

The mental illness pandemic and its impact on lifestyle: a deep dive into the effect on diabetics

Discovery Health: Risk Intelligence

May 2024



Agenda

1

Background

Insight into the South African medical scheme environment and the increasing chronic disease burden & aging of Discovery Health Medical Scheme lives. Highlighting key chronic conditions and their overlaps.

2

Mental illness impacts

Highlighting the rise in mental illness prevalence and incidence, illustrating cohorts with higher prevalence of mental illness and the cost impact of mental illness.

3

Case study: Diabetics with mental illness

Impact of mental illness on existing diabetic lives and the causative impact of mental illness on their healthcare outcomes.

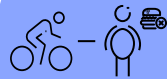


Background Discovery Health in the context of the South African private healthcare market

Medical schemes operate on the basis of social solidarity



Open enrollment, guaranteed acceptance, limited underwriting
Everyone must be accepted with only limited underwriting in specific circumstances.



Community rating
Everyone pays the same rate per option regardless of age, health status or any other factor

25%

Strict solvency Regulations
ensure financial resilience



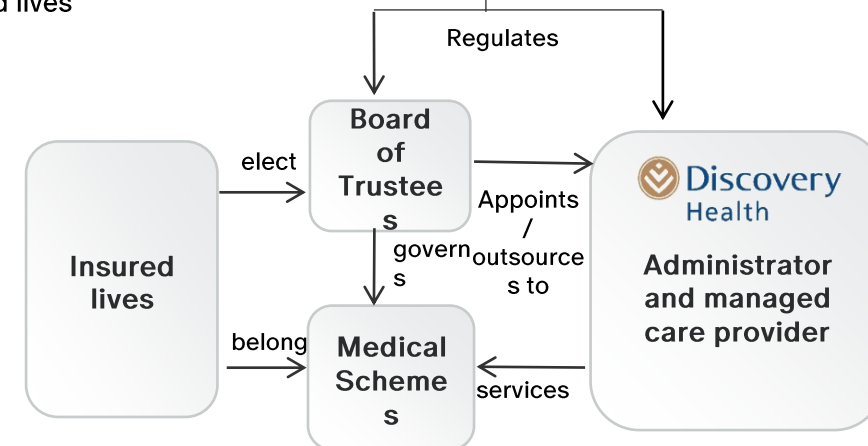
Over 300 Prescribed Minimum Benefits must be covered in full which means comprehensive cover is guaranteed

Discovery Health provides administration and managed care services to medical schemes

All contributions are pooled to fund insured lives' claims, and any surplus funds remain in reserves for the security and benefit of insured lives



Discovery Health administers 20 medical schemes (1 open and 19 restricted)

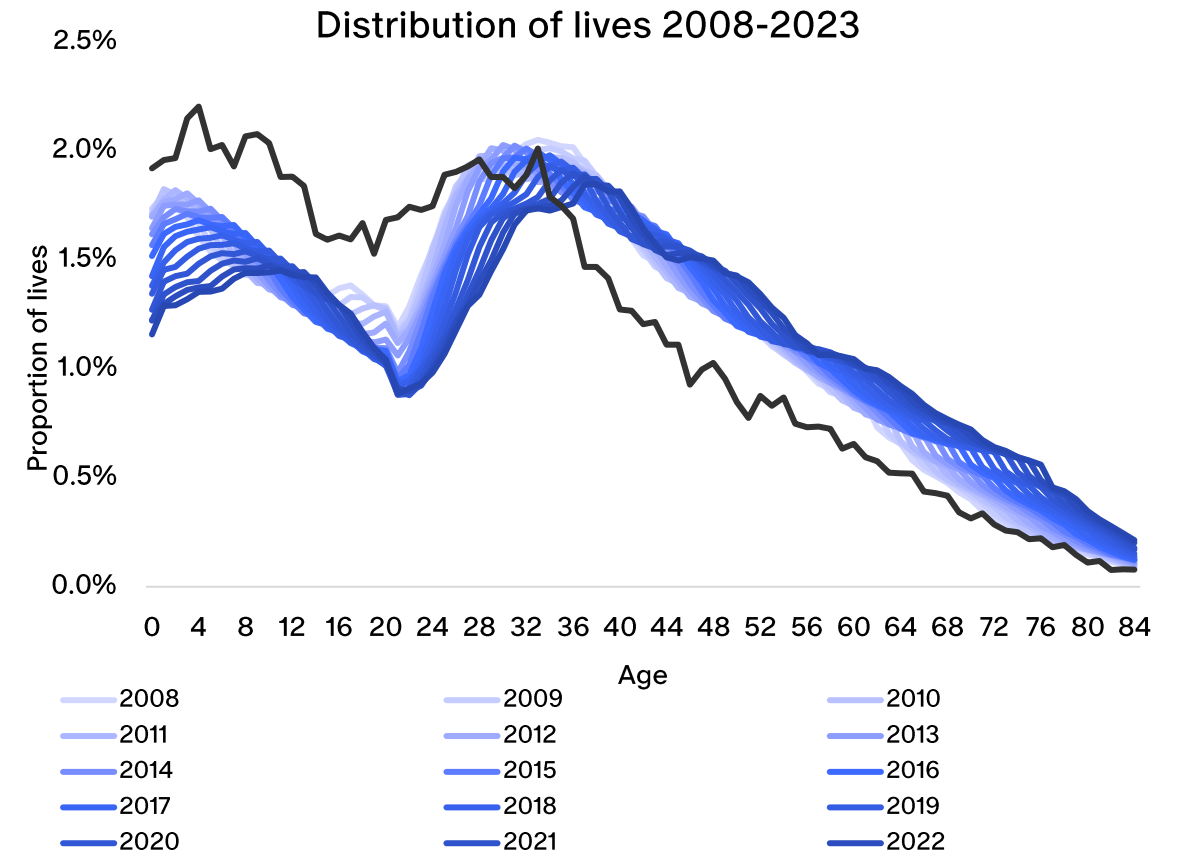


57.8% market share
> 2.8mil lives

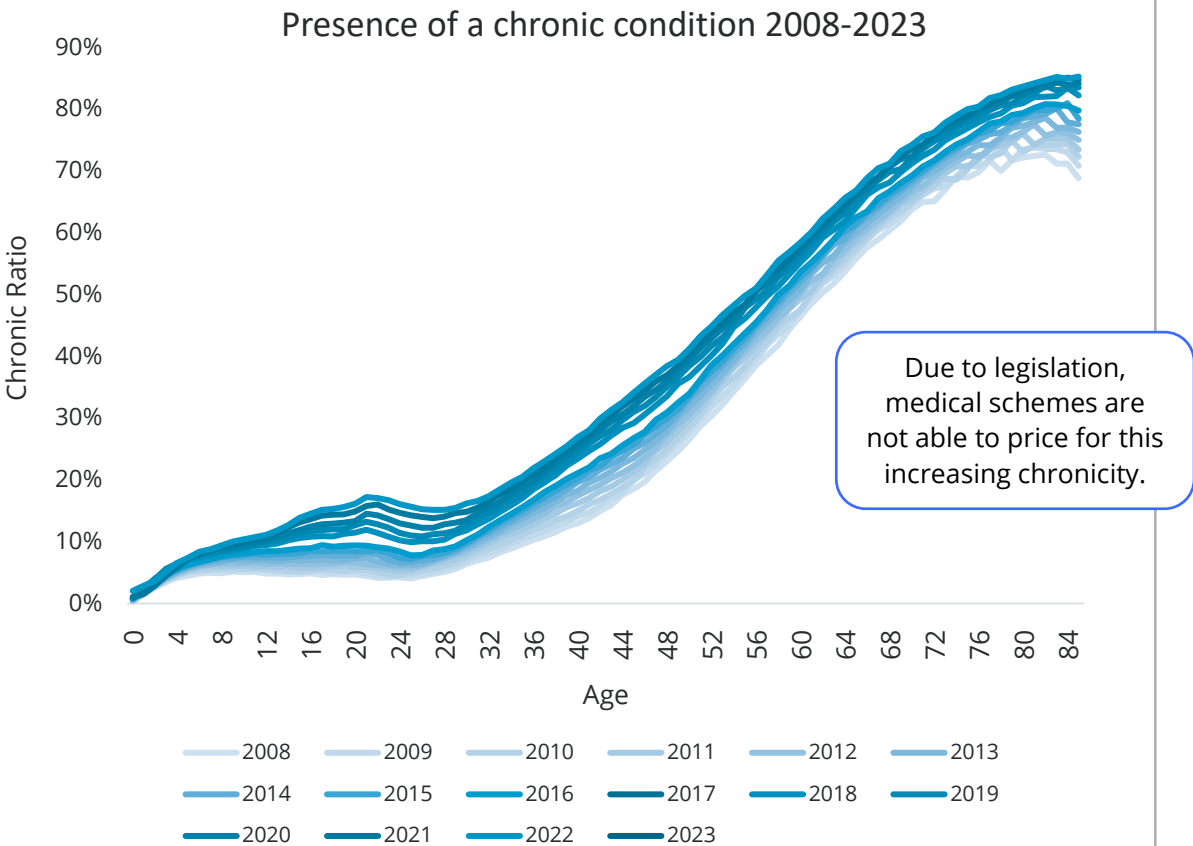


Background | Demographic profile indicates continued anti-selection and impact of increasing chronic disease burden

Sustained increased aging of insured lives observed over time



Chronic registration distribution increasing across age groups, shifts in younger ages

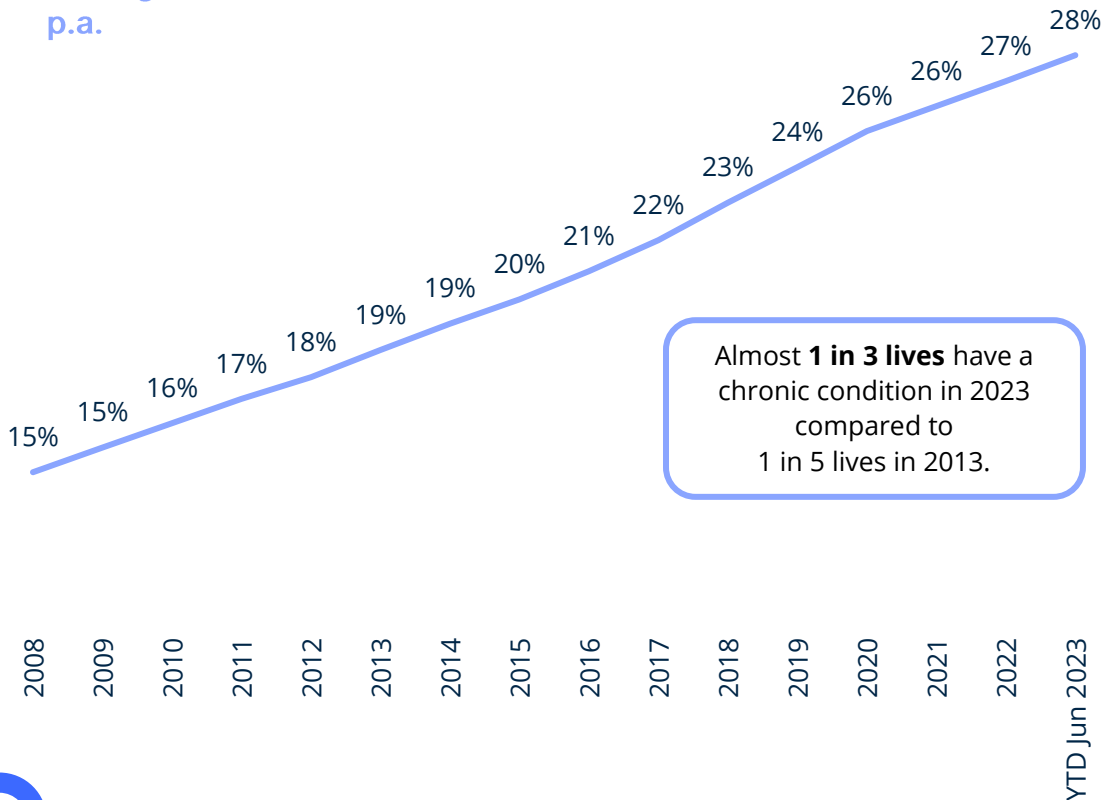


Background | Growing chronic burden of disease due to increasing number of chronic lives and increasing multi-morbidity of lives

