to note is that 5 different costing approaches were considered, and it was the first of the 5 listed costing methods that was initially used “Establish FTE/100,000 for each prevention activity, as per the WA work completed to date”.

## The National DA-CCP Project Steering Committee

**Ref No: SC12-01 Agenda Item 3**

Author: DA-CCP Project Team

Date: March 2012

### DEFINING THE SCOPE AND COSTING OF PREVENTION AND HARM REDUCUTION IN THE DA-CCP ‘ALL PEOPLES’ MODEL AND THE INDIGENOUS MODEL

#### RECOMMENDATION:

**THAT** the Steering Committee:

**NOTE** that the scope of prevention for modelling in DA-CCP has not yet been defined for either the “all peoples” model or the Indigenous adaptation to the model.

**REVIEW** and **RECOMMEND** the scope of prevention for the DA-CCP model. Select from the two options presented at Item 1. A decision on the scope of prevention will inform Recommendation 3 below regarding how to cost prevention

**REVIEW** and **RECOMMEND** which one of the 5 options for applying costs to prevention and harm reduction activities for the DA-CCP model

**NOTE** that the care packages that have been developed are for people meeting diagnostic criteria, who are then categorised as MILD, MODERATE or SEVERE. This means that, generally speaking, activities such as screening and early intervention are not included in the care packages. This is why inclusion of prevention is essential.

#### EXECUTIVE SUMMARY of RECOMMENDATIONS 2 & 3

##### **Recommendation 2. Scope of prevention – option 1 vs. option 2**

The scope of prevention for the purposes of DA-CCP modelling has not been agreed.

**1.1: One option** is that prevention includes all activities, irrespective of who funds them or delivers them, that reduce/prevent alcohol and other drug use and harm. This list would therefore include, for example:

- School based drug education programs
- Workplace AOD testing
- Local government initiatives such as dry zones
- Employment initiatives (reducing inequalities and social inclusion)
- Liquor licensing regulation costs

**1.2:** The **second option** is that for the purposes of this modelling, prevention is defined as only including those activities that are the responsibility of health departments and/or considered

part of public health. This list would therefore exclude the above items but include, for example:

- Mass media campaigns and social marketing
- Community public health initiatives (community strengthening)
- Warning labels and safe drinking guidelines
- Health outreach at festivals, raves, schoolies weeks etc
- Early intervention and at risk programs
- Provision of health-related information

Option 2 would also include the advocacy role that Health has in relation to:

- Taxation reform;
- liquor licensing decisions,
- parental control of supplies legislation etc

Expert Reference Group opinion:

The ERG is of the view that the model should include all aspects of prevention, including all the items listed at Attachment 1.

The ERG has developed a list of the harm reduction services that will be included in the model (see Attachment 1). These are included here for information, and will all be included in the DA-CCP model.

A decision on the scope of prevention will inform Recommendation 3 below regarding how to cost prevention

**Recommendation 3: Costing prevention**

Once the SC has agreed on the scope of prevention for the purposes of DA-CCP modelling, a decision will be sought on the best possible technical approach to costing it in the modelling.

The five options are:

- 1 Establish FTE/100,000 for each prevention activity, as per the WA work completed to date.
- 2 AIHW Public Health expenditure data for 2008-09 “prevention of hazardous and harmful drug use”. Note this captures expenditure by Commonwealth / state / territory health departments. The base figure is \$295 million.
- 3 The Drug Policy Modelling Program data 2002-03 (illicit only, so it excludes alcohol). Note this captures expenditure by Commonwealth / state / territory health departments as well as many other government agencies. The base figure is \$304 million (prevention) and \$44.8 million (harm reduction) = total of \$348.8 million
- 4 Prevention expenditure for FY 09/10 provided by jurisdictions’ health departments to the DA-CCP Project Team in 2011. The base figure is \$51,866,581 for 19.730 million people using ABS populations for Sept 2010. We can adjust this base figure (pro rata basis) and estimate that the total for Australia would be approximately \$58.869 million.
- 5 Use the estimated total cost of treatment predicted by the DA-CCP model, and then apply a multiplier (which would need to be advised e.g. prevention expenditure should



be 10%, 20%, 30% , 40% etc of the expenditure on treatment) to harm reduction/prevention. The current base figure for treatment in the DA-CCP model is \$1.689 billion, but should be interpreted with extreme caution as not all data has been entered.

## **MORE DETAILS ON EACH OF THE FIVE OPTIONS PRESENTED ABOVE**

### **Option 1**

Option 1 is the approach taken by WA (see previous paper circulated to steering committee regarding alcohol), with estimates per FTE 100,000 people.

There is a reasonable amount of work required to complete this approach. The ERG could be asked to assist with this work.

We do not yet have a base estimate of costs (remaining options below provide base estimates).

### **Option 2**

Option 2 is taken from the Australian Institute of Health and Welfare (2011) *Public health expenditure in Australia 2008-09*. Health and Welfare Expenditure Series no. 43 Cat. No. HWE 52 Canberra AIHW

The DA-CCP Project Team has identified that that total expenditure for “prevention of hazardous and harmful drug use” in 2008-09 is \$295 million, which is shown in the table below.

Table 4.1: Total government expenditure on public health activities, constant prices<sup>(a)</sup>, by activity, 1999–00 to 2008–09 (\$ million)

Year	Communicable disease control	Selected health promotion	Organised immunisation	Environmental health	Food standards and hygiene	Screening programs	Prevention of hazardous and harmful drug use	Public health research	PHOFA administration <sup>(b)</sup>	Total
1999–00	202.5	221.8	201.2	77.2	33.4	238.1	157.6	88.8	0.3	1,221.0
2000–01	212.6	242.4	219.6	85.0	45.6	239.2	184.9	85.6	0.3	1,315.2
2001–02	234.9	275.3	223.5	91.7	41.6	237.3	174.3	97.2	0.3	1,376.2
2002–03	246.1	260.9	313.2	91.2	41.7	224.5	188.4	108.3	0.3	1,474.6
2003–04	241.8	255.1	318.5	95.1	42.1	234.5	199.5	111.8	0.3	1,498.6
2004–05	268.0	266.8	391.3	96.6	37.9	256.7	237.9	122.9	0.3	1,678.5
2005–06	273.6	277.3	354.8	94.5	38.0	251.8	208.6	136.8	0.3	1,635.6
2006–07	270.3	301.4	463.7	93.9	36.7	278.4	236.0	157.0	–	1,837.4
2007–08	265.0	378.6	726.8	98.7	39.9	298.5	281.1	162.3	–	2,250.9
2008–09	284.9	438.3	639.4	99.9	38.0	336.3	295.0	168.3	–	2,300.2
<b>Growth rate (per cent)</b>										
2007–08 to 2008–09	7.5	15.8	–12.0	1.2	–4.8	12.7	5.0	3.7	–	2.2
<b>Average annual growth rates (per cent)</b>										
1999–00 to 2003–04 <sup>(c)</sup>	4.5	3.5	12.2	5.3	6.0	–0.4	6.1	5.9	–2.9	5.3
2003–04 to 2008–09	3.3	11.4	15.0	1.0	–2.0	7.5	8.1	8.5	–	8.9
1999–00 to 2008–09	3.9	7.9	13.7	2.9	1.4	3.9	7.2	7.4	–	7.3

(a) Constant price public health expenditure for 1999–00 to 2008–09 is expressed in terms of 2008–09 prices.

(b) In previous reports, direct expenditure incurred by the Australian Government in administering the PHOFAs was reported separately, as it could not be specifically allocated to any of the core public health activity categories. From 2006–07, this expenditure has been treated as corporate overhead expenditure and apportioned across all categories.

(c) The periods 1999–00 to 2003–04 and 2003–04 to 2008–09 are used to show the funding growth for the periods covered by separate PHOFAs. See Box 2.1 for details.

Source: AIHW health expenditure database.

\$295 million expenditure for prevention of hazardous and harmful

16

The AIHW's data cube "Public health expenditure by area of expenditure 1999–00 to 2008–09" shows a breakdown of the \$295 million.

<http://www.aihw.gov.au/expenditure-data-cube/?id=10737419354>

[2008-09][Prevention of hazardous and harmful drug use][Expenditure incurred by]MEASURES					
Total expenditure (current) [\$m] as values	Alcohol	Tobacco	Illicit drugs	Mixed drugs	Prevention of hazardous and harmful drug use
Australian Government	18.3	7.4	45.9	51.0	122.6
State and territory government	22.9	48.2	38.0	63.5	172.6
Expenditure incurred by	41.2	55.6	83.9	114.5	295.2
% expenditure by drug type - calculated by NSW Health	14.0	18.8	28.4	38.8	100.0
% expenditure alcohol + tobacco vs. illicit + mixed - calculated by NSW Health	32.8		67.2		

This equates to per capita expenditure for prevention of hazardous and harmful drug use is shown below as \$13.58c.

**Table 3.5: Estimated total government expenditure<sup>(a)(b)</sup> per person<sup>(c)</sup> on public health activities in each state and territory, current prices, 2008-09 (\$)**

Activity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Communicable disease control	13.20	9.89	11.68	14.75	11.56	15.18	26.16	86.29	13.11
Selected health promotion	15.25	25.06	18.68	19.27	23.01	19.46	24.17	71.27	20.17
Organised immunisation	30.17	26.10	28.72	25.31	25.62	28.28	32.99	113.17	29.42
Environmental health	3.05	2.18	6.84	6.90	4.41	10.60	10.20	24.32	4.60
Food standards and hygiene	1.57	1.23	1.32	2.30	2.50	1.89	9.33	5.35	1.75
Screening programs	14.52	13.40	18.43	13.84	16.57	18.60	15.97	38.50	15.47
Prevention of hazardous and harmful drug use	10.30	9.84	16.31	16.31	20.81	20.36	16.65	54.82	13.58
Public health research	7.41	7.77	6.66	8.83	9.49	6.99	7.18	18.12	7.74
<b>Total</b>	<b>95.46</b>	<b>95.46</b>	<b>108.65</b>	<b>107.50</b>	<b>113.97</b>	<b>121.36</b>	<b>142.66</b>	<b>411.83</b>	<b>105.84</b>

\$13.58 per capita expenditure for prevention of hazardous and harmful drug use (note - includes tobacco)

(a) Includes expenditures incurred by state and territory governments that are wholly or partly funded by the Australian Government through SPPs to states and territories.

(b) Includes estimates of direct expenditure incurred by the Australian Government on its own public health programs, which have been apportioned across states and territories (see Appendix).

(c) Based on the annual mean resident population for the jurisdiction concerned.

Note: Estimates and comparisons across states and territories need to be interpreted with care. For further information see 'Jurisdictions' technical notes' in the Appendix.

Source: AIHW health expenditure database.

## What's included?

### 1. The definition used in the report is

Prevention of hazardous and harmful drug use

This category includes activities aimed at the general population to reduce and prevent the overuse or abuse of alcohol, tobacco, illicit and other drugs of dependence.

Expenditure is reported for each of the following subcategories:

- alcohol
- tobacco
- illicit and other drugs of dependence
- mixed.

### 2. Types of activities that are included for the four subcategories above are:

<b>Alcohol</b>
alcohol regulation, labelling, control and licensing (including policing the regulation of alcohol in communities)
health promotion strategies to encourage appropriate use of alcohol
counselling of individuals where public health advice is given rather than the treatment of an addiction
<b>Tobacco</b>
tobacco control in the workplace and enclosed places
developing legislation
regulating compliance with legislation
policies relating to smoke-free eating places and other public facilities
labelling of warnings on cigarette packets, advertising bans
quit smoking programs
counselling of individuals where public health advice is given rather than the treatment of an addiction

smoking prevention strategies for children and youth
Prevention of tobacco sales to children and youth.

**Illicit and other drugs of dependence**

illicit drugs/substances control; harm minimisation; methadone treatment; public health input to prohibition, enforcement and legislation activities; control of misuse of prescription drugs and other drugs of dependence

Counselling of individuals with problems with illicit or other drugs of dependence such as prescription drugs or glue sniffing, where public health advice is given rather than the treatment of an addiction.

**Mixed**

counselling of individuals where public health advice is given rather than the treatment of an addiction

health promotion strategies to improve behaviour and

Public health activities with regard to poly drug use.

3.The AIHW report this captures by and large expenditure by Commonwealth / state / territory health departments. There is a very small amount (approx 6%) of expenditure reported by “others” which includes workers compensation payments.

4. Further advice from the AIHW indicates that “harm reduction for the individual would not be included in the expenditure data, whereas community-wide harm reductions strategies like restricting sales or health promotion would be included. Public health programs are generally those that have the whole population (or a specific subset of the population) as their target population, rather than treatment or other programs that are targeted at individuals”

What’s excluded?

1.Expenditure that occurs outside of health e.g. spending on school based drug and alcohol education by departments of education.

This appears consistent with a definition of scope of prevention that is health/public health related.

2. Jurisdictions do spend money on prevention activities that are outside the scope of the AIHW report. This means that the data presented in this report may under represent funding for jurisdictions. An example of an estimated \$21.8 million shortfall regarding the prevention of hazardous and harmful drug use in Victoria is below

## Net funding by states and territories

Estimates for net funding for public health activities by states and territories are presented in this report. These estimates provide an indication of the amount of public health activities that a particular jurisdiction funded from its own revenue sources. These estimates are derived by subtracting the value of SPPs provided by the Australian Government to states and territories from the total level of expenditure reported by the respective jurisdiction.

As SPPs may fund a range of programs, in some instances not all of the programs funded under a SPP may meet this report's definition of a public health activity. If this occurs, the level of public health expenditure reported by the jurisdiction will be less than the associated amount of SPP funding. In this case, subtracting the total Australian Government provided SPP funding from the amount of public health expenditure reported by a jurisdiction may understate the actual level of net funding by the state or territory. For example, in Victoria, Commonwealth SPPs for both PHOFA and the Prevention of Hazardous and Harmful Drug Use categories are not fully expended on activities within the reports' defined public health activities. Specifically, this results in 20% of the PHOFA funding and the SPP funding for the Illicit and other drugs of dependence subcategory of the Prevention of Hazardous and Harmful Drug Use category, or \$21.8 million in total, being spent on activities outside the scope of this report, which leads to an understatement in net funding levels for Victoria.

Jurisdiction  
s do spend  
money on  
activities  
that are  
outside the  
scope of  
this report.

3.Types of activities that are excluded for the four subcategories above are:

### Alcohol

any anti-alcohol programs with treatment of individuals as the major focus  
activities designated as treatment services  
services considered primarily of a welfare services nature (for example 'night shelters')  
services considered to be almost entirely providing accommodation and food services (for example halfway houses).

### Tobacco

activities designated as treatment services.

### Illicit and other drugs of dependence

any anti-drug and alcohol programs with treatment of individuals as the major focus  
activities designated as treatment services  
services considered primarily of a welfare services nature (for example night shelters)  
services considered to be almost entirely providing accommodation and food services (for example halfway houses)

### Mixed

any anti-drug and alcohol programs with treatment of individuals as the major focus  
activities designated as treatment services  
services considered primarily of a welfare services nature (for example night shelters)  
services considered to be almost entirely providing accommodation and food services (for example halfway houses).

Option 2 Base figure is \$295 million

## Option 3

Option 3 is taken from Moore, T.J. (2005). Monograph No 01: "What is Australia's drug budget?" The policy mix of illicit drug related government spending in Australia. DPMP Monographs Series. Fitzroy: Turning Point Drug and Alcohol Centre.

The monograph uses data for 2002-03, and covers illicit drugs only. The base figure for prevention is \$304 million with an additional adjustment of \$42.56 million (as we have added an additional 14% to the base figure of \$304 million given that alcohol in option 1 represented 14% of the total expenditure). Thus the new figure for prevention is \$346.56 million.

The base figure for harm reduction is \$44.8 million with an additional adjustment of \$6.272million (as we have added an additional 14% to the base figure of \$44.8 million given that alcohol in option 1 represented 14% of the total expenditure). Thus the new figure for prevention is \$51.072 million

What's included for DPMP prevention

1. This monograph captures expenditure by Commonwealth / state / territory health departments as well as many other government agencies.
2. Illicit drugs only, thus we have included an adjustment to capture alcohol.

What's excluded for DPMP prevention?

1. There is a separate calculation for DPMP's harm reduction below

## WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Table 14: Sensitivity analysis: Low, main and high estimates and explanatory notes

Area	Govt	Low	Main	High	Comments
<b>Prevention</b>					
School programs	Federal	13.2	56.3	102.9	The low estimate involved only drug-specific hours (not social competencies). The high estimate used NSW information. NSW differs from Victoria in a couple of respects: 1) drug education occurs throughout primary school; and 2) there is a 25-hour course undertaken by all Years 11 and 12 students (NSW Department of Education and Training, 2000; NSW Government, 1999). It may be that there is the same amount of drug education conducted in Victoria and NSW; they just occur at different points in schooling. Alternatively, there could be the same amount of drug education in NSW as in Victoria in Years 5 to 10, and more in early primary school and in Years 11 and 12. The second scenario is used to develop the high estimate (with the higher figures extrapolated to all states and territories except Victoria).
	State/Terr.	48.6	207.9	387.2	
	Total	61.8	264.2	490.1	
General prevention activities	Federal	1.1	1.1	1.3	The low estimate is calculated assuming the relatively low per person expenditure undertaken by the Victorian Government is the norm for state and territory governments. The high estimate is calculated assuming the relatively high per person expenditure undertaken by the South Australian Government is the norm. It is also assumed that there is a nominal percentage of expenditure of 20% missed by focusing on health department expenditure. Given that 89% of the Victorian Government Drug Initiative funding went to the Victorian Department of Human Services (Bearing Point, 2004), a figure of 20% can be considered sufficiently conservative. The 20% inflator is also applied to the Federal figures for the high estimate.
	State/Terr.	25.5	38.7	101.6	
	Total	26.6	39.8	102.8	

What's included for DPMP harm reduction?

1. This monograph captures expenditure by Commonwealth / state / territory health departments as well as many other government agencies.
2. Illicit drugs only, thus we have again included an adjustment to capture alcohol

What's excluded for DPMP harm reduction?

