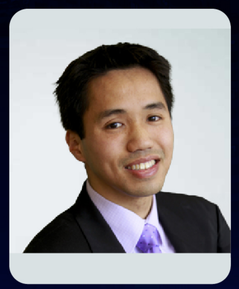
Asian Actuarial Conference 2025 Bangkok

This CI on Life support? How scientifically powered Insights and Innovation can help keep CI alive

12 Nov | 14:10-14:55

Dr. SiNing Zhao
Regional Medical Director, Asia, RGA



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Is CI on Life Support?

Diagnosing the problem to achieve healthier solutions

Wilfred Tung
Dr SiNing Zhao
Peter Hovard

November 2025

You can’t drive forward if you keep looking in the rear-view mirror.

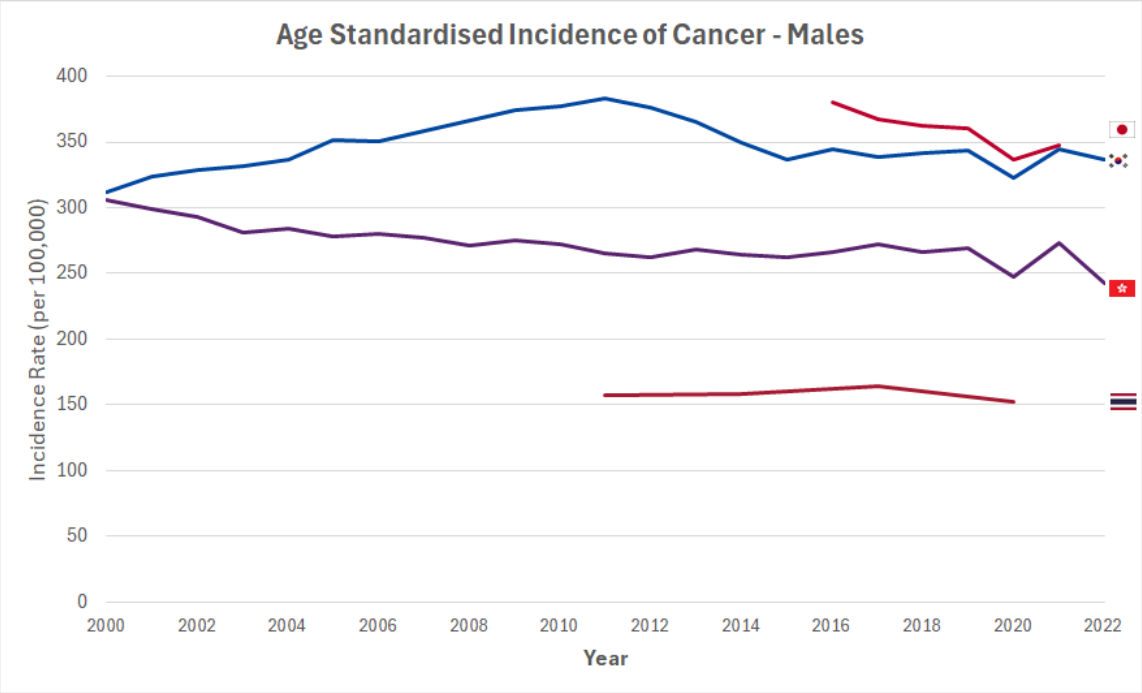
Agenda

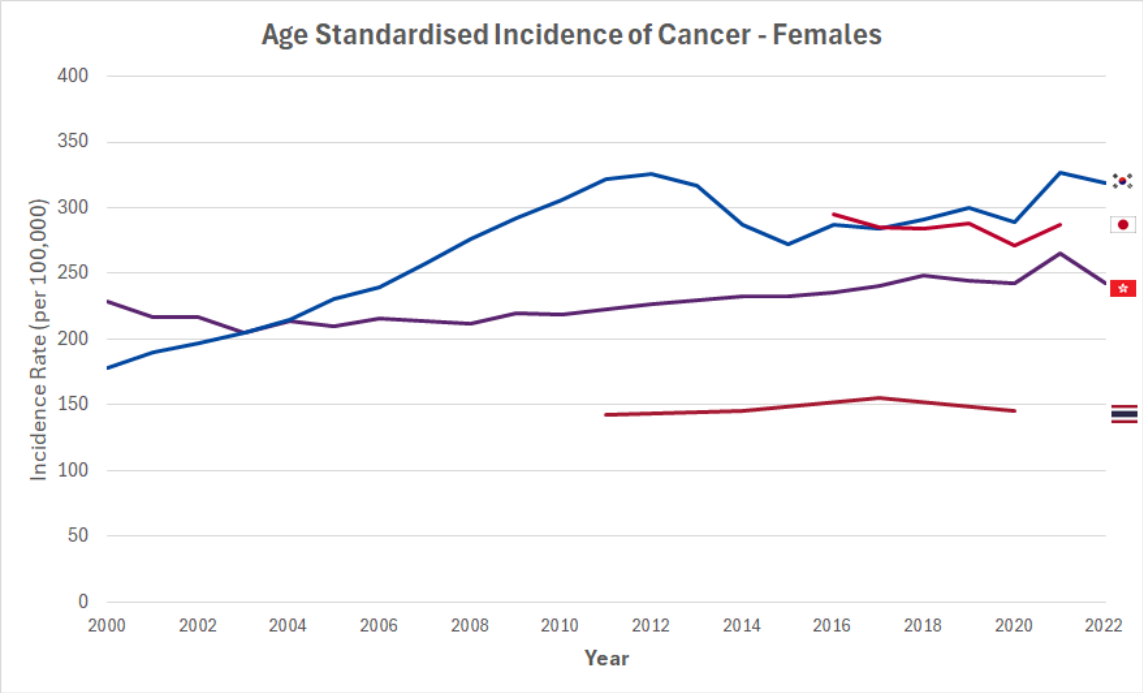
Learnings from pricing and product development

Evidence Based Innovation: Understanding the data from clinical experiences, observations and learnings for better solutions

Understanding key behavioural challenges

The rear-view mirror





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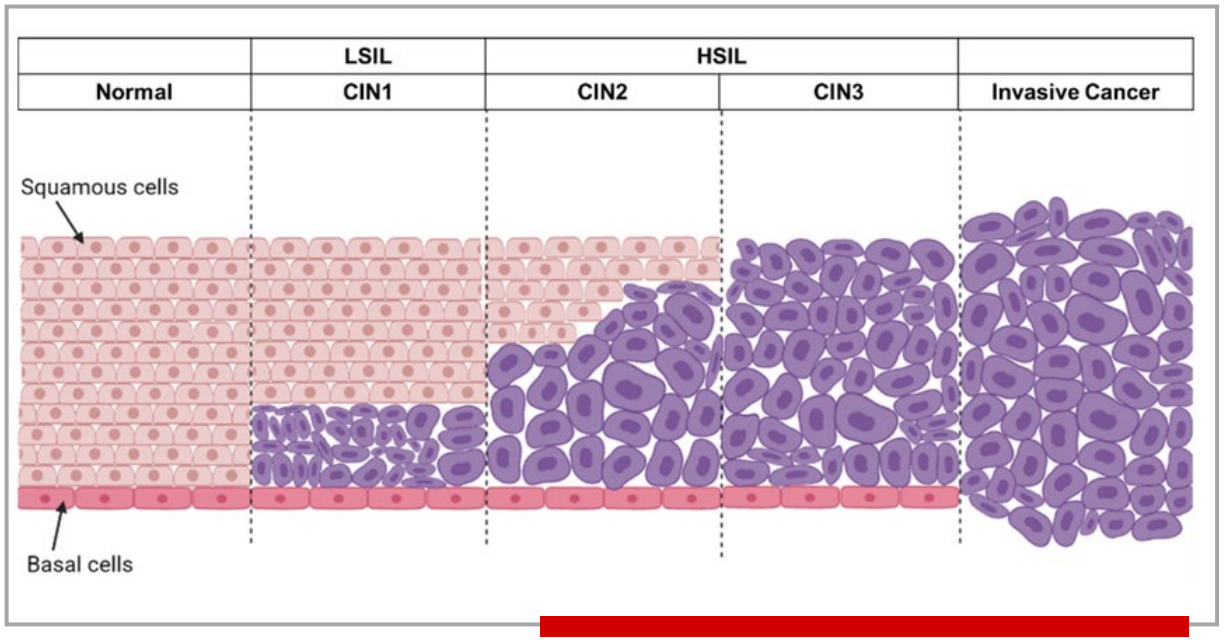
National Cancer Registry (Ministry of Health, Labour and Welfare) tabulated by Cancer Information Service, National Cancer Center, Japan (2025) 全国がん罹患データ（2016年～2021年）Available at https://ganjoho.jp/reg_stat/statistics/data/dl/excel/cancer_incidenceNCR(2016-2021).xls (Accessed September 2025)
National Cancer Institute, Department of Medical Services, Ministry of Public Health (2025) Cancer in Thailand Available at https://www.nci.go.th/th/cancer_record/cancer_rec1.html (Accessed September 2025)

Learning 1

Classification changes impact trends and result in large payments that exceed the cost

Under ICD 11, CIN 2 classified as CIS.