Increasing chronic prevalence

Chronic prevalence

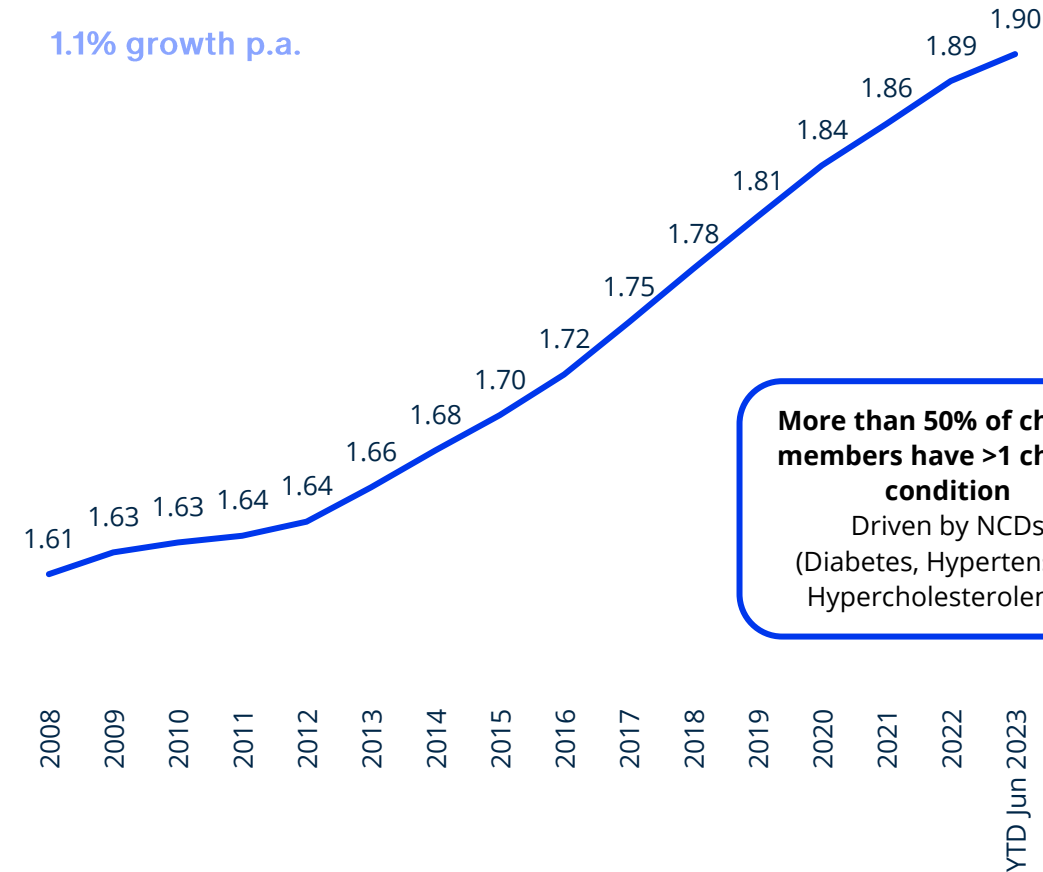
4.4% growth
p.a.



Increasing severity of chronic lives

Average no. of chronic conditions

1.1% growth p.a.



Background The four horsemen (2023): Quadruple burden of disease

Mental Illness

• 381,974 lives

Lives claiming or registered for a Psychosocial condition.

Diabetes

• 144,927 lives

Lives registered for Diabetes Mellitus Type 1 or Diabetes Mellitus Type 2.

Oncology

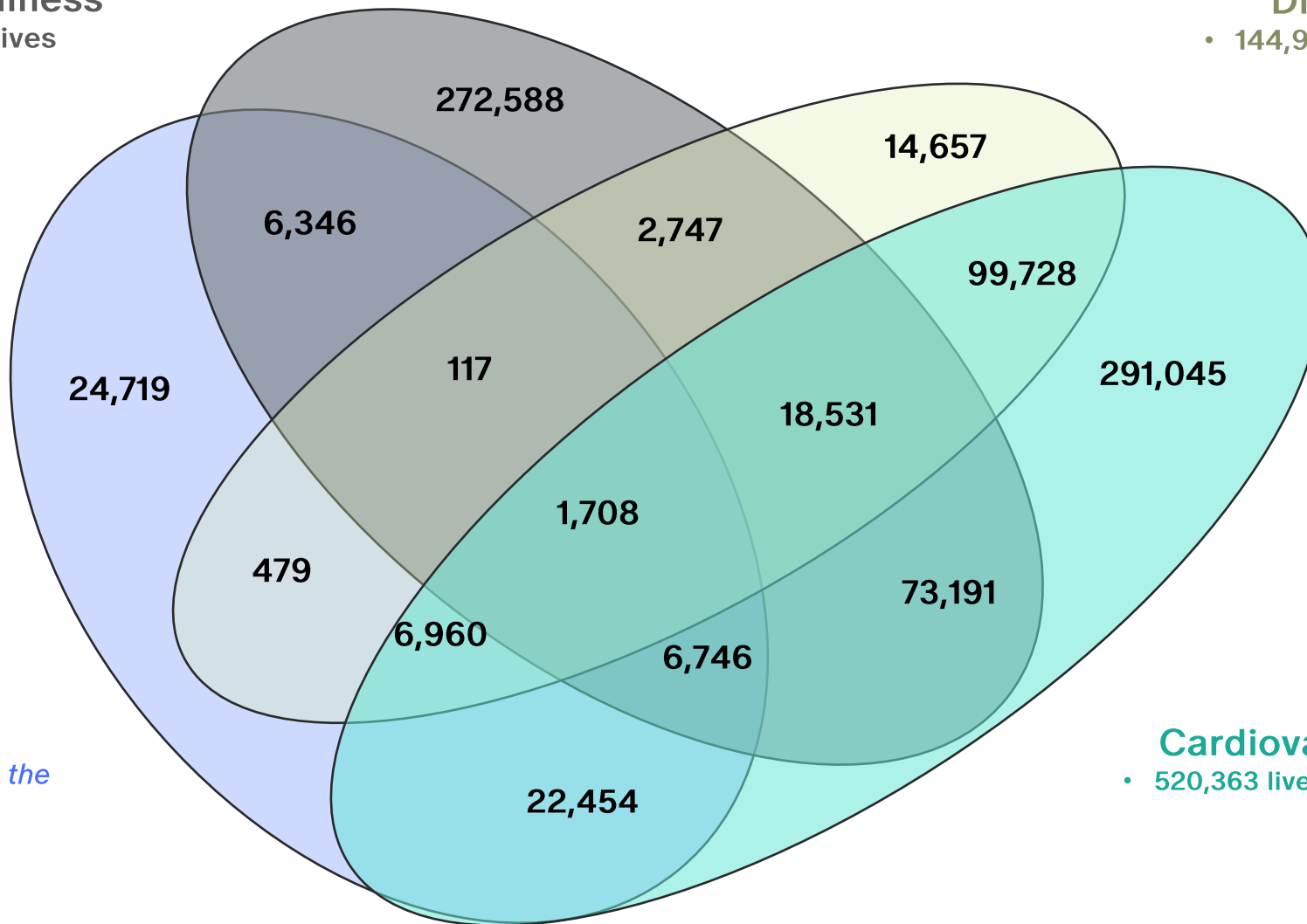
• 69,529 lives

Lives claiming from the Oncology Benefit.

Cardiovascular

• 520,363 lives

Lives registered for Hypertension, Ischemic heart disease or Hypercholesterolemia.



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Discovery Health Medical Scheme lives as at June 2023, costs are for full year 2022

Lives with a mental illness are those who are claiming or registered for any psychosocial episode of care

Background The four horsemen (2023): Quadruple burden of disease

These 922k unique lives account for 75% of total care costs



Number of lives
(multiple of an average life's
cost per month)

Mental Illness

- 381,974 lives
- 2.1x higher costs
- 5% of scheme spend on mental health

Lives claiming or registered for a Psychosocial condition.

Diabetes

- 144,927 lives
- 3.3x higher costs
- 3% of scheme spend on diabetes

Lives registered for Diabetes Mellitus Type 1 or Diabetes Mellitus Type 2.

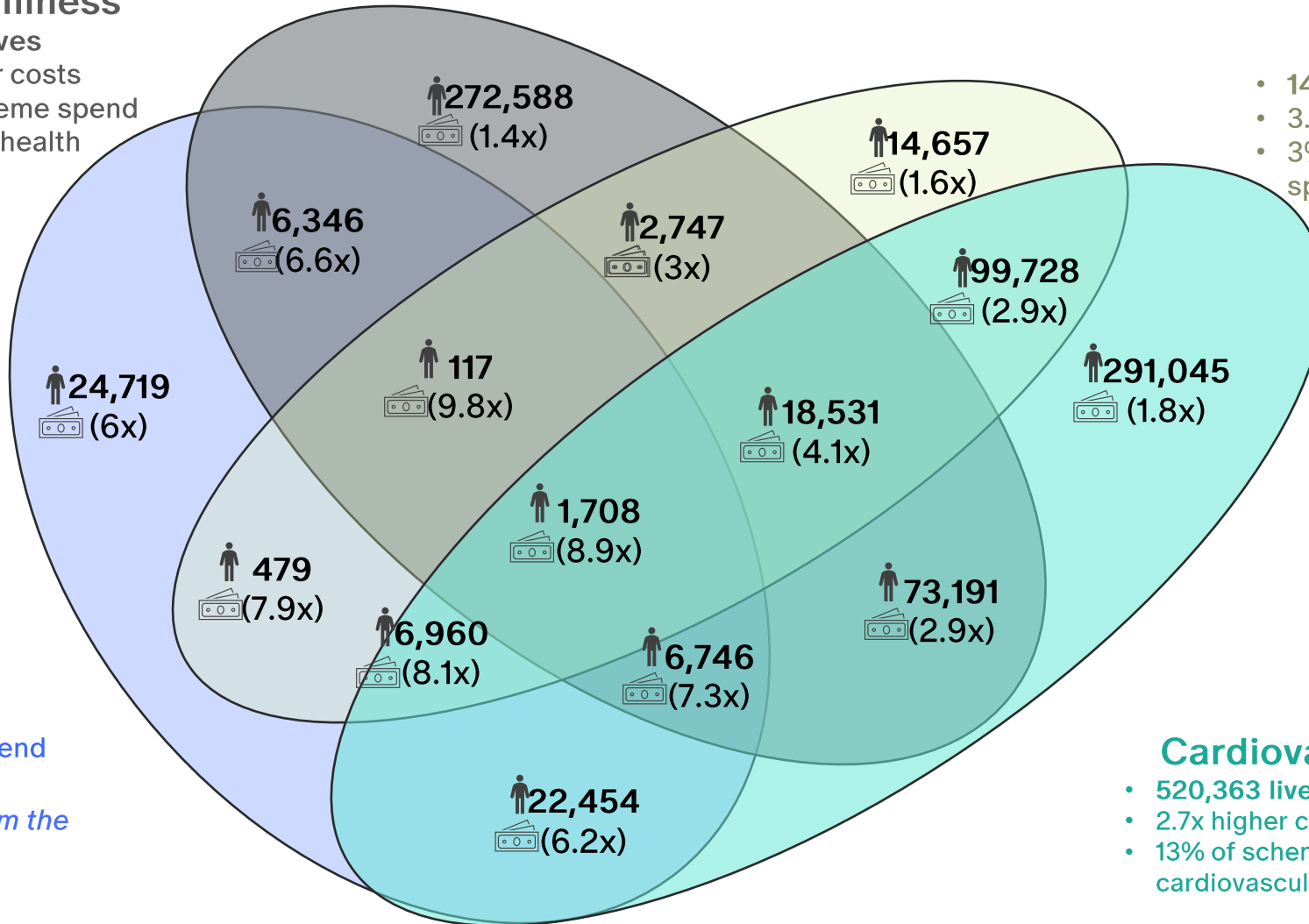
Oncology

- 69,529 lives
 - 6.6x higher costs
 - 11% of scheme spend on tumors
- Lives claiming from the Oncology Benefit.

Cardiovascular

- 520,363 lives
- 2.7x higher costs
- 13% of scheme spend on cardiovascular conditions

Lives registered for Hypertension, Ischemic heart disease or Hypercholesterolemia.

