

Metabolic Health— Not another fad diet.

What it can mean for you and life
and health insurance portfolios?

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- share information for an anti-competitive purpose.

Talking Metabolic Health

- The importance of insulin
- How you can improve your metabolic health
- Metabolic Health pilots
- What could this mean for insurance
- How to get started on integrating wellness
- How to measure and improve Wellness Program effectiveness
- Glucose in action





Metabolic Health

What is it? The ability for your body to **digest and absorb nutrients** from the food that you eat without unhealthy spikes in blood sugar, blood fat, inflammation and insulin

So what? Bad metabolic health increases the risk of getting diseases such as **heart disease, type 2 diabetes, stroke** and others— good metabolic health does the opposite

Some Context: 2018 Paper on metabolic health in US, found that **only 20% of Americans are metabolically healthy** ¹, and less than 1/3 of normal weight adults were metabolically healthy

The Good News: Metabolic health can be significantly managed through lifestyle factors **diet, movement, sleep, stress levels, etc.)**

1. Prevalence of Optimal Metabolic Health in American Adults: National Health and Nutrition Examination Survey-2009. Data from the National Health and Nutrition Examination Survey 2009-2016 were analyzed (n= 8721). Using the most recent guidelines, metabolic health was defined as having optimal levels of waist circumference, glucose, blood pressure, triglycerides, and high-density lipoprotein cholesterol, and not taking any related medication.

Figure 1

The wide-spread effects of hyperinsulinaemia and insulin resistance over time

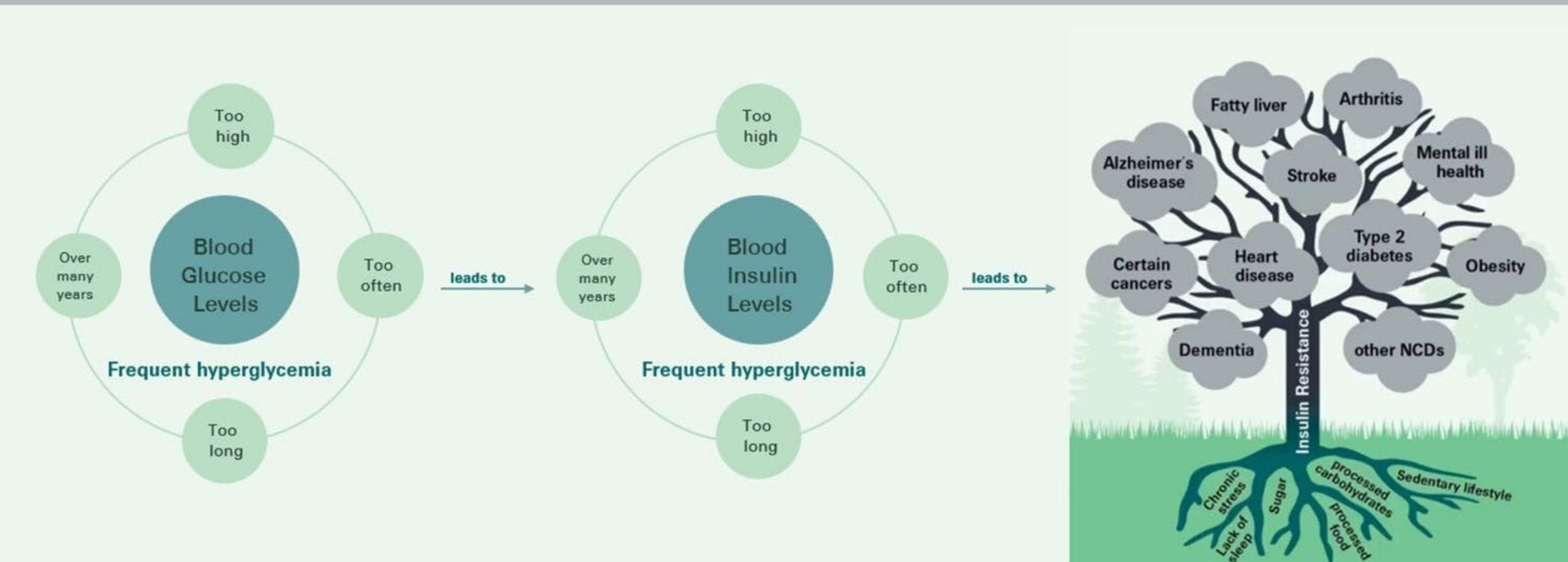
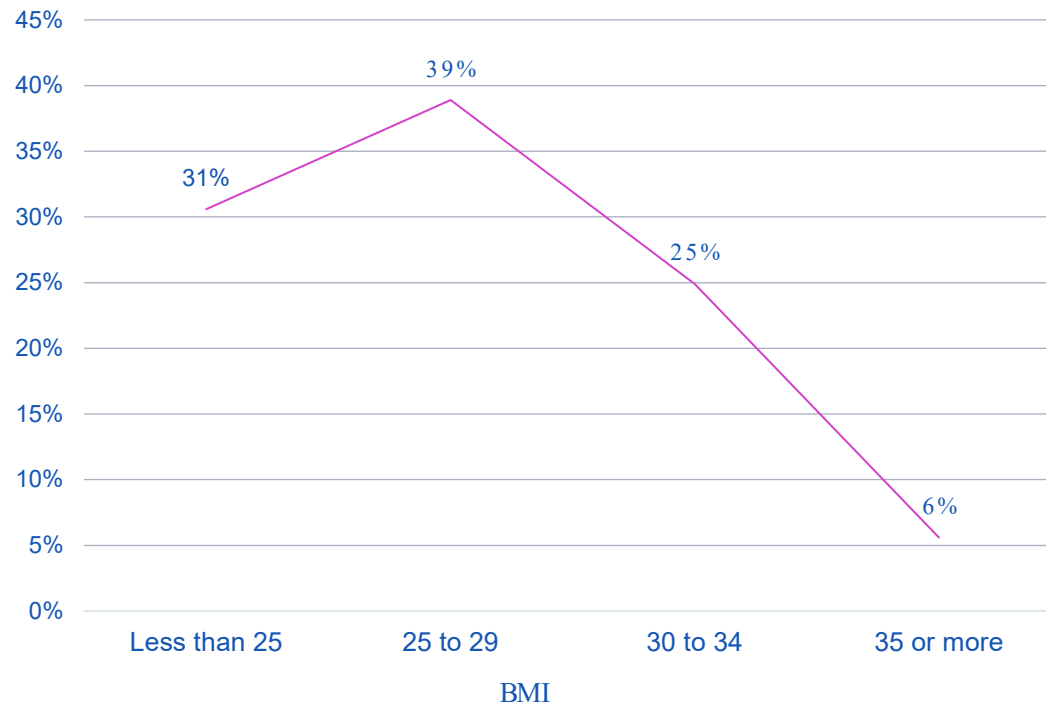