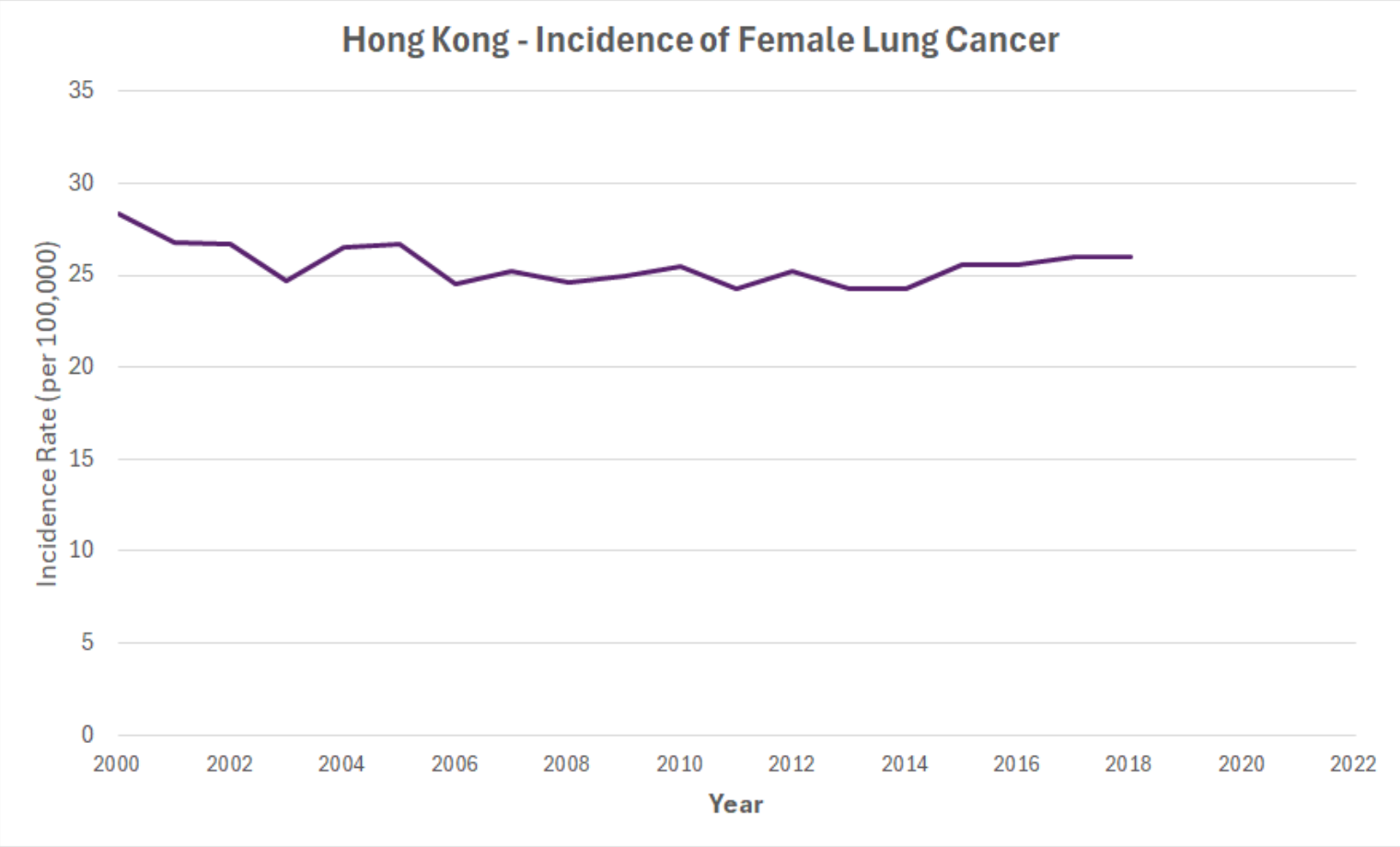


	ICD 10	ICD 11
CIN 1	N87.0 Mild cervical dysplasia	GA15.7 Low grade squamous intraepithelial lesion of cervix uteri
CIN 2	N87.1 Moderate cervical dysplasia	2E66.2 Carcinoma in situ of cervix uteri - High grade squamous intraepithelial lesion of cervix uteri
CIN 3	D06 Carcinoma in Situ of Cervix Uteri	

50%-60% of CIN 2 will regress within 2 years

Learning 2

Our knowledge of medicine continues to grow



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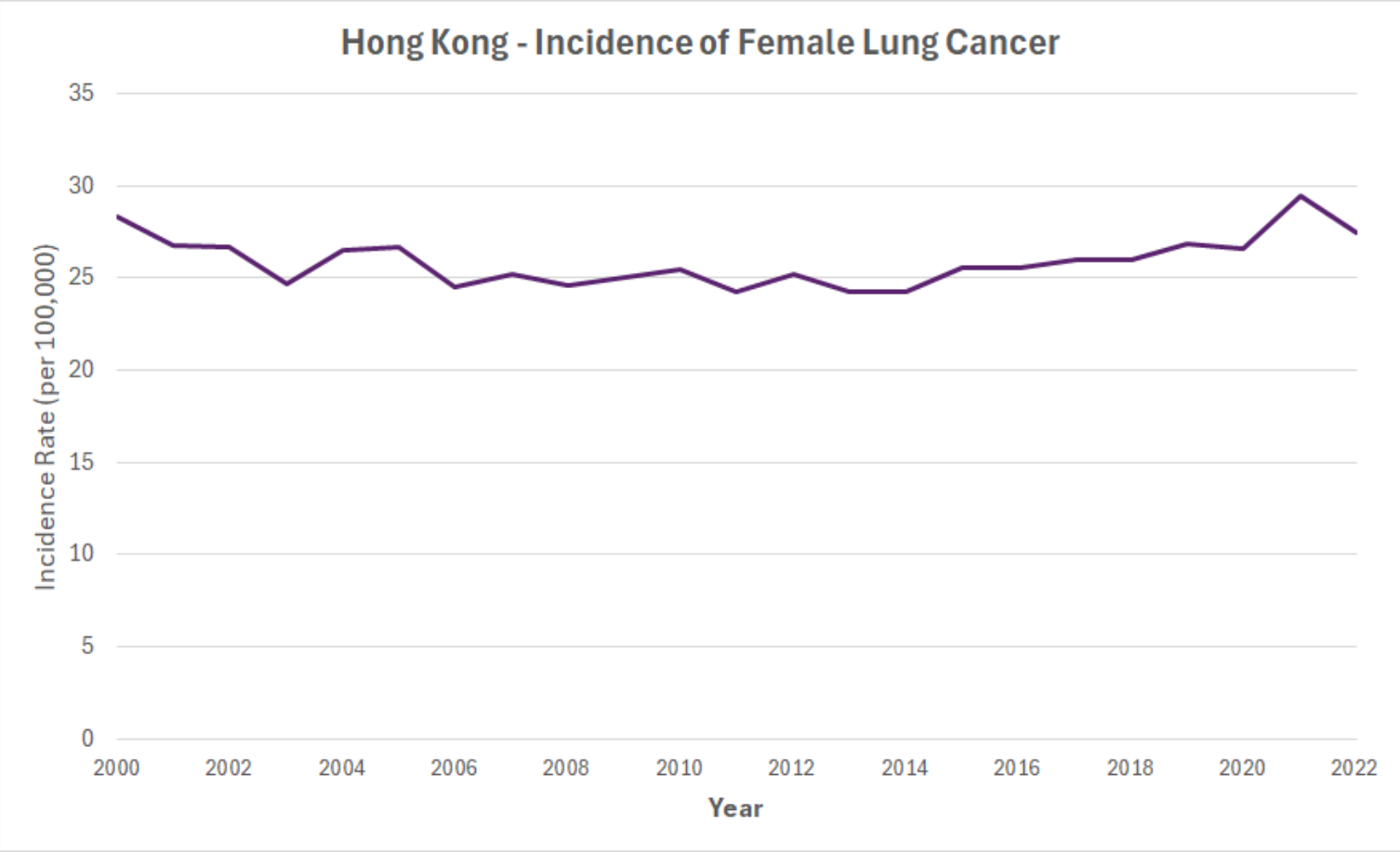

