Travis Review

Interim report

March 2015

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Transmittal letter

The Hon. Jill Hennessy
Minister for Health

31 March 2015

Dear Minister,

I am pleased to present my interim report for your consideration.

This report covers the initial period of the Travis Review, from December 2014 to March 2015. It includes the results of my investigations into the number of beds, operating theatres and other key patient facilities in the Victorian public hospital system. The results are categorised as points of care (POC) that are generally available for patients and the total POC that exist, including those that are closed but could be re-opened subject to demand and availability of funding. The survey is one of the most comprehensive ever performed in Victoria and will provide a basis to consider how capacity in Victorian hospitals can be enhanced now and in the future.

As detailed in my report, Victoria currently has 13,981 inpatient beds (acute and subacute beds, excluding mental health beds) of which 12,545 are generally available for use. In addition, there are 1,284 patient treatment spaces in public hospital emergency departments, urgent care and primary care services, of which 1,190 are generally available. I have also measured operating theatres and other specifically dedicated facilities. There are 290 operating theatres, of which approximately 237 are generally available for use. In addition there are 61 procedure rooms, of which 52 are generally available for use. Mental health beds are not included in this report; to get an accurate assessment of mental health POC it would have been necessary to survey the various community services as well as hospitals, which was outside the terms of reference.

I have drawn the following key conclusions from my investigation:

- The Victorian public hospital system is well equipped in terms of the physical capacity of facilities to meet the immediate challenges of a growing population with increasing demand for health services. However, not all facilities meet community expectations and contemporary standards for hospital facilities.
- In some areas there is a mismatch between facilities, funding and demand.
- It would be helpful if there was a statewide service and infrastructure plan to guide the future allocation of resources.

While Victoria has a considerable stock of existing hospital beds and other patient treatment facilities that could be commissioned, it is important that investment in capital funding in public hospitals continues in order to ensure: facilities are kept in fit-for-purpose condition (renewal); additional facilities are provided in areas with growing and ageing populations; and hospitals can accommodate changing clinical practice.

A good example of the need to adapt facilities to accommodate changing clinical practice has been the development over the last 15 years of short-stay inpatient units located adjacent to emergency departments. These units provide a better location for treating patients who can be seen within 24 hours than either an extended stay in an emergency department cubicle or a transfer to a separate inpatient ward. This is one element of how the public hospital system can reduce emergency department delays.

The number of hospital beds and, more particularly, the change in the number of beds over time is no longer a good measure of a hospital's ability to treat increasing numbers of patients. This fundamental shift in thinking is because of changes in technology and practice that enable care to be delivered with less time in hospital – either at home or in an alternative community setting. For this reason, I recommend that, when you are considering capacity issues, there should be a greater focus on reporting the proportion of patients who fail to be treated within clinically recommended timeframes, outpatient appointment waiting times and the time it takes to clear a waiting list. These metrics are already collected (with the exception of outpatient appointment waiting time) and better answer the

public's key questions: *Will I get treatment?* and *How long will it take?* In addition I recommend the collection and publishing of waiting times for an initial outpatient appointment.

I have also examined a range of proposals from public health services and made recommendations for your consideration in the allocation of the Beds Rescue Fund. While there were many worthy proposals put forward for consideration, I have selected the proposals I consider will provide best value for Victoria.

The final phase of the review has commenced with widespread consultation on two key areas: innovative models for process redesign that increase hospital capacity; and expansion of alternative models of care that enable more patients to be treated within existing funding. These will be the subject of the additions to the final report I intend to present to you in June 2015.

I wish to thank the public health services that contributed to the findings of the initial phase of the Travis Review. Their contributions have provided a valuable stocktake of hospital capacity that will provide the department and government with a basis for planning and delivering services into the future.

In addition, I acknowledge the contribution of Dr Katherine McGrath as an independent advisor, and the support of the department in providing the review secretariat.

Yours sincerely,

Douglas G Travis, MBBS FRACS (UROL)
Chair, Travis Review

Executive summary

The Travis Review was commissioned by the Minister for Health to conduct an independent statewide census of bed and theatre capacity, and to provide recommendations about how to increase the capacity of Victorian hospitals.

Measuring hospital capacity

In 2014, despite 1.6 million admissions and almost 1.5 million emergency department presentations, some nationwide benchmark targets for access were not met.

Historically bed numbers have been used as a surrogate measure for capacity, hence bed numbers have been used to measure government investment in capacity building and community access to public hospital services. However, beds are no longer a useful measure of hospital capacity. This is due to the changes in technology and clinical care pathways that have dramatically reduced the length of inpatient stays and the increasing use of alternative care settings including people's homes. The term 'bed' historically referred to a single use, same capacity item; however, today it refers to many different kinds of inpatient facilities (such as chairs for same-day treatment, ward beds, trolleys, rehabilitation beds or intensive care unit (ICU) beds). These points of care (POC) are markedly different physically and have widely different capacity to treat patients. They are not readily substitutable for each other and certainly they should no longer be lumped together as a single unit of measure called 'beds'. The review uses the umbrella term 'POC' rather than beds for all these various items in which patients come to recover.

Capacity measures need to answer the two fundamental questions the public constantly asks: *Will I be able to get treatment if I am sick?* and *How long will it take to get treatment?* 'Beds' no longer answer these questions. Better answers to these questions are: the average time to clear waiting lists, the percentage of people treated within clinically appropriate times and the average waiting time for first consultation in outpatient clinics.

Methodology

The major data collection was done by survey, validated against external datasets and selected targeted hospital visits. Data was collected on a variety of POC.

The survey collected information on the total (maximum) existing fully functional and equipped physical capacity for (inpatient POC and selected acute facilities in public health services by site and care type. It also collected information on the generally available capacity that is fully functional, equipped and usually resourced for use during the year, in-hours[1] on a typical weekday on ordinary working days.

The total existing fully functional and equipped POC, whether open or not, is a relatively static number; however, the generally available number can vary dramatically due to the time of day, the day of the week and even the time of year. Demand variation is often predictable and under-utilisation is inefficient, so health services vary the availability of POC during the year to manage demand effectively. This creates a challenge in measuring the number of available POC. A single point-in-time measurement would be misleading given these planned variations, hence an average weekday in-hours concept has been adopted.

The survey also sought proposals from health services for allocation of the Beds Rescue Fund.

The other major data collection that is detailed in the report relates to care delivered outside the hospital but still under the direct supervision of the hospital such as Hospital in the Home.

[1] In most hospitals, the 'in-hours' operating period is between 7 am and approximately 7 pm Monday to Friday.

Key results

In Victoria there are 86 health services treating more than 1.4 million inpatients each year. The review has grouped the health services into five like groupings for data analysis; Table 1 below includes the inpatients treated by each group of health services in 2013–14 so that the relative size of each group can be compared.

The review identified there were 1,436 inpatient POC that could be used immediately if there was sufficient funding, staff and local demand (see Table 1). The reality is the available unused capacity is not uniform across all health services and does not necessarily line up with demand – that is, the services that have unused capacity are not necessarily those with the highest unmet demand. Greater detail is available in section 4.3.

Table 1: Existing total and generally available capacity in Victorian health services

Health service groups	Inpatients treated in 2013–14	Total POC	Generally available POC	Usable but not in use POC
Major metropolitan	1,039,772	9,492	8,491	1,001
Specialist metropolitan	66,085	515	480	35
Regional and subregional	264,006	2,580	2,373	207
Local and small rural	89,388	1,272	1,085	187
Multipurpose services	6,148	122	116	6
Statewide	**1,465,399**	**13,981**	**12,545**	**1,436**

There is greater detail of POC at the health service group level in section 4.1.

Operating theatre utilisation at a statewide level was 82 per cent (237 notional theatres in use daily) of the 290 that exist in Victoria. Greater detail is available in section 4.2.

The survey also measured the care that is able to be safely delivered on an in-home basis under the supervision of hospital staff that in the past was delivered on an inpatient basis. It is estimated that, for 2014–15, home-based services will deliver care to patients who would have otherwise used the equivalent of more than 900 inpatient beds – inpatient beds that are now available for other patients. This is an expanding model of care that allows hospitals to treat more patients safely with almost the same resources. Greater detail is available in section 4.4.

Statewide strategic service and infrastructure plan

In the longer term, a better solution to enable more Victorians to be treated in a timely manner is the formulation of a statewide strategic service and infrastructure plan. Resources should then be allocated against this plan to enable implementation, including operational and capital funding for new and replacement infrastructure.

Beds Rescue Fund recommendations

The Andrews Government committed to providing $200 million ($50 million a year over four years) in the Beds Rescue Fund, to start tackling the problem of using unused capacity in our hospitals to treat people. The first money is to flow from 1 July 2015. This provides a good start to enable more Victorians to be treated in a timely manner. My recommendations regarding the Beds Rescue Fund cover a range of services and have been forwarded to the Minister for Health.

Recommendations

I recommend to the Minister for Health that:

Recommendation 1. Reporting of hospital capacity on a statewide basis should focus on:

a. the average time to clear waiting lists – that is, the number of patients on the waiting list divided by the number of patients removed from the waiting list, expressed in months
b. the percentage of people treated within a clinically appropriate time
c. the average waiting time from referral to first consultation in outpatient clinics.

Recommendation 2. Reporting of capacity measures in recommendation 1 should also be readily available to the public and detailed to the level of health service and service type.

Recommendation 3. Collection and reporting of waiting times for first consultations in outpatient clinics, detailed to the level of health service and type of service, should commence within six months.

Recommendation 4. Health services with theatre capacity problems that are unable to be solved in-house should be encouraged and facilitated to form partnerships with neighbouring health services to enhance treatment options for patients.

Recommendation 5. The capacity survey should be repeated every four years, using similar methodology, to allow comparison of levels of infrastructure.

Recommendation 6. The capacity survey should occur in the spring quarter as this better suits the operational planning cycle of health services.

Recommendation 7. A strategic statewide service and infrastructure plan ('the plan') should be developed.

Recommendation 8. The plan should aim to align health service demand with both recurrent and infrastructure (replacement and new) funding.