Figure 1: ©2024 John Schoonbee Global CMO, Swiss Re

Metabolic dysfunction and mental health

"Mental wellness" in IP claims 12 months + duration¹



Sources:

¹ Swiss Re IP Claims Deep Dive 2023

² Watson KT et al. Am J Psychiatry 2021

³ Caello Ket al. Int J Bipolar Disord 2019

⁴ Tomasik J et al. JAMA Psychiatry 2019

⁵ WHO Helping people with severe mental disorders live longer and healthier lives World Mental Health 2017

2.7x

more likely to develop
Major Depression if pre-
diabetic²

3.5x

more likely to have
metabolic syndrome
when newly diagnosed
with **Bipolar Disorder**³

3.7x

more likely develop to
insulin resistance
when newly diagnosed
with **Schizophrenia**⁴

10-20yrs

average loss in years of
life for people with
severe mental disorders.
Mostly due to
preventable diseases⁵



Brain Energy: New Hope – Treating Mental Health Disorders as Metabolic Disorders

Jul 18 • Written By Sally Bloomberg and Virginia Gleason

The Blood-Brain Paradox

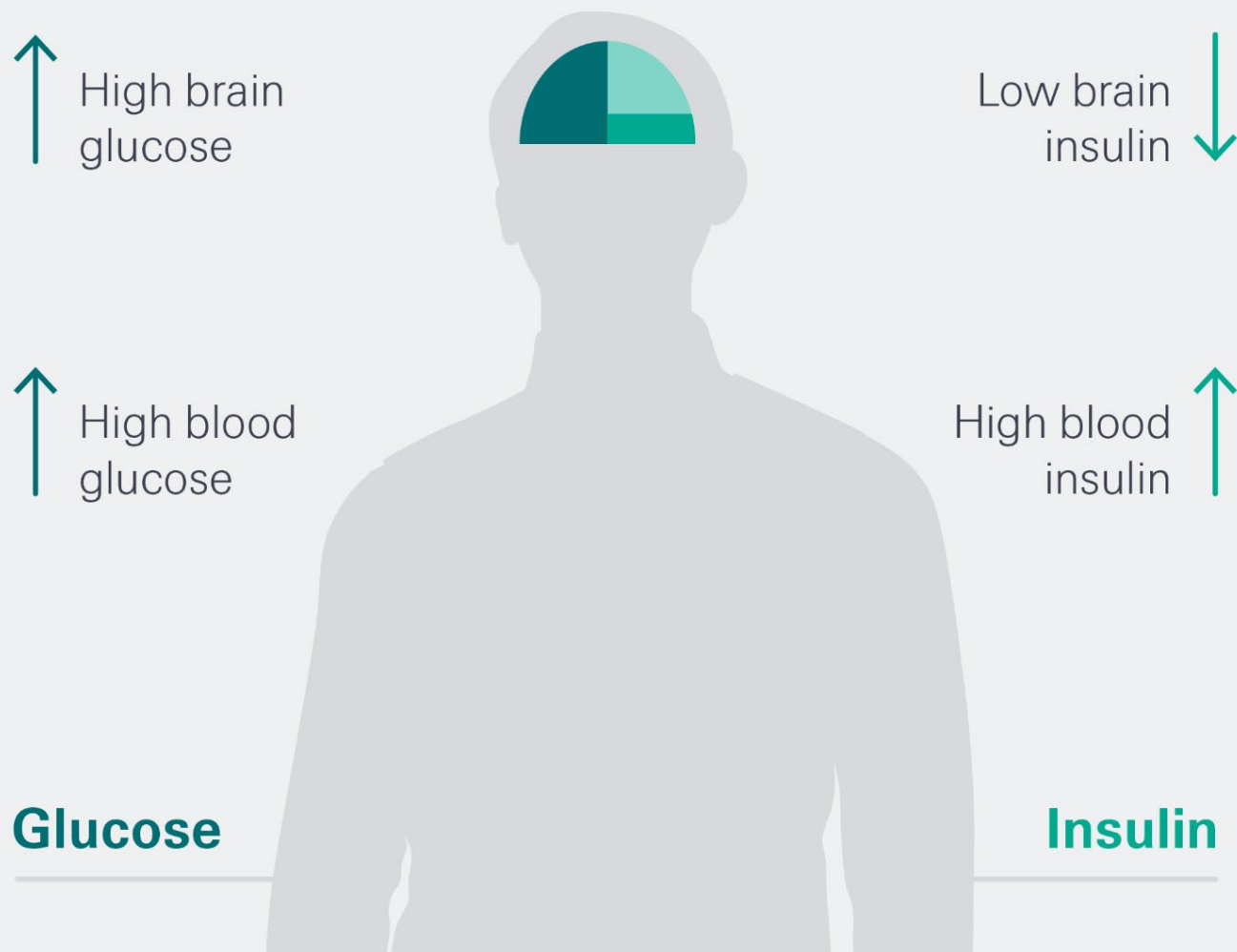


Table 1: Conditions associated with Insulin Resistance and/or Cerebral Glucose Hypometabolism