Increase in lung cancers among non-smokers. Possibly due to:

- Pollution
- Cooking fumes
- Genetic mutations and the role of oestrogen

Problem exacerbated by LDCT

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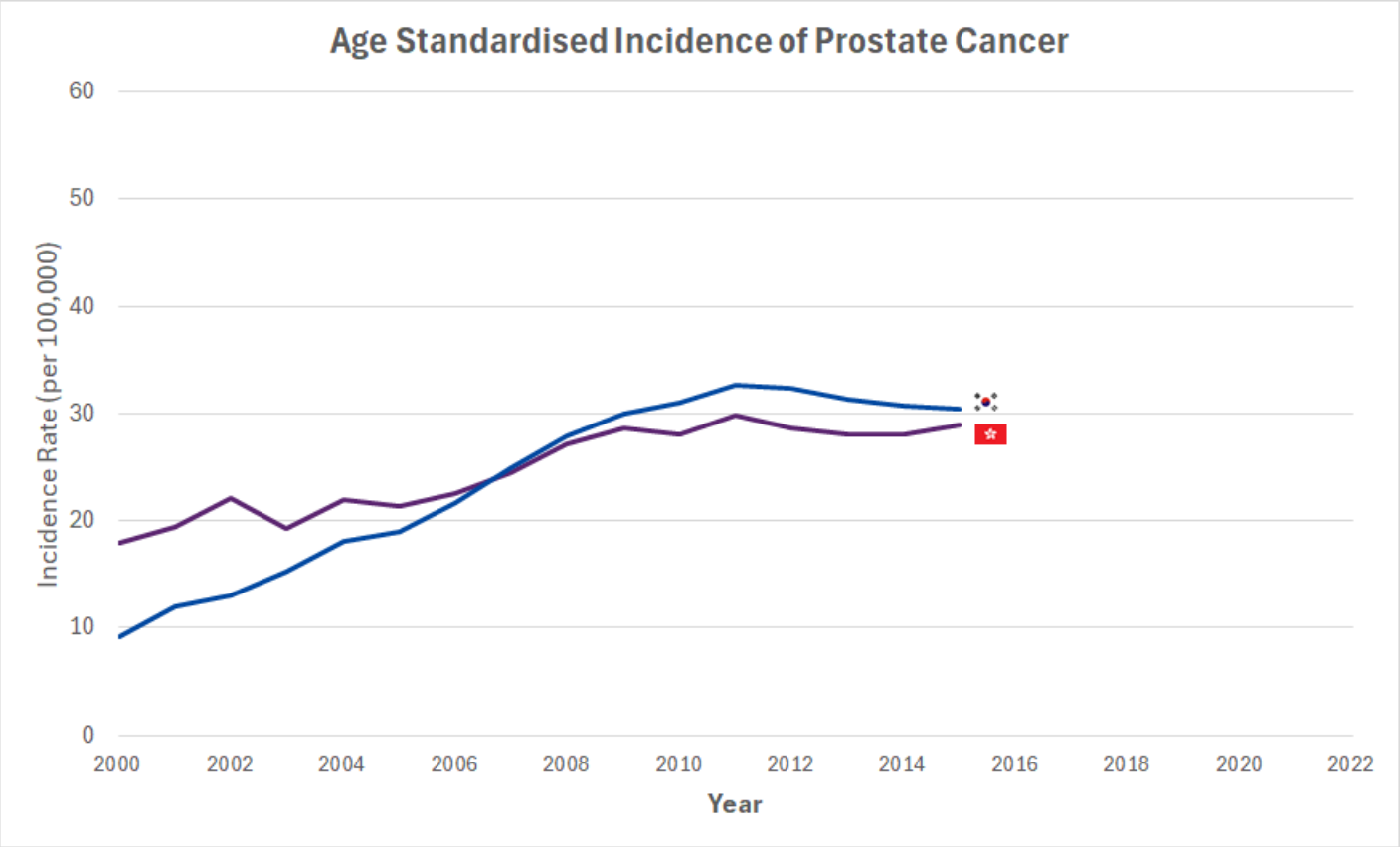
Learning 3

We need to look beyond our own country to understand the incidence of critical illness



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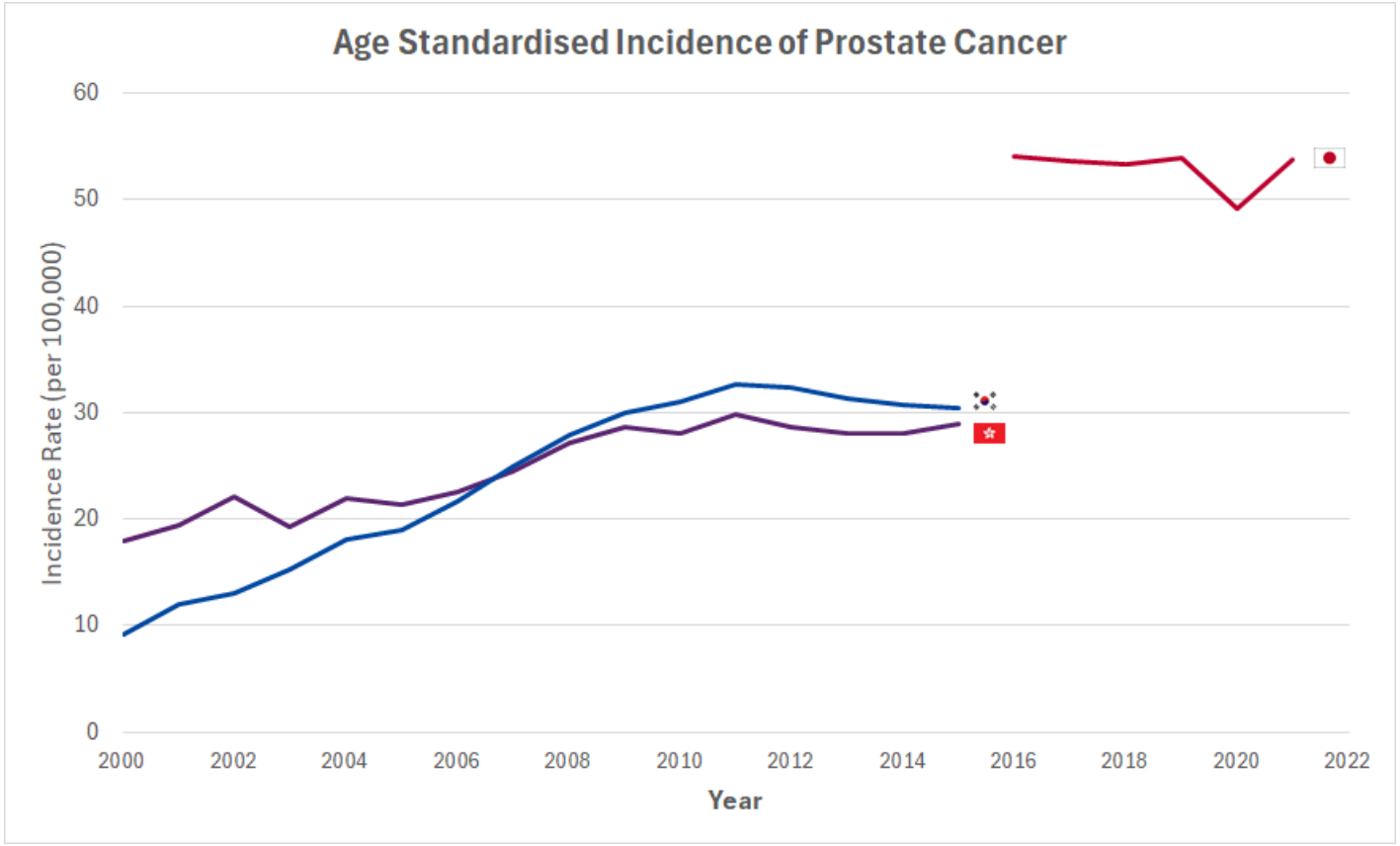
Polling Slide

Q: What will be the incidence of prostate cancer in Korea in 2025?

