Submission No 269

INQUIRY INTO HEALTH OUTCOMES AND ACCESS TO HEALTH AND HOSPITAL SERVICES IN RURAL, REGIONAL AND REMOTE NEW SOUTH WALES

Organisation: Orange Health Service Medical Staff Council

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OHS MSC Submission to the Inquiry into Health Outcomes and Access to Health and Hospital Services in Rural, Regional and Remote New South Wales.

Background:

Orange Health Service (OHS) is a rural hub referral hospital providing specialist care within Western NSW Local Health District (WNSWLHD). Orange provides a radiotherapy service, a cardiac catheter service, level 5 role delineation ICU, ED, Coronary Care, Surgery, Anaesthetics, Obstetrics, Paediatrics, Cancer services and subspecialty Medicine.

Many specialist services in Orange provide care for patients across the whole LHD, servicing a population of over 270,000, spread across a vast geographical distance of approximately 250,000 square kilometres.

Services provided by a rural hub hospital can be highly effective and can deliver a high quality of care, when appropriate infrastructure, staff resources and recurrent funding is provided. However, achieving appropriate resources, sufficient to meet patient demand, remains a challenge. Workforce would benefit from the approval, funding and recruitment of additional specialists in all specialties, as the current specialist workforce numbers are below the number required per capita to meet patient demand for care and achieve equity of access.

Health outcomes and access to health and hospital services in rural, regional and remote New South Wales:

Health outcomes for people living in regional and remote new South Wales

Data from AIHWA shows that health outcomes are worse for people living in regional and remote NSW. Some of this disparity relates to demographics and poorer lifestyle choices in regional areas, but reduced access still plays an important role.

Providing rural infrastructure and services can produce significant improvements. For example, opening of the Cardiac catheter lab in Orange has significantly improved heart attack services across the whole of the WNSWLHD. The BHI 2015-2018 data (table 1) shows that the service in Orange was the 7th busiest heart attack treatment centre in NSW and achieved mortality rates that are as good as metropolitan centres and below state average. Increasing numbers of patients were able to gain direct access to the rural cardiac centre in Orange over time. The death rate for AMI decreased as access for patients improved (Table 2). When resources (infrastructure and recurrent funding) are provided, rural doctors and nurses are able to achieve excellent health outcomes for patients.

Provision of Radiotherapy and recruitment of additional specialists in Haematology and Oncology has allowed the development of cancer services and provision of a higher level of service over time. However, the successful shift of care to a rural hub location closer to rural patients' homes, rather than a metropolitan treatment centre or a metro outreach model, necessitates ongoing assessment of staffing and funding requirements, to ensure patient access and prevent staff burnout.

Funding to new programs needs to be ongoing, with clinical oversight to ensure patient care and service needs are met.

The WNSWLHD does not have open and transparent clinical services plans or openly agreed staff development and recruitment plans for specialists across the LHD.
Future medical workforce staffing profiles and patient access plans for patient care across different specialties within the LHD should be developed and openly matched with the projected population and health care needs.

Comparison <u>outcomes for patients</u> living in rural, regional and remote New South Wales compared to other local health districts across Metropolitan New South Wales
Bureau of Health Information (BHI)- Insight series data (www.bhi.nsw.gov.au) provides information which compares 30 day mortality for 5 key conditions (heart attack, 2 types of stroke, hip fracture, pneumonia) in centres across NSW. From this data, it can be seen that larger rural centres, such as Orange, compare reasonably well for some conditions. Improving outcomes for specific conditions requires better analysis of the data and for action to be taken to help hospitals that are not achieving good results for a certain condition to work out how they can do better and institute changes. In WNSWLHD, there has not been any openly communicated systematic analysis of BHI mortality data, with feedback to clinical staff, to engage clinical staff in any systems improvements. A different approach to how data is analysed and used, with clinician input, could help drive improvements in patient care.

