



Royal Flying Doctor Service

TASMANIA

Provision of Primary Health Care Service Strategic Study

Prepared by KP Health

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**An update of the 2013 report "Provision of Primary
Health Care Services Strategic Study"**

PREPARED FOR ROYAL FLYING DOCTOR SERVICE
TASMANIA

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Executive Summary

The Royal Flying Doctors Services (RFDS) Tasmania commissioned KP Health to prepare an update of the 2013 information paper "Provision of Primary Health Care Services Strategic Study" and to describe potential primary health activities of strategic potential for RFDS. This report describes Tasmania's current demography and geography, the health status of Tasmanians, health service utilisation within Tasmania and the current health reform environment within which new primary health opportunities are likely to emerge.

Key findings

Tasmania has a regionally dispersed population with one third of residents living outside the major centres of Hobart and Launceston. The population has a higher median age than other States and Territories. Some rural areas have higher median ages than the Tasmanian population overall.

In terms of land mass, about one third of the State is classified as remote but only about 2% of the population live there. People living in remote Tasmania are more likely to be of Aboriginal and / or Torres Strait Islander origin and more likely to be socio-economically disadvantaged.

The health of Tasmania's population is adversely affected by:

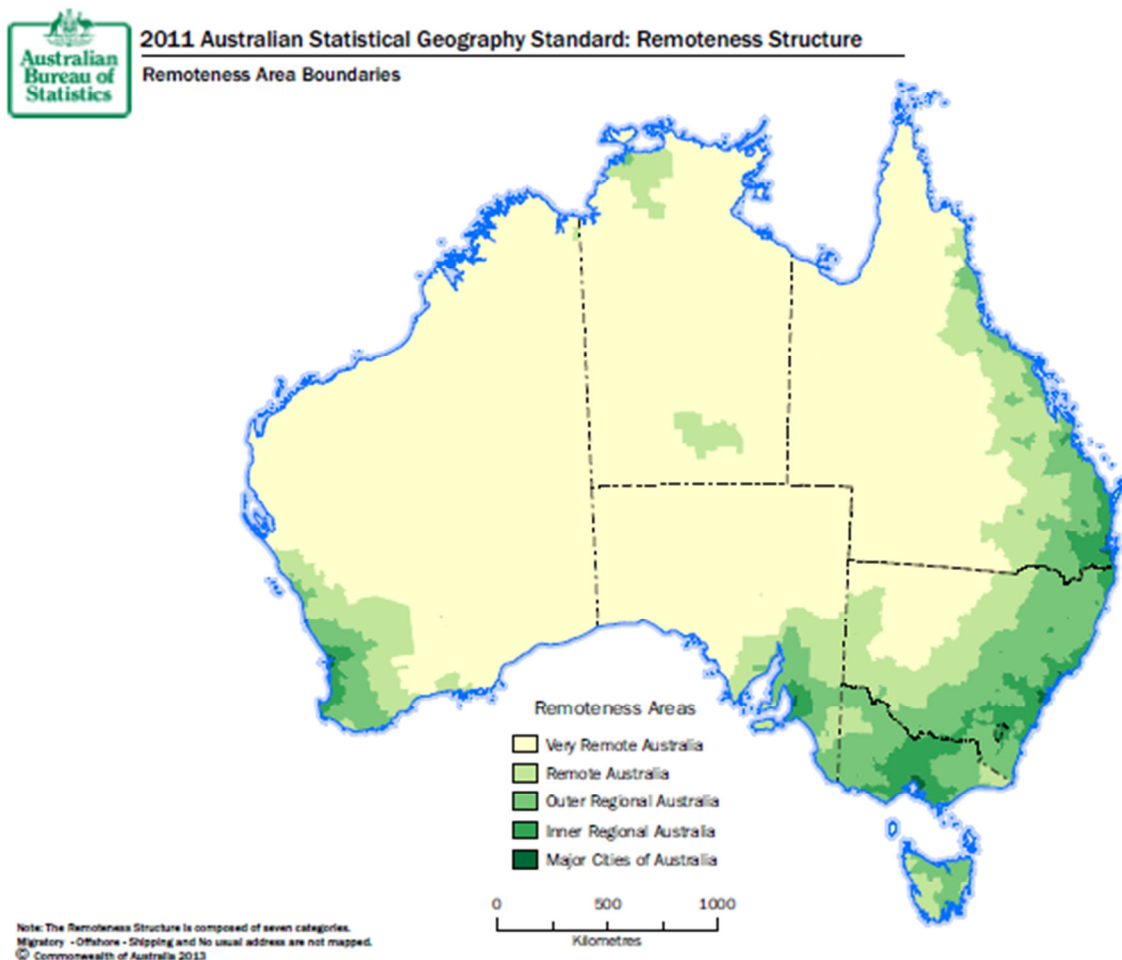
- high rates of lifestyle risk factors for chronic disease (smoking, nutrition, alcohol, physical inactivity, obesity and mental health); and
- high rates of chronic disease and multimorbidity (particularly cardiovascular disease, diabetes, cancer, musculoskeletal conditions and injury).

Rural Tasmanians experience poorer health outcomes than non-rural Tasmanians. The highest premature mortality is observed on the remote west coast and Flinders Island. Rural Tasmanians also have poorer access to local general practice services, with the majority of GPs per capita in Tasmania located in Hobart or Launceston.

Establishing the context - Tasmania's rural areas

Currently the main method of classifying rurality (and therefore allocating funding) in Australia is the Australian Bureau of Statistics Remoteness Areas Classification (RA).¹ The RA classification organises areas into five categories; Major cities, Inner regional, Outer regional, Remote or Very remote. Tasmania is predominantly classified as a regional community (Figure 1).

Figure 1: Map of Australia by Remoteness Area.²



Significant areas of remoteness in Tasmania (light green and yellow) are found on the west coast, small sections of the east coast and the Bass Strait islands.

¹ The method of defining District of Workforce Shortage (DWS), that is, an area identified as having below average access to doctors, is changing in 2015. Details will be available at www.doctorconnect.gov.au

² Australian Bureau of Statistics, 1270.0.55.005 - Australian Statistical Geography Standard (Asgs): Volume 5 - Remoteness Structure, July 2011 (Canberra: ABS, 2013).

Tasmanian health policy and health services configuration has historically been based around three distinct geographical regions rather than on RA classifications (Figure 2). Tasmanian public health sector health services have been governed accordingly, via three Tasmanian Health Organisations. These will be merged into a single Tasmanian Health Service on July 1, 2015.

Figure 2: Tasmania Map by Region³



Health needs are influenced by a range of factors, including income, education, employment, access to housing and transport and food security. Rurality (i.e. living in a rural or remote area) is an independent risk factor for poor health.

Table 1 below shows the rural and remote populations of each Australian state and territory. These data demonstrate 2.1% of Tasmania's population are considered to be located in a remote area.

³ <http://www.dhhs.tas.gov.au/tho>

Table 1. Population Breakdown by State and Remoteness Area, June 2013 (data adapted)⁴.

	Rural & Remote (n)	% of Pop.	Remote (n)	% of Rural Pop.
NSW	1,913,821	25.8%	39,313	2.1%
Queensland	1,767,818	38.0%	139,048	7.9%
Victoria	1,346,022	23.5%	4,586	0.3%
WA	586,529	23.3%	170,674	29.1%
SA	444,057	26.6%	60,580	13.6%
NT	240,759	100%	104,514	43.4%
Tasmania	513,159	100%	10,608	2.1%

Without Hobart and Launceston, the rural and remote population of Tasmania is 34 per cent or just under 200,000 people. Just over 10,000 people live in remote areas with 2,500 living on King and Flinders Islands. Of all the states and territories, Tasmania had the highest proportion of its population residing outside of the Greater Capital City (58%) at June 2013.⁵

Tasmania's Ageing Population

Australia's ageing population has a significant impact on the primary health care and acute care sectors as older people are more likely to develop chronic diseases and to require the use of health services.

Seventeen per cent of Tasmanians are aged over 65. This is higher than the Australian proportion of 14 per cent and is the highest of any State or Territory (approximately equal with South Australia). Tasmania has the oldest median age of all states and territories, 41.2 years, compared with the Australian median of 37.3 years.⁶

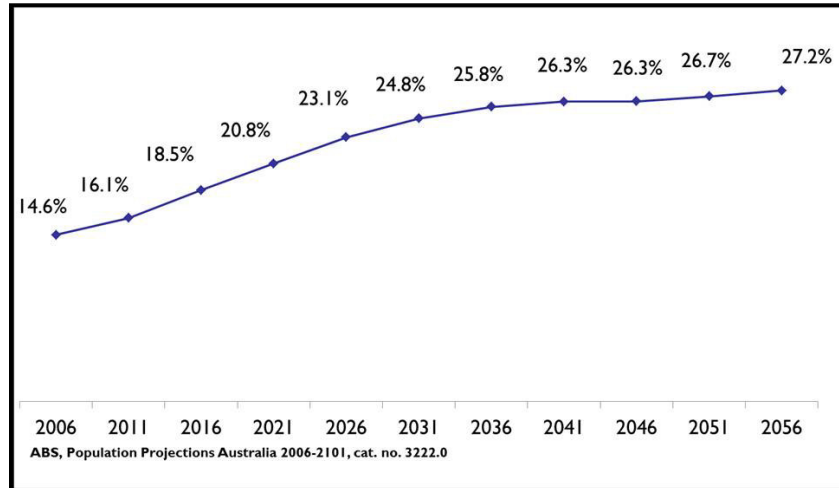
ABS population projections predict the proportion of the Tasmanian population aged 65 years or over will continue to increase (Figure 3).

⁴ Australian Bureau of Statistics, 3218.0 - Regional Population Growth, Australia, 2012-13 (Canberra: ABS, 2014).

⁵ *Ibid.*

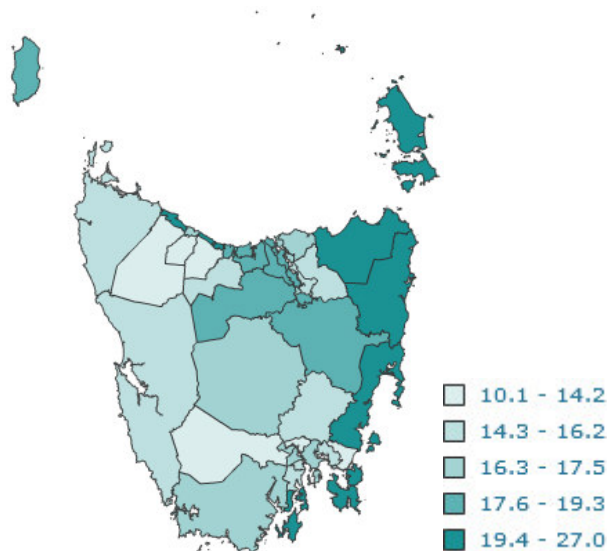
⁶ Australian Bureau of Statistics, 3235.0 - Population by Age and Sex, Regions of Australia, 2013 (Canberra: ABS, 2014).

Figure 3: Proportion of Tasmanian population aged 65+ years, 2006 to 2056



A higher proportion of the rural population of the east coast of Tasmania are aged 65 years or over, compared with the west coast of Tasmania, where the proportion of the population aged 65 years or over is much lower (Figure 4).

Figure 4: Map of Tasmania by % of population aged 65 +, 2012 estimated resident population⁷



⁷ Public Health Information Development Unit (PHIDU), "Social Health Atlas of Australia," (2014). <http://www.adelaide.edu.au/phidu/current/maps/sha-aust/pha-single-map/atlas.html> (accessed 16 January 2015).

Tasmania's Aboriginal Populations

Tasmanian rural communities have a higher proportion of Aboriginal and / or Torres Strait Islander peoples (5.7%) compared with Australian rural communities overall (3%). The proportion of the Tasmanian population who are of Aboriginal and / or Torres Strait Islander origin is greater in remote areas (Table 2).

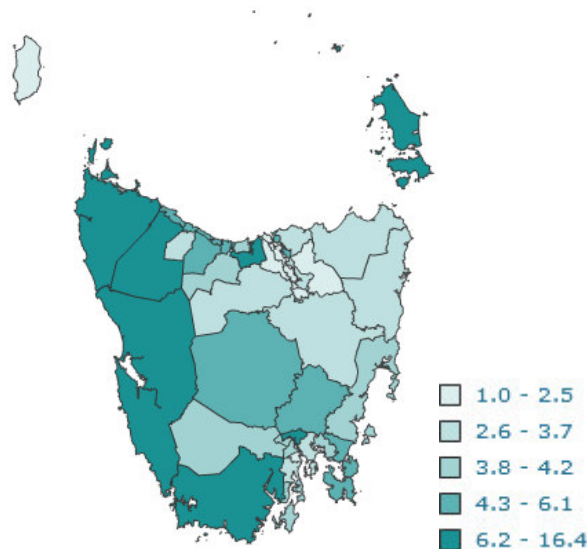
Table 2. ATSI Population Breakdown by State and Remoteness Area, June 2011.⁸

	ATSI Pop. in Rural & remote (n)	% of total rural and remote pop.	ATSI Pop. in Remote (n)	% of remote pop.
NSW	115,405	6%	9,413	24%
Queensland	131,018	8%	35,924	26%
Victoria	23,711	2%	7,091	3%
WA	54,683	10%	35,397	22%
Tasmania	24,165	5%	789	7%
SA	18,630	4%	6,391	11%
NT	68,850	30%	54,889	54%

The populations of Flinders Island, Circular Head and the West Coast local government areas (LGAs) have the highest proportion of Aboriginal and / or Torres Strait Islander peoples. However, while the proportion is high, the actual number of Aboriginal or Torres Strait Islander peoples living in remote Tasmania is around 800 persons (Figure 5).