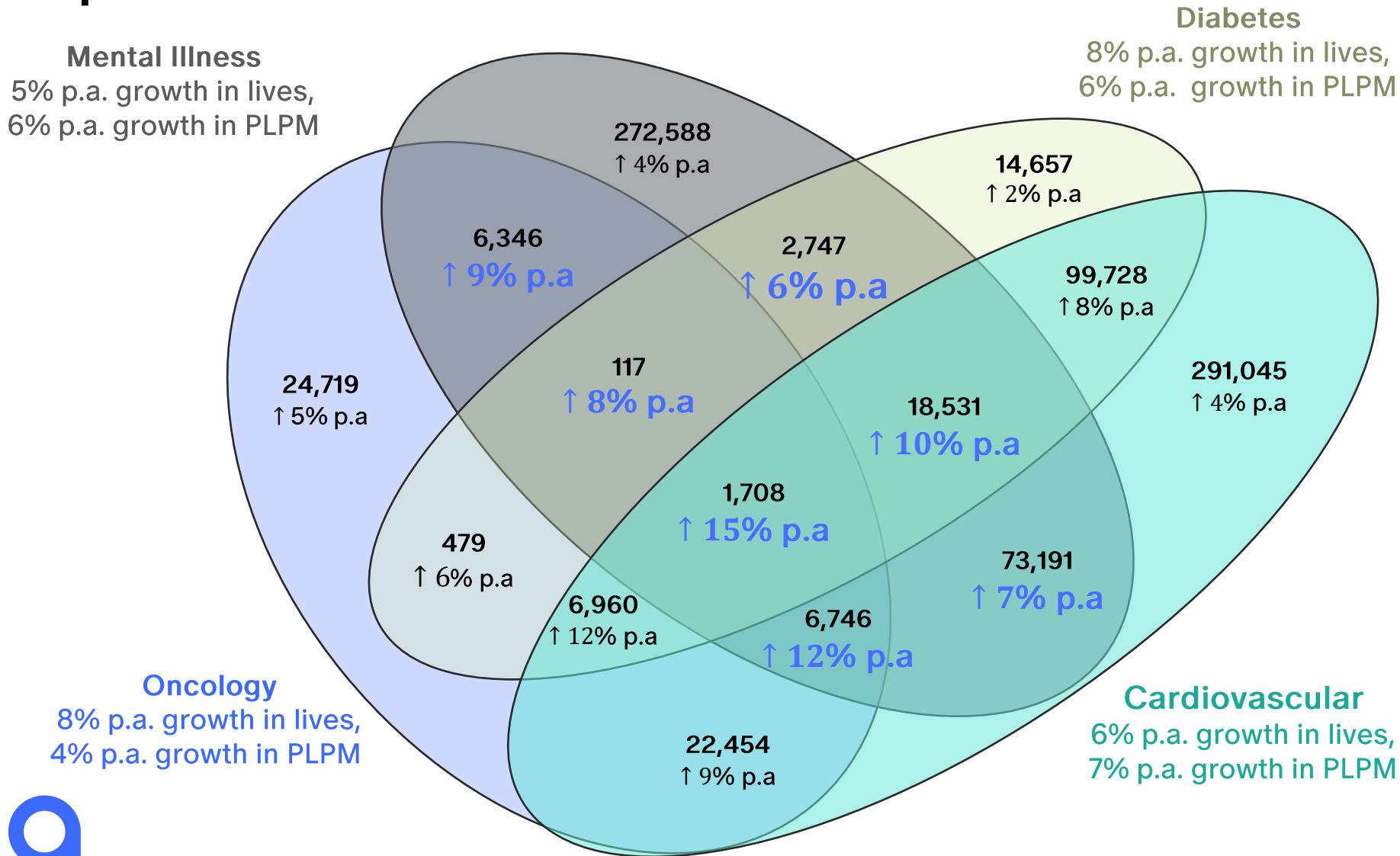



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Discovery Health Medical Scheme lives as at June 2023, costs are for full year 2022

Lives with a mental illness are those who are claiming or registered for any psychosocial episode of care

Background | The four horsemen (2023): The overlap between mental illness and other conditions is growing at 8.9% p.a.



 **Number of lives**
(annual growth rate in
number lives)

**2.2x more lives with
mental illness and
other condition/s
than in 2013**

Growth in lives with
chronic conditions
(2013 – 2023)

1 condition only 4.5%

2+ conditions	9.4%
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Condition	Percentage
Mental illness + other condition	8.9%

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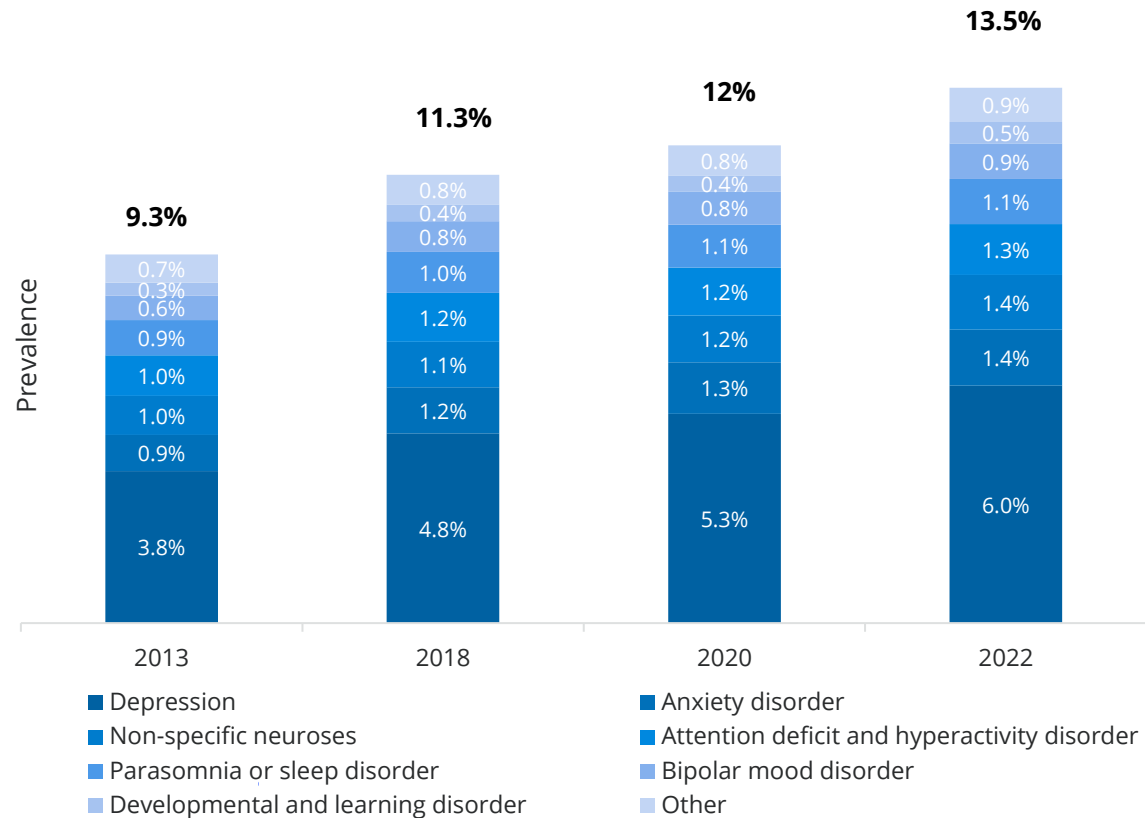
Trends Defining the population with mental illness; 60% of the mental illness population has major depression

Mental illness population

*Lives claiming or registered for a Psychosocial condition.
This covers depression as well as other mental illnesses.*

