



HEALTHCARE CONSULTING
E-healthcare solutions for the industry

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HEALTHCARE CLAIMS TRACKER

A FOCUS ON CHRONIC DISEASE CLAIMS

September 2018
For the period January 2017 – December 2017



INTRODUCTION

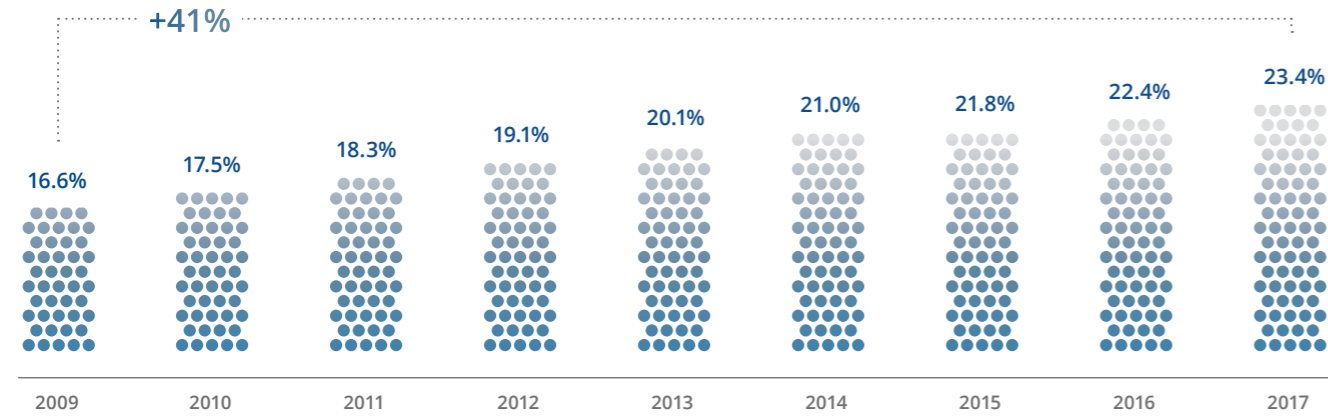
Non-communicable diseases (NCDs), also known as chronic or lifestyle diseases, are the leading cause of deaths worldwide. NCDs are the result of a combination of genetic, physiological, environmental and behavioural factors. Cardiovascular disease (e.g. heart attacks or strokes) accounts for 17.9 million deaths annually, 31% of total deaths. Other types of NCDs include respiratory disease (e.g. chronic obstructive pulmonary disease or asthma) and diabetes.

This document highlights the key trends in chronic disease claims in the Discovery Health Medical Scheme (DHMS).

A note on incidence vs prevalence

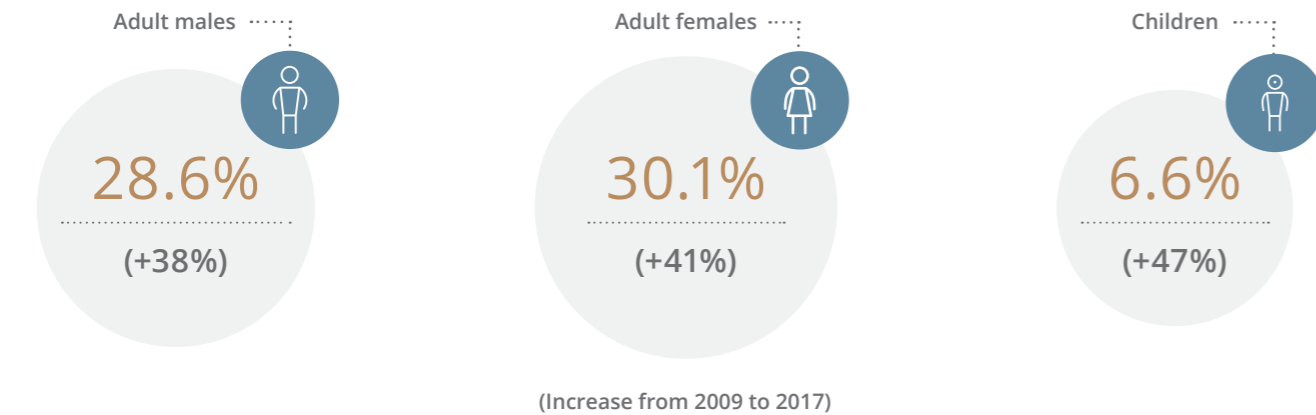
Throughout the document, *prevalence* is defined as the number of members who are registered on the Scheme's chronic illness benefit at the end of the year. This differs from the term *incidence* which refers to the number of members that have registered for the chronic illness benefit for the first time during the year. The incidence rate excludes members that registered on the chronic illness benefit immediately after they joined the Scheme.

Overall prevalence



At the end of 2017, 647 252 DHMS members were registered for the one or more chronic conditions. This equates to 23.4% of DHMS members. The overall prevalence has increased from 16.6% in 2009 to 23.4% in 2017. This increase in prevalence is due to a combination of factors including Scheme members getting older, more members with an existing chronic illness joining the Scheme (known as adverse selection), and members surviving longer with a chronic condition.

Prevalence by demographic category

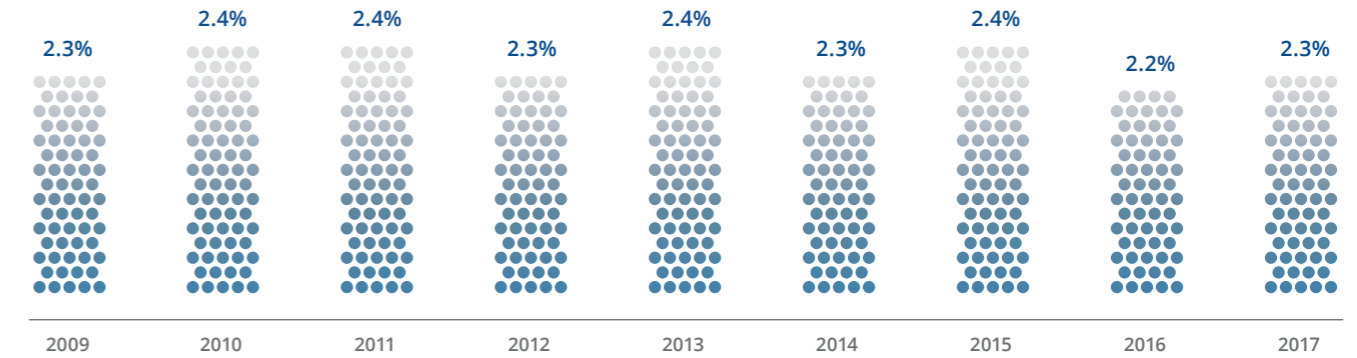


Adult females have experienced a greater increase in prevalence since 2009 than adult males, and have a 5% higher overall level in 2017 compared to adult males.

Prevalence amongst adults is significantly higher than children, although the number of children that are registered on the chronic illness benefit each year is increasing at a higher rate than for both adult males and females. This is most likely due to anti-selection with families with a sick child choosing to join the Scheme.