Funding for rural hub hospitals has lagged behind traditional metropolitan hospital funding, despite the activity based funding (ABF) model. This is exacerbated by the multiple smaller hospitals throughout the district that, due to their size and relative inefficiency, fail to achieve economies of scale, but ultimately result in reduced resources for the district's overall population. This is a stark contrast to metropolitan districts with larger hospitals that operate under more efficient economies of scale. Orange has taken on a greater role in many

specialties over the last decade or more, performing some work that would traditionally have been transferred to metropolitan centres. Some of the resources needed to perform this work, such as subspecialty registrars, are still absent or below the number available to metropolitan units performing a similar clinical load.

The LHD system and NSW Health rely on financial and volume KPIs with less focus on clinical KPIs and an over-reliance on self-reporting by LHDs

The KPIs for the LHDs and targets set are mostly volume or timeframe based – such as timeframes in ED and surgical access targets. This is measuring how long patients spend in the building rather than the quality of their care. There is always a focus on financial measures. Improvement of clinical outcomes requires more emphasis on clinical KPIs. Linkage of 30 day mortality figures, and time to cancer treatment initiation, to health service agreements, and therefore to funding models, may shift the focus of administrators to clinical service performance and the quality of patient care, leading to better engagement with the clinical workforce. In the following paragraphs there are listed several examples where insufficient funding is a key issue preventing effective patient care. The overemphasis on financially focused KPIs decreases the system's scrutiny of vital patient care outcomes.

There is no KPI for beddays waiting for transfer between hospitals

Rural and regional patients must often wait many days for a bed in a metropolitan centre for ongoing care. This represents a major cost to the NSW Health system. It can also increase the risk to a patient of a complication or poor outcome, due to the delay in their definitive care. On any given day across NSW Hospitals a significant number of beds are occupied by patients who are simply waiting for transfer, rather than receiving treatment. This needs to be clearly quantified to minimize the inefficiency and the risk to rural and regional patients and the inconvenience to both the patients and their families.

The current KPIs focus on optimizing times to clear patients out of Emergency Departments into ward beds. This creates pressure at all hospitals to prioritise clearing their own ED before taking out of area transfer patients, which can lead to regional and rural patients waiting longer for care than patients who live in a metropolitan area.

A transparent KPI system for transfer waiting times is needed to ensure not only equity of access but also to assess cost effective resource management and to minimise wasted, waiting beddays.

Performance of the Clinical Governance Unit (CGU)

The Clinical Governance Unit is tasked with overseeing quality of patient care in the Health District and with conducting investigations when there is a poor patient outcome. The CGU in WNSWLHD has lacked senior medical leadership for a number of years. The communication of the CGU with clinical departments and clinical streams has been suboptimal with a paucity of data being provided back to clinicians about system level clinical performance and a lack of clarity in the grading of some clinical incidents and a lack of provision of findings arising from investigations to clinical units. Some Serious Adverse Clinical (SAC) incidents have been downgraded, without information being provided to clinicians as to the reasons for downgrading and this can change whether a poor patient outcome is investigated at all.

The WNSWLHD has recently appointed a senior clinician to the CGU, which is welcomed. A change in how this unit performs and what information it provides back to clinical units and clinical streams would assist the ability of the health service to constantly review system performance and improve patient care. More importantly, it will rebuild the trust clinicians have in the system that has been eroding away.

Clinicians would like to be more involved in the review of serious adverse events (particularly SAC 2 and 3 events) and would welcome better structures to enable clinicians to review outcomes and recommendations, in order to inform improvements in systems of care.

Clinical governance units in all LHDs should have consistent standards and procedures. External oversight (from the Clinical Excellence Commission or BHI or NSW Health) might help to achieve the same standards of analysis and reporting. Consistent clinical governance across NSW is essential for ensuring good patient care and outcomes.