⁸ Australian Bureau of Statistics, 3238.0.55.001 - Estimates of Aboriginal and Torres Strait Islander Australians, June 2011 (Canberra: ABS, 2013).

Figure 5: Map of Tasmania by % of population identifying as Aboriginal, 2011 data.⁹



Indigenous Tasmanians have poorer health outcomes than non-Indigenous Tasmanians. Tasmanian Aboriginal and Torres Strait Islander peoples continue to have a lower life expectancy than the general population.

The self-assessed health status of Indigenous Tasmanians continues to compare unfavourably with that of non-Indigenous Tasmanians, with only 71.7% reporting excellent, very good or good health in 2008. Disability is more common in Indigenous Tasmanians, with a rate of profound or severe activity limitations of 12% - almost three times that of non-Indigenous Tasmanians (4.7%).

Indigenous Tasmanians also have high smoking rates (39.1% in 2011-13), high rates of overweight and obesity (68.9%), and high rates of risky drinking (18.1%).¹⁰

Tasmania's Socioeconomic Status

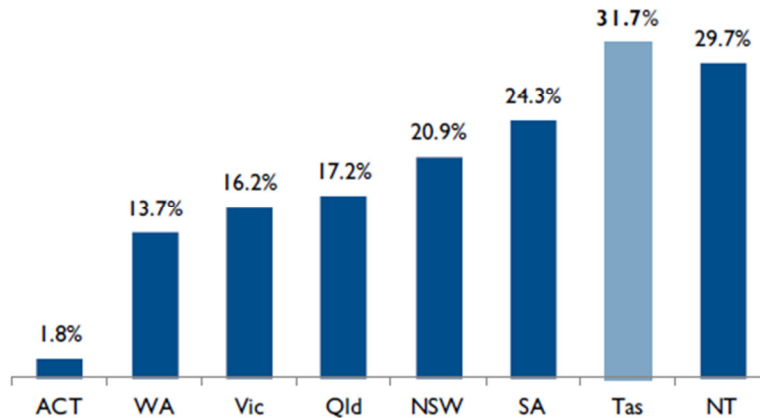
The socioeconomic status of the population is an important consideration in examining a community's health needs. People who are socioeconomically disadvantaged have reduced life expectancy, poorer health and higher levels of risk factors for ill-health.¹¹ Tasmania has the highest proportion of people in the lowest quintile of socioeconomic disadvantage when compared to other states and territories as shown in Figure 6.

⁹ Public Health Information Development Unit (PHIDU).

¹⁰ COAG Reform Council, *Indigenous Reform 2012-13: Five Years of Performance* (Canberra: COAG Reform Council, 2014).

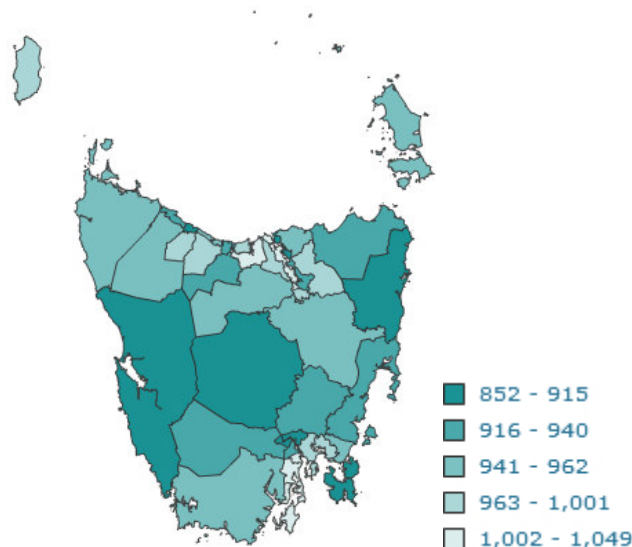
¹¹ Australian Institute of Health and Welfare, *Australia's Health 2014* (Canberra: AIHW, 2014).

Figure 6: Proportion of population in the lowest quintile of the SEIFA Index of Relative Disadvantage by state, 2007-08¹²



Socio-economic disadvantage is more common in rural communities. The greatest socioeconomic disadvantage is in the remote areas of the west and north east coasts and Flinders Island (Figure 7).

Figure 7: Map of Tasmania by Index of Relative Socioeconomic Disadvantage, 2011 data.¹³



¹² Epidemiology Unit in the Population Health Branch of the Tasmanian Department of Health and Human Services, *Health Indicators Tasmania 2013* (Hobart: DHHS, 2013).

¹³ Public Health Information Development Unit (PHIDU).

The health status of Tasmanians

Tasmania's overall health status is currently similar to that of regional Australia but significantly poorer than interstate major metropolitan areas. According to Health Indicators Tasmania 2013 life expectancy has steadily improved over the period 1985 to 2011¹⁴. However, Tasmania continues to have one of the lowest life expectancy of all states and territories.

Prevention and early detection of disease

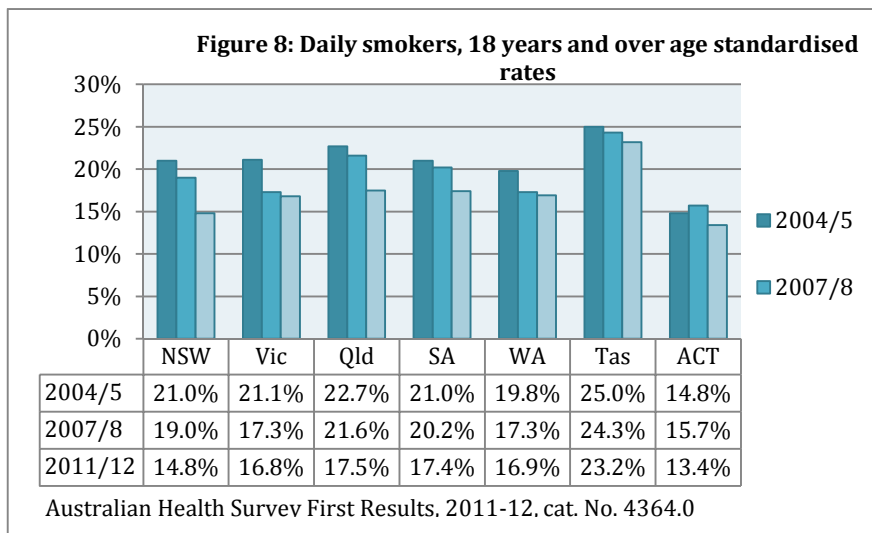
- Potentially preventable hospitalisations have not increased over the last decade. However, changes in how potentially preventable hospitalisations are coded may have contributed to this.
- Participation in breast cancer screening (58.4%) and in the National Bowel Cancer Screening Program (42.5%) indicates a large proportion of the target populations for both programs do not participate in these cancer screening activities.
- Tasmania continues to have higher rates of smoking than most other states and territories. Almost one in four Tasmanian adults (23.2%) is a current smoker, compared to one in five in 2004/5 (25.4%), with almost one third (30.6%) of young Tasmanians aged 18-24 years smoking daily or occasionally.
- Alcohol consumption exceeding single occasion risk was higher in Tasmania (54.6%) than at the national level (44.7%), and higher for younger age groups and males. Alcohol consumption exceeding life time risk was broadly similar to the national level except for Tasmanian males, with well 35.9% exceeding lifetime risk compared to 29.1% of males at the national level.
- Physical activity levels remain low with more than two thirds of Tasmanians reporting inadequate levels of activity. Similarly, Tasmanian Secondary School students are insufficiently active, with less than 20% of students reporting adequate levels of physical activity.
- Almost two-thirds of Tasmanian adults are overweight or obese (65.6%), slightly more than 2008.
- Approximately 15% of Tasmanians report having been diagnosed with a mental health problem and 8.9% in Tasmanian population surveys report high to very high levels of psychological distress.
- One in seven Tasmanians (13.9%) meet the national nutrition guidelines regarding vegetable consumption.

¹⁴ DHHS Tasmania. Health Indicators Tasmania 2013.

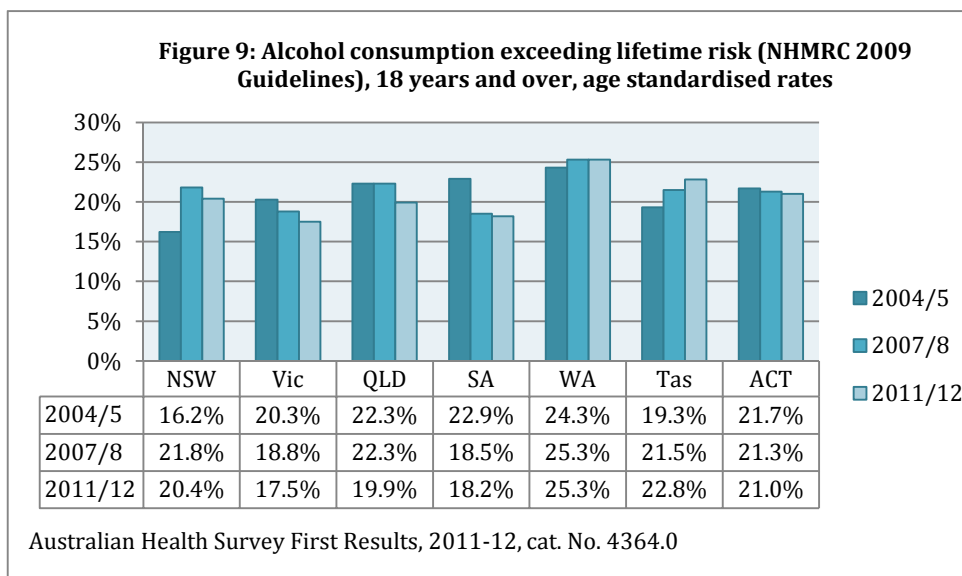
- An estimated 23% of Tasmanian women continuing to smoke during pregnancy.

Tasmania has fared less favourably than other jurisdictions in improving the key preventive health outcomes associated with lifestyle risk factors. This is demonstrated in a comparison of key preventive health outcomes across jurisdictions between 2004/05 and 2011/12 as measured in successive Australian Bureau of Statistics surveys.

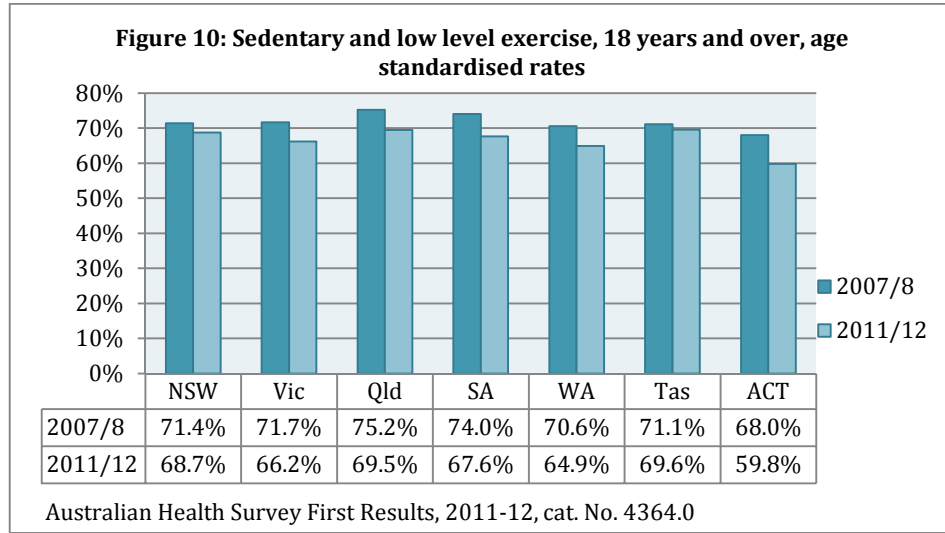
Tasmania has experienced a small decrease in smoking rates relative to other jurisdictions (Figure 8).