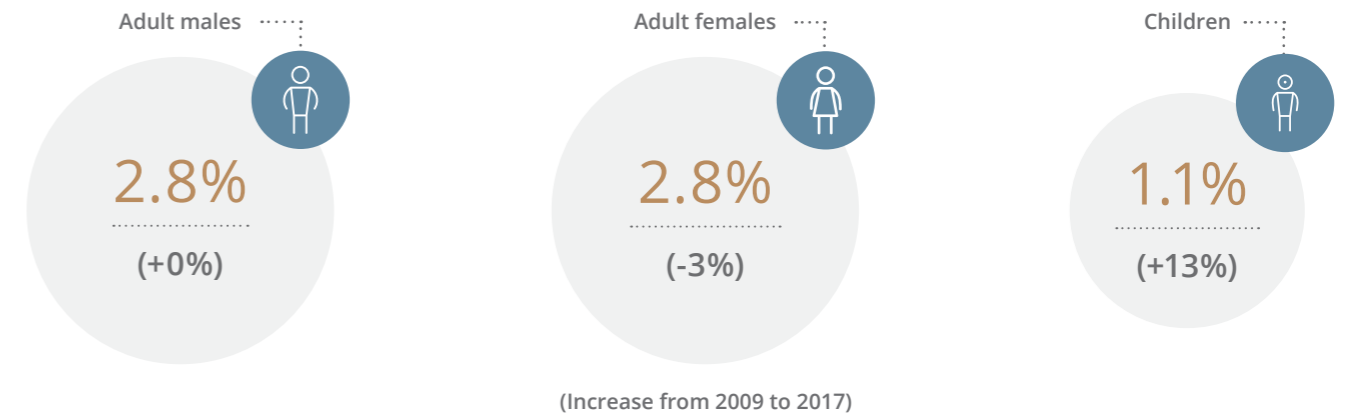
All figures as at 31 December 2017

Overall incidence



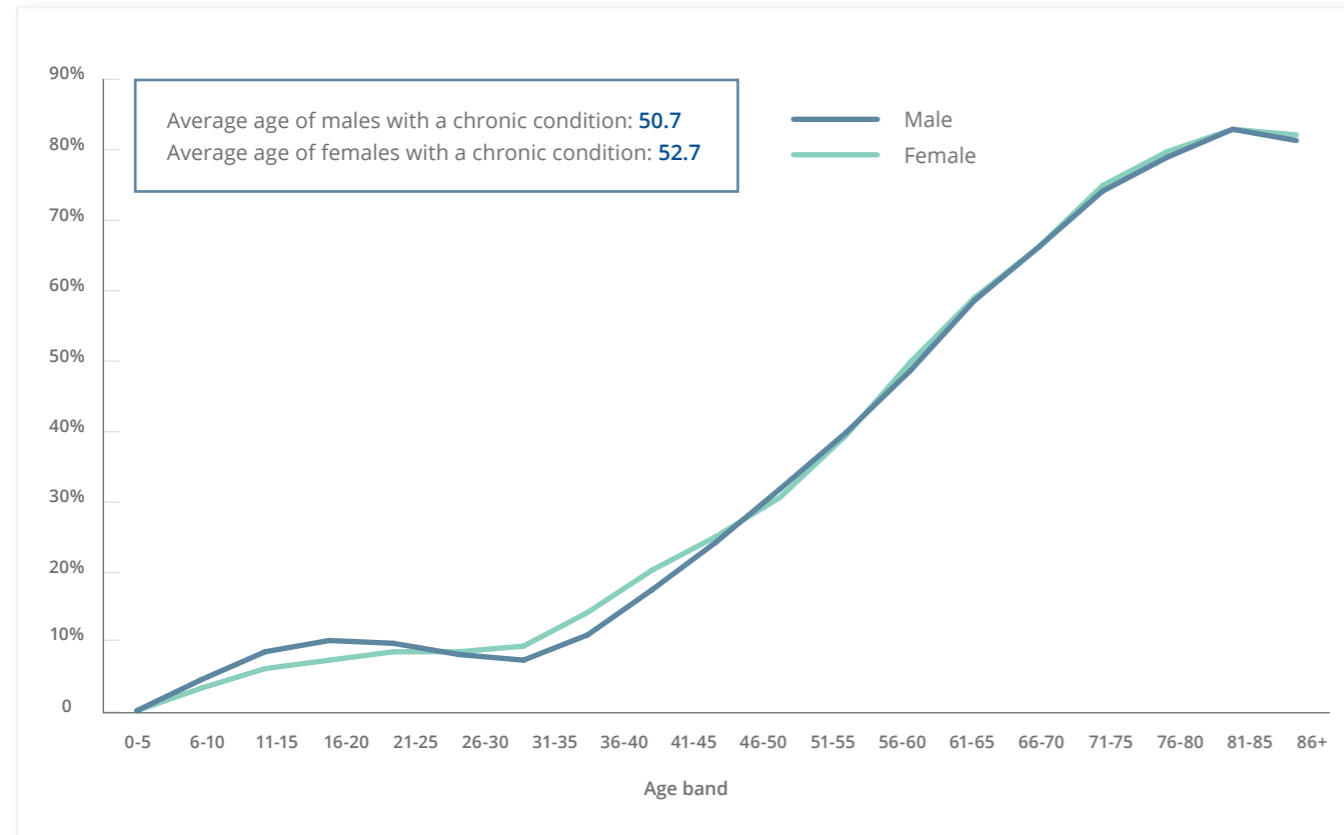
In 2017, 62 428 DHMS members were diagnosed with a chronic condition for the first time. This equates to 2.3% of DHMS members. The incidence of chronic conditions has remained relatively stable from 2009 to 2017. The incidence rate excludes members that registered on the chronic illness benefit immediately after they joined the Scheme.

Incidence by demographic category



The rate of diagnosis of members with a chronic condition is marginally higher in females than in males. The incidence rates across both adult males and females have not changed significantly from 2009 to 2017, with adult males experiencing no change in incidence and adult females experiencing a decrease of 3%. The incidence rate amongst children has increased by 13% since 2009.

Prevalence by age band

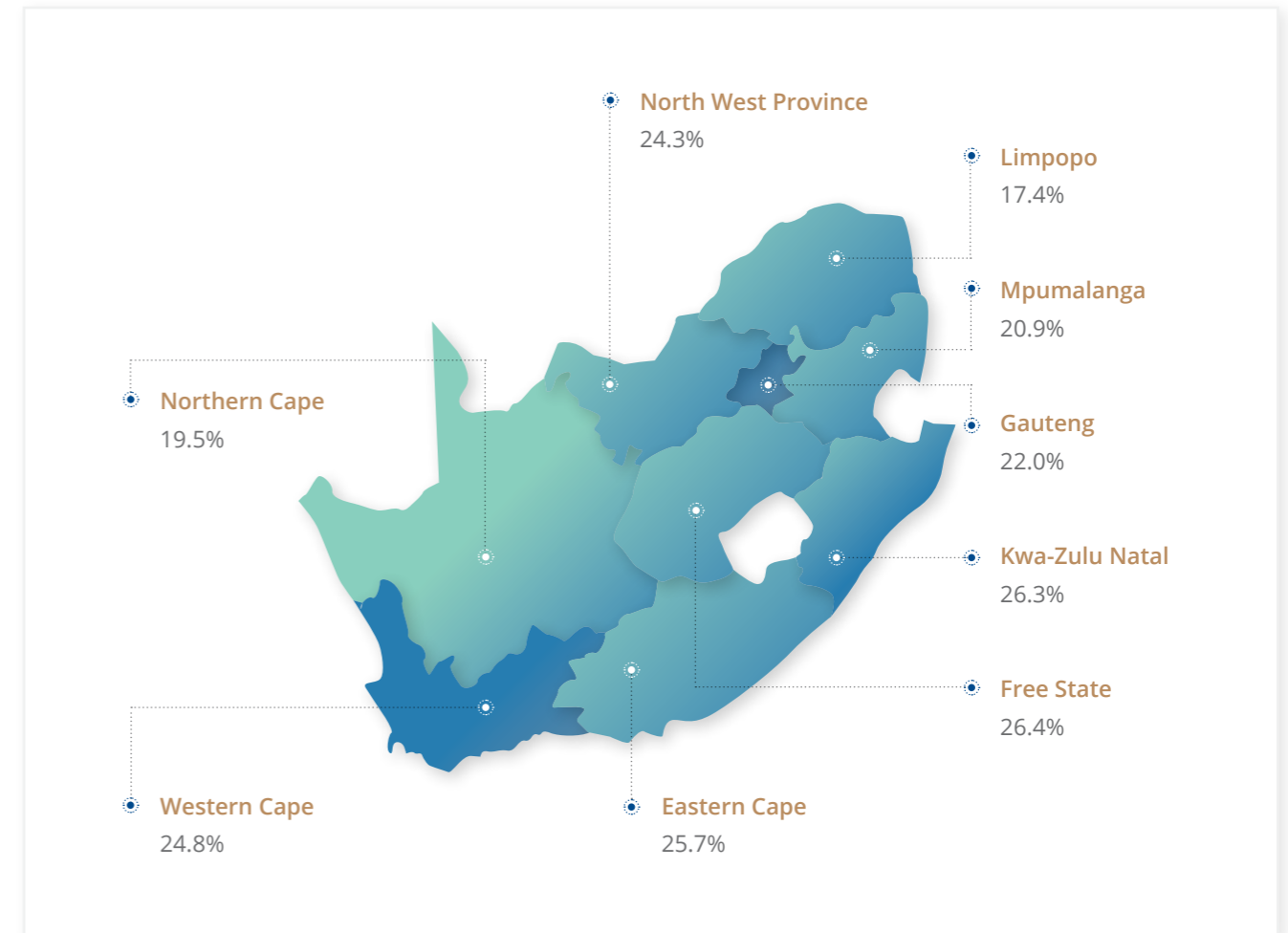


A higher prevalence of chronic conditions is seen in older people, with prevalence highest in the 81 – 85 year old age band, after which the rate declines.

Males experience a slightly higher proportion of chronic conditions compared to females up until around age 21. Thereafter, up until age 46, females generally experience a slightly higher proportion of chronic conditions.

The average age of males registered for a chronic illness is lower than the average age of females registered for a chronic illness (50.7 and 52.7 respectively).