Provision of a Specialist workforce in rural and regional centres

Orange has managed to attract a large number of specialists over the last 3 decades or more. As a higher level of service is developed, it becomes easier to attract specialists to join a rural hub hospital with a strong clinical culture of being a welcoming hospital with a high quality of care, an interest in rural research, and a high degree of support and subspecialisation.

However, for a specialist to locate to a regional area they usually need an appointment to the public hospital. Most specialties cannot work solely in the private sector and private hospital options can be limited, even in Orange. The WNSWLHD focus is primarily on inpatient service needs, whereas the major burnout risk for many specialties is in trying to meet the ever escalating

demands of the patients and the community for outpatient care. Not only is outpatient care essential in avoiding hospital admission, it is an essential component of follow up care. The existing specialist workforce in Orange (although large compared to many regional settings) is well below the per capita number of specialists to adequately meet population need, which places a heavy load on those juggling inpatient rosters and outpatient service needs.

To gain approval for a new specialist position can take two years of meetings and lobbying management at local and district level and most of such applications for service expansion and recruitment are denied, due to perceived budget constraints. A recent example of this occurred in the Orange Hospital Paediatric Department. Waiting times for paediatric outpatient services had steadily increased over at least 3 years and reached a crisis during 2019/2020 when new referrals needed to be declined, leaving families with no option but to travel to Sydney or Canberra for routine assessments of their children with autism, ADHD and development or learning disorders. This had been foreseen by the clinicians and communicated to the OHS administration, but it was only after the critical service shortage was impacting on local families that a task force was formed and eventually a short-term solution (temporary appointment of a part time fee for service VMO) was developed. Long term strategies to prevent a recurrence of this situation have not yet been developed.

The per capita deficit in the number of rural/regionally based specialists will never be addressed unless the current models of employment are replaced with a more relevant federal/state funding model for regional and rural hospitals. For example, the appointment of a greater number of Visiting Medical Officers (VMOs or contractors) or fractional staff specialist appointments, effectively dividing the inpatient workload across a greater number of specialists, may lead to a greater number of specialists per capita able to live and work in the area. This would make rostering for hospital services more sustainable and would also result in improved patient access to care in the outpatient setting.

Improving the number of funded advanced training specialty positions in rural hubs would not only lead to a greater number of trainees wanting to come back to regional areas, it would also assist immediately by providing greater support to regional hospitals. Registrars can support specialty rosters and alleviate clinical load for the consultant workforce, provide essential supervision and training for Junior Medical Officers, nursing staff and medical students. In addition, they improve the quality of patient care.

Analysis of the planning systems and projections that are used by NSW Health in determining the provision of health services that are to be made available to meet the needs of residents living in rural, and regional and remote New South Wales

It has been the experience of Orange that service planning projections have been profoundly wrong over the years in predicting the demand for services at a rural hub hospital. The models used seem to neglect the following issues;

1. Collapse of some services at smaller hospitals due to inability to recruit and retain suitably qualified rural GPs leads to an increased demand for services at the rural referral centre. For example, lack of GP obstetricians and Anaesthetists has led to the inability of smaller district hospitals in WNSWLHD to provide obstetric services, impacting the demand for Obstetric and Paediatric services in Orange. The needs of this service were not accurately predicted and modelled.
2. Providing services in a rural hub that take over the role previously provided by transfer to a metropolitan centre cause a large shift in patient flows and keeps more patients within the area. This shift also uncovers unmet demand. Service needs and impacts on beds have not been correctly modelled. For example, in Cardiology, a large volume of patients are now cared for within the area, with good outcomes. Inpatient care is now provided in Orange that would previously have required transfer to a Sydney hospital with associated costs of interhospital transfers. Bed modelling has never matched the needs of this service, which still only has a funded bed base of 16 beds, despite 22 being constantly in use in an overtime model. A supernumerary in charge of shift nurse is still not provided. This unit performs the 7th largest volume of acute AMI treatment in NSW. Resources to match the volume of work performed lags behind service development and is well below that of metropolitan hospitals performing a similar, or even much smaller volume of cardiac procedures. The Haematology unit in Orange has been treating acute leukaemia patients for several years, rather than transferring them to Sydney hospitals. This avoids the costly transfer to metropolitan centres and the considerable inconvenience to patients and their families, but once again the required staffing, increased beds and recurrent funding to do this work has not been fully resourced.
3. There is a population movement of retirees from Metropolitan areas, due to the cheaper cost of housing, as well as from outer rural centres into Orange, to be close to medical services. These populations trends do not seem to be catered for in existing planning models.
4. Health need index is factored into some health care planning, but has it been fully counted in predicting health service demands? Rural populations have a higher rate of disease, are older, sicker and have reduced access to primary

