LEGISLATIVE COUNCIL

PORTFOLIO COMMITTEE 2 – HEALTH

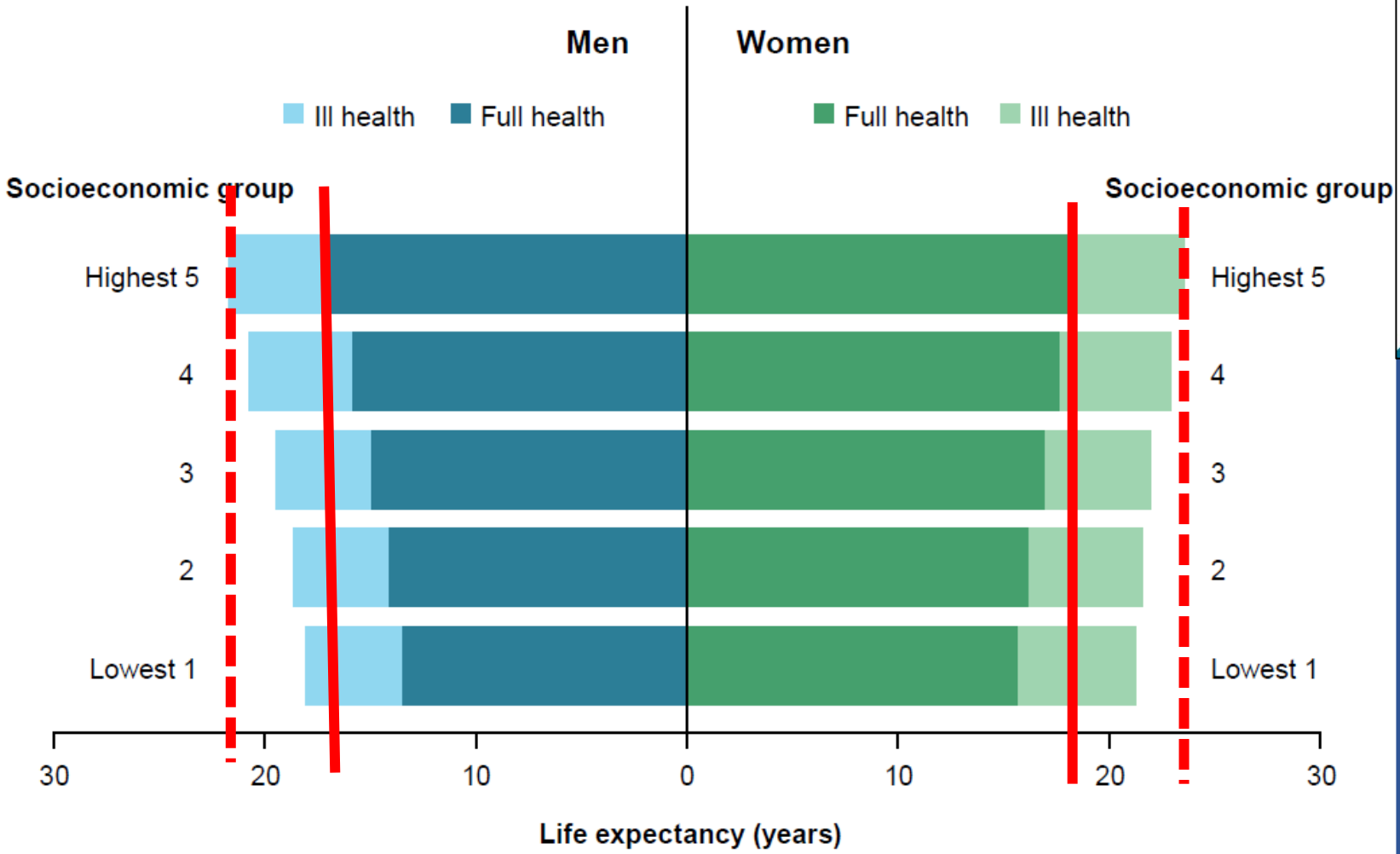
Inquiry into the impact of ambulance ramping and access block on the operation of hospital emergency departments in New South Wales

7 October 2022

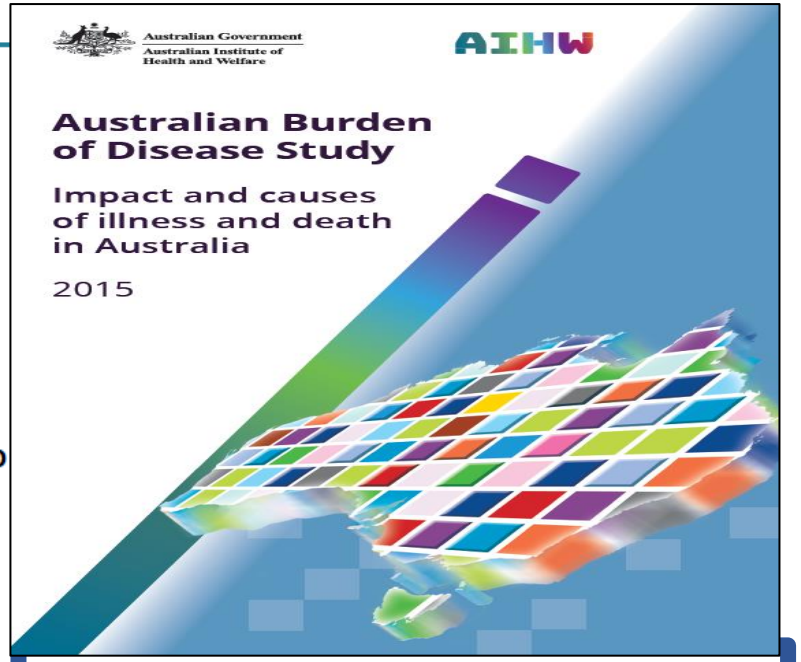
Assoc. Prof. Graham Reece

Goal = Equality of Outcome

Figure 5.6: Life expectancy at age 65 in full health (HALE) and ill health, men and women, by socioeconomic group, 2015



Source: Appendix Table D4.



National Health Reform Agreement – Addendum 2020-25

ADDENDUM TO NATIONAL HEALTH REFORM AGREEMENT

P 61. ”Low health literacy **compounds the disadvantage** already experienced by marginalised groups”

NSW Cancer Plan

Vision: To end cancers as we know them

NSW GOVERNMENT

Goals

- Reduce inequity in cancer outcomes
- Reduce the incidence of cancer
- Increase cancer survival
- Enhance quality of life and experience for people at risk of and affected by cancer

Overriding principles

Equity of outcomes

Improve cancer outcomes in communities that continue to have poorer outcomes to help everyone achieve their best health.

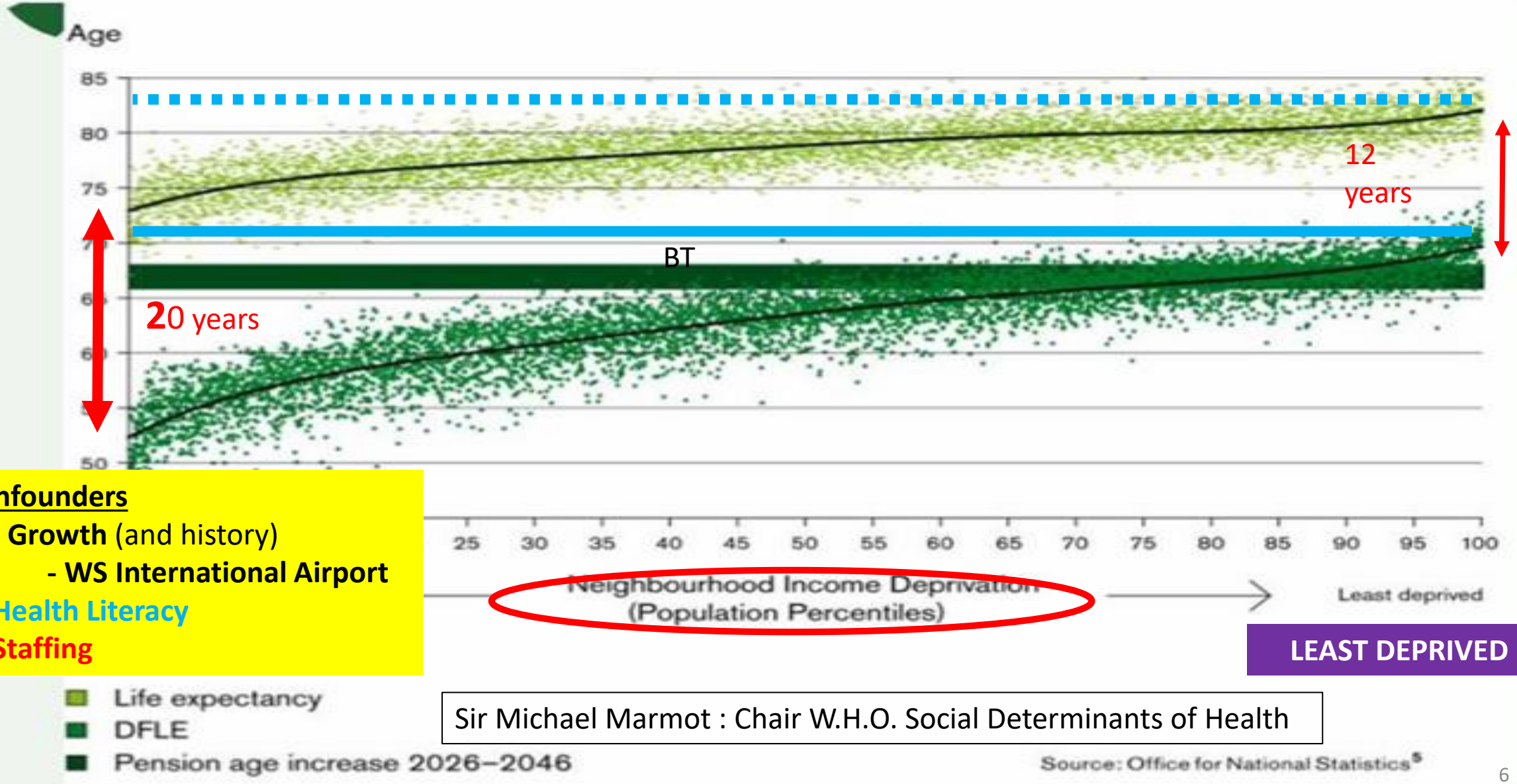
Person-centredness

Focus on the experiences of people with cancer and those accessing screening and prevention services, to ensure they achieve outcomes that are meaningful to them.

Collaboration

Work together at the system, service and care team levels with clear roles, accountabilities and governance, to achieve the best cancer outcomes.

Life expectancy and disability-free life expectancy at birth by neighbourhood income deprivation, 1999-2003



Confounders

1. **Growth** (and history)
   - **WS International Airport**
2. **Health Literacy**
3. **Staffing**

LEAST DEPRIVED

Sir Michael Marmot : Chair W.H.O. Social Determinants of Health

How are the best national health systems in the world coping?

Australian Insitute of Health Innovation (Prof. Braithewaite) : October 2020

1. Inputs : appropriately nuanced

2. Outputs : meaningful, objective, transparent, standardised, dynamic.

AUSTRALIAN INSTITUTE OF HEALTH INNOVATION

Inputs

1. **Clinical casemix** has changed
   - ↑ Youth Mental /Alzheimer/Ca
   - ↓ C.V.S./Inf/C.V.A.
2. Population Change
3. I.R.S.D.
4. Ambulance load

5. Workforce Challenges
   - difficult discussions

6. Non Public hospital Options

E.D. Processing power 24x7

F.A.C.E.M.
- availability
- local familiarity

Senior RN

I.R.S.D.