Alzheimer's disease
Anxiety disorders in children with obesity
Attention deficit hyperactivity disorder
Autism
Bipolar disorder
Borderline personality disorder
Depression
Obsessive compulsive disorder
Post-traumatic stress disorder
Schizophrenia

Table 1: ©Georgia Ede MD, used with permission, www.diagnosisdiet.com

How can you improve your metabolic health?

Nutrition

- Eat a healthy and balanced diet
- Reduce carbs and sugar



Mindset

- look after your mental health
- better lifestyle choices



Movement

- muscle strengthening activity at least 2 days a week
- minimize amount of time spend sedentary
- 150 mins of moderate intensity activity per week



Sleep

7-9 hours of sleep a night

Medical Advancements

- GLP1 drugs
- Continuous glucose monitors



Reducing physical activity (<30 mins per week)

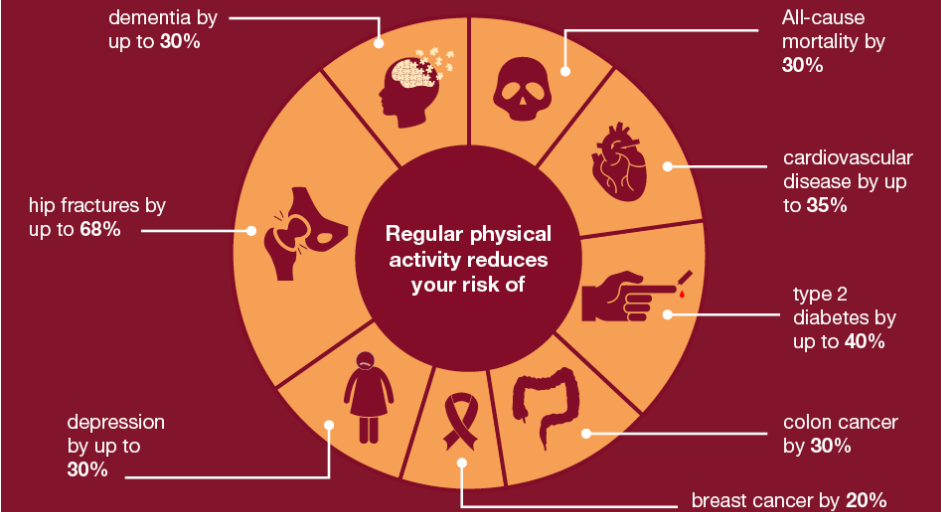
- We're **20% less active** than in the 1960s.
- Could be 35% less active by 2030.
- Circa 34% of men and 42% of women **are not active enough**
- Physical inactivity is associated with **1 in 6 deaths** in the UK.
- It's estimated cost to the UK **is £7.4 billion annually** (including £0.9 billion to the NHS).

Source: Gov.UK- Physical activity: applying All Our Health - Updated 10 March 2022

- Inactivity accounts for **6% of deaths globally** (4th leading risk factor).
- Physically active people have **20 to 35% lower risk** of cardiovascular disease, coronary heart disease and stroke.

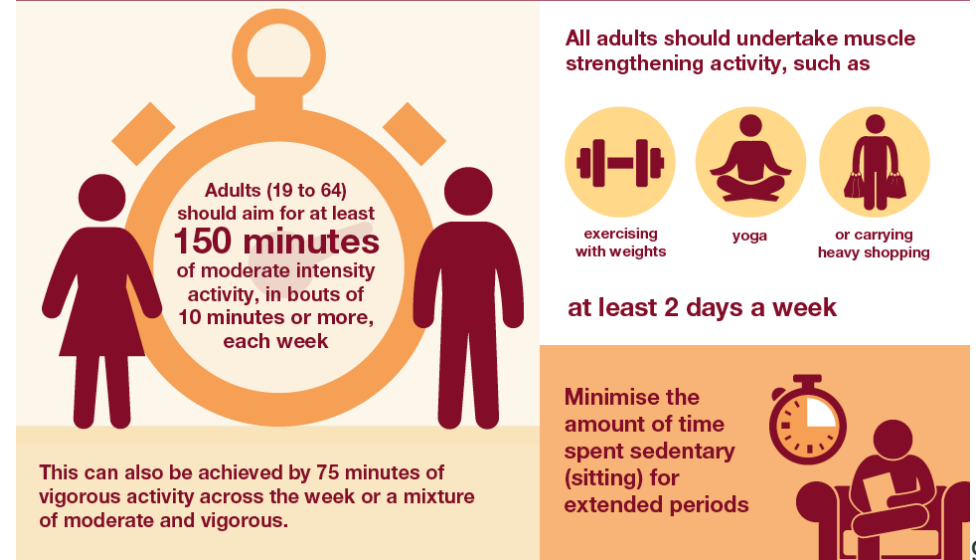
Source: Office for Health Improvement & Disparities - Physical activity - Updated 10 March 2022

What are the health benefits of physical activity?



Source: Gov.UK- Physical activity: Applying All Our Health - Updated 10 March 2022

How much physical activity should you do?



Source: Gov.UK- Health matters: getting every adult active every day - July 2016



Metabolic Health- Where have we started?

Have your **cake** but **don't** eat it.