and preventative care. There is a higher rate of unhealthy lifestyle choices and a higher rate of obesity. Whilst the rate of some conditions (such as ST elevation infarction) may be falling in metropolitan populations, it is rising in rural populations, which will further impact health service needs.

The errors in planning could be better detected and remodelled if actual activity data was reviewed at least annually. This could lead planners to more accurately model health service needs across NSW.

The current and future provision of ambulance services in rural, regional and remote New South Wales

NSW Ambulance services, in collaboration with WNSWLHD have achieved major improvements in heart attack outcomes through the State Cardiac Reperfusion Strategy (SCRS) whereby the paramedics administer treatment and divert patients to major centres, as per state protocols. NSW ambulance have also made a big difference with a program known as Clinical Emergency Response Systems (CERS) assist, whereby a paramedic can be called on to help a nurse in an emergency situation, where there is no doctor at a small facility. This program can save lives.

Many treatment protocols, for example cardiac, stroke and trauma, require NSW ambulance paramedics to divert to a major hospital. This provides patients with an excellent level of care, but also places an increasing resourcing impact on NSW ambulance, particularly in a regional and rural setting, where a diversion can lead to paramedics travelling long distances round trip, incurring overtime.

Consideration should be given to greater co-operation between agencies and to the employment of more regional and rural paramedics to perform these duties and perhaps looking at models whereby paramedics fill shifts where small rural hospitals do not have an onsite doctor and are only supported by a telehealth service. There are trained rural and regional graduates of paramedic training who can struggle to gain employment currently, with countries such as the UK actively recruiting Australian paramedics. Consideration should be given to increasing the number of paramedics employed in regional areas and providing them with a higher level of training. Intensive Care vs P1 paramedics have a greater scope of practice. It would be advantageous for regional and rural areas to have more Intensive Care trained paramedics. There is a high burden on retrieval services in regional areas and timeframes can be limited by the number of assets (ambulance/helicopter) available in the fleet and the staff time required to perform the transfer.

The access and availability of oncology treatment in rural, regional and remote New South Wales

The rate of cancer is increasing in rural and regional centres. Providing care closer to patient's homes is an aim of NSW Health. Regional cancer centres, such as Orange, need increasing resources to meet the demand. Further funding for positions in Hematology and Oncology and funding for Registrar positions is required to bring our full-time-equivalent staffing (FTE) up to the equivalent FTE of metropolitan centres. The service provided in Orange matches that given in Sydney, however the FTE does not. Orange lacks crucial specialist cancer nurses who provide excellent preventive care as well as decant much clinical work from an already stretched physician service. These nurses are routine in the metropolitan setting.

The access and availability of palliative care and palliative care services in rural, regional in a new South Wales

There has been a very active movement within the local community "Push for Palliative Care" which has lobbied NSW parliament to increase palliative care services. This is illustrative that the public feel that there is an increased need for Palliative care services. Comprehensive Palliative Care services need to cover much more than the commonly assumed 'terminal care in the setting of cancer illness' to meet the needs of patients and their families.

Historically, the LHD palliative care services have been scant and poorly-coordinated, creating patchy service delivery. Currently the entire specialist palliative care workforce within Western NSW LHD is approximately 20 FTE of clinical staff (medical, nursing, and allied health), with very limited administrative support.