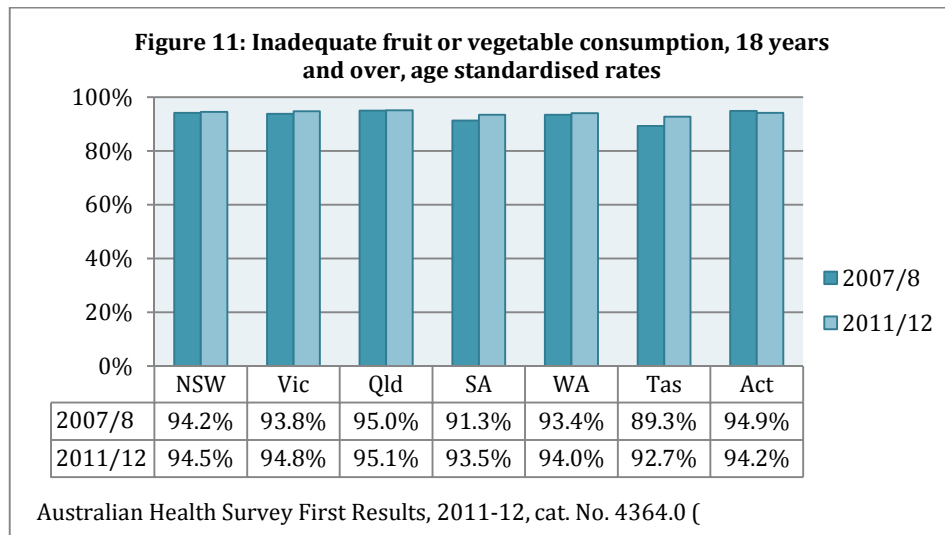
Alcohol consumption has increased between 2004/05 and 2011/12 in Tasmania. In the majority of jurisdictions alcohol consumption has decreased (Figure 9).



Between 2007/08 and 2011/12 other jurisdictions achieved a greater reduction in the percentage of people with sedentary and low level exercise than Tasmania (Figure 10).



Between 2007/08 and 2011/12 Tasmania observed a greater increase in the proportion of people with inadequate fruit and vegetable intake compared with other jurisdictions (Figure 11).



Associations between key behavioural risk factors and remoteness

The behavioural risk factor profile of rural and remote Tasmanians is generally similar to other Tasmanians. The exception is self-assessed health status. A significantly higher proportion of Tasmanians in remote / very remote areas have fair to poor health status compared with regional Tasmanians (Table 3).

Table 3: Self-assessed health and psychological distress, Tasmania 2013

	Fair/poor self-assessed health		High/very high psychological distress	
	%	95%CI	%	95%CI
Inner Regional	18.0	[15.8,20.4]	10.9	[9.0,13.2]
Outer Regional	18.8	[17.3,20.4]	11.6	[10.1,13.3]
Remote/Very Remote**	26.8	[20.4,34.3]	11.4*	[6.1,20.4]*
Tasmania	19.0	[17.8,20.4]	11.4	[10.1,12.7]

* Estimate has a relative standard error in excess of 25%, use with caution **combined for greater reliability; Tasmanian Population Health Survey 2013

There is a trend towards higher smoking and risky alcohol consumption for Tasmanians in remote and very remote areas, however this trend does not achieve statistical significance (Table 4). Similarly, rates of obesity (24%) and physical inactivity (32%) are not significantly different in rural and remote Tasmanians compared with Tasmanians as a whole (22% and 31% respectively).

Table 4: Smoking and high alcohol consumption, 18 years and over by remoteness, Tasmania 2013

	Current smokers (daily + occasional)		Alcohol consumption exceeding lifetime risk	
	%	95%CI	%	95%CI
Inner Regional	15.1	[12.6,17.9]	5.0	[3.8,6.6]
Outer Regional	14.7	[13.0,16.6]	4.2	[3.4,5.1]
Remote/Very Remote	16.7	[12.7,21.7]	5.5	[3.7,8.1]
Tasmania	15.0	[13.6,16.5]	4.6	[3.9,5.3]

*DHHS Public Health Services Epidemiology Unit, Tasmanian Health Survey 2013

Vegetable consumption tends to be higher and fruit consumption lower in remote and very remote areas. However, observed differences are not statistically significant (Table 5).

Table 5: Fruit and vegetable consumption, 18 years and over by remoteness, Tasmania, 2013

	Adequate fruit ≥ 2 serves daily		Adequate vegetable ≥ 5 serves daily	
	%	95%CI	%	95%CI
Inner Regional	44.6	[41.3,47.9]	9.4	[7.9,11.1]
Outer Regional	44.5	[42.1,46.8]	9.8	[8.6,11.1]
Remote/Very Remote	40.8	[34.4,47.5]	11.8	[7.9,17.3]
Tasmania	44.2	[42.4,46.1]	9.8	[8.8,10.8]

*DHHS Public Health Services Epidemiology Unit, Tasmanian Health Survey 2013

Chronic conditions and multimorbidity

The most common causes of death in Tasmania are cancer (28.3% of all deaths) and ischaemic heart disease (15.6% of all deaths). The leading causes of death for Tasmanian children aged 0-14 years are perinatal and congenital diseases, while transport accidents are the leading causes of death for persons aged 15 to 24 years.

Tasmania has higher rates of multimorbidity (defined here as three or more self-reported chronic conditions) than any other jurisdiction.

More than three in ten adults Tasmanians are affected by arthritis or some other musculoskeletal condition, and more than one in seven is diagnosed with hypertension (13.6%).

There are no significant differences in rates of multimorbidity between regional and rural / remote Tasmania (Table 6).

Table 6: Number of chronic conditions * by remoteness categories, Tasmanians aged 18 years and over, 2013

	2 chronic conditions		3 or more chronic conditions		Total %
	%	95%CI	%	95%CI	
Inner Regional	21.9	[19.3,24.8]	17.9	[16.0,20.0]	100
Outer Regional	19.2	[17.6,20.9]	19.8	[18.5,21.3]	100
Remote/Very Remote	19.8	[15.2,25.4]	21	[17.1,25.4]	100
Tasmania	20.2	[18.8,21.6]	19.2	[18.2,20.3]	100

*DHHS Public Health Services, Epidemiology Unit, derived from the Tasmanian Population Health Survey 2013 * self-reported diagnosed conditions

Tasmania's age standardised mortality rates are higher than the Australian age standardised mortality rates for a number of conditions. These include cancer, diabetes mellitus, ischaemic heart disease, strokes intentional self-harm.

Mortality associated with mental health problems is difficult to measure accurately. Suicide is a proxy measure for mental health mortality. However, suicide is a complex issue, with completed suicide deaths often resulting from an accumulation of risk factors which includes mental health problems, but also includes drug and alcohol abuse, family issues, unemployment, cultural identity, law enforcement and criminal justice issues, low educational attainment and poverty.

Age-standardised mortality rates for suicides in Tasmania were 22.2 deaths per 100,000 persons for males and 6.8 deaths per 100,000 persons for females from 2007 to 2010. The Tasmanian age-standardised mortality rate for deaths due to suicide in 2010 was 13.1 deaths per 100,000 persons, higher than the Australian rate of 10.5 deaths per 100,000 persons. Between 1978 and 2010, the age-standardised mortality rates for suicide did not change significantly.

Hospital service use

Acute care hospital separations are the number of episodes of acute hospital care received by people, including same-day hospital admissions (i.e. that last less than 24 hours in total).

Between 2009 and 2013 there were 43,011 hospital separations of patients from remote Tasmania. The majority of these hospital separations were to the Royal Hobart Hospital (RHH). For very remote areas, the Launceston General Hospital (LGH) and 'other Tasmanian public hospitals' (i.e. rural hospitals) accounted for the largest number of hospital separations (Table 7).

Table 7: Number of public hospital separations by remoteness catchment areas, Tasmania, 2009-2013

	RHH	LGH	NWRH	MCH	Other Tasmanian public hospital	Total
Inner Regional	156,557	46,190	588	1,710	5,567	210,612
Outer Regional	133,964	126,556	38,652	47,218	8,863	355,253
Remote	18,795	8,094	5,301	1,575	9,246	43,011
Very Remote	187	1,058	390	205	1,796	3,636

*DHHS Public Health Services Epidemiology Unit

People from remote and very remote areas have higher rates of hospitalisation than those from regional areas of Tasmania (Table 8).

Table 8: Rates* of public hospital separations by hospital and remoteness, Tasmania, 2009-13*

	RHH	LGH	NWRH	MCH	Other Tasmanian public hospital	Total
Inner Regional	161.3	48.1	0.6	1.9	5.4	217.3
Outer Regional	83.2	79.0	24.1	29.4	5.2	220.9
Remote	102.6	41.5	29.5	8.5	46.5	228.6
Very Remote	13.8	71.7	28.9	14.3	120.1	248.8

*per 1,000 population, age standardised to the 2001 Australian population, DHHS Public Health Services Epidemiology Unit

The top ten diagnoses for hospital separation of patients from remote areas are similar to regional areas. For *Very Remote* areas, the only diagnoses in the top 10 that were in common with remote and regional areas were chest pain, pneumonia, and COPD.

Table 9: Top 10 hospital separations by primary diagnosis for Remote and Very Remote areas, Tasmania 2009-2013

Rank	Primary Diagnosis code	Primary diagnosis description	Separations (number)
Remote			
1	R074	Chest pain, unspecified	527
2	J189	Pneumonia, unspecified	468
3	O80	Single spontaneous delivery	448
4	J440	Chronic obstructive pulmonary disease with acute lower respiratory infection	386
5	K922	Gastrointestinal haemorrhage, unspecified	380
6	H269	Cataract, unspecified	374
7	R104	Other and unspecified abdominal pain	328
8	I48	Atrial fibrillation and flutter	328
9	D509	Iron deficiency anaemia, unspecified	295
10	A099	Gastroenteritis and colitis of unspecified origin	288
Very Remote			
1	R074	Chest pain, unspecified	71
2	I48	Atrial fibrillation and flutter	62
3	R104	Other and unspecified abdominal pain	44
4	G628	Other specified polyneuropathies	43
5	J189	Pneumonia, unspecified	42

6	R11	Nausea and vomiting	39
7	R55	Syncope and collapse	38
8	J440	Chronic obstructive pulmonary disease with acute lower respiratory infection	35
9	N390	Urinary tract infection, site not specified	34
10	K509	Crohn's disease, unspecified	33

*DHHS Public Health Services Epidemiology Unit

Emergency Departments (EDs) in public hospitals play a critical role in the health care system. Over half of all public sector ED presentations (to Tasmania's four large hospitals) by patients from very remote areas are to the LGH (54.4%). In contrast, the NWRH provided emergency services to 77.5% of patients residing in remote areas during 2009-2013.

Table 10: ED presentations by remoteness catchment areas, Tasmania, 2009-2013

Remoteness	LGH		MCH		NWRH		RHH		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Remote	317	8.3	259	6.8	2,964	77.5	286	7.5	3,826	100
Very Remote	645	54.4	91	7.7	387	32.7	62	5.2	1,185	100
Tasmania	208,767	30.1	128,708	18.6	122,707	17.7	233,594	33.7	693,776	100

*DHHS Public Health Services Epidemiology Unit

Reasons for presentation to ED by people in remote and very remote areas differ somewhat from regional Tasmanian areas. Some additional diagnoses not found in the top ten ED presentations for regional areas include acute myocardial infarction, unstable angina, atrial fibrillations, acute appendicitis and cellulitis (Table 11).

Table 11: Top 10 ED presentations by primary diagnosis, Tasmania 2009-2013

Rank	Primary Diagnosis	Primary Diagnosis description	Presentations (number)
Remote			
1	R10.4	Other and unspecified abdominal pain	180
2	R07.4	Chest pain, unspecified	109
3	Z09.9	Follow-up examination after unspecified treatment for other conditions	90
4	B34.9	Viral infection, unspecified	61
5	J45.9	Asthma, unspecified	49
6	M54.5	Low back pain	47
7	Z71.1	Person with feared complaint in whom no diagnosis	45
8	I21.9	Acute myocardial infarction, unspecified	45
9	S93.40	Sprain and strain of ankle, part unspecified	42
10	I20.0	Unstable angina	42
Very Remote			
1	Z09.9	Follow-up examination after unspecified treatment for other conditions	42
2	R10.4	Other and unspecified abdominal pain	39
3	R07.4	Chest pain, unspecified	27
4	I48	Atrial fibrillation and flutter	19
5	K35.9	Acute appendicitis, unspecified	18
6	Z48.0	Other surgical follow-up care	17
7	Z71.1	Person with feared complaint in whom no diagnosis	16
8	Z76.0	Issue of repeat prescription	15
9	L03.11	Cellulitis of lower limb	15
10	K56.6	Other and unspecified intestinal obstruction	14

*DHHS Public Health Services Epidemiology Unit

Potentially avoidable deaths

Potentially avoidable deaths refer to deaths from a disease for which public health and medical interventions are available. Examples include lung and colorectal cancers, suicide, traffic accidents and ischaemic heart disease.

Tasmania has the second highest rate of deaths from potentially avoidable causes, following the Northern Territory.¹⁵ In 2009, the potentially avoidable mortality from all causes in people under 75 years of age was 182.4 deaths per 100,000 population in Tasmania compared with 144.9 per 100,000 population in Australia as a whole.