1. TBA



# WHAT IS AUSTRALIA'S "DRUG BUDGET"?

Area	Govt	Low	Main	High	Comments
Harm reduction					
Needle and syringe programs	Federal	4.6	4.6	4.6	In both estimates, a firm relationship between needle numbers and government expenditure is assumed. The low estimate is calculated assuming the reduction in needle numbers in the ACT is the norm. The high estimate is calculated assuming the increase in needle numbers in Western Australia is the norm. Federal expenditures on retractable syringes are considered firm.
	State/Terr.	33.7	33.7	33.7	
	Total	38.3	38.3	38.3	
Other harm reduction programs	Federal	6.5	6.5	16.3	The main estimate was also used as the low estimate. There was a concern that further harm reduction spending was embedded in other programs. The strong assumption that 80% was missed was adopted; the high estimate was allocated evenly between Federal and state/territory governments.
	State/Terr.	0	0	16.3	
	Total	6.5	6.5	32.5	
Law enforcement					

Option 3 - Base figure = \$304 million (prev) and \$44.8 million (harm reduction)

## Option 4

Option 4 is taken from Prevention expenditure provided by jurisdictions' health departments to the DA-CCP Project Team in 2011 for the financial year 2009-10.

\$ 17,587,270	\$6,777,500	\$ 11,501,136.00	\$ 790,000	\$ 7,357,000	\$4,628,675			\$ 3,225,000	\$ 51,866,581
DoHA	NSW	NT	QLD	SA	TAS	ACT - nil data received	WA - nil data received	VIC	Grand total

	Population at end Sep qtr 2010	prev data received (n)	prev data received (%)
<b>PRELIMINARY DATA</b>	'000	'000	
New South Wales	7,253.40	7,253.40	
Victoria	5,567.10	5,567.10	
Queensland	4,523.30	4,523.30	
South Australia	1,647.80	1,647.80	
Western Australia	2,306.20		
Tasmania	508.50	508.50	
Northern Territory	230.30	230.30	
Australian Capital Territory	359.70		
<b>Australia</b>	<b>22,396.30</b>	<b>19,730.40</b>	<b>88.10</b>

		expenditure	population	per person (\$)
row a	if	51866581	19730400	2.63
row b	then	58865930	22393000	2.63
	Adjustment (row b- row a)	6999349		



What's included?

1. Data was received from DOHA, NSW, NT, QLD, SA, TAS, VIC, thus representing 19.730 million people using ABS populations for Sept 2010.
2. Items included in the prevention expenditure varied by jurisdictions, and in some cases includes some harm reduction activities e.g. needle and syringe programs.

What's excluded?

1. There was no data received from WA, and ACT, thus representing 2.6659 million people using ABS populations for Sept 2010.
2. The cost of telephone services from all jurisdictions was excluded as this item is shown in a separate part of the DA-CCP model.
3. At the time of this data request being made of the jurisdictions, we did not request a separate cost/ listing for harm reduction

Option 4 - Base figure of \$ 51,866,581 for 19.730 million people using ABS populations for Sept 2010. We can adjust this base figure (pro rata basis) and estimate that the total for Australia would be approximately \$58 .869 million.

### **Option 5**

Option 5 is taken from the estimated total cost of treatment for the mild, moderate and severe groups as predicated by the DA-CCP model, and then applying a multiplier to input a cost for the harm reduction/ prevention component of the model.

Please note we have used the estimated total costs predicted by the model for alcohol (12-17 years, 18-64 years, 65+ years only), cannabis (12-17 years, 18-64 years, 65+ years only), opioids (12-17 years, 18-64 years, 65+ years only). We have not completed data entry for all drugs and all age groups. These 3 major age groups and 3 major drug types include the highest rates diagnosable illness and highest numbers of total people treated. The estimates generated by the model must be used with absolute caution at present as we have not a) checked the accuracy of the data entry, b) entered the costs of medications prescribed or tests recommended. We have only entered staff activity (hours worked) to deliver the care specified.

	by drug type and age group (\$mill)	sum drug type and age groups (\$mill)	sum ALL (\$mill)	
ALCOHOL COST PREDICTIONS 12-17	7.066985688			
ALCOHOL COST PREDICTIONS 18-64	901.4308791			
ALCOHOL COST PREDICTIONS 65+	45.79792377			
		954.2957886		
CANNABIS COST PREDICTIONS 12-17	3.380310256			
CANNABIS COST PREDICTIONS 18-64	188.9072295			
CANNABIS COST PREDICTIONS 65+	0.701824331			
		192.9893641		
OPIOID COST PREDICTIONS 12-17	3.203372405			
OPIOID COST PREDICTIONS 18-64	518.6274846			
OPIOID COST PREDICTIONS 65+	20.17554274			
		542.0063997		
			1689.291552	
				1.689 billion

What's included?

1. This reflects the costs predicted by the model currently for alcohol (12-17 years, 18-64 years, 65+ years only), cannabis (12-17 years, 18-64 years, 65+ years only), opioids (12-17 years, 18-64 years, 65+ years only).

What's excluded?

1. The remaining four drugs e.g. amphetamines for 12-17yrs, 18-64 yrs, benzodiazepines for, 18-64 yrs, 65+ yrs are excluded.

Option 5 - Base figure= \$1.689 billion

## Attachment 1

The intention of the following tables is to:

- List all the types of interventions that have been considered 'prevention';
- Discuss whether the other prevention items should be included in the model and how to best achieve that.

Table 1 - Prevention activities/services in the 'all peoples' DA-CCP model

Prevention activity/service	Inclusion by the ERG (yes or no)	SC advise include (yes or no)
1. Mass media campaigns	Yes- Prv	
2. School drug education	Yes- Prv	
3. School competency based programs (assertion training; anti-bullying etc)	Yes- Prv	
4. University programs to reduce drinking risks	Yes- Prv	
5. Social marketing campaigns (posters, stress balls, mints etc.)	Yes- Prv	
6. Strengthening communities programs/community mobilisation programs (grass roots initiatives in local areas)	Yes- Prv	
7. Telephone information and referral services	Now counted separately from prevention.	
8. Screening & assessment services	Covered within 12 month care packages already	
9. Online information, support and treatment	Has <u>not</u> been included in 12 month care packages to date. Noted that this is not prevention per se	
10. Printed materials	Yes- Prv	
11. Liquor licensing regimes (density of outlets; closing times; sales restrictions; server liability; accords)	Yes- Prv	
12. Regulating promotion of alcohol (and tobacco)	Yes- Prv	
13. Parental supply controls (e.g. Vic)	Yes- Prv	
14. Workplace drug/alcohol testing	Excluded altogether	
15. Taxation and pricing (tax regime; hypothecated tax; minim price (floor price); increase taxes)	Yes- Prv	

16. Warning labels; national drinking guidelines	Yes- Prv	
17. Sniffer dogs	Yes- Prv	
18. Good Sports programs	Yes- Prv	
19. Schoolies week activities	Yes- Prv	
20. Coalition building (community partnerships etc)	Yes- Prv	
21. Health outreach at festivals; raves etc.	Yes- Prv	
22. Parenting programs for at risk families	Yes, at present is included in care packages for 0-11 month age group.	
23. Pharmaceutical monitoring schemes (Project STOP)	Yes- Prv	
24. Vaccination and immunisation programs (preventing?)	No, Out of scope	
25. Thiamine fortification of basic foods (bread)	Yes- Prv	
26. Employee assistance programs	Already covered (a provider of the care packages)	
27. Alternative activity programs for at risk youth (outdoor adventure programs)	Yes- Prv	
28. Media-based advocacy	Yes- Prv	
29. Local government initiatives (dry zones; access to water; lighting in laneways; blue lights in toilets)	Yes- Prv	
30. Social determinants of AOD (disadvantage – employment; poverty; education; welfare interventions)	Yes- Prv	
31. Reduce inequality across society (e.g. access to basic services etc.)	Yes- Prv	
32. Screening and Early intervention for AOD problems	Is covered in the mild care packages, but these only apply to those who <b>meet diagnostic criteria</b> , so large chunk left out for those who do not meet diagnostic criteria	

Table 2 – Harm reduction/services in the ‘all peoples’ DA-CCP model

Harm reduction services are represented as ‘sprinkles’ across the model, that is, they are not assigned to any specific care package.

Harm Reduction activity/service	Inclusion by the ERG (yes or no)	SC advise include (yes or no)
---------------------------------	----------------------------------	-------------------------------

1. NSP	Need to include	
2. Blood alcohol testing; drug driving testing (some regard this as prevention)	Yes- HR	
3. Responsible Service Alcohol	Yes- HR	
4. Community patrols	Yes, included in Indigenous DA-CCP model	
5. MSIC	Yes- HR	
6. Overdose prevention programs (e.g.: save a mate)	Yes- HR	
7. Peer administered naloxone	Yes- HR	
8. BBV prevention programs (education, information, support)	Yes- HR	
9. Sobering up shelters	Yes, included in Indigenous DA-CCP model	
10. Safe partying strategies (printed materials; social media etc.)	Covered in prevention	
11. Peer support programs	Yes- HR	
12. Consumer advocacy services	Yes- HR	
13. Designated driver programs	Covered in prevention	
14. Taxation that supports low alcohol beverages (some tax measures regarded as prevention also)	Covered in prevention	
15. Plastic glasses at events	Covered in prevention	
16. Primary care clinics for drug users (incl NSP etc.)	Yes, but note that already covered by NSP above	
17. Places of safety	Yes- HR	

#### Attachment 2: Prevention and harm reduction activities in the Indigenous DA-CCP model

The following information shown *in italics* is taken directly from the report that accompanies the revised Indigenous care packages

*“Prevention is an important component of the work undertaken by Aboriginal and Torres Strait Islander services. Accordingly a number of additional activities have been added to the packages to reflect the important work that is being undertaken by these services. These have been assigned according to the relevance to each of the care packages and include”*

Table 3 - prevention activities/ services in the ‘Indigenous’ DA-CCP model

\*\* - ideally we should insert the costs of these activities for the one reference financial year, i.e. a constant cost

Prevention activity/service	Inclusion by the ERG	SC advise include (yes
-----------------------------	----------------------	------------------------

	(yes or no)	or no)
<i>Sporting, recreational and cultural activities including 'looking after country' - these activities need to be considered in the context of local environmental factors</i>	Yes	
<i>Holiday specific activities</i>	Yes	
<i>Community support, education and development activities and programs</i>	Yes	
<i>Parenting programs</i>	Yes	
<i>Life skills e.g. budgeting</i>	Yes	
<i>CDEP programs - where communities still have programs operating this is an important component of prevention</i>	Yes	
<i>School holiday programs (12 – 17 years)</i>	Yes	
<i>Mentoring programs (12 – 17 years) – an important way of building the strength and resilience of youth and particularly important when youth are not receiving parental support</i>	Yes	
<i>School based alcohol education (12 – 17 years)</i>	Yes	
<i>Education e.g. numeracy and literacy (12 – 17 years)</i>	Yes	
<i>Elder activities including mentoring youth (65 + years) - older Aboriginal and Torres Strait Islander people have an important role to play in their community which also acts as a preventive measure</i>	Yes	
<i>Grandparents programs (65 + years).</i>	Yes	

*Funding needs to be specifically allocated for prevention programs, currently any funding tends to be one off or provided by the service themselves. It is also important to note that this work is not only undertaken by alcohol and other drug services.*

#### *Additional Comments:*

*Any mass media campaigns and printed matter/internet based information need to be Indigenous and age specific and include Aboriginal and Torres Strait Islander people and messages that resonate with Aboriginal and Torres Strait Islander people. Information relating to the NHMRC Guidelines for people 65 yrs and over needs to be included here.*

Table 4 – harm reduction services in the 'Indigenous' DA-CCP model

Again, the following information shown *in italics* is taken directly from the report that accompanies the revised Indigenous care packages

#### *Harm Reduction*

*Additional harm reduction activities have been added to the packages and include:*

Table 4 –harm reduction activities/ services in the ‘Indigenous’ DA-CCP model

\*\* - ideally we should insert the costs of these activities for the one reference financial year, i.e. a constant cost

Harm reduction activity/service	Inclusion by the ERG (yes or no)	SC advise include (yes or no)
<i>Alcohol - Sobering up shelters - an important harm reduction strategy; these need to be run 24/7. Shelters need to be able to address gender and cultural issues e.g. by providing separate areas</i>	Yes	
<i>Alcohol - Night patrols - an important harm reduction strategy and need to be delivered by Aboriginal and Torres Strait Islander people</i>	Yes	
<i>Alcohol -Food supplementation programs - food supplementation programs are necessary to address nutritional deficiencies, this includes thiamine</i>	Yes	
<i>Alcohol -Wet shelters - supervised, controlled drinking: UK model used for people who are not able to stop drinking.</i>	Yes	
<i>Cannabis- Educational information on safer ways of ingesting cannabis; promotion of the move away from water bongs and the mixing of cannabis with alcohol and tobacco.</i>	Yes	
<i>Heroin - Needle and Syringe Programs</i>	Yes	
<i>Heroin- Education/information on safe injecting and vein care and mixing of heroin with other drugs</i>	Yes	
<i>Heroin- Availability of Naltrexone for overdose.</i>	Yes	
<i>Heroin- Peer support groups</i>	Yes	

Below is a copy of the prevention papers that were tabled at the joint SC and ERG meeting on 11/9/12

Ref No: NDP SC & ERG 12-01 **Agenda Item No.** 2.3b

Author: DA-CCP Secretariat

Date: August 2012

## PREVENTION

### RECOMMENDATION:

**THAT** the Steering Committee and Expert Reference Group:

1. **NOTE** – the work on the prevention component of the DA-CCP Project has been completed out of session by staff from the Western Australia Drug & Alcohol Office (WA-ADO) and the Chair of the ERG, Alison Ritter.

**THAT** the Steering Committee:

2. **DISCUSS AND RECOMMEND** one of the following options:

Option 1 - don't include prevention

Option 2 - select some of the 9 prevention items to be included in the nationally agreed prevention component of the model.

Option 3 - select all 9 items to be included in the nationally agreed prevention component of the model.

**THAT** based on the Option selected above, the Steering Committee and Expert Reference Group:

3. **DISCUSS AND RECOMMEND** how the option should be included in the model (itemised, aggregate or other).

### BACKGROUND:

- Prevention was discussed at the SC teleconferences in November 2011 and April 2012. At the conclusion of the SC's April 2012 teleconference it was agreed that "The SC supported the ERG to further explore and develop an approach based on the work being undertaken by Western Australia..."
- At the July 2012 Expert Reference Group meeting in Sydney, the meeting reviewed a paper completed by the WA-ADO. The attached papers have been completed by the WA – DAO with the advice provided by the ERG at their meeting on 23 July 2012.
- The 9 items included in the prevention paper and their costs are shown in the table below. Note that all costs, bar one, are based on actual expenditure on a per capita basis. The DA-CCP Project Team has then calculated some further costs of interest.



# Prevention items and costs

	A	B	C	D	E	F	
		Cost range calculated by WA-ADO (Document that is just table)	Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)	DA-CCP project Team Assumptions	Cost Per Capita	Cost per 100,000 pop	Total cost (AUS)
1a	School drug education (on- off switch)	Initial development: \$204k per jurisdiction  Primary and high school: \$400k to \$520k per 100,000 students  High school only: Maximum \$650,000 per 100,000 students	High school only★ Initial development - \$204,000 per jurisdiction Ongoing: MAXIMUM \$650,000 per 100,000 high school students  Primary and high school ♦ \$400,000 to \$520,000 per year per 100,000 students	Primary school is DA-CCP age group 5-11. High school is the DA- CCP age 12-17  Assume primary & high school is \$460K  Total students (5-11): 1,900,343  Total students: (12-17): 1,666,111	<b>5-11 years:</b> \$4.60  <b>12-17 years:</b> \$12.06	<b>5-11 years:</b> \$460,000  <b>12-17 years:</b> \$1,206,000	<b>5-11 years:</b> \$8.7 million  <b>12-17 years:</b> \$20.1 million
2a	Mass media campaigns (within context of social marketing model) - TV	Development (formative research, testing, production and post-campaign evaluation) \$280,000 per campaign, per jurisdiction, per year.  Media scheduling (700 TARPS @ \$560 – per month, per jurisdiction, per year) - \$4.7m per campaign  TOTAL: \$5m per year per jurisdiction per campaign	TV: Development (formative research, testing, production and post- campaign evaluation) \$280,000 per campaign, per jurisdiction, per year. ★ Media scheduling (700 TARPS @ \$560 – per month, per jurisdiction, per year) - \$4.7m per campaign♦  TOTAL: \$5m per year per jurisdiction per campaign	Assume all age groups in the model  We need to assume a number of campaigns e.g. 2	<b>All ages:</b> \$3.72	<b>All ages:</b> \$372,000	<b>All ages:</b> \$80 million
		Cost range	Cost per capita based on actual	DA-CCP project Team	Cost Per	Cost per 100,000	Total cost (AUS)

		A	B	C	D	E	F
		calculated by WA-ADO (Document that is just table)	expenditure by WA-ADO Document that is evidence basis)	Assumptions	Capita	pop	
2b	Mass media campaigns (within context of social marketing model)Other media:	<p>Development (formative research, testing, production and post-campaign evaluation) – between \$135,000 and \$210,000 per campaign per jurisdiction</p> <p>Media scheduling – between \$110,000 and \$250,000 per year, per jurisdiction, per campaign.</p> <p>TOTAL: \$245,000 - \$460,000 per year, per campaign, per jurisdiction</p>	<p>Other media: Development (formative research, testing, production and post-campaign evaluation) – between \$135,000 and \$210,000 per campaign per jurisdiction</p> <p>Media scheduling – between \$110,000 and \$250,000 per year, per jurisdiction, per campaign.●</p> <p>TOTAL: \$245,000 - \$460,000 per year, per campaign, per jurisdiction</p>	<p>Assume all age groups in the model</p> <p>Assume development per campaign per jurisdiction is \$172.5</p> <p>Assume media cost of 1 campaign is 352.5K.</p> <p>We need to assume a number of campaigns e.g. 2</p>	All ages: \$0.26	All ages: \$26,000	All ages: \$5.6 million
3	University/education institution AOD prevention programs	<p>Minimum of \$43,000 plus cost of 2.8 FTE staff</p> <p>Maximum of initial development of \$64,000 and ongoing costs of \$92,000 per year per university/educational institution</p>	<p>Minimum \$43,000 plus cost of 2.8 FTE staff★</p> <p>Maximum: initial development - \$64,000 and ongoing - \$92,000◆</p>	<p>Assume FTE cost is 43K + (2.8 x cost of AOD worker @\$ 82401= \$230 722) per university/education institution per year. Thus FTE Cost \$273 722 per university/education institution per year</p> <p>Assume only ongoing development of \$90,000 per university/education institution per</p>	18-64 years: \$1.05	18-64 years: \$105,000	18-64 years: \$14.2 million