The LHD has made significant steps over the last five years to develop a more comprehensive and contemporary specialist palliative care service; including the transition in 2020 to an LHD-wide service model which has already created some efficiencies and service improvements. The LHD has established a separate palliative care clinical stream, and has established an after-hours advisory service staffed by local specialist palliative care nursing staff.

The efforts to further enhance services have been limited by a number of factors:

a) NSW Health does not currently have an agreed, uniform state-wide platform for the collection of palliative care or End of Life (EOL) care data. Most community-based teams cannot report clinical KPI data through the accepted clinical quality tool. This further limits the

ability to accurately provide clinical benchmarking of regional palliative care services in comparison to metropolitan services. Clinical KPI measurement in palliative care is more subjective than in other specialties. The difficulty of classifying the elements of "a good death" being evidence of this. As a consequence, the families of rural residents who die without access to quality palliative care are not necessarily aware of having experienced a 'suboptimal' or poor clinical outcome.

b) The College of Physicians oversees the training of Palliative Care specialists and regulates where doctors can train and gain qualifications in Palliative Care medicine. Currently the training program for specialist recognition in palliative medicine (FAChPM) is entirely city-centric, with college-imposed restrictions on training positions effectively precluding rurally-based training in all but three locations in NSW (Coffs Harbour, Nowra and Broken Hill). An expansion of opportunities for palliative care advanced skill training for both specialist physicians, and for GPs via the rural generalist pathway must occur. Coupled with this, the Ministry must consider innovative ways to encourage and support rural generalists working in regional palliative care services. Expanding diploma training opportunities and enhanced rural training for specialist physician (advanced) trainees will help to grow and expand existing regional and rural services to a more adequate level.
c) The recruitment of medical specialists will remain problematic for the foreseeable future. Recognized specialist palliative care doctors are completing the training program in relatively small numbers and are absorbed into expanding urban palliative care services. Creating an attractive appointment for a palliative care specialist in a rural location is difficult, when the position will entail work as a solo-practitioner, or working within a service with one other consultant level doctor and no dedicated training registrar.

In this climate, it is difficult to develop a robust business case for service enhancements in palliative care, which further limits service development. Funding for specialist alliative care allied health and clinical nursing positions must be prioritized to develop an adequate level of palliative care service within our region.

In the last five years, Australia has shifted significantly, and most states and territories have either passed or are considering legislation around euthanasia (either "patient-controlled" or "physician-assisted"). The last legislation

considered in NSW was narrowly defeated, but it is likely a more carefully constructed bill will pass into law within the next five years. It is imperative that regional communities are not left with the option of severely limited access to quality palliative care.

The access and availability to specialist endocrinology services in rural, regional and remote New South Wales

Orange Health Service have been without a public endocrinology service for the last three years. Many patients are unable to afford to see a private specialist and due to delayed presentations, poorer access to primary health care and reduced health literacy, often have complex endocrinology needs. Attempts to recruit a staff specialist from within existing established funds, rather than a new position, have been unsuccessful. In light of recent events surrounding this inquiry, our listed tertiary referral centre (RPA) has been unwilling to provide consultative phone advice for complex inpatients. In addition to funding for an endocrinologist, there needs to be greater support provided from tertiary centres to rural and regional sites.

An examination of the impact of health and Hospital services in rural, regional New South Wales on indigenous and culturally and linguistically diverse (CALD) communities.

WNSWLHD has a high proportion of people who identify as being of Aboriginal or Torres Islander descent, at 11.1% versus 3.4% in the overall population of NSW. There is also an over-representation of Aboriginal people in the hospital presentations due to an increased rate of disease in this group. Whilst improving the level of service and of patient access generally in Orange and across the district will benefit Aboriginal people, much more could be done to address their specific needs.