Within Tasmania, the local government areas with the highest rates of premature mortality are mainly in rural areas (Table 12). Flinders Island and the West Coast have the highest rates of avoidable mortality.

Table 12: Local government areas with the highest potentially avoidable deaths, 2003-2007

LGA	ASR	95% CI
Flinders	500.3	288.4-712.1
West Coast	298.1	231.0-365.1
Brighton	272.7	226.2-319.1
George Town	271.8	216.5-327.1
Tasman	268.0	175.0-360.9
Break ODay	261.4	206.7-316.0
Derwent Valley	257.2	211.7-302.5
Southern Midlands	248.8	190.1-307.4
Glenorchy	248.2	227.8-268.6
Circular Head	238.2	188.8-287.5
Tasmania	197.1	191.5-202.6

*LGA = local government area; ASR = age-standardised rate; CI = confidence interval; ** ASR are standardised with the Australian 2001 population and expressed per 100,000 population

¹⁵ *Ibid.*

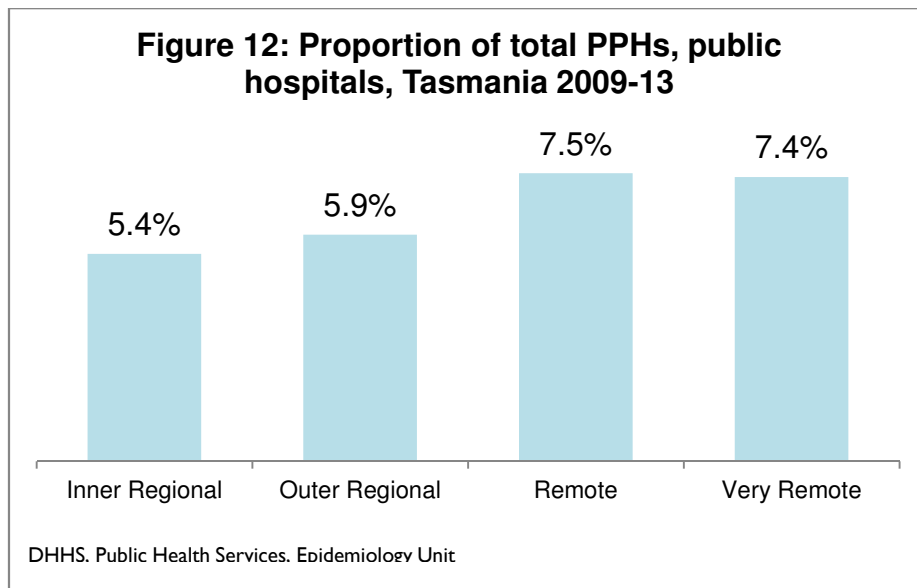
Potentially preventable hospitalisations

Potentially preventable hospitalisations represent a range of conditions for which interventions could have prevented the disease or condition from occurring.

The most common conditions for potentially preventable hospitalisations in Tasmania are chronic obstructive pulmonary disease (likely linked to the high smoking rates), diabetes complications, dehydration and gastroenteritis, dental conditions and congestive heart failure.¹⁶ Avoidable hospitalisations increase with remoteness.¹⁷

In 2010-11, Tasmania's rates of potentially preventable hospitalisations was the second lowest of all jurisdictions (20.2 per 1,000 population compared with 27.7 per 1,000 nationally).

Potentially preventable hospitalisation rates are higher in remote areas of Tasmania (Figure 12).



Potentially preventable hospitalisations can be categorised according to whether the underlying preventable condition is a chronic condition or acute health complaint. Preventable hospitalisations for both acute and chronic conditions are higher in Tasmanians from very remote areas (Table 13).

¹⁶ Epidemiology Unit in the Population Health Branch of the Tasmanian Department of Health and Human Services.

¹⁷ Australian Institute of Health and Welfare, *Australia's Health 2014*. Source: Australian Institute of Health and Welfare, *Australian Hospital Statistics 2012-13*.

Table 13: Rates of PPHs for chronic and acute conditions by remoteness, public and private hospitals, Tasmania 2012-13*

	Chronic Conditions Rate per 1,000 population	Acute Conditions Rate per 1,000 population
Inner Regional	10.1	9.6
Outer Regional	10.0	10.2
Remote	10.2	12.5
Very Remote	13.4	13.3

*Rates are age-standardised to the Australian 2001 population; Productivity Commission, ROGS 2015, Table 10A, 97

Within Tasmania the local government areas with the highest rates of potentially preventable hospitalisations are rural and remote (Table 14).

Table 14: Local government areas with the highest potentially preventable hospitalisations, 2007-2011

LGA	ASR	95% CI
West Coast	33.2	30.8-35.4
King Island	32.2	28.2-36.0
Circular Head	29.1	27.4-30.7
George Town	28.6	26.7-30.3
Break ODay	27.5	25.7-29.3
Brighton	27.3	25.9-28.7
Glenorchy	26.6	25.9-27.2
Derwent Valley	26.0	24.6-27.4
Devonport	25.0	24.1-25.8
Burnie	24.5	23.5-25.4
Tasmania	22.2	22.0-22.4

* ASR are standardised with the Australian 2001 population and expressed per 1,000 population

Hospitalisations for mental health problems

Mental health problems are responsible for 5% of all hospitalisations in Tasmania. Patients admitted to hospital with a principal diagnosis of a physical health complaint

frequently also have mental health comorbidities. An estimated 20% of all inpatient admissions are associated with mental health comorbid diagnoses¹⁸.

Mood disorders are responsible for the majority of hospital admissions (public and private) for mental health problems in Tasmania (46% of all admissions) followed by neurotic disorders (20% of all admissions). In comparison, mood disorders are responsible for the majority of hospital admissions nationally, followed by admissions for schizophrenia.

There is significant regional variation in inpatient service provision for people with an ICD-coded principal mental health diagnosis. Although an estimated 50% of Tasmania's population resides in southern Tasmania, 76% of all inpatient admissions (public and private hospitals combined) are in southern Tasmania. A further 13% of admissions are in north-west Tasmania and 11% are in northern Tasmania¹⁹.

This equates to a population rate of hospital admissions for mental health problems of 28.6 per 1,000 population in the south, which is significantly higher than the rates in the north and north-west (7.0 per 1,000 population and 11.0 per 1,000 population, respectively).

There is also significant regional variation in inpatient service provision for people assigned a mental health Diagnosis Related Group (DRG). In 2012/13, 61% of public hospital mental health separations were from the Royal Hobart Hospital (RHH), 22% from Launceston General Hospital (LGH), 16% from North West Regional Hospital (NWRH) and 1% from Mersey Community Hospital (MCH).

Both ICD and DRG-coded data therefore indicate a relatively high per capita rate of hospitalisation for mental health problems for people who reside in southern Tasmania. Review of the residential postcode does not indicate that patients are routinely travelling from out of catchment to be treated at RHH. There were twenty admissions out of 1,662 for patients from the north-west and west coast. Fifty-four admissions related to patients from the north and north-east coast, with two patients being admitted a total of nineteen times for same day electroconvulsive treatment (ECT).

¹⁸ DHHS. Health Central hospital separations database.

¹⁹ North-west Tasmania has a smaller proportion of Tasmania's population (22%) than northern Tasmania (28%).

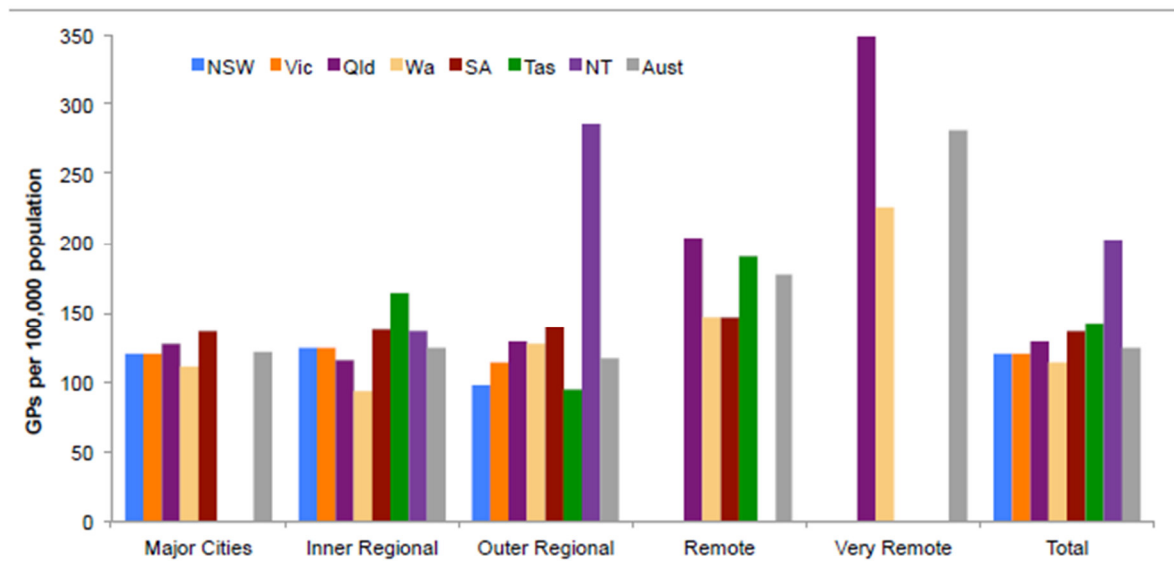
Health Service Access in Tasmania

Rural Tasmanians generally have poorer health outcomes and higher mortality rates.²⁰ People from rural and remote Australia may have a more advanced stage of disease when they eventually seek care from their primary health care provider compared to their urban counterparts.²¹ In part this may be due to the difficulties in accessing primary care which mean people choose to delay consulting the general practitioner for minor symptoms and wait until the symptoms become more severe.^{22 23}

The number of GPs for a given population tends to increase as remoteness increases due to the relatively sparse and small populations in remote Australia.

Tasmania (in green) generally does very well in the supply of GPs for the population. The only rural classification area which does not do so well is the ‘Outer Regional’ areas which are the small rural towns outside of the regional centres (Figure 13).

Figure 13: GPs per 100,000 population by state and remoteness area.²⁴



The majority of GPs in Tasmania are located in the population centres of Hobart and Launceston.

²⁰ Australian Institute of Health and Welfare, *Rural, Regional and Remote Health Health: Indicators of Health Status and Determinants of Health* (Canberra: AIHW, 2008).

²¹ M. D. Coory, T. Ho, and S. J. Jordan, "Australia Is Continuing to Make Progress against Cancer, but the Regional and Remote Disadvantage Remains," *Med J Aust* 199, no. 9 (2013).

²² Australian Institute of Health and Welfare, *Australian Hospital Statistics 2012-13*.

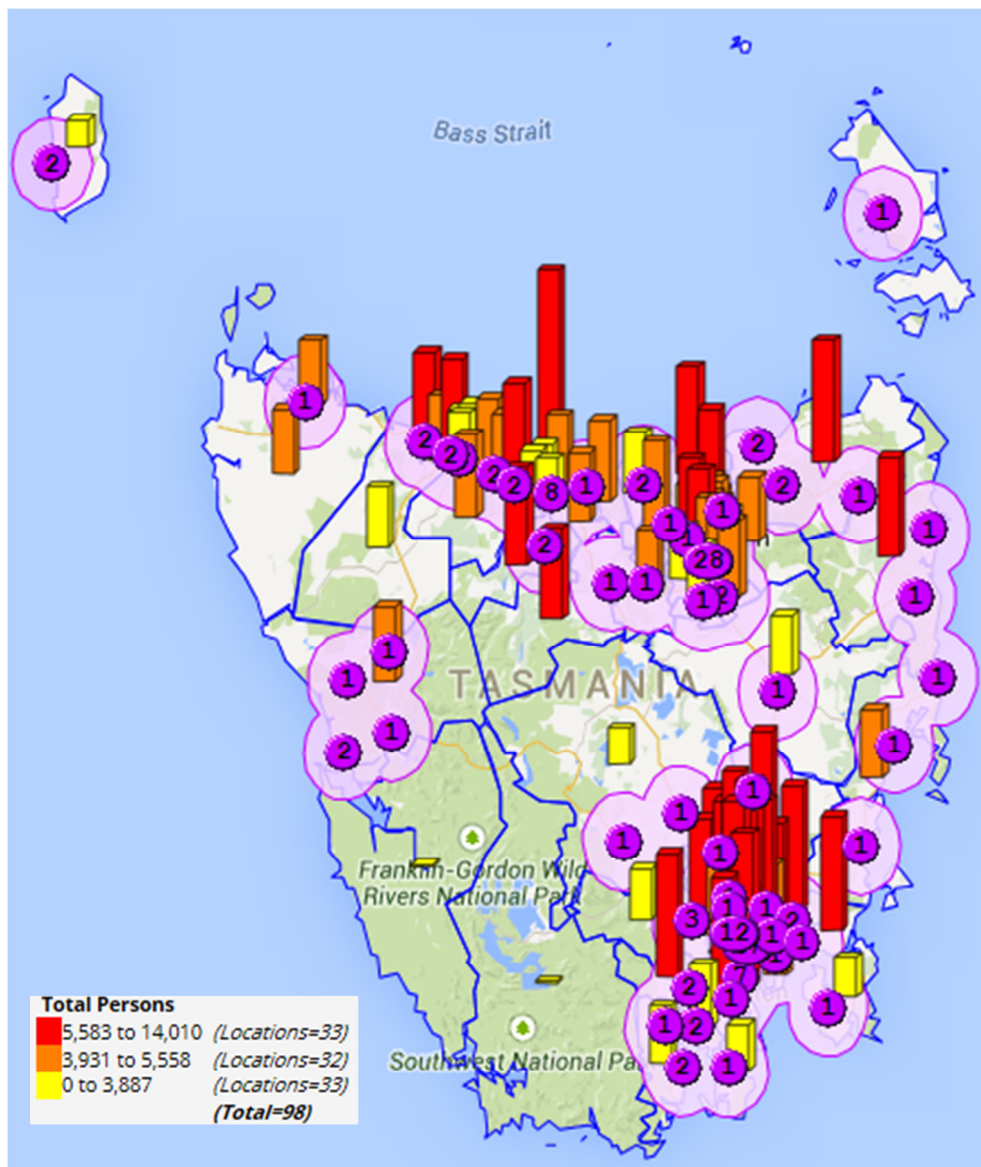
²³ Australian Institute of Health and Welfare, *Rural, Regional and Remote Health: Indicators of Health System Performance* (Canberra: AIHW, 2008).