	A	B	C	D	E	F
			year  Modelled on 39 universities only. (61 TAFE colleges excluded).			
	<b>Cost range calculated by WA- ADO (Document that is just table)</b>	<b>Cost per capita based on actual expenditure by WA-ADO Document that is evidence basis)</b>	<b>DA-CCP project Team Assumptions</b>	<b>Cost Per Capita</b>	<b>Cost per 100,000 pop</b>	<b>Total cost (AUS)</b>
4	Community action/mobilisation	Maximum of \$130,000 per 100,000 people	MAXIMUM \$130,000 per 100,000 people★	Assume age group DA-CCP is 18 +	<b>18+:</b> \$1.30	<b>18+:</b> \$130,000  <b>18+:</b> \$21.5 million
5	Good Sports	\$65,000 per 100,000 people	\$65,000 per 100,000 people★	Assume age group DA-CCP is 18 +	<b>18+:</b> \$0.65	<b>18+:</b> \$65,000  <b>18+:</b> \$10.75 million
6	Health support for liquor licensing regulation	Between \$10,800 and \$20,000 per 100,000 people	Between \$10,800 and \$20,000 per 100,000 people. ★	Assume age group DA-CCP is 18 +  Assume cost is \$15,400 per 100,000 people	<b>18+:</b> \$0.15	<b>18+:</b> \$15,400  <b>18+:</b> \$2.5 million
7	Local government initiatives	\$7,000 per 100,000 people	\$7,000 per 100,000 people★	Assume age group DA-CCP is 18 +	<b>18+:</b> \$0.07	<b>18+:</b> \$7,000  <b>18+:</b> \$1.15 million
8	Health role in supporting and promoting policy change across government and community	\$84,000 per 100,000 people	55c – 84c per head or \$55,000 – \$84,000 per 100,000 people. ★	Assume age group DA-CCP is 18 +  Assume cost is \$69,500 per 100,000 people	<b>18+:</b> \$0.70	<b>18+:</b> \$69,500  <b>18+:</b> \$11.5 million
9	Pharmaceutical monitoring schemes	\$33,000 - \$105,000 per 100,000 people	\$33,000 - \$105,000 per 100,000 people★	Assume age group DA-CCP is 18 +  Assume cost is \$69,000 per 100,000 people	<b>18+:</b> \$0.69	<b>18+:</b> \$69,000  <b>18+:</b> \$11.5 million
	Total - all items above				\$23.25	\$2,525,000  \$187.5 million

**ATTACHMENTS:** Prevention Component Of The National Drug And Alcohol Clinical Care And Prevention (DA-CCP) [Modelling] Project

## PREVENTION COMPONENT OF THE NATIONAL DRUG AND ALCOHOL CLINICAL CARE AND PREVENTION (DA-CCP) [MODELLING] PROJECT

### INTRODUCTION

The Drug and Alcohol Clinical Care and Prevention (DA-CCP) Model aims to provide a nationally agreed population based model for alcohol and other drug (AOD) service planning. It seeks to predict the quantity and value of all resources that should be provided to manage AOD problems across the spectrum of responses: prevention, early intervention through to tertiary treatment responses.

The treatment service component of the DA-CCP model is nearing completion, having been developed by an expert reference group. It identifies a number of drug classes, age groups and exclusions. The model takes the number of people using alcohol and other drugs and for the proportion of those people who meet diagnostic criteria (dependence or abuse) predicts the type and cost of those services that should be provided. It calculates this on an average of 100,000 people. That is, of 100,000 people, x% meet diagnostic criteria for AOD problems, and will require a range of services over the course of a year (detoxification, rehabilitation, counselling and medications). The model is built on this notional average of 100,000 people.

The DA-CCP Steering Committee has discussed the appropriateness of developing a prevention component of the model to determine the amount of prevention initiatives that should be provided within the community. It was agreed that a draft model would be developed for the Committee's consideration. This paper outlines the framework, scope and proposed process of the prevention components development.

### PREVENTION COMPONENT FRAMEWORK

The prevention component of the model is underpinned by the following principles:

- **Primary prevention –**  
The prevention component of the model focuses on primary prevention activities. That is prevention that aims to reduce the risk of developing chronic disease or suffering caused by AOD use. This may include targeted or universal approaches, and direct and indirect interventions. Secondary (early intervention) and tertiary (treatment) initiatives are not the primary focus of the prevention model however it is expected that some primary prevention initiatives will, at times, 'overlap' into these areas.
- **An evidence based comprehensive approach to prevention activities –**  
Evidence supports a comprehensive approach to prevention activity to address the complex range of influences on AOD related harm. Therefore, each initiative listed within the model should not be viewed in isolation but rather as part of a complementary and comprehensive approach. Only items with a sound evidence base, individually or in combination, have been included.
- **A focus on Health prevention initiatives and AOD use –**  
For pragmatic reasons the prevention component of the DA-CCP model focuses on AOD use and the Health sector as opposed to other sectors that may have a role in the prevention of AOD

related harms. While it is recognised that other areas such as crime prevention and law enforcement play an important preventative role they will only be considered within scope to the extent that Health interacts with them. For example areas such as liquor licensing regulation enforcement and advocacy are included but only to the point where Health works in this area. While addressing the social determinants of health can also have significant impact on AOD related harm, specific initiatives addressing these are also considered beyond the scope of the model.

- ***Standard population approach –***

Consistent with the treatment component of the DA-CCP model, the prevention component estimates are based on the amount of prevention services that *should be provided* to 100,000 people. This is directed to the entire population, not to those dependent and therefore resource estimates are required at a population rather than individual level. These estimates are based on the best available evidence of what works. In some cases, where evidence does not exist regarding the required funding that *should* be provided for each prevention initiative, the funding which is *currently* provided for these initiatives has been used as evidence. In some instances, the prevention activity can be expressed as an FTE per 100,000, whereas at other times the estimates may be based on a program cost per 100,000. The decision about whether it is an FTE or program cost amount will depend on available data, however for the purposes of the model it does not matter whether it is an FTE or program cost amount.

- ***Consistency with the treatment component of the DA-CCP model –***

As far as possible, the prevention component of the DA-CCP model will be consistent with the treatment component. Specific consideration is given to drug classes, age groups and areas considered outside the scope of the model.

## SCOPE

The scope of the prevention component is briefly outlined below.

### ***Drug classes***

The Prevention DA-CCP model is consistent with the scope of the treatment component, addressing the same drug classes, which are as follows:

- Alcohol
- Cannabis
- Amphetamines
- Benzodiazepines
- Heroin

In practice there are not necessarily distinctions between the prevention activities and drug classes. For example, strengthening families programs are aimed at preventing any substance misuse (alcohol, cannabis and injected drugs), along with other issues such as anti-social behaviours. On the other hand, some prevention programs do target a specific group, such as taxation for alcohol and health involvement in liquor licensing decisions. In addition, it is also recognised that polydrug use is a significant issue that will be addressed by the ‘overlapping’ of prevention activities.

### Age groups

In most cases the prevention component applies to the entire population (that is all ages). Where estimates refer to specific population groups, e.g. children/young people, this has been noted. Ideally, the prevention resource estimates would be specific to each drug and age group as identified in the treatment component of the DA-CCP model. However, in reality prevention is not necessarily subdivided in this way.

### Developmental process

The work undertaken as part of the DA-CCP prevention model is developmental and should not limit prevention spending.

### PROCESS

The process for the development of the draft prevention component of the DA-CCP model is outlined the table below. It should be noted that the final work presents 9 prevention items or activities from an initial list of 35 items or activities at April 2012

Steps	Process	Timeline
<b>Step 1: Mapping</b>	Mapping of prevention activities for inclusion against each of the five drug classes for 12 to 17 and 18+ (Attachment 1) to provide a comprehensive overview of which prevention activities that are included within the scope of the model, directed toward which target group (but ultimately the model will not distinguish these components in the excel spreadsheets).	Completed
<b>Step 2: Simplification of assumptions</b>	Make some simplifying assumptions (combining drugs, age groups) and document where the evidence base may come from for the inclusion, and the type of metric that we may be able to use (FTE, program costs, dollar amount etc.). Attachment 2 is the start of this process.	Completed by 9 <sup>th</sup> July 2012
<b>Step 3: Establishment of full evidence base</b>	Generate the full evidence-base, noting that there will be gaps.	Completed by 9 <sup>th</sup> July 2012
<b>Step 4: Review</b>	Review by the Expert Reference Group to determine the final array for inclusion in the model.	23 <sup>rd</sup> July 2012

**PREVENTION COMPONENT OF THE NATIONAL DRUG AND ALCOHOL CLINICAL CARE AND  
PREVENTION (DA-CCP) [MODELLING] PROJECT**

**EVIDENCE INFORMING PREVENTION ACTIVITY COST ESTIMATES**

**Purpose of this document**

The purpose of this document is to provide a summary of evidence used to inform the DA-CCP prevention activity cost estimates. Where published evidence does not exist, professional experience, current practice and unpublished data have been used.

**1. School based drug education**

School based drug education programs need not be delivered in isolation but rather incorporate resiliency, assertion and anti-bullying subjects as part of a comprehensive school based skill development program. Evidence suggests that these programs are best delivered by teachers as opposed to outside organisations delivering content to students (McBride, Farrington, Midford et al, 2001). The cost of providing a program of this type involves funds for development, delivery and on-going evaluation of the program as well as funding to support the back-fill of teacher attendance at training.

Based on the small number of studies which include expenditure required to deliver a school based skills program (excluding research and development costs), cost can vary from \$23.55 per student over a two year period where teacher training is included through to \$5.20 per student if trained teachers continue to teach the program in subsequent years (McBride, Farrington, Midford et al, 2001). In 2011 there were 3.5million primary/high school students in Australian schools (ABS, 2012) therefore suggesting the cost of providing a school based skills program could cost between \$18.3m and \$82.6m per year (based on 2001 prices or between \$26.3m and \$118.9m<sup>79</sup> based on 2011 prices).

In Western Australia, the School Drug Education and Road Aware (SDERA) program, based on evidence-based best practice, receives approximately \$1m – \$1.2m per year for development, delivery and evaluation as well as the cost of backfilling teachers attending training. This cost relates to the funding that *is* given to the program, not what *should* be given.

In 2010/11 training was provided to 344 of approximately 1000 primary/secondary schools. This equates to a cost of approximately \$1000 - \$1200 per school per year, however as can be expected each school does not require training every year. When applied to Australia the cost would be \$9.5m per year, based on 9,468 schools (ABS, 2012) across Australia or approximately \$4 per enrolled child in the total Australian school student population. Therefore, ongoing program costs would be in the range of \$4 - \$5.20 per head of the primary/secondary school student population.

Victorian Department of Education also fund an evidence based school drug education program run in high schools only. The program is the subject of a number of research studies demonstrating its effectiveness (Midford et al, 2012). Costs of the initial set up of the pilot program are detailed in Table 1 below.

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<sup>79</sup> Based on a CPI increase of 44% between 2001 and December 2011. Details available at <http://www.ato.gov.au/content/1566.htm>

Table 1. Victorian Education Department, School Drug Education Pilot Program Costs

Item	Cost
Project Officer 0.5 FTE	\$50,000 (per year)
Initial design/development of program	\$100,000
Development of an A to Z guide for teachers	\$15,000
Development of 2 DVDs	\$39,000
<b>Sub-total – initial development</b>	<b>\$204,000</b>
6 x 2 Professional development sessions for all year 8 and 9 teachers from 21 schools (inclusive of replacement teacher costs, printing and facilitator/venue costs)	\$141,000
<b>TOTAL</b>	<b>\$345,000</b>

Following the initial set up of the pilot program, resources such as the teacher's manual, student workbook and A to Z guide have been made available on-line therefore limiting printing costs.

In Victoria, 0.5 FTE Policy/Project Officer (\$50,000 per year) is responsible for updating the program and an additional \$15,000 is required for desktop publishing (total \$65,000 per year). Ongoing cost of professional development for teachers (including cost of replacement teachers) is estimated at \$6,700 per school, based on the pilot program cost provided in Table 1. This is an absolute maximum, as Victorian Department of Education suggest, due to the pilot involving:

- facilitation of the professional development sessions by external facilitators, whereas they would expect this service could be provided in-house;
- use of external venues, whereas this could be provided in house where possible;
- attendance by all year 8 and 9 teachers from the 21 schools, whereas it is expected only one teacher would attend from each school;
- payment for replacement of all teachers attending, whereas in some cases the annual professional development allowance for teachers may cover the cost of their attendance; and
- the cost assumes all schools would participate in professional development sessions each year, however it is not expected this would be necessary.

Table 2. Ongoing costs of implementing the Victorian school drug education program

Item	Cost	Cost Australia wide
Staff	\$50,000 (per jurisdiction)	\$400,000
Desktop publishing	\$15,000 (per jurisdiction)	\$120,000
Professional development (inc replacement teacher costs)	\$6,700 (per high school)	\$9.3m (based on 1,396 high schools, ABS 2012)
<b>TOTAL</b>		<b>\$9.8m or \$6.50 per high school student (based on 1.5m high school students, ABS 2012)</b>

Table 2 represents the ongoing costs of implementing the Victorian school drug education program. As mentioned the cost of ongoing professional development is estimated as much higher than would be



expected for reasons outlined on page 2. Initial set up costs, taken from Table 1, are estimated at \$204,000 per jurisdiction, with ongoing costs estimated at \$6.50 per high school student or \$650,000 per 100,000 high school students.

**Summary - school drug education**

Resource amount
<p><b>High school only★</b></p> <p>Initial development - \$204,000 per jurisdiction</p> <p>Ongoing: MAXIMUM \$650,000 per 100,000 high school students</p>
<p><b>Primary and high school ♦</b></p> <p>\$400,000 to \$520,000 per year per 100,000 students</p>

★Based on Victorian figures of what is currently provided

♦Based on Western Australian figures of what is currently provided

**2. Mass media campaigns (within a context of a social marketing model)**

Mass media campaigns, when implemented as part of a comprehensive social marketing model, have the potential to decrease alcohol consumption and therefore reduce alcohol related harm. Mass media campaigns are one aspect of a social marketing approach to the prevention of AOD related harm. The process of developing a social marketing program involves in-depth research and analysis of the target population's behaviours, risk factors, beliefs and attitudes, the environment in which the target group is situated and various factors which enable predispose and reinforce target group behaviours (Donovan & Henley, 2003). The final phase of a social marketing program attempts to bring about change in the target behaviour through the use of targeted interventions, one of which is the use of mass media campaigns. Mass media campaigns can help to increase community's support of certain design and control initiatives, such as a reduction in speed limits, or can be used to raise the community's knowledge, awareness or attempt to influence attitudes and beliefs relating to a particular issue.

As seen in the tobacco area, sustained exposure to mass media campaigns, when implemented as part of a comprehensive prevention/social marketing program (which included design/control initiatives such as smoke free areas, increases in prices etc), has the potential to decrease smoking prevalence in a short space of time (Wakefield, et al. 2008). It is reasonable to expect this result can be seen with appropriate, sustained mass media campaigns as part of an overarching social marketing approach targeting alcohol consumption.

In reference to television based mass media campaigns, the National Preventative Health Taskforce recommends media campaigns of approximately 700 Television Audience Rating Points (TARPs) per month in each jurisdiction per year are required as part of a multi-strategic prevention campaign to reduce smoking prevalence (Commonwealth of Australia 2009). This recommendation is based on a comprehensive research study conducted by Wakefield et al (2008) where the impact of mass media advertising was monitored to determine its effects on population smoking rates. In their study, Wakefield and colleagues isolated the impact of mass media on the population smoking rates of five major cities of Australia. The study demonstrated that when mass media campaigns are (when

implemented as part of a comprehensive social marketing model) sustained over a long period, exposing the population to adequate media over frequent intervals, behaviour change can result.

The average cost of development for a TV mass media campaign, which includes formative research, testing, production and post-campaign evaluation has been estimated at \$280,000 per campaign (Drug and Alcohol Office, unpublished). Based on the experience in the tobacco area it is reasonable to expect 700 TARPs per month, when implemented as part of an overarching social marketing campaign, can bring about a decrease in alcohol consumption and subsequent reduction in alcohol related harm. In 2012, the average cost per 30 second TARP is approximately \$560 (IKON, 2012) therefore cost per jurisdiction, per year, per campaign would be \$280,000 for campaign development and \$392,000 for TARPs (i.e. media scheduling). This cost applies to each jurisdiction as opposed to per 100,000 people in the population.

If wanting to develop and implement a similar mass media for other drugs, such as cannabis, it is expected similar levels of funding would be required. It would not be advisable to undertake a television based mass media campaign relating to opioid use due to the low prevalence of use in the general community. Targeted strategies would be more appropriate in this instance.

Mass media campaigns can also utilise radio, online, social media and other non-television media outlets to convey messages to the community. Over the past three years the Drug and Alcohol Office of Western Australia have developed campaigns targeting cannabis, ecstasy and amphetamines. Each campaign utilised a range of media outlets to convey messages, as part of an overarching social marketing approach to prevention. The costs of these campaigns are summarised below, however it must be noted, campaigns are developed based upon the funding received for the campaign, not based on what funding *should* be dedicated to the campaign. Based on the figures in Table 3, a non-television mass media campaign can cost between \$280,000 and \$385,000 per year, per jurisdiction per drug (e.g. cannabis or amphetamines or ecstasy).