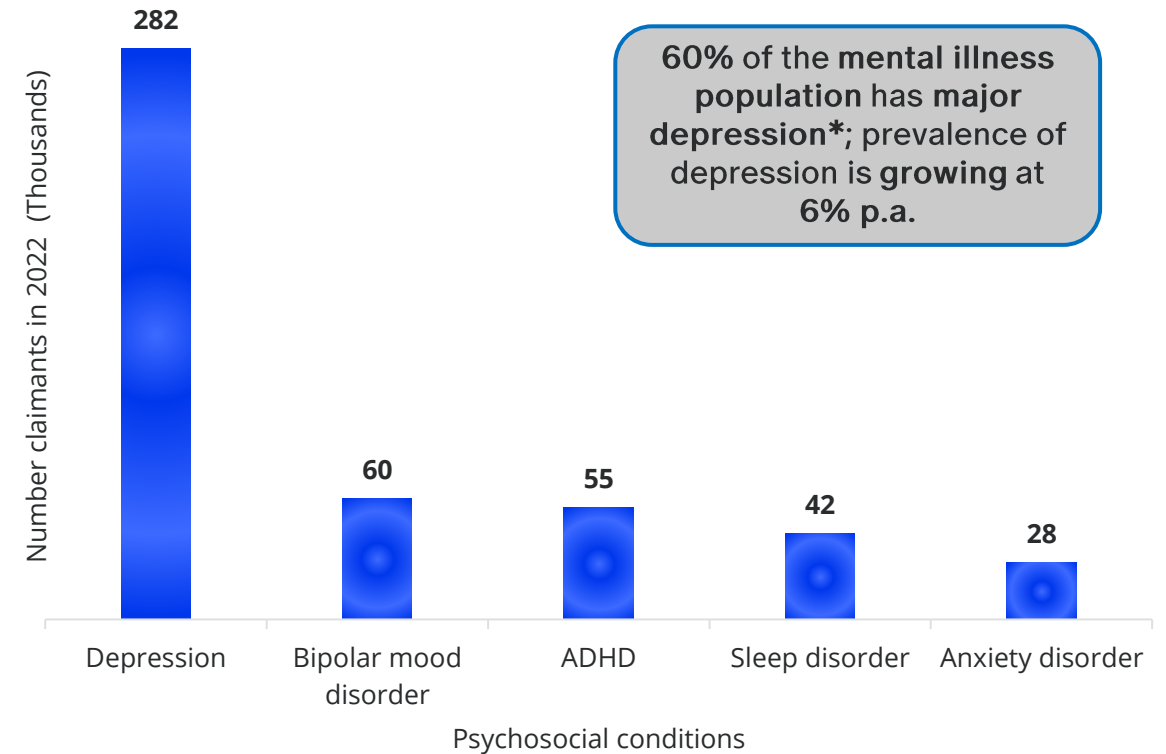
Growing prevalence of mental illness

Prevalence by first mental illness

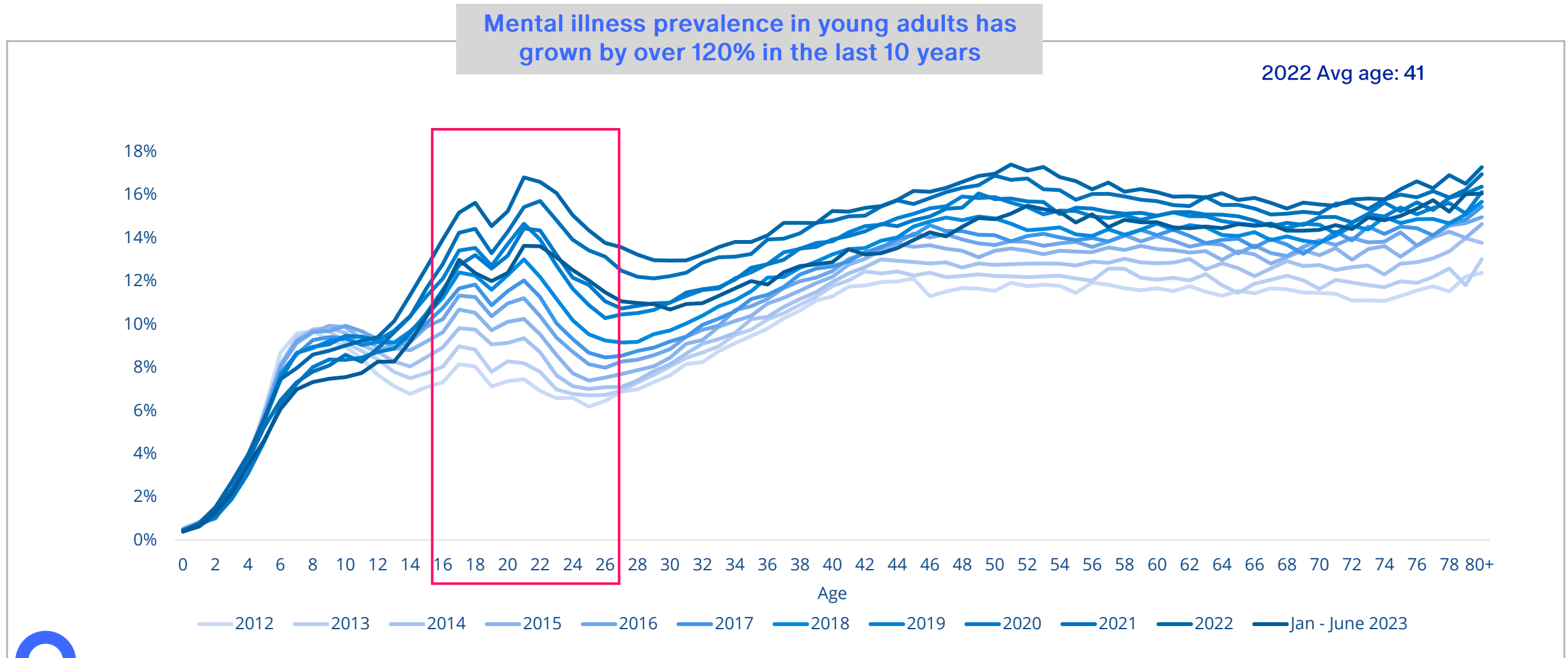


Majority of psychosocial claimants are for depression

Number of mental illness claimants by condition



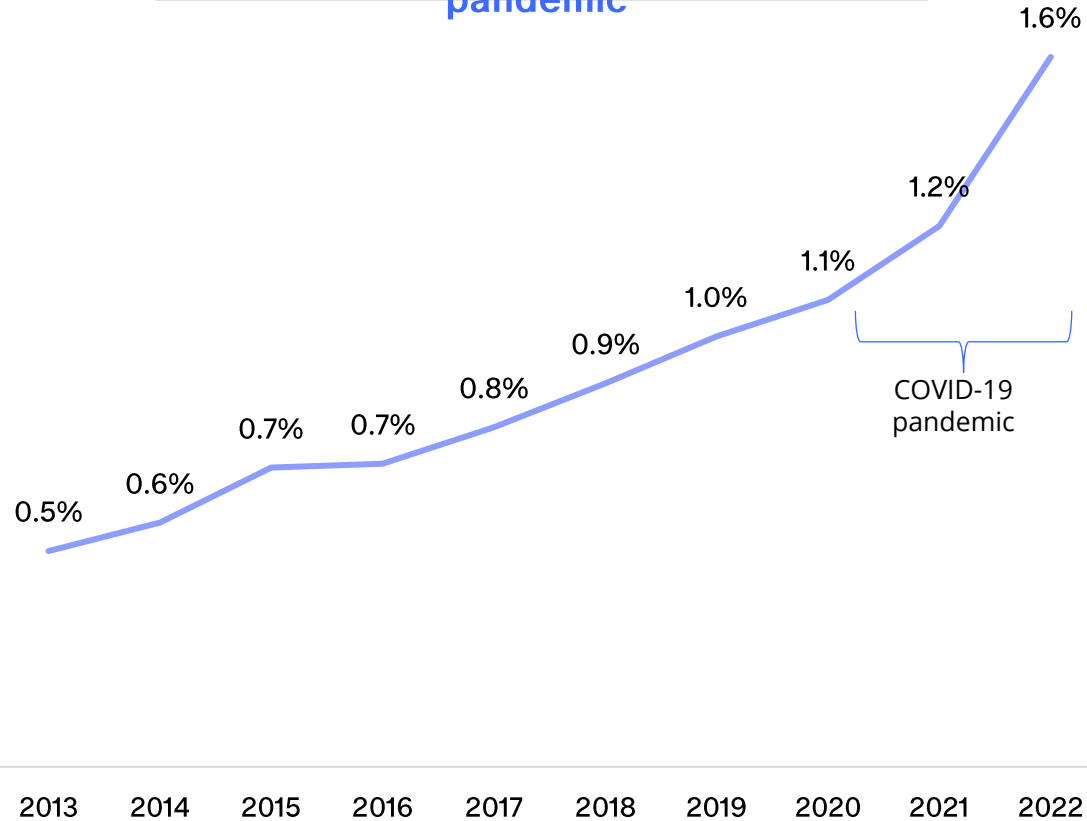
Trends | Increasing mental illness at all ages and the growth in young adult prevalence driven by depression.



Trends

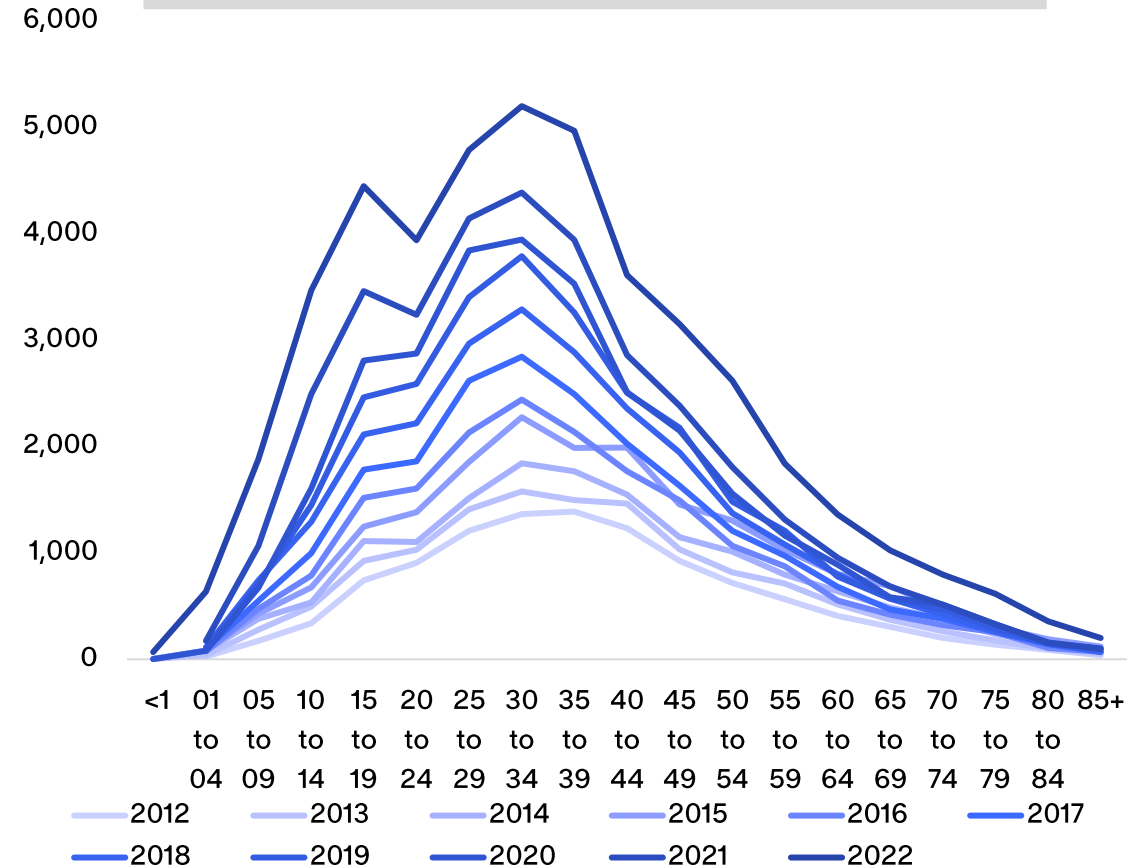
Number of new mental illness registrations increasing over time; more lives are newly registering for a mental illness at younger ages.

Increasing incidence of mental illness with a sharp increase after COVID-19 pandemic



~2% of lives registered for a mental illness for the first time in 2022.

Highest increase of mental illness incidence amongst younger ages



Incidence rates increased the most for teens and young adults

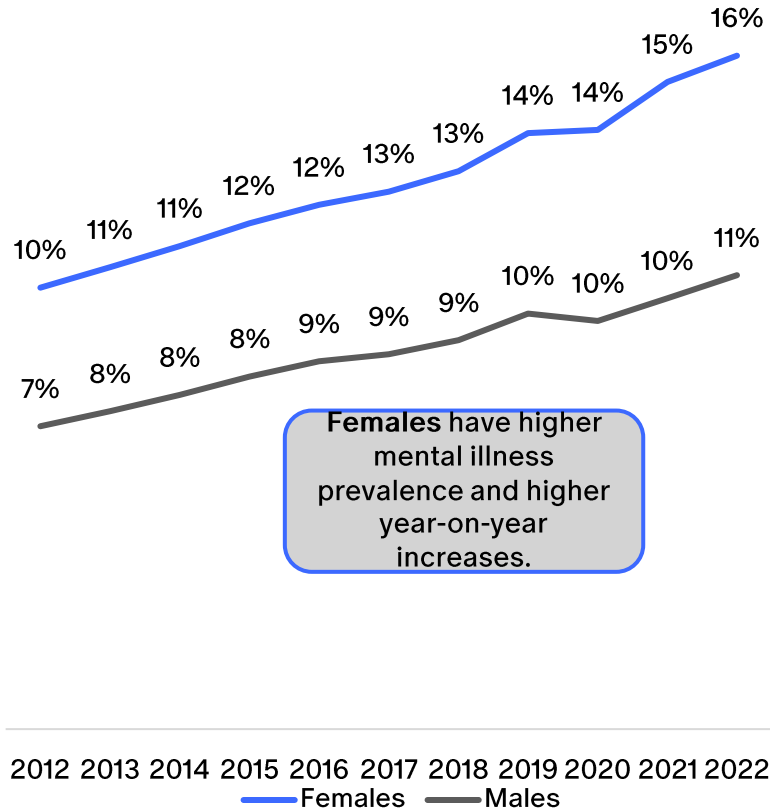


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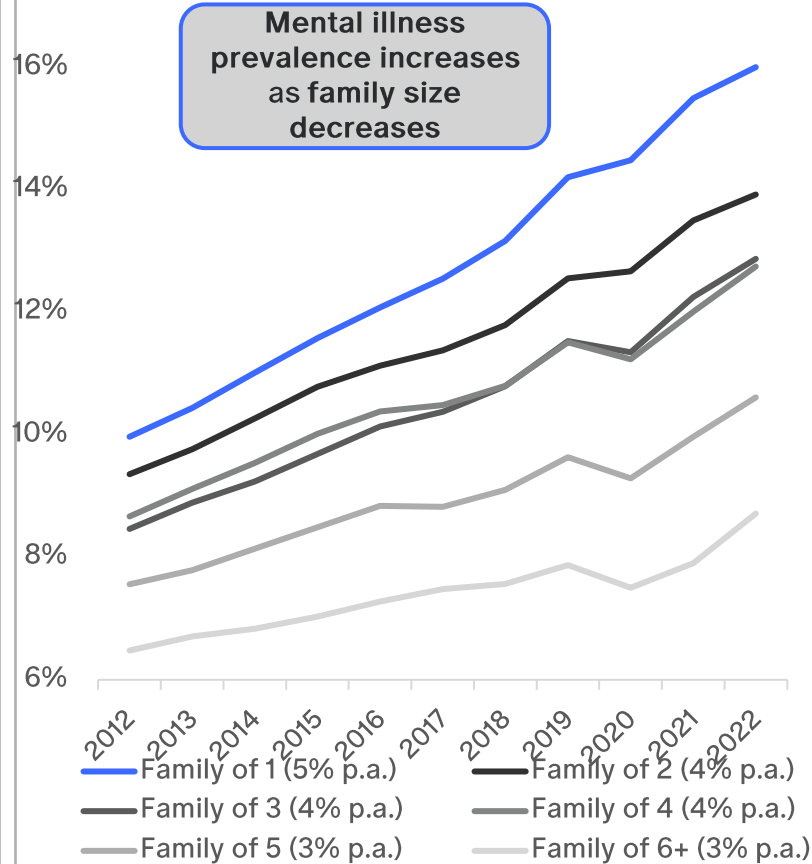
Trends

Mental illness is more prevalent in women and in single lives. Children of parents with existing depression diagnoses have higher depression prevalence.