Recommendation 9. The plan should take a 20-year forward view but have a sharper focus on the first five years.

Recommendation 10: The plan should be reviewed every four years.

Recommendation 11. The first plan should be completed by the middle of 2017, recognising this is a major undertaking and will require extensive consultation and analysis.

Recommendation 12. An independent expert panel should be appointed to help guide the Department of Health & Human Services in preparation of the plan and provide independent advice to the Minister for Health about the plan.

Recommendation 13. The plan should be published.

Recommendation 14. Systems should be put in place to encourage and facilitate the expansion of appropriate home-based care supervised from health services.

Recommendation 15. Consideration is given to the best value proposals for the Beds Rescue Fund.

1. Introduction

1.1 Purpose

The Travis Review was commissioned by the Minister for Health to conduct an independent statewide census of bed and theatre capacity, and to provide recommendations on how to increase the capacity of Victorian hospitals.

1.2 Terms of reference

The terms of reference for the Travis Review are to:

1. Perform a statewide census of hospital capacity including bed, theatre and emergency department capacity and other services that may be substitutes for traditional inpatient care.

2. Consider issues, opportunities and challenges to measuring existing capacity, drawing on local, national and international policy perspectives.

3. Develop recommendations on how to optimise Victoria's health system capacity in the short term (specifically through allocating additional recurrent funding and minor capital expenditure as required) that can be actioned in the 2015–16 State Budget.

4. Consider the current progress in implementing process redesign methodologies across the Victorian public hospital system and make recommendations on how this can be strengthened to optimise the capacity of hospitals to treat the Victorian community into the future.

5. Call for public submissions from stakeholders for redesign projects or other innovative models of care that increase hospital capacity and make recommendations on their suitability to optimise the capacity of hospitals to treat the Victorian community into the future.

6. Provide an interim report on the census results by end of March 2015 and a final report by the end of June 2015 to the Minister for Health.

1.3 The interim report

This report completes the first three of the above terms of reference, with the remaining items to be completed in the final report due at the end of June 2015.

The report contains a number of recommendations for consideration by the Minister for Health.

2. Context

2.1. Victorian public hospital system

The Victorian public hospital system consists of 86 entities,[2] variously described as 'public health services' and 'public hospitals' in the *Health Services Act 1988*. The 12 metropolitan health services, six regional health services and Dental Health Services Victoria are defined as 'public health services' and are governed by boards of directors as set out under s. 65S of the Act. The nine subregional health services, 11 local health services and 36 small rural health services are defined as 'public hospitals' and are governed by boards of management as set out under ss. 115E and 33 (1, 2, 2A). The seven multipurpose services are subject to a set of governance provisions similar to public hospitals and are governed by boards of management. Mildura Base Hospital and the three denominational health services are subject to similar governance provisions to public hospitals. The umbrella term 'health service' is used in this report to refer to public hospitals as well as public health services.

For the purposes of this review, the 86 health services have been grouped into five classifications (see Appendix 1 for details):

- Major metropolitan health services (12 in total). This group includes major public hospitals such as The Alfred, Austin Hospital, The Northern Hospital, Frankston Hospital, The Royal Children's Hospital and University Hospital Geelong. The major metropolitan health services provide 71 per cent of the total admissions to public hospitals in Victoria.[3]

- Specialist metropolitan health services (five in total). This group includes the specialist metropolitan hospitals such as the Peter MacCallum Cancer Centre, The Royal Victorian Eye and Ear Hospital and The Royal Women's Hospital. The specialist metropolitan health services provide five per cent of the total admissions to public hospitals in Victoria.

- Regional and subregional health services (15 in total). This group includes the major regional health services such as Ballarat Health Services, Bendigo Health and Albury Wodonga Health, and the subregional health services such as Bairnsdale Regional Health Service, Northeast Health Wangaratta and Western District Health Service. The regional and subregional health services provide 18 per cent of the total admissions to public hospitals in Victoria.

- Local and small rural health services (47 in total). This group makes up the largest group numerically and includes Bass Coast Health, Djerriwarrh Health Services, Maryborough District Health Service, Portland District Health and West Wimmera Health Service. Local and small rural public hospitals provide six per cent of the total admissions to public hospitals in Victoria.

- Multipurpose services (seven in total). Multipurpose services are small rural health services that operate under simplified funding arrangements that pool Commonwealth and state funds for health and aged care services to provide a flexible and coordinated service delivery framework. This group includes Alpine Health, Orbost Regional Health and Upper Murray Health and Community Services. Multipurpose services provide 0.4 per cent of the total admissions to public hospitals in Victoria.

Many of the health services in Victoria have more than one site; for example, Monash Health has six sites with public hospital beds. The most recent national publication on hospital statistics identified that Victoria has 150 public hospital sites with a total of 13,449 average available beds (note this figure includes mental health beds) at an average of 2.4 beds per 1,000 population.[4]

[2] Note the Australian Institute of Health and Welfare refers to 87 'Local Hospital Networks', which includes the Thomas Embling Hospital run by Forensicare (the Victorian Institute of Forensic Mental Health). This review has focused on acute hospital beds, and as a result does not include Forensicare or the Thomas Embling Hospital.
[3] VAED data for 2013–14 for acute and subacute separations.
[4] Australian Institute of Health and Welfare 2014, *Australian hospital statistics 2012–13*, Table 4.1, p. 51.

In 2012–13 health services in Victoria provided more than 1.4 million admissions,[5] 1.6 million emergency presentations, 3.6 million outpatient occasions of service and 2.6 million other non-admitted occasions of service (including pathology, radiology, pharmacy and community health services).[6]

The most recent health services performance report released in Victoria is for the December 2014 quarter.[7] This report covers all Victorian health services that report activity to the Victorian Admitted Episodes Dataset (VAED), which includes all health services in the first three categories listed above, some of the health services in the fourth category and none of the multipurpose services. This report shows that just over 1.6 million patients were admitted to hospital in the 2014 calendar year (the most recent four quarters for which data was available). Just over half of these patients were admitted for same-day treatment. There were just under 1.5 million patients treated in emergency departments in 2014.[8]

From a patient perspective, what is important is not the total number of services but access to services. The recent *Report on government services*[9] outlined that significant numbers of patients in Victoria are not getting access to services within clinically recommended timeframes:

- 25 per cent of patients in emergency departments in 2013–14 were not seen within triage category timeframes.
- 31 per cent of patients spent more than four hours in emergency departments against a national benchmark of no more than 10 per cent.
- 31.4 per cent of category 2 elective surgery patients waited more than 90 days for treatment.
- 9.9 per cent of category 3 elective surgery patients waited more than 365 days for treatment.

The Victorian December 2014 quarterly performance report shows that:

- 26 per cent of patients in emergency departments in 2013–14 were not seen within triage category timeframes.
- 30 per cent of patients spent more than four hours in emergency departments against a national benchmark of no more than 10 per cent.
- No category 1 elective surgery patients waited more than 30 days for treatment.
- 21 per cent of category 2 elective surgery patients waited more than 90 days for treatment.
- Six per cent of category 3 elective surgery patients waited more than 365 days for treatment.

There is little publicly reported performance data on waiting times for patients referred to outpatient clinics. The only report published to date was for the September 2012 quarter and covered only a limited range of health services and specialties.[10]

2.2. Capacity measurement[11]

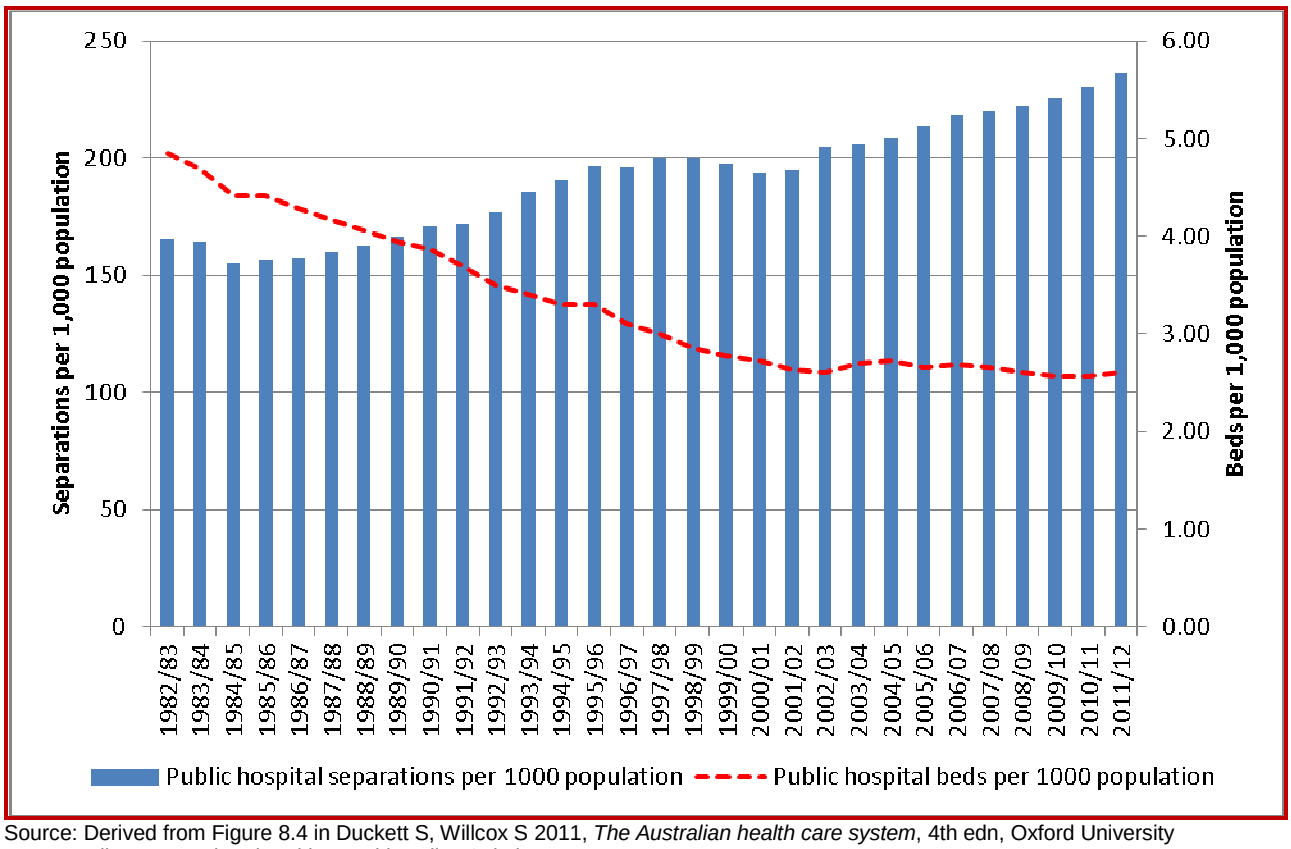
Changes in the number of public hospital beds have historically been used as a surrogate measure of capacity to assess government investment in the capacity and accessibility of public hospitals. However, over time there have been two dramatic changes that have diminished the utility of the number of beds or the change in bed numbers as a measure of capacity.