Subspeciality onsite
- Senior Consultant
- Infrastructure

ED Outputs : Disposition

Consultant availability : ED/Hosp/Community
- Chronic disease Mx
- last year of life
- Youth suicide

Non Pubic hospital Admission Alternatives

I.R.S.D. not low
- Private hospital
- Private Rooms
- G.P.

I.R.S.D. not high
- Rapid Access Clinic
- OPD
- G.P.

E.D. Available Public Hosp Beds in Network
- E.D. presentations/Inpt beds ratio
- ***Locally available procedures***

Cost of Production Variance

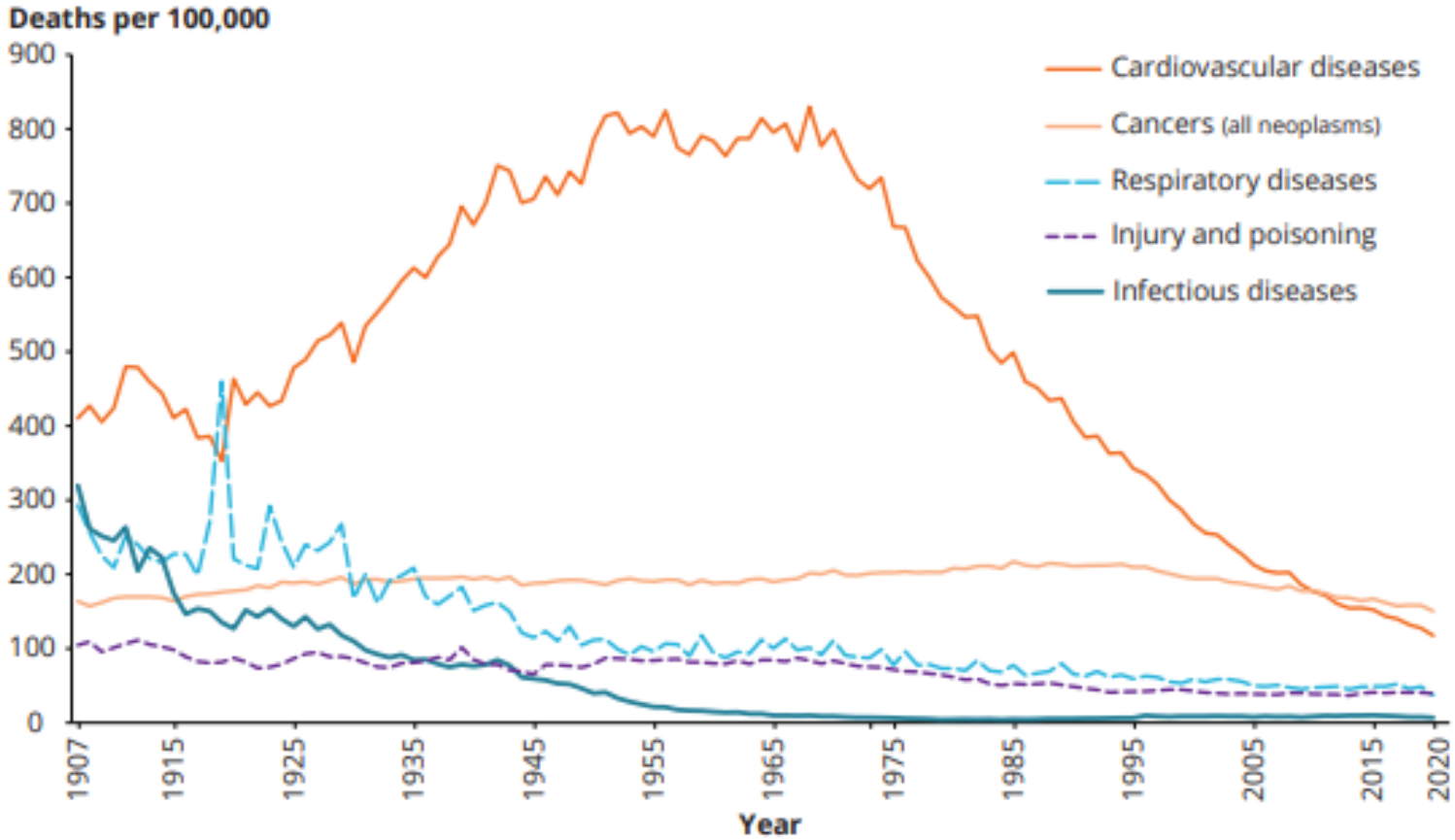
Ramping : Multifactorial
- 25 % of all E.D. presentations arrive by ambulance
- 70 % of all ambulance journeys terminate at E.D.

Disease prevalence has *changed* in Australia

Australian Government
Australian Institute of Health and Welfare

AIHW

Figure 4.8b: Age-standardised mortality rates (per 100,000 population), by broad cause of death, 1907–2020



Source: AIHW National Mortality Database.

… *but **also** by S.E.S. quintile*.

Australian Government
Australian Institute of Health and Welfare

AIHW

Australian Burden of Disease Study

Impact and causes of illness and death in Australia

2015

Figure 8.8: Leading causes of total burden (proportic by socioeconomic group, 2015

Rank	1 Lowest	2	3	Socioeconomic gro
1st	Coronary heart disease (7.7%; 15.5)	Coronary heart disease (7.4%; 13.5)	Coronary heart disease (6.7%; 11.5)	Corona dis (6.1%
2nd	COPD (4.3%; 8.4)	COPD (7.0%; 7.4)	Back pain and problems (4.0%; 7.8)	Back and pr (4.2%
3rd	Back pain and problems (3.9%; 9.0)	Dementia (3.8%; 6.3)	Dementia (3.8%; 6.1)	An dis (4.0%
4th	Lung cancer (3.7%; 7.5)	Back pain and problems (3.8%; 8.2)	COPD (3.7%; 6.5)	Dem (3.7%
5th	Dementia (3.4%; 6.0)	Lung cancer (3.7%; 6.9)	Anxiety disorders (3.3%; 6.8)	C (3.7%
6th	Type 2 diabetes (2.8%; 5.7)	Depressive disorders (3.0%; 7.0)	Lung cancer (3.3%; 5.8)	Depr dis (3.2%
7th	Anxiety disorders (2.8%; 7.1)	Stroke (2.8%; 5.1)	Depressive disorders (3.2%; 6.6)	Suici self-i inju (3.1%
	Suicide and		Suicide and	

Growth is *not uniform* across N.S.W.

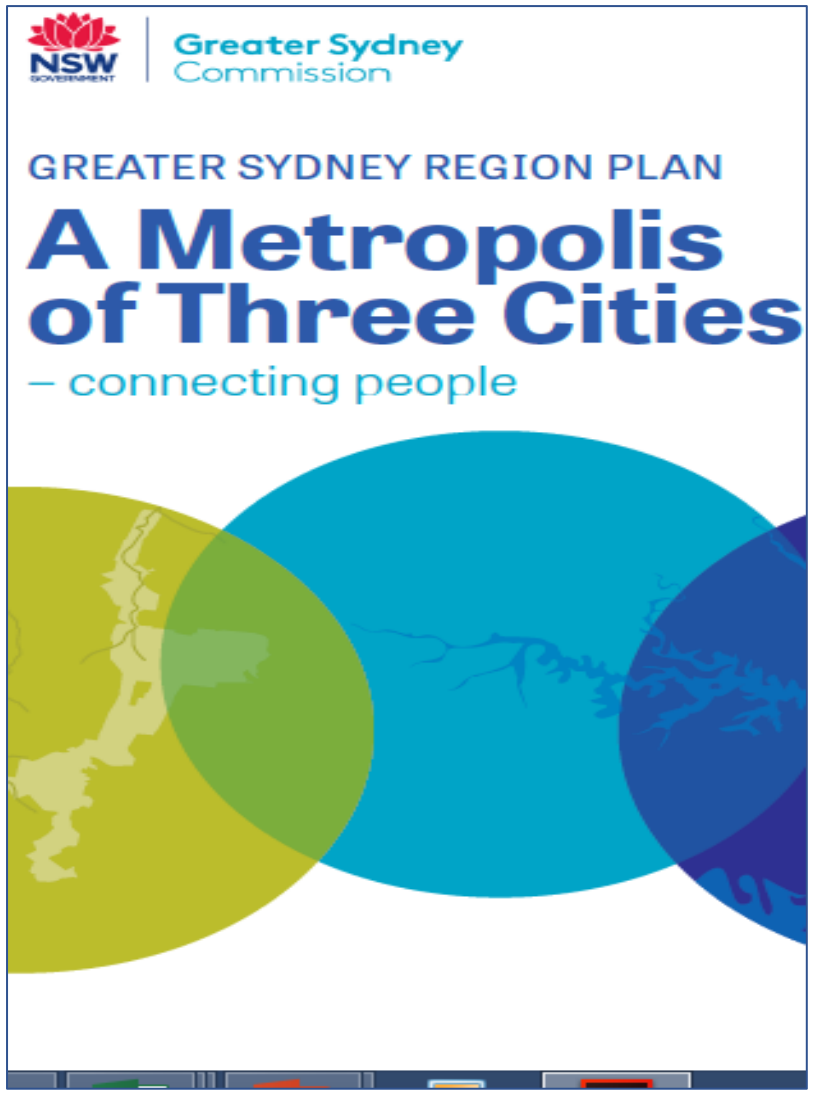
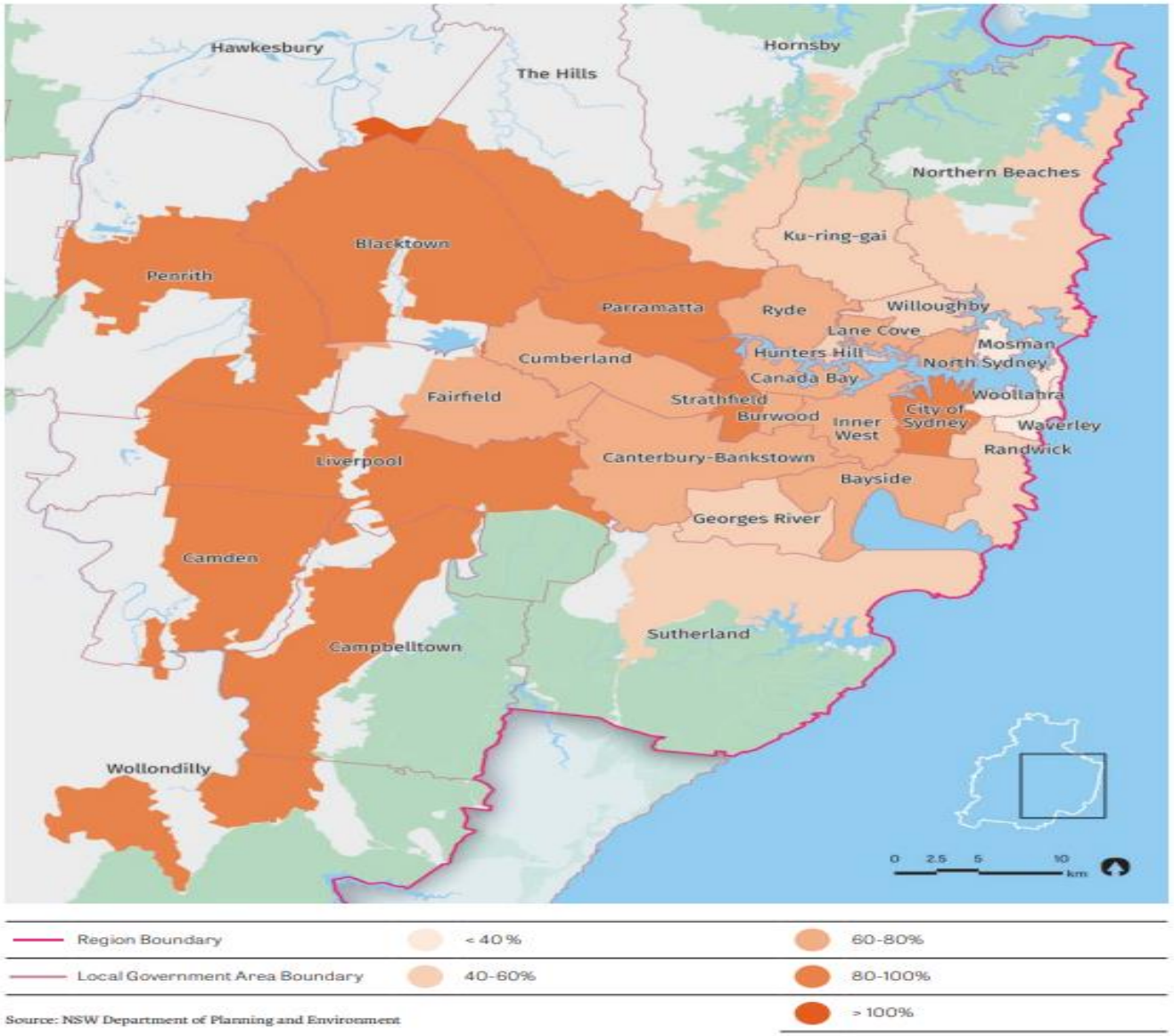