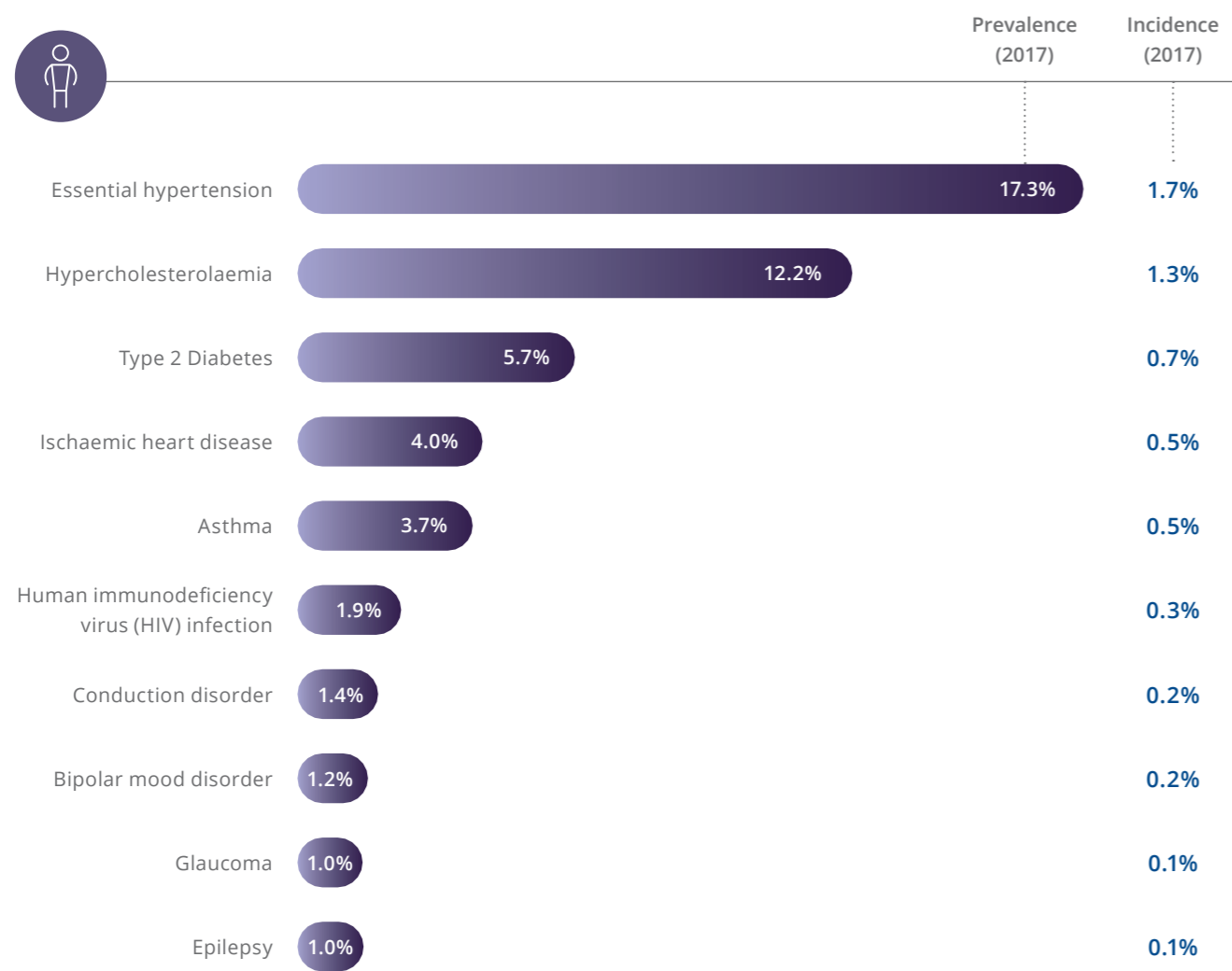
Prevalence by region



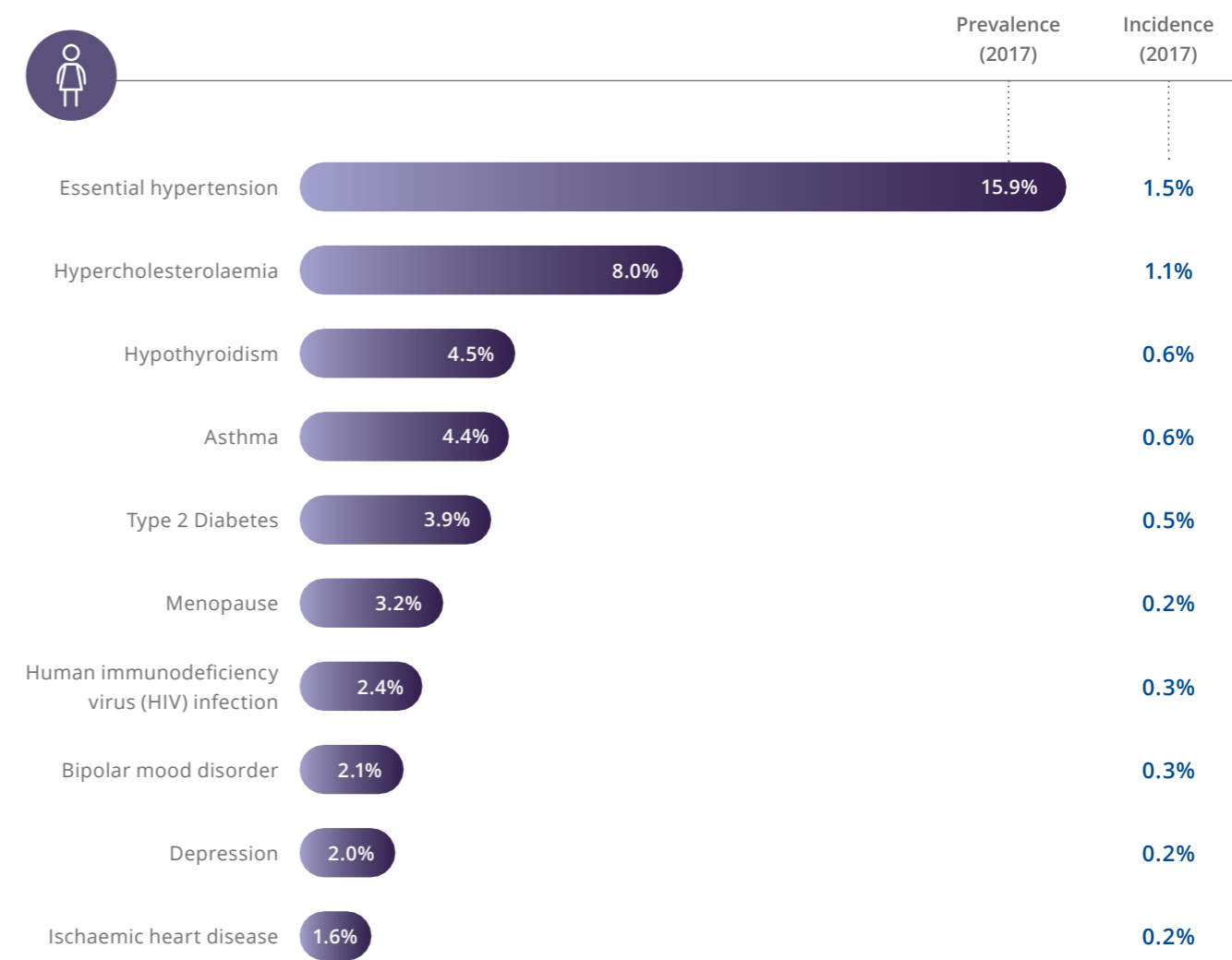
The Free State and Kwa-Zulu Natal demonstrated the highest prevalence rates of chronic conditions in 2017, with 26.4% and 26.3% of members in the respective provinces registered with a chronic condition. Limpopo and Northern Cape experienced the lowest chronic illness prevalence rates in 2017, with 17.4% and 19.5% of members registered respectively.

The top three chronic conditions – essential hypertension, hypercholesterolaemia and asthma – are similar for each of the regions, with the exception of Kwa-Zulu Natal and the Northern Cape, where Type 2 Diabetes replaces asthma as the third most prevalent condition.

Top 10 chronic conditions by prevalence – adult males



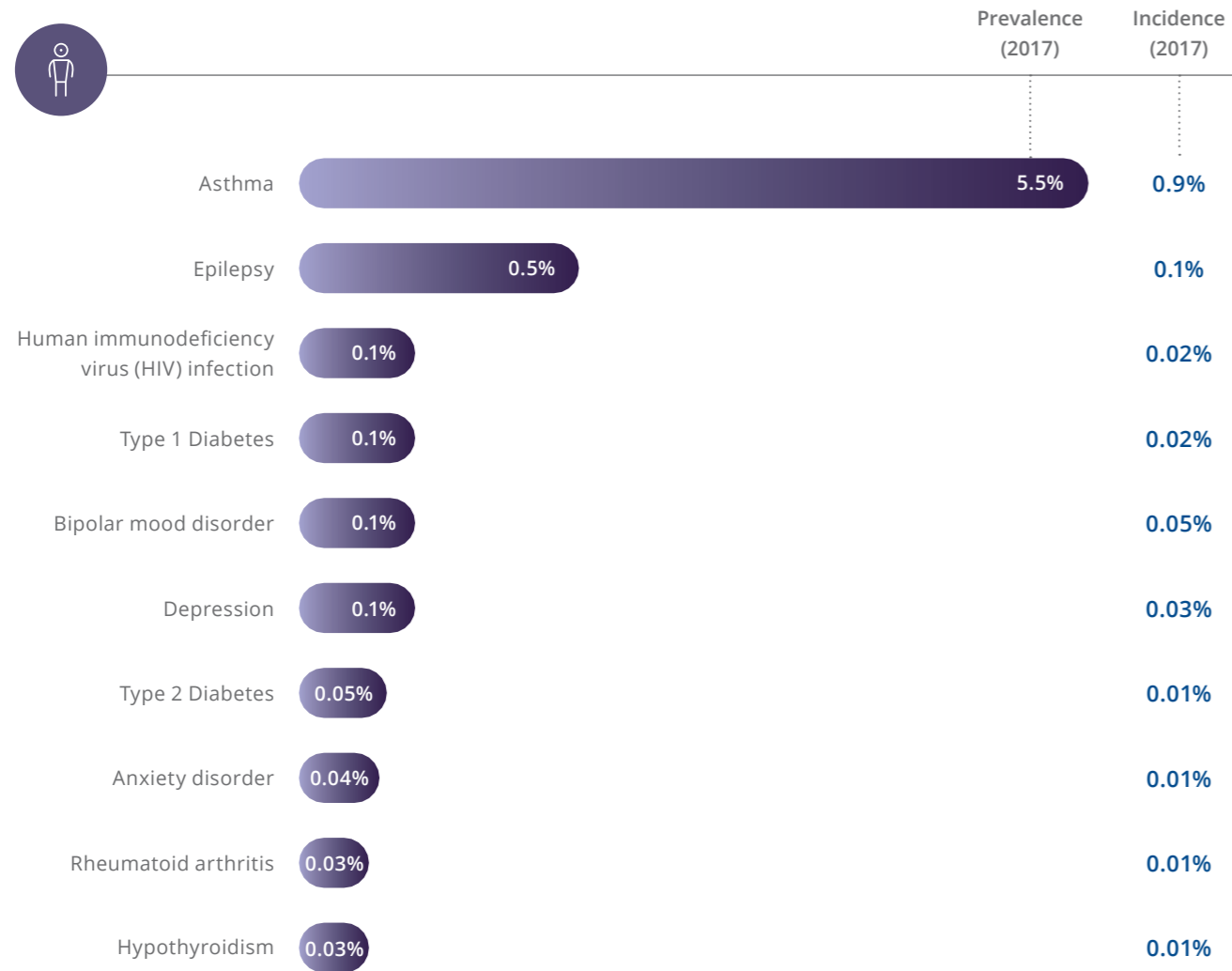
Top 10 chronic conditions by prevalence – adult females



The two most prevalent chronic conditions in adult males and females are essential hypertension and hypercholesterolaemia. The third most prevalent condition for males is Type 2 Diabetes and for females, hypothyroidism. Type 2 Diabetes and ischaemic heart disease have significantly lower prevalence amongst adult females than males with conditions such as hypothyroidism and menopause prevalent amongst adult females.

Prevalence refers to the proportion of members registered for the specific chronic condition.
Incidence refers to the proportion of members that have registered for the specific condition, for the first time during the year.