First, there have been significant improvements in public hospital productivity. More patients are able to be treated and length of stay has reduced due to improvements in technology and changes in clinical care pathways. Figure 1 shows that while the supply of public hospital beds has almost halved since the early 1980s (a 46 per cent per capita reduction), the number of patients admitted to public

[5] Data from the 2013–14 VAED shows there were 1,465,399 separations (acute and subacute).
[6] Australian Institute of Health and Welfare 2014, *Australian hospital statistics 2012–13,* Table 5.6, p. 95 and Table 6.2, p. 109.
[7] Victorian Health Services Performance for December 2014 quarter, from the Victorian Health Service Performance website, http://performance.health.vic.gov.au/Home.aspx
[8] All Victorian health services that report data to the Victorian Emergency Minimum Dataset (VEMD).
[9] Productivity Commission, *Report on government services* (2015).
[10] *Specialist clinics quarterly activity and wait time report – September 2012 quarter*, from http://performance.health.vic.gov.au/Home/Resources/Publications.aspx.
[11] This section of the report draws on an unpublished report by Health Policy Solutions produced for the Victorian Department of Health in 2014: *Hospital capacity recording in contemporary healthcare*.

hospitals is not only keeping pace with population growth but is outstripping it (a 43 per cent per capita increase in public hospital inpatient separations).

Figure 1: Public hospital separations and public hospital beds per capita, Australia, 1982–83 to 2011–12



Source: Derived from Figure 8.4 in Duckett S, Willcox S 2011, *The Australian health care system*, 4th edn, Oxford University Press, Melbourne, and updated by Health Policy Solutions

Second, many services that used to be provided in hospital beds are now delivered in alternative settings, including in the community and in people's homes. Hospital in the Home (HITH) services substitute for acute inpatient beds; rehabilitation and other subacute services are now provided on a non-admitted basis outside the hospital walls; and dialysis is provided in many community settings and even in people's homes. This move to treatment at home has many benefits for patients. For example, the benefits of home dialysis include:

- allowing people to manage their own dialysis at the time of their choosing, whether during the day or overnight, so dialysis can be more frequent or performed for longer periods of time
- fewer visits to hospital for dialysis
- improved health outcomes where longer, more frequent dialysis is able to be undertaken, especially overnight
- maintenance of personal independence, enhanced quality of life and, social and economic advantages, with increased opportunity for employment
- no need for regular travel to dialysis centres or hospitals, which is of particular value to patients for whom independent travel is difficult.

Another change over time that has greatly diminished the validity of using a simple measure of 'beds' as a comparator or absolute measure of hospital capacity is that not all 'beds' are equal. Beds for day-case patients (same-day treatment), multiday ward beds, ICU beds, subacute beds, dialysis chairs and day oncology chairs all have vastly different capacity to treat patients, yet the age old concept of 'beds' lumps them together and assumes they are of equal value. This is no longer true.

The concept of 'grossed-up beds' or the change of number of 'beds' as a concept that accurately reflects the capacity or can be used as a surrogate to compare capacities has reached its use-by date.

Capacity measures need to answer the two fundamental questions that the public constantly asks: *Will I be able to get treatment if I am sick?* and *How long will it take to get treatment?*

These are valid, core questions. However, 'beds' no longer answer these questions. Better measures to answer these questions are:

- the average time to clear waiting lists
- the percentage of people treated within clinically appropriate times
- the average waiting time for a first consultation in outpatient clinics.

Victoria has systems that collect and report the first two but not the third. As a result, patients and their GPs have no indication of how long a patient needs to wait between referral and the initial consultation in outpatient clinics. This can be a significant barrier to timely access to care. By contrast, in the UK, patients are guaranteed a wait of no more than 18 weeks for non-urgent conditions and no more than two weeks for urgent referrals where cancer is suspected.[12] Waiting time to first consultation is a key component of the answer to the core patient question, how long will it take to get treatment. This is the key information to inform patients about the capacity to treat as opposed to the number of beds in a building.

While system-wide grossed-up measures are useful to hold the government and public hospitals to account, they are of relatively little use to an individual seeking care. To be of use to individuals the information also needs to be reported to the level of the health service and the type of service.

Recommendation 1. Reporting of hospital capacity on a statewide basis should focus on:

a. the average time to clear waiting lists – that is, the number of patients on the waiting list divided by the number of patients removed from the waiting list, expressed in months
b. the percentage of people treated within a clinically appropriate time
c. the average waiting time from referral to first consultation in specialist clinics.

Recommendation 2. Capacity measures in recommendation 1 should also be readily available to the public and detailed to the level of health service and service type.

Recommendation 3. Collection and reporting of waiting times for first consultations in outpatient clinics, detailed to the level of health service and type of service, should commence within six months.

[12] National Health Service England, The Handbook to the NHS Constitution, March 2013, p 27.

3. Methodology and analysis

3.1. Methodology

A survey was the principal tool used to collect data. The survey measured POC and other selected infrastructure used to deliver care.

POC are categorised into two main capacity types:

- inpatient services – fully functional and equipped POC that provide accommodation for admitted patients
    - beds
    - chairs (for example, renal chair, oncology chair)
    - cots (neonatal intensive care (NICU) or special care nursery (SCN))
    - procedure trolleys/recliners used in specialist same-day units

- selected infrastructure used to deliver care – fully functional and equipped POC for providing specialist health procedures and interventions such as
    - emergency departments
    - theatres
    - birthing rooms.

The counted POC for the selected infrastructure includes emergency department cubicles, many of which on any given day may be occupied by patients who are not admitted.

A survey tool was developed and sent out to health services in December 2014. Health services had four weeks to complete their submissions. The information collected on the survey was reviewed and verified by a range of means as detailed below.

Part 1 of the survey collected information on:

- the total (maximum) existing fully functional and equipped POC and selected infrastructure used to deliver care by campus (site) and care type whether they are in use or not, funded or not
- the average generally available equipped POC and selected infrastructure used to deliver care by campus (site) and care type for use during the year on a normal, in-hours weekday basis.

Part 2 of the survey sought information on potential capacity – that is, any infrastructure within existing buildings that may be feasibly commissioned or converted for use as a POC through either minor or major capital works and/or purchase of additional equipment. This information was requested to inform the validation of Part 1 of the survey and the context for proposals. It has not been compiled for this report.

Part 3 of the survey sought funding proposals to inform the Beds Rescue Fund. The full list of proposals is not reproduced in the report.

Part 4a of the survey collected information on selected services provided in the home to people who would have otherwise been admitted to a hospital – that is, bed substitution type services rather than diversion type services. The review has also accessed other datasets to validate and confirm the data collection including the VAED, Victorian Renal Dialysis Registry and Victorian Integrated Non-Admitted Health data collection.

Part 4b of the survey collected information on health services that have contracts with private providers (including bush nursing hospitals) for the regular provision of public acute or subacute admitted services.

The completed surveys were reviewed by both Dr Travis and the review secretariat. As part of this review, health services were provided with the opportunity to correct any errors identified and clarify any ambiguous information. The desktop review then validated the survey results for each health service against a range of data sources, including the monthly *Average available beds* report from the Agency Information Management System, the POC review undertaken in 2011 by the department, statements of priorities and activity reported through the VAED. The survey was also analysed for internal consistency of reporting.

The average utilisation of operating theatres was calculated from the monthly operating theatre schedule submitted by relevant health services.

A schedule of visits was arranged and took place from 27 January to 3 March 2015 (see Appendix 2). These visits were conducted by Dr Travis and by Dr McGrath, with the aim of confirming the survey information and discussing the proposals submitted by the health service. A total of 35 visits were made to 34 health services, with one health service visited twice.

3.2. Variance in available points of care

The total existing fully functional and equipped POC is a relatively static number; however, the generally available number is highly variable.

The generally available POC can vary dramatically due to the time of day, the day of the week and even the time of year. Demand variation is often predictable and under-utilisation is inefficient, so health services proactively vary the availability of POC to manage demand cost effectively. This creates a challenge in measuring the number of available POC. A single point in time measurement would be misleading given these planned variations.

The generally available POC measured by this survey were the estimated average available in-hours on a normal weekday over a year. It is hoped this approach would smooth out the planned variations and give a representative figure of average available resources. This of course means it is unlikely if you walked into a given hospital on a given day and physically counted the available POC, that the result would exactly match the results reported in this review.

3.3. Analysis

The review examined hospital capacity on a statewide basis, as detailed in section 3.1, to identify the difference between the total capacity and the capacity generally available for use.

The review identified the number of POC in Victorian public hospitals disaggregated into classifications of adult acute multiday/overnight beds (ward beds), same-day acute beds/chairs, paediatric beds, critical care beds and short-stay beds in emergency departments.

Dedicated inpatient mental health beds were not included in the analysis. Information about the number of inpatient mental health beds was collected in order to allow validation of the survey results with other external datasets. However, to get an accurate assessment of mental health POC it would have been necessary to survey the various community services as well as the hospital beds; that was outside the terms of reference.

The review also considered key patient treatment facilities such as patient treatment spaces in emergency departments, operating theatres and other specialist suites and facilities.