- Around 20 per 100,000
- Around 30 per 100,000
- Around 40 per 100,000
- Around 50 per 100,000

Learning 3

We need to look beyond our own country to understand the incidence of critical illness



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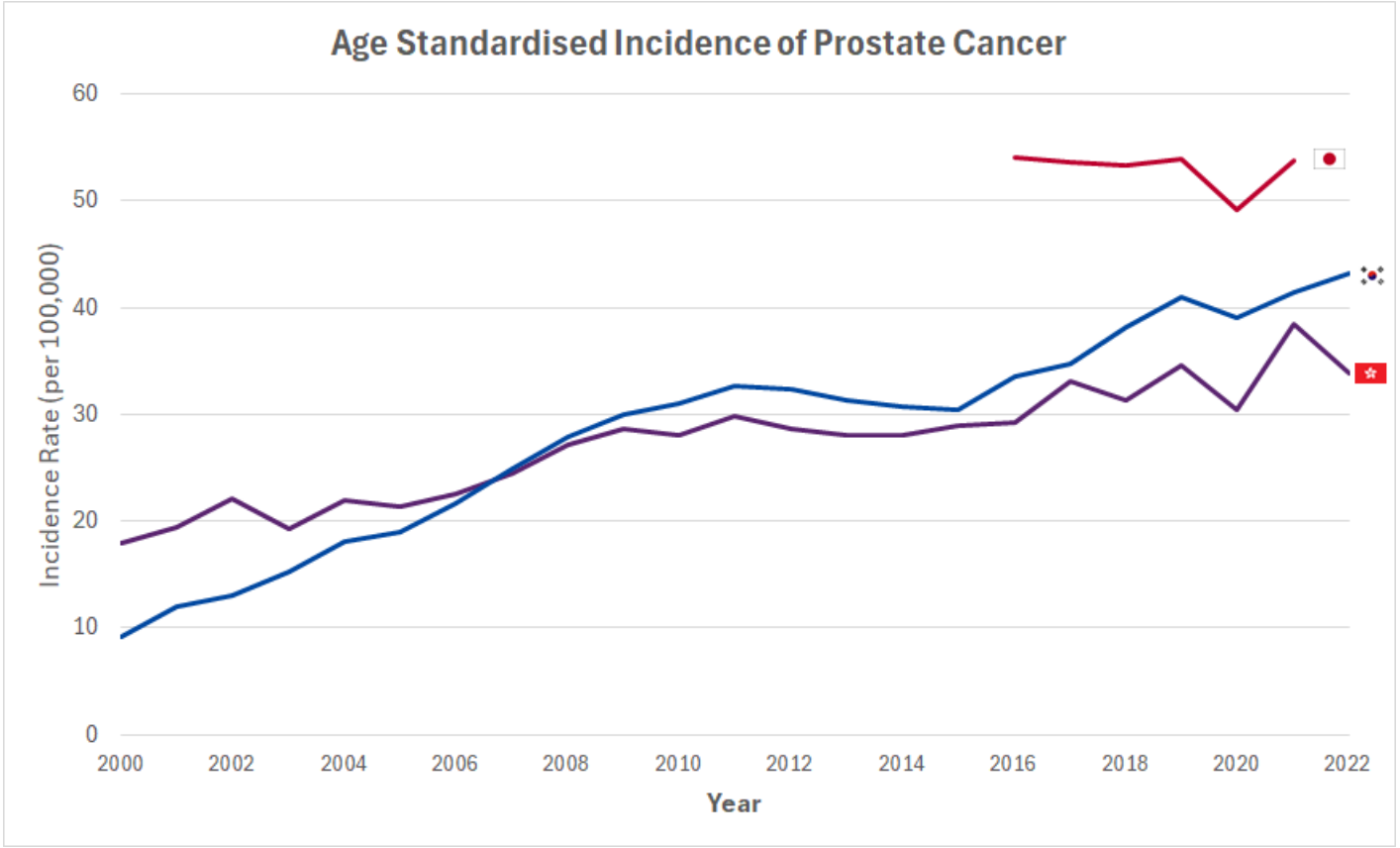

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Learning 4

Changes in medical practice impact the consumer need and sustainability of products

Duration of hormone therapy has been extended. Research in new hormone related treatments

1980s

Tamoxifen for 2 years

2010

Adjuvant endocrine therapy should not exceed 5 years

2013

One of the following initially:

- Tamoxifen for 10 years
- Aromatase inhibitor for 5 years
- Tamoxifen for 5 years + aromatase inhibitor for 5 years
- Tamoxifen for 2-3 years + aromatase inhibitor for 5 years

2018

- Can be offered up to 10 years if node negative. Low risk node negative should not be offered extended therapy.
- 10 years of adjuvant endocrine therapy if node positive

Burstein HJ et al. (2019). Adjuvant Endocrine Therapy for Women With Hormone Receptor-Positive Breast Cancer: ASCO Clinical Practice Guideline Focused Update. *J Clin Oncol.* 2019 Feb 10;37(5):423-438. doi: 10.1200/JCO.18.0116

What can we do?

Upgrade the car

Changing medical practices makes relying on historical data problematic.

Changing medical classifications and medical advances mainly increase the incidence of early stage CI.

Consider paying out for treatment / severity vs diagnosis

The best actuarial solution might not appeal to consumers. There are sustainable products in some markets that are also attractive to consumers.

“You can’ t use an old map to explore a new world”

Albert Einstein

Australian road signs

- How to move **ahead**?
- Understanding the past – acknowledging potential limitations
- Constantly reassessing with the help of **signposts** that **point** towards **new discoveries, advancements, and shifts in paradigms**
- Allowing a **reshaping of individual and collective mental maps** to bring about innovation

Evidence-based medicine → Evidence-based innovation

Better Disease
Detection
Treatment
Understanding

Clinical
Observations
Trends
Experience

Highlighting how better disease detection, treatment and understanding is reflected in **clinically important observations, trends and experience data**

Understanding the impact to CI product design

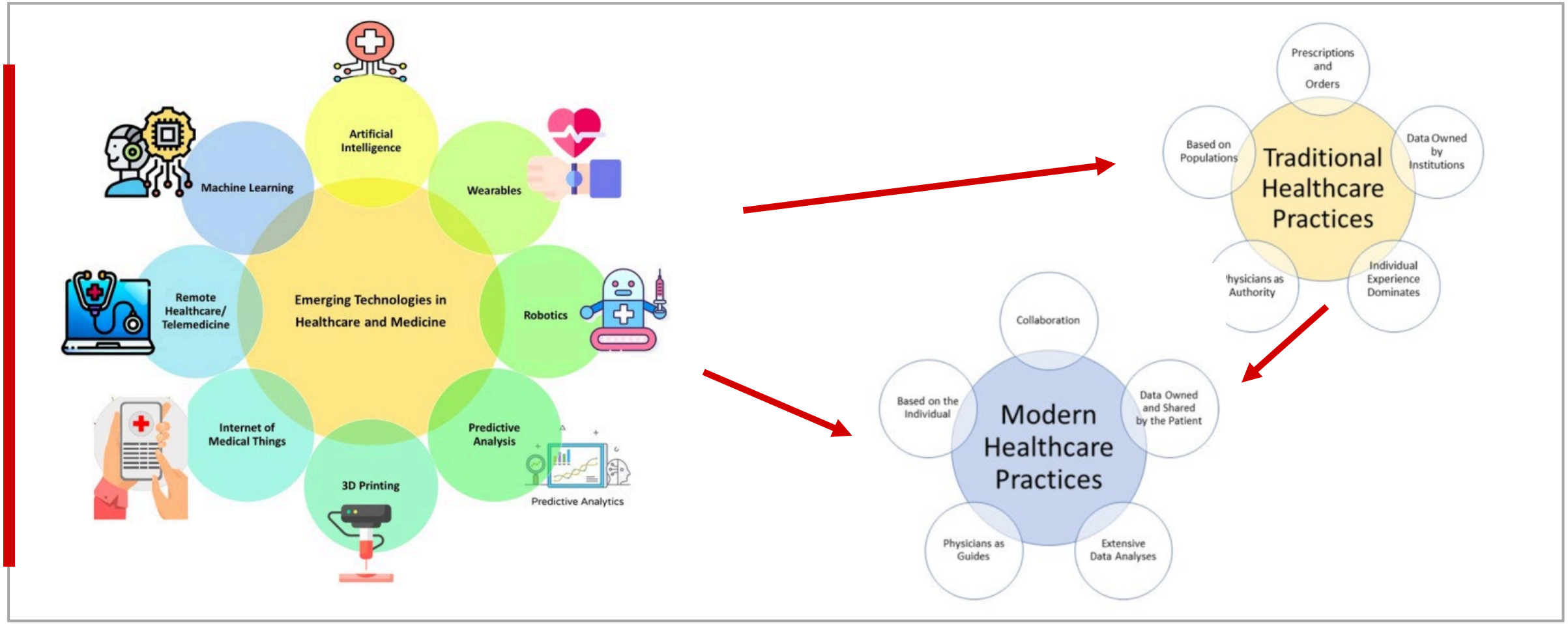
Focusing on:

- Risk **selecti**on
- Influence of **detect**ion
- Sustainable and relevant **protect**ion

Understanding the data from clinical **experiences, observations and learnings** for better ***solutions***

Driving force of clinical trends

Precision + Personalised



Thacharodi A, Singh P, Meenatchi R, Tawfeeq Ahmed ZH, Kumar RRS, V N, Kavish S, Maqbool M, Hassan S. Revolutionizing healthcare and medicine: The impact of modern technologies for a healthier future-A comprehensive review. Health Care Sci. 2024 Oct 9;3(5):329-349.