Key stakeholders in this area have repeatedly identified a need for a greater number of not only Aboriginal Liaison Officers (ALOs), who predominantly deal with the social and cultural needs of Aboriginal patients, but also for the creation of positions of Aboriginal caseworkers, whose role would be one of an Aboriginal healthcare worker, trained to work with patients who identify as Aboriginal or Torres Islander descent, to improve their understanding of medical treatment and of the need for medical follow up and would actively assist patients in navigating the healthcare system and connecting with suitable healthcare follow up.

The current number of ALOs in Orange is insufficient to meet patient need and there is little capacity to actively connect patients with ongoing care.

Access to Obstetric Services in Rural and Regional NSW

Rural GP obstetric services in smaller towns continue to decline due to lack of availability of suitably trained GPs with training in Obstetrics and in Anaesthetics. In Orange, this translates into a significant increase in the birth-rate, due to smaller towns (such as Forbes and Parkes) being unable to run complete obstetric services, with a declining number of deliveries. This trend will continue over the next 5 years. The Obstetrics unit in Orange has no oversight role in the support of the smaller surrounding units, or the clinical oversight of the quality and safety of the service provided, due to an inefficient management structure of Obstetric services that has been inherited over many years. For example, there is no ability to fund the rotation of midwives between units to maintain midwife skills. This should be addressed, as small units struggle to maintain staffing and safety. The physical limitations of the infrastructure built into the Orange Health Service maternity / nursery and paediatric units need to be urgently addressed as a much younger population is migrating west from Sydney and the services will need to expand beyond the space currently available, in order to meet demand.

Any other related matters

Lack of any avenue for a medical staff council to escalate concerns beyond the LHD for a fair and objective analysis

The LHD system devolved the responsibility for management of healthcare to the LHD Management and LHD board. NSW Health have an oversight role, but in the event of any significant dispute that has not been resolved within the LHD structure, there is little assistance from NSW Health available to clinical staff or to a Medical Staff council.

It has been the experience of the Orange MSC that there has not been true separation of the Chief Executive and the Board Chair of the LHD, within the current structure. The NSW Health Services Act calls for the LHD Board to provide independent oversight of the Chief Executive and senior management staff, but this does not appear to be the case in practice.

The NSW Health Services Act calls for engagement of the LHD Boards with the community and with the Medical Staff Councils. After lobbying at the NSW MSEC level, the routine invitation of the MSC chairs to WNSWLHD board meetings is now occurring, but detailed understanding by all parties on what exactly the role of the MSC chair is at these LHD Board meetings is still lacking. Further engagement of the MSCs and clinicians across WNSWLHD will improve the clinician input into service planning and decision making.

There is a “People Matter” Survey conducted by the NSW government every year to assess staff engagement with management and with each other. The results of this survey are averaged and collated into only one composite engagement score. In the event of poor senior management engagement with clinicians, the systems and processes for fixing problems have been difficult to access, lacked transparency and left clinicians feeling unsupported within the LHD structure. The recently commissioned review of medical administration across WNSWLHD will hopefully help to provide strategies for improvement in clinician engagement and support, but full transparency and release of the report findings and recommendations will be required to help build trust and confidence in the process.

The Role of Telehealth in a large rural Health District

Telehealth can be a means of supporting patient care and of supporting clinical staff by connecting them with specialist input and support in caring for patients. WNSWLHD developed the Critical Care Advisory Service (CCAS), staffed by senior specialists in Emergency and critical care medicine who worked within the LHD. This service had many positive benefits in connecting specialists and in providing better co-ordination of patient transfer and of documenting clinical care calls in patient records.

Recently the service has been re-invented as V-Care (Virtual Care) and is now under the leadership of an Emergency Physician based in Sydney. The re-development of this service was undertaken without the engagement of the LHD clinical streams (networks of specialists across the LHD), clinical departments at Orange or individual clinicians, before the changed model of care was implemented.

