

# Sustainability Report

2016 / 2017



Western Health



# Chief Executive Officer's Message

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**We all have to take responsibility for our environment and the impact we have on it. At Western Health, that means finding sustainable ways of delivering our services to the community.**

Commitments are easy to make, but they have to be reinforced with action. That's why we developed the Environmental Management Roadmap 2015–2020. It spells out a vision of where we want to get to and puts down a practical strategy to get us there. This report provides an update on our progress towards those goals.

We allocated more than \$1M to sustainability programs and initiatives in the 2016/17 financial year – and it had significant impact. Energy consumption was cut across the board and re-use and recycling efforts stopped over a third of our waste going to landfill. Alongside this, we incorporated sustainable design

principles into our new buildings, retrofitted existing hardware to improve efficiency, and installed one of the largest solar power systems in Victoria.

One of the biggest hurdles we faced was meeting our sustainability goals while simultaneously expanding the breadth and volume of the services we deliver. I'm proud to say the fantastic Western Health staff met this challenge head-on and kept us on track. It's a testament to their dedication that we've either met or exceeded all of our targets.

There's more to be done, but we're on the right path with right people to get us there.



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Mr. Russell Harrison  
Chief Executive Officer  
Western Health

# Introduction

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Western Health's environmental program includes:

**Sustainability Committee**

**Environmental policy**

**Environmental Management Roadmap 2015–2020**

**Extensive, innovative, recycling programs**

**An annual calendar of staff engagement events and campaigns**

**Communication channels for environmental sustainability**

**Local Sustainability Action Plans in departmental and clinical areas**

**Green Champions conducting voluntary action and research**

**"Green Ward Competition" awarded annually for World Environment Day**





This Report provides an update on Western Health’s sustainability efforts during the 2016/17 financial year. These activities are guided by the Environmental Management Roadmap 2015–2020.

**The specific aims of the Roadmap are to:**

1. Align Western Health’s environmental sustainability priorities with the needs and expectations of patients, staff and its wider community.
2. Establish clear responsibilities and accountabilities for all staff at Western Health to move further into environmental sustainability and build a culture of corporate social responsibility.
3. Provide appropriate resources and training to staff to support and develop Western Health as an environmentally sustainable healthcare service.
4. Manage environmental resources responsibly and efficiently in an effort to reduce the impact of Western Health’s operations.
5. Connect broadly on issues of sustainable development to inform the direction and ‘greening’ in Western Health operations and services.

# Progress against our aims and objectives

## **Aim 1: Align Western Health's environmental sustainability priorities with the needs and expectations of patients, staff and its wider community.**

The highlight of external engagement this year was the two-day Healthcare Environmental Sustainability (HES) Forum, delivered in partnership with the Climate and Health Alliance (CAHA) and the Institute of Healthcare Engineering Australia (IHEA), and with support from the Australian Hospitals and Healthcare Association (AHHA). Participants included nurses, orderlies, doctors, sustainability officers and managers, building and maintenance staff, state government representatives, social workers, supplier representatives, industry consultants, health promotion staff, business development staff, food services staff and more.

**Western Health won the 2017 Premiers Sustainability Awards for its Single Use Metal Instruments (SUMI) Recycling Program**

## **Aim 2: Establish clear responsibilities and accountabilities for all staff at Western Health to move further into environmental sustainability and build a culture of corporate social responsibility.**

Collaborative Local Sustainability Action Plans were established in the following areas:

- ✓ Contracts Management and Procurement Services
- ✓ Radiology Department
- ✓ Service Planning and Delivery
- ✓ Finance Department
- ✓ Capital Development
- ✓ Sunshine Hospital Emergency Department
- ✓ Western Health Operating Theatres (x 4 sites)
- ✓ Allied Health Department
- ✓ Ward 3 East, Footscray Hospital

Development of these plans has allowed environmental and social value to be incorporated into Western Health's procurement processes.