Figure 12: Projected spatial pattern of population increase over 65 years from 2016 to 2036

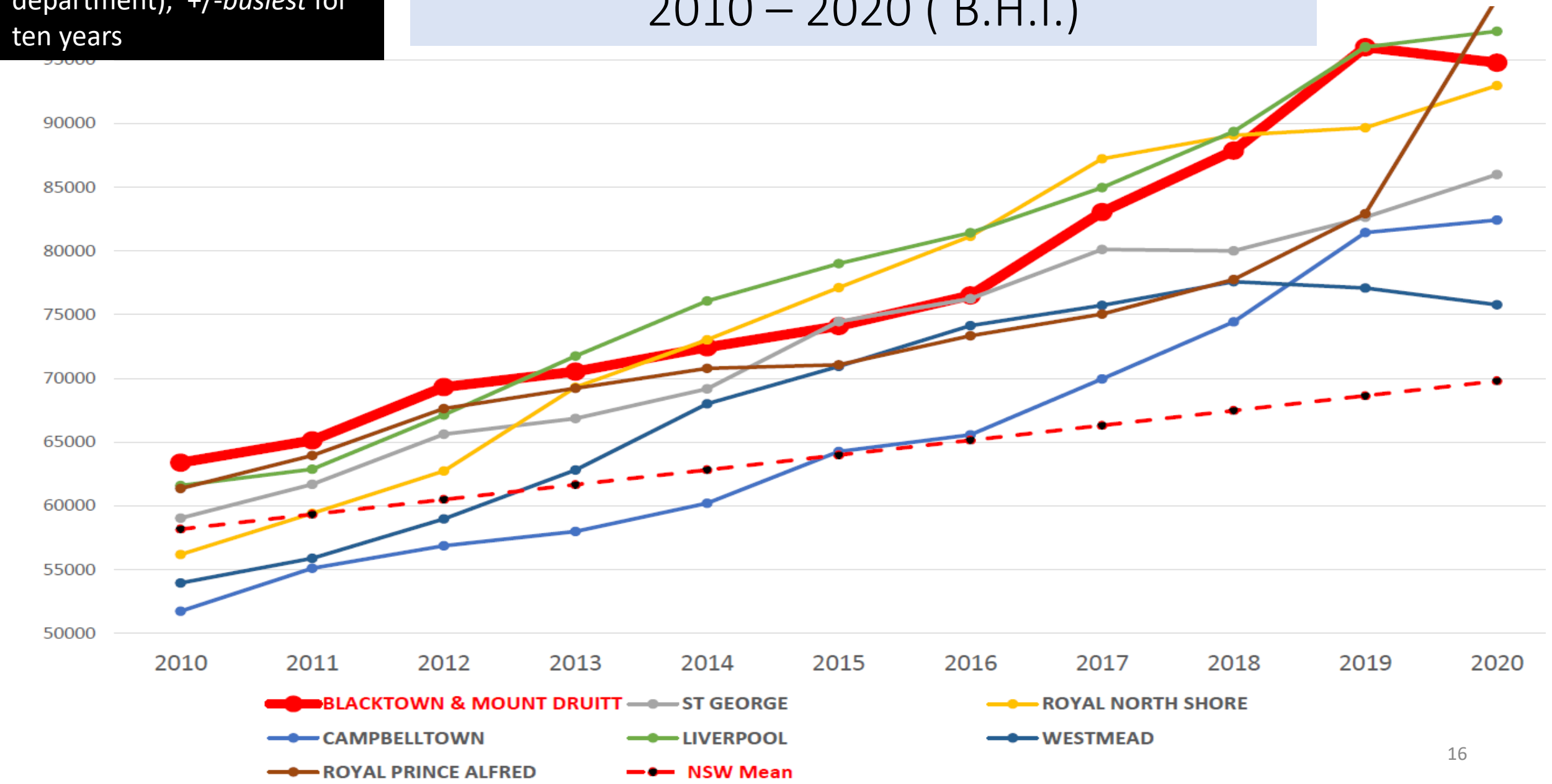


Source: NSW Department of Planning and Environment

…nor are the effects on the *hospital system* uniform

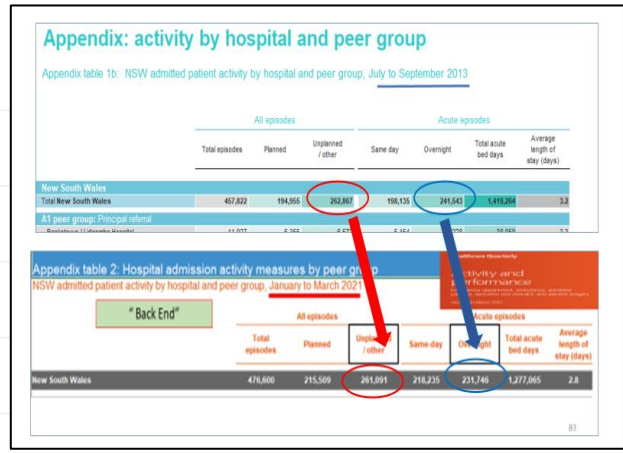
BMDH ED (funnelling to effectively **one** "***back end***" department), +/-*busiest* for ten years

Emergency Department Presentations, 2010 – 2020 (B.H.I.)



Inpateints: Percentage Change 2013 to 2021

(*source* : B.H.I. Quarterly Reports)



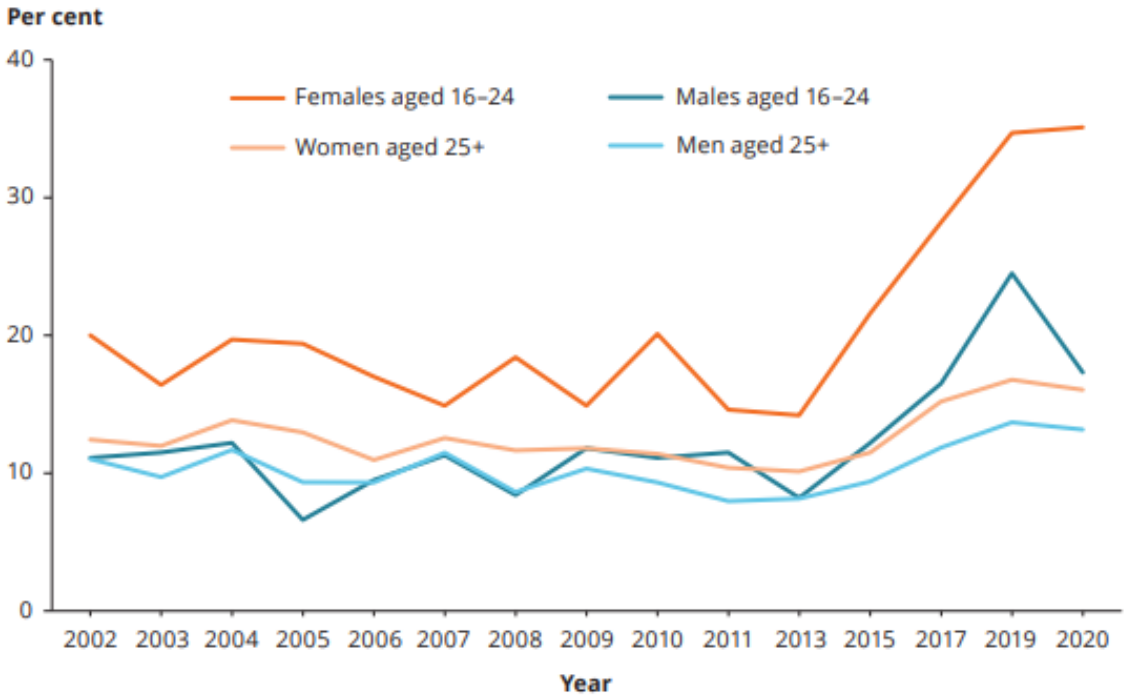
	Blacktown	NSW Total	AI Peer Group	Westmead
Unplanned Episodes	34	-1	2.6	1
Overnight Episodes	24	-4	-2.4	-5
Total Acute Bed Days	16.5	-10	-7	-9
E.D. Presentations	30	26	17	

Newer **models of care** are appropriate to more effectively meet emerging health challenges.