Top 10 chronic conditions by prevalence – children

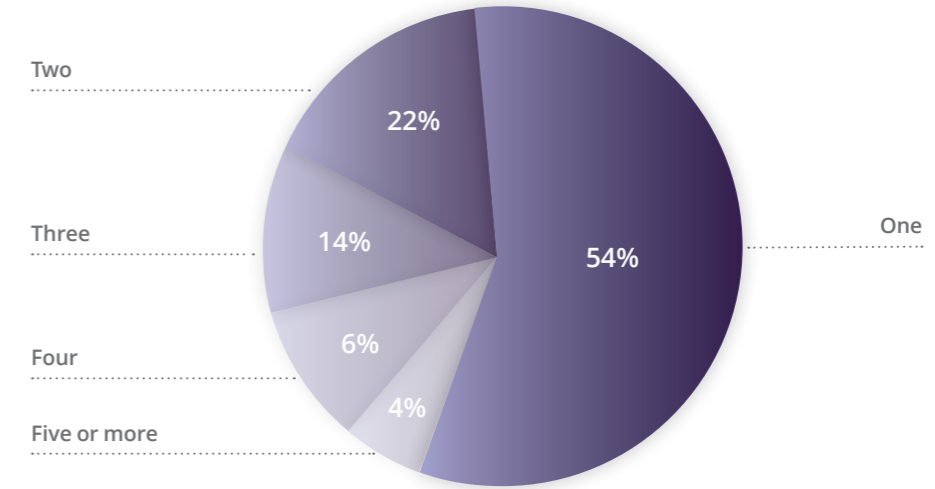


Asthma is by far the most prevalent chronic condition in children, with 83% of all children on the chronic illness benefit registered for asthma. The second most prevalent condition for children is epilepsy.

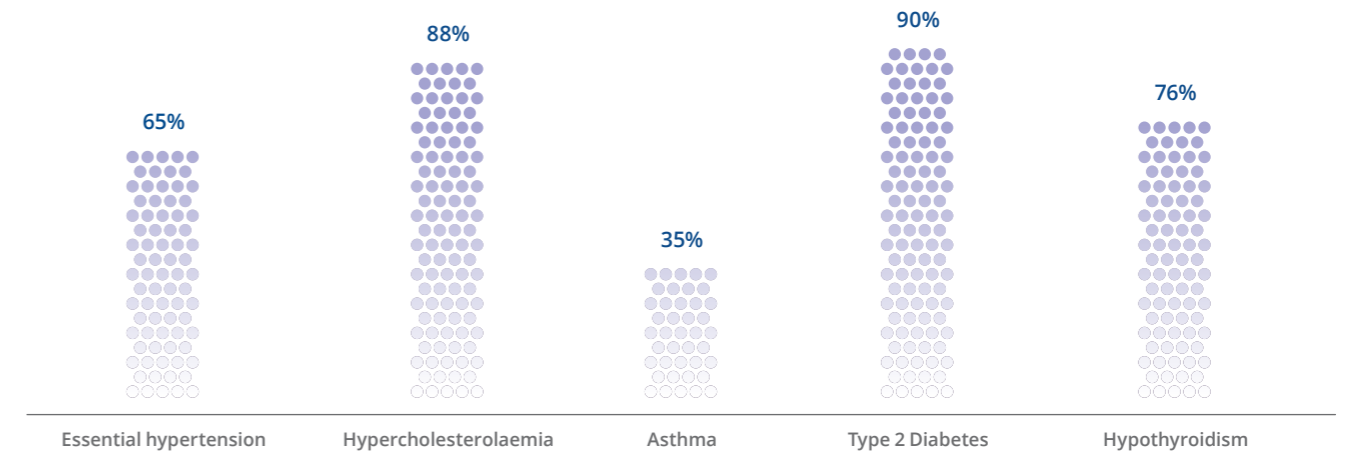
Prevalence refers to the proportion of members registered for the specific chronic condition.
Incidence refers to the proportion of members that have registered for the specific condition, for the first time during the year.

Multiple chronic conditions

Of members with a registered chronic condition, 46% have more than one chronic condition. The most common combination of chronic conditions is hypercholesterolaemia and essential hypertension, which is the case for 5% of chronic members.



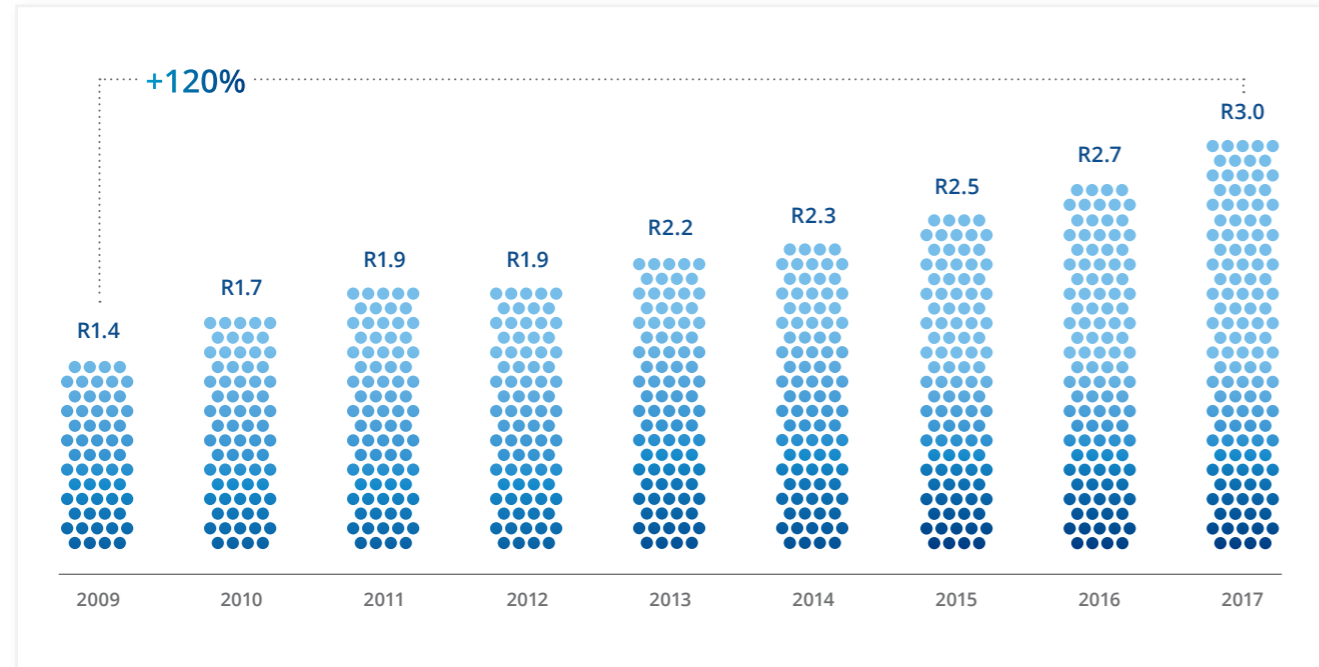
Proportion with multiple chronic conditions



90% of Type 2 Diabetes members have at least one other chronic condition. Only 35% of asthma sufferers have another chronic condition.

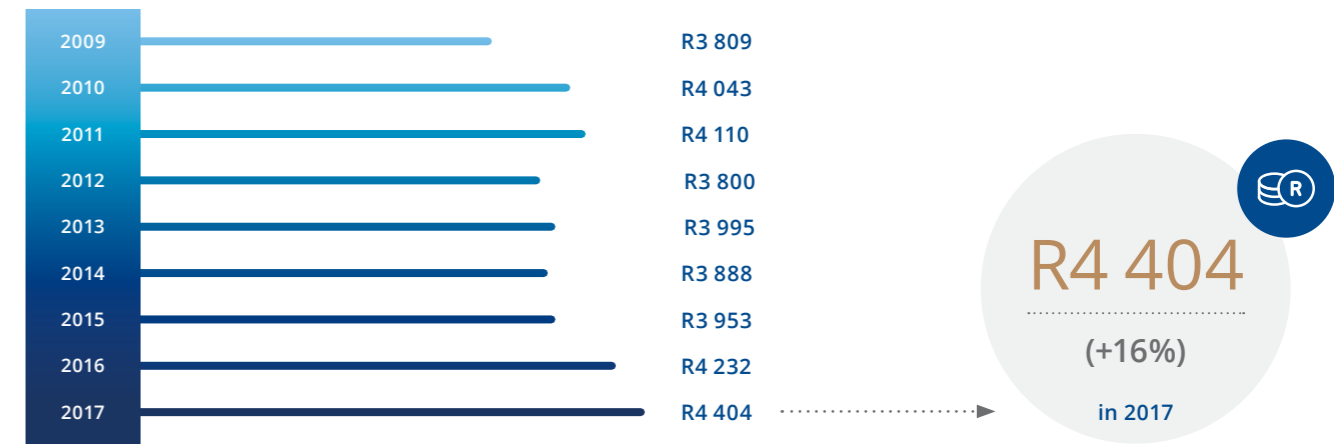
All cost figures referred to in the following section include costs paid by the Scheme for chronic illnesses and exclude any costs of hospital admissions related to the chronic illness.

Total cost (in R'billions)



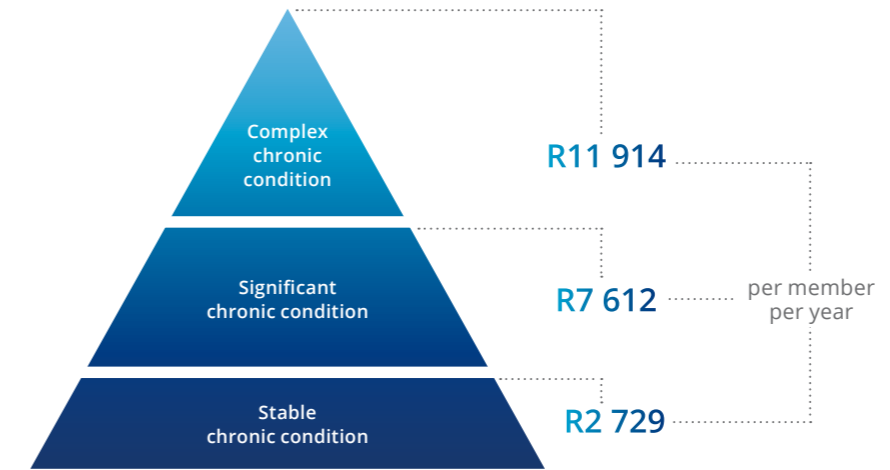
The total cost paid by the Scheme for chronic conditions increased by 120% from 2009 to 2017, with a total of R3.0 billion in 2017. The increase is made up of a combination of factors including an increased prevalence of chronic illness as well as an increase in cost of treatment for chronic conditions.

