



Australian Government

Australian Institute of
Health and Welfare

Cardiovascular disease fact sheet: Prevalence of valvular heart disease in Western Australia

Valvular heart disease in Western Australia

Valvular heart disease can be caused by a heart valve becoming stiffer and reducing the flow of blood (valvular stenosis), or by a valve not closing completely, allowing blood to leak backwards across the valve (valvular regurgitation/ insufficiency) (Heart Foundation New Zealand 2015).

What is in this fact sheet?

This fact sheet presents the prevalence of 2 forms of valvular heart disease: **rheumatic heart disease (RHD)** and **non-rheumatic valvular disease (non-RVD)** in Western Australia in 2010—that is, the number of people who had at least 1 hospital admission for valvular heart disease in the previous 10 years and were still alive on 30 June 2010.

Linked hospitalisation and mortality data from Western Australia were used to calculate the prevalence of valvular heart disease. Use of this linked data allows individuals to be followed over time, giving a more accurate estimate of prevalence, as individuals with multiple hospitalisations are only counted once and people who have died are excluded. This measure of prevalence has the advantage of being based on clinical diagnoses rather than self-reported information, but it might miss less severe cases that do not result in hospitalisation.

While the data presented here for Western Australia only may not be nationally representative, it may inform how valvular heart disease could be monitored in other jurisdictions using linked data.

What is rheumatic heart disease?

Rheumatic heart disease is caused by acute rheumatic fever, a delayed complication of an infection from *Group A Streptococcus* bacteria. Inflammation caused by acute rheumatic fever can manifest as permanent damage to the heart muscle or heart valves, reducing the ability of the heart to pump blood effectively around the body. Severe forms of the disease can result in serious incapacity or even death. While these diseases are largely uncommon in the general population, Australia's

Fast facts: rheumatic heart disease (RHD)

4,000 people in Western Australia had RHD between 2000 and 2010 and were still alive in 2010 (0.2% of the population).

2 in 3 cases of RHD occurred in those aged **65 and over**.

57% of RHD cases occurred in **females**.



Aboriginal and Torres Strait Islander people living in remote areas have one of the highest rates in the world (AIHW 2013).

Who has rheumatic heart disease?

Between 2000 and 2010, an estimated 4,000 people had RHD in Western Australia and were still alive in 2010.

Mostly older people

The majority (64%) of those who had RHD were aged 65 and over, including almost half (45%) aged 75 and over. About 15% were aged less than 45.

The RHD prevalence rates were highest in people aged 85 and over (2.2%)—over more than 4 times as high as for those aged 65–74 (0.5%) (Table 1).

More females than males

More females (2,300) were living with RHD than males (1,800). However, age-specific prevalence rates were relatively similar for males and females across all age groups (Figure 1).

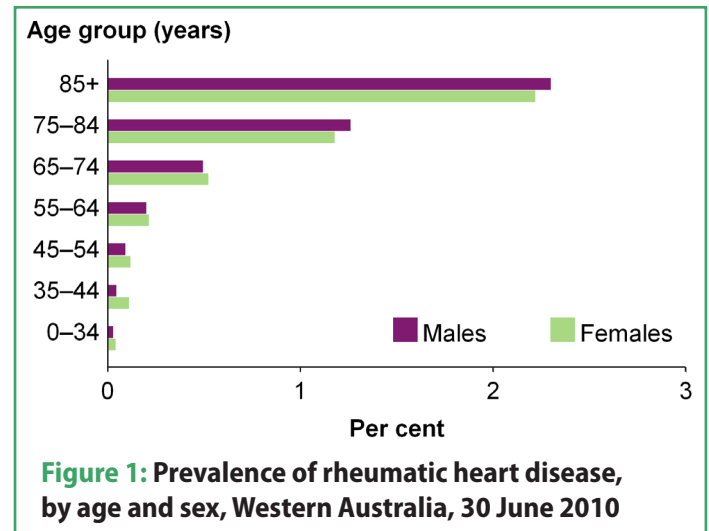


Table 1: Prevalence of rheumatic heart disease, by age and sex, Western Australia, 30 June 2010

Age group (years)	Males		Females		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
0–9	21	0.0	18	0.0	39	0.0
10–14	28	0.0	14	0.0	42	0.0
15–19	27	0.0	25	0.0	52	0.0
20–24	23	0.0	44	0.1	67	0.0
25–29	24	0.0	50	0.1	74	0.0
30–34	31	0.0	67	0.1	98	0.1
35–39	34	0.0	97	0.1	131	0.1
40–44	39	0.0	83	0.1	122	0.1
45–49	64	0.1	80	0.1	144	0.1
50–54	80	0.1	107	0.1	187	0.1
55–59	107	0.2	119	0.2	226	0.2
60–64	149	0.2	149	0.3	298	0.2
65–69	175	0.4	167	0.4	342	0.4
70–74	202	0.6	235	0.7	437	0.7
75–79	261	1.1	255	0.9	516	1.0
80–84	237	1.4	321	1.5	558	1.5
85+	258	2.3	481	2.2	739	2.2
Total	1,760		2,312		4,072	

Notes:

1. Prevalence is defined as the number of people who had at least 1 hospital admission for rheumatic heart disease in the previous 10 years and were still alive on 30 June 2010.
2. Prevalence of rheumatic heart disease is estimated using linked hospitalisation and mortality data (International Classification of Diseases 10th Revision ICD-10 and ICD-10-AM codes I01–09) from Western Australia. Refer to: AIHW 2014 for a detailed explanation on the method used to link the data.
3. This measure of prevalence might miss less severe cases of rheumatic heart disease that did not result in hospitalisation.