Our four initiatives.



Supporting Income Protection claimants, with poor metabolic health, as a comorbidity, impacting their ability to return to work.



Education and improving the metabolic health of Swiss Re's employees.



How can we help improve the metabolic health of existing policyholders?



The underwriting conundrum. Partnership with Oxford University.

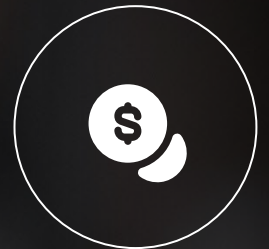


Swiss Re IP Claim Deep Dive- 2023

18.4% of our IP
claimants are obese



Potential financial
impact



Where/how can we
influence?



Swiss Re, working with Combe Grove



Claims Rehab – Opportunity Criteria



Off work with condition(s) that could be bettered by improving metabolic health



BMI range (overweight/obese) and/or waist-height ratio



Positive BPS factorsA desire to improve health and reasonable likelihood to do so



Potential liability and policy considerations



Current or historic significant eating disorder



Significant health issue under investigation or Terminal Illness



Significant active mental health disorder



Inability to be independently mobile



No desire or limited likelihood to improve health/return to work

Claims Rehab - Measures of Success



Improved & sustained metabolic health



Return to Work



Reduction in amount spent on claim



GP satisfied with health improvements



Pilot identifies key criteria for future



Claim Assessor proactive management



Prehab - Swiss Re Staff Pilot

Webinar & Knowledge Sharing Sessions



Awareness and knowledge sharing

Criteria for 1:1 Focused Health Screen



Waist: Height Ratio above 0.6



Motivation \geq 8/10



Related Health Conditions (BP, Cholesterol, CAD, Sleep Apnoea, Pre/ Diabetes)

Residential Programme Selection



Motivation Statement



Range of ages/ genders/ locations/ conditions



Share and promote experience



Prehab - Swiss Re Staff Pilot Early results

365

Review impact after a year.

40

Over half who attended a 1:1 assessment reported:

- weight loss
- waist circumference reduction
- improved sleep
- increased energy



- *HbA1c improved from 38 to 26.mM/M Hb in 4 months and 19cm reduction in waist circumference*
- *"Energy has increased cravings gone and fitting into trousers not been in for years"*
- *"Waist:height ratio improved BP lowest for years. I'm 1st 7lb down since Jan."*
- *Stopped 8-year of Lansoprazole for acid reflux, sleep improved, more focused at work*
- *BMI reduced by 15%, able to focus more*

5

360+

Resources/sessions were rated highly in increasing awareness and understanding of metabolic health
The less metabolically risky still reported improvements in their general health



US Inforce Pilots – Improving the health of our existing customer base

Helping policyholders improve their metabolic health and thereby realizing mortality improvements

How we'll do it



Make a digital+virtual metabolic health intervention available to a group of approx. 100-200 life insurance policyholders.

Initially T2DM policyholders with high sums assured.

During/ after 9–12-month programme, we'll analyse the health and engagement results.

Challenges



Interventions proven in clinical settings, but not yet in life insurance context.

How to engage with policyholders on health-related topics.

Volumes required for cost-effectiveness.

Pilot length required to demonstrate sustained lifestyle change (programmes are 9-12 months).

Desired outcomes



Test/ evaluate intervention effectiveness and engagement levels in an insured population.

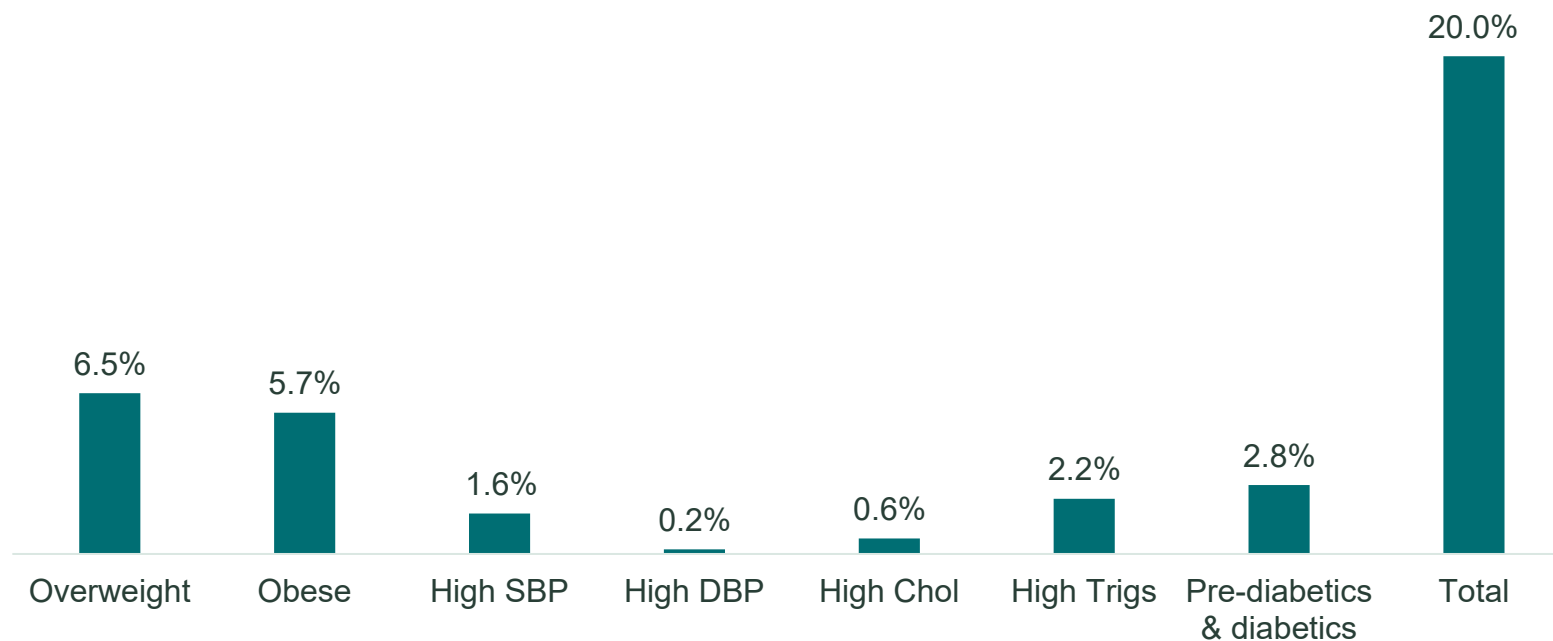
Observed health improvement (as a proxy for mortality improvement) – medical and behavioural outcomes.