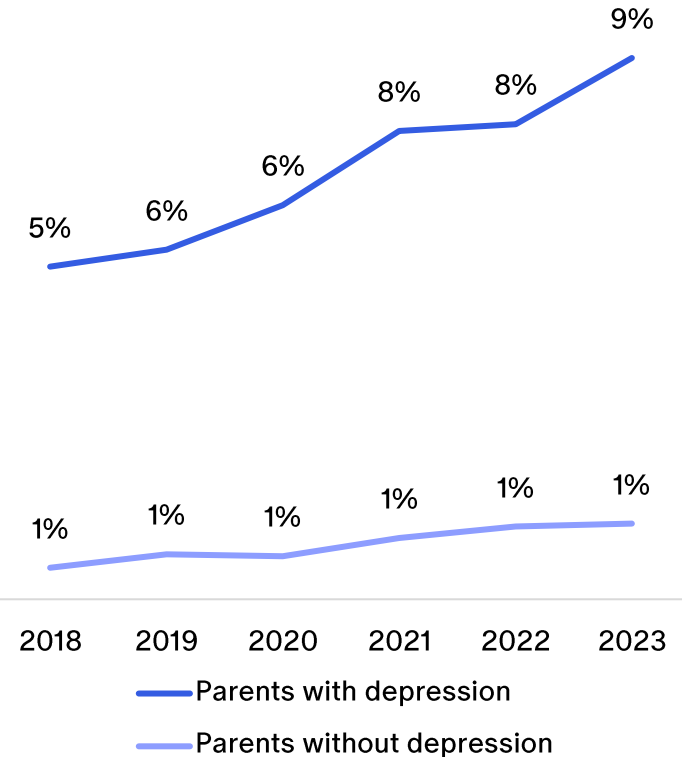
1.5x higher prevalence of mental illness in females



1.3x higher prevalence of mental illness in singles compared to a family of 4



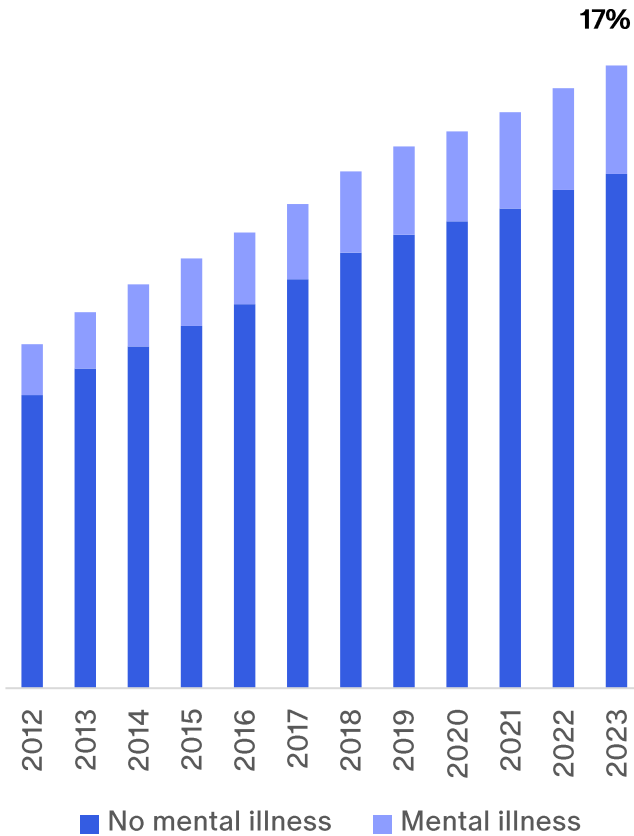
8x higher proportion of children with depression in families where adult lives on the policy also have depression



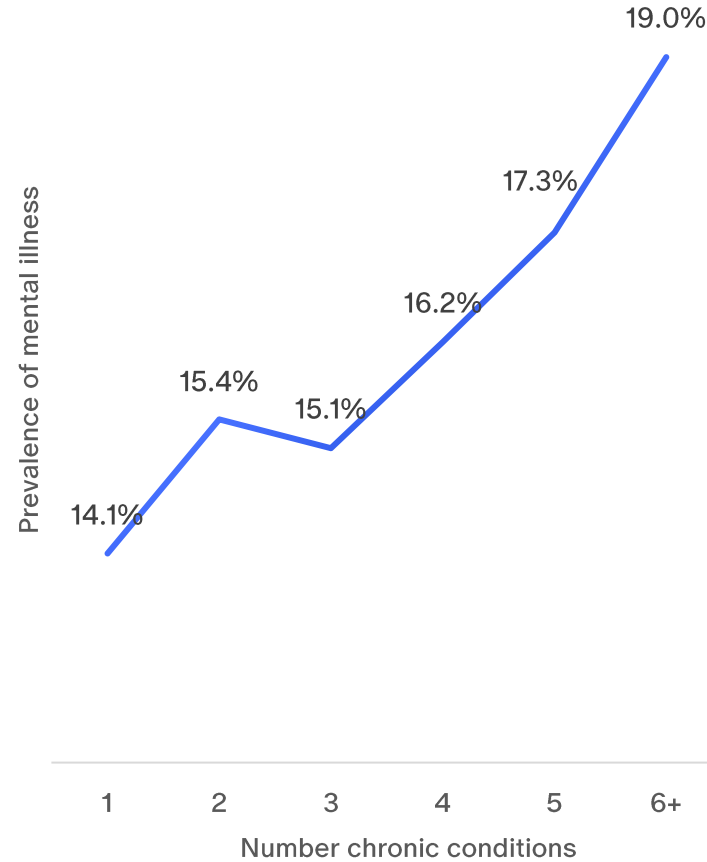
Trends

Chronic lives have a higher prevalence of mental illness compared to non-chronic lives, with increasing prevalence by number of chronic conditions

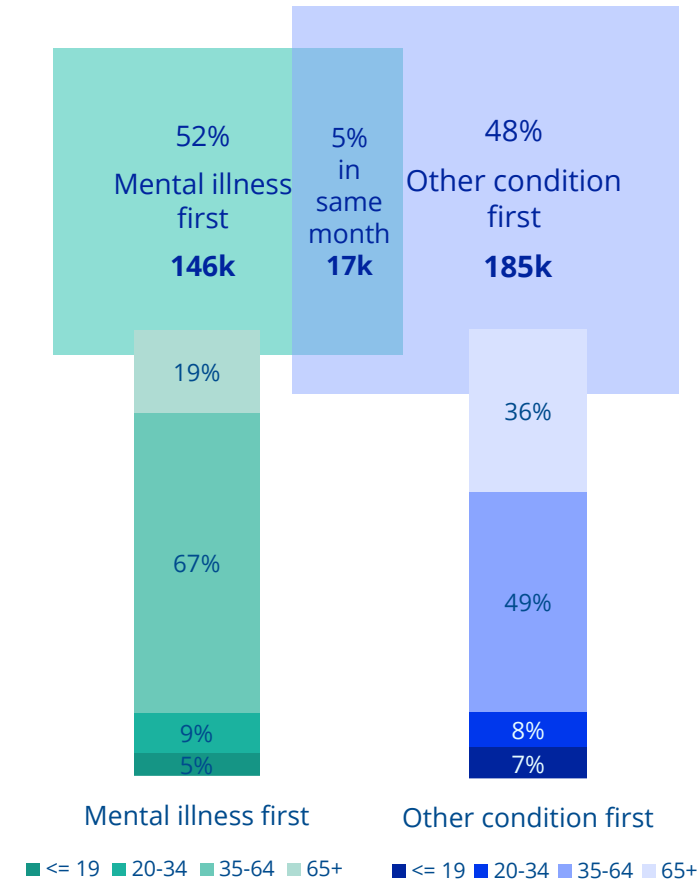
17% of chronic lives have a mental illness vs 12% of non-chronic lives



Higher prevalence of mental illness by number of chronic conditions



Majority develop a mental illness after another chronic condition

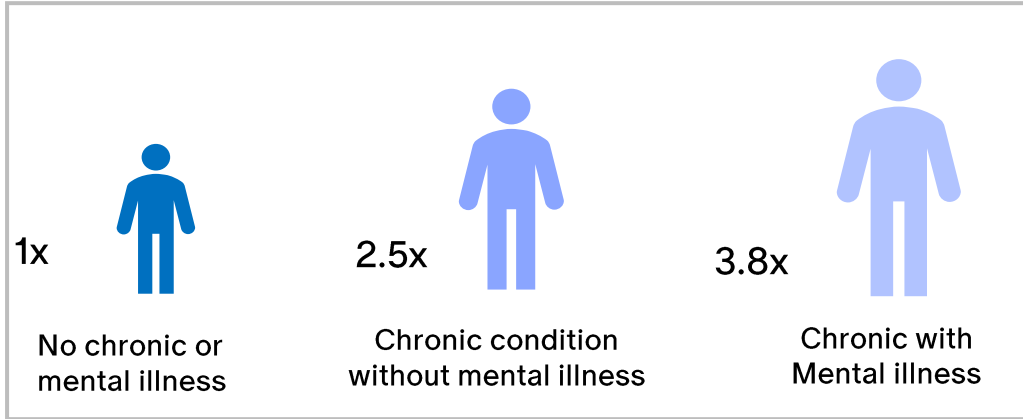


Trends

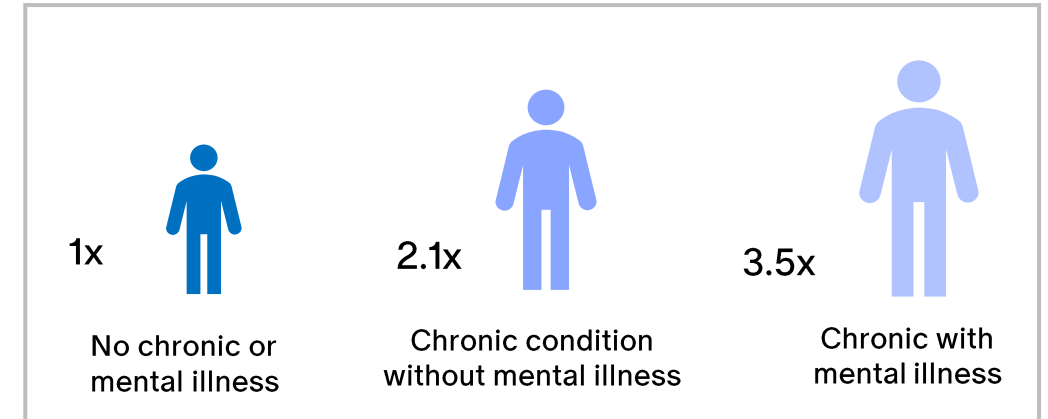
Having a mental illness has a multiplicative impact on healthcare costs for existing chronic lives



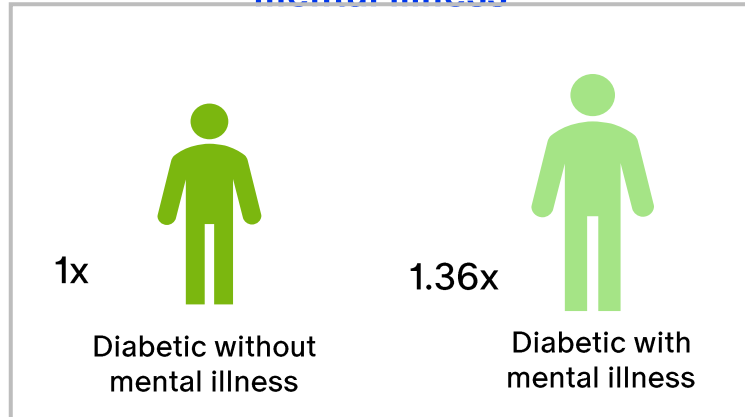
Chronic lives with mental illness have 3.8x higher healthcare costs than a "healthy" life.



Chronic lives with mental illness have 3.5x higher hospitalisation rates than a "healthy" life.

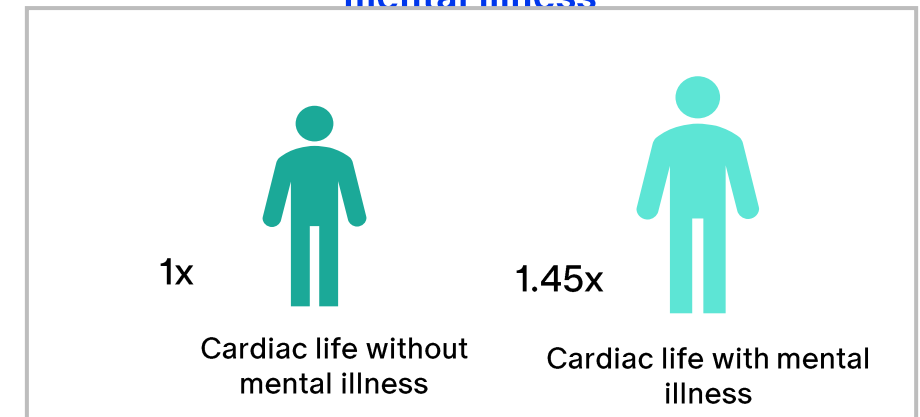


A diabetic with mental illness costs 1.4x more than a diabetic without mental illness



Lives with 1 existing condition and mental illness cost 1.4x more than those without mental illness on average.