Average cost per registered chronic member



The average cost for treatment of chronic conditions per chronic member has increased by 16% since 2009 to a total of R4 404 per chronic member for 2017.

Cost by complexity of chronic condition



Members can be classified by the nature of their chronic condition. Members that have a chronic condition, but where the chronic condition is stable and well managed are classified as having a 'stable chronic condition'. Alternatively members can be classified as having a 'significant chronic condition' if one of their conditions are considered to be unstable or as having a 'complex chronic condition' if more than one of their conditions are considered to be unstable.

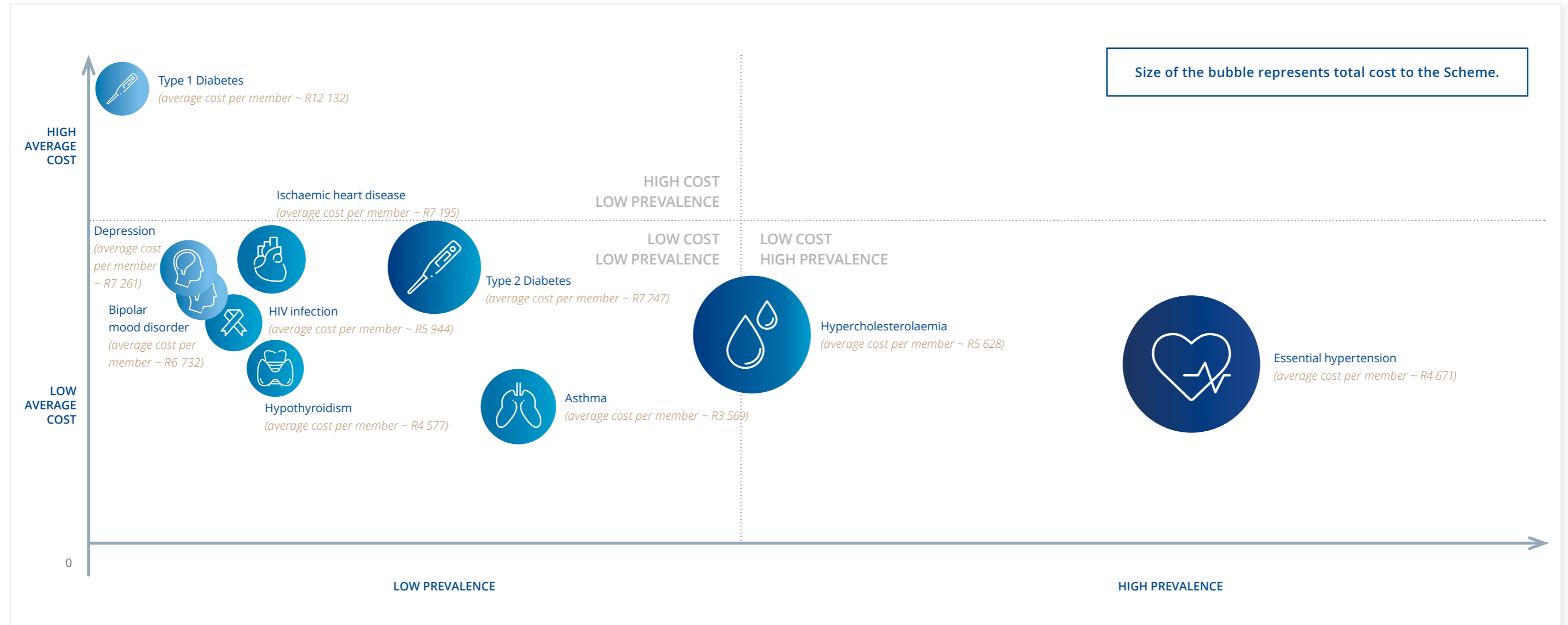
Members with complex conditions have an average cost of R11 914 per year, 4.4 times the cost of a member with stable chronic conditions.

Top 10 chronic conditions by overall cost

The graph below illustrates the top 10 most costly chronic conditions to the Scheme in terms of average cost and prevalence of the condition.

The most costly chronic conditions to the Scheme are essential hypertension and hypercholesterolaemia. Even though these conditions have a relatively low average cost, the prevalence is high and therefore they result in the largest total cost to the Scheme.

Other chronic conditions like Type 1 Diabetes have a relatively low prevalence, but the treatment for these conditions are expensive so the overall cost to the Scheme is large.



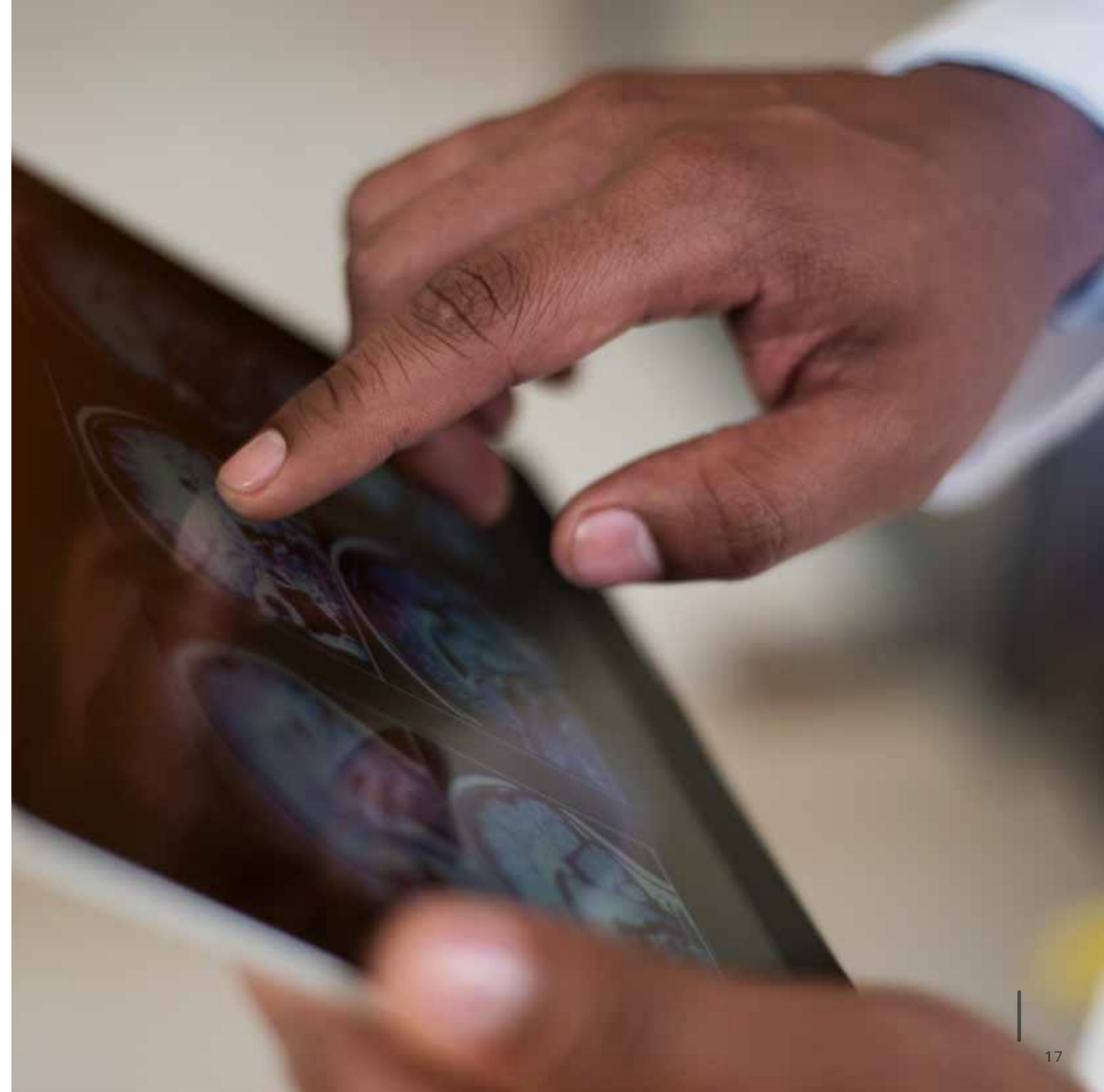
Top 10 most costly chronic conditions

	Average cost per member per year	Average age	Number of members	Cost of highest claimant (2017)
 Haemophilia	R400 626	29	167	R4 653 412
Cystic fibrosis	R128 800	23	212	R658 818
Multiple sclerosis	R84 930	47	1 613	R298 015
Ankylosing spondylitis	R43 807	50	1 284	R226 426
Psoriasis	R38 568	53	570	R215 695
Chronic renal failure	R34 606	58	5 109	R514 850
Hypopituitarism	R32 723	26	320	R312 505
Nephrotic syndrome	R25 960	49	167	R228 034
Dermatomyositis or polymyositis	R24 482	56	38	R206 524
Crohn's disease	R20 589	48	2 526	R333 210