Understand number of individuals required to approach/ engage, to make the intervention cost-effective.

If proven, expand approach to other health and policy profiles (obese/ overweight, prediabetic, lower sums assured).

Up to 20% potential portfolio mortality impact for those policyholders with a good level of engagement

Simulated total potential mortality saving for the portfolio of policyholders with a good level of engagement



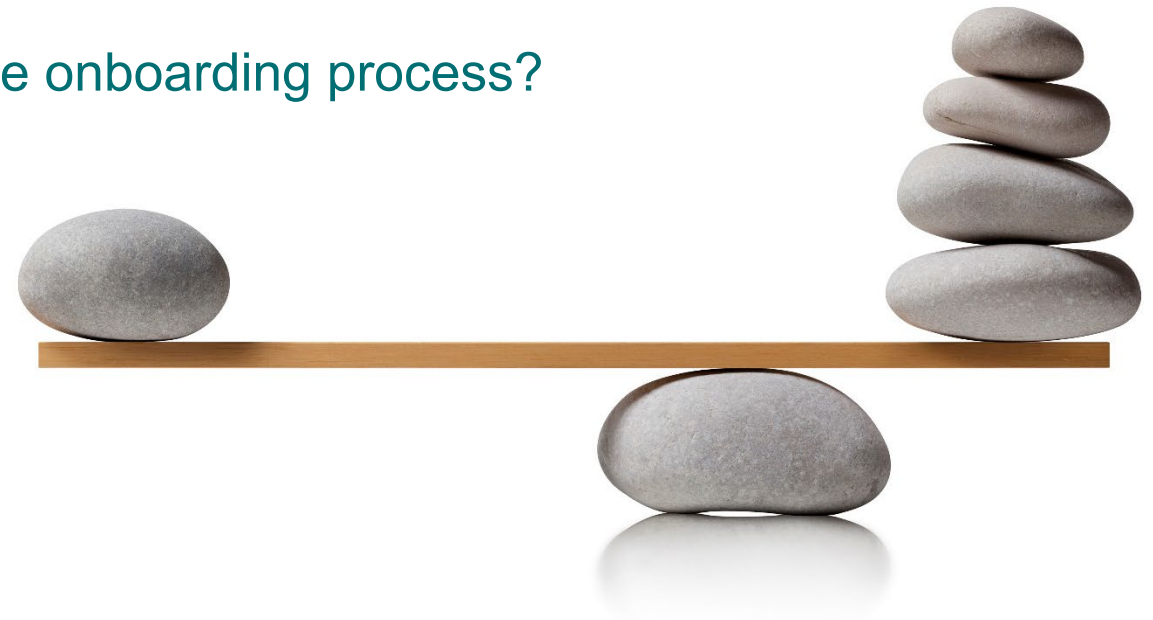
- ✓ Based on a US applicant dataset of UW risk factors
- ✓ Assessed the level of risk underperformance by comparing the actual risk levels relative to recognized baselines, e.g. BMI of 29 relative to 25 (overweight)
- ✓ Calculated the potential mortality improvement across the portfolio of customers who engage and complete a 6-month program based on our intervention data

The underwriting conundrum - Can we improve risk selection?

- 👣 We know prevalence is increasing.
- 📁 Up to 75% of ratings, include something for BMI.
- ! Yet we know lifestyle is one of the most misrepresented* and we validate few disclosures.
- 🔍 Underwriting should provide a valuable protective layer. The question is are our current practices as effective as we need?
- 🔑 How to change without negatively impacting the onboarding process?

***20%** of BMI disclosures were **not accurate** when verified.

Source: Swiss Re - data n=260



What could this mean for Life Insurance?

What does this mean for insurance?

Health Insurance

- Higher claims frequency and severity
- **Long-term costs** managing chronic conditions
- Cost of advanced treatments

Life Insurance

- **Accessibility and affordability** issues (higher premiums or condition exclusions)
- **Long-term disability**, reducing workplace productivity
- Earlier than expected benefit payment
- **Stress and depression** associated with metabolic health issues

Casualty Insurance

- **Workers' compensation** - higher accident and injury rates, prolonged recovery times
- **Motor insurance** - driver health and accident risk due to reduced reaction time or medical emergencies
- **Professional liability** - heightened malpractice risks for healthcare providers

How to get started on integrating wellness:

Enhancing Engagent with Preventive Focus

Incorporating metabolic health into a life insurance product is a forwardthinking move that integrates:

- Smarter underwriting
- Effective risk management
- Dynamic pricing
- Meaningful customer engagement

... through a preventive health lens.

“Position the product as Life Insurance that Rewards Prevention”



How to get started on integrating wellness:

Focusing on Metabolic Health



Metabolic health is a powerful predictor of long-term mortality and morbidity

Think strategically about emerging health trends to optimise on the opportunities and risks



Strategic Partnerships

Collaborate with healthcare and technology providers to enable proactive, data-driven care.