Table 3. Costs associated with non-television mass media campaigns, Drug and Alcohol Office, Western Australia

Ecstasy Campaign	
Development costs (inc formative research, concepting, testing and advertisement development)	\$165,000
Media placement (Press, radio, online, media management)	\$110,000
Evaluation	\$45,000
<b>TOTAL</b>	<b>\$320,000</b>
Amphetamines Campaign	
Development costs (inc formative research, concepting, testing and advertisement development)	\$125,000
Media placement (Press, radio, online, media management)	\$110,000
Evaluation	\$45,000
<b>TOTAL</b>	<b>\$280,000</b>
Cannabis Campaign	

Development costs (inc formative research, concepting, testing and advertisement development)	\$90,000
Media placement (Press, radio, cinema, outdoor, online, media management)	\$250,000
Evaluation	\$45,000
<b>TOTAL</b>	<b>\$385,000</b>

### Summary – mass media campaigns

Resource amount
<b>TV:</b> Development (formative research, testing, production and post-campaign evaluation) \$280,000 per campaign, per jurisdiction, per year.★ Media scheduling (700 TARPS @ \$560 – per month, per jurisdiction, per year) - \$4.7m per campaign♦  TOTAL: \$5m per year per jurisdiction per campaign  <b>Other media:</b> Development (formative research, testing, production and post-campaign evaluation) – between \$135,000 and \$210,000 per campaign per jurisdiction  Media scheduling – between \$110,000 and \$250,000 per year, per jurisdiction, per campaign.●  TOTAL: \$245,000 - \$460,000 per year, per campaign, per jurisdiction

★ Based on Western Australian figures of what is currently provided

♦ Based on National Preventative Health Taskforce, Commonwealth of Australia recommendations

■ Based on Western Australian figures of what is currently provided

● Based on Western Australian figures of what is currently provided

### 3. University/education institution AOD prevention programs

Evidence based university AOD prevention programs can range from comprehensive multi-strategic programs focussing on community, environmental and individual interventions to single strategy online brief intervention programs. Although research studies assessing the effectiveness of these programs have focussed on university/college settings it is not unreasonable to expect similar benefits from such programs can be seen in alternate educational institutions such as TAFEs.

Environmental approaches have been the subject of a study by Newman et al (2006), where a health promotion model (PRECEDE-PROCEED) was used to inform the development of a multi-strategic approach to reducing alcohol related harm amongst US College students. Initial steps involved a comprehensive needs assessment relating to student behaviour and attitudes, police records and local community complaints as well as an environmental scan of the local environment. A local coalition was formed to drive the project and review the needs assessment. The local coalition then selected a range of evidence based strategies to reduce alcohol related harm, such as educational, policy and enforcement initiatives. Individual interventions involved education and brief interventions. The multi-

strategic intervention resulted in a statistically significant reduction in short term harmful drinking (binge drinking) and alcohol related problems.

Single strategy prevention programs have also been evaluated with positive results (Kypri et al 2009). The Kypri et al (2009) study involved the use of a 10 minute web-based motivational assessment and personalised feedback. The randomised control trial demonstrated the intervention resulted in a statistically significant reduction in drinking frequency and overall volume of alcohol consumed.

In Western Australia the above mentioned programs (multi-strategic approach and single intervention approach) are implemented in two separate university settings. The University Of Western Australia has been running the Tertiary Alcohol Project (TAP) for 10 years, which involves the implementation of a range of strategies, including online brief interventions and environmental strategies. Over the 10 years of the program a range of grants have been applied for and approximately \$430,000 in grants have been received (i.e. many more applied for than received). This equates to approximately \$43,000 per year, not inclusive of salaries of staff (approximately 2.8 FTE staff members) required to develop and implement the program. A number of student volunteers (from the School of Psychology) are also involved in implementing the project, costs of which have not been included.

Alternately, Curtin University in Western Australia has been the setting of an individually focussed online brief intervention project. According to information provided by the University, initial set up costs have been estimated at approximately \$64,000 with ongoing annual implementation and running costs estimated at \$92,000 per year, which is inclusive of salary costs (\$46,000) and operational costs (\$9,000).

Based on the above information it is estimated a comprehensive multi-strategic program can be delivered in a single university or educational institution for approximately \$43,000 per year (on average, however initial set up costs may be higher) plus staff costs and not including the contribution of a large number of volunteer students. Alternately a single strategy online brief intervention project can be implemented for approximately \$64,000 initially, and \$92,000 per year following initial set up. Again, these costs are based on what funding is provided as opposed to what *should* be provided for these types of programs.

#### **Summary – University/education institution AOD prevention program**

Resource amount
Minimum \$43,000 plus cost of 2.8 FTE staff★
Maximum: initial development - \$64,000 and ongoing - \$92,000♦

★ Based on the current funding for the Tertiary Alcohol Project at the University of Western Australia

♦ Based on funding provided for the alcohol brief intervention project implemented at Curtin University - subject of an RCT by Kypri et al (2009) demonstrating effectiveness

#### **4. Community action/mobilisation**

Community interventions have been shown to significantly reduce alcohol related harm. Community interventions involve the implementation of a range of policy changes and community-based environmental interventions targeting whole populations, as opposed to selected target groups. A comprehensive community intervention focuses on systemic factors and includes activities such as

community mobilisation, responsible service of alcohol initiatives, drink driving reduction schemes, programs targeting underage drinking and liquor licensing/regulatory approaches to reducing the availability of alcohol. A key aspect of the success of a community intervention is the implementation of a range of strategies as opposed to one or two in isolation, as simply stated by Holder (1997): “the whole is larger than the sum of its parts.”

In the mid 1990’s Holder conducted a five year longitudinal research study, “The Community Trials Project” (Holder, 1997), to determine the effectiveness of a community intervention approach to the prevention of alcohol related harm. Holder coordinated the implementation of the project in three experimental communities. The project consisted of five essential key initiatives: (1) community mobilisation to foster community support for tackling alcohol related harm; (2) a responsible service of alcohol program to promote standards in licensed premises and reduce risk of having intoxicated or underage drinkers in licensed premises; (3) a drink driving program to increase enforcement of existing laws and increase the perceived and actual risk of being caught; (4) an underage drinking component to reduce the availability of alcohol to young people; and (5) an alcohol access component which utilised local governments control of liquor licensing regulations and zoning to reduce the number and density of alcohol outlets, therefore reducing availability.

The study compared experimental communities to control sites where no community intervention was implemented. Results indicated statistically significant reductions in alcohol related harm were evident in the experimental communities over a five year period (Holder, 1997).

Holder (1997) estimates a full time project coordinator is required in each community (with a population of approximately 100,000) to ensure effective implementation of a comprehensive community intervention. Key factors associated with project success are the familiarisation of the project coordinator to the community and the implementation of a minimum level of intervention across the range of strategies (i.e. community mobilisation, responsible service of alcohol initiatives, drink driving reduction schemes, programs targeting underage drinking and liquor licensing/regulatory approaches to reducing the availability of alcohol).

According to experience, the Drug and Alcohol Office estimates one full time project coordinator in each community would not be necessary to ensure effective implementation due to the potential to implement initiatives on a larger scale. The cost of a full time project coordinator has been estimated at approximately \$130k, based on the cost of a Level 6 Government employee (Drug and Alcohol Office, unpublished). Based on Holders (1997) estimates a Project Coordinator is required per 100,000 people or \$1.30 per head of population.

The Community Trials Project described above was implemented over five years in communities which were initially supportive of addressing alcohol related harm and had local coalitions in place that were interested in implementing the above mentioned strategies. It is therefore necessary to fund a project of this type for a minimum of five years due to the time required to mobilise communities who may not be initially supportive of the need to implement initiatives to reduce alcohol related harm and may not already have local coalitions in place who are supportive of implementing the required strategies.

### Summary – Community intervention

Resource amount
MAXIMUM \$130,000 per 100,000 people★

★ based on Holder et al (1997) recommendation

## 5. Good Sports

The Good Sports program aims to reduce alcohol related harm in sporting club communities. The program focuses on:

- reducing alcohol-related problems such as drink driving
- changing behaviours of players, supporters and members of community sporting clubs
- increasing the viability and impact of sporting clubs in their communities

The program utilises an accreditation system across three levels. Clubs are awarded accreditation based on them meeting a set of standards in each level. The standards relating to each level are outlined below:

### Level 1:

- *Liquor license*
- *Bar management (Responsible Service of Alcohol training)*
- *Smoke-free environment*

### Level 2:

- Maintain Level 1 criteria
- Enhanced bar management (RSA training, etc.)
- Food and drink options (low and non alcoholic)
- Safe transport policy
- Diverse revenue generation

### Level 3:

- *Maintain Level 1 and 2 criteria*
- *Alcohol management policy*

Cost estimates to deliver the program have been made based on current funding provided by the Department of Health and Ageing (DoHA) to Australian Drug Foundation (ADF) over four years: \$5.72m. An additional \$8.9m over two years has recently been provided to the Australian Drug Foundation by DoHA to further expand this successful program across Australia.

In total the program has therefore been funded \$14.62m over a six year period to cover the whole of Australia. This equates to 65c per head or \$65,000 per 100,000 people.

Resource amount
\$65,000 per 100,000 people★

★ Based on current funding provided by DoHA to the ADF

## 6. Health support for liquor licensing regulation (on-off switch)

The estimated cost of providing a liquor licensing program to reduce harm from alcohol in the community has been based on the cost of undertaking this program of work in Western Australia and

New South Wales. This is due to the paucity of published research stating the cost of providing a program of this type.

The liquor licensing team, based at the Drug and Alcohol Office, cover the whole of Western Australia (population 2.35 million, ABS 2011). Outputs from the team are summarised below:

- Between 1 July 2010 and 30 June 2011, of the 230 liquor licence applications received in Western Australia, 147 (63.9%) were considered to possibly pose a risk of harm and warranted investigation. During this period, 44 interventions were lodged. Of the 44 interventions:
  - 8 had outright harm and ill-health concerns with the application
  - 1 had outright harm and ill-health concerns with the application and recommended imposing harm minimisation conditions, if the application was granted
  - 7 had harm and ill-health concerns with part of the application and recommended harm minimisation conditions
  - 28 made representations and recommended conditions.
- During the same period there were 51 decisions received that related to interventions lodged. Of the decisions received, 26 of the outcomes were consistent with submissions made by the Executive Director of Public Health (EDPH), 20 were partially consistent, and five determined that on balance, other factors outweighed harm or ill-health considerations. Decisions received do not always relate to activity in the current financial year. During this period there were also three withdrawals of applications in which the EDPH had intervened.

The cost of providing the above program has been based on salary and project related costs of the liquor licensing team at the Drug and Alcohol Office. Salary costs equate to approximately \$430,000 per year for approximately four FTE staff members (including 0.5 FTE of a Managers position), other project related costs total \$30,000 per year (total \$460,000). Based on these figures and the Western Australian population it is expected a health-based liquor licensing program costs approximately 20 cents per head of population to provide, or \$20,000 per 100,000 people.

In comparison, the NSW Health Liquor Licensing program proposes to employ 8 FTE project officers at approximately \$98,000 per year to undertake surveillance, community consultation and commenting on license applications (total for 8 positions \$784,000). On a cost per head of NSW population (7.23 million at June 2010, ABS 2011) this equates to approximately 11c per head or \$10,800 per 100,000 people.

The health related costs of a Liquor Licensing program therefore are estimated at between 11c – 20c per head or between \$10,800 and \$20,000 per 100,000 people.

#### **Summary – liquor licensing**

Resource amount
Between \$10,800 and \$20,000 per 100,000 people. ★

★ Based on current expenditure in Western Australia and New South Wales.

### **7. Local government initiatives**

Local government targeted alcohol and other drug (AOD) initiatives involve the promotion of dry zones, access to water in entertainment venues, lighting in public laneways, blue lights in toilets as well



as contributions to alcohol management planning. The aim of this program area is to decrease harm from AOD use in the community by altering the drinking environment.

No identifiable published evidence exists that estimates the cost of providing a local government targeted AOD prevention initiative. Cost estimates for this program area have therefore been based on the funds required to provide a program of this type in Western Australia.

Salary costs for a local government program are approximately \$160,000, per year, covering 1.6 FTE staff. Based on the experience of the Drug and Alcohol Office, it is advisable that 1.0 FTE is based within local government. Additional costs for program material development are \$15,000 per year. This equates to a total of approximately \$175,000 per year. In Australia it is expected this type of program can be delivered for approximately 7 cents per head of population or \$7,000 per 100,000 people.

#### **Summary – Local government initiative**

Resource amount
\$7,000 per 100,000 people★

★ Based on Western Australian figures of what is currently provided

#### **8. Health role in supporting and promoting policy change across government and community**

A comprehensive program to influence and promote evidence based policy change includes activity relating to the regulation of alcohol and tobacco advertising and sponsorship; parental supply of alcohol; taxation and pricing; warning labels, national drinking guidelines; coalition building and Thiamine fortification. There is no published research available which states the required funding for a program of this kind, therefore cost estimates have been based on information provided by an established policy change non-government organisation (McCusker Centre for Action on Alcohol and Youth) as well as the costs for peak non-government organisations including ADCA, ANCD, NADA and WANADA. Staff from the McCusker Centre also drew on cost information relating to the provision of policy change activity through groups such as Australian Council on Smoking and Health (ACOSH) and Action on Smoking and Health (ASH).

The effectiveness of a policy change program can vary significantly depending on the budget available. The minimum number of staff required in Western Australia (based on McCusker Centre costs) is 1.0 FTE leadership position at a cost of between \$162k and \$208k per annum inclusive of on-costs but depending on level and experience; 2.0 FTE senior support staff (\$194k – \$268k per annum inc on-costs); 3.0 FTE junior staff (\$231k - 270k inclusive of on-costs); and 1.0 FTE administrative staff (\$89k – \$118k inclusive of on-costs). Additional operational costs include communications, IT resources and telecommunications as well as externally contracted services such as graphic design, research, legal services and so on. These range from \$163,000 to \$693,000. The total cost is therefore between 37 cents and 66 cents per head of population or between \$37,000 and \$66,000 per 100,000 people.

As estimated by the DA-CCP Expert Reference Group the funding provided to peak non-government organisations (NGO's) including ADCA, ANCD, NADA and WANADA is approximately \$4million. Based on the current Australian population (22.33 million people, ABS 2011) this equates to approximately 18c per head.



In total, a comprehensive program to influence and promote evidence based policy change, including funds required for peak NGO bodies, is estimated to cost between 55c and 84c per head of population or \$55,000 and \$84,000 per 100,000 people. This is based on current expenditure, not required expenditure.

**Summary – influencing evidence based policy change**

Resource amount
55c – 84c per head or \$55,000 – \$84,000 per 100,000 people. ★

★Based on DA-CCP Expert Reference Group estimates and current cost of funding a comprehensive program to influence and promote evidence based policy change (McCusker Centre, unpublished)

**9. Pharmaceutical Monitoring Schemes (PMS)**

The costs of a PMS have been estimated from the funding required to deliver this type of initiative in Queensland and Tasmania. Both systems are set up differently therefore costs are vastly different. It should be noted that according to Tasmanian representatives, the Commonwealth government are purchasing the data system used by Tasmanian and will be making it freely available to all states, therefore significantly reducing set up costs of a PMS for jurisdictions.

Queensland has two separate teams to deliver their PMS: the Information Services Data Management Unit and the Drug Dependency Unit. The PMS commenced in the 1980's therefore initial set up costs are reportedly difficult to estimate. The Information Services Data Management Unit undertakes the following tasks:

- Receipt of monthly data from 1000 community pharmacies some of which provide information via a web interface, others via hard copy or USB stick. This excludes Schedule 8 drug treatment for inpatients in hospitals.
- Data entry and maintenance.

The yearly cost of operating this team is estimated at \$330,000, which includes 1.0 FTE Manager at \$60,000 per year (inclusive of 20% on-costs) and 5.0 FTE staff at \$54,000 per year (inclusive of 20% on-costs). Ongoing maintenance, program updates, database management, storage capacity costs are approx \$50,000 per year. Therefore the total cost for this team and the functions it provides is \$380,000 per year.

The Drug Dependence Unit provides the following functions:

- Provision of a 24 hour/7 day per week telephone enquiry service for doctors to obtain full treatment history of patients and clinical advice during business hours about issues of Schedule 8 drug treatment.
- Monitoring of patient level patterns of schedule 8 drug use - identifying at risk patients. Where required staff will engage the prescribing Doctor to ensure appropriate legislation and prescribing practices are followed and engage the patient if necessary to facilitate their access to appropriate support and treatment.
- Monitoring data on all patients on the community prescribing program to determine whether they are accessing S8 drugs from more than one Doctor, high doses, or receiving drugs outside approvals – and enacting an appropriate response if necessary.

- Monitoring & investigating prescribing practices of Doctors to ensure appropriate legislation is followed and prescribing practices are appropriate.
- Monitoring and investigating prescription fraud & forgery issues
- Managing administration and policy application of opioid treatment programs.
- Maintaining a research & reporting function to address population wide issues of concern and produce reports for stakeholders.
- Conduct of education and training for health professionals in regards to issues related to clinical practice around S8 drugs, drug dependence and pain management.

The cost of the Drug Dependence Unit is estimated at \$1.02m, which includes:

- 1.0 FTE Medical Director (AOD specialist) - \$180,000
- 1.0 FTE Manager (Psychologist) - \$110,000
- 2.0 FTE Clinical advisor (Clinical Nurse) - \$195,000
- 2.0 FTE Investigator (Professional Officer) - \$172,000
- 2.0 FTE Surveillance officers (Admin Officers) - \$94,000
- 1.0 FTE Research Officer (Professional Officer) - \$86,000
- 2.0 FTE phone enquiry (admin) staff - \$76,000
- 3.0 FTE Records & Administrative Staff - \$108,000

1.0 FTE staff member (\$100,000 per year) is also funded but based within Pharmacy Guild. The purpose of this position is to focus on professional development of pharmacy staff (relating to the aims of the Pharmaceutical Monitoring Scheme).

The total cost for the Queensland PMS is therefore \$1.5m per year, 33c per head of population (based on Queensland population of 4.5m, ABS 2012) or \$33,000 per 100,000 people. This is inclusive of the costs of the current costs of the Information Services Data Management Unit and the Drug Dependency Unit.

The Tasmanian PMS differs considerably from the Queensland Scheme, for example all prescriptions are submitted electronically - 95% of Tasmanian pharmacies are reporting in real time and any other data is received through an electronic gateway. Additionally only Doctors are followed up, not at risk patients, therefore the business related costs of the PMS are lower than in Queensland.<sup>80</sup>

In the Tasmanian PMS, the data cleaning and chasing up of incomplete data is done by an Administration staff member – approximately 0.2 FTE at \$50k per year (\$10k inclusive of on-costs).