4. Survey results

4.1. Total and generally available inpatient capacity

Statewide

The review identified 13,981 total inpatient POC on 164 hospital sites in Victorian health services (see Table 2). Of these, 12,545 (90 per cent) were generally available for use. These figures are consistent with the average available beds reported by the Australian Institute of Health and Welfare when mental health beds are excluded from the count. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 2: Existing total and generally available capacity in Victorian health services (statewide)

Capacity types	Total POC	Generally available POC
Acute same-day only		
Renal dialysis	696	646
Surgery	841	803
Other	779	702
Acute multiday/overnight		
Adult	7,198	6,310
Emergency department short-stay	325	308
Paediatric	547	472
Critical care		
Neonatal (NICU and SCN)	477	396
Adult and paediatric intensive care (including combined ICU/CCU/HDU)	400	322
Coronary care unit (stand-alone)	185	175
Subacute	2,533	2,411
Total inpatient POC[13]	**13,981**	**12,545**
Emergency department, urgent care and primary care[14] **patient treatment spaces**	1,284	1,190
Specialist suites and facilities		
Operating theatres	290	237.1
Procedures/endoscopy	61	52
Other	1,075	974

Note that, as described above, all data is as collected from the survey and verified, other than the generally available operating theatres, which were calculated from theatre schedules (see section 4.2 for details).
CCU = coronary care unit; HDU = high dependency unit

The largest group of POC in Victorian health services were adult acute ward beds – that is, beds for overnight or multiday stays. The review found there were a total of 7,198 beds. Of these, 6,310 (88 per cent) were generally available for use.

The next largest group of POC were adult subacute ward beds. The inpatient services provided in subacute ward beds include palliative care, rehabilitation, geriatric evaluation and management (GEM) and maintenance care. These include the specialist rehabilitation services for acquired brain injuries, amputees and spinal conditions. The review found there were a total of 2,533 beds, of which 2,411 (95 per cent) were generally available for use.

[13] POC include additional capacity (new infrastructure) planned to be completed by early 2015–16 and reflect some major reconfigurations between campuses of the one health service due to take effect on or before July 2015. Data excludes mental health POC located on public health service sites, transition care and other non-acute patient accommodation and any off-site POC.
[14] Health services without designated emergency departments were grouped as urgent care services or primary care services according to their designation under the trauma system as published in *Trauma towards 2014: Review and future directions of the Victorian State Trauma System* (Department of Human Services 2009).

There are two other types of general acute ward beds: paediatric beds and emergency department short-stay beds. Paediatric beds – beds designated for paediatric care (child and adolescent) – accounted for 547 beds, of which 472 (86 per cent) were generally available for use. The other type of acute ward bed was associated with emergency departments. Many emergency departments now have an adjacent short-stay ward to provide for the rapid admission of those patients requiring a short stay (typically no more than 24 hours). Typically the patients are co-managed by emergency department doctors and doctors from inpatient units. This growing model of care is an alternative to an extended stay in an emergency department cubicle or a much longer stay in a traditional ward bed. The review found there were 325 of these beds, of which 308 (95 per cent) were generally available for use.

Same-day POC comprised 2,316 total POC, of which 2,151 were generally in use (93 per cent). These POC cater for patients who are admitted and discharged on the same date and receive treatment without needing to use a traditional inpatient bed. These POC may be used by multiple patients in one day.

The largest group within this category were POC used for day-case surgery patients. The large number of POC is driven by the fact that just over 50 per cent of surgery in public hospitals is now delivered on a same-day basis.[15] There were 841 same-day surgery beds, with 803 (95 per cent) generally available for use.

Renal dialysis, a treatment predominantly delivered on a same-day basis and increasingly at home, comprised 696 of the total POC, of which 646 (93 per cent) were generally available for use.

The remaining same-day POC cater for other treatments including same-day oncology; there were 779 of these POC, of which 702 (90 per cent) were generally available for use.

Critical care beds make up the final group of inpatient beds. The review found there were 1,062 critical care beds, including cots for very sick newborn babies treated in NICUs or SCNs, of which 893 (84 per cent) were generally available for use.

The review examined the number of patient treatment spaces (including cubicles, consulting rooms and procedure rooms) in emergency departments and urgent care services. There were 1,284 patient treatment spaces, of which 1,190 (93 per cent) were generally available for use. Further detail by health service on the total and generally available patient treatment spaces in emergency departments and urgent care centres is available in Appendix 4.

The review identified there were 290 operating theatres and a further 61 procedure rooms statewide. However, many of these operating theatres and procedure rooms are not fully utilised and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 237.1 generally available operating theatres shown in Table 2 has been calculated by reviewing the staffed in-hours operating theatre schedules. The figure shown in Table 2 of 52 generally available procedure rooms has been taken from the survey responses.

Health services have many other types of specialist suites and facilities including birthing rooms, cardiovascular laboratories and radiotherapy facilities. The review found there were 1,075 of these specialist POC, of which 974 (91 per cent) were generally in use.

It is noted that ‘generally available’ is not a measure of occupancy. The hospital occupancy rate is the percentage of generally available POC actually occupied by a patient on any given day. Occupancy information was not collected, hence no comment can be made concerning occupancy rates.

[15] Victorian Health Services Performance for December 2014 quarter, from the Victorian Health Service Performance website, http://performance.health.vic.gov.au/Home.aspx

Major metropolitan health services

The review identified that major metropolitan health services had a total of 9,492 inpatient POC (see Table 3) on 60 hospital sites. Of these, 8,491 (89 per cent) were generally available for use. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 3: Existing total and generally available capacity in major metropolitan health services

Capacity types	Total POC	Generally available POC
Acute same-day only		
Renal dialysis	482	444
Surgery	448	421
Other	472	424
Acute multiday/overnight		
Adult	4,701	4,098
Emergency department short-stay	266	264
Paediatric	424	373
Critical care		
Neonatal (NICU and SCN)	329	267
Adult and paediatric intensive care (including combined ICU/CCU/HDU)	295	231
Coronary care unit (stand-alone)	185	175
Subacute	1,890	1,794
Total inpatient POC	**9,492**	**8,491**
Emergency department patient treatment spaces	742	662
Specialist suites and facilities		
Operating theatres	179	159.1
Procedures/endoscopy	37	32
Other	688	617

The largest group of POC in the major metropolitan health services were adult acute ward beds – that is, beds for overnight or multiday stays. The review found there were a total of 4,701 beds. Of these, 4,098 (87 per cent) were generally available for use.

The next largest group of POC were adult subacute ward beds. The review found there were a total of 1,890 beds, of which 1,794 (95 per cent) were generally available for use.

There are two other types of general acute ward beds: paediatric beds and emergency department short-stay beds. Paediatric beds accounted for 424 beds, of which 373 (88 per cent) were generally available for use. The second type of beds were 266 emergency department short-stay beds, of which 264 (99 per cent) were generally available for use.

Same-day POC comprised 1,402 total beds, of which 1,289 were generally in use (92 per cent). There were 448 same-day surgery POC, with 421 (94 per cent) generally available for use. Renal dialysis comprised 482 of the total same-day POC, of which 444 (92 per cent) were generally available for use. The remaining same-day POC catered for other treatments including same-day oncology; there were 472 of these POC, of which 424 (90 per cent) were generally available for use.

Critical care beds make up the final group of inpatient beds. The review found there were 809 critical care beds, of which 673 (83 per cent) were generally available for use. The major metropolitan health services are the only group of Victorian health services that have the category of stand-alone coronary care units.

There were 742 patient treatment spaces in emergency departments, of which 662 (89 per cent) were generally available for use. Further detail by health service on the total and generally available patient treatment spaces in emergency departments is available in Appendix 4.

The review identified 179 operating theatres and a further 37 procedure rooms in major metropolitan health services. However, many of these operating theatres and procedure rooms are not fully utilised, and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 159.1 generally available operating theatres shown in Table 3 has been calculated from review of the staffed in-hours operating theatre schedules. The figure shown in Table 3 of 32 generally available procedure rooms has been taken from the survey responses.

The major metropolitan health services have many other types of specialist suites and facilities including birthing rooms, cardiovascular laboratories and radiotherapy facilities. The review found there were 688 of these specialist POC, of which 617 (90 per cent) were generally in use.

Specialist metropolitan health services

The review identified that the specialist metropolitan health services had a total of 515 inpatient POC (see Table 4) on six hospital sites. Of these, 480 (93 per cent) were generally available for use. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 4: Existing total and generally available capacity in specialist metropolitan health services

Capacity types	Total POC	Generally available POC
Acute same-day only		
Surgery	58	58
Other	76	71
Acute multiday/overnight		
Adult	254	230
Critical care		
Neonatal (NICU and SCN)	60	58
Adult and paediatric intensive care (including combined ICU/CCU/HDU)	7	3
Subacute	60	60
Total inpatient POC	**515**	**480**
Emergency department and urgent care service patient treatment spaces	36	36
Specialist suites and facilities		
Operating theatres	21	18.5
Procedures/endoscopy	3	3
Other	71	71

The specialist metropolitan health services generally treat adults, with the exception of critically ill newborn babies at The Royal Women's Hospital and small numbers of children at The Royal Victorian Eye and Ear Hospital and Dental Health Services Victoria. The review found there were 254 multiday adult inpatient beds; of these, 230 (91 per cent) were generally available for use.

Same-day POC were the next largest group and comprised 134 total POC, of which 129 were generally in use (96 per cent). Fifty eight of these POC were for surgery and all were generally in use. There were 76 POC for other treatments including same-day oncology, of which 71 (93 per cent) were generally available for use.

The review found there were 60 subacute inpatient beds in the specialist metropolitan health services, of which all were generally available for use.

Critical care beds make up the final group of inpatient beds. The review found there were seven adult critical care beds, with three (43 per cent) generally available for use. In addition there were 60 critical care cots for very sick newborn babies, of which 58 (97 per cent) were generally available for use.

There were 36 emergency department and urgent care patient treatment spaces in the specialist metropolitan health services, all of which were generally available for use. Further detail by health service on the total and generally available patient treatment spaces in emergency departments and urgent care centres is available in Appendix 4.