### **Aim 3: Provide appropriate resources and training to staff to support and develop Western Health as an environmentally sustainable healthcare service.**

A total of 308 Western Health staff have attended recycling or clinical waste segregation education in 2016/17. These initiatives have focussed on the introduction of new recycling streams within LSAPs and remediation of existing ones. Approximately twenty staff attended the HES Forum and a further six attended the HES Workshop to develop sustainable procurement strategies for the organisation.

New recycling programs:

- Polystyrene recycling
- Ice Brick Reuse Program
- Coffee Pod Recycling
- Refurbished staff break out area with furniture made from recycled materials

### **Aim 4: Manage environmental resources responsibly and efficiently in an effort to reduce the impact of Western Health's operations.**

More than \$1m was allocated to environmental sustainability initiatives during 2016/17. This covered the completion of the LED lighting implementation across the organisation, installation of a 315kW solar electricity system at Sunshine Hospital, and commencement of the rollout of highly efficient cold air electric hand dryers.

### **Aim 5: Connect broadly on issues of sustainable development to inform the direction and 'greening' in Western Health operations and services.**

Western Health has continued the collaboration with the University of Melbourne on environmental research in healthcare. Some of the projects progressed this year have been by students within:

- The School of Engineering, conducting a study to enable granular understanding of energy consumption (and efficiency improvements available) in operating theatres
- The School of Medicine, undertaking life cycle analysis of a typical patient with high dependency in the Intensive Care Unit
- Organic Chemistry, investigating the development of technologies to capture potentially damaging anaesthetic gases for recycling.

## Targets

Over the strategic period 2015–2020, Western Health is striving to maintain a steady flow of energy efficiency projects to offset impacts associated with completed and new capital works. Generally, the services added in recent years have increased the energy intensity of our operations. However, Western Health is holding ground with the large scale LED lighting project and the addition of 315kW solar electricity system at Sunshine Hospital.

Table 1 offers an update on progress against targets set out in the Environmental Management Roadmap 2015–2020.

**Table 1: Environmental targets in Western Health’s Environmental Management Roadmap 2015 – 2020.**

<b>Energy</b>	Install solar electricity in new buildings, as roof space allows.	Sunshine Hospital due to commence installation of 315kW electrical system in mid- September.
	Reduce electricity consumption at Williamstown Hospital by 5% compared to 2014/15 baseline.	Electricity consumption was reduced by 7% overall, with gas reduced by 9%. Carbon emissions (CO <sub>2</sub> e-) reduced by 8.89% compared to baseline year.
	Return to 2014/15 energy efficiency /m <sup>2</sup> floor space and in relation to activity at Sunshine Hospital, in the face of additional energy intensive services (by July 2016).	Target revised to embrace the whole of Western Health due to the changing service / bed dynamics at Sunshine and Footscray Hospitals (Moving House, etc.).
	Return to 2014/15 energy efficiency /m <sup>2</sup> floor space and in relation to activity in the face of additional energy intensive services (by July 2016) across Western Health.	Total energy consumption and per m <sup>2</sup> floor energy efficiency remain stable (slightly reduced from 1.97 to 1.94GJ/m <sup>2</sup> ) despite the addition of energy intensive services within the same building footprint.
<b>Greenhouse</b>	Reduce the greenhouse intensity of energy portfolio in operations compared to 2014/15 baseline by July 2020.	Greenhouse intensity of energy portfolio in operations is 99% compared to 2014/15 baseline.
<b>Water</b>	Increase harvested water volume and reuse by 5% in comparison to 2014/15 baseline.	Harvested water has increased by 1% since the baseline year of 2014/15.
	Improve water efficiency in relation to floor space and activity compared to 2014/15 baseline.	Compared to 2014/15 baseline; water per unit of floor space (kL/m <sup>2</sup> ) is 99%; Water per unit of Separations (kL/Separations) is 92%; Water per OBD (LOS+Aged Care OBD) (kL/OBD) is 97%
<b>Waste</b>	Continue to increase diversion of waste from landfill by 2.5% per annum compared to 2014/15 baseline.	Recycling rate remains at ~30% diversion from landfill at the close of 2016/17 (17% increase compared to 14/15 baseline).
	Clinical Waste Segregation Education Package seen by 500 clinicians.	Achieved (again) in 2016/17.