The future: Cancer incidence, mortality predictions

Estimated increase in cancer cases and deaths: Asia

Figure 26.3
Estimated number of new cancer cases and deaths (excluding non-melanoma skin cancer) from 2022 to 2050 in Southern, Eastern, and Southeast Asia

Causes of Disease – Lifestyle changes, Increasing BMI, Hormonally driven cancers, Environmental effects

Detecting Disease – Jumps in incidence for Lung, liver, prostate – early screening, increased access to screening. Notable also Liver in Asia as detection methods improve.

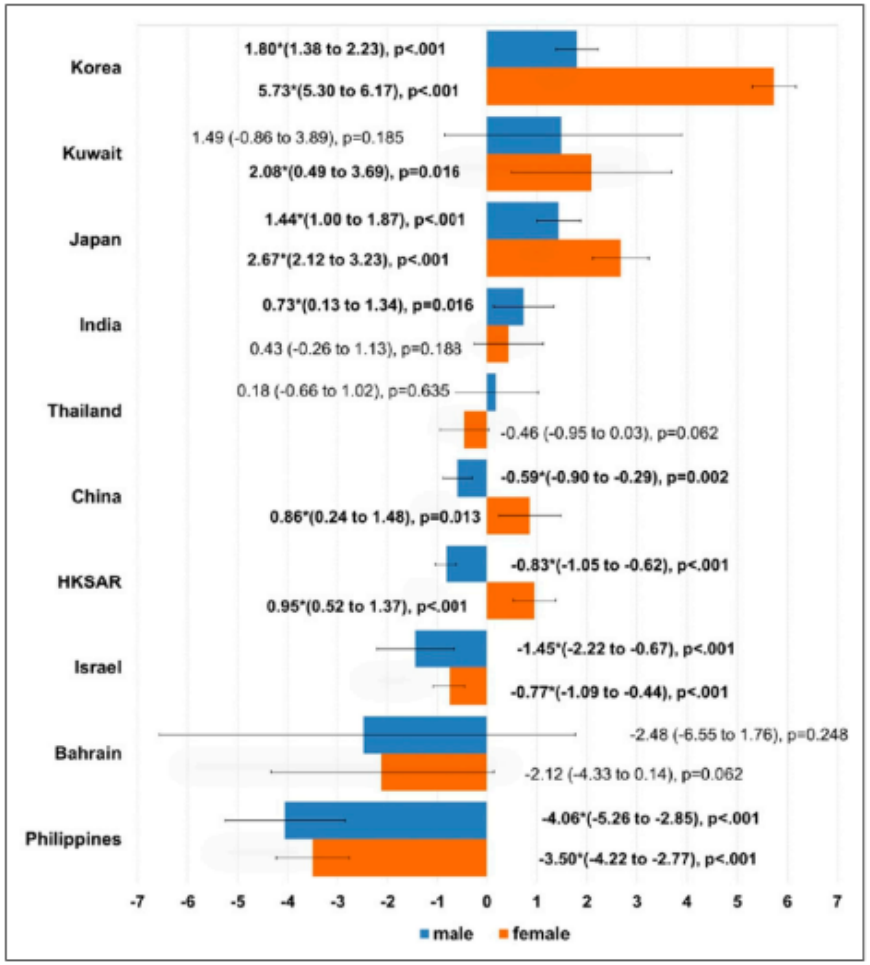
Understanding the disease – Improvements in methodology – more cancers, more types of cancer E.g Breast (DCIS microinvasion), different wordings, pre-cancerous lesions becoming cancer, WHO ICD-O changes

Treating the Disease – Improved mortality, newer options– lesser rises in lung, prostate, thyroid

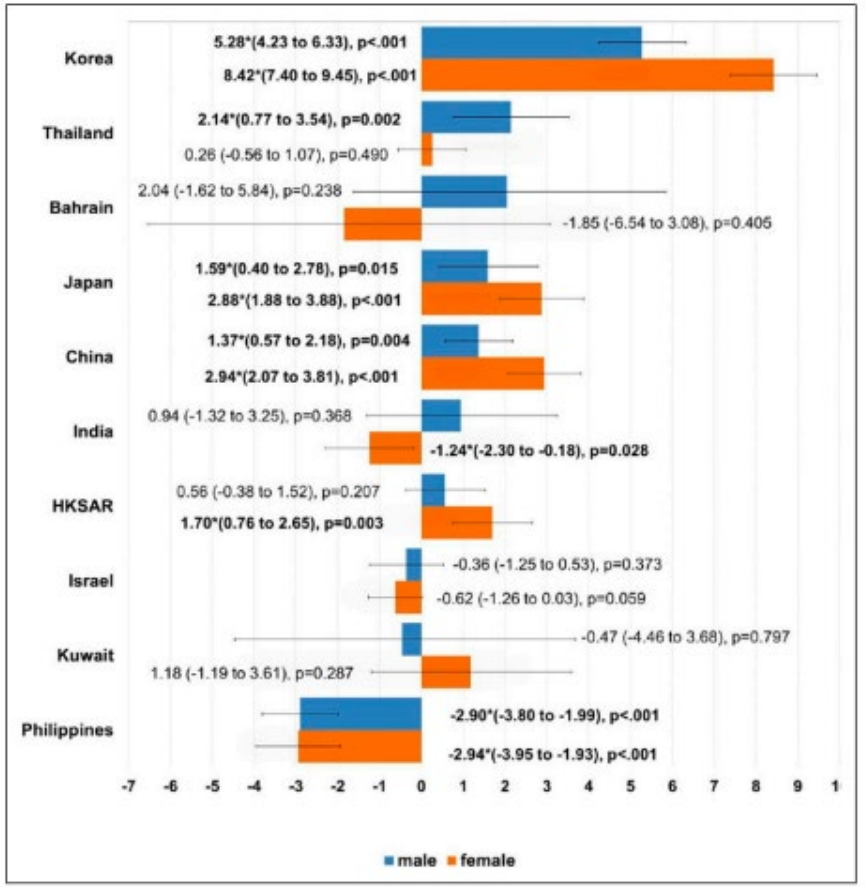
https://canceratlas.cancer.org/burden-of-cancer/cancer-in-southern-eastern-and-southeast-asia/#block-10

Non-traditional risk groups emerging:

Gender: Females



Age: Younger ages



Demonstrates influence of following risk factors:

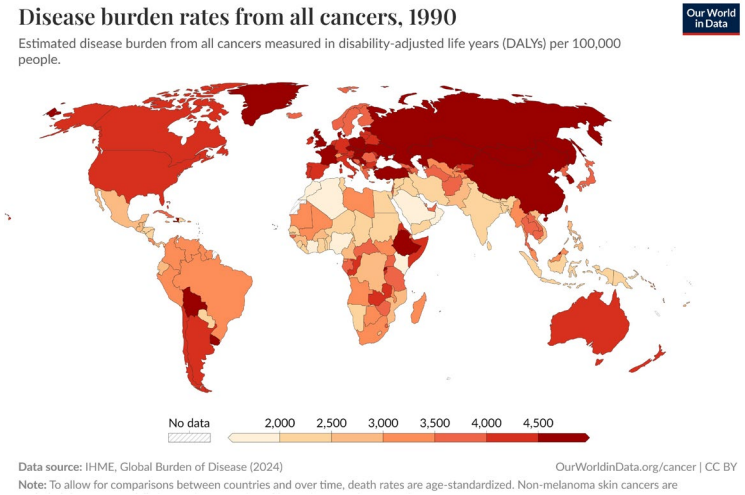
- **Lifestyle changes**
- **Increasing BMI**
- **Hormonally driven cancers**
- **Environmental effects**