Source: AIHW analysis of Western Australia linked hospitalisation and deaths data sets.

What is non-rheumatic valvular disease?

Non-rheumatic valvular disease (non-RVD) is the more common form of valvular heart disease. It can be congenital or acquired by infection or disease, and often occurs as a result of ageing. If left untreated, it can reduce quality of life, and can be life-threatening (Maganti et al. 2010).

Who has non-rheumatic valvular disease?

Between 2000 and 2010, an estimated 8,800 people had non-RVD in Western Australia and were still alive in 2010.

Mostly older people

The vast majority (70%) of prevalent non-RVD cases were aged 65 and over, including almost one-fifth (17%) aged 85 and over. Around 16% were aged less than 55.

The non-RVD prevalence rates were highest in people aged 85 and over (4.5%)—1.5 times as high as for those aged 75–84 (3.0%), and more than 3 times as high as for those aged 65–74 (1.4%) (Table 2).

More males than females, except in the very old

More males (5,000) were living with non-rheumatic valvular disease than females (3,900). But for those aged 85 and over this was reversed, with 1,500 women living with non-rheumatic valvular disease compared with 600 men, reflecting the longer life span of women.

The gap in age-specific prevalence rates between males and females reduced with age, from 1.7 times as high in the 65–74 age group to 1.4 times as high in the 85 and over age group (5.6% and 4.0%, respectively) (Figure 2).

Fast facts: non-rheumatic valvular disease (non-RVD)

8,800 people in Western Australia had non-RVD between 2000 and 2010 and were still alive in 2010 (0.4% of the population).

Almost 3 in 4 cases of non-RVD occurred in those aged **65 and over**.



56% of non-RVD cases occurred in **males**.



Age group (years)

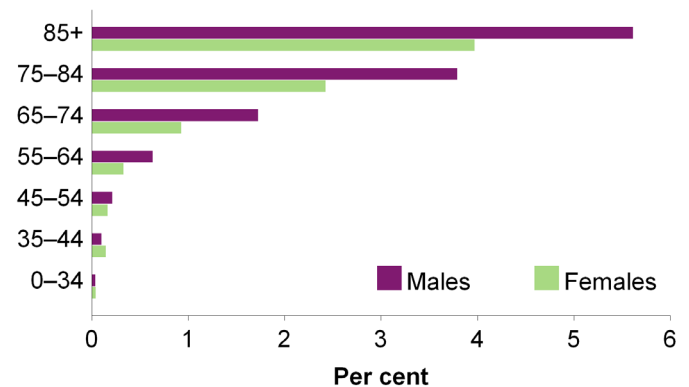


Figure 2: Prevalence of non-rheumatic valvular disease, by age and sex, Western Australia, 30 June 2010

Table 2: Prevalence of non-rheumatic valvular disease, by age and sex, Western Australia, 30 June 2010

Age group (years)	Males		Females		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
0–4	14	0.0	12	0.0	26	0.0
5–9	23	0.0	18	0.0	41	0.0
10–14	31	0.0	12	0.0	43	0.0
15–19	16	0.0	26	0.0	42	0.0
20–24	34	0.0	23	0.0	57	0.0
25–29	31	0.0	53	0.1	84	0.0
30–34	47	0.1	70	0.1	117	0.1
35–39	73	0.1	116	0.1	189	0.1
40–44	98	0.1	122	0.1	220	0.1
45–49	130	0.2	118	0.1	248	0.2
50–54	206	0.3	139	0.2	345	0.2
55–59	321	0.5	149	0.2	470	0.3
60–64	490	0.8	264	0.4	754	0.6
65–69	611	1.4	293	0.7	904	1.0
70–74	705	2.2	423	1.2	1,128	1.7
75–79	746	3.2	511	1.9	1,257	2.5
80–84	755	4.6	674	3.1	1,429	3.7
85+	630	5.6	861	4.0	1,491	4.5
Total	4,961		3,884		8,845	

Notes:

1. Prevalence is defined as the number of people who had at least 1 hospital admission for non-rheumatic valvular disease in the previous 10 years and were still alive on 30 June 2010.
2. Prevalence of non-rheumatic valvular disease is estimated using linked hospitalisation and mortality data (International Classification of Diseases 10th Revision ICD-10 and ICD-10-AM codes I34–39) from Western Australia. Refer to: AIHW 2014 for a detailed explanation on the method used to link the data.
3. This measure of prevalence might miss less severe cases of non-rheumatic valvular disease that did not result in hospitalisation.

Source: AIHW analysis of Western Australia linked hospitalisation and deaths data sets.

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Where can I find out more?

For more information, go to: <www.aihw.gov.au/cardiovascular-disease/>.

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