<b>Greening</b>	5 Green Champion-led projects registered in each Annual Green Ward Competition.	7 Projects were entered in the Green Ward Competition in 2016/17. The winner was Grace Wong of the Footscray Hospital Pharmacy Department.
	Celebrate environmental calendar events annually: National Tree Day, World Environment Day (WED), Ride2Work Day and National Recycling Week.	<ul style="list-style-type: none"> <li>– WED was punctuated with the WH HES Forum this year; a great success.</li> <li>– Ride2Work Day was similarly attended.</li> <li>– National Recycling week incorporated roving visits to Departments this year, together with a well attended waste awareness stand.</li> <li>– National Tree Day was deferred this year. Melbourne Water proposed incorporating this project into a funded (\$14.1M) Creek Naturalisation Program. The Program aims to rehabilitate 6km of creek throughout Melbourne, with the Upper Stoney Creek by ~600m of this. Through collaboration with Western Health, the project is now in final stages of design development.</li> </ul>
	Decrease the volume of chemicals used in operations by 10% compared to 2014/15 baseline.	The target was achieved in 2015/16 with contract renewal. Improvements were maintained throughout 2016/17.
	Develop comprehensive Local Sustainability Action Plans in 25 business units (5 per annum).	5 Local Sustainability Action Plans were developed in: <ul style="list-style-type: none"> <li>– Contracts Management and Procurement Services</li> <li>– Radiology Department</li> <li>– Service Planning and Delivery</li> <li>– Finance Department</li> <li>– Capital Development</li> </ul>
	Reduce the environmental impact of paper by 10% per FTE in relation to 2014/15 baseline by 2020.	Multifunction device (MFD) contract renewal developed to include 'Follow Me Printing' option in 2016/17. Mooted to reduce printing consumption by ~20% through behaviour change.
	Develop Clinical Action Plans in 25 clinical areas (5 per annum).	Local Sustainability Action Plans were developed in: <ul style="list-style-type: none"> <li>– SH Emergency Department</li> <li>– Operating Theatres (x 4 sites)</li> <li>– Allied Health</li> <li>– Ward 3 East</li> </ul>

# Environmental Impacts

As per the requirements for Victorian public health services, and in accordance with the Department of Health Policy and Funding Guidelines 2012-13, details are provided on the following environmental impacts:

**Greenhouse gas emissions**  
(Scope 1 & Scope 2)

**Energy use**

**Water use**

**Waste generation**

The reporting boundary used for greenhouse, energy, water and waste impacts in this report are for those operations and services where Western Health pays energy and fuel bills (all sites). This includes all Western Health services and extra utilities from services shared with other healthcare networks (Mercy / Royal Childrens Hospital and Melbourne Health share the delivery of mental health services onsite). This reporting boundary is in line with Western Health's National Greenhouse and Energy Reporting (NGER).



# Energy use

Energy Consumption					Baseline			% change from baseline
<b>Total energy consumption by energy type (GJ)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	
Electricity	92,238	98,456	103,545	104,845	109,482	113,861	110,507	101%
Renewable energy - onsite	36	41	56	58	63	59	62	98%
Natural Gas	103,925	111,086	119,523	102,013	117,040	109,953	112,420	96%
Fuel (stationary and fleet)	3,836	3,351	4,180	3,998	3,497	3,042	2,900	83%
<b>Total gigajoules (GJ)</b>	<b>200,035</b>	<b>212,934</b>	<b>227,304</b>	<b>210,914</b>	<b>230,081</b>	<b>226,915</b>	<b>225,889</b>	<b>98%</b>
<b>Normalised energy consumption</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	
Energy per unit of floor space (GJ/m <sup>2</sup> )	2.29	2.35	2.21	1.83	2.01	2.00	1.97	<b>97.9%</b>
Energy per unit of Separations (GJ/Separations)	1.95	1.90	2.08	1.90	1.99	1.85	1.72	<b>86.2%</b>
Energy per unit of (LOS+Aged Care OBD) (GJ/OBD)	0.56	0.55	0.67	0.63	0.69	0.67	0.64	<b>92.4%</b>