²⁴ COAG Reform Council, *Healthcare 2010-11: Comparing Performance across Australia* (Canberra: COAG Reform Council, 2012).

Figure 14 overlays the Tasmanian population (coloured bars represent population size) with the centres where GPs work (represented as purple dots - the number in the purple dot represents the number of general practices). The purple shading around the centres where general practices are located represents a 20 kilometre radius where people may travel to attend the GP.

According to this analysis, some people in the areas of Waratah/Wynyard, Circular Head and Central Highlands are more than 20 kilometres from a general practice.

Figure 14: GP service accessibility, December 2014²⁵



²⁵ *Ibid.*

Figure 15 overlays the Tasmanian population (coloured bars represent population size) with emergency services (represented as purple dots - the number in the purple dot represents the number of emergency departments). The purple shading around the centres where emergency departments are located represents a 50 kilometre radius where people have to be transferred to an emergency department.

Although this map suggests widespread emergency department cover across Tasmania, emergency departments outside regional areas are usually located in rural hospitals and do not have specialist emergency physicians staffing them.

According to this analysis, people in the areas of Central Highlands, Derwent Valley, Geeveston / Dover, Triabunna / Bicheno and Forestier / Tasman are greater than 50 kilometres from the nearest emergency department. However, emergency departments in most rural areas are located within rural facilities and are staffed by generalist providers rather than specialist emergency physicians.

Figure 15: Emergency Department accessibility, December 2014

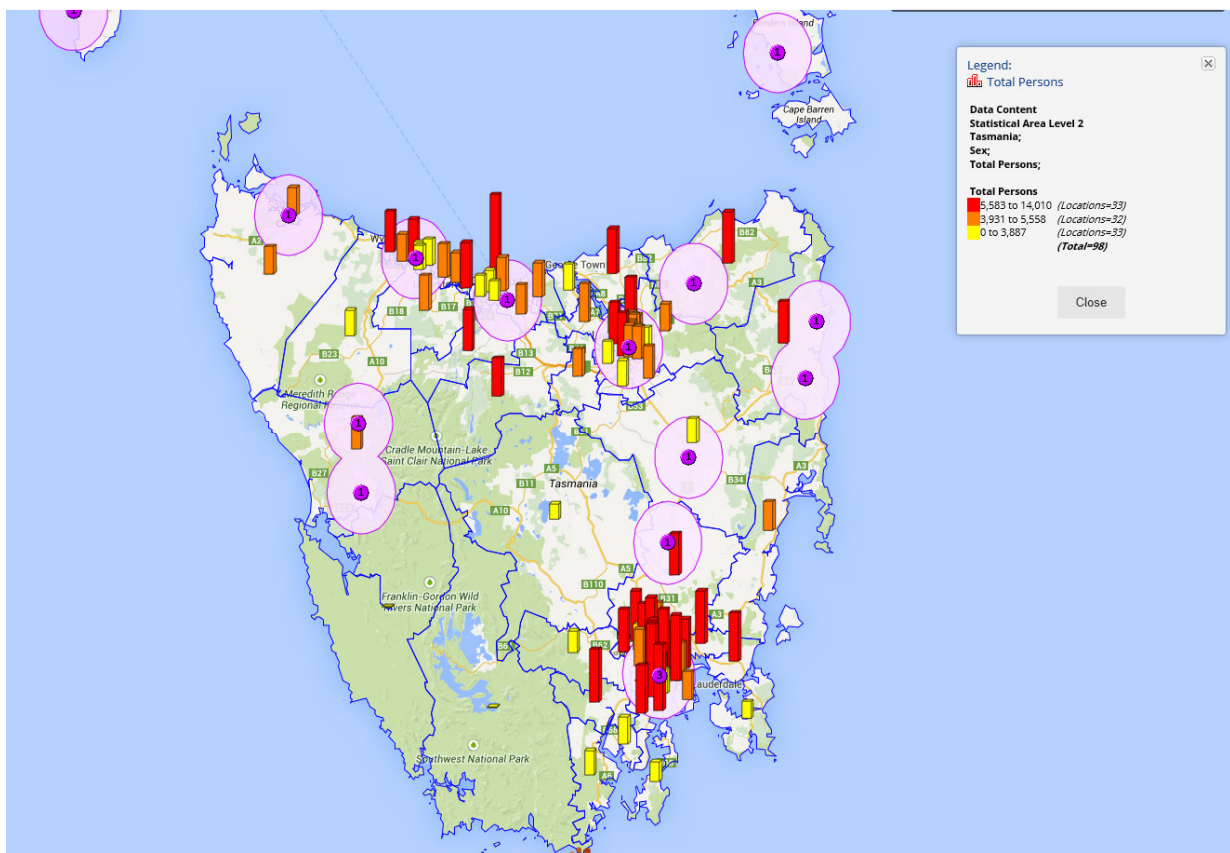
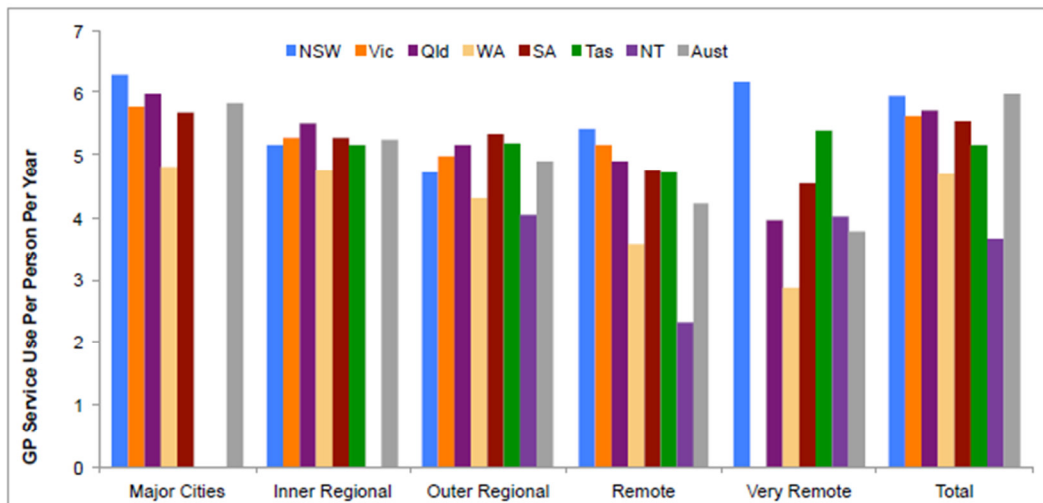


Figure 16 shows the average number of times a person receives a GP service. The number of GP services per person tends to decrease with remoteness in most jurisdictions. Within Tasmania GP service use is similar across regional, remote and very remote areas.

In 2013-14, nearly one in three people living in outer regional, remote or very remote areas nationally waited longer than they felt acceptable to get an appointment with a GP compared with just over one in five in major cities.²⁶

Figure 16: GP service use per person per year, 2010-11.²⁷



Across Australia, people living in rural and remote areas are more likely to visit an emergency department compared with those living in major cities, and are more likely to report that this was due to a GP not being available.²⁸ Recent Tasmanian research conducted at the Mersey Community Hospital confirms GP utilisation by patients is higher when patients do not have access to a GP.

Access to Medical Specialists

Figure 17 shows the average number of specialist services received in each jurisdiction by remoteness. Nationally the number of specialist services accessed decreases with increasing remoteness.²⁹

In Tasmania (green bar) patients consistently have lower specialist consultation rates in all remoteness classifications, with the exception of very remote areas. This exception may be due to the Medical Specialists Outreach Assistance Program providing outreach services to the islands and, indeed, RFDS services available to transport patients to specialist care.

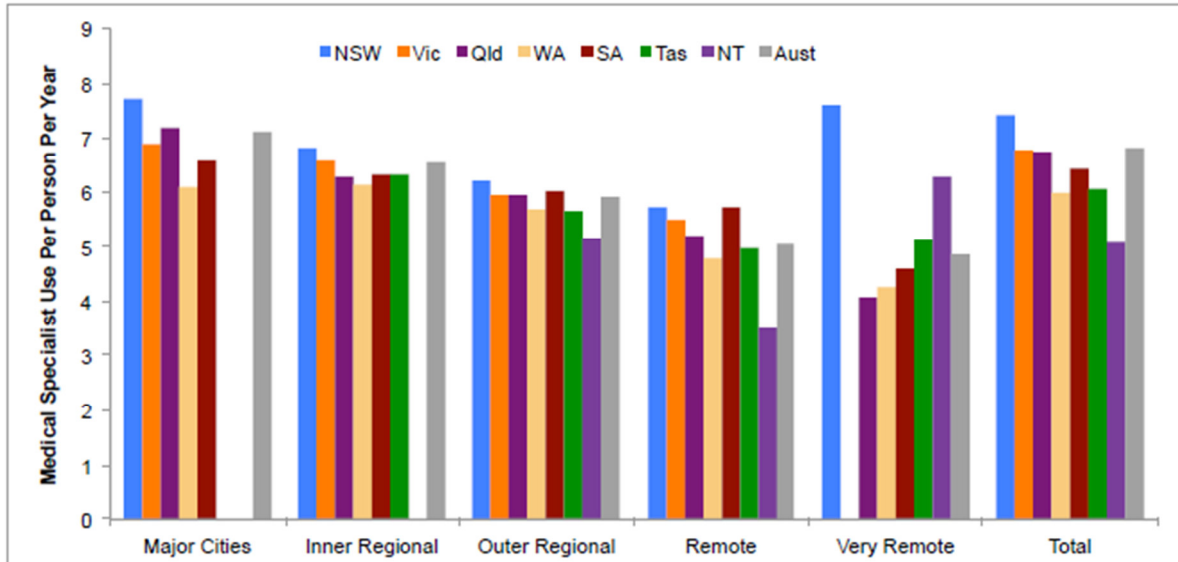
²⁶ Australian Bureau of Statistics, 4839.0 - Patient Experiences in Australia: Summary of Findings, 2013-14.

²⁷ COAG Reform Council, Healthcare 2010-11: Comparing Performance across Australia.

²⁸ Australian Bureau of Statistics, 4839.0 - Patient Experiences in Australia: Summary of Findings, 2013-14.

²⁹ *Ibid.*

Figure 17 Specialist service use per person per year, 2010-11.³⁰



³⁰ COAG Reform Council, Healthcare 2010-11: Comparing Performance across Australia.