The specialist group in OHS have raised concerns about the current service model within the organization, but, as yet, identified problems with the model of care have not been addressed. The identified problems are as follows;

1. Not all medical practitioners providing this service have uniform medical experience and qualifications and the level of clinical assessment and of documentation is variable.
2. Not all medical practitioners have an appropriate local knowledge of the hospitals and services that they are assisting. Consequently, management plans do not always match the needs of patients in a given setting. Errors occurring include attempts to leave patients with a given condition in an inappropriate care setting and inappropriate or no follow up plans for

patients who cannot readily access outpatient care when they are sent home from hospital by the virtual service.

3. Not all service providers have a good understanding of the specialist services available within the health district and in some cases timely specialist advice in the stabilization and care of the patient is not sought. The service has sometimes operated as a distribution centre, seeking at best to notify a receiving hospital of an impending arrival, rather than functioning as a virtual hospital that engages in a team approach to include all the clinicians in management discussions about the patient prior to transfer.
4. The current system also utilizes a virtual GP service in smaller towns. Whilst this may support some rural GPs to have a reasonable on call load, there is a risk of the service seeking to replace a locally based rural GP workforce with a virtual, Sydney based model, which could have a significant adverse impact on the ability of rural communities to access primary outpatient care.
5. The care of patients waiting for transfer between sites needs to be carefully monitored, which has not always been the case. There can be a lack of a clear understanding of who is caring for a patient in the telehealth model and when and how onsite staff should escalate a call for further assistance in the event of patient deterioration.

Whilst telehealth can be a powerful tool to assist regional and rural communities, models of care need to be robust, with excellent communication systems and excellent systems of clinical governance. Provision of a telehealth service in a vast rural LHD such as WNSWLHD requires an in depth local knowledge of the rural area and of the hospitals in the LHD, their role delineation and specialist services available. Fundamentally a telehealth service needs to focus on the needs of the patients and the communities they seek to serve and to respectfully engage with all locally based health care workers to achieve the best models of care.

Summary Points;

1. Regional Referral Hospitals can play a big role in improving patient access to care and patient outcomes. Orange has already played a big role and could improve services further with enhancements to infrastructure, staffing and recurrent funding.
2. Regional referral hospitals can play a large role in the provision of outreach services and in the support of surrounding smaller sites.
3. Provision and funding of more regional postgraduate medical training is essential if the need for more rural specialists and subspecialty trained GPs is to be addressed.
4. A review of population modelling and adequate funding of Regional referral hospitals is overdue, taking into account retiree populations shifts, health need index and the current activity levels and demand for services.
5. Better matching of resource requirements (such as staffing and recurrent funding) to service volume is required on a state-wide basis – for example taking into account the shift in acute cardiac care to rural (and outer metro) centres across NSW, based on BHI data.
6. There is no formal avenue for clinicians to raise issues with the Ministry, in the event that they are unable to address them within the LHD.
7. Telehealth can be an important model in regional and rural healthcare, but models need to be robust, safe, monitored and tailored to local services and patient requirements. Services need to support clinicians (doctors and nurses) in regional settings and ideally be staffed by clinicians who work in the area, in order to build local medical workforce capacity, not risk eroding it.
8. Focus on clinical outcomes, rather than financial, volume and timeframe KPIs is needed in order to drive improvements in models of care.
9. Beddays that rural patients spend waiting for transfer to regional and metropolitan centres need to be quantified and openly reported, with KPIs set to drive improvements in equity of access targets and to achieve rational use of hospital bed resources.
10. Clinical Governance Units across LHDs need to have uniform systems of reporting, oversight and provision of feedback to clinicians in order to drive improvements in patient care.

Table 1 NSW BHI 30 day Acute Myocardial Infarction (AMI) mortality report 2015-2018

Comparison of the top 15 referral Hospitals with Cardiac Catheter facilities in NSW, listed in order of volume of total AMI cases Treated.