Early & Proactive Engagement

Intervene earlier than traditional models to build long-term resilience and reduce future claims.



Preventive Health Benefits

Coverage for gym memberships, nutrition counselling, stress and metabolic health screening.



Simplified Wellness Access

Design insurance products to promote and streamline participation in wellness initiatives.



Risk Factor Insights

Understand emerging risks like insulin to inform better decisions. Incorporate metabolic health principles into Disability claim management to help improve recovery rates

How to get started on integrating wellness:

Focusing on Metabolic Health

- ❖ **Milestone-Based Incentives**
Begin with **limited coverage** and **scale** up as customers meet metabolic health goals to encourage active participation and **long-term** engagement.
- ❖ **Focus on What Matters Most**
Prioritize improvements in activity, rest, nutrition to improve health outcomes.
- ❖ **Tailored Wellness Journeys**
Design programs that adapt to different life stages and lifestyles, e.g. age, gender, pregnancy, occupation, etc.
- ❖ **Understanding the Health System**
Opportunity to understand and encourage **metabolic screenings** to support early detection and continuous improvement.
- ❖ **Future opportunities to incentivise the right habits**
Move beyond step counts and looking at new and emerging technologies to improve health eg, glucose monitoring for diabetics



**Shift Program
Focus to
Metabolic
Health**

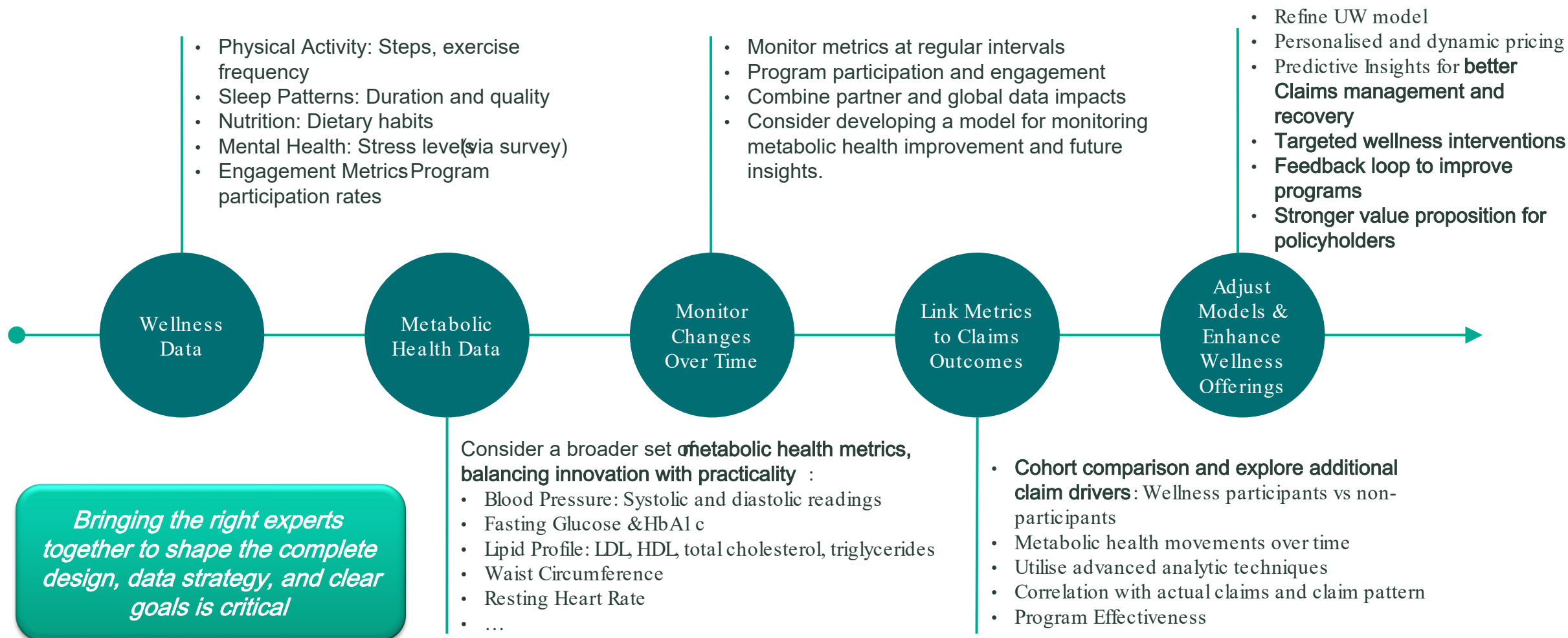
How to get started on integrating wellness:

Focusing on Metabolic Health

Driving Behaviour with Data

- ❖ **Targeted Visual Progress Tracking and Dynamic Risk Profiling**
Offer dashboardstyle views to make health improvements visible and easy focus on key metabolic indicators.
- ❖ **Metabolic-Based Rewards**
Offer incentives to eat healthy food, supplements, or fitness services based on individual metabolic outcomes to drive improvements. Use milestone rewards to create sustainable motivation loops.
- ❖ **Targeted Support for At-Risk Groups**
Provide management pathways for metabolically unhealthy customers (with medical guidance).
- ❖ **Motivate Progress, Not Perfection**
Focus on incremental risk factor improvements to keep all users engaged, not just those already healthy. Potentially break down 'healthy' ranges into smaller milestones to provide continuous incentives.
- ❖ **Dynamic Pricing**
Offer dynamic premiums with discounts for metabolic improvements and small rewards for regular progress checks.