The review identified 21 operating theatres and a further three procedure rooms in the specialist metropolitan health services. However, many of these operating theatres and procedure rooms were not fully utilised, and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 18.5 generally available operating theatres shown in Table 4 has been calculated by reviewing the staffed in-hours operating theatre schedules. The figure shown in Table 4 of 3 generally available procedure rooms has been taken from the survey responses.

The specialist metropolitan health services have many other types of specialist suites and facilities including birthing rooms, cardiovascular laboratories and radiotherapy facilities. The review found there were 71 of these specialist POC, all of which were generally in use.

Regional and subregional health services

The review identified that regional and subregional health services had a total of 2,580 inpatient POC on 26 hospital sites (see Table 5). Of these, 2,373 (92 per cent) were generally available for use. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 5: Existing total and generally available capacity in regional and subregional health services

Capacity types	Total POC	Generally available POC
Acute same-day only		
Renal dialysis	122	116
Surgery	207	203
Other	184	166
Acute multiday/overnight		
Adult	1,212	1,116
Emergency department short-stay	56	41
Paediatric	123	99
Critical care		
Neonatal (NICU and SCN)	88	71
Adult and paediatric intensive care (including combined ICU/CCU/HDU)	98	88
Subacute	490	473
Total inpatient POC	**2,580**	**2,373**
Emergency department, urgent care and primary care service patient treatment spaces	267	257
Specialist suites and facilities		
Operating theatres	50	41.2
Procedures/endoscopy	12	11
Other	188	167

The largest number of POC in regional and subregional health services were adult acute ward beds – that is, beds for overnight or multiday stays. The review found there were 1,212 beds. Of these, 1,116 (92 per cent) were generally available for use.

The next largest group of POC were same-day POC. There were 513 POC, of which 485 were generally in use (95 per cent). In the regional and subregional health services, the largest group of same-day POC were for surgery, with 207 POC, of which 203 (98 per cent) were generally available for use. There were 122 chairs for renal dialysis, of which 116 (95 per cent) were generally available for use. The remaining same-day POC cater for other treatments including same-day oncology; there were 184 of these POC, of which 166 (90 per cent) were generally available for use.

The review found there were 490 subacute ward beds, of which 473 (97 per cent) were generally available for use.

There are two other types of general acute ward beds. First, there were 123 beds designated for paediatric care (child and adolescent), of which 99 (80 per cent) were generally available for use. Second, there were 56 emergency department short-stay beds, of which 41 (73 per cent) were generally available for use.

Critical care beds make up the final group of inpatient POC. The review found there were 186 critical care beds (including SCN cots for very sick newborn babies), of which 159 (85 per cent) were generally available for use.

In emergency departments, urgent care and primary care services there were 267 patient treatment spaces, of which 257 (96 per cent) were generally available for use. Further detail by health service on the total and generally available patient treatment spaces in emergency departments, urgent care and primary care services is available in Appendix 4.

The review identified 50 operating theatres and a further 12 procedure rooms in regional and subregional health services. However, some of these operating theatres and procedure rooms are not fully utilised, and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 41.2 generally available operating theatres shown in Table 5 has been calculated by reviewing the staffed in-hours operating theatre schedules. The figure shown in Table 5 of 11 generally available procedure rooms has been taken from the survey responses.

Regional and subregional health services have many other types of specialist suites and facilities including birthing rooms, cardiovascular laboratories and radiotherapy facilities. There were 188 of these in the regional and rural health services, of which 167 (89 per cent) were generally in use.

Local and small rural health services

Local and small rural health services comprise 8.6 per cent of the beds available in Victorian public hospitals, about one in every 12 beds. These beds are typically found in smaller rural communities without local access to private hospitals and generally have a less acute and longer stay type of patient. The review identified local and small rural health services had a total of 1,272 inpatient POC on 61 hospital sites (see Table 6). Of these, 1,085 (85 per cent) were generally available for use. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 6: Existing total and generally available capacity in local and small rural health services

Capacity types	Total POC	Generally available POC
Acute same-day only		
Renal dialysis	80	74
Surgery	123	116
Other	45	39
Acute multiday/overnight		
Adult	930	771
Emergency department short-stay	3	3
Subacute	91	82
Total inpatient POC	**1,272**	**1,085**
Emergency department, urgent care and primary care service patient treatment spaces	211	207
Specialist suites and facilities		
Operating theatres	38	18.1
Procedures/endoscopy	6	4
Other	120	111

The largest number of POC were adult acute ward beds – that is, beds for overnight or multiday stays. The review found there were a total of 930 beds, of which 771 (83 per cent) were generally available for use.

The next largest group were same-day POC. The review found a total of 248 POC, of which 229 were generally in use (92 per cent). In local and small rural health services, the largest group of same-day POC were for surgery, with 123 POC, of which 116 (94 per cent) were generally available for use. There were 80 chairs for renal dialysis, of which 74 (93 per cent) were generally available for use. The remaining same-day POC cater for other treatments including same-day oncology; there were 45 POC in total, of which 39 (87 per cent) were generally available for use.

The review found there were 91 subacute ward beds (specialist and non-specialist subacute services), of which 82 (90 per cent) were generally available for use.

The local and small rural health services do not have dedicated paediatric beds or critical care beds.

Bass Coast Regional Health is the only hospital of this group to have a designated emergency department, although a number of other local and small rural health services have designated urgent care services or primary care services.[16] There were 211 patient treatment spaces, of which 207 (98 per cent) were generally available for use. Further detail by health service on the total and generally available patient treatment spaces in emergency departments, urgent care and primary care services is available in Appendix 4.

The review identified 38 operating theatres and a further six procedure rooms in local and small rural health services. However, many of these operating theatres and procedure rooms are not fully utilised, and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 18.1 generally available operating theatres shown in Table 6 has been calculated by reviewing the staffed in-hours operating theatre schedules. The figure shown in Table 6 of four generally available procedure rooms has been taken from the survey responses.

There were other types of specialist facilities including birthing rooms and recovery areas in operating theatres. There were 120 of these in the local and small rural health services, of which 111 (93 per cent) were generally in use.

[16] Urgent care and primary care services as designated in Department of Human Services 2009, *Trauma towards 2014 – Review and future directions of the Victorian State Trauma System*, State Government of Victoria, Melbourne.

Multipurpose services

The multipurpose service model supports flexible use of facilities between acute and aged care. The POC referred to in the survey are facilities used to treat acute patients and do not include any residential aged care beds located on these sites. The review identified that multipurpose services had a total of 122 inpatient POC on 11 hospital sites (see Table 7). Of these, 116 (95 per cent) were generally available for use. Further detail by health service on the total and generally available inpatient POC is available in Appendix 3.

Table 7: Existing total and generally available capacity in multipurpose services

Capacity types	Total POC	Generally available POC
Acute same-day only		
Renal dialysis	12	12
Surgery	5	5
Other	2	2
Acute multiday/overnight		
Adult	101	95
Subacute	2	2
Total inpatient POC	**122**	**116**
Urgent and primary care service patient treatment spaces	28	28
Specialist suites and facilities		
Operating theatres	2	0.2
Procedures/endoscopy	3	3
Other	8	8

Most of the POC in multipurpose services were adult acute ward beds – that is, beds for overnight or multiday stays. The review found a total of 101 beds and, of these, 95 (94 per cent) were generally available for use. There were a further two subacute beds, both generally available for use.

There were 19 same-day POC including 12 for renal dialysis chairs, five for same-day surgery and two for other treatments. All were generally available for use.

There were 28 POC (including cubicles, consulting rooms and procedure rooms) in urgent/primary care services in multipurpose services, all of which were generally available for use.

The review identified two operating theatres and a further three procedure rooms in multipurpose services. However, many of these operating theatres and procedure rooms are not fully utilised, and the review has further analysed the actual utilisation of operating theatres in section 4.2. The figure of 0.2 generally available operating theatres shown in Table 7 has been calculated by reviewing the staffed in-hours operating theatre schedules. The figure shown in Table 7 of three generally available procedure rooms has been taken from the survey responses.

There were eight other types of specialist facilities such as birthing rooms and theatre recovery spaces, all generally in use.

4.2. Operating theatre utilisation

In Victorian public hospitals there are 290 operating theatres, of which, at any given time, an average of 237.1 (82 per cent) are staffed and in use (see Table 8). This capacity usage of 82 per cent relates to in-hours on weekdays. Further detail by health service on the total and generally available patient operating theatres is available in Appendix 5.

Table 8: Operating theatre utilisation

Health service groups	Total operating theatres	Average operating theatres staffed and used (in-hours on weekdays)	Percentage of total operating theatres staffed and used
Major metropolitan	179	159.1	89%
Specialist metropolitan	21	18.5	88%
Regional and subregional	50	41.2	82%
Local and small rural	38	18.1	48%
Multipurpose services	2	0.2	10%
Statewide	**290**	**237.1**	**82%**

It can be seen that, in general, there are sufficient operating theatres in aggregate across the state.

The major metropolitan services have a much higher utilisation rate at 89 per cent, as do the specialist metropolitan services. The utilisation rate drops off very quickly as the services decrease in size. The average figures do not give the full picture of capacity. Within the group of 12 major metropolitan services, four are operating at near full capacity and four operate at less than two per cent below the average.

Among the regional and subregional services 10 of the 15 services run at more than +/- five per cent of the average. Three run at full capacity.

The services running at or near full capacity do so, often without a dedicated in-hours emergency theatre, and have unmet demand. Extra capacity at these hospitals could be met by utilising the theatres in twilight sessions (some public hospitals already schedule regular twilight sessions), operating on weekends, through cooperative arrangements with nearby health services that have spare in-hours capacity or by building extra theatres.

Utilisation of the operating theatres is lower in the smaller rural hospitals. This reflects a range of constraints, for example the capacity to attract staff including surgeons, the limitation on the range of procedures that can be appropriately delivered in these facilities and local demand. Notwithstanding the relatively low utilisation, these health services provide important local access. There are examples, such as Benalla Health, where available capacity has been used to improve access to elective surgery across a wider area through cooperative arrangements with larger nearby health services.