Current health system challenges

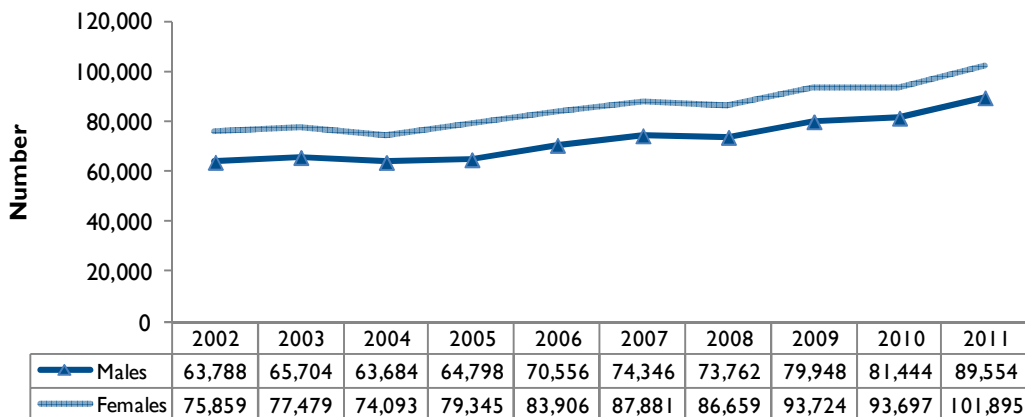
Hospitalisation is expensive. In 2013-14 the average weighted cost per hospital separation across Tasmania's four public sector acute hospitals was:

- \$4,761 Launceston General Hospital;
- \$5,004 Royal Hobart Hospital;
- \$5,370 Mersey Community Hospital; and
- \$5,539 North West Regional Hospital.

Avoidance of hospitalisation where it is possible to do so is not only preferred by patients - it also can improve the efficiency of the health system as a whole.

The number of patients being treated in both public and private hospitals in Tasmania each year continues to rise (Figure 18). In 2011 there were approximately 191,449 hospital admissions to Tasmanian hospitals. From 2002 to 2011, hospitalisations due to all causes increased by 25,766 separations (40%) for males and by 26,036 separations (34%) for females³¹.

Figure 18: All-cause hospitalisations by sex, Tasmania, 2002-11



Statewide Morbidity Database, Tasmania.

A number of factors are associated with increased rates of admission, including³²:

- age - older people have higher rates of hospital admission;
- social deprivation - people from lower socio-economic backgrounds have higher rates of emergency admissions after adjusting for other risk factors;

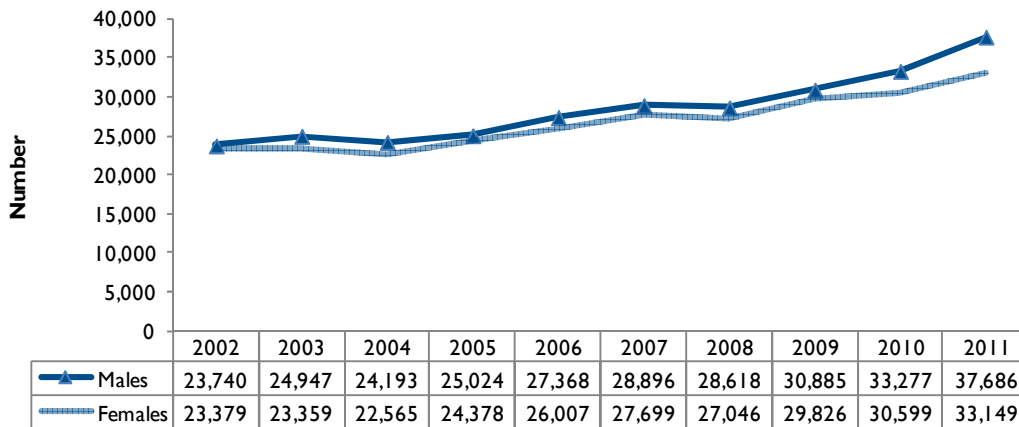
³¹ DHHS Tasmania. *Health Indicators Tasmania, 2013*.

³² [Amal N. Trivedi](#) & [Regina C. Grebla](#) (June 2011). "Quality and equity of care in the Veterans Affairs health-care system and in Medicare Advantage health plans". *Medical Care* **49** (6): 560–568.

- multi-morbidity - risk of frequent hospital admission increases with increasing numbers of chronic diseases that a person has;
- area of residence - people who live in urban areas have higher rates of hospital admission.

A significant number of hospitalisations in Tasmania occur in persons aged 65 years and over (Figure 19). In this age group, all-cause hospitalisations in Tasmania are increasing faster than other age groups, with a 59% increase in males and a 42% increase in females between 2002 and 2011³³.

Figure 19: All-cause hospitalisations by sex, 65 years and over, Tasmania, 2002-11



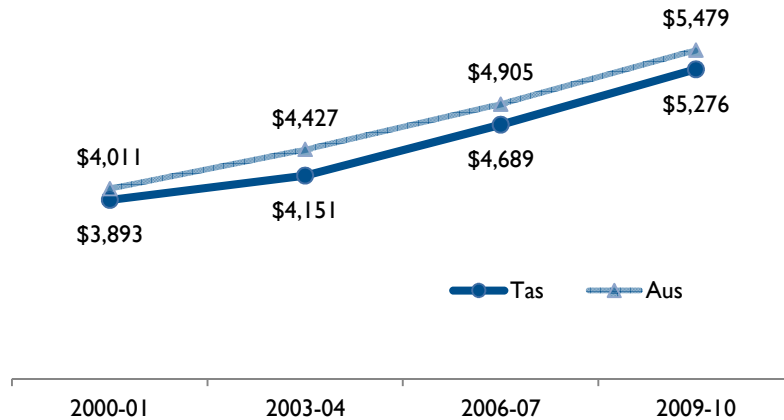
Statewide Morbidity Database, Tasmania.

There has been a substantial increase in per person health expenditures for Tasmania and Australia over time, from \$3,893 per person in 2000/01 to \$5,276 in 2009/10 (Figure 20)³⁴.

³³ DHHS Tasmania. *Health Indicators Tasmania, 2013*.

³⁴ Productivity Commission 2012

Figure 20: Total health expenditure per person, Tasmania and Australia 2000/01 – 2009/10



Report on Government Services 2012, Health Sector Summary, Table EA.5

A likely impact of Tasmania's ageing population and high rates of chronic diseases, particularly of individuals experiencing multiple chronic illnesses simultaneously, is that demand for hospitalisation in Tasmania will continue to increase.

Continual growth in the number and cost of hospitalisations nationally and within Tasmania is unsustainable financially. Avoiding hospital admissions is of considerable interest to health care provider organisations to contain the high and rising unit cost of inpatient care compared with other forms of care, increasing bed pressures and workforce shortages, which make managing hospital demand increasingly problematic.

Current Tasmanian health reform agenda

Since the previous RFDS Tasmania Information Paper, further health reforms have taken place in the Tasmanian health system. Most notably:

- In the 2014-15 budget, the Australian Government announced the establishment of Primary Health Networks (PHNs). PHNs will become operational from 1 July 2015, with an establishment and transition-in period from early 2015. Australian Government funding will transfer from Medicare Locals to PHNs on 1 July 2015. PHNs will be commissioning entities for primary and community health services.
- The Tasmanian Government announced the three Tasmanian Health Organisations will be amalgamated into a single Tasmanian Health Service.
- The Tasmanian Government has released an Issues Paper and Green Paper that proposes a role delineation framework for Tasmania's public sector acute and subacute health services. A White Paper will be released in March 2015 that will outline a service capability framework for Tasmania's public sector acute and rural hospitals.

- The Health Council of Tasmania (HCT) has been established to provide overarching guidance to the Minister of Health in Tasmania regarding strategic priorities for health reform in Tasmania. The HCT is supported by Clinical Advisory Groups (CAGs) that are self-forming clinical groups that represent various clinical disciplines and provide a vehicle for the HCT to receive advice on discipline-specific clinical issues.

Transitioning to commissioning in health

The Australian Government, in establishing PHNs, is following the structured shift to the implementation of commissioning in health, including primary care and prevention, that is current in place in the UK.

Commissioning involves a funder (in this case the PHN) seeking the delivery of outcomes-based action from funded organisations in order to achieve distinct health goals. It is a significant departure from historic procurement-based purchasing. For example, under a procurement model an organisation seeking to reduce smoking rates in pregnant women may procure a smoking cessation program from a provider. Under a commissioning model, the funder would commission a 10% reduction in maternal smoking rates (for example), with the decision how to achieve this reduction made by the provider of services.

The Tasmanian Government has also signalled its intention to move to a commissioning-based model. However, at this stage, volume-based purchasing of services, more akin to procurement, is the dominant purchasing model for services.

Implications for RFDS Tasmania

The Green Paper outlines two strategic priorities for health reform that are of direct relevance to RFDS:

- a greater focus by the State Government on public-private partnerships; and
- an increased focus on primary and community care.

Both of these priorities signal opportunities for greater potential involvement of RFDS Tasmania in the delivery of primary health services within the State.

Commissioning-based service delivery on behalf of the PHN also represents an opportunity for the RFDS Tasmania to have greater involvement in the delivery of primary health services.

PHNs are being established with the key objectives of:

- increasing the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and
- improving coordination of care to ensure patients receive the right care in the right place at the right time.

Explicit within these goals are two priority areas of focus:

- shifting care from hospital to community where appropriate, including reducing avoidable hospital admissions; and
- supporting the improved management of people with complex chronic conditions.

A description of primary care and summary of evidence regarding effective strategies for addressing these priority areas is presented below.

The primary care service system

Primary health care (PHC) is "essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community"³⁵. Although the health care system plays a central role in providing PHC, it is an approach to health beyond the traditional health care system. PHC includes all areas that play a role in health, such as access to health services, environment and lifestyle.

The ultimate goal of primary health care is better health for all. The WHO has identified five key elements to achieving that goal³⁶:

- reducing exclusion and social disparities in health (universal access reforms);
- organising health services around people's needs and expectations (service delivery reforms);
- integrating health into all sectors (public policy reforms);
- pursuing collaborative models of policy dialogue (leadership reforms); and
- increasing stakeholder participation.

Primary care is a key process in the health system. It is not just a level of care or gate keeping. It is first-contact, accessible, continued, comprehensive and coordinated care. First-contact care means it is accessible at the time of need; ongoing care means it focuses on the long-term health of a person rather than the short duration of the disease; comprehensive care means it delivers a range of services appropriate to the common problems in the respective population; and coordination means it is the role by which primary care acts to coordinate other specialists that the patient may need. Primary care is a subset of PHC.

PC involves the widest scope of health care, including all ages of patients, patients of all socioeconomic and geographic origins, patients seeking to maintain optimal health and patients with all manner of acute and chronic physical, mental and social health issues, including multiple chronic diseases.

Since its introduction in 1961, PC has been defined in various ways, often using one or more of the following categories to describe what primary care is or who provides it. These categories include:

- *The care provided by certain clinicians* - Some proposed legislation, for example, lists the medical specialties of primary care as family medicine, general internal medicine, general pediatrics, and obstetrics and gynecology;

³⁵ World Health Organisation. Declaration of Alma Ata.

³⁶ "Health topics: Primary health care". World Health Organisation

- A *set of activities* whose functions define the boundaries of primary care - such as curing or alleviating common illnesses and disabilities;
- A *level of care or setting* - an entry point to a system that includes secondary care (by community hospitals) and tertiary care (by medical centers and teaching hospitals); ambulatory versus inpatient care;
- A *set of attributes* - care that is accessible, comprehensive, coordinated, continuous, and accountable; care that is characterised by first contact, accessibility, longitudinality and comprehensiveness;
- A strategy for organizing the health care system as a whole - such as community-oriented primary care, which gives priority to and allocates resources to community-based health care and places less emphasis on hospital-based, technology-intensive, acute-care medicine.

The World Health Organisation (WHO) defines primary care as the first point of contact with the health system. In Australia it is generally applied to a particular approach to care which is concerned with prevention, treatment and support with a focus on early detection and illness prevention. More recently, in the context of health care reform, primary care has come to mean care provided outside of hospitals and includes health promotion, illness prevention and treatment.

The role and scope of primary care

There is considerable agreement among national policy-makers in Australia and internationally that primary care should be the centre of an effective and efficient health care system³⁷ as primary care improves health and reduces illness (morbidity), death (mortality) and hospitalisation.

Primary care is provided by an array of people, including general practitioners, nurses, pharmacists, allied health professionals, dentists and many other providers across the local, state and federal government sectors, non-government organisations and the private sector.

In Australia, GPs are the main primary health care workforce with over 80 per cent of Australians accessing GP services every year.³⁸ GPs are funded by the federal government but work predominantly in the private sector on a fee for service basis. Community health centres and services are funded by the State government.

The types of services delivered by primary health care include health promotion, prevention and screening, diagnosis of health problems, management of acute health problems and the long-term care of people with chronic diseases. Primary health care

³⁷ World Health Organization, *Primary Health Care - Now More Than Ever* (Geneva: WHO, 2008).

³⁸ Australian Bureau of Statistics, *4839.0 - Patient Experiences in Australia: Summary of Findings, 2013-14* (Canberra: ABS, 2014).

services may target specific health and lifestyle conditions, for example sexual health, drug and alcohol services, oral health, mental health and chronic diseases services.

Primary health care services look and operate differently as one moves from the city areas to rural and remote areas. Health services in rural and remote areas are particularly dependent on primary health care services, particularly those provided by GPs.

What is Tasmania's primary care system currently delivering?

The primary care system in Tasmania currently delivers a broad range of services. However, there are problems. Duplication of some services exists and service gaps exist in other areas. Further, the workforce is not well aligned with consumer need.