Specific software named “Breach software” detects inappropriate prescribing practices. These breaches are triaged into extreme, high medium and low level by software algorithms within the drugs and poisons data base. There is then a scaled process of handling these with pharmacist dealing with the extreme, high and medium and admin staff the low level breaches. Three pharmacist take turns in doing this at average of 1.5 FTE Pharmacist a week (\$135,000 per year) and an Administration staff member 0.2 FTE at \$50,000 per year (\$10,000 inclusive of on-costs).

Upgrades and monitoring of the database is done by a Pharmacist 0.5 FTE (\$45,000 per year). System improvements and maintenance costs for the actual data base are estimated at \$40,000 per year.

Under Tasmanian legislation, the prescribing of S8 substances for more than two months requires an authority issued under the Poisons Act. The pharmacist in PSB are delegates for this purpose and process in excess of 8,000 a year. Review and authorisation of S8 prescribing applications is done by 2.0 FTE Pharmacists (\$180k), clerical entry and generation of the authorities to be sent to prescribers

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<sup>80</sup> Project STOP is considered restrictive in target comparative to the current Tasmanian system (called DORA) therefore Project STOP has not been discussed in this document.

2.0 FTE Admin (\$100k). Part of the process involves review and advice for difficult cases and the use of a consultancy group and/ or a consultant medical officer. Payment is required for two members and the CMO and one specialist consultant are departmental. The consultant services average cost is in the order of \$700 to \$800 dollars per fortnight (approx \$18,000 per year).

The total cost for the Tasmanian PMS is therefore \$538,000, \$1.05 per head (based on Tasmanian population of 510,000, ABS 2012) or approximately \$105,000 per 100,000 people. This is not inclusive of initial set up costs. According to the Drug and Alcohol Office it is expected the Tasmanian program may be the most appropriate program on which to base costs due to its proposed adoption by the Commonwealth.

**Summary – PMS**

Resource amount
\$33,000 - \$105,000 per 100,000 people ★

★ Based on current Queensland and Tasmanian costs

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**Note 2: references for alcohol pricing**

Carragher, N & Chalmers, J 2012, *What are the options? Pricing and taxation policy reforms to redress excessive alcohol consumption and related harms in Australia*, NSW Bureau of Crime Statistics and Research, Sydney.

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**Prevention activities: building the evidence base for DA-CCP inclusion**

**Scope issues:**

- Health-related
- Health support for policy change
- On-off switch for some items (where jurisdictions can choose whether to include it or not)
- Indigenous prevention not covered herein (for stage 2)
- Need to identify within table below those costings that are based on 'what is' versus those costings that are based on what 'should be

Prevention activity	Drug types covered	Description of the interventions	Notes on evidence for effectiveness	DA-CCP considerations for resource	Resource amount (refer to cost estimate paper to determine current versus required expenditure)
1. School drug education (on-off switch)	All	<p>Development of curriculum and resources, delivery of teacher training (including backfilling of teachers attending training) and evaluation of school drug and alcohol education program.</p> <p>Supported by a comprehensive prevention program.</p>	<p>Cochrane systematic reviews for alcohol and illicit (moderate effects). (alcohol: Foxcroft &amp; Tsertsvadze, 2011; illicit: Faggiano et al., 2008; tobacco: Thomas &amp; Perera, 2008)</p> <p>Cost-benefit analyses (e.g. Caulkins et al., 1999; Swisher et al., 2004) all positive (small effect but because large number of students, results in cost-effectiveness).</p> <p>Some literature on school health education and sequential program across primary and secondary years (Irwin et al). Little evaluation evidence on cumulative impact, then and later in life. Threshold levels of</p>	<p>Length of program not significant (Gottfredson &amp; Wilson, 2003), so two single sessions? – need expert advice re program length</p> <p>Resilience-based in primary years with a focus on tobacco in upper primary. Evidence is stronger for action in secondary schooling years than primary.</p>	<p>Initial development: \$204k per jurisdiction</p> <p>Primary and high school: \$400k to \$520k per 100,000 students</p> <p>High school only: Maximum \$650,000 per 100,000 students</p>

			time allocated (approx 40 hours)		
<b>2. Mass media campaigns (within context of social marketing model)</b>	Alcohol, cannabis, amphetamines	<p>Mass media campaigns form part of a comprehensive social marketing model which includes design and control initiatives (e.g. strategies referred to in points 4, 5, 6 and 9). Mass media campaign development and implementation involves formative research, testing, production and post campaign evaluation.</p> <p>Mass media strategies include television, radio, online, social media and other non television media outlets.</p>	<p>Note: mass media campaigns, PSA are a necessary but not sufficient intervention. Largely from tobacco e.g. Wakefield, 2008 (and road safety campaigns). Werb et al (2011) re illicit no effect. References as at Note 1.</p>	<p>Program costs: Adequate public exposure over frequent intervals of 700 of TARPs per month.</p>	<p><b>TV:</b> Development (formative research, testing, production and post-campaign evaluation) \$280,000 per campaign, per jurisdiction, per year.</p> <p>Media scheduling (700 TARPS @ \$560 – per month, per jurisdiction, per year) - \$4.7m per campaign</p> <p>TOTAL: \$5m per year per jurisdiction per campaign</p> <p><b>Other media:</b> Development (formative research, testing, production and post-campaign evaluation) – between \$135,000 and \$210,000 per campaign per jurisdiction</p> <p>Media scheduling –</p>



					<p>between \$110,000 and \$250,000 per year, per jurisdiction, per campaign.</p> <p>TOTAL: \$245,000 - \$460,000 per year, per campaign, per jurisdiction</p>
<b>3. University/education institution AOD prevention programs</b>	All	<ul style="list-style-type: none"> <li>• Single intervention strategies such as education and brief intervention.</li> <li>• Multi-strategy programs including community and environmental interventions such as comprehensive needs assessments, educational, policy and enforcement initiatives.</li> </ul>	<p>Kyp Kypri (2120) trial demonstrated that a 10 minute web-based motivational assessment and personalised feedback intervention resulted in a statistically significant reduction in drinking frequency and overall volume of alcohol consumed.</p> <p>Newman et al (2006) on effectiveness of environmental approaches</p>	Program costs: Uni student coverage estimate?	<p>Minimum of \$43,000 plus cost of 2.8 FTE staff</p> <p>Maximum of initial development of \$64,000 and ongoing costs of \$92,000 per year per university/educational institution</p>
<b>4. Community action/mobilisation</b>	Alcohol	Implementation of AOD specific policy changes and community-based environmental interventions targeting whole populations.	<p>Strengthening families evidence is good such as Spoth et al., 2002. Numbers needed to treat estimates.</p> <p>Holder (1997) gives</p>	<p>Program costs: Holder provides program costs in some of his work. Holder suggests one dedicated officer in</p>	Maximum of \$130,000 per 100,000 people

			estimate of cost of providing community interventions. Catalano & Hawkins; Cuijpers, 2003 Toumbourou et al. (2007) notes the role of communities in tailoring a mixture of programs to reduce alcohol related harm.	each community. In practice this can be tempered, while still achieving effect.	
<b>5. Good Sports</b>	Alcohol	An accreditation program for sporting clubs that focuses on reducing alcohol related problems through measures such as the development and implementation of an alcohol management policy.	According to 'Good Sports' the program is effective and reports that 36% less people drinking at risky levels, compared with clubs not involved in the program., and short-term risking drinking (binge drinking) drops by 15% and long-term risky drinking drops by 14%.	5169 sporting clubs are currently engaged with Good Sports programs.	\$65,000 per 100,000 people
<b>6. Health support for liquor licensing regulation (on-off switch)</b>	Alcohol	Public health support and advocacy for various liquor licensing regulations including the monitoring, investigation and assessment of liquor licence	Good evidence on impact/effect of liquor licensing measures such as density, closing times (not for accords). For example, Toumbourou	Program costs: Costing based on WA experience of a centrally based team covering state plus some operating	Between \$10,800 and \$20,000 per 100,000 people

		applications across the state. It includes making related recommendations and preparing appropriate interventions.	et al. (2007) notes the effectiveness of limits on outlet density and restrictions on hours of sale.  Barbor et al.2003 provides a summary of the evidence relating to regulation of retail outlets, outlet location, hours and days of retail and outlet density.	costs.	
<b>7. Local government initiatives</b>	All	Local government targeting alcohol and other drug initiatives that include dry zones; access to water; lighting in laneways; blue lights in toilets; alcohol management planning.	Alcohol free areas: d'Abbs, P & MacLean, S 2011, 'Petrol sniffing interventions among Australian indigenous communities through product substitution: from skunk juice to opal', Substance Use and Misuse, vol. 46 Suppl 1, pp. 99-106.  Douglas, M 1998, 'Restriction of the hours of sale of alcohol in a small community: a beneficial impact',	Base on what Health can do. Need to support and promote within LGA's by establishing partnerships and raising awareness. Reframing health outcome to LGA outcome.	\$7,000 per 100,000 people

			<p>Australian and New Zealand Journal of Public Health, vol. 22, no. 6, pp. 714-9.</p> <p>Gray, D &amp; Wilkes, E 2010, Reducing alcohol and other drug related harm, Closing the Gap Clearinghouse Resource Sheet no. 3, Australian Institute of Health and Welfare; Australian Institute of Family Studies, Canberra &amp; Melbourne.</p> <p>National Drug Research Institute 2007, Restrictions on the sale and supply of alcohol: evidence and outcomes, National Drug Research Institute, Curtin University of Technology, Perth, WA.</p>		
8. Health role in supporting and promoting policy change across	All drugs	Regulating promotion of alcohol (and tobacco) Parental supply controls (e.g.. Vic)	<p>Good evidence of effect of pricing (price elasticity of demand estimates). Evidence from alcopops</p>	Costs may be small, with exception of legal costs when industry fight the	\$84,000 per 100,000 people

government and community		<p>Taxation and pricing (tax regime; hypothecated tax; minim price (floor price); increase taxes)</p> <p>Warning labels; national drinking guidelines</p> <p>Coalition building (community partnerships etc)</p> <p>Thiamine fortification of basic foods (bread)</p> <p>ADCA, APSAD, RACP etc – professional bodies, advocacy groups who work to reduce alcohol and drug harm.</p>	<p>reduction (Doran et al; Babor alcohol book Chapter 8, page 109-125).</p> <p>Note 2: references for price</p>	measures?	
<b>9. Pharmaceutical monitoring schemes</b>	Amphetamines and benzodiazepines	<p>Pharmaceutical monitoring scheme that includes telephone supports, monitoring of patient level of patterns of use, monitoring and investigating prescribing patterns and fraud/forgery, professional development for pharmacists, administration of treatment program for at risk patients and research and reporting.</p>	<p>USA evidence re regulation. McKetin review paper.</p>	<p>Program costs associated with current provision in Queensland and Tasmania.</p> <p>The Commonwealth is purchasing the data system used by Tasmania to provide to other jurisdictions.</p>	<p>\$33,000 - \$105,000 per 100,000 people</p>

### Additional references/ resource documents

#### **Note 1: references for mass media campaigns**

Donovan, R & Henley, N 2010, Principles and practice of social marketing: an international perspective, 2nd edn, Cambridge University Press, Cambridge, UK.

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Bertrand, JT, O'Reilly, K, Denison, J, Anhang, R & Sweat, M 2006, 'Systematic review of the effectiveness of mass communication programs to change HIV/AIDS-related behaviors in developing countries', Health Education Research, vol. 21, no. 4, pp. 567-97.

Brinn, MP, Carson, KV, Esterman, AJ, Chang, AB & Smith, BJ 2010, 'Mass media interventions for preventing smoking in young people', Cochrane Database of Systematic Reviews, no. Issue 11, Art. No.: CD001006.

Doran, C, Vos, T, Cobiac, L, Hall, W, Asamoah, I, Wallace, A, Naidoo, S, Byrnes, J, Fowler, G & Arnett, K 2008, Identifying cost-effective interventions to reduce the burden of harm associated with alcohol misuse in Australia Alcohol Education Rehabilitation Foundation, Canberra.

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Hurley, SF & Matthews, JP 2008, 'Cost-effectiveness of the Australian National Tobacco Campaign', Tobacco Control, p. tc.2008.025213.

Vos, T, Carter, R, Barendregt, J, Mihalopoulos, C, Veerman, JL, Magnus, A, Cobiac, L, Bertram, MY, Wallace, AL & ACE–Prevention Team 2010, Assessing cost-effectiveness in prevention (ACE–Prevention): final report, University of Queensland and Deakin University, Brisbane & Melbourne.

Wakefield, MA, Durkin, S, Spittal, MJ, Siahpush, M, Scollo, M, Simpson, JA, Chapman, S, White, V & Hill, D 2008, 'Impact of tobacco control policies and mass media campaigns on monthly adult smoking prevalence', American Journal of Public Health, vol. 98, no. 8, pp. 1443-50.

### **Note 2: references for alcohol pricing**

Carragher, N & Chalmers, J 2012, What are the options? Pricing and taxation policy reforms to redress excessive alcohol consumption and related harms in Australia, NSW Bureau of Crime Statistics and Research, Sydney.

Skov, SJ, Chikritzhs, TN, Kypri, K, Miller, PG, Hall, WD, Daube, MM & Moodie, AR 2011, 'Is the “alcopops” tax working? Probably yes but there is a bigger picture', Medical Journal of Australia, vol. 195, no. 2, pp. 84-6.

Wagenaar, AC, Salois, MJ & Komro, KA 2009, 'Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies', Addiction, vol. 104, no. 2, pp. 179-90.

Wagenaar, AC, Tobler, AL & Komro, KA 2010, 'Effects of alcohol tax and price policies on morbidity and mortality: a systematic review', American Journal of Public Health, vol. 100, no. 11, pp. 2270-8.

**Other resources for consideration:**

Stockwell, T, Gruenewald, P, Toumbourou, J & Loxley, W (eds) 2005, Preventing harmful substance use: the evidence base for policy and practice, John Wiley & Sons, Chichester.

National Preventative Health Taskforce 2008, Australia: the healthiest country by 2020. A discussion paper prepared by the National Preventative Health Taskforce, [Department of Health and Ageing], Canberra.

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Melissa Norberg - done a recent review of the cannabis prevention literature ([m.norberg@unsw.edu.au](mailto:m.norberg@unsw.edu.au))



Below is a copy of the recommendation regarding prevention that was made at the joint meeting of the SC and ERG on 11 Seopt 2012, and confirmed at the joint telelconference of the SC and ERG on 4 February 2013

**NATIONAL DA-CCP PROJECT  
MINUTES  
JOINT MEETING OF THE STEERING COMMITTEE AND EXPERT REFERENCE GROUP HELD ON  
TUESDAY, 11 SEPTEMBER 2012**

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**Recommendation 4:**

- That the IGCD:
  - Develop a prevention policy framework that defines a taxonomy for prevention
  - This policy framework provide for the implementation of national prevention activities
  - Develop a research program and literature review process that provides the necessary data for inclusion of prevention in DACCP version 2
  - Prevention be agreed for inclusion in DACCP version 2 subject to the above being completed.

Note - recommendation 4 as shown above has been made more explicit. The recommendation as discussed at the 11 September 2012 meeting is below.

That the IGCD note strong support among the Steering Committee and the Expert Reference Group for research that allows modeling of prevention. In order to do model prevention effectively an agreed policy framework is required that identifies level of need within the population for given prevention activities. The Steering Committee and Expert Reference group strongly recommends this work.

Below is a copy of the paper tabled at the joint teleconference of the SC and ERG on 4 Feb 2013.

## THE NATIONAL DA-CCP PROJECT

**Ref No:** NDP SC & ERG 13-01 **Agenda Item No.** 2.1D  
Secretariat

**Author:** DA-CCP

**Date:** February 2012

### PREVENTION - WHY IT WILL NOT BE INCLUDED IN THE DA-CCP MODEL

#### RECOMMENDATION:

**THAT** the Steering Committee and Expert Reference Group:

1. **NOTE** that prevention will not be included in this version of the DA-CCP model as the DA-CCP Project Team was not able to model prevention within the projects time constraints and the lack of established evidence base, or consensus on prevention activities would expose the model to negative scrutiny.
2. **NOTE AND AGREE** that a recommendation will be made in the final report to the IGCD regarding the need for a national drug and alcohol prevention policy approach.
3. **NOTE** that the start of this project the acronym DA-CCP referred to **D**rug and **A**lcohol **C**linical **C**are and **P**revention.
4. **AGREE** from Options 1, 2, or 3 what the 'P' of DA-CCP will now refer to.

#### BACKGROUND:

There was considerable discussion regarding the importance of including prevention in the DA-CCP model at the joint meeting of the Steering Committee (SC) and Expert Reference Group (ERG) held in Sydney on 11 September 2012.

The Co Chair of the SC, David McGrath suggested an approach to modelling prevention which included the following:

- a) Rename each of the nine prevention items in the meeting papers by function e.g. using the terminology as tabled in a paper by Neil Guard at the joint meeting.
- b) Count the target group/population or the FTE/ workers' time for a given prevention activity.
- c) Determine the amount of time an individual/ average person, in the target group/population receives for that prevention activity.
- d) Apply a cost to the amount of time an individual/average person in the target group/population receives for that prevention activity.

## ISSUES:

The DA-CCP Project Team undertook the modelling of prevention using the suggested approach. The project team found that:

- While some of this modelling may be feasible, it could not be completed within the timeframe for project completion - it would be a significant project in itself.
- A primary difficulty was linking the resource input back to the target audience/s, and then finding an evidence base/s that shows that a particular amount of resource input led to a defined outcome. Noting that one of the basic tenets of the DA-CCP model is a defensible evidence base.
- While it is feasible to develop a taxonomy of prevention activities that sit within health portfolios in the longer term, there is not a satisfactory evidence base, or consensus, for items within such a taxonomy that would identify the amount of any one activity required to provide a given increment of change. E.g.: How many campaigns are needed to change what?
- This compares unfavourably to the available evidence base on units of resource input of CBT, for example, that lead to a definitive outcome. This lack of evidence would expose the model to criticism.
- It is recommended that IGCD:
  - Develop a prevention policy framework that defines a taxonomy for prevention
  - This policy framework provide for the implementation of national prevention activities
  - Develop a research program and literature review process that provides the necessary data for inclusion of prevention in DACCP version 2
  - Prevention be agreed for inclusion in DACCP version 2 subject to the above being completed.