In the past there have been efforts to transfer patients to other health services to take advantage of unused theatre capacity. Some of these schemes have been successful, others not. The barriers to success are often multiple including patient reluctance to travel, staff reluctance to travel, difficulty in transferring the care of complex patients to other health services for a single procedure and use of block funding. On some occasions these barriers have been successfully negotiated.

The out-of-hours utilisation of theatres is highly variable and was not calculated. This is as expected because out-of-hours operating is best used only for time-critical emergencies, and the bulk of operating is scheduled elective procedures.

Recommendation 4. Health services with theatre capacity problems that are unable to be solved in-house should be encouraged and facilitated to form partnerships with neighbouring health services to enhance treatment options for patients.

4.3. Discussion

The major finding of this review is that there are approximately 1,400 available but not in use POC that could be utilised immediately if funding, staff and demand allowed. This represents about 10 per cent of the capacity measured.

It is important to understand when interpreting these figures that the available POC is an average over a year. The actual day to day number of available POC is planned to fluctuate to take into account seasonal demand variation, maintenance, minor refurbishment schedules and staff leave patterns. This planned fluctuation is standard practice in modern well managed large hospitals. This means the maximum and minimum daily available POC at some point over a year will be different to the average that is reported in this review. Given that, there must be a difference between maximum POC and average daily POC in a well managed large hospital. This difference does not reflect poor planning or bad management, in fact, it reflects the opposite. For the purposes of this report, the variance is described as 'flex capacity'. This begs the question: *What is a reasonable variance of daily available POC to allow efficient utilisation of resources?* That figure should probably be about +/- three per cent. No benchmark figures are available for this flex capacity. This concept of flex capacity is different to the more studied optimal average bed occupancy.[17] It would be useful if the department commissioned a study to quantify the concept of optimal flex capacity. In this review, the actual measured figure of available unused capacity in Victoria is 10 per cent, hence a buffer for good management does not explain the whole outcome.

While the review did not specifically consider demand, performance data pertaining to access was considered in the context of considering the best value application for the Beds Rescue Fund. In addition, health services provided information about demand pressures as part of their proposals and during the visits.

Some health services currently have significant unused capacity as new facilities have recently been (or are in the process of being) completed. Examples include the additional 96 POC at University Hospital Geelong to be completed over the next few months, the additional 30 POC at Frankston Hospital as part of the stage 3 development, the additional 30 POC at Kilmore Hospital and the more than 200 additional POC provided in the Box Hill Hospital redevelopment. This soon to be completed capacity is included in the total POC tally. This additional capacity will in part provide for future needs as well as meet current demand. It is envisaged that these will be commissioned over a number of years.

To open the 1,400 POC that are available but not in use would require a significant increase in workforce. This will require planning and most likely a phased approach to commissioning in order to adequately and safely deal with workforce issues.

The reality is the available unused capacity is not uniform across all health services and does not necessarily line up with demand in particular areas. Across major metropolitan services while the average excess capacity is 11 per cent, the range is 4–22 per cent. There were only 2 of 12 services within +/- two per cent of the average. Across regional and subregional services the average is eight per cent but the range is 0–25 per cent. The services that have available unused capacity are not necessarily those with the highest unmet demand, hence just opening the capacity may not solve the problem of unmet demand and could prove to be unnecessarily expensive. It has been hard to find a linkage between demand and supply.

The Andrews Government made a commitment to provide $200 million dollars ($50 million a year over four years) in the Beds Rescue Fund to start to address this problem with the first money flowing from 1 July 2015. I have made recommendations to the Minister concerning those funds. The recommendations are those that offer best value within the constraints of where the unused capacity exists, operational capabilities and the current demand profile. The recommendations on funding are part of the budget process, hence have not been included in this report. The $200 million dollars is the first step to improve the functioning capacity in Victorian Hospitals.

[17] Bagust A, Place M, Posnett JW. Dynamics of bed use in accommodating emergency admissions: stochastic simulation model. *BMJ* 1999;319:155-8.

The solution to the underlying problem is to identify current and future demand and then create linkages between demand, recurrent funding and capacity building to enable better targeting of the state's limited resources. This requires the formulation of a statewide strategic service and infrastructure plan that identifies present and, as best as possible, future demand for services. A significant part of the planning process will involve how best to commission the unused capacity identified, especially at places like, Geelong, Frankston, Box Hill and Kilmore.

The process of planning should match the demand as realistically as possible, with the funding of services taking into account the current and future potential capacities of health services. It would remain the health services' responsibility to deliver, as they see fit, the services required within the framework of the statewide plan. The allocation of capital funding for additional and replacement infrastructure should follow the service requirements and be included in the plan.

Recommendation 5. The capacity survey should be repeated every four years, using similar methodology, to allow comparison of levels of infrastructure.

Recommendation 6. The capacity survey should occur in the spring quarter as this better suits the operational planning cycle of health services.

Recommendation 7. A strategic statewide service and infrastructure plan ('the plan') should be developed.

Recommendation 8. The plan should aim to align health service demand with both recurrent and infrastructure (replacement and new) funding.

Recommendation 9. The plan should take a 20-year forward view but have a sharper focus on the first five years.

Recommendation 10: The plan should be reviewed every four years.

Recommendation 11. The first plan should be completed by the middle of 2017, recognising this is a major undertaking and will require extensive consultation and analysis.

Recommendation 12. An independent expert panel should be appointed to help guide the Department of Health & Human Services in preparation of the Plan and provide independent advice to the Minister for Health about the plan.

Recommendation 13. The plan should be published.

4.4. Selected home-based services

Home-based services supervised by health services are a growing alternative for the care of people. It has become apparent over time that many conditions previously requiring inpatient care can be safely and effectively treated at home with the correct support. Although this is not suitable for everyone, it is suitable for many. Most important of all with these innovative care models is that the vast majority of patients prefer care in their own home. In some circumstances home care can be safer than in-hospital care. These models allow the valuable inpatient beds to be available for people with an illness that still requires in-hospital care, effectively increasing capacity to treat more patients without building beds.

Examples of major services delivered in home-based settings are HITH, Rehabilitation in the Home (RITH), community palliative care and home-based renal dialysis.

HITH programs provide acute care to patients in their own home or other suitable environment. Although patients are regarded as hospital inpatients, and remain under the care of their hospital doctor, HITH is an alternative to an inpatient stay. This model of care can be offered if the care type can be delivered safely at home. HITH is provided from 52 sites across Victoria. As can be seen from the data in Table 9, HITH makes a massive contribution to hospital capacity, providing a replacement for around 666 beds.

Table 9: Hospital in the Home – 2014–15 estimated number of days and calculated bed equivalents

Health service group	Estimated days	Calculated bed equivalents
Major metropolitan	163,898	529
Specialist metropolitan	4,882	16
Regional and subregional	35,282	112
Local and small rural	2,382	9
Multipurpose	0	0
Total	**206,444**	**666**

Source: Victorian Admitted Episode Dataset, Department of Health & Human Services (as at February 2015)
Data excludes three health services with a calculated bed equivalent of less than 1. The 2014–15 estimate is based on the first five months of data for 2014–15. Bed equivalents estimates are based on 365 per annum usage at 85 per cent occupancy.

RITH is provided to people who have been assessed as requiring time-limited, community-based rehabilitation to assist them to regain and maintain optional function. Without this approach these people would remain as an admitted hospital patient to receive equivalent care. Home-based rehabilitation services are part of an integrated acute and subacute care system providing care in the most appropriate setting. They may substitute for all or part of a hospital stay or hospital day attendance or may be accessed directly from the community. RITH currently provides a replacement for around 30 beds (see Table 10).

Table 10: Rehabilitation in the Home – 2014–15 estimated number of episodes and calculated bed equivalents

Health service group	Estimated episodes	Calculated bed equivalents
Major metropolitan	5,660	24
Specialist metropolitan	37	0
Regional and subregional	1,018	4
Local and small rural	400	2
Multipurpose	0	0
Total	**7,115**	**30**

Source: Victorian Integrated Non-Admitted Health (VINAH) data collection, Department of Health & Human Services
Provisional data as at 6 March 2015.
Public health service providers only. Rehabilitation program stream, direct presence type by face-to-face delivery mode for adult patients only. Data excludes Alfred Health, St Vincent's Hospital Melbourne, The Royal Children's Hospital, Ballarat Health Services and Monash Health due to unavailable or incomplete data. Estimated episodes are based on the first five months of 2014–15. Calculated bed equivalents are based on an average of 1.5 in-hospital days substituted per episode, by bed utilisation of 365 days per annum and 95 per cent occupancy.

Community palliative care services support people to be cared for and to die at home by providing specialist end-of-life to care to people in their own homes, some of whom would otherwise be admitted to a hospital for this care. Community palliative care services provide care to patients across all common clinical issues including pain management, psychosocial issues and family stress. Community palliative care services are part of an integrated acute and subacute care system providing care in the most appropriate setting. Sixty per cent of all community palliative care referrals are received from hospitals.[18] Small rural health services play an important role in providing maintenance and end-of-life bed-based services that support caring for people close to their communities and families when home-based care is not an option. Small rural health services can access specialist regional palliative care consultancy services when caring for someone with end-of-life care needs for specialist advice and support.

More than 20,000 community palliative episodes of care are provided each year (see Table 11). Palliative care bed equivalents were not calculated as the length of episodes of care, and whether the episode of care was a substitution service, were not captured in the dataset. Notwithstanding, there were 23,128 episodes of care and, as a large number of these would have substituted for an admission, this is a significantly large contributor to hospital capacity.

[18] Victorian Integrated Non-Admitted Health (VINAH) data collection (2013–14), Department of Health & Human Services.

Table 11: Community palliative care – 2014–15 estimated number of episodes

Health service group/provider	Estimated episodes
Major metropolitan	905
Specialist metropolitan	834
Regional and subregional	3,130
Local and small rural	1,817
Multipurpose	0
Non-government organisations and community health services	16,442
Total	**23,128**

Source: Victorian Integrated Non-Admitted Health (VINAH) data collection, Department of Health & Human Services
Provisional data as at 6 March 2015.
Community palliative care – home-based/direct active episodes. Estimated episodes are based on the first five months of 2014–15, except for Calvary Health Care Bethlehem, which was based on the first four months.