Lives with cardiac conditions and mental illness cost 1.5x more than those without mental illness



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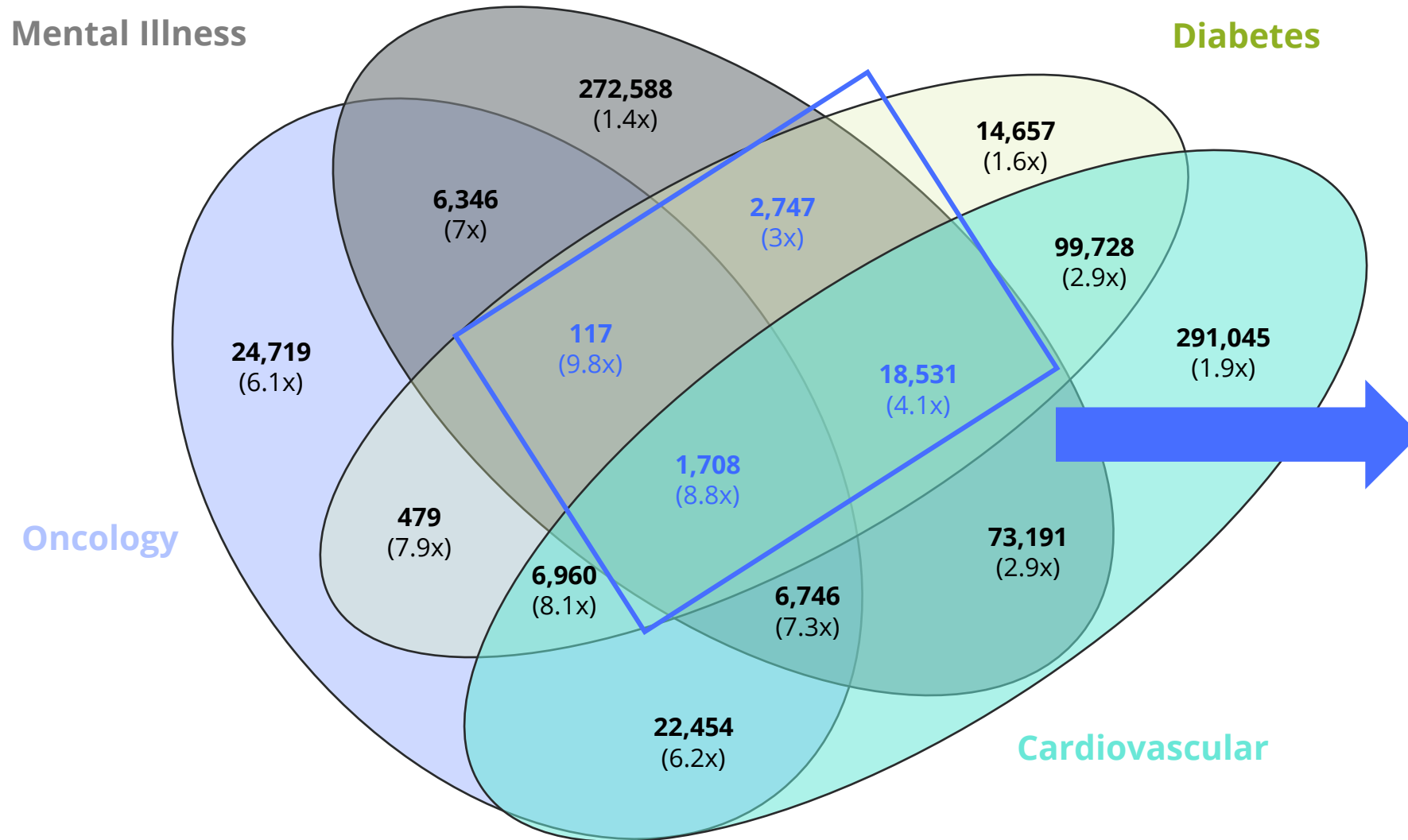
Case study: Diabetics with mental illness

Impact of mental illness on existing diabetic lives and the causative impact of mental illness on their healthcare outcomes.



Case study Having a mental illness has a multiplicative cost impact for existing chronic lives

I



Why Diabetics with Mental Illness?

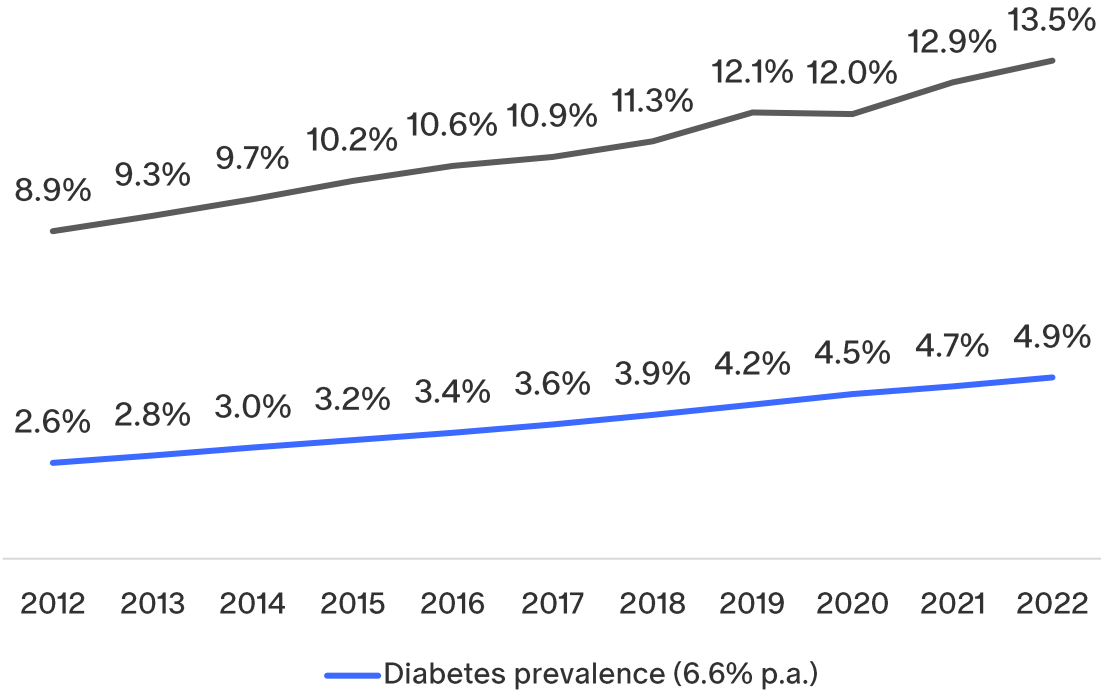
- These 23k lives account for 4% of scheme spend
- They are the segment with the fastest growing costs from 2012 – 2022 (16% p.a.)
- Disease management programmes exist for these conditions



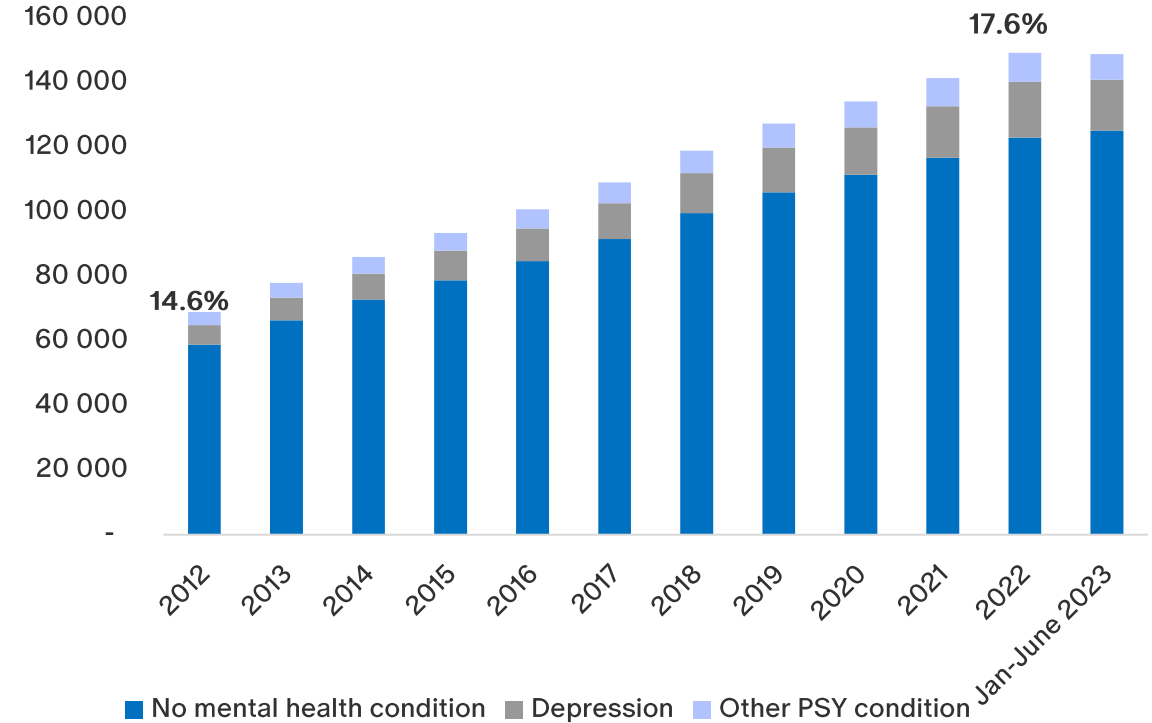
Case study

Prevalence of diabetes and mental illness is increasing over time, and 1 in 6 diabetics have a mental illness.

Growth in prevalence of diabetes and mental illness



Prevalence of mental illness in diabetic lives growing at 10% p.a.



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1 in 6 diabetic lives have a mental illness; these lives account for 20% of diabetic lives spend

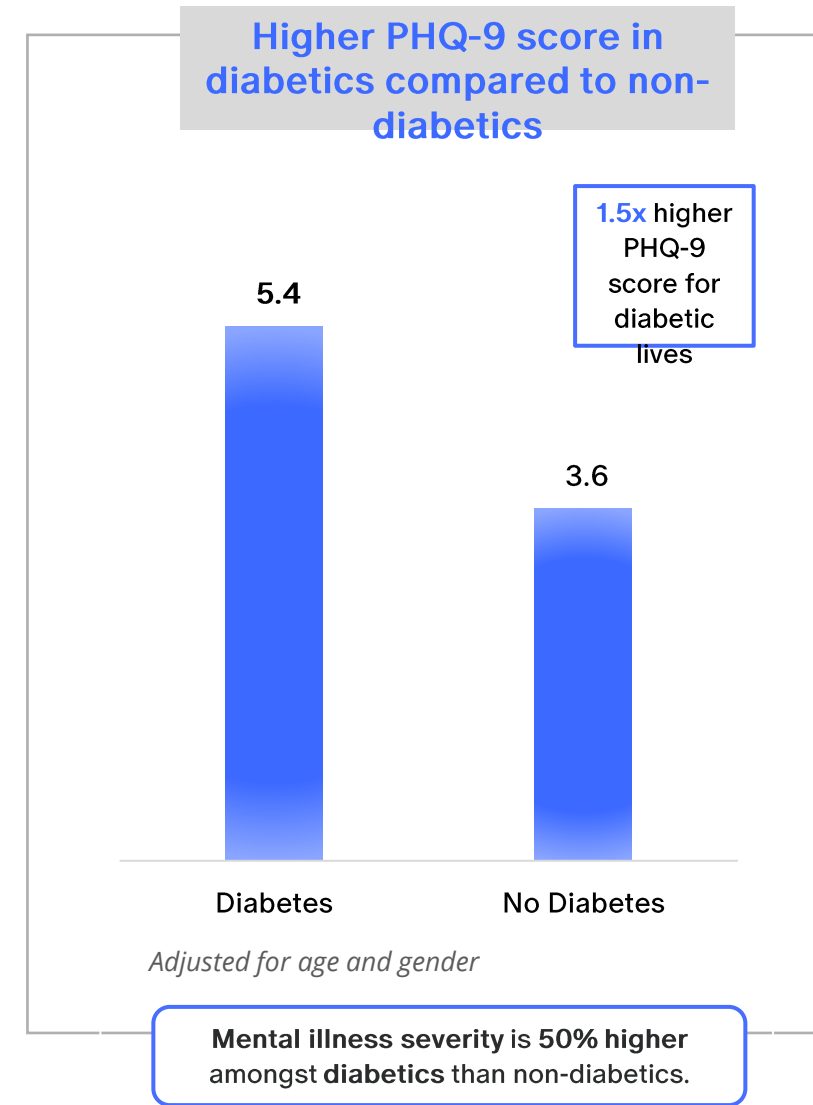
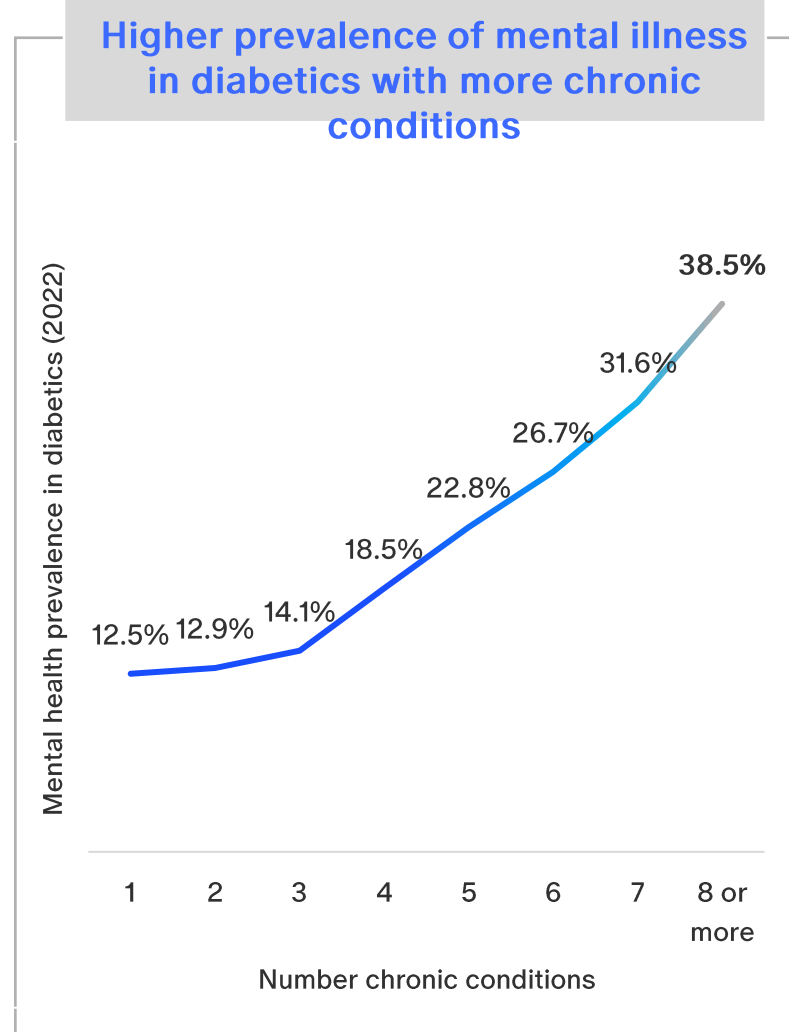
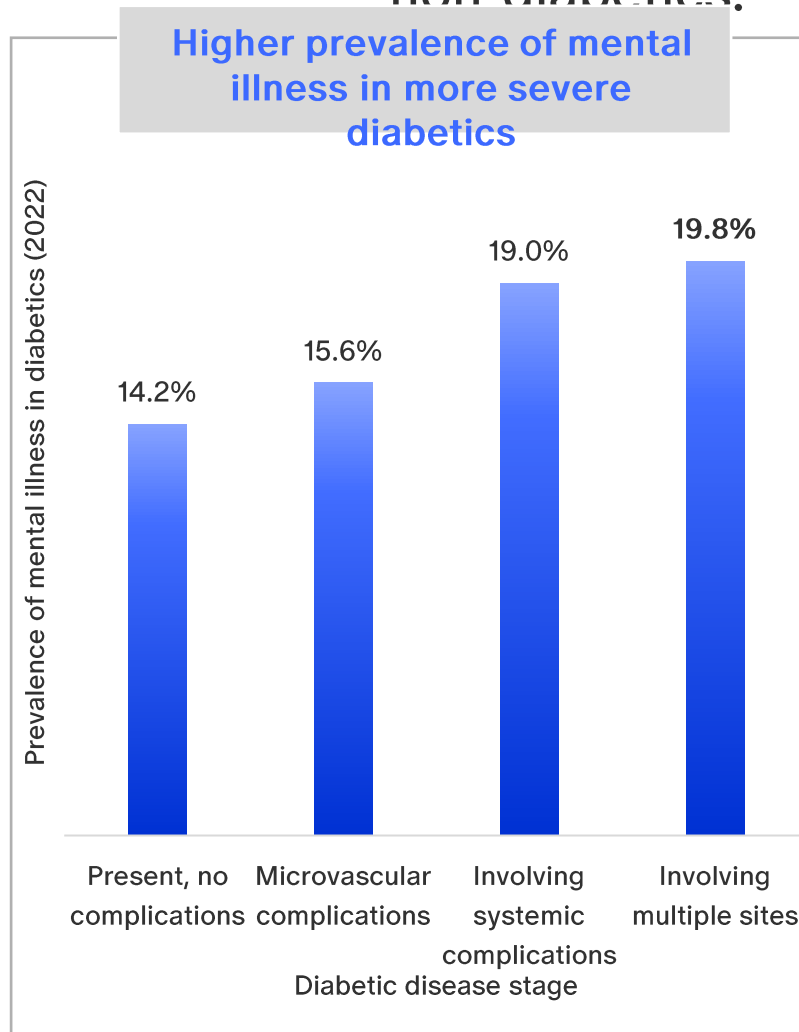
17.6% mental illness prevalence in diabetics; 14.9% mental illness prevalence in non-diabetics