Referral Hospital	Total Number	Incident cases	% STEMI compared to state average	Mortality % (NSW average 5.9%)	RSMR
John Hunter	2467	1851	32.70%	6.2	0.92
Westmead	2311	2015	16.20%	6.5	0.83
Liverpool	2028	1799	10.70%	5.3	0.79
Nepean	1643	1434	6.20%	6.7	1.32
Wollongong	1458	1329	8.10%	8.1	1.11
RNSH	1495	1318	19.80%	5.5	0.68
Orange	**1298**	**840**	**19.50%**	**4.8**	**0.91**
Gosford	1192	1060	-1.70%	5.8	0.88
Blacktown	1192	1059	-18.10%	3.3	0.62
St George	1111	1019	14.10%	5.2	0.75
POWH	980	830	9.90%	4.9	0.67
RPAH	955	767	11.40%	6.6	0.95
Wyong	819	726	-19.60%	4.7	0.85
Campbelltown	799	735	-19.90%	3.8	0.96
Lismore	**772**	**655**	**-12%**	**5.2**	**0.94**

RSMR– Risk standard mortality ratio that describes the observed number of deaths versus the expected deaths, taking into account casemix and patient characteristics. A Ratio <1.0 is lower than expected mortality. Total Cases is the total number of Heart attack patients treated in that hospital, including both “Incident” cases admitted directly to that hospital, as well as patients transferred in from another hospital. ST Elevation MI (STEMI) is an emergency situation where a heart attack patient has a pattern on their ECG indicating a completely blocked coronary artery, needing emergency treatment to urgently open the artery. A higher rate of STEMI patients indicates a higher workload of complex and very unstable patients.

Orange, a regional and rural Hub hospital has been able to treat the 7th largest number of heart attack patients in NSW, with a high % of complex, unstable STEMI patients, with a very low mortality, below state average and an RSMR<1.0. This illustrates that rural hospitals can achieve excellent outcomes for patients when given resources to do so.

Table 2: Impact of the NSW Statewide services Cardiac catheter Lab program and State Cardiac Reperfusion Strategy (SCRS) 2009-2018 on 30 day AMI mortality figures in Orange

	July 2009-June 2012		**July 2012-June2015**		**July 2015-June 2018**	
Stage of Cath Lab service development in Orange	Diagnostic only 2005-2007, PCI 1 day/week 2008-2011, PCI 3 days/week and 24/7 PCI from 2011		24/7 PCI, ECG reading service from 2014 PHT and ambulance diversions		24/7 PCI ECG reading service PHT	
	Total number of patients (presenting patients) (% mortality)	**RSMR**	**Total number of patients (presenting patients) (%mortality)**	**RMSR**	**Total number of patients (presenting patients) (%mortality)**	**RMSR**
Orange	470 (313) (7%)	0.95	894(513)(4.7%)	0.84	1298(840) (4.8%)	0.91
NSW Total	**29223(7.5%)**		**38352(6.9%)**		**35843(5.9%)**	

PCI= Percutaneous Coronary Intervention, or placing a stent in a coronary artery

Diagnostic angiogram = only able to obtain pictures of the coronary arteries, but not able to intervene or place a stent in an artery

24/7 PCI = There is a callback service in place whereby doctors and nurses are on call to come in and open a patients artery with a stent (or PCI) in the event of a heart attack.

ECG reading service= a service where NSW Ambulance are able to transmit an ECG directly to a Cardiologist 24/7 for immediate advice on heart attack treatment.

PHT= Pre-hospital Thrombolysis. A program where NSW ambulance are able to give Thrombolysis (clot busting treatment via an injection) to heart attack patients, on the advice of the on call cardiologist.

With the provision of a cardiac catheter lab, Orange was able to steadily increase the number of heart attack patients treated within the regional area, from 470 to 1298 by the 2015-18 report, and to achieve lower than NSW average mortality for AMI at each stage of the cardiac catheter service development.

These tables have been produced using data provided for individual hospitals in the BHI Insight Series Reports for Mortality, found at www.BHI.nsw.gov.au