Home-based dialysis is supported by 11 specialist renal services in Victoria. While independent home dialysis is a cost-effective therapy for the health system, the model also provides many benefits to people living with chronic kidney conditions, who would otherwise need to be admitted to hospital for treatment three times a week. Home-based dialysis provides a replacement for more than 200 renal dialysis POC (see Table 12).

Table 12: Home-based renal dialysis – average number of patients per month from July to November 2014, and calculated 2014–15 bed equivalents

Health service group	Average number of patients per month	Calculated equivalent POC
Major metropolitan	783	206
Specialist metropolitan	0	0
Regional and subregional	0	0
Local and small rural	0	0
Multipurpose	0	0
Total	**783**	**206**

Source: Victorian Renal Dialysis Registry, Department of Health & Human Services
Calculated bed equivalents are based on 156 separations per patient per year and a service operating two sessions per day six days a week at 95 per cent occupancy.

In summary, the data presented indicates that, on average, there are at least 902 additional POC available for treating patients requiring in-hospital care, as a result of these home-based services. It is likely these models of care will become more prevalent.

Other similar programs are detailed below. The review has been unable to collect data about these activities that could be used to readily calculate a notional bed substitution.

Health Independence Program (HIP)

HIP services provide hospital substitution and diversion services by supporting people in the community, in ambulatory settings and in people's homes. These services focus on improving and optimising people's function and participation in activities of daily living to allow them to maximise their independence and return to, or remain in, their usual place of residence.

HIP services can provide home-based care including rehabilitation, geriatric assessments and care, care coordination, patient education, post-acute care and other specialist assessments. HIP services can also be provided to people living in residential aged care facilities as an alternative to presenting to an emergency department for relatively simple clinical procedures. These procedures include indwelling catheter complications, percutaneous endoscopic gastrostomy (PEG) and wound management. During 2013–14 HIP services provided 1,195,961 direct contacts to 137,110 non-admitted clients.[19]

[19] Based on the available VINAH data from 68 per cent of HIP services.

Geriatric management at home

Geriatric management at home is a new service delivery model within HIP that supports older people with complex care needs to be assessed, treated and managed at home. The uptake of this approach has gained momentum in 2014–15, with a range of health services adopting the model tested in a metropolitan and a rural health service over 2012–13 and 2013–14.

Geriatric management at home provides time-limited intensive management of patients in the community setting who would otherwise require inpatient management. The model creates an option for patients to be treated in their home environment, thereby reducing risks such as confusion or delirium, falls and hospital-acquired infections for this vulnerable group of patients.

The geriatric management at home model aims to provide integrated care for people with multiple and complex healthcare needs who can be managed at home. Geriatric management at home services actively triage from emergency departments and inpatient services.

The target groups include patients who are 65 years of age or over with multiple (chronic or aged-related) care needs affecting their functional status and patients under 65 who have multiple chronic and complex care needs showing a steady decline affecting their functional status.

Summary

It is clear that these new model of care programs that substitute home-based care for in-hospital care are significant and extremely important in increasing the capacity of hospitals to treat patients. Most patients prefer treatment at home. There is scope to increase the size, type and reach of these models of care.

Recommendation 14. Systems should be put in place to encourage and facilitate the expansion of appropriate home-based care supervised from health services.

5. Recommendations for the allocation of the Beds Rescue Fund

A key commitment of the Andrews Government is to provide $200 million over four years for the Beds Rescue Fund. The purpose of this Fund, as announced on 25 November 2014, is to open hospital beds and theatres. All public health services were invited in December 2014 to put forward proposals, as follows:

- The proposals should increase acute and subacute service capacity on an ongoing basis through the commissioning of unused or under-utilised public hospital infrastructure (either inpatient accommodation or acute facilities).
- Proposals may or may not include requests for funding for minor capital works and/or equipment. Minor capital works and/or equipment are defined as being able to be completed and operational within six months and cost $500,000 or less. Such works/equipment should have a minimum life span of five years.
- A funded capital project which is under construction should only be nominated if it will be commissioned before 1 July 2015 and will provide additional (not replacement) capacity. The proposal would be for activity within the capital project that does not have recurrent funding.
- Proposed ongoing additional services may seek to increase the capacity of an existing service to better meet demand, or establish a new service not currently available – that is, address a service gap.

Health services were asked to put forward proposals with an annual budget in the approximate full year operating cost range of $1 to $5 million per annum (excluding any initial capital component). A total of 213 proposals were received.

Each proposal was reviewed by Dr Travis and evaluated against the following criteria:

- The number of additional patients to be treated.
- The type of additional services provided.
- The number of additional points of care that can be activated to treat patients
- Assessment of feasibility by considering:
    - timeframe for implementation
    - any implementation issues for example recruiting additional staff
    - whether implementing the proposal will build long term sustainable capacity
    - that safe, high quality patient care can be provided through expanding the service or providing a new service.
- The benefits of the proposal, taking into account:
    - the impact of expanding services on reducing waiting times for elective surgery, emergency department waits
    - the impact of reducing service gaps necessitating patients having to travel further to access services, and
    - any impact on other service providers.
- Equity of access for the community.

Following evaluation, a list of proposals assessed as representing the best value for the people of Victoria, was compiled and provided to the Minister for Health for consideration. The list of recommended proposals has not been reproduced in the report as this forms part of State Budget deliberations.

Recommendation 15. Consideration is given to the best value proposals for the Beds Rescue Fund.

6. Increasing the capacity of the Victorian public hospital system using existing resources

To be covered in the final report in June 2015.

Appendices

A1. List of health services by groups

Major metropolitan health services

Alfred Health
Austin Health
Barwon Health
Eastern Health
Melbourne Health
Mercy Health
Monash Health
Northern Health
Peninsula Health
St Vincent's Hospital Melbourne
The Royal Children's Hospital
Western Health

Specialist metropolitan health services

Calvary Health Care Bethlehem
Dental Health Services Victoria
Peter MacCallum Cancer Centre
The Royal Victorian Eye and Ear Hospital
The Royal Women's Hospital

Regional and subregional health services

Albury Wodonga Health
Bairnsdale Regional Health Services
Ballarat Health Services
Bendigo Health Care Group
Central Gippsland Health Service
Echuca Regional Health
Goulburn Valley Health
Latrobe Regional Hospital
Mildura Base Hospital
Northeast Health Wangaratta
South West Healthcare
Swan Hill District Health
West Gippsland Health Care Group
Western District Health Service
Wimmera Health Care Group

Local and small rural health services

Alexandra District Hospital
Bass Coast Health
Beaufort and Skipton Health Service
Beechworth Health Service
Benalla Health
Boort District Health
Casterton Memorial Hospital
Castlemaine Health
Cobram District Health
Cohuna District Hospital
Colac Area Health
Djerriwarrh Health Services
Dunmunkle Health Services
East Grampians Health Service
East Wimmera Health Service
Edenhope and District Memorial Hospital
Gippsland Southern Health Service
Heathcote Health
Hepburn Health Service
Hesse Rural Health Service
Heywood Rural Health
Inglewood and Districts Health Service
Kerang and District Health
Kilmore and District Hospital
Kooweerup Regional Health Services
Kyabram and District Health Services
Kyneton District Health Service
Lorne Community Hospital
Maldon Hospital
Mansfield District Hospital
Maryborough District Health Service
Moyne Health Services
Nathalia District Hospital
Numurkah District Health Service
Omeo District Health
Portland District Health
Rochester and Elmore District Health Service
Rural Northwest Health
Seymour District Memorial Hospital
South Gippsland Hospital
Stawell Regional Health
Tallangatta Health Service
Terang and Mortlake Health Service
West Wimmera Health Service

Yarram and District Health Service
Yarrawonga District Health Service
Yea and District Memorial Hospital

Multipurpose services
Alpine Health
Mallee Track Health and Community Service
Orbost Regional Health
Otway Health and Community Services
Robinvale District Health Services
Timboon and District Healthcare Service
Upper Murray Health and Community Services

A2. Health service visits

Health service	Date visited	Visitor
Albury Wodonga Health	27 February	K McGrath
Alexandra District Health Service	2 March	D Travis
Alfred Health	17 February	D Travis
Austin Health	27 February	D Travis
Ballarat Health Services	16 February	K McGrath
Barwon Health	10 February	D Travis
Bass Coast Regional Health	6 February	D Travis
Bendigo Health	16 February	D Travis
Castlemaine Health	16 February	D Travis
Dental Health Services Victoria	3 March	D Travis
Djerriwarrh Health Services	16 February	K McGrath
Eastern Health	2 February	D Travis
Echuca Regional Health	13 February	D Travis
Goulburn Valley Health	5 February	K McGrath
Hepburn Health Service	25 February	D Travis
Kilmore and District Hospital	2 February	D Travis
Kyabram and District Health Service	13 February	D Travis
Kyneton District Health	16 February	D Travis
Latrobe Regional Hospital	6 February	D Travis
Melbourne Health	25 February	D Travis
Mercy Health (Werribee)	23 February	K McGrath
Mildura Base Hospital	28 January	D Travis
Monash Health	20 February	K McGrath
Northern Health	2 February and 25 February	K McGrath D Travis
Peninsula Health	10 February	K McGrath
Rochester and Elmore District Health Service	13 February	D Travis
Seymour Health	2 March	D Travis
St Vincent's Hospital Melbourne	18 February	K McGrath
The Royal Children's Hospital	11 February	D Travis
The Royal Victorian Eye and Ear Hospital	11 February	D Travis
The Royal Women's Hospital	30 January	D Travis
West Gippsland Healthcare Group	6 February	D Travis
Western Health	23 February	K McGrath
Yarrawonga District Health Service	27 February	K McGrath