18% of lives at risk of developing diabetes / cardiac conditions* have a mental illness

* Lives claiming for the Disease Prevention Programme (DPP)

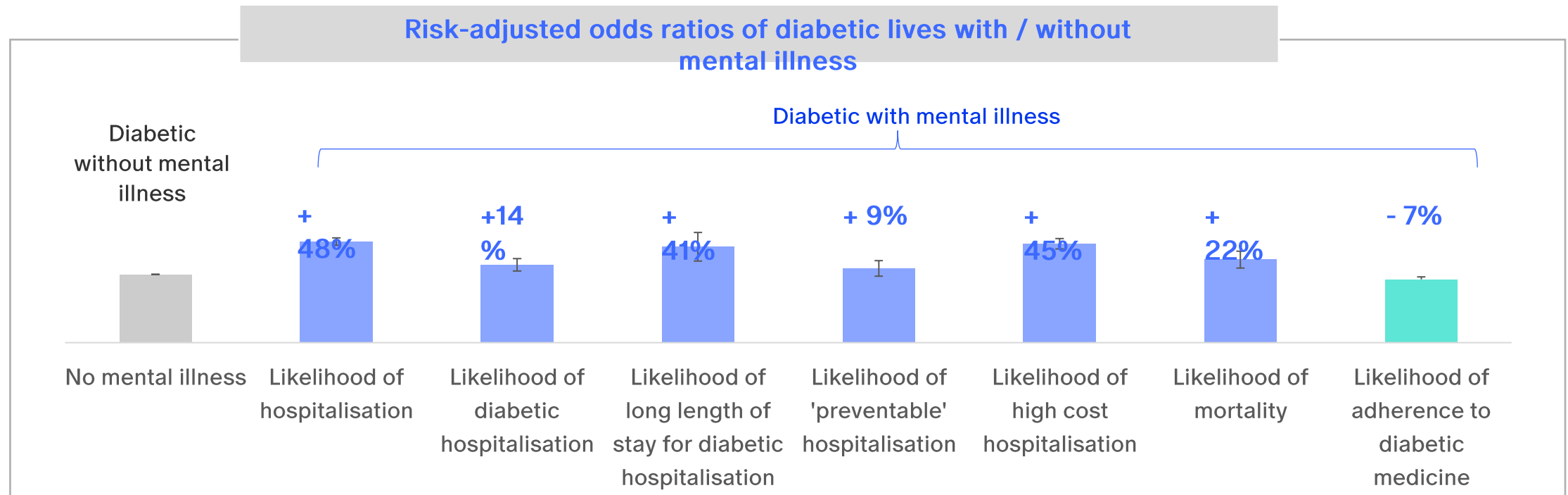
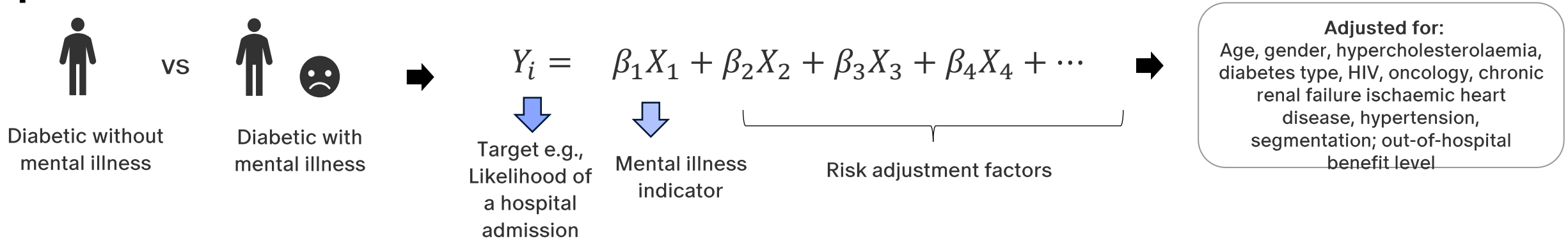
Prevalence: Proportion lives claiming / registered for the condition in the year

Case study | More severe diabetic stages associated with higher mental illness prevalence and mental illness severity (PHQ-9) is higher amongst lives with diabetes vs non-diabetics.



Case study

Lives with both diabetes and a mental illness have higher diabetes-related hospitalisations, higher mortality rates and lower medicine adherence

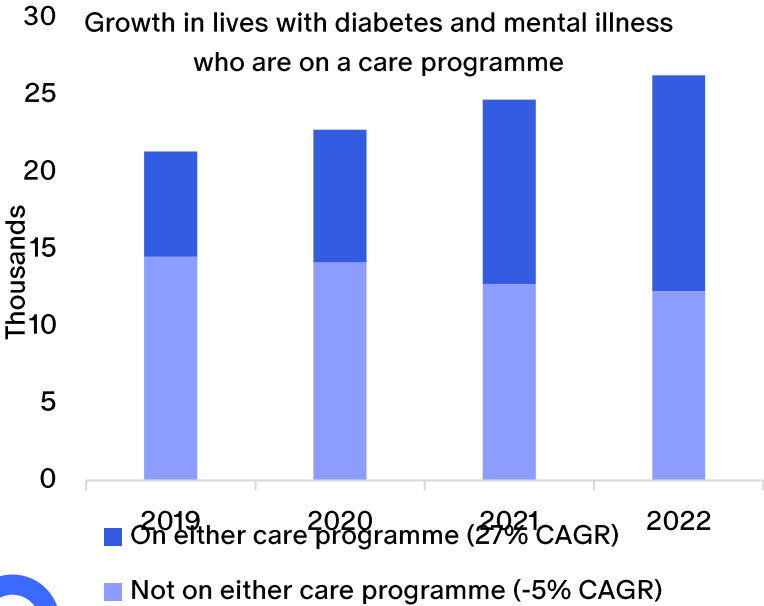


Impact of care programmes|

Lives with both diabetes and a mental illness have better outcomes when enrolled on a disease management programme.

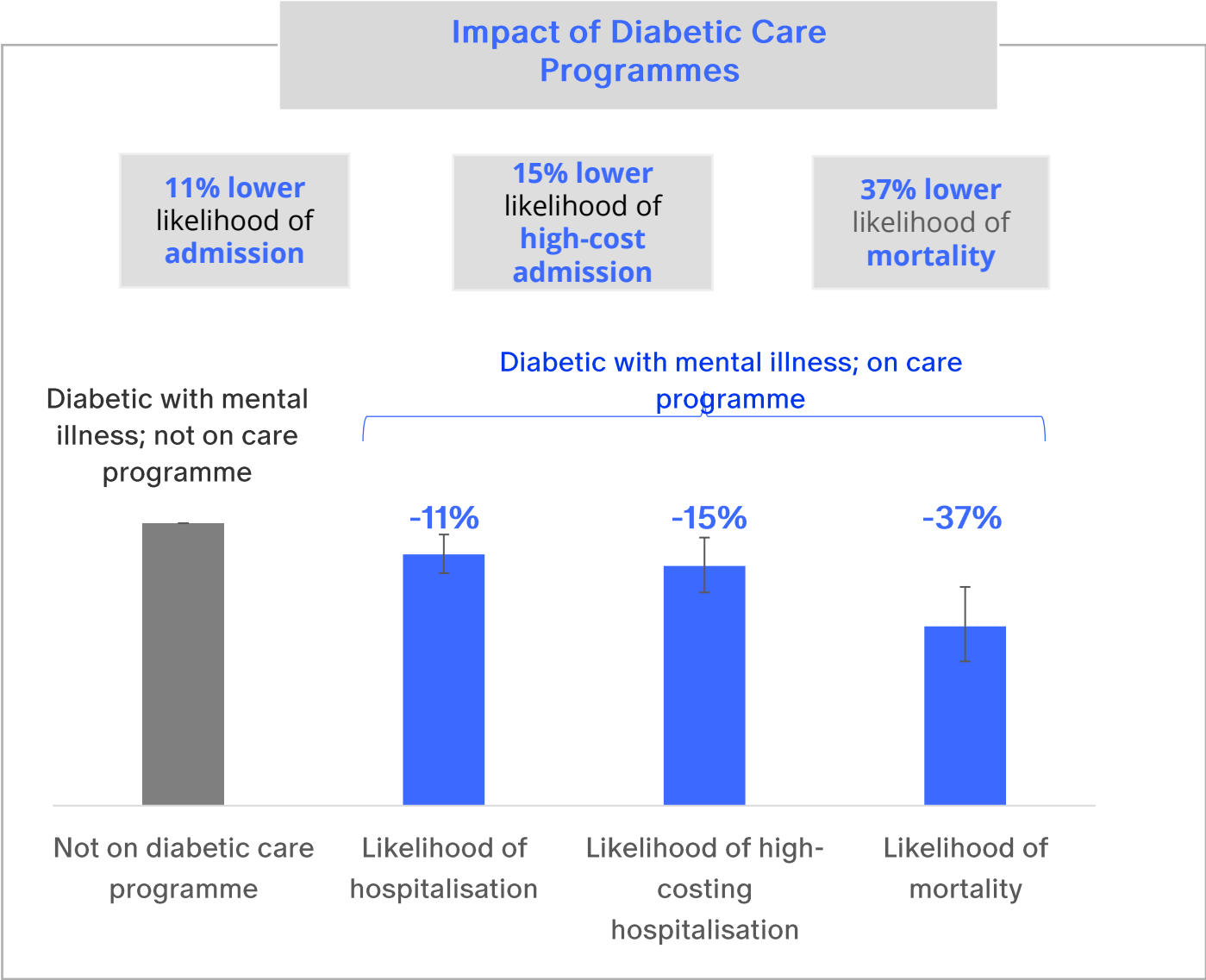
DiabetesCare: Disease management programme aimed to offer members optimal diabetic cover

The Diabetes Care Programme helps diabetic lives actively manage their diabetes diagnosis. The programme gives them various tools to monitor and manage their condition and to ensure high quality coordinated healthcare and the best outcomes.