Australian Government
Australian Institute of Health and Welfare

AIHW

Figure 8.1: Persons aged 16 and over reporting high or very high psychological distress, by age group and sex, 2002 to 2020



Notes

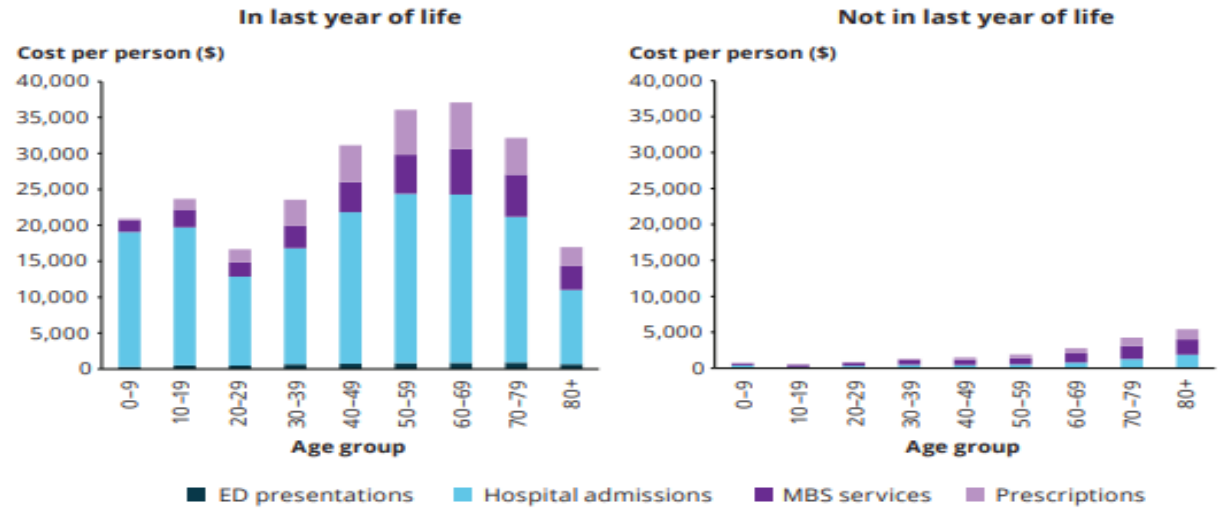
1. K10 is a 10-item questionnaire that measures anxiety, depression, agitation, and psychological fatigue in the most recent 4-week period.
2. People whose responses had a K10 score of 22 or above were indicated to have high or very high distress.
3. The K10 questions were included in the NSW Population Health Survey every year between 2002 and 2011. After 2011 and until 2019, they were included every second year. The questions were also included in the 2020 survey.
4. The indicator shows self-reported data collected through Computer Assisted Telephone Interviewing. To counter diminishing coverage of the population by landline telephone numbers (<85% since 2010), a mobile phone number sampling frame was introduced in the 2012 survey.
5. The inclusion of mobile phone numbers has substantially increased the Aboriginal sample and this change in design means that the 2012 NSW Population Health Survey estimates reflect both changes that have

Australian Government
Australian Institute of Health and Welfare

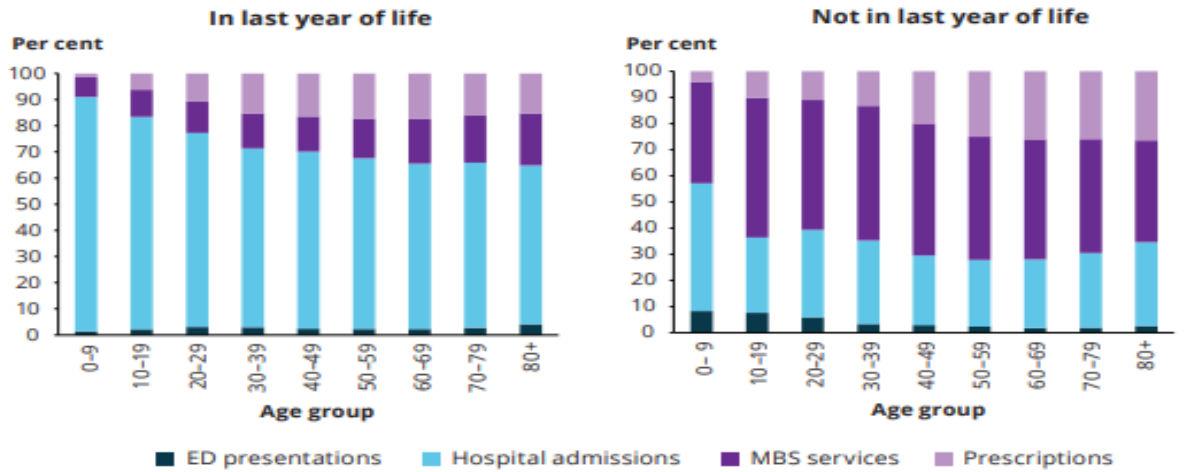
AIHW

Figure 6.4: Average annual health service cost (a) and relative proportion of total average annual health service cost (b) per person, by age group, health service type, and whether in the last year of life

(a) Average annual cost per person



(b) Relative proportion of total average annual cost per person



Source: AIHW analysis of the National Integrated Health Services Information Analysis Asset (version 0.5).

Patients' abilities to *access* certain types of health facilities is **varied**

Australian Government
Australian Institute of Health and Welfare

Australia's hospitals at a glance

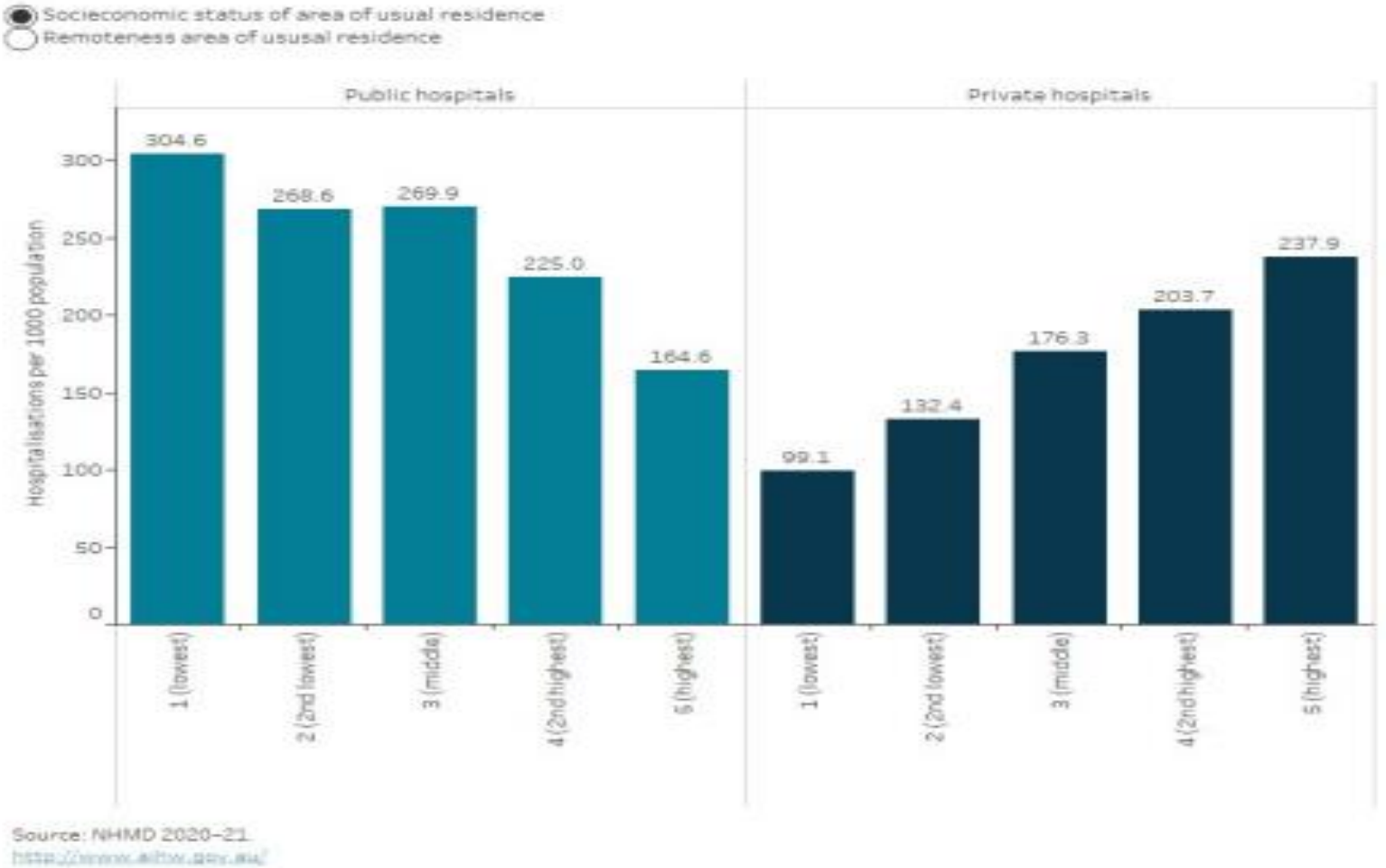
Web report | Last updated: 29 Jul 2022 | Topic: Hospitals |

Citation

AIHW

Australian Institute of Health and Welfare (2022) Australia's hospitals at a glance , AIHW, Australian Government, accessed 02 August 2022.

Figure 6: Hospitalisations per 1,000 population by socioeconomic status and remoteness, 2020–21



Source: NHMD 2020–21
http://www.aihw.gov.au/

Australian Government
Australian Institute of Health and Welfare

AIHW

Table 1.8: People who died from COVID-19 in Australia, by socioeconomic area, as at 30 April 2022

IRSD quintile	Deaths	Rate (per million)	95% CI	Age-standardised rate (per million)	95% CI
Males					
1 (lowest)	1080	462	434–489	143	130–156
2	676	274	254–295	93	83–104
3	538	211	193–229	80	70–91
4	465	174	158–190	73	63–83
5 (highest)	328	126	112–140	53	44–62
Females					
1 (lowest)	790	331	308–354	77	68–85
2	482	191	174–208	50	43–57
3	420	161	146–177	48	40–55
4	320	117	105–130	39	33–46
5 (highest)	199	75	64–85	26	20–31
Persons					
1 (lowest)	1870	396	378–413	105	98–113
2	1158	232	219–246	69	63–75
3	958	186	174–197	62	56–68
4	785	145	135–155	55	49–60
5 (highest)	527	100	92–109	38	33–43

IRSD = Index of Relative Socio-economic disadvantage; CI = confidence interval.

Notes

1. This table includes information on doctor or coroner certified deaths registered by 30 April 2022 and numbers will differ from those reported by disease surveillance systems.
2. Deaths due to COVID-19 in this table have an underlying cause of either ICD-10 code U07.1 - COVID-19, virus identified or U07.2 - COVID-19, virus not identified.
3. The analysis uses IRSD, which ranks areas in Australia according to relative socioeconomic disadvantage. Socioeconomic group 1 represents people living in the lowest socioeconomic areas (most disadvantaged) and group 5 represents people living in the highest socio-economic areas (least disadvantaged)
4. The 95% CI is the range of values that are likely to contain the true estimate with 95% confidence.
5. Data are provisional and will change as additional data are received.

Source: ABS customised report.

However outcomes *can be modified* even in those with a lower I.R.S.D., if well planned with value adding partnerships + when I.T. is utilised wisely.

Managing COVID-19 services in the community

Prof Golo Ahlenstiel
Medical Lead, COVID inTouch, ICP
Chair of Medicine Blacktown Mount Druitt Hospital
Clinical Network Director, Specialty Medicine, WSLHD

OUR PLACE. OUR PEOPLE.