A3. Total and generally available inpatient POC by health service

Health service group and name	Total POC	Generally available POC
Major metropolitan		
Alfred Health	992	952
Austin Health	857	794
Barwon Health	678	529
Eastern Health	1,205	977
Melbourne Health	707	677
Mercy Health	398	356
Monash Health	1,537	1,427
Northern Health	547	497
Peninsula Health	711	620
St Vincent's Hospital Melbourne	587	555
The Royal Children's Hospital	362	315
Western Health	911	792
Specialist metropolitan		
Calvary Health Care Bethlehem	60	60
Dental Health Services Victoria	20	20
Peter MacCallum Cancer Centre	143	124
The Royal Victorian Eye and Ear Hospital	59	59
The Royal Women's Hospital	233	217
Regional and subregional		
Albury Wodonga Health	275	257
Bairnsdale Regional Health Service	109	101
Ballarat Health Services	342	317
Bendigo Health Care Group	317	311
Central Gippsland Health Service	124	105
Echuca Regional Health	122	91
Goulburn Valley Health	232	211
Latrobe Regional Hospital	237	222
Mildura Base Hospital	140	122
Northeast Health Wangaratta	145	131
South West Healthcare	202	180
Swan Hill District Health	64	64
West Gippsland Healthcare Group	86	86
Western District Health Service	88	88
Wimmera Health Care Group	97	87
Local and small rural		
Alexandra District Hospital	29	16
Bass Coast Health	60	54
Beaufort and Skipton Health Service	10	10
Beechworth Health Service	9	2
Benalla Health	50	40

Health service group and name	Total POC	Generally available POC
Boort District Health	9	9
Casterton Memorial Hospital	15	15
Castlemaine Health	60	46
Cobram District Health	14	14
Cohuna District Hospital	18	18
Colac Area Health	53	40
Djerriwarrh Health Services	68	64
Dunmunkle Health Services	2	2
East Grampians Health Service	57	54
East Wimmera Health Service	43	43
Edenhope and District Memorial Hospital	20	15
Gippsland Southern Health Service	51	51
Heathcote Health	8	8
Hepburn Health Service	30	30
Hesse Rural Health Service	5	4
Heywood Rural Health	5	5
Inglewood and Districts Health Service	7	7
Kerang District Health	18	18
Kilmore and District Hospital	58	21
Kooweerup Regional Health Service	12	6
Kyabram and District Health Services	46	42
Kyneton District Health Service	35	24
Lorne Community Hospital	6	6
Maldon Hospital	4	2
Mansfield District Hospital	26	26
Maryborough District Health Service	48	48
Moyne Health Services	15	15
Nathalia District Hospital	6	6
Numurkah District Health Service	21	21
Omeo District Health	4	4
Portland District Health	68	53
Rochester and Elmore District Health Service	12	12
Rural Northwest Health	23	16
Seymour Health	34	28
South Gippsland Hospital	16	16
Stawell Regional Health	46	38
Tallangatta Health Service	13	13
Terang and Mortlake Health Service	26	19
West Wimmera Health Service	52	44
Yarram and District Health Service	23	23
Yarrawonga District Health Service	27	27
Yea and District Memorial Hospital	10	10

Health service group and name	Total POC	Generally available POC
Multipurpose		
Alpine Health	41	41
Mallee Track Health and Community Service	14	8
Orbost Regional Health	14	14
Otway Health	4	4
Robinvale District Health Services	23	23
Timboon and District Healthcare Service	13	13
Upper Murray Health and Community Services	13	13
Total	**13,981**	**12,545**

Note:
POC include additional capacity (new infrastructure) planned to be completed by early 2015–16 and reflect some major reconfigurations between campuses of the one health service due to take effect on or before July 2015. Data excludes mental health POC located on public health service sites, transition care and other non-acute patient accommodation and any off-site POC.

A4. Total and generally available emergency department, urgent care unit and primary care centre treatment spaces by health service

Health service group and name	Total POC	Generally available POC
Major metropolitan		
Alfred Health	47	47
Austin Health	46	45
Barwon Health	44	35
Eastern Health	108	81
Melbourne Health	48	43
Mercy Health	39	25
Monash Health	118	118
Northern Health	67	48
Peninsula Health	53	53
St Vincent's Hospital Melbourne	45	45
The Royal Children's Hospital	38	38
Western Health	89	84
Specialist metropolitan		
Dental Health Services Victoria	8	8
The Royal Victorian Eye and Ear Hospital	13	13
The Royal Women's Hospital	15	15
Regional and subregional		
Albury Wodonga Health	37	37
Bairnsdale Regional Health Service	11	11
Ballarat Health Services	31	30
Bendigo Health Care Group	21	21
Central Gippsland Health Service	11	9
Echuca Regional Health	20	20
Goulburn Valley Health	21	15
Latrobe Regional Hospital	17	17
Mildura Base Hospital	19	18
Northeast Health Wangaratta	15	15
South West Healthcare	18	18
Swan Hill District Health	9	9
West Gippsland Healthcare Group	20	20
Western District Health Service	7	7
Wimmera Health Care Group	10	10
Local and small rural		
Alexandra District Hospital	6	6
Bass Coast Health	11	10
Beaufort and Skipton Health Service	2	2
Beechworth Health Service	1	1
Benalla Health	7	7
Boort District Health	2	2

Health service group and name	Total POC	Generally available POC
Casterton Memorial Hospital	4	4
Castlemaine Health	7	7
Cobram District Health	3	3
Cohuna District Hospital	4	4
Colac Area Health	6	5
Djerriwarrh Health Services	10	10
Dunmunkle Health Services	1	1
East Grampians Health Service	7	7
East Wimmera Health Service	10	10
Edenhope and District Memorial Hospital	1	1
Gippsland Southern Health Service	7	7
Heathcote Health	2	2
Hepburn Health Service	3	3
Hesse Rural Health Service	2	2
Heywood Rural Health	2	2
Inglewood and Districts Health Service	2	2
Kerang District Health	2	2
Kilmore and District Hospital	5	3
Kyabram and District Health Services	5	5
Kyneton District Health Service	4	4
Lorne Community Hospital	4	4
Maldon Hospital	1	1
Mansfield District Hospital	3	3
Maryborough District Health Service	5	5
Moyne Health Services	4	4
Nathalia District Hospital	7	7
Numurkah District Health Service	4	4
Omeo District Health	3	3
Portland District Health	8	8
Rochester and Elmore District Health Service	2	2
Rural Northwest Health	3	3
Seymour Health	5	5
South Gippsland Hospital	4	4
Stawell Regional Health	5	5
Tallangatta Health Service	1	1
Terang and Mortlake Health Service	4	4
West Wimmera Health Service	23	23
Yarram and District Health Service	2	2
Yarrawonga District Health Service	3	3
Yea and District Memorial Hospital	4	4

Health service group and name	Total POC	Generally available POC
Multipurpose		
Alpine Health	12	12
Mallee Track Health and Community Service	3	3
Orbost Regional Health	4	4
Otway Health	3	3
Robinvale District Health Services	2	2
Timboon and District Healthcare Service	2	2
Upper Murray Health and Community Services	2	2
Total	**1,284**	**1,190**

Notes:
POC include resuscitation bays, cubicles (trolley and chair), consulting rooms (general, specific/restricted use) treatment/procedure rooms, and behavioural assessment rooms.

Health services without designated emergency departments were grouped as urgent care services or primary care services according to their designation under the trauma system as published in *Trauma towards 2014: Review and future directions of the Victorian State Trauma System* (Department of Human Services 2009).

A5. Total and generally available operating theatres by health service

Health service group and name	Total POC	Calculated theatre use
Major metropolitan		
Alfred Health	19	16.8
Austin Health	19	14.6
Barwon Health	12	11.4
Eastern Health	20	17.1
Melbourne Health	12	12
Mercy Health	8	5.8
Monash Health	27	25.2
Northern Health	9	8.2
Peninsula Health	9	8.8
St Vincent's Hospital Melbourne	12	11.6
The Royal Children's Hospital	14	12.3
Western Health	18	15.3
Specialist metropolitan		
Dental Health Services Victoria	3	2.4
Peter MacCallum Cancer Centre	5	4.3
The Royal Victorian Eye and Ear Hospital	8	7
The Royal Women's Hospital	5	4.8
Regional and subregional		
Albury Wodonga Health	7	4.1
Bairnsdale Regional Health Service	2	1.9
Ballarat Health Services	6	5.6
Bendigo Health Care Group	5	5
Central Gippsland Health Service	2	1.7
Echuca Regional Health	3	2
Goulburn Valley Health	3	3
Latrobe Regional Hospital	4	4
Mildura Base Hospital	3	2.2
Northeast Health Wangaratta	3	2.3
South West Healthcare	4	3.5
Swan Hill District Health	2	0.9
West Gippsland Healthcare Group	2	1.7
Western District Health Service	2	1.6
Wimmera Health Care Group	2	1.7
Local and small rural		
Alexandra District Hospital	1	0.3
Bass Coast Health	1	0.8
Benalla Health	2	0.5
Casterton Memorial Hospital	1	0.05
Castlemaine Health	2	1.2
Cobram District Health	1	0.3

Health service group and name	Total POC	Calculated theatre use
Cohuna District Hospital	1	0.2
Colac Area Health	2	1.4
Djerriwarrh Health Services	2	1.9
East Grampians Health Service	2	1.3
Gippsland Southern Health Service	3	1.5
Hepburn Health Service	1	0.2
Kerang District Health	1	0.4
Kilmore and District Hospital	2	0.5
Kyabram and District Health Services	1	0.8
Kyneton District Health Service	2	0.9
Mansfield District Hospital	1	0.2
Maryborough District Health Service	1	0.9
Numurkah District Health Service	1	0.2
Portland District Health	2	1.6
Rochester and Elmore District Health Service	1	0.2
Seymour Health	1	0.7
South Gippsland Hospital	1	0.3
Stawell Regional Health	2	0.8
Terang and Mortlake Health Service	1	0.2
West Wimmera Health Service	1	0.4
Yarrawonga District Health Service	1	0.3
Multipurpose		
Orbost Regional Health	1	0.02
Timboon and District Healthcare Service	1	0.2
Total	**290**	**237.1**

Notes:
The average utilisation of operating theatres was calculated from the monthly (in-hours) operating theatre schedule submitted by relevant health services.

Out-of-hours utilisation of theatres is highly variable and was not calculated.