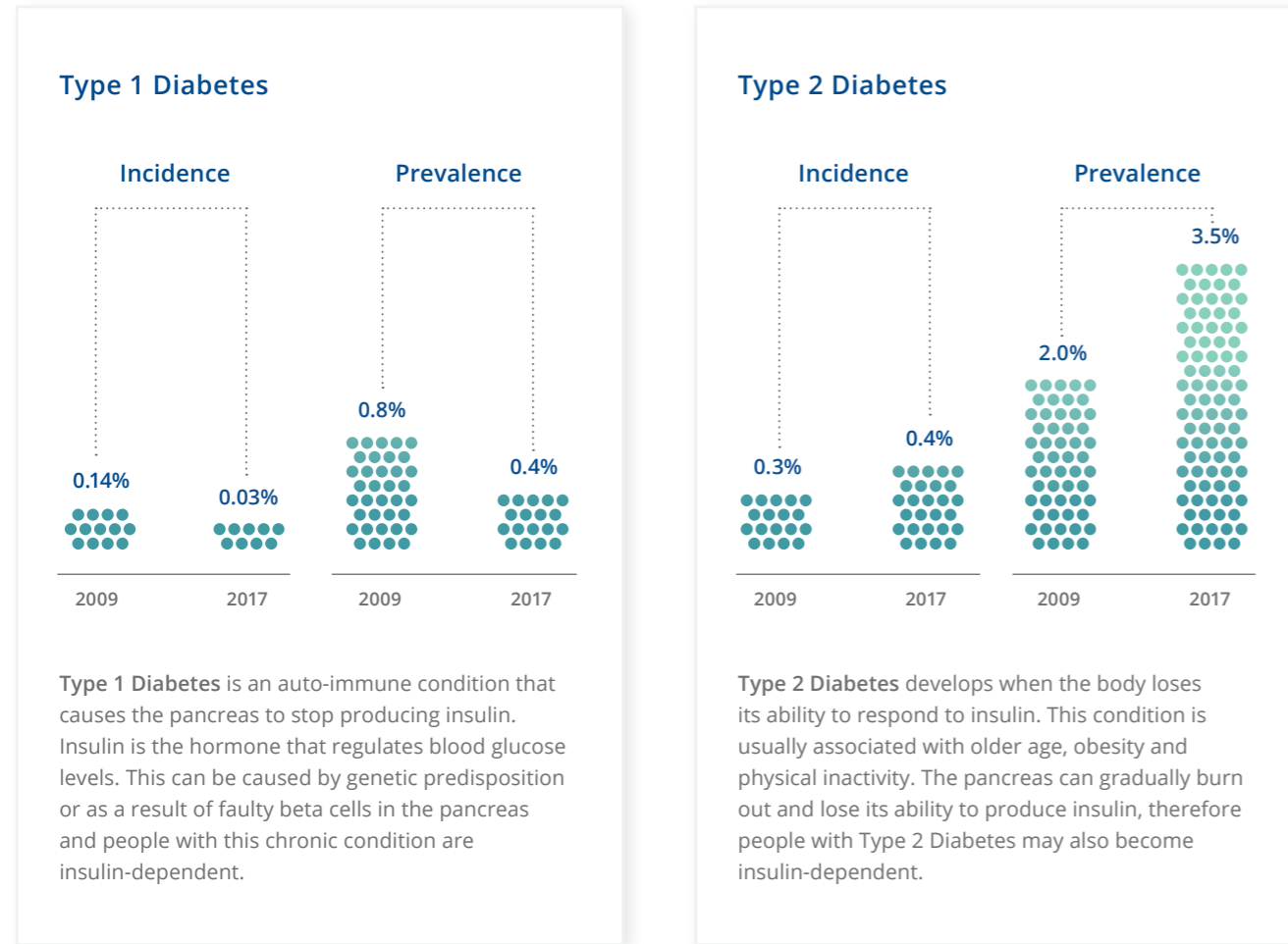
The most costly chronic condition is Haemophilia, a disease that impairs the body's ability to make blood clots. There are 167 members of the Scheme that were registered for haemophilia, at an average cost of R400 626 per member in 2017. Of the members that were registered for haemophilia, the member with the highest cost in 2017 had a total chronic illness cost of R4 653 412.

The second most costly chronic condition is cystic fibrosis with an average cost of R128 800 per member per year. Cystic fibrosis is a disease which damages various organs in the body, mainly the lungs but also causes damage to the digestive system, kidneys, liver and pancreas. It is prevalent across younger members on the Scheme with an average age of registered members of 23.

All figures as at 31 December 2017



Incidence and prevalence of diabetes



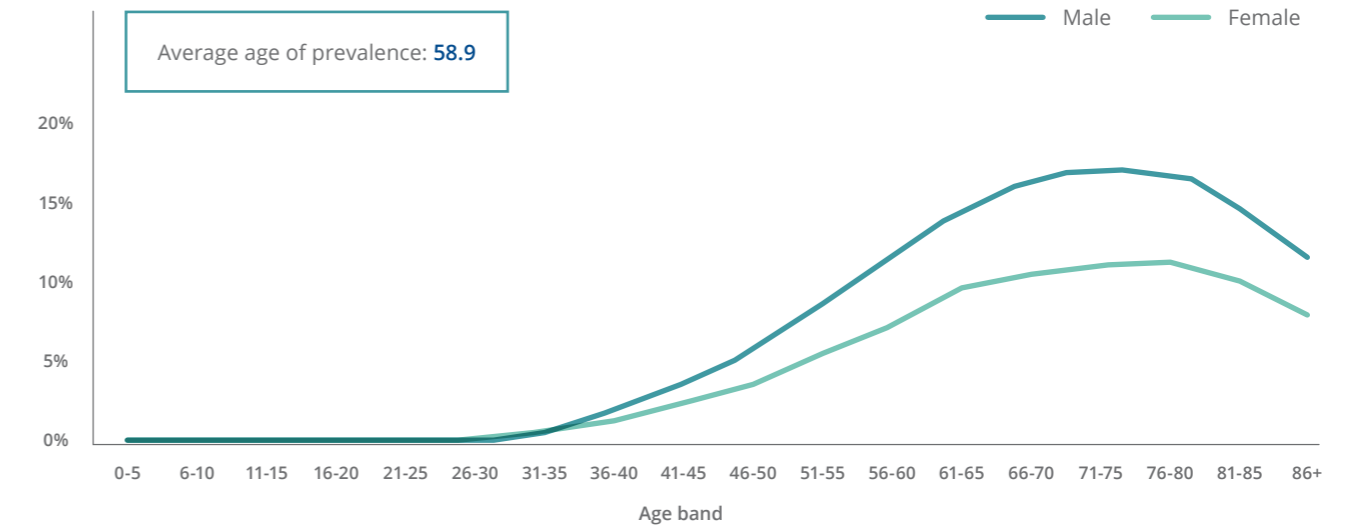
Type 1 Diabetes is an auto-immune condition that causes the pancreas to stop producing insulin. Insulin is the hormone that regulates blood glucose levels. This can be caused by genetic predisposition or as a result of faulty beta cells in the pancreas and people with this chronic condition are insulin-dependent.

Type 2 Diabetes develops when the body loses its ability to respond to insulin. This condition is usually associated with older age, obesity and physical inactivity. The pancreas can gradually burn out and lose its ability to produce insulin, therefore people with Type 2 Diabetes may also become insulin-dependent.

Significantly more members are registered for Type 2 Diabetes than for Type 1 Diabetes. The prevalence for type 1 and type 2 diabetes in 2017 was 0.4% and 3.5% of members respectively. The proportion of members newly diagnosed with Type 1 Diabetes has decreased since 2009, while the proportion of new diagnoses of Type 2 Diabetes has increased significantly, reflecting the poor lifestyle of many members.

Overall the proportion of members newly diagnosed with diabetes has increased by 28% since 2009, and the proportion of members enrolled for diabetes has increased by 66%.

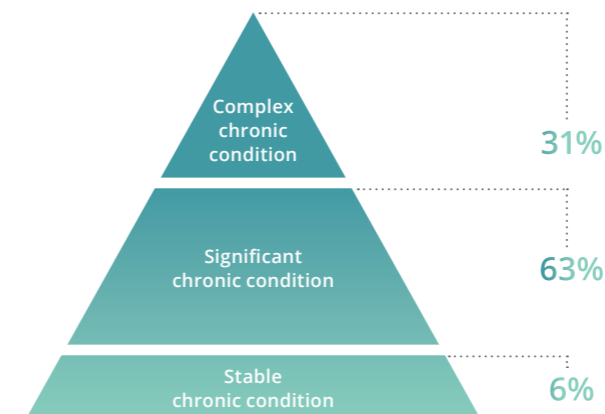
Type 2 Diabetes – prevalence by age band and gender



Prevalence of Type 2 Diabetes increases significantly from age 26, with the average age of members registered during 2017 at 58.9 years old. This differs to Type 1 Diabetes, where registered members are typically younger (average age of registered members of 44.3 years old).

A greater proportion of males are registered with Type 2 Diabetes compared to females.

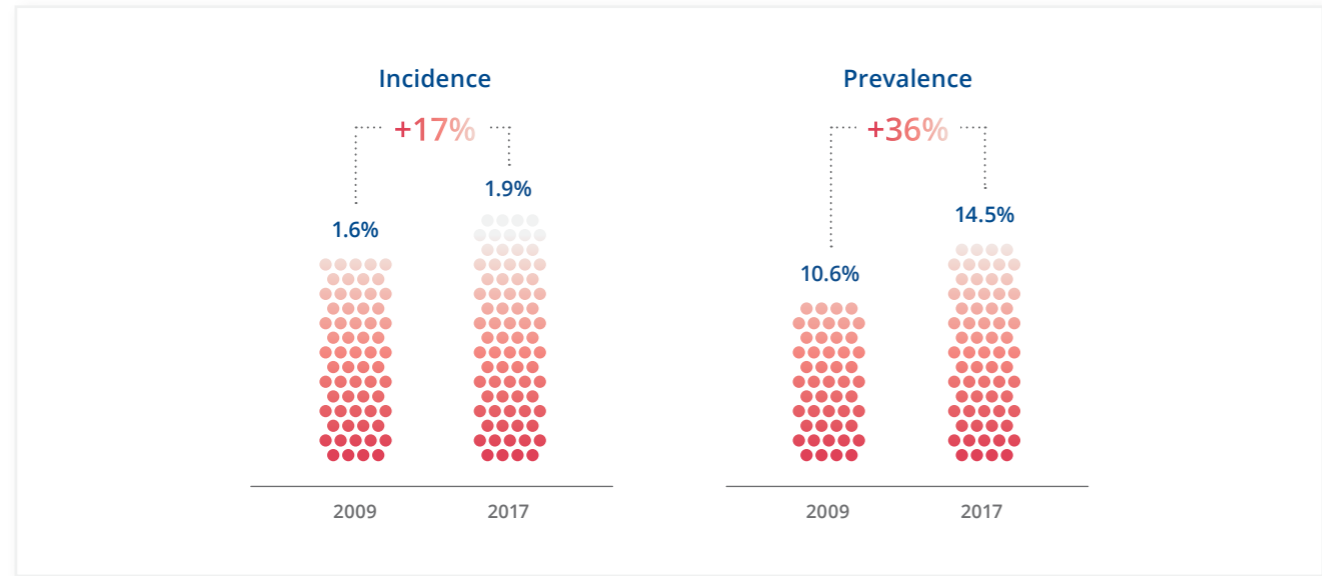
Complexity of chronic condition



31% of all members that are registered for diabetes are classified as having a complex chronic condition versus 6% of members where the condition is stable and well managed.