Huang J, Ngai CH, Deng Y, Tin MS, Lok V, Zhang L, Yuan J, Xu W, Zheng ZJ, Wong MCS. Cancer Incidence and Mortality in Asian Countries: A Trend Analysis. Cancer Control. 2022 Jan-Dec

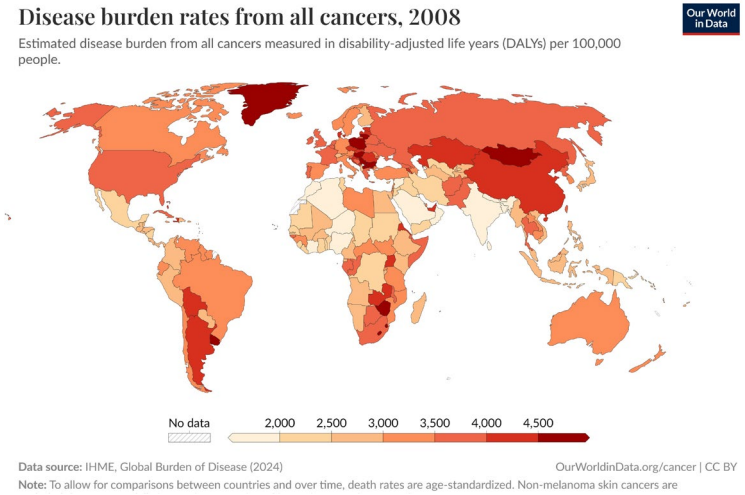
Impact / Disease Burden: Cancer over time

Reduction in impact and disease burden

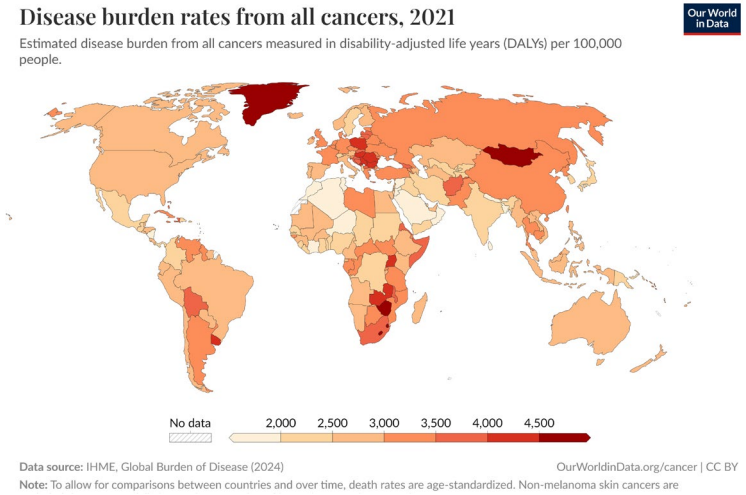
~ Early days of CI insurance in Asian Market



Steady improvement



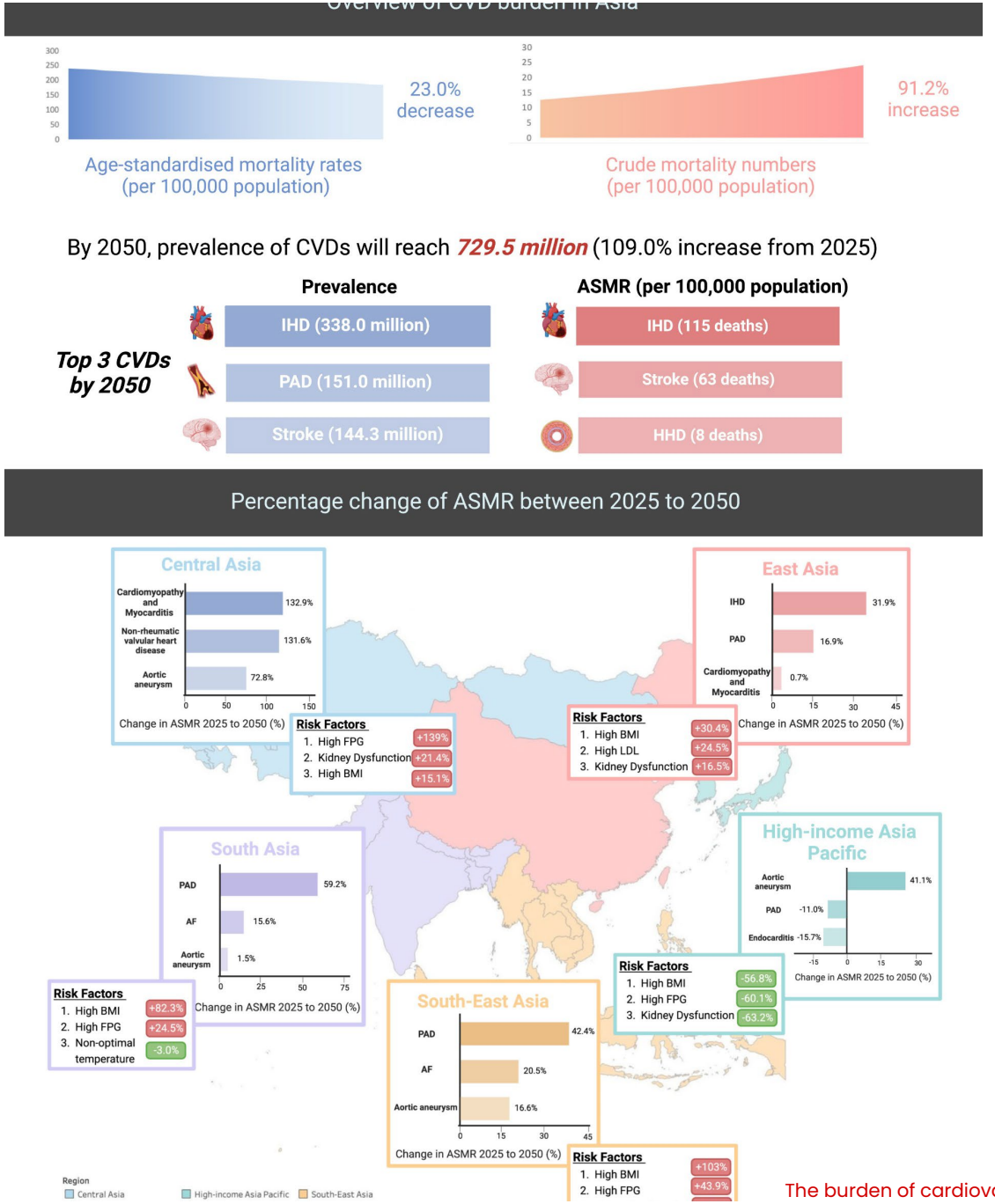
Marked change across Asia



Improvements of disease burden in short period of time

Cancer becoming like a chronic disease

Potential imbalance between what is given in benefits vs what is needed



CVD (including stroke) disease: Emerging crisis

Reduction in mortality rates
However crude mortality numbers will rise due to increasing prevalence of disease, especially ischemic heart disease

Large rise in population with relevant risk factors:

- **Increasing BMI** – no. 1 factor across most geographies in Asia (role of GLP-1s)
  - Sedentary lifestyle
  - Poor diet
- **Diabetes / elevated fasting glucose**
- **Higher cholesterol**
- **Renal dysfunction**
- **Rising chronic disease risk and incidence** may require more **targeted and effective insurer led health management strategies** to reduce risk and outcomes
- **Early detection methods also available**

The burden of cardiovascular disease in Asia from 2025 to 2050: a forecast analysis for East Asia, South Asia, South-East Asia, Central Asia, and high-income Asia Pacific regions; Goh, Rachel Sze Jen et al.; The Lancet Regional Health – Western Pacific, Volume 49, 101138

Risk **selection**

- **Disclosure based questionnaires** may not reveal the true risk nature of the applicant
  - Ability to intentionally and unintentionally non-disclose
  - Produce proper acceptance parameters for impaired lives or accelerate inclusive products
  - Lack of involvement of new and alternative data gathering sources
- Impact of greater information on health held by applicants – **greater granularity for more accurate risk assessment**
  - Risk of anti-selection
  - Increased segments with chronic diseases that need to have more severity segmentation
    - Eg Seniors and impaired lives