The primary care system should be delivering patient-centred models of health services. Clinical and non-clinical problems facing patients should ideally be addressed simultaneously (e.g. the patient's housing needs) and there should be 'no wrong door' for patients to receive the primary care they need.

Ideally, the primary care system should deliver cost-effective care that clearly achieves an outcome and that provides care tailored to the individual's needs and wishes.

The primary care system should have a focus on care at the end of life and be actively working towards ceasing the delivery of care that is futile.

The primary care system has a role in re-orienting the views of consumers about what they can reasonably expect to receive when they access care.

The primary care sector should have a range of strategies in place to actively reduce the use of the acute hospital system wherever possible and to use the community sector more strategically and more efficiently.

Finally, the primary care system should be doing more to keep people well.

What is this primary care system achieving?

Although there has been some improvement in integration between providers in the primary care service system, more should be done to improve this. The primary care system is still too oriented towards 'single need / single problem' models of service delivery and is not well tailored to meeting the needs of people with multimorbidity or complex care needs. Care coordination only partially addresses this.

The role of primary care in shifting care from the hospital to the community

Some Tasmanians are treated in a hospital when their care could be better delivered in their own home or community. Best practice health care needs to be considered along a continuum, within which acute hospital care reflects only one segment, and where

community health services and self management reflect the usual health care resources accessed by people with chronic diseases³⁹.

Ideally, a high quality service system reduces the potential for inappropriate and costly use of health resources, including⁴⁰:

- misuse (providing the wrong treatment in the wrong setting);
- over-use (providing unnecessary treatment); and
- under-use (providing insufficient treatment in an inappropriate setting).

A range of hospital avoidance strategies can be implemented to shift care from hospital to community. Hospital avoidance is broadly defined as activities and interventions that reduce the need for admission to hospital and / or that facilitate early discharge for patients who are in hospital.

Evidence from randomised controlled trials (RCTs), controlled clinical trials and observational studies demonstrates a range of interventions that are effective and efficient in improving hospital avoidance. The most effective group of interventions is classified as 'integrated care' interventions^{41 42}.

Integrated care may be seen as a response to the fragmented delivery of health and social services being an acknowledged problem in many health systems. The World Health Organisation (WHO) gives the following definition: *Integrated care is a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve services in relation to access, quality, user satisfaction and efficiency*⁴³.

In the hospital avoidance literature, successful approaches to integration include the following^{44 45}:

- providing patients with a GP and, where patients have a GP, with greater continuity of care with a GP;
- planning and delivering services collaboratively between primary and secondary care, at the system, disease management and individual patient level;

³⁹ Lawrence, David (2005). [Building a Better Delivery System: A New Engineering/Health Care Partnership — Bridging the Quality Chasm](#). Washington, DC: [National Academy of Sciences](#). p. 99.

⁴⁰ Kumar S. A synthesis of the secondary literature on effectiveness of hospital avoidance and discharge programs. *Australian Health Review* 1007; 31: 34-49.

⁴¹ Purdy S. Avoiding hospital admissions: what does the research evidence say? *The Kings Fund*, December 2010.

⁴² Kumar S. A synthesis of the secondary literature on effectiveness of hospital avoidance and discharge programs. *Australian Health Review* 1007; 31: 34-49.

⁴³ Gröne, O & Garcia-Barbero, M (2002): *Trends in Integrated Care – Reflections on Conceptual Issues*. World Health Organization, Copenhagen, 2002, EUR/02/5037864

⁴⁴ Purdy S. Avoiding hospital admissions: what does the research evidence say? *The Kings Fund*, December 2010.

⁴⁵ Kumar S. A synthesis of the secondary literature on effectiveness of hospital avoidance and discharge programs. *Australian Health Review* 1007; 31: 34-49.

- jointly planning and delivering a patient's health and social / personal care;
- using of care plans (personalised health care plans) with each patient having one care plan, accessible to all health and social providers involved in the patient's care, and held by the patient themselves wherever possible;
- carrying out structured discharge planning; and
- using hospital-based case management for the length of the patient's inpatient stay (including the use of interdisciplinary protocols, continued monitoring of the patient's progress and achievement of the expected date of discharge and the facilitation of an updated treatment plan for use once the patient returns to the community).

In addition to the above, interventions that provide novel settings for the delivery of care can improve hospital avoidance, both by decreasing the likelihood the patient will require admission to hospital, and by facilitating early discharge from hospital.

In particular, there is evidence for the following:

- telemedicine can provide additional care and support to patients to facilitate their health maintenance in the home environment⁴⁶;
- hospital in the home produces similar outcomes to inpatient care without increased cost⁴⁷;
- self management seems to be effective in reducing unplanned admissions for patients with some clinical conditions, particularly COPD and asthma⁴⁸.

There are other initiatives that, surprisingly, have little evidence for reducing hospital admissions. These include⁴⁹:

- out-of-hours primary care;
- pharmacist-led medication review;
- health visitor home support for older people;
- case management of frail elderly people (as this appears to identify additional people in need of hospitalisation than would otherwise be identified); and
- disease-specific case management models (except for heart failure).

⁴⁶ Berman, Matthew; Fenaughty, Andrea (June 2005). "[Technology and managed care: patient benefits of telemedicine in a rural health care network](#)". *Health Economics* **14**(6). Wiley. pp. 559–573.

⁴⁷ Cochrane Library. *Hospital at Home Services to Avoid Admission to Hospital, August 2011*. Available at: <http://summaries.cochrane.org/CD007491/hospital-at-home-services-to-avoid-admission-to-hospital> (accessed 18 February 2014).

⁴⁸ Department of Health, WA. *Chronic Conditions Self-Management*. Available at: http://www.selfmanagement.health.wa.gov.au/index.php?option=com_content&view=article&id=107&Itemid=92 (accessed 18 February 2014).

⁴⁹ Purdy S. *Avoiding hospital admissions: what does the research evidence say?* The Kings Fund, December 2010.

Service models that improve integration at the individual patient level, particularly for patients with complex chronic conditions, can be broadly described as^{50 51}:

- Community nurse models;
- Hospital-at-home as an alternative to acute hospital care; and
- Holistic approaches to care planning that includes clinical, functional and social assessment and management rather than an acute, episodic approach to planning.

Community nurse models

In the NHS Primary Care Strategy Framework Caring for People, a range of nurse-led community models can be implemented to enhance and streamline home care and treatment processes. This is achieved by avoiding unnecessary hospital admission, streamlining the patient journey through the health and social care system, facilitating earlier discharge from hospital and maximising the potential of primary care professionals in contributing to the management of patients in the community.

In the UK, many nurse-led models have been described in the public domain⁵²:

- Emergency nurses assessing and discharging their own patients from emergency departments;
- Community nursing teams receiving referrals whilst the patient is still in hospital – the community nursing discharge coordinator visits the wards on a daily basis to coordinate the patient’s discharge to district nursing;
- Nurses from multi-disciplinary community teams (e.g. respiratory, palliative care) provide specialist care to the patient regardless of their location i.e. whilst in hospital and when they have returned home;
- Community Parkinsons disease nurses co-lead Parkinsons outpatient clinics at the local hospital - the nurse reviews all patients first to review all aspects of care and provide specialist advice on symptom control, medication management, community providers that should be involved in the patient’s care and coping strategies for living with their illness. The patient is then reviewed by the neurologist;
- Participation of community nurses in hospital-based multidisciplinary team meetings and ‘huddles’ on wards where geriatric unit discharges are discussed;

⁵⁰ Ali W, Rasmussen P. What is the evidence for the effectiveness of managing the hospital / community interface for older people? NZHTA Report, Feb 2004. 7:1.

⁵¹ Rooney S. Nurse led discharge and in-reach. April 2006.

⁵² Ibid

- Community nurses providing reablement assessment and management that facilitates early discharge from hospital or prevents admission to hospital for frail older people. Nurses provide a comprehensive reablement assessment and community rehabilitation program for a maximum of 6 weeks. Nurses work closely with rehabilitation allied health professionals who are also community based and receive referrals from acute providers;
- Community nursing intermediate care team of specially trained community nurses who provide acute care to patients in their own home (8.30am to 11pm seven days) and work in partnership with GPs. Types of treatment include managing infections, providing intravenous or subcutaneous fluids, administering IV antibiotics and blood products, managing palliative care patients after 5pm, managing feeding tubes, providing acute nursing care for emergency bowel conditions and managing acute wounds;
- Acute care at home team who work in the emergency department to facilitate discharge of patients from the emergency department directly to community nursing teams able to provide high acuity care in the person's home e.g. intravenous therapies, dressings, patient monitoring and observation (including using telehealth to supplement monitoring and improve safety);
- Establishment of specialist Chronic Disease Management nurse specialist roles to provide seamless care for patients with multiple chronic conditions across the primary and secondary boundaries. Through in-reach patients are identified for follow-up within the community and care is transferred to the corresponding community provider. Inpatient nurses use a Patients At Risk of Rehospitalisation (PARR) case finding tool to identify patients who would benefit from assessment and ongoing management;
- Community nursing 'Patient Expeditor' role who meets daily with discharge coordinators to discuss cases suitable for discharge to community nursing. The community nurse draws up a patient treatment plan in conjunction with hospital staff and clinical handover to the community nursing team occurs. If required, the acute team provide training and support to the community nurses receiving the patient for any procedures they are unfamiliar with;
- Community nurses provide follow-up telephone call to all patients post elective surgery 48 hours after their discharge. Following a protocol, a selected cohort of higher risk patients also receive a phone call at four weeks after discharge. Patients experiencing problems are scheduled for community nursing review in the first instance or return to hospital if required and outside the scope of the community nursing role.

Canada has also adopted a number of the above strategies. In addition, Community Care Access Centres (CACCs) are being trialled in Canada. These are government-

funded groups of hospital clinicians, community nurses, case managers, technology providers and patients who are exploring ways to keep older people with multiple chronic conditions out of hospital. CACCs systematically pull clients back into the community as soon as possible. The CACC engages the patient within 24 to 48 hours of admission and commences addressing barriers to discharge. The CACC uses information technology alerts to systematically identify patients who are likely to benefit from the service i.e. somebody who is 75 or older with at least two or more risk factors, including a history or evidence of cognitive impairment, difficulty walking, a recent history of falls, has visited the ED within the last 30 days, lives alone, or has no available care giver. The information technology system downloads patient information every 15 minutes and creates an alert to the CACC nurse if a patient meeting these criteria is identified. The nurse can then telephone or visit the provider to discuss the patient and identify if they may be a suitable CACC client.

The importance of safe transitions between settings of care

Transition between health services is experienced frequently by people with multimorbidity. When managed poorly, transitions are a critical point at which adverse events occur and iatrogenic care needs arise.

When a patient is referred between primary health, aged care and / or acute health service providers they experience moving across the boundaries of care, each movement associated with transfer of responsibility between providers for some or all aspects of the patient's care.

The relational aspects of care correlate most closely with a positive patient experience. Patients want to be listened to, to receive adequate explanations from health professionals, to have their questions answered, to share in decisions regarding their care and to be treated with compassion, dignity and respect⁵³. Patients also want continuity of care and smooth transitions between the boundaries of care^{54 55}.

From a patient perspective a lack of seamless movement across the boundaries of care is experienced in a number of ways, including as 'falling through gaps', 'being forgotten about' or 'having to explain yourself to every professional or service you encounter'⁵⁶.

Effective transition of patients across care boundaries requires that patients receive timely access to effective treatment, respect for their care preferences, adequate support to self-manage and the involvement of family and carers where appropriate⁵⁷.

⁵³ Redding and Sizmur. (2009). *Core domains for measuring inpatients' experience of care*. Picker Institute Europe.

⁵⁴ Redding and Sizmur. (2010). *Key domains of the experience of hospital outpatients*. Picker Institute Europe.

⁵⁵ Walsh et al. *What are the current barriers to effective cancer care coordination?* BMC Health Services Research 2010; May 20.

⁵⁶ *The quality of patient engagement and involvement in primary care*. (2010). Parsons. Picker Institute Europe.

⁵⁷ Walsh et al. *What are the current barriers to effective cancer care coordination?* BMC Health Services Research 2010; May 20.

Poor transitions are associated with increased risk to patients and with adverse outcomes for patients. Adverse events associated with medication errors are particularly prevalent.

Eight broad areas for improvement in transitions are identified in the literature:

1. Coordination of care
2. Shared practice guidelines and protocols
3. Role clarity
4. Communication
5. Referral processes
6. Admission processes
7. Discharge processes
8. Prepare patients and caregivers

A variety of mechanisms have been identified to improve transition for patients across the boundaries of care. These are described below.

Coordination of care

Systems specifically tasked with coordinating the patient's care over the period of transition between services have been found to improve continuity of care, hospital use, patient satisfaction and reduce unnecessary primary care use⁵⁸.