Incidence and prevalence of cardiovascular disease

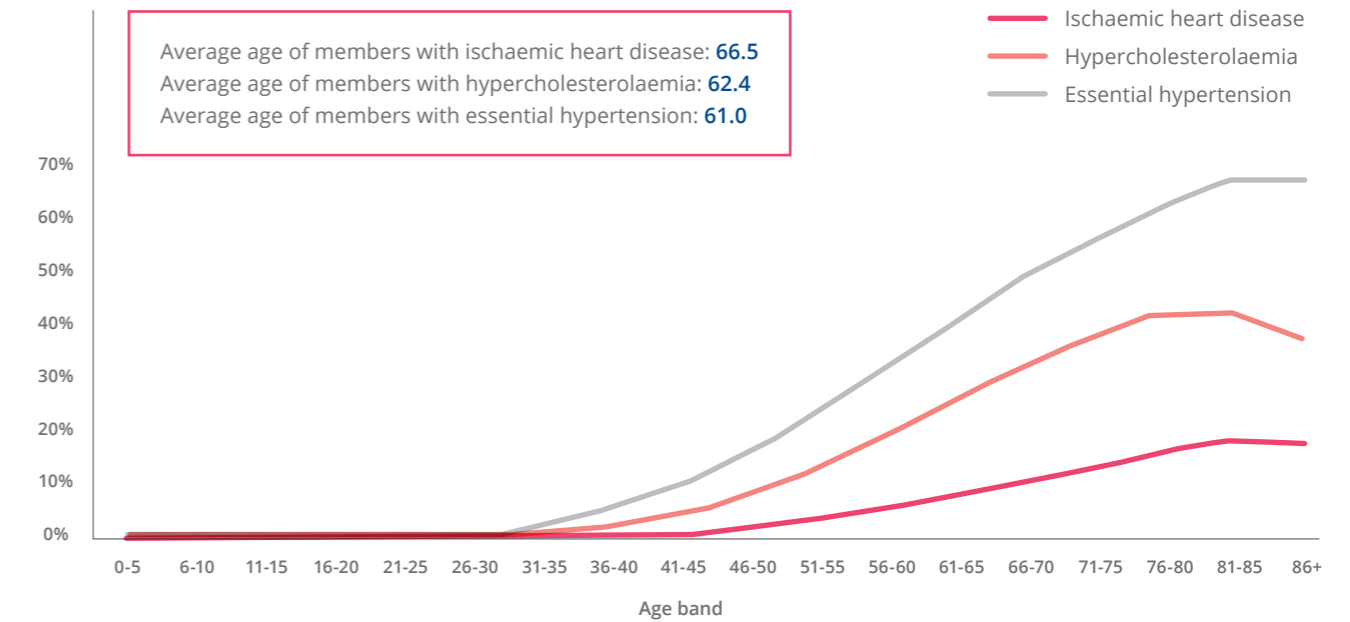
Cardiovascular diseases (CVD) are the most common chronic conditions amongst DHMS members, of which essential hypertension is the most prevalent. For the purpose of this analysis CVD includes essential hypertension, hypercholesterolaemia and ischaemic heart disease.



The proportion of new diagnoses of CVD as well as the proportion of members that are registered for a CVD have increased significantly since 2009. In 2017 more than 51 000 members were diagnosed with a CVD, equating to 1.9% of members. 14.5% of members have one of these chronic conditions, a 36% increase from 2009.

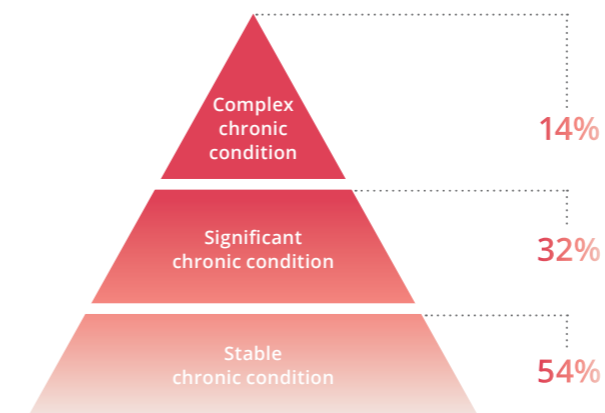
The Scheme paid out more than R1.8 billion for chronic related costs for members with at least one cardiovascular disease in 2017.

Prevalence by age band



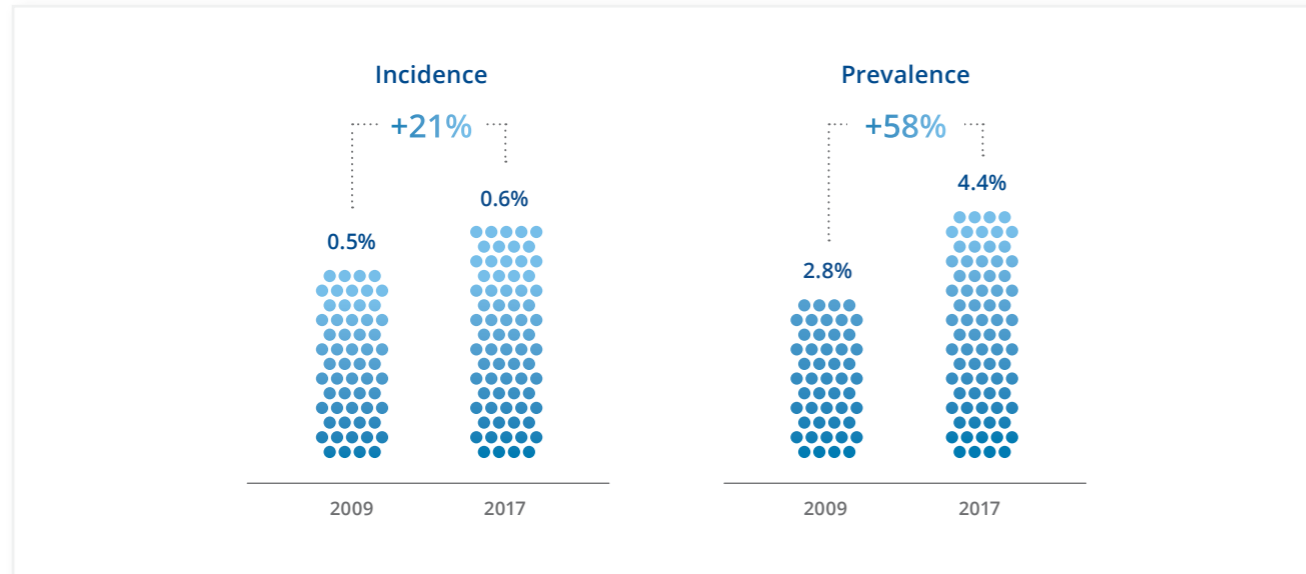
The prevalence of these chronic conditions increase with age. A rapid increase is seen from age 30. The average age of the members that were registered with essential hypertension in 2017 was 61.0 years old, younger than hypercholesterolaemia and ischaemic heart disease.

Complexity of chronic condition



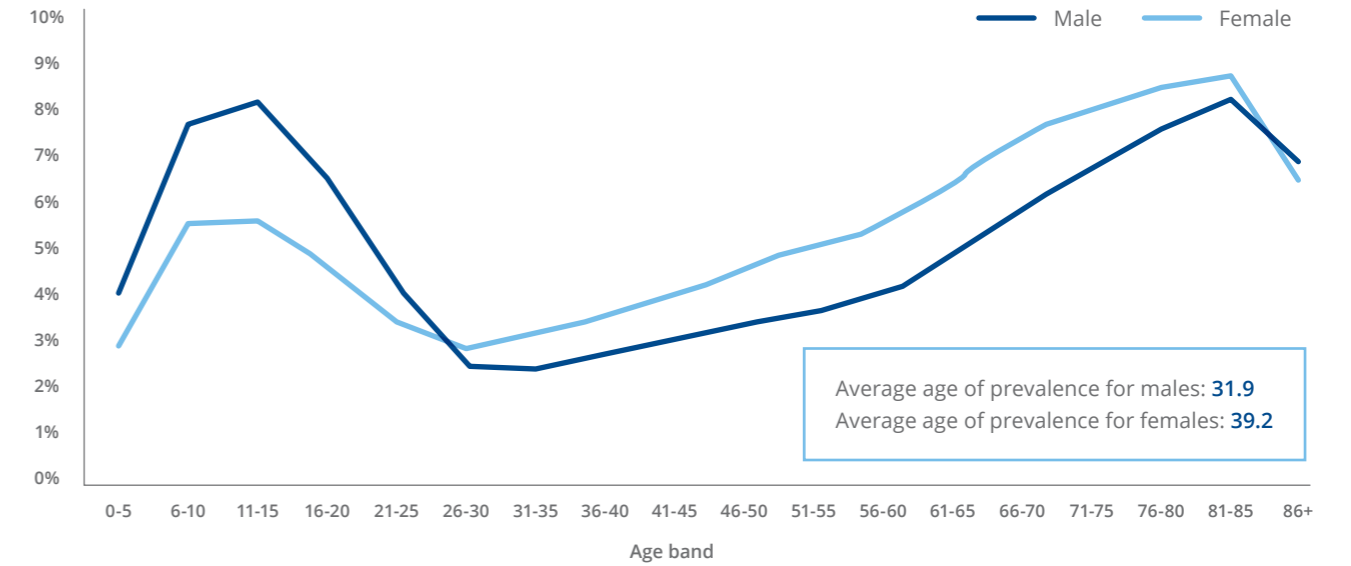
14% of all members that are registered for CVD have complex chronic conditions.