NHS Galleri Trial

Early **detection**: Medical advancements

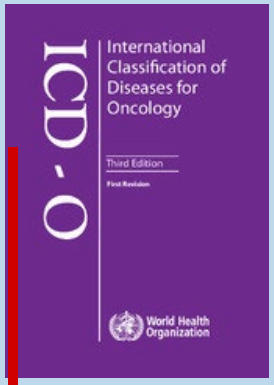
Trends for cancer

- **Early Detection Impact**
  - **Existing Diagnostics – LDCT, Thyroid, Breast, Colon**
  - **Future Diagnostics – Liquid Biopsy, MCED, AI detection, Genetics / Risk scoring**
  - **Pre issue**
    - Unable to use this data if genetic component
    - Anti-selection risk
    - General off schedule, patient initiated screening
  - **Post issue**
    - Incidence increase due to early detection
    - Early stage incidence likely most impacted
    - Traditional screening also
    - MCEDs – May raise risk of what constitutes a ‘diagnosis’
    - Could there be an offsetting effect, from off schedule interventions

Early **detection**: Medical advancements

Trends for CVS

- **Early Detection Impact**
  - **Existing Diagnostics – Angiogram, CT Angiogram**
  - **Future Diagnostics – Improved imaging with AI detection, Genetics / Risk scoring**
  - **Pre issue – lack of involvement**
    - Alternative screening mechanisms
    - Eg Calcium scores
    - CT Coronary angiography
  - **Post issue**
    - Incidence increase
    - Early stage
    - ? Influence of angioplasty on MI
    - Could there have been an offsetting effect



Protection

Diagnosis-based lump sum benefits are difficult to futureproof

- **Using diagnosis definitions as arbiters of severity, eligibility, impact and need may be obsolete**
- Diagnostics are changing, nomenclature is dynamic
- All valid and leads to **'definition creep'**
- Eg. WHO revision of **ICD-O** codes of cancer behaviour
- Emerging therapies are normally excluded or not covered
- Good at coverage for the now, but if products are meant to be for the future – need to be future ready

GLP-1 inhibitors

Cancer vaccines

Alzheimer's Disease drugs

Gene and cell therapy

Critical illness insurance: Purpose led direction

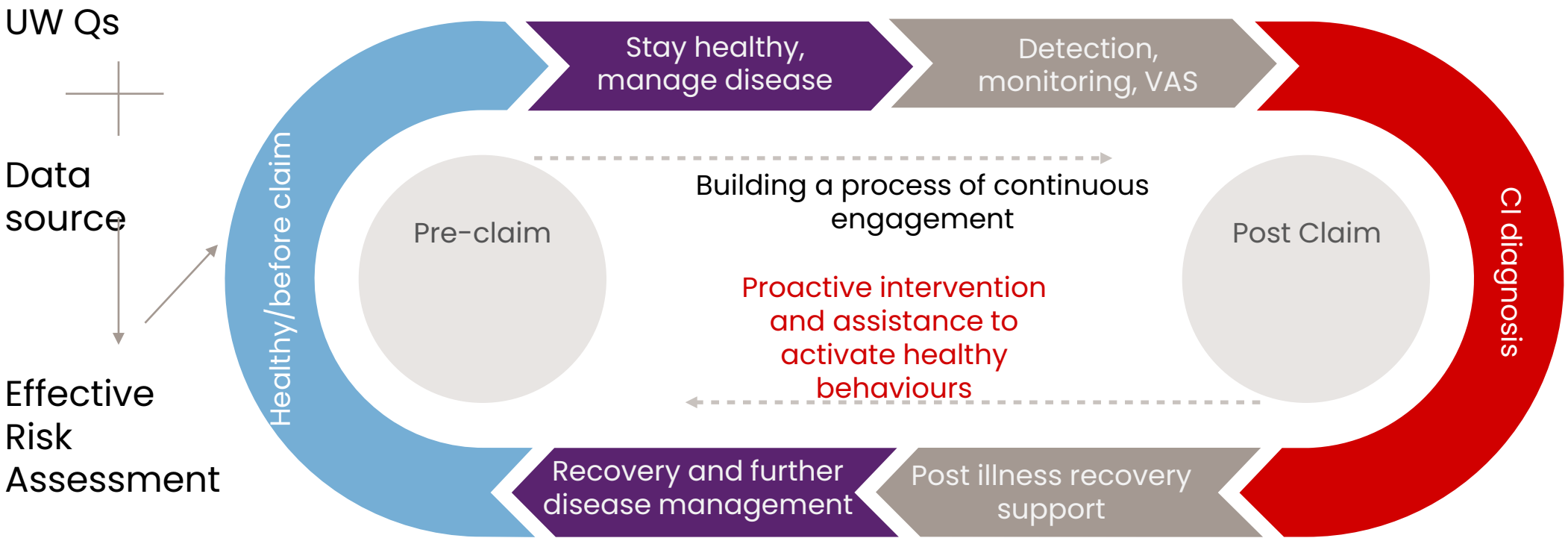
'Dread Disease Protection'

Bolder and smarter ways to deliver on our promise: Making financial protection accessible to all

- Innovating to protect the uninsured and to evolve the industry
- Operating responsibly and taking action to address trends and issues so that we can provide a service and coverage for people for the longer term
- Embracing change to support and sustain growth, produce relevant propositions for the future that are still profitable

Example: Product lifecycle

Combining the main sciences to support a healthier customer journey



Enhanced, Effective Engagement Ecosystem

Value chain levers and opportunities

Better Selection through traditional and innovative factors

Underwriting

Baseline Protection

Single disease vs comprehensive CI

Staged, Treatment and Impact based

Commensurate with current and future trends

Ecosystem Focus

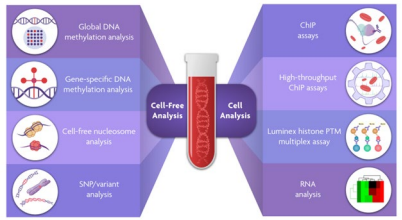
CI Diagnosis

Retention of customers

Prevent lapse, post – claim options for other coverage mechanisms

Retention

Product Benefits



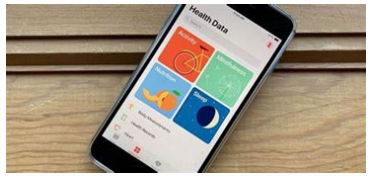
Proactive Detection and Interventions in Policies

Health and Disease management

Prevention

Detection mechanisms

New drug benefits eg GLP-1



Post CI care

Protection includes additional Support in treatment and recovery

Value added services for holistic care

Support for new therapies in the future

Select

Evolving from disclosure based questionnaires

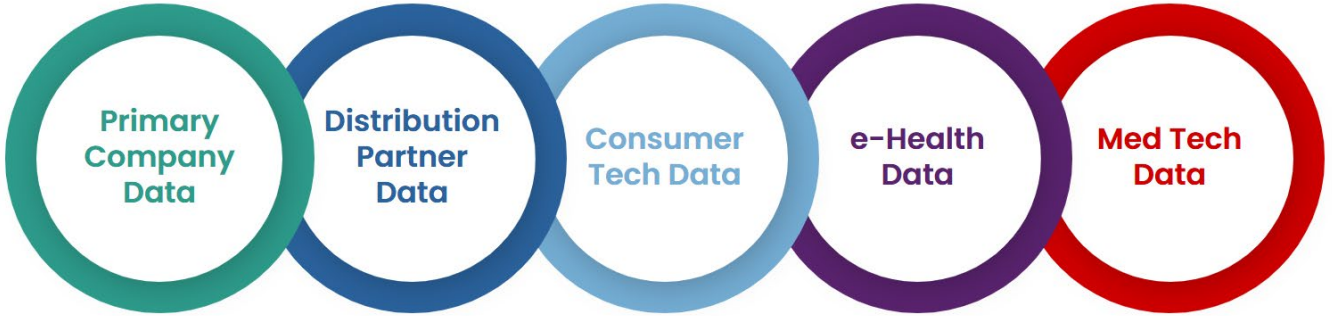
Pre and Post issue: individual / segment focused, dynamic

Enhancing the process, utilising new technology for alternative data at UW that better screens or highlights the true underwriting risk at application stage

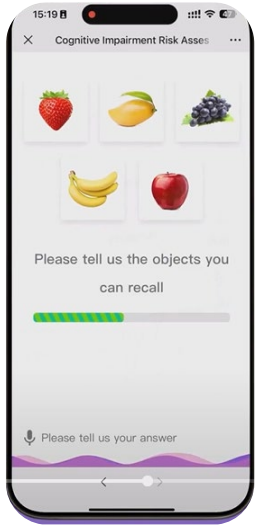
Examples

- rPPG
- Cognitive testing
- Resting heart rate
- Steps counter
- AI analytics on existing captured biometric data

Data sources for Underwriting risk selection



Customer pre-selection or point of sale selection is important, and can possibly be aided by digital MedTech for better risk segmentation or product offering



Detect

Concept of Detection as Protection

Healthy lives: Is one of the goals the detection of healthy behaviours and activities to incentivize and reward?