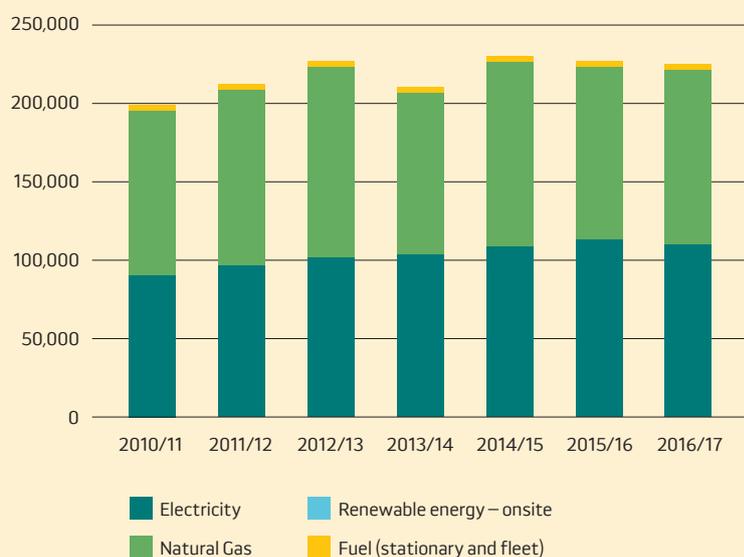
## Notes:

Data includes electricity, gas and onsite fuel consumption (diesel) and Fleet (diesel and ULP).

GJ = gigajoules

Data includes electricity, gas, fleet (diesel and ULP) and onsite fuel consumption (diesel).

## Total energy consumption by type (GJ)



# Greenhouse gas emissions

Greenhouse gas emissions					Baseline				% change from baseline
Total greenhouse gas emissions (tonnes CO2e)	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17		
Scope 1	5,334	5,702	6,135	5,236	6,008	5,663	5,793		96.4%
Scope 2	31,515	33,092	34,227	34,075	36,093	36,062	33,686		93.3%
<b>Total</b>	<b>36,849</b>	<b>38,794</b>	<b>40,362</b>	<b>39,311</b>	<b>42,100</b>	<b>41,725</b>	<b>39,479</b>		<b>93.8%</b>
Normalised greenhouse gas emissions	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17		
Emissions per unit of floor space (kgCO2e/m2)	422.62	428.80	391.82	340.38	368.32	367.22	344.34		<b>93.5%</b>
Emissions per unit of Separations (kgCO2e/ Separations)	359.16	345.42	369.47	353.67	365.02	339.80	300.37		<b>82.3%</b>
Emissions per unit of (LOS+Aged Care OBD) (kgCO2e/OBD)	103.87	100.52	118.95	116.87	126.15	123.23	111.36		<b>88.3%</b>

## Notes:

Data includes Scope 1 and Scope 2 emissions.

Scope 1 direct (or point-source) emissions include all emissions produced onsite that are material (>5%) to the operations and services of Western Health; transport fuel used in operation of WH fleet; gas consumption for all sites and diesel consumption for generators (volumes estimated; not material).

Scope 2 (indirect) emissions from the generation of the electricity purchased and consumed by Western Health are produced by the burning of fuels (coal) at the power station, namely peak & off peak electricity consumption for all sites.

Data has been sourced from energy retailers / suppliers (electricity and gas), fuel receipts (diesel for generators) and fuel cards (transport fuel).