NSW GOVERNMENT Health
Western Sydney
Local Health District

inTouch
COVID COMMUNITY CARE

WESTERN SYDNEY UNIVERSITY

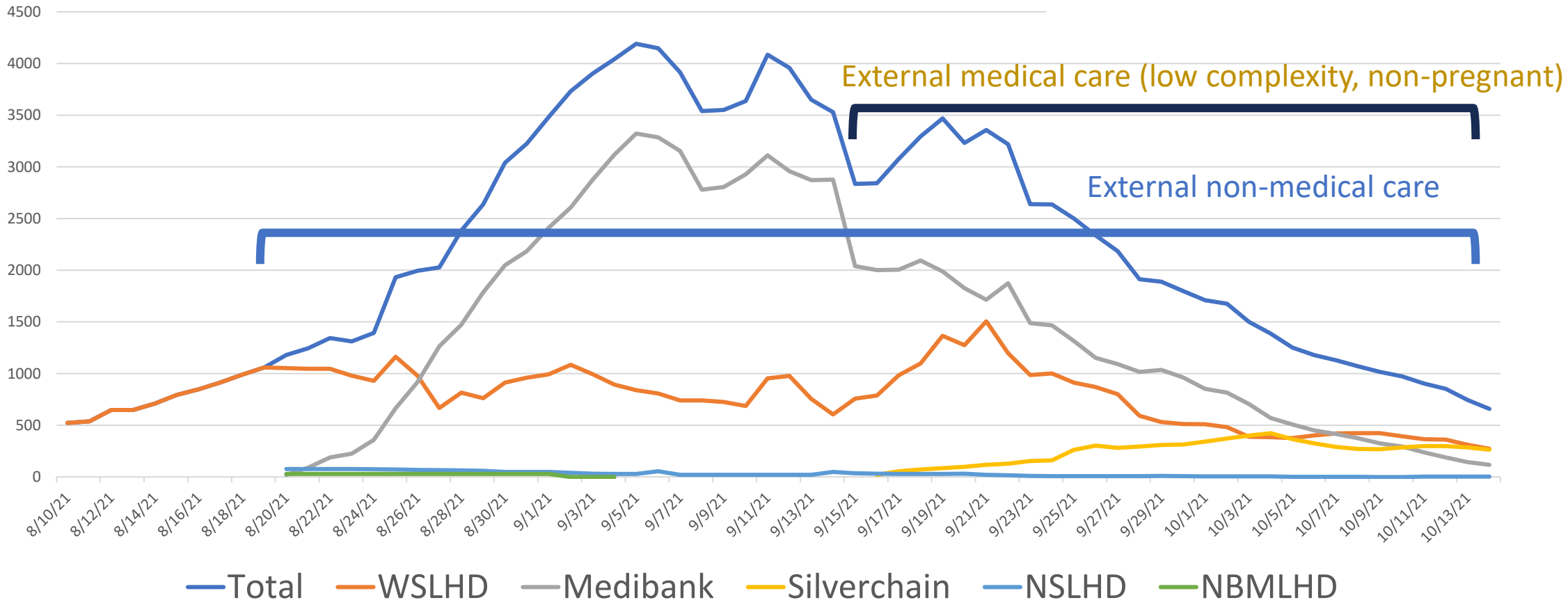
And how did we do?

	Condition	WSLHD - inTouch	NSW
Morbidity	admitted (total)	4.6%	25%
Mortality	Actual (intention to treat)	0.04% (0.23%)	1.4%

P<0.0001

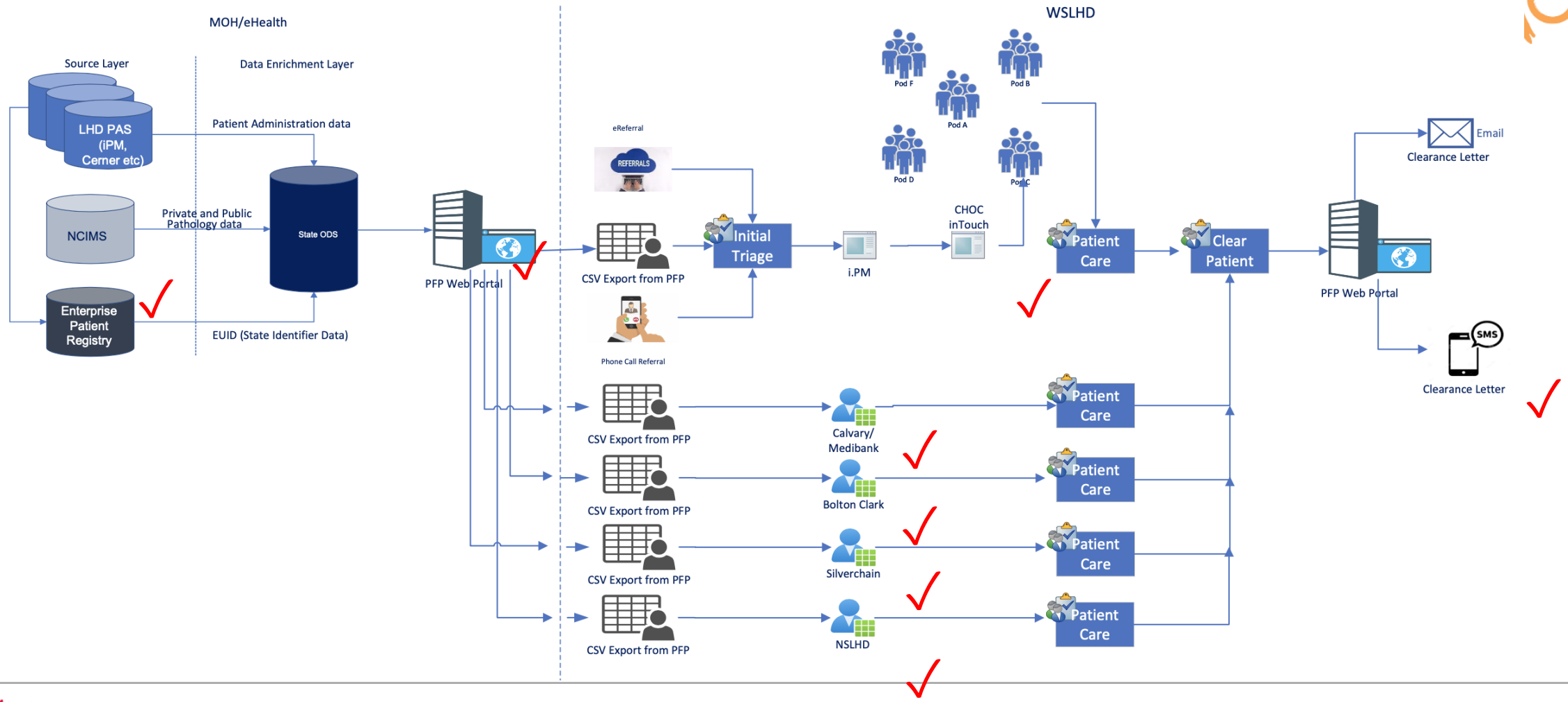
Lesson 8. The Power of Partnerships

[aim for superiority, but you may have to accept non-inferiority in a pandemic]



Lesson 14. Be solution focused and "*Don t be shy to about asking*"

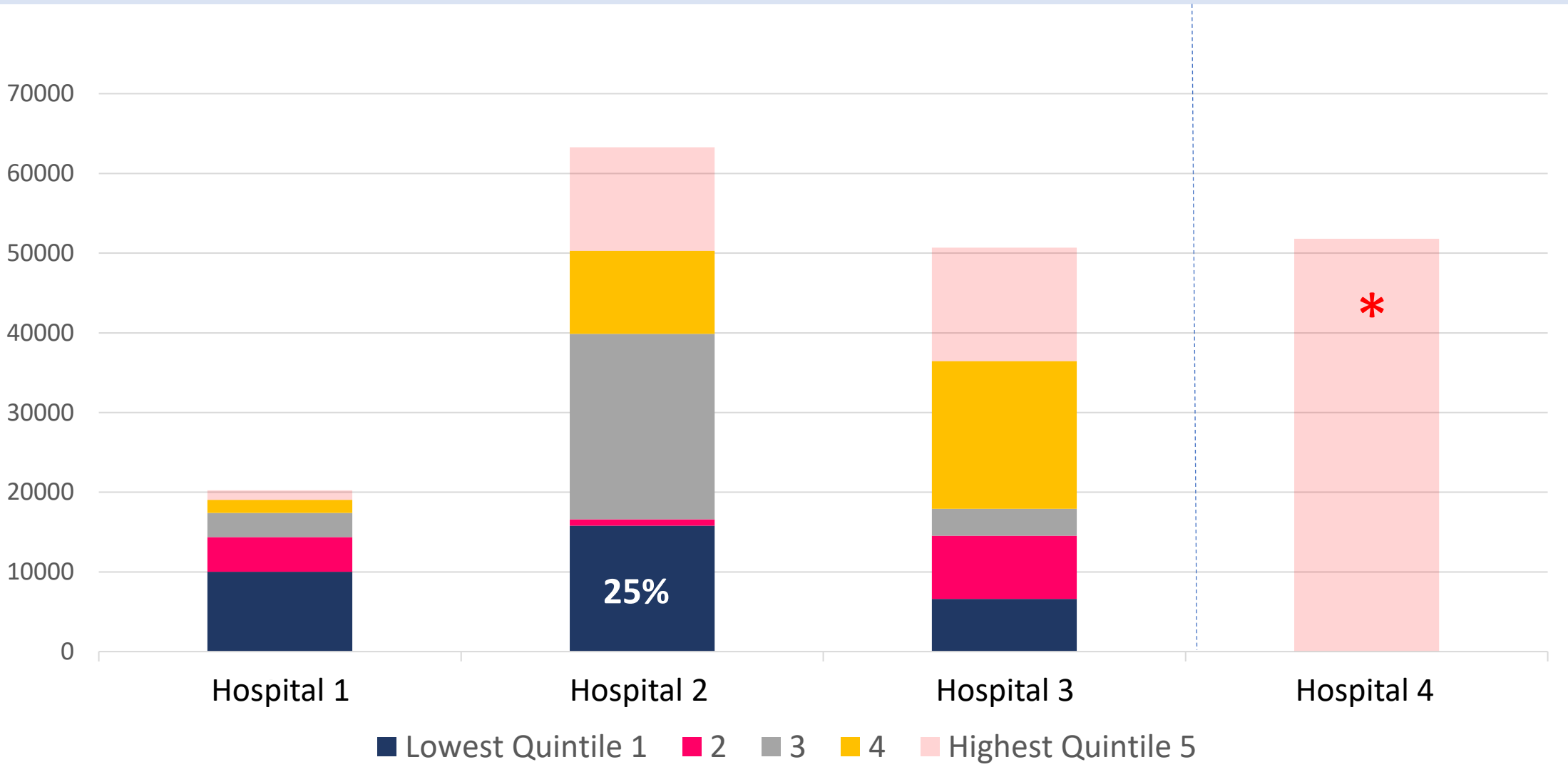
Future State



Courtesy Bejoy Cherian (DHS)

Are All E.D.'s treating patients with the same Health Literacy ?

by Quintile , 2020



I.R.S.A.D. Decile 10, i.e. Quintile 5)

Lower I.R.S.D. LGA's should have the ***best*** staffing *(see slides 4 and 6)*

2021, B2 Hub :

- **Executive Director,**

System Information and Analytics at NSW Health (**+ "The Francis Report"**)

"What must we do to attract more "high fraction" Staff Specialists to Bt ?"

- **Director General (2011) –** *asked the **same** question **(and also** in **2000**)*

Blacktown and Campbelltown are special cases due to

- **socioeconomic status** and
- **growth**

therefore …consider special arrangements.

Recruitment strains

(Note: Not limited to psychiatrists in Western Sydney)

Australian Government
Productivity Commission

Mental Health

Productivity Commission
Inquiry Report
Volume 2

No. 95, 30 June 2020

Australia relies heavily on the immigration of overseas-trained psychiatrists. The share of psychiatrists trained overseas (excluding New Zealand) has grown from about 30% to over 36% from 2013 to 2018. Immigration has major advantages in reducing the time taken to increase the workforce, brings diversity of backgrounds and expertise, and reduces net training costs. However, overseas-trained clinicians may also encounter more pronounced language and/or cultural adjustment where treatment relies on good communication. In addition, it may not always be easy to attract such professionals and there are benefits in some self-sufficiency. Above all, the need to attract overseas-trained psychiatrists without existing Royal Australian and New Zealand Collage of Psychiatrists (RANZCP) registration is a sign of workforce pressures.