The DA-CCP Project Team seeks agreement from the following options on what the 'P' of DA-CCP will now refer to:

Option	What	Rationale
1	P= Prevention	Retains original reference, and we now describe the model as saying that it has the functionality to include prevention. For example including prevention in DA-CCP Version 2
2	P =Packages	A large part of the model is made up of the 12 month packages of care, but this excludes other components of the model such as screening and brief intervention, and the standalone items that include presentations to Emergency department, and consultation liaison provided to mental health beds and general beds.
3	P= Planning	The model is a planning tool.

## APPENDIX 20 DATA SOURCES AND REFERENCES

All of these data sources and references were used or cited in the creation of the Model, however not all are mentioned within this technical manual.

**Table 135 - Data Sources and References**

Data source	Reference	Reading list	Acronym	Details
		✓		A community prevention trial to reduce alcohol-involved accidental injury and death: overview, Holder, et al 1997, <i>Addiction</i> , vol. 92, supplement 2, pp. S155 – S171.
		✓		A recent review of the cannabis prevention literature Melissa Norberg ( <a href="mailto:m.norberg@unsw.edu.au">m.norberg@unsw.edu.au</a> )
	✓			<a href="#">A review of the efficacy and effectiveness of harm reduction strategies for alcohol, tobacco and illicit drugs</a> , <i>Drug Alcohol Rev</i> , vol. 25, no. 6 Ritter, A & Cameron, J 2006 <a href="http://www.ncbi.nlm.nih.gov/pubmed/17132577">http://www.ncbi.nlm.nih.gov/pubmed/17132577</a>
✓	✓			Australian Bureau of Statistics (ABS) <a href="#">3222.0 - Population Projections, Australia, 2006 to 2101</a> Australian Bureau of Statistics (ABS) online publication. The population projections presented in this publication cover the period 30 June 2008 to 2101 for Australia and 30 June 2008 to 2056 for the states, territories, and capital cities/balances of state. <a href="http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0">http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0</a>
✓	✓			Australian Bureau of Statistics (ABS) 2011, 3235.0 - Population by Age and Sex, Regions of Australia, 2010, viewed 26 <sup>th</sup> July 2012 <a href="http://www.abs.gov.au/ausstats/abs@.nsf/Products/3235.0~2010~Main+Features~Main+Features?OpenDocument">http://www.abs.gov.au/ausstats/abs@.nsf/Products/3235.0~2010~Main+Features~Main+Features?OpenDocument</a>
	✓			<a href="#">Corrective Services, Australia, March 2012, cat. no. 4512.0</a> , Australian Bureau of Statistics 2012, Australian Bureau of Statistics, Canberra. <a href="http://www.abs.gov.au/ausstats/abs@.nsf/mf/4512.0">http://www.abs.gov.au/ausstats/abs@.nsf/mf/4512.0</a>
✓	✓			Australian Bureau of Statistics (ABS) 2012, 1318.3 - Qld Stats, Mar 2011, viewed 9 August 2012 <a href="http://www.abs.gov.au/ausstats/abs@.nsf/Products/9A56894B84562CA5CA257857000E5F3F?opendocument">http://www.abs.gov.au/ausstats/abs@.nsf/Products/9A56894B84562CA5CA257857000E5F3F?opendocument</a>
✓	✓			Australian Bureau of Statistics (ABS) 2011, <i>Regional Population Growth, Australia, 2010-11</i> , <a href="http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3218.0Main%20Features82010-11?opendocument&amp;tabname=Summary&amp;prodno=3218.0&amp;issue=2010-11&amp;num=&amp;view=">http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3218.0Main%20Features82010-11?opendocument&amp;tabname=Summary&amp;prodno=3218.0&amp;issue=2010-11&amp;num=&amp;view=</a>

Data source	Reference	Reading list	Acronym	Details
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✓	✓			Australian Bureau of Statistics (ABS) 2011, <i>Schools, Australia</i> , 2011 viewed 14 <sup>th</sup> July 2012, <a href="http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4221.0Main%20Features202011?opendocument&amp;tabname=Summary&amp;prodno=4221.0&amp;issue=2011&amp;num=&amp;view=">http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4221.0Main%20Features202011?opendocument&amp;tabname=Summary&amp;prodno=4221.0&amp;issue=2011&amp;num=&amp;view=</a>
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		✓		ACE–Prevention pamphlets series Overall Results Pamphlet 1 Cost-effectiveness of prevention in the general population <a href="http://dro.deakin.edu.au/eserv/DU:30030316/carter-pamphlet1overall-2010.pdf">http://dro.deakin.edu.au/eserv/DU:30030316/carter-pamphlet1overall-2010.pdf</a>
		✓		ACE–prevention pamphlets General Population Results Pamphlet 2 Cost-Effectiveness of Alcohol Interventions <a href="http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_2.pdf">http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_2.pdf</a>
		✓		ACE–prevention pamphlets general population results pamphlet 4 Cost-effectiveness of cannabis use prevention <a href="http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_4.pdf">http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_4.pdf</a>
		✓		ACE–Prevention pamphlets Pamphlet A: The ACE–Prevention Project <a href="http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_Pamphlet_A.pdf">http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_Pamphlet_A.pdf</a>
		✓		ACE–Prevention pamphlets Pamphlet D: Interpretation of ACE-Prevention Cost-Effectiveness Results <a href="http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_D.pdf">http://www.sph.uq.edu.au/docs/BODCE/ACE-P/ACE-P_pamphlet_D.pdf</a>
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		✓		<i>AIDS Education and Prevention</i> , vol. 21, no. 3, pp. 181-206; Australian Injecting and Illicit Drug Users League 2006 <a href="http://www.aivl.org.au/#p=p/front.php">http://www.aivl.org.au/#p=p/front.php</a>
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		✓		Alcohol prevention: What can be expected of a harm reduction focused school drug education programme?, Midford, R. et al 2012, <i>Drugs: Education, Prevention and Policy</i> , vol. 19, no. 2, pp. 102 – 110.
		✓		Alcohol-related injury and the emergency department: research and policy questions for the next decade Cheryl J. Cherpitel <a href="http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2006.01567.x/abstract">http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2006.01567.x/abstract</a>
		✓		<a href="#">An operational classification of disease prevention</a> , 1983 Gordon, RS, Jr, <i>Public Health Reports</i> , <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1424415/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1424415/</a>
✓	✓			<a href="#">modelling pharmacotherapy treatment in Australia: exploring affordability, availability, accessibility and quality using system dynamics</a> . The Australian National Council on Drugs <a href="http://www.ancd.org.au/images/PDF/Researchpapers/rp19_modelling.pdf">http://www.ancd.org.au/images/PDF/Researchpapers/rp19_modelling.pdf</a>
		✓		Australian National Preventive Health Agency 2012, 50 years on: gains and opportunities in tobacco control in Australia. Marking the 50th anniversary of the Report of the Royal College of Physicians of London Smoking and Health, < <a href="http://www.anpha.gov.au/internet/anpha/publishing.nsf/Content/50years-toc">http://www.anpha.gov.au/internet/anpha/publishing.nsf/Content/50years-toc</a> >.
✓			AODTS-NMDS	<a href="#">Alcohol and other drugs</a> Australian Institute of Health and Welfare (AIHW) these data cubes provide information on the services provided by alcohol and other drug treatment agencies in Australia, and their clients <a href="http://www.aihw.gov.au/alcohol-and-other-drugs/">http://www.aihw.gov.au/alcohol-and-other-drugs/</a>
		✓	ARBIAS	ARBIAS <a href="http://www.arbias.org.au/">http://www.arbias.org.au/</a>
✓	✓		AUSBoD	<a href="#">The burden of disease and injury in Australia 2003</a> released

Data source	Reference	Reading list	Acronym	Details
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		✓		Australia: the healthiest country by 2020, National Preventative Health Taskforce 2008, A discussion paper prepared by the National Preventative Health Taskforce, [Department of Health and Ageing], Canberra.
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✓			DS NMDS	<a href="http://www.aihw.gov.au/disability-services-nmds-collection/">Disability Services National Minimum Data Set</a> Australian Institute of Health and Welfare (AIHW) <a href="http://www.aihw.gov.au/disability-services-nmds-collection/">http://www.aihw.gov.au/disability-services-nmds-collection/</a>
		✓		<a href="http://www.oup.com/us/catalog/general/subject/Medicine/PublicHealth/~~/dmldz11c2EmY2k9OTc4MDE5OTU1NzEyNw==">Drug policy and the public good</a> , 2010,, Oxford University Press, Oxford <a href="http://www.oup.com/us/catalog/general/subject/Medicine/PublicHealth/~~/dmldz11c2EmY2k9OTc4MDE5OTU1NzEyNw==">http://www.oup.com/us/catalog/general/subject/Medicine/PublicHealth/~~/dmldz11c2EmY2k9OTc4MDE5OTU1NzEyNw==</a>
✓			EDDC	Emergency Department Data Collection <a href="http://internal.health.nsw.gov.au/data/collections/edc/">http://internal.health.nsw.gov.au/data/collections/edc/</a>
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		✓		<a href="#">Guidance on prevention of viral hepatitis B and C among people who inject drugs</a> World Health Organization 2012 WHO/HIV/2012.18, World Health Organization, Geneva <a href="http://www.who.int/hiv/pub/guidelines/hepatitis/en/index.html">http://www.who.int/hiv/pub/guidelines/hepatitis/en/index.html</a>
		✓		Guidelines for the Treatment of Alcohol Problems. Guidelines ... Commonwealth of Australia 2009. <a href="http://www.health.gov.au/internet/.../DEZEM_Alcohol%20Guide_FA.pdf">www.health.gov.au/internet/.../DEZEM Alcohol%20Guide FA.pdf</a>
✓			HCNA	<a href="#">Epidemiologically Based Health Care Needs Assessment [HCNA]</a> This approach was developed in the UK from the mid 1990s. <a href="http://onlinelibrary.wiley.com/doi/10.1111/j.1753-6405.2008.00210.x/abstract">http://onlinelibrary.wiley.com/doi/10.1111/j.1753-6405.2008.00210.x/abstract</a>
		✓		<a href="#">Heroin overdose: research and evidence-based intervention</a> , <i>Journal of Urban Health</i> , vol. 80 Darke, S & Hall, W 2003, <a href="http://www.ncbi.nlm.nih.gov/pubmed/12791795">http://www.ncbi.nlm.nih.gov/pubmed/12791795</a>
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Data source	Reference	Reading list	Acronym	Details
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✓				Medicare Benefits Schedule Book Australian Government Department of Health and Ageing - Medicare Benefits Schedule Book - Operating from 01 July 2011 (page 21-22 G.10.1. Schedule Fees And Medicare Benefits <a href="http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/\$File/201107-Cat%206.pdf">http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/25A77EED964157D1CA257891007D9EBE/\$File/201107-Cat%206.pdf</a>
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		✓		Multicenter study of acute alcohol use and non-fatal injuries data from the who collaborative study on alcohol and injuries Guilherme Borges, Cheryl Cherpitel, Ricardo Orozco, Jason Bond, Yu Ye, Scott Macdonald, Jürgen Rehm, and Vladimir Poznyak <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2627364/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2627364/</a>
✓	✓			<a href="#">Naloxone kits issued across Scotland</a> , The Scottish Government 2012, <a href="http://www.scotland.gov.uk/News/Releases/2012/07/naloxone31072012">http://www.scotland.gov.uk/News/Releases/2012/07/naloxone31072012</a>
✓	✓		NDARC	<a href="#">Estimating the number of current regular heroin users in NSE and Australia 1977-2002</a> University Of New South Wales, National Drug & Alcohol Research Centre, NDARC technical Report #198 <a href="http://ndarc.med.unsw.edu.au/resource/estimating-number-current-regular-heroin-users-nsw-and-australia-1997-2002">http://ndarc.med.unsw.edu.au/resource/estimating-number-current-regular-heroin-users-nsw-and-australia-1997-2002</a>
✓	✓		NDSHS	<a href="#">National Drug Strategy Household Survey</a> Australian Institute of Health and Welfare 2011. 2010 National Drug Strategy Household Survey report. Drug statistics series no. 25. Cat. No. PHE 145. Canberra: AIHW. The 2010 National Drug Strategy Household Survey was conducted between late-April and early-September 2010. This was the 10th survey in a series which began in 1985, and was the fifth to be managed by the Australian Institute of Health and Welfare (AIHW). More than 26,000 people aged 12 years or older participated in the survey, in which they were asked about their knowledge of and attitudes towards drugs, their drug

Data source	Reference	Reading list	Acronym	Details
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✓	✓		NOPSAD	<a href="http://www.aihw.gov.au/national-opioid-pharmacotherapy-statistics-annual-data-collection/">National Opioid Pharmacotherapy Statistics Annual Data Collection (NOPSAD)</a> . Australian Institute of Health and Welfare (AIHW) The NOPSAD collection is a set of jurisdictional data that includes:the number of clients accessing pharmacotherapy for the treatment of opioid dependence;the number of prescribers participating in the delivery of pharmacotherapy treatment, and;quantitative information about the prescribing sector. <a href="http://www.aihw.gov.au/national-opioid-pharmacotherapy-statistics-annual-data-collection/">http://www.aihw.gov.au/national-opioid-pharmacotherapy-statistics-annual-data-collection/</a>
		✓		<a href="http://www.aifs.gov.au/sf/participationonline.html">National Resource Centre for Consumer Participation in Health</a> <a href="http://www.aifs.gov.au/sf/participationonline.html">http://www.aifs.gov.au/sf/participationonline.html</a>
✓	✓		NSMHWB	<a href="http://www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-comorbid-toc~drugtreat-pubs-comorbid-3~drugtreat-pubs-comorbid-3-3">The Australian National Survey of Mental Health and Wellbeing</a> The 1997 NSMHWB is the source for the AUS BOD data as it contains diagnostic criteria. The AIHW's triennial National Drug Strategy Household Survey does not contain any questions (and hence report) on diagnostic criteria. The National Drug Strategy Household Survey tells us about usage, but not diagnostic information and severity. <a href="http://www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-comorbid-toc~drugtreat-pubs-comorbid-3~drugtreat-pubs-comorbid-3-3">http://www.health.gov.au/internet/publications/publishing.nsf/Content/drugtreat-pubs-comorbid-toc~drugtreat-pubs-comorbid-3~drugtreat-pubs-comorbid-3-3</a>
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Data source	Reference	Reading list	Acronym	Details
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		✓		Principles and practice of social marketing: an international perspective, Donovan, R & Henley, N 2010, 2nd edn, Cambridge University Press, Cambridge, UK.
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✓	✓			<a href="http://www.ncbi.nlm.nih.gov/pubmed/21497898">Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study</a> , 2011 <i>Lancet</i> , vol. 377 <a href="http://www.ncbi.nlm.nih.gov/pubmed/21497898">http://www.ncbi.nlm.nih.gov/pubmed/21497898</a>
		✓		<a href="http://www.health.gov.au/internet/main/publishing.nsf">Return on investment 2: evaluating the cost-effectiveness of needle and syringe programs in Australia</a> , 2009, National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales, Sydney. <a href="http://www.health.gov.au/internet/main/publishing.nsf">http://www.health.gov.au/internet/main/publishing.nsf</a>
✓	✓			<a href="http://www.health.qld.gov.au/nursing/docs/20064.pdf">Rostering Framework - Best Practice Framework for Rostering Nursing Personnel</a> (2003). Queensland Health <a href="http://www.health.qld.gov.au/nursing/docs/20064.pdf">http://www.health.qld.gov.au/nursing/docs/20064.pdf</a>
		✓	SHAHRP	<i>SHAHRP final report to the Western Australian Health Promotion Foundation</i> . McBride, N, Farrington, F, Midford, R & Phillips, M 2001, National Drug Research Institute, Perth, Western Australia.
		✓		<i>Social Marketing Principles and Practice</i> , Donovan, R and Henley, N 2003, IP Communications, Melbourne. Page 94 of 122
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Data source	Reference	Reading list	Acronym	Details
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		✓		<a href="#"><i>The health of Australia's prisoners 2010</i></a> , Australian Institute of Health & Welfare 2011AIHW cat. no. PHE 149, Australian Institute of Health & Welfare, Canberra <a href="http://www.aihw.gov.au/publication-detail/?id=10737420111">http://www.aihw.gov.au/publication-detail/?id=10737420111</a>
		✓		The influence of the national Truth(R) campaign on smoking initiation, Farrelly, MC, Nonnemaker, J, Davis, KC & Hussin, A 2009, American Journal of Preventive Medicine.
		✓		The prevention of substance use, risk and harm in Australia: a review of the evidence, Loxley, W, Toumbourou, JW, Stockwell, T, Haines, B, Scott, K, Godfrey, C, Waters, E, Patton, G, Fordham, R, Gray, D, Marshall, J, Ryder, D, Saggars, S, Sanci, L & Williams, J 2004, The National Drug Research Institute and the Centre for Adolescent Health, n. p.
		✓		<i>Tobacco control in Australia: making smoking history, Technical Report 2 including addendum for October 2008 to June 2009</i> , Commonwealth of Australia 2009. by National Preventative Health Taskforce, Canberra.
✓	✓		Tolkien II	<a href="#"><i>Tolkien II</i></a> Published in 2006, a needs-based, costed, stepped-care model for mental health services : recommendations, executive summaries, clinical pathways, treatment flowcharts, costing structures. It included Alcohol use disorders. <a href="http://trove.nla.gov.au/work/19579090?versionId=23008117">http://trove.nla.gov.au/work/19579090?versionId=23008117</a>
		✓		Use of policy, education and enforcement to reduce binge drinking among university students: Newman, I, Shell, D, Major, L & Workman T 2006.The NU Directions project, <i>International Journal of Drug Policy</i> , vol. 17, pp. 339 – 349.
		✓		What are the options? Pricing and taxation policy reforms to

Data source	Reference	Reading list	Acronym	Details
				redress excessive alcohol consumption and related harms in Australia, Carragher, N & Chalmers, J 2012, NSW Bureau of Crime Statistics and Research, Sydney.