Fuel types have been converted to GHG emissions by using the listed emissions factors from the current National Greenhouse Accounts (NGA) Factors publication August 2015

tCO2-e = tonnes of CO2 equivalent

GHG = greenhouse gas

1 kWh of electricity purchased from the Victorian grid = 1.18 kg CO2e

1 GJ of natural gas = 51.2 kg CO2e

1 GJ of diesel used for standby electricity generation = 69.2 kg CO2e

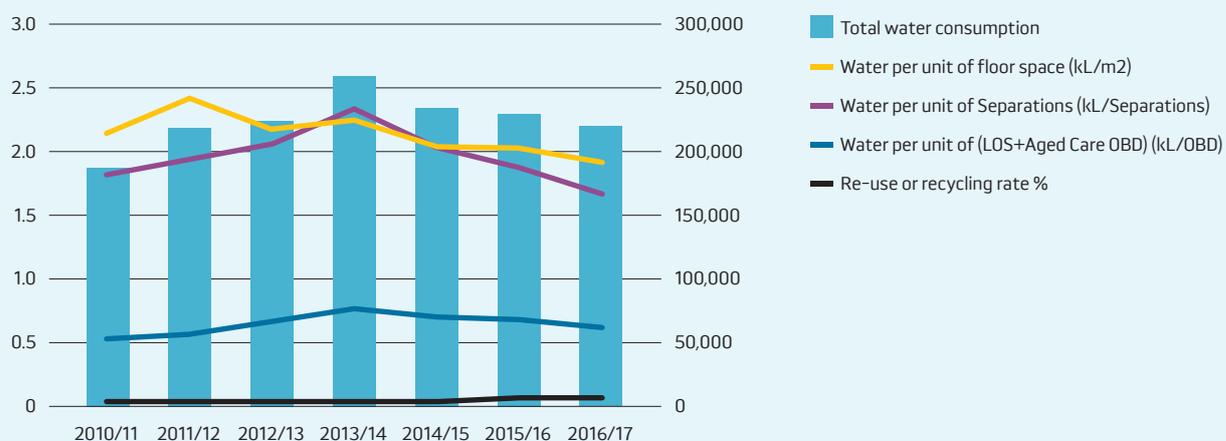
1 GJ of automotive gasoline (unleaded petrol) = 66.7 kg CO2e

1 GJ of automotive diesel oil (diesel) = 69.2 kg CO2e

# Water use

Water Consumption					Baseline			% change from baseline
<b>Total water consumption by type (kL)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	
Class A Recycled Water	-	-	-	-	-	-	-	
Potable Water	182,443	214,153	219,185	253,835	229,160	222,606	212,589	92.8%
Reclaimed Water	4,603	4,814	5,250	5,406	5,270	7,000	7,000	132.8%
<b>Total</b>	<b>187,045</b>	<b>218,967</b>	<b>224,435</b>	<b>259,241</b>	<b>234,430</b>	<b>229,606</b>	<b>219,589</b>	<b>93.7%</b>
<b>Normalised water consumption (Potable + Class A)</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	
Water per unit of floor space (kL/m <sup>2</sup> )	2.15	2.42	2.18	2.24	2.05	2.02	1.92	<b>93.4%</b>
Water per unit of Separations (kL/Separations)	1.82	1.95	2.05	2.33	2.03	1.87	1.67	<b>82.2%</b>
Water per unit of (LOS+Aged Care OBD) (kL/OBD)	0.53	0.57	0.66	0.77	0.70	0.68	0.62	<b>88.2%</b>
<b>Water re-use and recycling</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	
Re-use or recycling rate % (Class A + Reclaimed / Potable + Class A + Reclaimed)	2.5%	2.2%	2.4%	2.1%	2.3%	3.1%	3.3%	