*…hence "**costs of production**" may differ (slide 8)*

WSLHD, the Blacktown population and low health literacy

Table 1. The prevalence of LHL in the Blacktown local government area (LGA) by domain (6 and 9).

Age Groups	Total Population 2020 (*n* = 258,223)	LHL Population (Domain 6) (*n* = 53,451)	% of LHL (Domain 6)	LHL Population (Domain 9) (*n* = 35,667)	% of LHL (Domain 9)
20–24 years	24,368	12,050	49.45	3979	16.33
25–34 years	56,171	2663	4.74	2663	4.74
35–44 years	55,807	13,667	24.49	6741	12.08
45–54 years	44,218	14,888	33.67	10,573	23.91
55–64 years	36,522	6428	17.60	2410	6.6
≥65 years	41,137	3756	9.13	9301	22.61

Table 2. Total extra direct health care costs incurred due to LHL by type of chronic disease group in the Blacktown LGA (Domain 6).

Type of Chronic Disease Group	Direct Health Care Cost ($)	Direct Health Care Cost (%)
Cardiovascular disorders	1,680,869	18.3
Musculoskeletal disorder	1,886,681	20.6
Mental illness	2,269,347	24.8
Cancer	1,298,083	14.2
Chronic Kidney Disease	665,277	7.3
Respiratory disorders	705,970	7.7
Diabetes	660,182	7.2

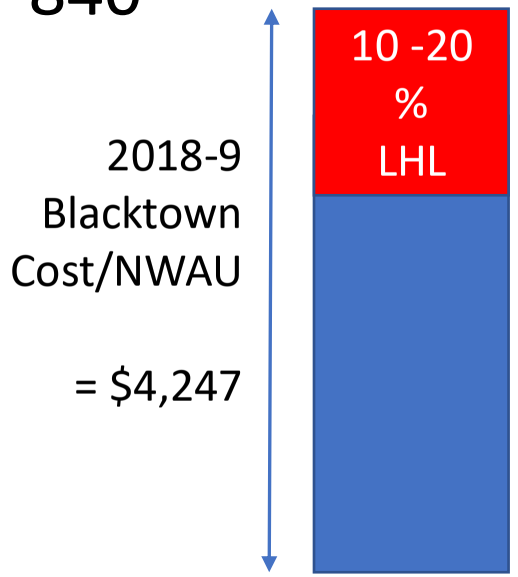
Domain 6: active engagement with health care providers
Domain 9. understanding of the health information required to take action towards improving health

Tannous,WK, Ahmed, MU, John, JR, Reece, G, Ahlenstiel, G. *Int. J. Environ. Res. Public Health* **2021**, *18*, 2303.

LHL Cost - quantifying a previously unrecognised *increased Cost of Production.*

- In 2018-9, Blacktown campus generated 70, 690 N.W.A.U *.
- Low Health Literacy additional cost per N.W.A.U. = $424 - 840 ^
- Blacktown total cost/N.W.A.U. = $ 4,257

10-20 % of Blacktown's cost of production was due to LHL.



(Based on ABM Portal *and WSU Economic analysis^)

Medibank

"The primary achievement of the Whitlam Government *in health* was the **creation of Medibank**, Australia's national health insurance system.

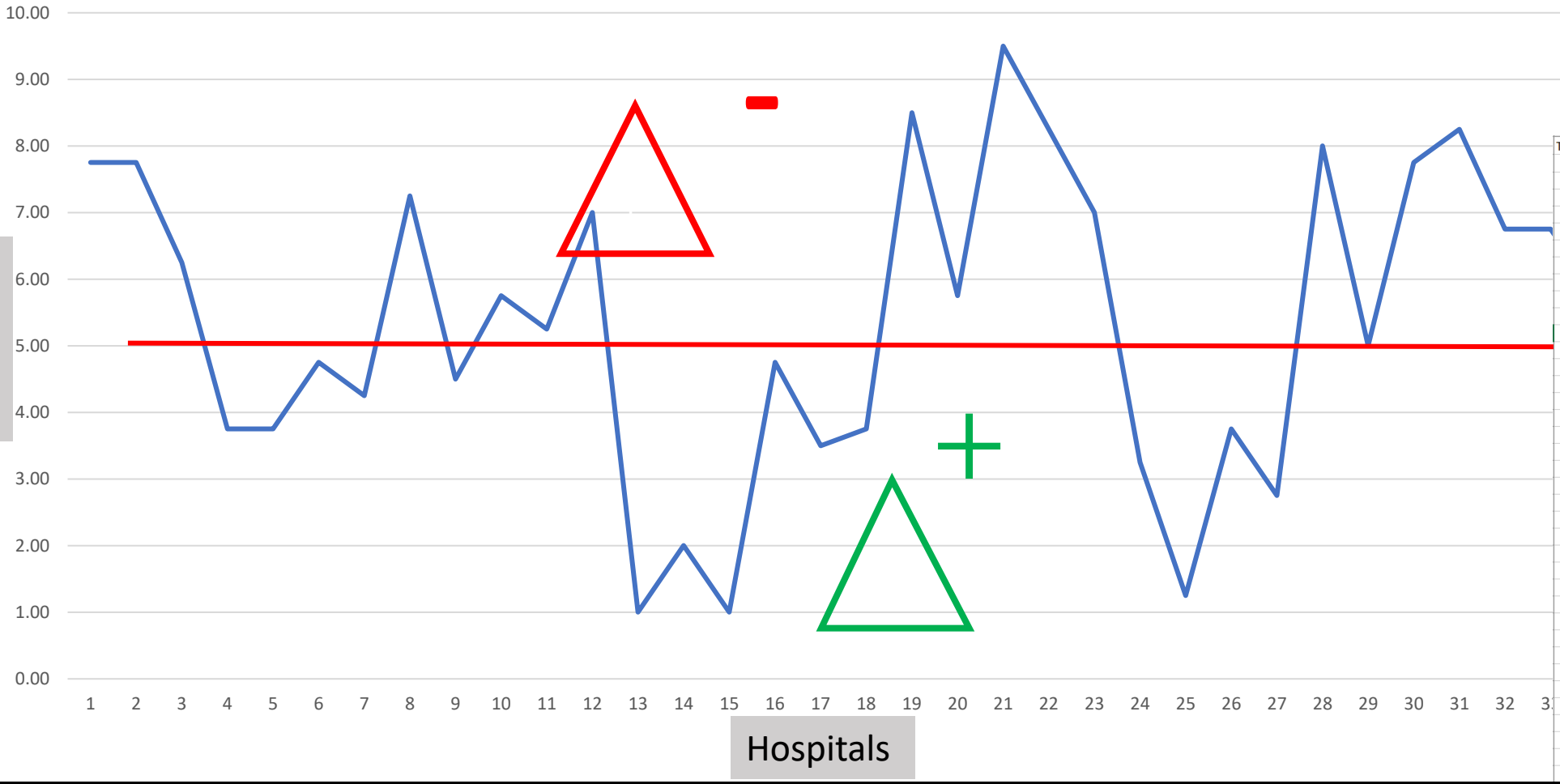
The system would provide free access to hospitals and a range of other medical services. The maximum gap between a doctor's fee and the Medibank rebate was to be $5.

Medibank was designed to provide health coverage for the 17% of Australians who did not have, or could not afford private health insurance".

The A.B.S. *now* provides a means to objectively recalibrate funding at relevant intervals

All four SEIFA Indexes / 4, per S.A. 1

ABS:
S.E.I.F.A
Score



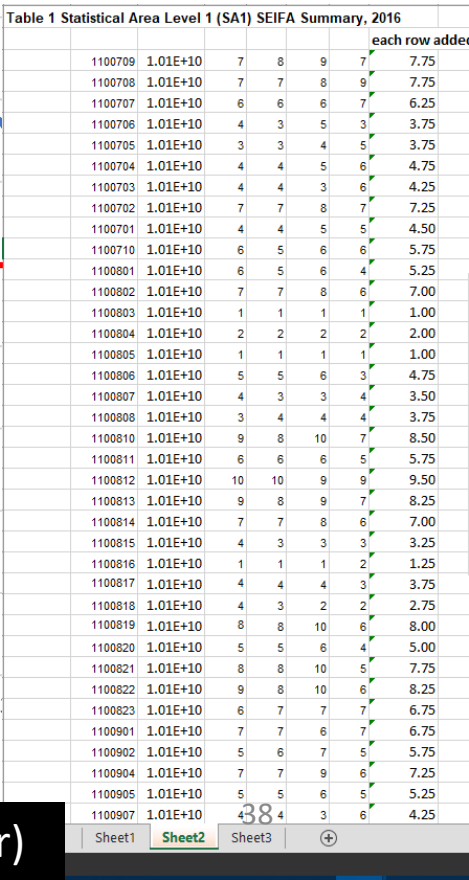


Table 1 Statistical Area Level 1 (SA1) SEIFA Summary, 2016

						each row adde
1100709	1.01E+10	7	8	9	7	7.75
1100708	1.01E+10	7	7	8	9	7.75
1100707	1.01E+10	6	6	6	7	6.25
1100706	1.01E+10	4	3	5	3	3.75
1100705	1.01E+10	3	3	4	5	3.75
1100704	1.01E+10	4	4	5	6	4.75
1100703	1.01E+10	4	4	3	6	4.25
1100702	1.01E+10	7	7	8	7	7.25
1100701	1.01E+10	4	4	5	5	4.50
1100710	1.01E+10	6	5	6	6	5.75
1100801	1.01E+10	6	5	6	4	5.25
1100802	1.01E+10	7	7	8	6	7.00
1100803	1.01E+10	1	1	1	1	1.00
1100804	1.01E+10	2	2	2	2	2.00
1100805	1.01E+10	1	1	1	1	1.00
1100806	1.01E+10	5	5	6	3	4.75
1100807	1.01E+10	4	3	3	4	3.50
1100808	1.01E+10	3	4	4	4	3.75
1100810	1.01E+10	9	8	10	7	8.50
1100811	1.01E+10	6	6	6	5	5.75
1100812	1.01E+10	10	10	9	9	9.50
1100813	1.01E+10	9	8	9	7	8.25
1100814	1.01E+10	7	7	8	6	7.00
1100815	1.01E+10	4	3	3	3	3.25
1100816	1.01E+10	1	1	1	2	1.25
1100817	1.01E+10	4	4	4	3	3.75
1100818	1.01E+10	4	3	2	2	2.75
1100819	1.01E+10	8	8	10	6	8.00
1100820	1.01E+10	5	5	6	4	5.00
1100821	1.01E+10	8	8	10	5	7.75
1100822	1.01E+10	9	8	10	6	8.25
1100823	1.01E+10	6	7	7	7	6.75
1100901	1.01E+10	7	7	6	7	6.75
1100902	1.01E+10	5	6	7	5	5.75
1100904	1.01E+10	7	7	9	6	7.25
1100905	1.01E+10	5	5	6	5	5.25
1100907	1.01E+10	4	4	3	6	4.25