Measure and Improve Wellness Program Effectiveness



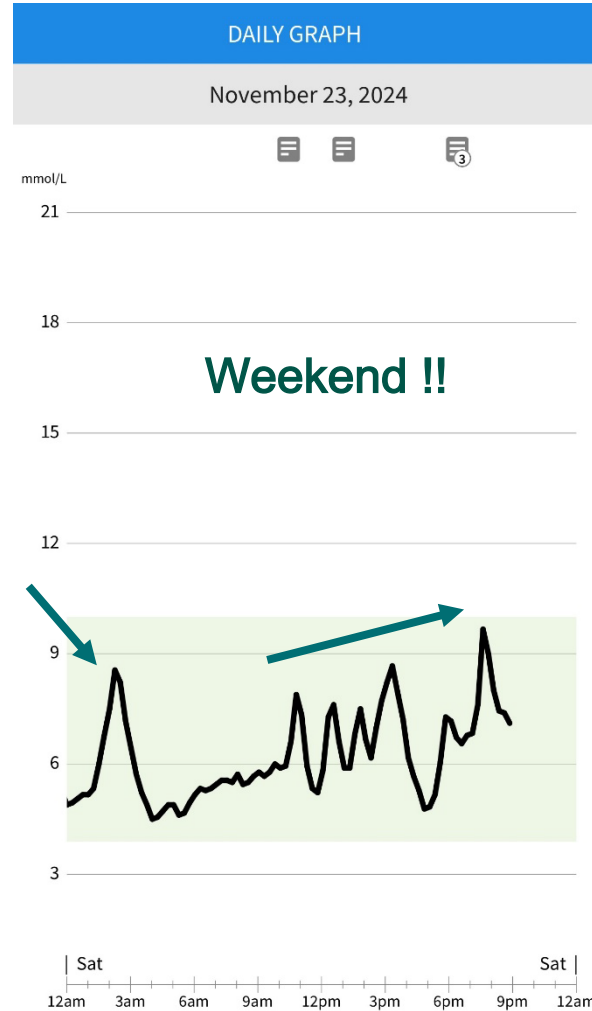
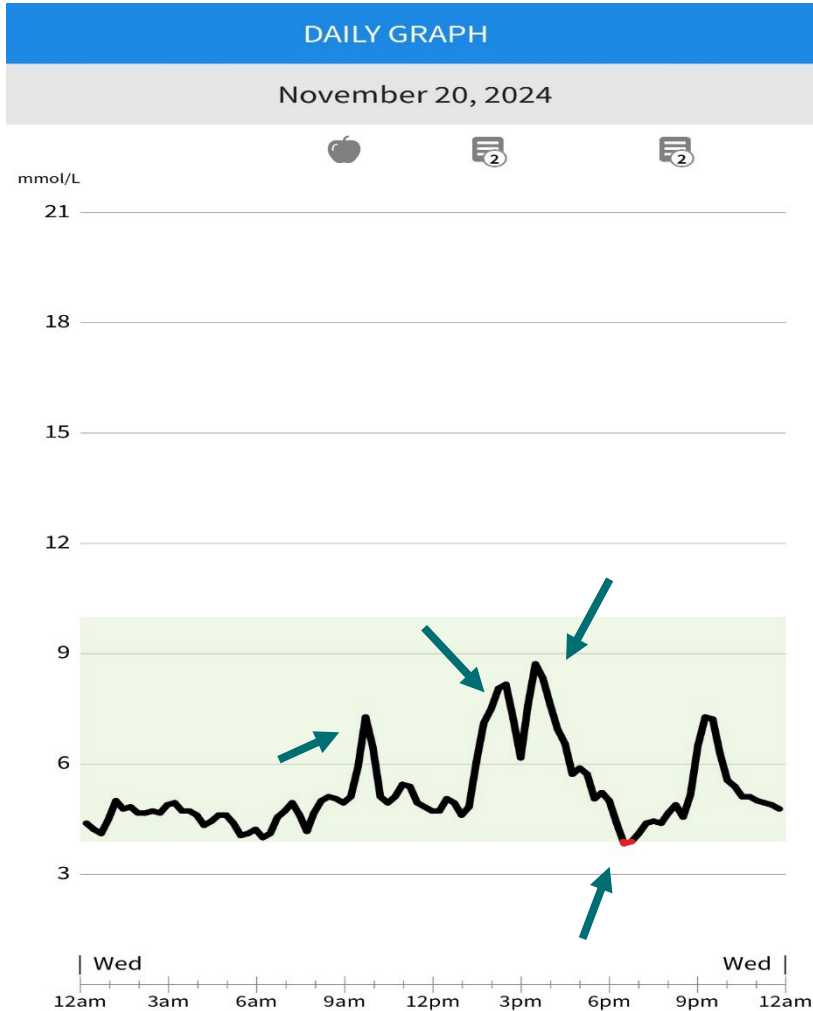
Disclaimer: Integrating wellness programs with insurance products requires careful consideration of sensitive health data. The above is for illustrative purposes only, any collection, use or disclosure of health data must comply with relevant privacy laws.



Glucose in action.
What we learnt



What Cara learnt.