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Diabetic care programme includes both DiabetesCare and DCC



Impact of Vitality

Lives with both diabetes and a mental illness have better outcomes on Vitality compared to those not on Vitality.

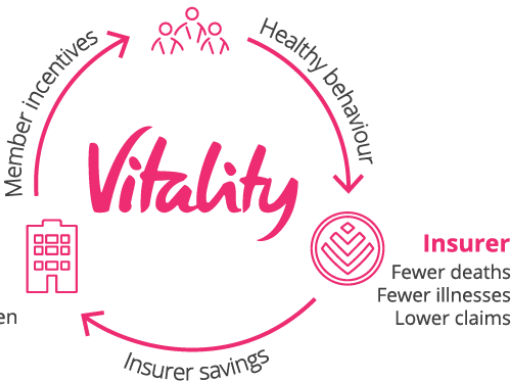
Vitality Health Programme ✓

Discovery's Vitality programme is designed to help you keep track of your progress towards "a healthier you", rewarding you for making better choices with a premium range of health, lifestyle and leisure benefits.

Vitality makes choosing to lead a healthy lifestyle even more rewarding by offering you a science-based behavior change programme to understand and keep track of your health.

Clients

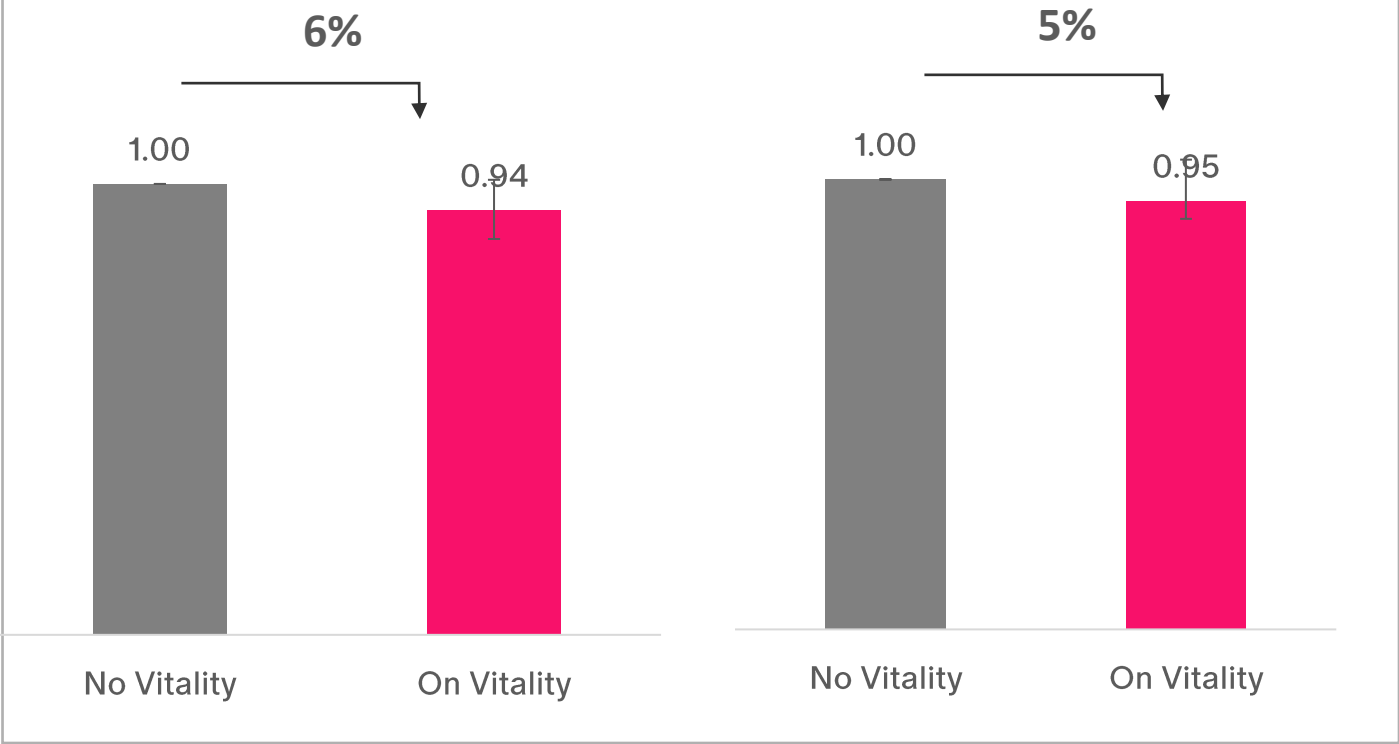
Better health, incentives and a lower cost of insurance



Improved cost outcomes for lives with diabetes and mental illness on Vitality

6% lower likelihood of admission when on Vitality

5% lower likelihood of high-cost admission when on Vitality

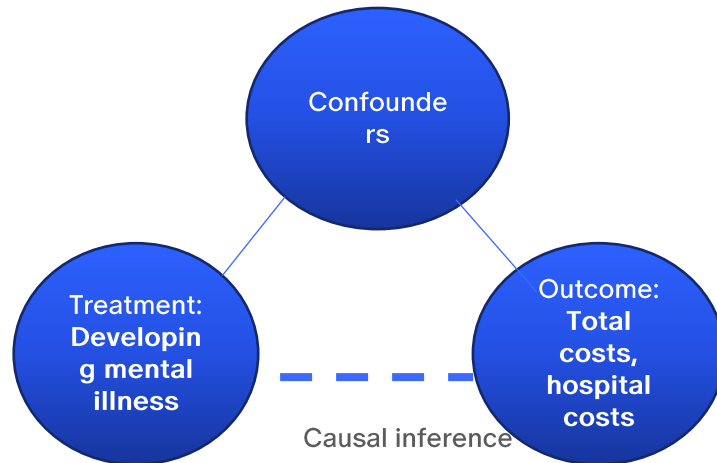


Case study

Causative impact of a diabetic developing a mental illness in the first 12 months leads to 11% increase in hospitalisation costs and 4% increase in non-mental illness related costs

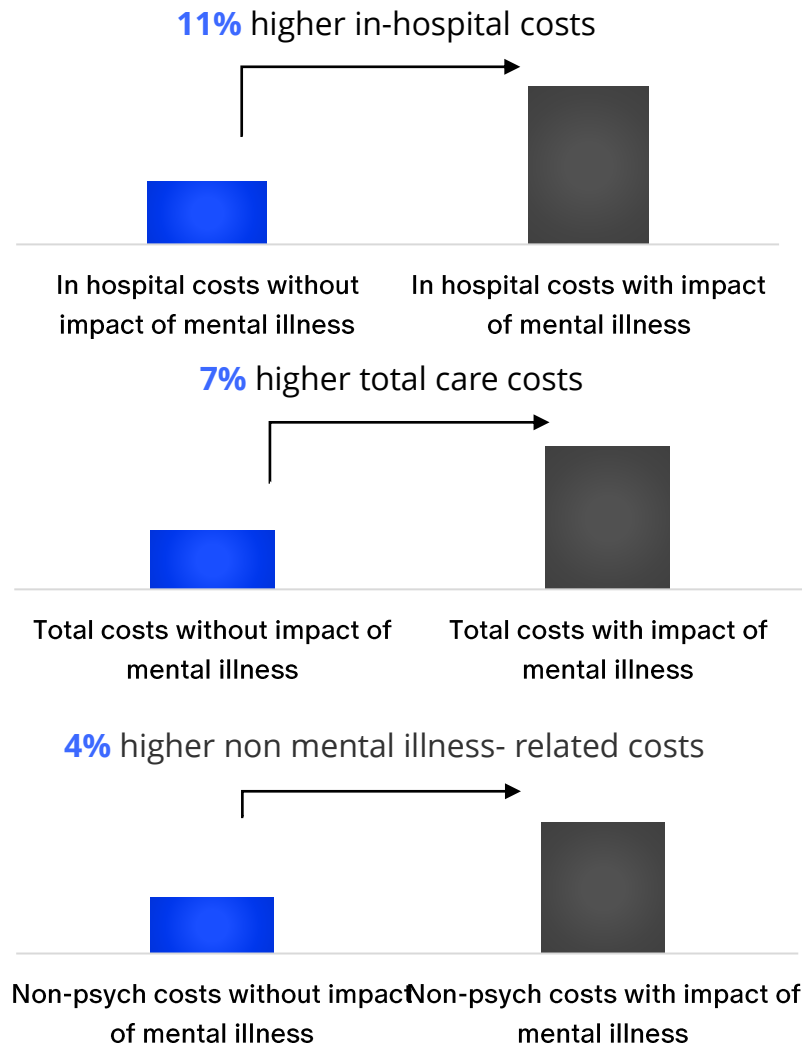
Problem statement: what is the causative impact of a diabetic developing mental illness?

Causal inference refers to the process of drawing a **conclusion** that a specific **treatment** was the "**cause**" of the **observed outcome**.



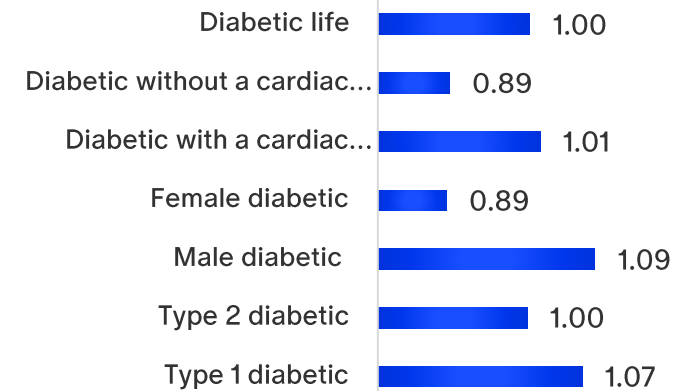
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Results: causative impact of developing mental illness in 2023 diabetic lives

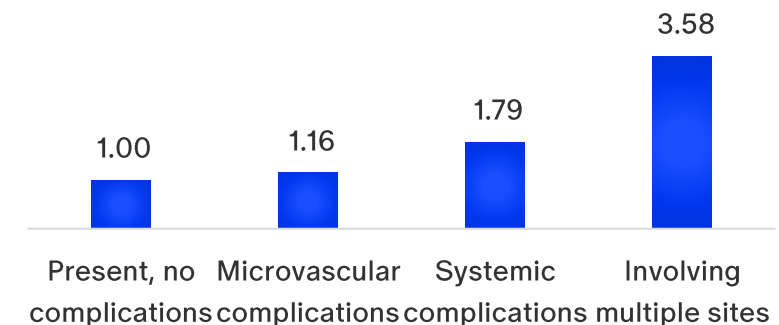


Higher impact amongst males and diabetics with cardiac conditions and increases with diabetic severity

Relative impact of mental illness in diabetics on hospital costs



Relative impact of mental illness on in-hospital costs by diabetic severity



Concluding remarks

1

The **prevalence of mental illness** in Discovery Health Medical Scheme is **increasing** amidst an **increasing chronic disease burden**.

2

Mental illness prevalence is **1.5x** higher amongst **females**, **1.3x** higher in **single** members and **1.5x** higher in lives with **chronic conditions**. Significant **growth** in prevalence of mental illness in **young adults** has been observed. The proportion of **children with depression** is **8x** higher for children in **families with existing depression diagnoses**.

3

Having a **mental illness impacts health outcomes** of members with existing chronic conditions. **Diabetic** members with mental illness have **poorer medicine adherence** and **poorer in hospital outcomes**.

4

Disease management programmes (such as Discovery's care programmes) and **wellness programmes** incentivising physical activity and nutrition (such as Vitality) can aid in reducing the impact of mental illness on members with diabetes and their in-hospital outcomes.

5

The impact of mental illness on members with existing chronic conditions is a **key consideration** for **insurers** in their **benefit design** and **pricing strategies**.





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Thank you

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