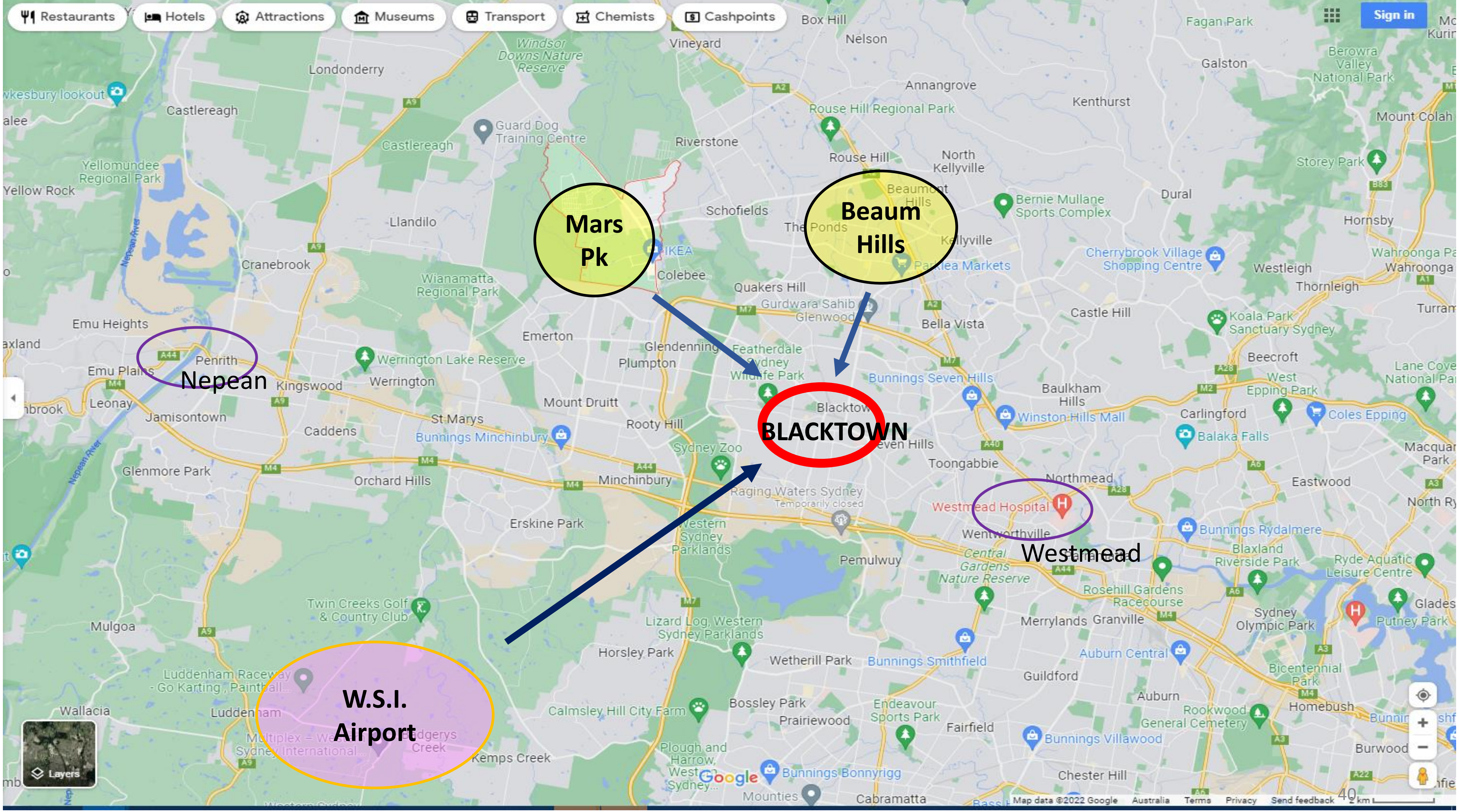
Sheet1 Sheet2 Sheet3

(Socioeconomic weighting /NWAU could be derived and applied based on SEIFA x ED presentation number)

… which will provide a dynamic and transparent mechanism for achieving

1. Equity of Outcomes (slides 2-6) and

2. Auditable, appropriate financial accountability, systemwide


Mars
Pk
Beaum
Hills
BLACKTOWN
Nepean
Westmead
W.S.I.
Airport
Restaurants
Hotels
Attractions
Museums
Transport
Chemists
Cashpoints
Sign in
Penrith
Emu Plains
Kingswood
Werrington
St Marys
Mount Druitt
Rooty Hill
Schofields
Riverstone
Quakers Hill
Kellyville
Bella Vista
Baulkham Hills
Castle Hill
Toongabbie
Northmead
Westmead Hospital
Wentworthville
Pemulwuy
Erskine Park
Minchinbury
Orchard Hills
Glenmore Park
Mulgoa
Wallacia
Luddenham
Kemps Creek
Horsley Park
Wetherill Park
Bossley Park
Prairiewood
Fairfield
Guildford
Merrylands
Granville
Auburn
Chester Hill
Cabramatta
Homebush
Burwood
Eastwood
Carlingford
Hornsby
Dural
Rouse Hill
North Kellyville
Colebee
Plumpton
Glendenning
Emerton
Caddens
Jamisontown
Leonay
Emu Heights
Cranebrook
Llandilo
Castlereagh
Londonderry
Vineyard
Box Hill
Nelson
Annangrove
Kenthurst
Galston
Map data ©2022 Google
Australia
Terms
Privacy
Send feedback
2 km

Greater Sydney Commission

OUR GREATER SYDNEY 2056

Central City District Plan

– connecting communities

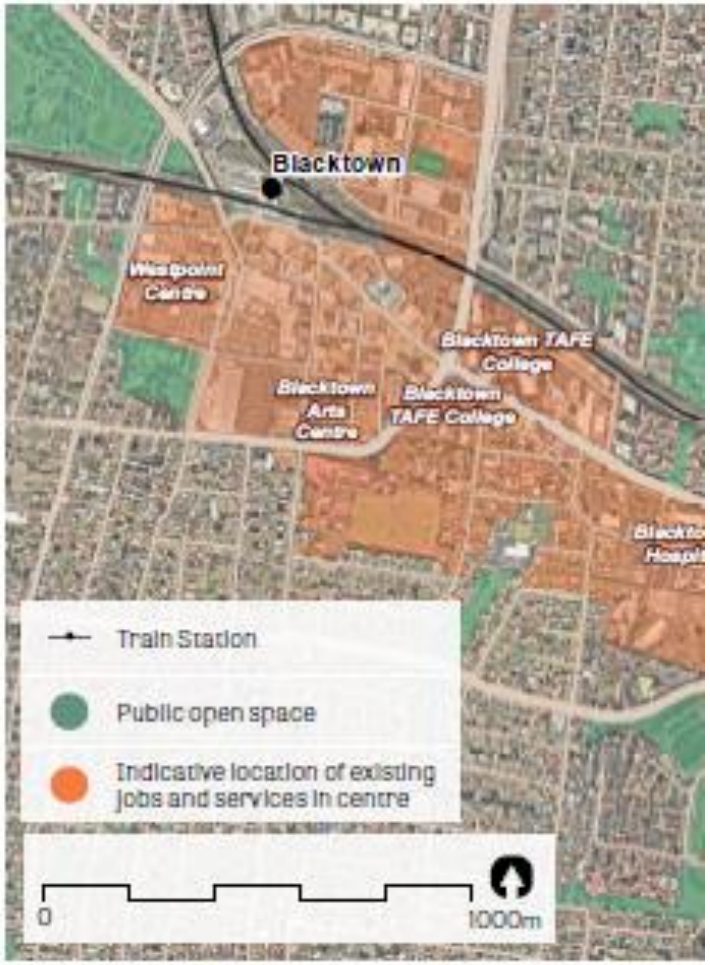
March 2018

Blacktown

Blacktown offers a variety of business, retail, mixed-use residential and administrative functions that create vibrancy and attract investment, employment and diversity of housing. It also includes a range of community and cultural facilities such as the Blacktown Arts Centre and Library. Blacktown Station is the confluence of the Western and Richmond Rail Lines, and the North West Transitway connects it with The Hills.

Blacktown City Council has a range of initiatives that seek to shape the future of Blacktown City Centre. These include the redevelopment of the Warrick Lane Precinct, securing a university campus for Blacktown, facilitating development of the health and education precinct and developing an office accommodation strategy for council's future.

Blacktown Hospital and Clinical School form part of the District's health facilities and specialist services. The expansion of Blacktown Hospital will make it the third-largest public hospital in NSW, generating



Data sources: Public open space – Sydney Open Space Audit (DPE 20 2018

End

Apendixes

Socio-economic and Indigenous status

"The remoteness of an area does not of itself determine life expectancy, but rather is indicative of relationships with a range of direct and indirect health risk factors such as those previously mentioned. Nevertheless the findings point to two factors long associated with health outcomes: socio-economic status (SES) and Indigenous status. The ABS[5] reports that life expectancy is on average 8.2 years lower for Aboriginal and Torres Strait Islanders than the non-Indigenous population, while the NSW Government[6] recently cited a **4.8 year e(0) gap** between the highest and lowest SES quintile areas in that state.

Figure 4 shows the association between SES and life expectancy across the 151 divisions **(r^2=0.64**, p<0.0000).[7] The gradient indicates that **for every 50 points (i.e. more advantage) on the 2016 Census Index of Relative Socio-economic Advantage and Disadvantage (SEIFA) an extra year of life expectancy is gained**.

The median life expectancy in the most advantaged quintile of 85.3 is 3.7 years higher than the median in the least advantaged quintile (81.6). Such results are consistent with earlier studies examining the effect that relative disadvantage and/or geographic remoteness has on mortality across Australia.[8] [9]

By adding divisional population proportions of Aboriginal and Torres Strait Islanders to the regression model, the predictive power increases to an adjusted **r^2 of 0.84** (p<0.0000). **Thus 84 per cent of the variation in divisional life expectancy can be explained by SES and Indigenous status.**[10] These factors do not inherently determine life expectancy, but do point towards many of the known causes of better and poorer health outcomes".

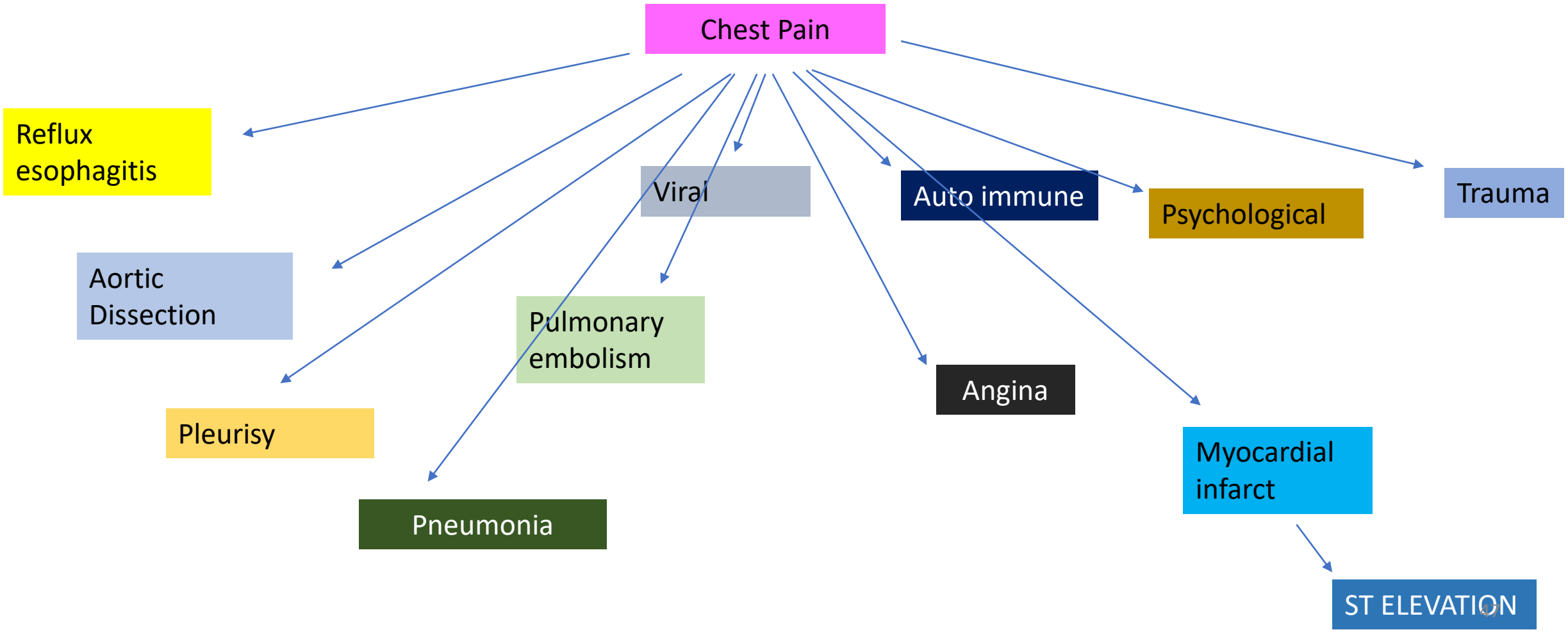
Local Residential growth, accessible to employment