## APPENDIX 21 FREQUENTLY ASKED QUESTIONS (FAQS)

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### A21.1 Is the Model prescriptive?

No the Model is not prescriptive. It is a planning tool for use by states/ territories, the commonwealth and researchers. The model estimates the type and quantity of care judged by expert clinicians to be adequate for people with particular clinical conditions at particular levels of severity, and the number of people in each of these groups in the standard Australian population of 2006.

### A21.2 Why is the Model a “should” model?

The purpose of the model is to provide a consistent and transparent basis for all jurisdictions to estimate the gaps between current services and what is required (or what should be in place to provide an adequate drug and alcohol service).

### A21.3 What is the difference between need and demand?

In the Model, need is defined as the proportion of the population who meet diagnostic criteria for substance use disorders and therefore would benefit from treatment. Demand is the number of people who meet diagnostic criteria and would benefit from treatment and seek treatment. Need is always higher than demand because not all people who need treatment are desirous of obtaining it.

### A21.4 What is the difference between the Model and a resource distribution formula?

The Model uses a standard population of 100,000. For example, one population of 100,000 adults aged 18-64 years is exactly the same as the next standard population of 100,000 adults aged 18-64. A resource distribution formula accounts for the differences within this population of 100,000 adults aged 18-64, for example differences in gender, socio economic status etc.

### A21.5 Why standard populations of 100,000?

The model uses populations of 100,000 of age specific population, for convenience because some substance use conditions are very rare, and some services are required infrequently. It is simply easier (and less error-prone) to work with whole numbers rather than the fractions that would result if we used percentages (that is, a base population of 100). The model uses the standard census population (of 2006) as a reference point because these numbers are fixed. Each jurisdiction will typically have its own way of producing local population projections for other years, but will base them on the census data for census years.

### A21.6 What of rural and remote communities, different socioeconomic status, Indigenous populations?

The Model is an 'all peoples' model, and the parameters (diagnosis, treatment rates) will be different for Indigenous, remote or other populations. An indigenous adaptation of the model has not been included in the current version. For more information, See **section 1**



### **Preliminary Indigenous Adaptation to the Model.**

The model itself does not take into account other factors such as rurality, remoteness or socioeconomic status, all of which may affect the relative need and demand for services, the relative cost of delivering the same quality of service, or both. Instead the Project Team are modelling the “Australian average”, where one standard notional “group” of 100,000 people is exactly the same as the next standard notional “group” of 100,000 people.

There is a whole other field of modelling for the relativities in demand and/or cost for all sorts of services, including health services, such as the work of the Commonwealth Grants Commission in distributing GST revenue, or the Resources Distribution Formulae used in some jurisdictions for allocations of health funding. Similarly, there are pricing mechanisms (or models) for health service activity, which are used in Activity Based Funding or to determine the Medical Benefits Schedule. Each of these has its own rationale and its own development processes and methods. However, none of them address the issue addressed in the Model, namely the actual level of services that is judged to be clinically adequate.

The Model is not a prescriptive mechanism for setting targets, nor does it aim to replace distribution formulae of this type. The model may be adapted by users in many ways to deal with the particular needs of particular groups within that standard Australian population. For example, specific indigenous care packages have been developed, evidence about the effects of socioeconomic factors on prevalence of different conditions can be applied to adjust the standard Australian average prevalence, allowances for travel or other factors may be included to reflect the fact that staff in rural areas may not be able to deliver as many hours of care to a dispersed client population. These are not, however, included in the base model.

#### **A21.7 What are the different age groups in the model?**

The model contains different age groups because the epidemiology of substance use disorder differs between age groups. The nature and range and volume of alcohol and other drug treatment services will vary across the lifespan, and also because there will typically be different types of partnerships with other agencies involved in providing care for people of different ages, and (in the case of children aged 0-17), different legal status. Within an age group the range of treatments is the same for all, but differences are modelled for different age groups, e.g. different doses of prescribed medications.

These age groups are the first year of life (age 0- 11 months), the preschool and primary school years (ages 1-11 years inclusive), the adolescent years (ages 12-17 inclusive), the adult years (18-64 inclusive), and older adult years (65 and over). The age groups reflect a range of factors, for example, specific services available for children for attending preschool, primary school and secondary school, and the legal age of an adult. It may be helpful to think of each age-specific group in the model as a notional “group” of 100,000 people, for example, imagine a very large notional high school with 100,000 pupils aged 12-17 years.

#### **A21.8 How were the MILD, MODERATE and SEVERE categories determined?**

Also, what kinds of services are included in each of these categories?

The treatment and care an individual needs varies, depending on the clinical significance, or severity, of the illness. For the Model drug and alcohol related illness has generally been measured at three levels: MILD, MODERATE and SEVERE.

Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see: **10 Description of MILD, MODERATE & SEVERE (standard and complex)**

During the development of the Model the following table provided a quick guide to understanding some of the distinction between MILD/ MODERATE and SEVERE categories.

**Table 136 - Understanding MILD, MODERATE and SEVERE**

MILD	MODERATE	SEVERE
Person is <u>not</u> hospitalised	Person is <u>not</u> hospitalised	Person may be hospitalised
Person is <u>not</u> using specialist services	Person is <u>not</u> using specialist services	Person is typically using specialist services

#### A21.9 Does the Project use ‘episodes of care’ in its modelling?

The epidemiology in the model is people, not episodes. The model shows the number of people per 100,000 of a certain age, e.g. 100,000 people who are aged between 18-64 years, who receive care over the course of a year. We have used episode data from the NMDS-AODTS in order to make expert judgements about the distribution of people across care packages.

A basic principle in the NSW MH-CCP and this Model is that existing levels and types of service use reflect a history of demand that should not be ignored unless there is clear evidence (including consensus of expert opinion) that it is not appropriate. Thus the National Minimum Data Set – Alcohol and Other Drug Treatment Services (NMDS-AODTS) closed treatment episodes provide a reference point for modelling for the Model.

#### **A21.10 Does the model show treatment completion rates?**

No, the model does not show treatment completion rates. Instead the model generates estimated output statistics, for example, occupied beds days, and separations. The output statistics of the model can then be compared with information from data sets.

#### **A21.11 Are there different kinds of Staff Costs in the model?**

Yes, there are different staff types included. Costs are modelled both for ambulatory and bed based services, for these staff types:

- Doctor - GP, not AMS,
- Doctor - Addiction Medicine Specialist;
- Nurses/Allied Health
- AOD workers

#### **A21.12 Does the model estimate future drug use and age projections?**

No, the model does not make any estimates about future rates or types of drug use. The only projections that are applied to the model are population estimates for future census years.

#### **A21.13 What is a care package?**

A care package specifies the care for a person with a specific need for a year. Various combinations of contacts provided by one of the four types of FTEs, have been agreed by the Expert Reference Group (ERG). The level of care that is specified in a care package is deemed adequate, anything less is considered unsatisfactory. Care packages are identified for persons who meet the diagnostic criteria for MILD, MODERATE or SEVERE. Note that MILD, MODERATE and SEVERE refer to the level of distress and impairment, not level of use. For more information, see the **technical manual Description of MILD, MODERATE & SEVERE (standard and complex)**

It is important to note that the care package may show care over a number of weeks, and the weeks may not total to 52, however this is the required care for the person with a specific need for a year.

Ambulatory care is specified in terms of frequency (Occasions of Service) and duration (minutes of Clinical FTE time) of care delivered in the community for an individual e.g. 1x 30 minute assessments as part of a psychosocial assessment. Any bed based stay is specified in terms of frequency and duration of care, along with an Average Length of Stay, an Occupancy rate. Care packages may also include prescribed medications and diagnostic tests.

When developing the care packages the ERG recognised that for a given care package some people would require more hours of care than others. The distinction between standard and complex is shown in the specifications within the care packages. Complex care packages

typically specify an increased frequency and/or duration of care. In most cases for a given complex care package, the complex care package will have a longer assessment, more case management and more psychosocial interventions where required. Complex as used in this modelling project reflects that fact that persons may be designated as complex because of physical health needs (e.g. liver disease), mental health needs (e.g. comorbid diagnosis) or social circumstances (e.g. housing or welfare needs). This applies to SEVERE care packages only. The standard/complex distinction does not apply to MILD or MODERATE.

Relapse rates and readmission rates are not calculated within the Model as we did not have specific readmission and relapse data. We have assumed that the readmission is 0%, and that relapse is 0%. The Model is a static, one year model. For more information see **section 5.1.8 Care Packages**.

#### **A21.14 Why does a care package cover a 12 month period?**

The model itself, and hence the care packages, make up one big envelope of 'person-years of need'. Collectively, the care packages are designed to cover the treatment needs of the whole population for a year. It is important to note that the care package may show care in different areas over a number of weeks, and the weeks may not total to 52, however this is the required care for the person with a specific need for a year.

#### **A21.15 Who provided the specifications for the care packages?**

In most cases the members of the project's Expert Reference Group provided the specifications for the care packages using best available evidence, but only in terms of the broad types and quantity of care to provide an adequate level of service for people based on their Need Group. When required expertise was sought from additional clinicians e.g. some specifications regarding alcohol care packages for people aged 65+. The care packages do not attempt to prescribe services or providers in detail.

#### **A21.16 What about the physical health needs of an individual?**

The care package describes 12 months' drug and alcohol care for an individual, it does not cater for the physical health needs. A care package may, however, specify referral to another clinician regarding physical health needs.

#### **A21.17 What if a person requires several years of treatment?**

How is this built into the model or the care package?

The Model is a static model that shows the care required for an individual over 12 months. Ongoing care beyond 12 months is not included in the model (the model reflects a snapshot of a single year).

#### **A21.18 How many care packages can a person have in a year?**

The most frequent answer is only one. This is because each person is assigned into one of the care packages for one year. In most cases each care package includes all the typical services that the person would receive in that year, for example, an assessment, followed by withdrawal management (detox), followed by counselling, case management and assertive follow up.

At a more technical level it is misleading to think of the numbers in the model as individual consumers. They are, technically speaking 'person-years of need' associated with a particular type of need group or care package. Collectively, the care packages are designed to cover the treatment needs of the whole population, and to do this the population is summarised as a set of non-overlapping "need groups" whose requirements are (on average) the same within groups, and different between them. If in fact an individual spent the whole year with the same need, they would only receive that care package. In a smaller number of cases, if a person moved between care packages, they would be contributing a fraction of time to the person-years in each care package, and could only contribute them to one package at a time. There are a small number of exceptions, however. Services such as Emergency Department (ED) presentations may co-occur with any other care package. For this reason, EDs are not 12 month care packages; but are considered as 'standalone' services in the model (sprinkles).

#### **A21.19 How do the care packages account for incident cases (new cases) of illness versus prevalent cases (ongoing cases) in a 12 months period?**

No distinction is made between incident cases and prevalent cases. The Model is a static 12 month model.

#### **A21.20 If a care package specifies a level of care for a year that is adequate or satisfactory, does this mean that services in the future may be at risk of being rationed to the levels prescribed in a care package?**

The levels and types of care specified in a care package are not for any purpose other than estimating total resource requirements for a whole system of care for a year. Apart from that, they are the levels judged to be adequate in a context where any particular form of care is supported by adequate quantities of all other forms of care specified in the model, and where all those in need are treated. In most cases these resources estimated by the model are substantially above those currently in place, and the proportion of the population treated is substantially below the population currently being treated. Thus if services were in fact "rationed" to the levels in the care packages, many more people would be receiving more care than at present.

#### **A21.21 Are weightings applied for serious and complex cases?**

No, weightings are not applied for serious and complex cases. Instead, for some of the SEVERE care packages in the severe group we designed specific care packages for 'standard' and 'complex'.

Complex as used in this modelling project reflects that fact that persons may be designated as complex because of physical health needs (e.g. liver disease), mental health needs (e.g. comorbid diagnosis) or social circumstances (e.g. housing or welfare needs). This applies to SEVERE care packages only. The standard/complex distinction does not apply to MILD or MODERATE. The complex care packages have more counselling, more medical interventions and may be costed at the higher FTE rate, for example the nursing and allied health rate of \$112,594 per annum.

#### **A21.22 Why are there 'standalone' items that are NOT 12 month care packages?**

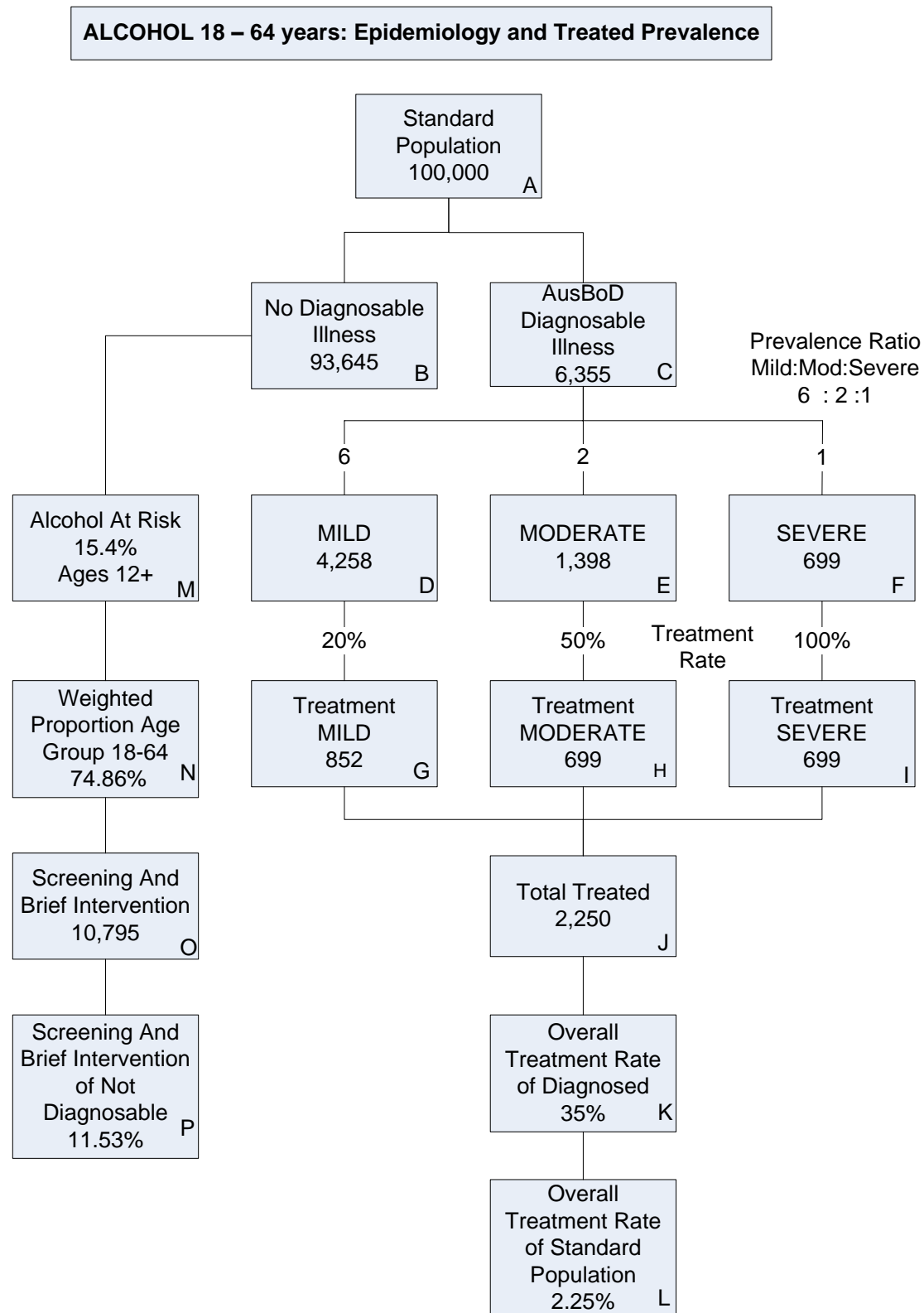
Standalone items are NOT 12 month care packages. The standalone items include: presentations at emergency department (ED), consultation liaison to obstetrics, consultation liaison to residential aged care facility, consultation liaison to mental health beds, or consultation liaison to general beds, where person has a primary or secondary drug or alcohol diagnosis. Standalone items specify an average amount of care provided by drug and alcohol staff, e.g. 1 x 30 minute assessment, 2 x 15 minute review etc. The standalone items do not include any prescription medications or diagnostic tests.

For the standalone items, all that is described is the average amount of care that an individual would receive during their actual admission. The amount of care described for the ED presentations is shown in consultation liaison (CL) minutes, and the amount of care shown for the inpatient admission to a mental health or general bed is the hours of Drug and Alcohol (D+A) care provided during the inpatient admission... Standalone care is based on actual rates of presentations using NSW data 2010/11. These standalone items are completely separate to the AUSBoD epidemiology and the 12 month care packages. For example, the number of ED presentations is not subtracted from the demand for any group in the care packages. These 'standalone' items are thus 'sprinkled' across the model.

## APPENDIX 22 GAP ANALYSIS

The figure below represents the model.

**Figure 25 - Alcohol 18-64 Epidemiology and Treated Prevalence**



## A22.1 Using prevalence and treatment data to calculate different rates

The examples below show some different rates that can be calculated. The letters in the formula refer the figure on the previous page (Alcohol 18-64 Epidemiology and Treated Prevalence). Also, assign **Q = the actual number of people being treated**, and a made up value is assigned to this, for the purposes of these examples. When comparing examples 1 and 2 the point is that different gaps can be measured. The gap depends on what items are used in the numerator and the denominator.

**Table 137 - Example 1: Need that should be met in the “should be” treated population**

	Item	Value	Comment
<b>Q</b>	<u>Actual</u> number of people who are treated per 100,000	1,125	A typical gap calculation for this model
<b>J</b>	Number of people who <u>should</u> be treated per 100,000	2,250	
	<b>Q/J</b> % treatment need being met in the <u>should</u> be treated population	50%	

**Table 138 - Example 2: SAMHSA’s actual treatment rate in the general population**

	Item	Value	Comment
<b>Q</b>	Actual number of people who are treated per 100,000	1,500	SAMSHA style report of “1.5% of the population received treatment for a problem related to the use of alcohol or illicit drugs
<b>A</b>	Population of 100,000	100,000	
	<b>Q/A</b> % treatment need being met in the general population	1.5	

The Substance Abuse and Mental Health Services Administration (SAMSHA, 2012) in the USA reports that only 1.5% of the population aged 12 years or older received drug and alcohol treatment. While the figure of 1.5% shown in example 2 is very low, it is important to keep in mind that the SAMSHA denominator is not the actual number of people who should receive treatment, instead it is the general population.