Nutrition

- Reduce carbs and sugar - *very sensitive*
- Eat in the right order - *avoid fluctuation*

Movement

- Move whenever you can
- Light walk after meal - *very effective*

Sleep

- Sleep early
- 7-9 hours of sleep a night

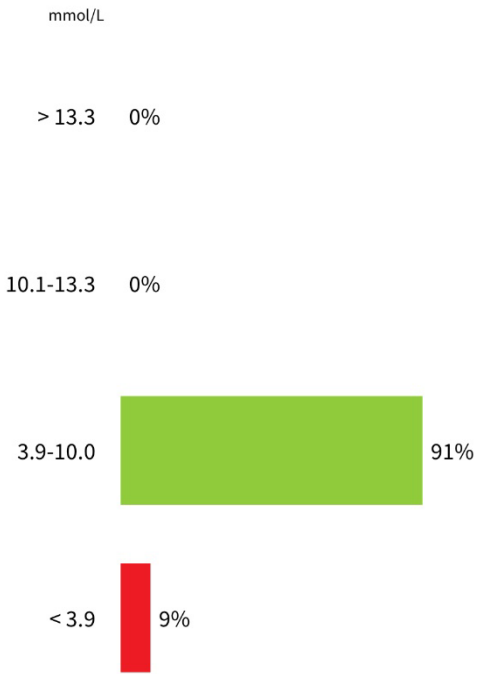
Mindset

- Manage stress
- Take regular breaks, etc.

What Ingrid learnt.

TIME IN RANGE ▾

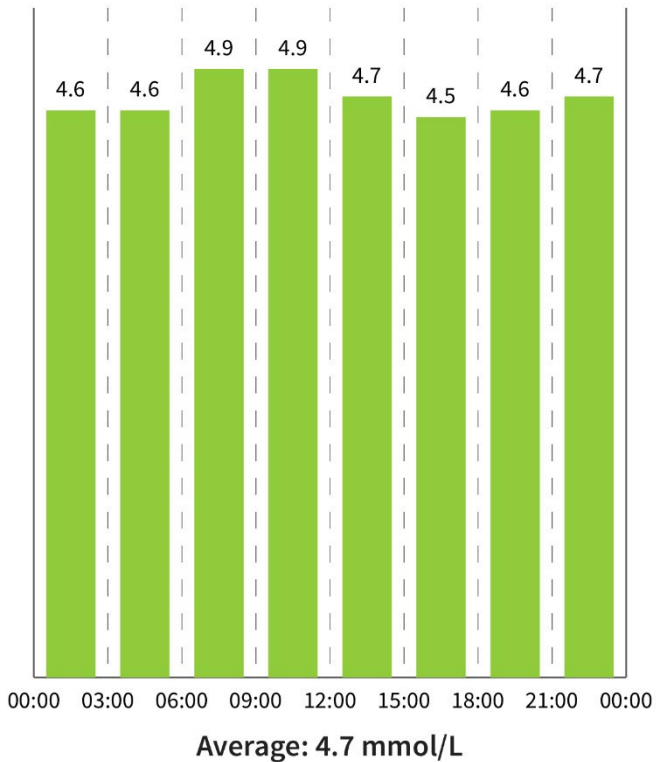
19–25 November 2024



Target range: 3.9 - 10.0 mmol/L

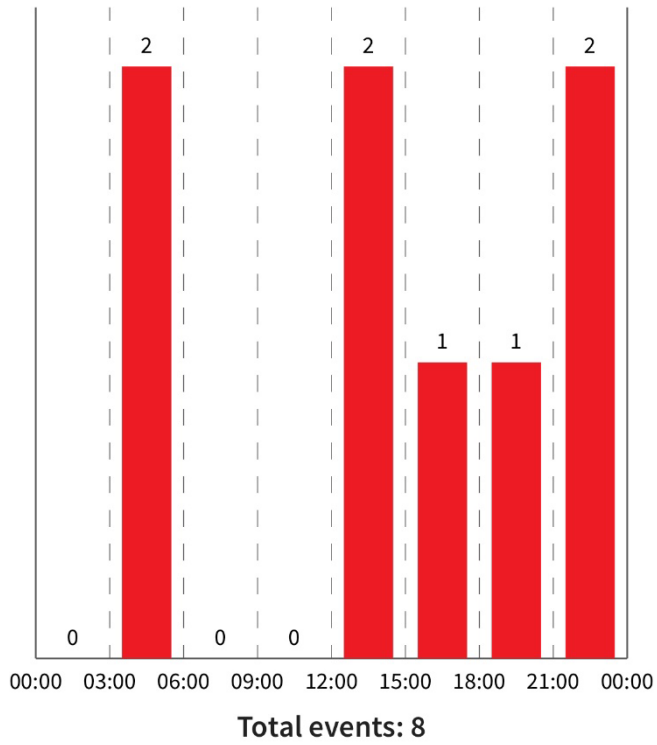
AVERAGE GLUCOSE ▾

19–25 November 2024



LOW GLUCOSE EVENTS ▾

19–25 November 2024



Additional Resources

Books

- **Why we get sick.** Ben Bikman
- **Good Energy.** Casey Means
- **The Big fat surprise.** Nina Teicholz
- **Brain Energy.** Christopher Palmer
- **Change your diet Change your Mind.** Georgia Ede

Resources

- <https://phcuk.org/>
- dietdoctor.com
- <https://www.swissre.com/institute/conferences/food-for-thought-2023.html>
- <https://www.swissre.com/institute/conferences/fixing-metabolic-health.html>
- metabolicmind.org

Key videos

- “Arne Astrup– Evidence on dietary saturated and total fat Fixing Metabolic Health” on Vimeo (<https://vimeo.com/896716543>)
- Fat Fiction- Full Movie- Free (youtube.com) (<https://www.youtube.com/watch?v=TUADsCK7vI&t=63s>)
- “Benjamin T Bikman– Mechanisms of hyperinsulinaemia- Food for Thought 2023” on Vimeo (<https://vimeo.com/896716494>)
- “Benjamin T Bikman– Beyond CVD- mechanisms linking hyperinsulinemia to (most) NCDs– Fixing Metabolic Health” (<https://vimeo.com/896716558>)
- “Case studies: Diabetes & Metabolic Health Programs: A selection of successful examples Fixing Metabolic Health” (<https://vimeo.com/896716556>)

Q&A



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