Incidence and prevalence of asthma



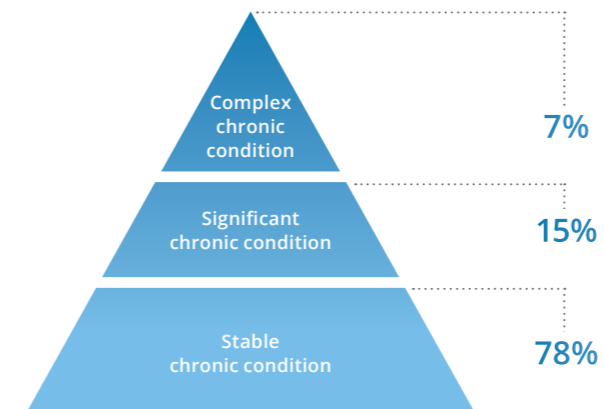
The proportion of members newly diagnosed with asthma each year has increased by 21% since 2009. The proportion of members registered for asthma has increased by 58% since 2009. In 2017 4.4% of members on the Scheme were registered for asthma.

Prevalence by age band and gender



The prevalence of asthma in children between the ages of 6 and 15 is at a similar level to adults older than 71 years of age. Before age 26, a higher proportion of males are registered for asthma than females and thereafter females have a higher proportion of registered asthma members until they reach 86 years of age. The average age of registered asthma members differs quite a bit between males and females, with males having an average age of 31.9 and females having an average age of 39.2.

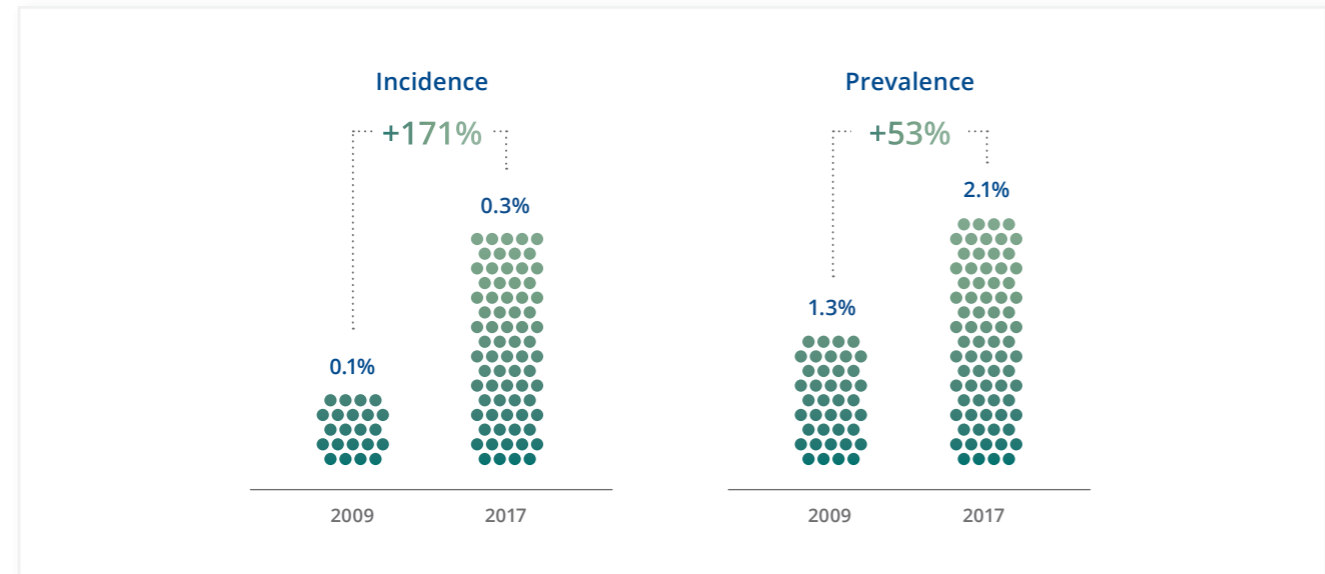
Complexity of chronic condition



Only 7% of all members that are registered for asthma have multiple unstable conditions and 78% of members have stable conditions.

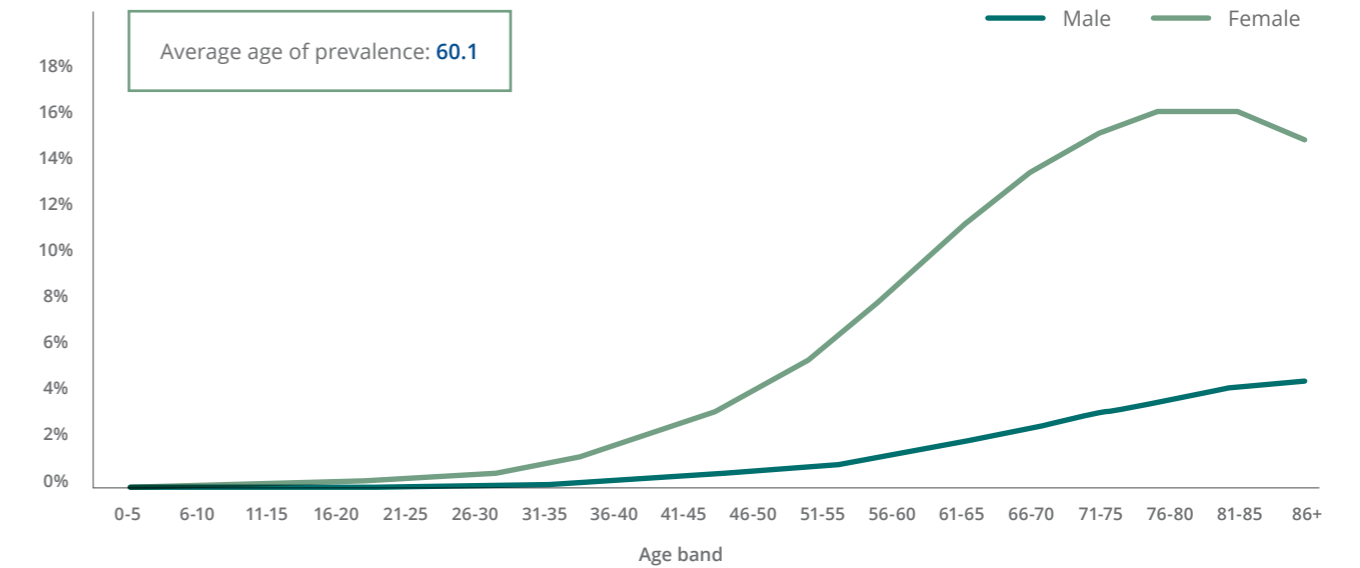
Incidence and prevalence of hypothyroidism

Hypothyroidism is a condition which affects the thyroid gland and results in Thyroid Hormone not being produced in sufficient quantities. If hypothyroidism goes undiagnosed or untreated, sufferers can experience weight problems, infertility and high cholesterol levels amongst others.



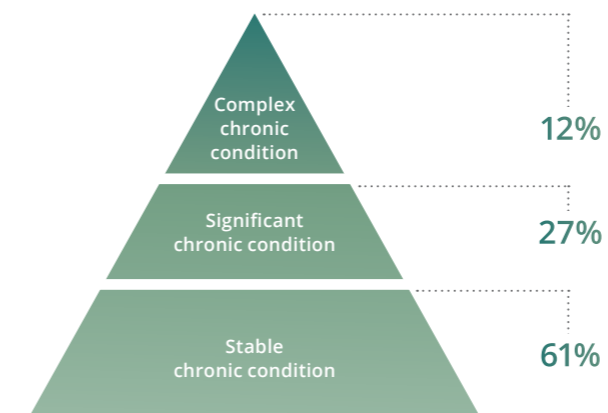
The proportion of new diagnoses of hypothyroidism per year has increased by 171% since 2009. The proportion of members that are registered for hypothyroidism increased by 53% between 2009 and 2017.

Prevalence by age band and gender



The proportion of females registered for hypothyroidism is significantly higher than the proportion of males registered for hypothyroidism. The prevalence for females starts to become material at age 16 and increases with age. The average age of members registered with hypothyroidism is 60.1.

Complexity of chronic condition



12% of all members that are registered for hypothyroidism have multiple unstable conditions and 61% of members have stable conditions.

IN SUMMARY

In 2017, 62 428 Discovery Health Medical Scheme (DHMS) members were newly diagnosed with a chronic condition and 647 252 DHMS members were registered for a chronic condition and received treatment through the chronic illness benefit. This equates to 2.3% of members having new chronic illness diagnoses, and 23.4% of members registered for a chronic condition.

The incidence of chronic illness has remained relatively stable since 2009, although the proportion of members that are registered for chronic illness has increased by 41% from 2009 to 2017.

A higher prevalence of chronic conditions is seen in older people, with the highest in the 81 – 85 year old age band. Males experience a slightly higher proportion of chronic conditions compared to females up until around age 21. Thereafter, up until age 46, females generally experience a slightly higher proportion of chronic conditions.

Within DHMS, essential hypertension had the highest incidence for both males and females in 2017, followed by hypercholesterolemia. Type 2 Diabetes had the third highest incidence for males and asthma the third highest incidence for females.

The total cost paid by the Scheme for chronic conditions has increased by 120% from 2009 to 2017, with a total of R3.0 billion in 2017. The increase is driven by a combination of factors including an increase in prevalence for chronic illness as well as an increase in cost of treatment for chronic conditions.