A major difference between the first example and the second is the choice of denominator. In the first example using this model, the denominator is all the people in a population of 100 000 who are diagnostically ill and should be treated (n=2250). In the second example the denominator is a population of 100 000. The SAMSHA denominator is different to this model’s denominator as the SAMSHA denominator includes all the people who are not diagnostically ill, which is the vast majority of the population, as well as those people who are diagnostically ill, but who are not identified for treatment.

**Table 139 - Example 3: Need that should be met in the general population**

	Item	Value	comment
<b>J</b>	Number of people who <u>should</u> be treated per 100,000	2,250	Calculation of who should be treated in the general population of
<b>A</b>	Population of 100,000	100,000	
	<b>J/A</b> % treatment need, that <u>should</u>	2.25	



	Item	Value	comment
	be met in the general population		this model

**Table 140 - Example 4: Actual treatment rate in the general population**

	Item	Value	comment
<b>Q</b>	Actual number of people who are treated per 100,000	1,125	
<b>A</b>	Population of 100 000	100,000	
	<b>Q/A</b> % Actual treatment in the general population	1.125	

Note: We have made up the value for the actual number people being treated per 100 000(Q), but it does help to explain how we could show this model's actual treatment rate in the general population.

Treatment rates (Total Treated Prevalence %) are a different discussion. See:

#### **Section 5.1.4 Demand, and section 10.8 Epidemiology and Treatment Rates and Numbers).**

Using alcohol 18-64 years as an example, we have assigned an overall treatment rate of 35%. In other words we are saying that 35% of all the people who are diagnostically ill should be treated (n=2250). The denominator for alcohol 18-64 years is all people who are diagnostically ill, that is the sum of MILD, MODERATE and SEVERE (n=6355). For further reference, the text below comes from paper Alison Ritter has prepared for Addiction (journal).

For example, USA data (United States Department of Health and Human Services. SAMHSA, 2010) revealed a treatment rate of 19.1% for those with an identified illicit drug problem (and for specialist AOD treatment). This suggests an unmet treatment need of 80.9%. Research on the unmet need for mental health treatment internationally confirms an overall picture of large unmet need (Kohn, 2004). Interestingly in this work alcohol abuse and dependence had the highest gap between the number of people who met diagnostic criteria and the number of people in treatment (Kohn, 2004).

For example, the US National Survey on Drug Use and Health, 2010 data (United States Department of Health and Human Services. SAMHSA, 2010) showed that of the 6,384 people who demonstrated a need for treatment (as defined by meeting diagnostic criteria and not being in receipt of treatment in the last 12 months), only 392 felt the need for treatment (6%) and 193 "made the effort to seek treatment" (unsuccessfully) (3%). Countries have different treatment service systems, and local data are preferred over international data. In Australia, with universal healthcare, the treatment seeking rates are higher. In the 1997 NSMHWB survey (Australian Bureau of Statistics, 1998a), 14% of those with substance use disorders had used services. In the later 2007 Australian NSMHWB survey (Slade, Johnston, Teesson, Whiteford, Burgess, Prirkis, & Saw, 2009), 24% of respondents with substance use disorders used treatment services in the last 12 months. More specifically, self-reported service use by people with alcohol dependence was 35.5% (last 12

months); and for drug dependence 52.4% (again, last 12 months) (Slade, et al., 2009). This then provides a minimum treatment rate for the model, representing current practice, rather than optimal practice.

<http://www.samhsa.gov/data/NSDUH/2k11Results/NSDUHresults2011.pdf>

#### **Recommended Citation**

Substance Abuse and Mental Health Services Administration, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-44, HHS Publication No. (SMA) 12-

### **A22.2 Gap Analysis for Jurisdictions**

There is only one national drug and alcohol data collection [Alcohol and other drugs Treatment Services - National Minimum Data Set](#) (AODTS-NMDS) Closed Treatment Episodes in Australia from 2002-03 to 2008-09, excluding Tobacco/ Nicotine. The NMDS- AODTS has its own dictionary that shows all the data items that are collected.

This model provides estimates (or outputs) of

- a) Number of RR beds needed
- b) Number of Withdrawal management (Detox) beds needed
- c) Number of D+A owned Hospital beds needed
- d) Number of Nurse FTE needed
- e) Number of GP FTE needed
- f) Number of AMS FTE needed
- g) Number of AOD worker FTE needed.

But currently the one national drug and alcohol data collection does not collect or report on any of these items. At this time we have assigned a cost to the following:

- 1) to beds (the overheads associated with the bed)
- 2) to staff (the 4 different FTEs in the model)
- 3) to prescription medicine
- 4) to diagnostic test.

Thus the only gap analysis that jurisdiction can run at present would be a gap analysis based on a jurisdiction's current expenditure vs. what is estimated by the model for items 1-4 above. Thus the development of this model may assist in making recommendations to the IGCD – Research and Data Working Group and thus into the AIHW who oversee all the NMDS collections.

### **A22.3 Recommended Data Collection Items**

Gap analysis leads to recommended data collection items. In summary the Project Team recommends:

- A new Establishments data collection for D&A, with expenditure and FTEs reported at the service level, across the three key service settings (inpatient, residential and

ambulatory), for both public and NGO services. Expenditure would include both salaries and non-salaries, and the salaries would be linked to FTEs, split into broad provider types (e.g., Medical, Nursing, Allied health, AOD worker, admin/clerical, domestic/other).

- Expand the AODTS MDS (or establish a Community/Ambulatory Drug & Alcohol NMDS) to include ambulatory service contact details at the service level. This would see the inclusion of things like:
  - Date of contact
  - Duration of contact
  - Service provider type (discipline of the service provider who recorded the contact)
  - Contact type (face to face, telephone, etc)
  - Client participation (direct, indirect)
  - Individual or group client
  - Intervention type

The linking key would be the unique service unit identifier, which would link the activity data to the expenditure and FTE data.

## APPENDIX 23 LIST OF TABLES

Table 1 - Principal Drugs of Concern AODTS-NMDS Closed Treatment Episodes in Australia from 2002-03 to 2008-09 .....	16
Table 2 - Services that are in scope for the Model .....	17
Table 3 - Services out of scope for the Model .....	18
Table 4 - Services proposed for completion in next iteration of the Model .....	19
Table 5 - Drug and Alcohol Support Services for consumers and families.....	19
Table 6 - Other support services .....	20
Table 7 - Information Services for Professionals .....	20
Table 8 - Alcohol and Other Drug Types and Age Groups Modelled under the Model .....	23
Table 9 - Data Source Used in AUSBoD .....	25
Table 10 - Service Demand.....	26
Table 11 - The 15 Drug and Alcohol Services Modelled as 12 month packages for the Alcohol 18 – 64 years .....	29
Table 12 - SEVERE Care Packages for Alcohol 18 – 64 years .....	31
Table 13 - Alcohol and Other Drug Types and Age Groups Modelled .....	46
Table 14 - Epidemiological Prevalence- .....	47
Table 15 - MILD, MODERATE and SEVERE Prevalence Rates .....	48
Table 16 - Screening and brief interventions included in the Model .....	49
Table 17 - Assumptions in Calculation of FTE Reportable Client Hours .....	51
Table 18 - What's included for total cost of clinical FTEs (non-GP) .....	51
Table 19 - Epidemiological Prevalence .....	57
Table 20 - Understanding MILD, MODERATE and SEVERE .....	58
Table 21 - MILD, MODERATE and SEVERE – table summary .....	60
Table 22 - Service Demand by Substance use Disorder, age group 18-64 .....	63
Table 23 - Alcohol Epidemiology and Treatment Rates and Numbers.....	66
Table 24 - Amphetamine Epidemiology and Treatment Rates and Numbers .....	67
Table 25 - Benzodiazepine Epidemiology and Treatment Rates and Numbers .....	68
Table 26 - Cannabis Epidemiology and Treatment Rates and Numbers .....	69
Table 27 - Illicit Opioids Epidemiology and Treatment Rates and Numbers .....	70
Table 28 - Estimated Numbers for Screening and Brief Interventions .....	71

Table 29 - Calculation for SBI Screening Brief Intervention .....	72
Table 30 - Alcohol Screening and Brief Intervention Calculations .....	73
Table 31 - Amphetamine Screening and Brief Intervention Calculations .....	73
Table 32 - Cannabis Screening and Brief Intervention Calculations .....	73
Table 33 - NDSHS of 2010, ages 12 + Alcohol single occasion risk .....	74
Table 34 - Harm Reduction Component – Evidence for Effectiveness .....	78
Table 35 - Prevention Items and Costs .....	83
Table 36 - Development of the draft prevention component .....	89
Table 37 - Beds, overhead costs and care package descriptions .....	93
Table 38 - Estimating the annual Standard Clinical Staff FTE resource requirement per 100,000 of age specific population .....	95
Table 39 - Estimating Caretaker Clinical Staff FTE numbers .....	96
Table 40 - Calculation of reportable client related hours generated by a clinical FTE .....	97
Table 41 - Definitions used in the Calculation of the Client Related Hours Generated by a Clinical FTE .....	98
Table 42 - Estimating the annual Bed resource requirement per 100,000 of age specific population .....	103
Table 43 - Estimating the Annual Diagnostic Test Requirement per 100,000 of Age Specific Population-.....	106
Table 44 - Prescription Medicine doses is estimated for these prescriptions .....	108
Table 45 - Estimating the Annual Prescription Medicine Requirement per 100,000 of Age Specific Population.....	109
Table 46 - Clinical Staff FTE Prices.....	111
Table 47 - How the Pricing – Clinical Staff estimates were determined .....	113
Table 48 -Bed Overhead Costs by Service Setting .....	114
Table 49 - Calculation of Withdrawal Management (Detox) and Inpatient Daily Overhead Cost per Bed.....	115
Table 50 - Price of Pathology Services .....	116
Table 51 - Price of Prescription Medicine .....	117
Table 52 - Example of Costing of Staff.....	119
Table 53 - Costing of Diagnostic Tests.....	120
Table 54 -Example of Costing Prescription Medicine .....	121
Table 55 - Steering Committee Membership .....	149
Table 56 - Expert Reference Group Membership .....	151
Table 57 - Indigenous Committee – Membership .....	153
Table 58 - Project Team – Membership .....	154

Table 59 - Defining mild, moderate and severe – table summary .....	157
Table 60 - MH-CCP All Ages (Weighting by Diagnosis) .....	163
Table 61 - Comparison between the Tolkien II numbers .....	178
Table 62 - Burgess Meadows 2009 Mood and/or Anxiety and/or Substance .....	179
Table 63 - Principal complaint .....	180
Table 64 - Mood and/or Anxiety and/or Substance AU,US,NZ .....	180
Table 65 - 2007 survey results - more detail .....	181
Table 66 - an example modelling treatment rate of 40% .....	182
Table 67 - an example modelling treatment rate of 51% .....	183
Table 68 - Alcohol disability weights.....	183
Table 69 - revised disability weight.....	184
Table 70 - Activities Included/Excluded from care Packages and Clinical FTE .....	196
Table 71 - A comparison of prices for the different types of FTEs by source .....	202
Table 72 - A comparison of prices for the different types of FTEs by source – South Australia .....	204
Table 73 - A comparison of prices for the different types of FTEs by source – NSW data in the SA format.....	205
Table 74 - Summary – salary only .....	206
Table 75 - Characteristics of general practitioners .....	208
Table 76 - using % of all employees from ABS data.....	210
Table 77 - using ABS average number of contacts / week .....	211
Table 78 -ED Inpatient Multiplier calculations.....	214
Table 79 - Calculating ALOS for beds used in 12 month care packages .....	215
Table 80 - Alcohol Separations .....	216
Table 81 - Amphetamine Separations .....	216
Table 82 - Benzodiazepine Separations.....	216
Table 83 - Cannabis Separations .....	216
Table 84 - Illicit Opioids Separations .....	216
Table 85 - Alcohol and Other Drug Types and Age Groups Modelled .....	219
Table 86 - Care Package Codes and Descriptions.....	220
Table 87 - Methodology for Info and Education .....	223
Table 88 - Standalone items for All Drugs, ages 0-11 Months, 1-11 years .....	225

Table 89 - Standalone items for Alcohol, ages 12-17, 18-64, 65+ years.....	226
Table 90 - Standalone items for Amphetamine, ages 12-17, 18-64, 65+ years .....	229
Table 91 - Standalone items for Benzodiazepine, ages 12-17, 18-64, 65+ years .....	231
Table 92 - Standalone items for Cannabis, ages 12-17, 18-64, 65+ years .....	233
Table 93 - Standalone items for Illicit Opioids, ages 12-17, 18-64, 65+ years .....	235
Table 94 - Standalone Items Codes and Descriptions.....	239
Table 95 - Bed Statistics – Alcohol.....	242
Table 96 - Bed Statistics – Amphetamine.....	243
Table 97 - Bed Statistics – Benzodiazepine .....	244
Table 98 - Bed Statistics – Cannabis .....	245
Table 99 - Bed Statistics – Illicit Opioids.....	246
Table 100 - Care Rates for Alcohol Care Packages .....	248
Table 101 - Care Rates for Amphetamine Care Packages.....	252
Table 102 - Care Rates for Benzodiazepine Care Packages.....	254
Table 103 - Care Rates for Cannabis Care Packages.....	255
Table 104 - Care Rates for Illicit Opioids Care Packages.....	257
Table 105 - Care Rates for All Drugs - Child Standalone Items.....	261
Table 106 - Care Rates for Alcohol Standalone Items.....	262
Table 107 - Care Rates for Amphetamine Standalone Items.....	264
Table 108 - Care Rates for Benzodiazepine Standalone Items .....	266
Table 109 - Care Rates for Cannabis Standalone Items .....	268
Table 110 - Care Rates for Illicit Opioids Standalone Items .....	271
Table 111 - Residential Rehabilitation bed and Drug type .....	275
Table 112 - Residential Rehabilitation care summary.....	275
Table 113 - Residential Rehabilitation and the Estimator Tool .....	278
Table 114 - Aus BOD drugs Mortality, Remission, Disability Weight .....	290
Table 115 - Mental and behavioural disorders due to psychoactive substance use F10-F19 .....	292
Table 116 - Australian Standard Classification of Drugs of Concern .....	293
Table 117 - ABS Populations Australia, 2006 with Analysis (Ages 0 to 17) .....	297
Table 118 - ABS Populations Australia, 2006 With Analysis (Ages 18 to 64) .....	298

Table 119 - ABS Populations Australia, 2006 With Analysis (Ages 65+) .....	299
Table 120 - Australian Population Projections – 2006 to 2031 (ABS Series B).....	301
Table 121 - ACT Population Projections – 2006 to 2031 (ABS Series B) .....	302
Table 122 - NT Population Projections – 2006 to 2031 (ABS Series B).....	303
Table 123 - NSW Population Projections – 2006 to 2031 (ABS Series B) .....	304
Table 124 - Other Territories (OT) Population Projections – 2006 to 2031 (ABS Series B) .....	305
Table 125 - QLD Population Projections – 2006 to 2031 (ABS Series B) .....	306
Table 126 - SA Population Projections – 2006 to 2031 (ABS Series B).....	307
Table 127 - TAS Population Projections – 2006 to 2031 (ABS Series B).....	308
Table 128 - VIC Population Projections – 2006 to 2031 (ABS Series B) .....	309
Table 129 - WA Population Projections – 2006 to 2031 (ABS Series B).....	310
Table 130 - Alcohol, Risk of Injury on a Single occasion of drinking .....	312
Table 131 - Amphetamine Use.....	313
Table 132 - Cannabis Use .....	314
Table 133 - Harm Reduction Details and Resource Estimate.....	315
Table 134 - Harm Reduction Intervention Costs Estimates .....	318
Table 135 - Data Sources and References .....	375
Table 136 - Understanding MILD, MODERATE and SEVERE .....	388
Table 137 - Example 1: Need that should be met in the “should be” treated population .....	394
Table 138 - Example 2: SAMHSA’s actual treatment rate in the general population.....	394
Table 139 - Example 3: Need that should be met in the general population .....	394
Table 140 - Example 4: Actual treatment rate in the general population.....	395



## APPENDIX 23 LIST OF FIGURES

Figure 1 - Project Governance Structure .....	11
Figure 2 - The Model Structure .....	22
Figure 3 - Alcohol 18-64 Epidemiology and Treated Prevalence .....	27
Figure 4 - calculation for SBI Screening Brief Intervention .....	33
Figure 5 - Model Schema .....	35
Figure 6 - Overview of Withdrawal Management .....	40
Figure 7 - Example of VETE item within care package .....	44
Figure 8 - calculation for SBI Screening Brief Intervention .....	49
Figure 9 - Understanding the proportions of a worker's time - 67% vs 33% (NAH, AOD, AMS).....	52
Figure 10 - Alcohol 18-64 Epidemiology and Treated Prevalence .....	65
Figure 11 - calculation for SBI Screening Brief Intervention.....	71
Figure 12 - Standard Clinical Staff FTE estimate formula – Step 1.....	94
Figure 13 - Standard Clinical Staff FTE estimate formula – Step 2.....	94
Figure 14 - Caretaker Clinical Staff FTE estimate formula.....	96
Figure 15 - Bed estimate formula .....	101
Figure 16 - Diagnostic Test estimate formula .....	105
Figure 17 - Prescription Medicine Estimate Formula .....	108
Figure 18 - Calculation of Overheads for Bed Based Services .....	120
Figure 19 - Calculation of Diagnostic Test Costs.....	120
Figure 20 - Calculation of Prescription Medicine Costs .....	120
Figure 21 - Estimating SEVERE for alcohol in model, 10 November 2010 .....	174
Figure 22 - Estimating SEVERE for alcohol in model, 10 November 2010 (con't) .....	174
Figure 23 - Modelling ambulatory and bed based care.....	218
Figure 24 - Example of VETE item within care package.....	277
Figure 25 - Alcohol 18-64 Epidemiology and Treated Prevalence .....	393