A range of interventions have been shown to result in statistically improved coordination of care during transitions, including⁵⁹:

- organising post-discharge services or follow-up;
- use of discharge planning protocols;
- early assessment of follow-up needs and resources before the transition occurs;
- cooperation between hospital-based and community nurses for patient with relevant community nursing needs;
- general practitioner input into discharge planning; and
- a comprehensive discharge plan that includes follow-up needs and arrangements, planned appointments and recommended actions in the event urgent attention is required or the patient is uncertain about any aspect of their care plan.

⁵⁸ Jack B. A reengineered hospital discharge program to decrease rehospitalization: a randomized trial. *Ann Intern Med.* 2009;150:178-87.

⁵⁹ Hesselink G. Improving patient handovers from hospital to primary care. *Annals of Internal Medicine* 2012; 157: 417-28.

Tasmania's health services urgently require an integrated eHealth platform to facilitate better sharing of information between providers across acute - community service boundaries. This, in turn, will promote better integration of care and lead to improve efficiency, safety and effectiveness of care.

As part of the former Australian Government's Tasmanian Health Assistance Package, an eHealth strategy was announced that will improve health services efficiency, reduce waste and improve health services safety and quality through supporting better coordination of patient care.

A work stream that is part of the initiative is the "Enabling Care Integration and Transition" stream. This focusses on improving the way the public health system engages with GPs, specialists and aged and community care providers by making communication timelier, reducing risks to patients and maximising service delivery. This work stream integrates with the work underway by the Tasmanian Medicare Local (TML) to further develop access pathways between GP / specialists and acute hospitals. The work will be undertaken with a shared governance model that includes DHHS, THOs, and TML.

Components include:

- **eReferrals:** Hospitals deliver hundreds of thousands of episodes of care each year as a result of inbound referrals – usually handwritten letters. This project will allow GPs to directly send e-referrals containing comprehensive clinical background from their system. This project will expand upon, and integrate with, the Tasmanian HealthPathways project. Using clinic information from HealthPathways, GPs will be able to easily submit referrals to the hospital of the patient's choice. This will enable patients to be better informed of potential waiting times and choices around the locations available for treatment.
- **Supporting mixed public-private service provision:** Access to the Department and THO network is currently a barrier for clinicians who undertake mixed public-private practice. As we further move towards treating public patients in a private setting, this limitation will impact on our ability to deliver the same quality of care regardless of where the patient is being treated. This project will implement a secure clinical network gateway that will allow clinical staff to access relevant patient information in the most appropriate setting.

Shared practice guidelines and protocols

Shared practice guidelines and protocols enhance integration of care delivery along the patient's clinical pathway⁶⁰.

⁶⁰ Kasje W. Physicians' views on joint treatment guidelines for primary and secondary care. *International Journal for Quality in Health Care* 2004; 16: 229-236.

In order to be effective in reducing patient risk during transitions across services, guidelines and protocols should be evidence-based and be developed through reaching consensus on criteria, roles and responsibilities by all health care providers involved. In addition, guidelines and protocols should include (wherever possible)^{61 62 63}:

- explicit criteria for referrals; and
- clarity regarding the role of different health professionals in providing each of the elements of care.

The importance of role clarity

An important factor contributing to the challenge of safe care transitions is the lack of a single clinician or clinical entity that has the overarching responsibility for coordination of the patient's care needs across the care continuum, regardless of setting⁶⁴.

This is a difficult problem to address. In Australia, the patient's general practitioner usually has overarching responsibility for coordinating the patient's care needs. However, when the patient is admitted to a hospital or, in some cases, when they move into residential aged care, this responsibility is transferred in whole or in part to the receiving health care professionals.

To some extent this is entirely appropriate. Within the hospital environment clinical tasks tend to fall to the particular specialty domain that has the knowledge, skills and experience to manage the patient's presenting problem. However, in reality patient care needs rarely belong in their entirety to one specialty domain⁶⁵. The role of the generalist, who is more likely to have an existing therapeutic relationship with the patient and who has a more holistic view of the patient's care needs, therefore does not diminish because the patient is in the hospital⁶⁶.

Similarly, once the patient has been discharged from hospital, their care needs relating to the specialty domain of the treating team often continue⁶⁷. Thus, although the act of discharge signals the physical movement of the patient across care boundaries it does not signal the end to the need for the specialty team to contribute to the patient's care.

⁶¹ Garcia M. Results of a coordination and shared clinical information programme between primary care and nephrology". *Nefrologia* 2011; 31: 84-90.

⁶² Kasje W. Physicians' views on joint treatment guidelines for primary and secondary care. *International Journal for Quality in Health Care* 2004; 16: 229-236.

⁶³ Fuller J. Building effective service linkages in primary mental health care: A narrative review part 1". *BMC Health Services Research* 2011; 11 (72).

⁶⁴ Lim W. Effectiveness of case management and post-acute services in older people after hospital discharge. *Med J Aust.* 2003;178:262-6.

⁶⁵ Schoenborn N. Clinician roles and responsibilities during care transitions of older adults. *Journal of the American Geriatrics Society* 2013; 61: 231-6.

⁶⁶ Gilbert A. Providing community-based health practitioners with timely and accurate discharge medicines information. *BMC Health Services Research* 2012; 12: 453.

⁶⁷ Pham J. Reducing medical errors and adverse events. *Annual Review of Medicine* 2012; 63: 447-63.

Evidence suggests some clinicians interpret the act of discharge as an end to their responsibility for part or all aspects of the patient's care^{68 69}. In reality health care professionals are jointly and individually accountable for making sure the activities required to support the continuity of a patient's management across service boundaries are implemented⁷⁰. Further, when a patient is transferred to another episode of care the transferring health professional is required to supply comprehensive, complete and accurate information to the health care professional responsible for continuing the patient's care⁷¹.

Improving the effectiveness of communication across service boundaries

Effective communication between service providers is essential for the safe transition of patients between aged, primary and acute services and is a major focus of quality systems that aim to improve patient transitions. Both routine communication and 'as required' (non-routine) communication are important to safely manage patients transitioning between providers and / or services.

Improving the referral process

Timely referral of patients to relevant care providers is required for safe, high quality care. Patients may be referred by, and to, an increasingly wide range of health care professional groups. For chronic conditions, particularly where patients have a range of comorbidities requiring specialist and general care, referral can be highly complex and challenging in terms of managing quality and safety over-time. Typically the GP is seen as being responsible for the overall care of the patient but this is becoming more difficult as the range of providers increases⁷².

Delays in making a referral can lead to care being provided at a lower level of specialisation than is required by the patient⁷³. Properly constructed referral content can impact positively on the quality of resultant consultations and also on patient experiences and satisfaction.

A range of solutions have been trialled and reported against in the peer-reviewed literature⁷⁴:

⁶⁸ Schoenborn N. Clinician roles and responsibilities during care transitions of older adults. *Journal of the American Geriatrics Society* 2013; 61: 231-6.

⁶⁹ Royal College of Physicians and Surgeons of Canada, the College of Family Physicians of Canada and the Canadian Medical Association. *System issues, policies and practices affecting physician intraprofessionalism*. December 2011.

⁷⁰ Australian Pharmaceutical Advisory Council: *Guiding principles to achieve continuity in medication management*. Canberra, Australia: Australian Government Department of Health and Ageing; 2005.

⁷¹ Burridge N. *SHPA standards of practice for the provision of medication reconciliation*. *J Pharm Pract Res* 2007; 37:231-312.

⁷² Cummings E. *Discharge, Referral and Admission*. eHealth Services Research Group, 2010.

⁷³ Burge B. General practitioners and hospitals: continuity of care. *Australian Family Physician* 2001; 30: 1101-7.

⁷⁴ Cummings E. *Discharge, Referral and Admission*. eHealth Services Research Group, 2010.

- Most studies focus on documentation associated with the referral process and how the format, content and quality of referral documentation can be improved. Templates and structured referral forms improve referral quality in some settings (e.g. from GP to emergency department).
- In the UK, the NHS has introduced a referral model where patients may be reviewed by members of a multidisciplinary team, rather than seeing a medical consultant as a first option.
- The literature suggests electronic referrals may enhance the speed of the referral process. However, processes are not yet in place for the majority of providers to send and receive high quality, accurate, up-to-date and relevant referral information in a manner that streamlines referral.
- There is a paucity of studies of education and training of providers to improve referral communication.

An accurate, complete and legible referral document communicated in a timely manner to a receiving provider is the key requirement for effective and safe referral⁷⁵. All service provider organisations who come into contact with patients who have moved or are moving across care boundaries must ensure they establish basic information i.e. full name, date of birth, residential address, usual GP.

Improving the hospital admission process

Poor admission processes place patients at risk of harm. In particular, increased risk of medication adverse events occurs with poor admission processes.

Core components of rigorous admission processes include⁷⁶:

- accurate patient identification processes, supported with the use of protocols for patient identification;
- the detailed recording of pre-existing conditions and medications;
- communication with the admitting service prior to patient discharge in order to brief staff on the patient's clinical status, care plan and goals of care in the immediate transition period;

Accurate, complete and legible documentation provided to the facility where the patient is being admitted is a key requirement for effective and safe patient admission.

⁷⁵ Reponen J. Extending a multimedia medical record to a regional service with electronic referral and discharge letters. *J Telemed Telecare* 2004; 10: 81-83.

⁷⁶ Cummings E. *Discharge, Referral and Admission*. eHealth Services Research Group, 2010.

Improving the hospital discharge process

Hospital discharge is a key component of the effective handover of patients from hospital to primary and / or aged care. When the discharge process is of poor quality patients are more likely to experience re-hospitalisation and are at greater risk of adverse events⁷⁷.

In view of the importance of an effective discharge planning system in both acute and sub-acute care policy and practice, many countries have guidelines for good practices in hospital discharge planning process.

- In the UK the NHS Plan included a commitment to ensure that every NHS patient should have a discharge plan starting from hospital admission. The Department of Health's guidance for England also said that discharge planning from a hospital is a process, instead of an isolated event, which should start at the earliest opportunity.
- In the US, discharge planning is a legally mandated function for hospitals. It is also one of the "basic" hospital functions as outlined in Medicare's Conditions of Participation from Centres for Medicare & Medicaid Services. The trend is toward starting the discharge planning process upon admission, adopting a multidisciplinary approach, and coordinating for post-discharge care support.
- Effective discharge has also been a priority area in Australia since 1998. The Victoria Government has set an "Effective Discharge Strategy," a five-year initiative from 1998/99-2002/03 for all Victorian public hospitals. This initiative aimed to encourage healthcare providers to review and improve transitioning processes and practices, develop and implement performance indicators to measure the effectiveness of discharge, and reward hospitals with good practices in the transitioning of patients.

Key elements of discharge guidelines include⁷⁸:

- standard screening tools to identify patients at high risk of readmission with protocols and policies that support the use of tools;
- formal documented discharge planning process with multidisciplinary approach;
- clear role of each multidisciplinary team member identified in the discharge planning process;
- designated nurse/physician for discharge planning as contact point;
- clinical pharmacist for medication reconciliation;

⁷⁷ Shepperd S. Discharge planning from hospital to home. Cochrane Database of Systematic Reviews 2013, Issue 1. Art. No.: CD000313. DOI: 10.1002/14651858.CD000313.pub4

⁷⁸ Wong E. *Barriers to effective discharge planning*. BMC Health Services Research 2011; September 29.

- patient education: medication/treatment, concept of discharge process;
- clear process for communication between acute and community providers; and
- availability of a home care support program to facilitate transition period from hospital discharge to home if required.

Studies have evaluated interventions that seek to improve patient discharge from hospital to primary care⁷⁹. Interventions that are more effective are multi-component rather than single component interventions. Effective components include medication reconciliation; electronic tools to facilitate quick, clear, and structured summary generation; discharge planning; shared involvement in follow-up by hospital and community care providers; use of electronic discharge notifications; and web-based access to discharge information for general practitioners^{80 81}.

The role of the patient and their caregivers

Patients and their families or caregivers have an important role to play in transitions of care. Patients and caregivers express significant feelings of anxiety during care transitions.

A range of strategies can reduce anxiety, including⁸²:

- patient education and counselling to improve the patient and caregivers' understanding and preparation for their self care role in the next care setting;
- ensure patients and caregivers do not receive conflicting advice from different practitioners in their preparation for discharge; and
- provision of instruction on who to contact in the event of uncertainty in order to address the sense of abandonment patients may experience due to their inability to maintain contact with the transferring health care practitioner.

⁷⁹ Hansen L. Interventions to reduce 30-day re-hospitalisation: a systematic review. *Ann Intern Med.* 2011;155:520-8.

⁸⁰ Hesselink G. Improving patient handovers from hospital to primary care: a systematic review. *Annals of Internal Medicine* 2012; 157: 417-28.

⁸¹ Parker S. A systematic review of discharge arrangements for older people. Centre for Reviews and Dissemination, University of York. 2003.

⁸² Hesselink G. Improving patient handovers from hospital to primary care: a systematic review. *Annals of Internal Medicine* 2012; 157: 417-28.

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