1. **Most houses added** over next 20 years in "Central City District" *(includes Bt)*

2. **Adjacent aerotropolis**

	Total episodes		Unplanned / other	Overnight
New South Wales	**469,631**		**270,040**	**237,365**
A1 peer group: Principal referral				
Bankstown-Lidcombe Hospital	11,866		6,108	5,615
Concord Repatriation General H	15,238		5,418	4,667
Gosford Hospital	13,993		9,367	8,480
John Hunter Hospital	19,623	1	10,468	10,637
Liverpool Hospital	22,306	2	13,242	11,367
Nepean Hospital	16,056	3	10,053	8,789
Prince of Wales Hospital	12,325		6,637	5,513
Royal North Shore Hospital	19,935	4	12,252	10,249
Royal Prince Alfred Hospital	20,454	5	11,833	10,499
St George Hospital	16,318		9,187	8,562
St Vincent's Hospital Sydney	10,934		5,350	4,289
Westmead Hospital	25,166	6	11,263	10,896
Wollongong Hospital	13,431		9,449	8,014
Total A1 peer group	**218,070**		**120,628**	**107,931**
B peer group: Major				
Auburn Hospital	4,025		2,956	2,160
Blacktown Hospital	10,805		8,268	7,132
Mount Druitt Hospital	2,544		1,410	1,112
BMDH	13,347	7	9,678	8,244

Coming to the most likely "Diagnosis" is **core** and *pivotal*



SES Direct and Indirect Factors

2026

2 Increased **"Cost of Production"** – labour costs and quality

1 Low Health Literacy – increases cost of production

Expenditure/Head of population
R.V.I.

Concluding… "Further, the **gap** in health outcomes between the ***most disadvantaged*** in cities and the most advantaged, **exceeded the gap attributed to rurality".**

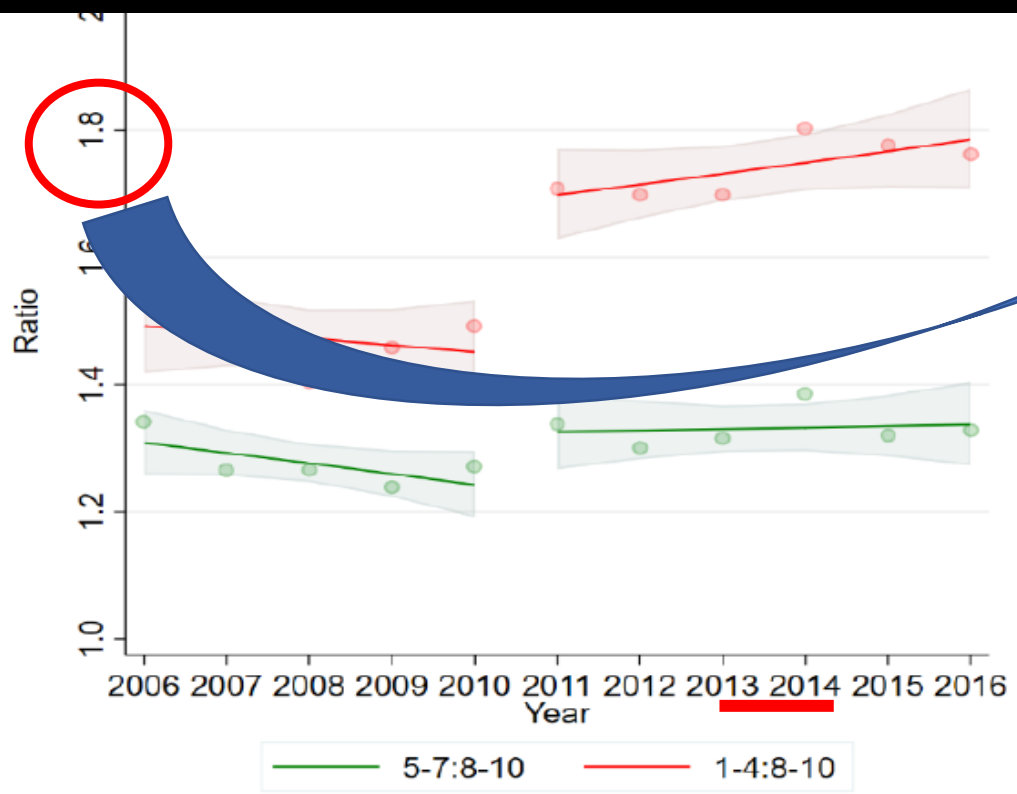


Figure 3: ASDR (per 100,000) by sex and major cities area socio-economic decile group (1-4, 5-7, 8-10): trends and ratios (versus 8-10), 35-74 years, Australia, 2006-10 and 2011-16

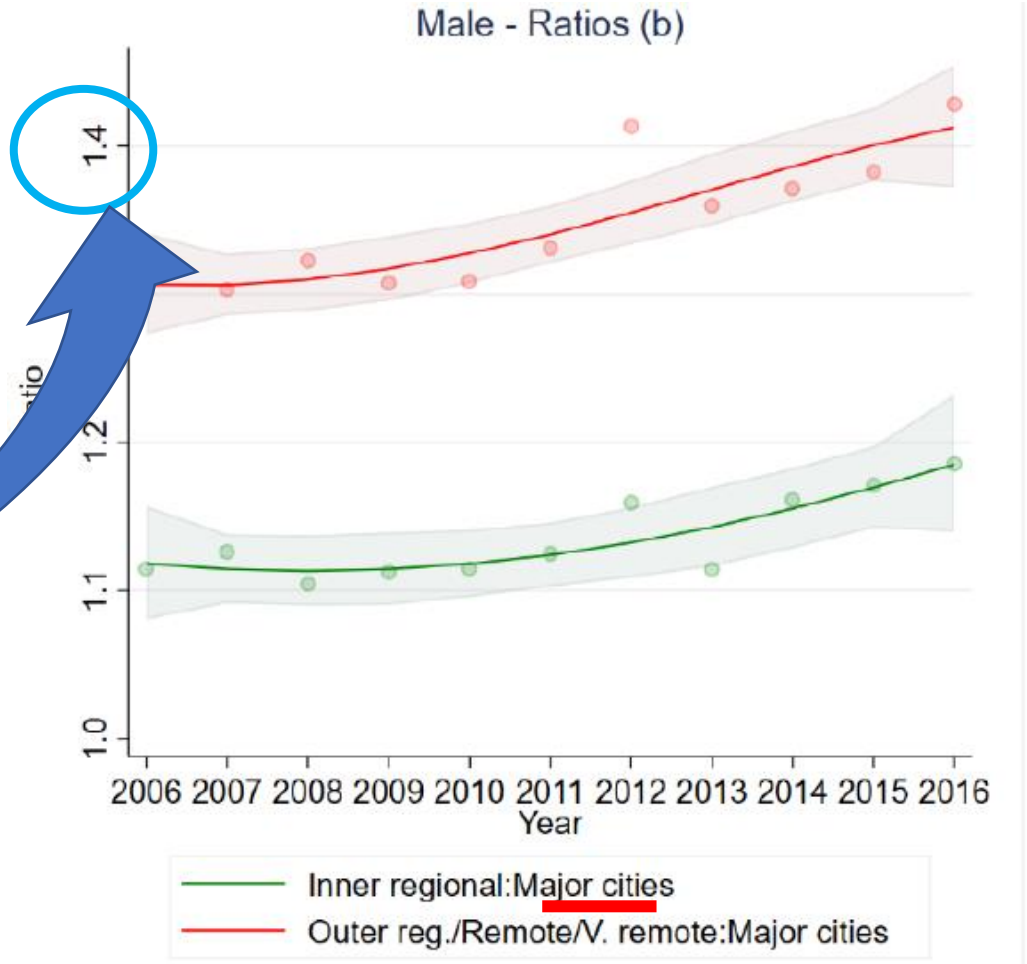


Figure 2: ASDR (per 100,000) by sex and remoteness: trends and ratios (versus Q5), 35-74 years, Australia, 2006-16

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Widening inequalities in premature mortality in Australia, 2006-16

Tim Adair* The University of Melbourne

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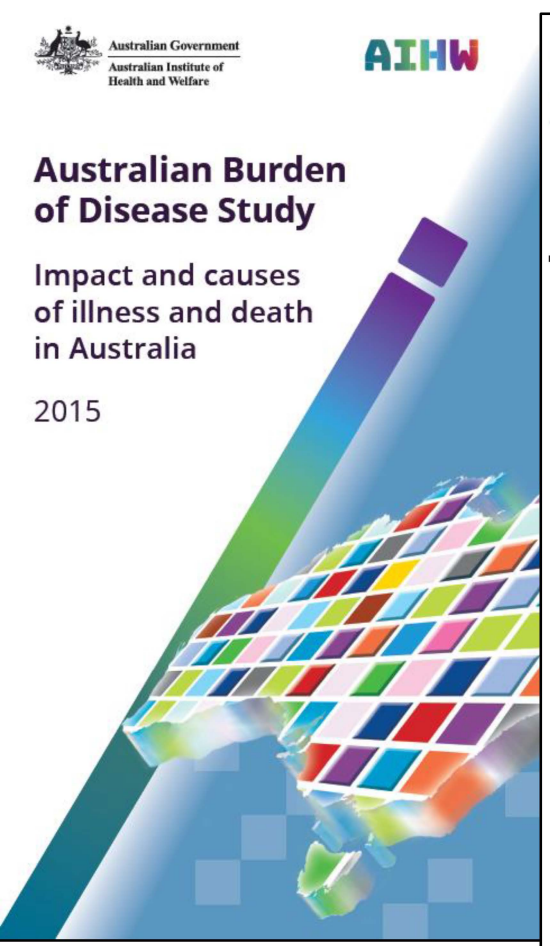
Australian Government
Australian Institute of Health and Welfare

AIHW

Australian Burden of Disease Study

Impact and causes of illness and death in Australia

2015



Change in disease ranking and age-standardised DALY rate (DALY per 1,000 population), 2003 and 2015