## Total water consumed (kL) with normalisers

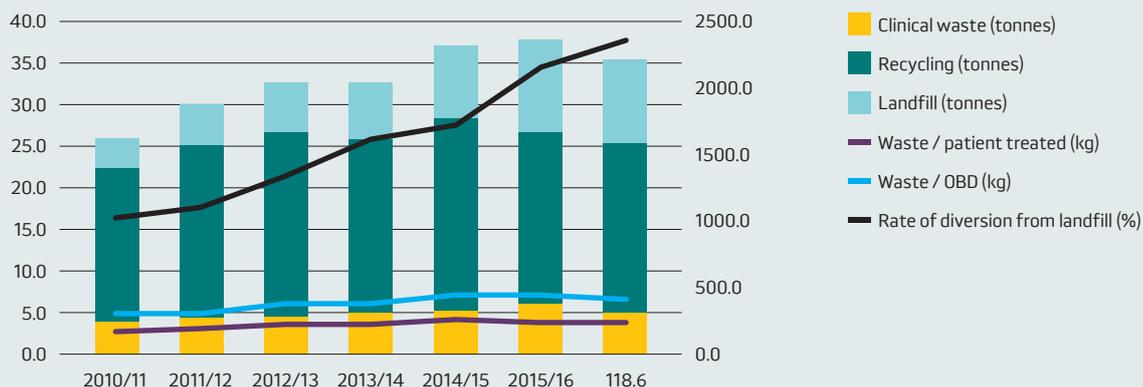


# Waste generation

Waste					Baseline				% change from baseline
Waste type	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17		
Clinical waste (tonnes)	237	268	278	297	317	376	300		<b>94.7%</b>
– CW Bagged (tonnes)	212	241	257	270	290	345	279		<b>96.3%</b>
– CW Sharps (tonnes)	25	27	21	28	27	31	21		<b>77.1%</b>
Landfill (tonnes)	1,155	1,297	1,380	1,309	1,444	1,290	1,279		<b>88.6%</b>
Recycling (tonnes)	216	293	367	430	546	679	681		<b>124.8%</b>
*Total waste to landfill generated (kg clinical waste+kg general waste)	1,392	1,565	1,658	1,606	1,761	1,666	1,579		<b>89.7%</b>
<b>Normalised waste data</b>	<b>1,608</b>	<b>1,858</b>	<b>2,025</b>	<b>2,036</b>	<b>2,307</b>	<b>2,346</b>	<b>2,261</b>		<b>98.0%</b>
Waste /OBD(kg)	4.53	4.81	5.97	6.05	6.91	6.93	6.38		<b>95.2%</b>
Waste /patient treated (kg)	2.78	3.01	3.54	3.54	3.99	3.94	3.61		<b>93.4%</b>
*Total waste to landfill per patient treated ((kg clinical waste+kg general waste)/PPT)							2.52		
Rate of diversion from landfill (%)	16%	18%	21%	25%	27%	35%	35%		<b>127.0%</b>
<b>Normalisers</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>		
Aged Care OBD	31,210	36,954	10,203	17,012	-	-	-		
ED Departures	121,045	120,013	123,398	127,716	129,415	134,737	140,127		<b>108.3%</b>
LOS/OBD	323,548	348,973	329,114	319,362	333,738	338,586	354,517		<b>106.2%</b>
M2	87,192	90,471	103,012	115,491	114,305	113,624	115,356		<b>100.9%</b>
Total patients treated	578,400	618,251	571,960	575,240	578,490	595,796	626,079		<b>108.2%</b>
Separations	102,597	112,311	109,245	111,150	115,337	122,473	131,435		<b>114.0%</b>

\*New benchmarking data / indicator under Victorian Health and Human Services Building Authority's (VHHSBA) Environmental Data Management System (EDMS)

## Waste generation and recycling (tonnes)





# Together, caring for the West

[westernhealth.org.au](http://westernhealth.org.au)

**Footscray Hospital**  
**Gordon Street**  
Footscray VIC 3011  
Locked Bag 2  
Footscray VIC 3011  
03 8345 6666

**Sunshine Hospital**  
**Furlong Road**  
St Albans VIC 3021  
PO Box 294  
St Albans VIC 3021  
03 8345 1333

**Sunshine Hospital**  
**Radiation Therapy Centre**  
176 Furlong Road  
St Albans VIC 3021  
03 8395 9999

**Western Centre for Health**  
**Research and Education**  
Sunshine Hospital  
Furlong Road  
St Albans VIC 3021  
03 8345 1333

**Sunbury Day Hospital**  
7 Macedon Road  
Sunbury VIC 3429  
03 9732 8600

**Williamstown Hospital**  
Railway Crescent  
Williamstown VIC 3016  
03 9393 0100

**Drug Health Services**  
3-7 Eleanor Street  
Footscray VIC 3011  
03 8345 6682

**Hazeldean Transition Care**  
211-215 Osborne Street  
Williamstown VIC 3016  
03 9397 3167



Western Health