Unhealthy lives: Detect and help steer towards managed pathways, early diagnostics to prevent serious disease

Offset later stage disease

Examples:

- Chronic Disease Management programs vs. Wellness programs
- Predictive analytics, risk scores
- Diagnostics and screening tools
    - Imaging, liquid biopsies

Active intervention through early detection of health status and behaviours can potentially modulate outcomes

Protect

Review of diagnosis only based lump sum to pivot towards

- **Smaller lump sums**, but in conjunction with **treatment based** payouts
- **Treatment only** based payouts
- **Impact led** benefits or more **diversified** benefit bases

Holistic Disease related benefits:

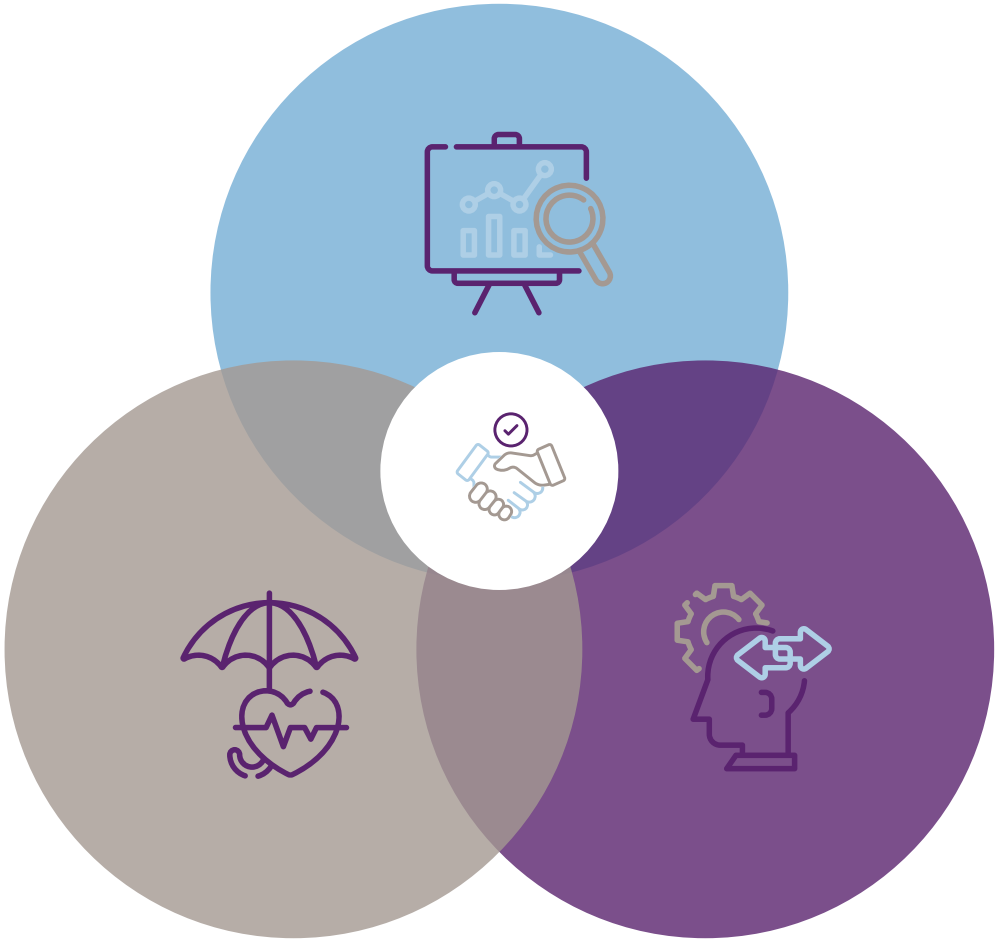
- Advanced therapeutics for currently untreatable conditions eg Parkinsons, MND
- Genomics
- Care pathways – disease treatment, alternative/supportive treatments, care assistants (robotic, genomic, AI)
- Claims management pathways (protecting the insurer)

Opportunities to create future looking benefits and embrace newer advances in clinical sciences

Behavioural challenges & solutions

Product design for humans

Actuarially sound



Meets genuine and perceived customer needs

Designed for customer behavior

Three key behavioural challenges

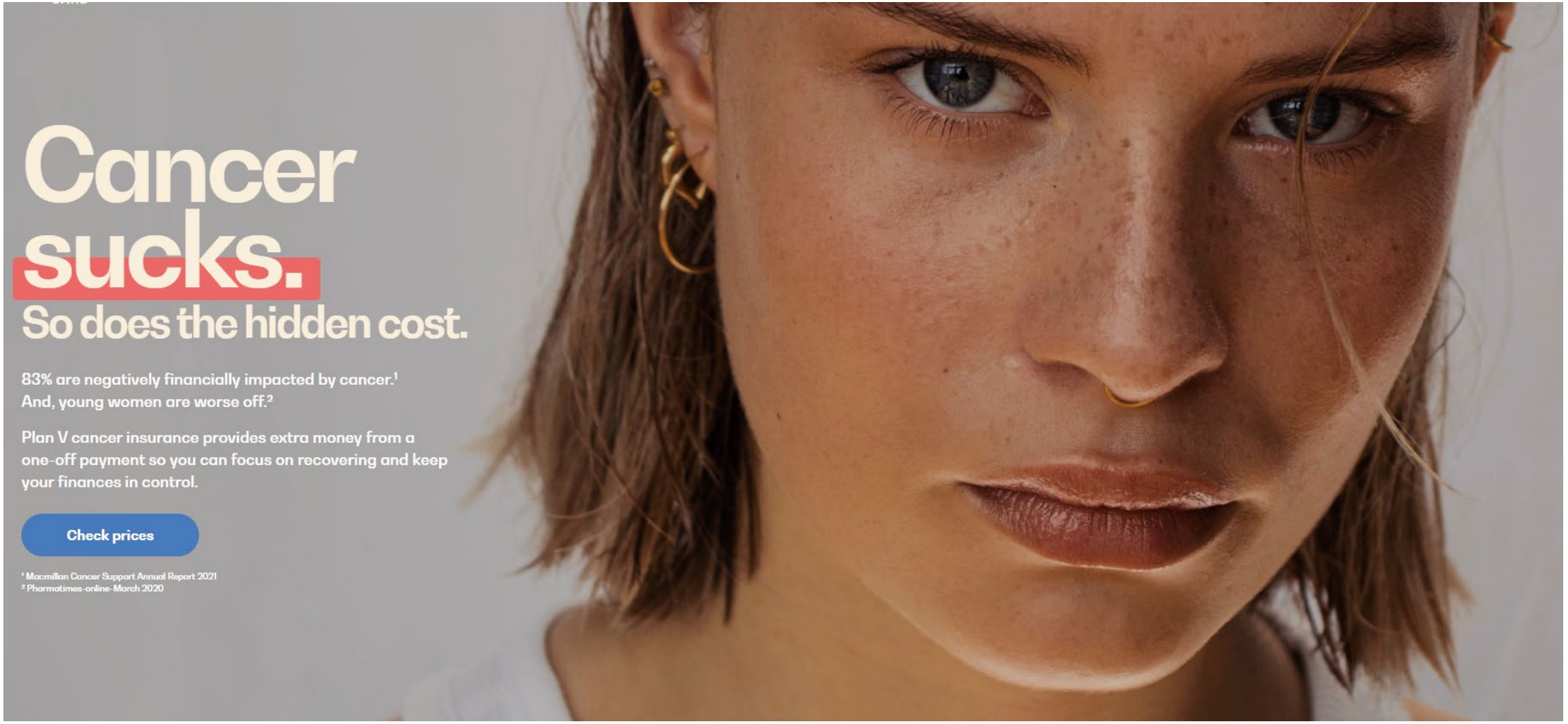
Protection gaps
- Complex products
- Understanding needs

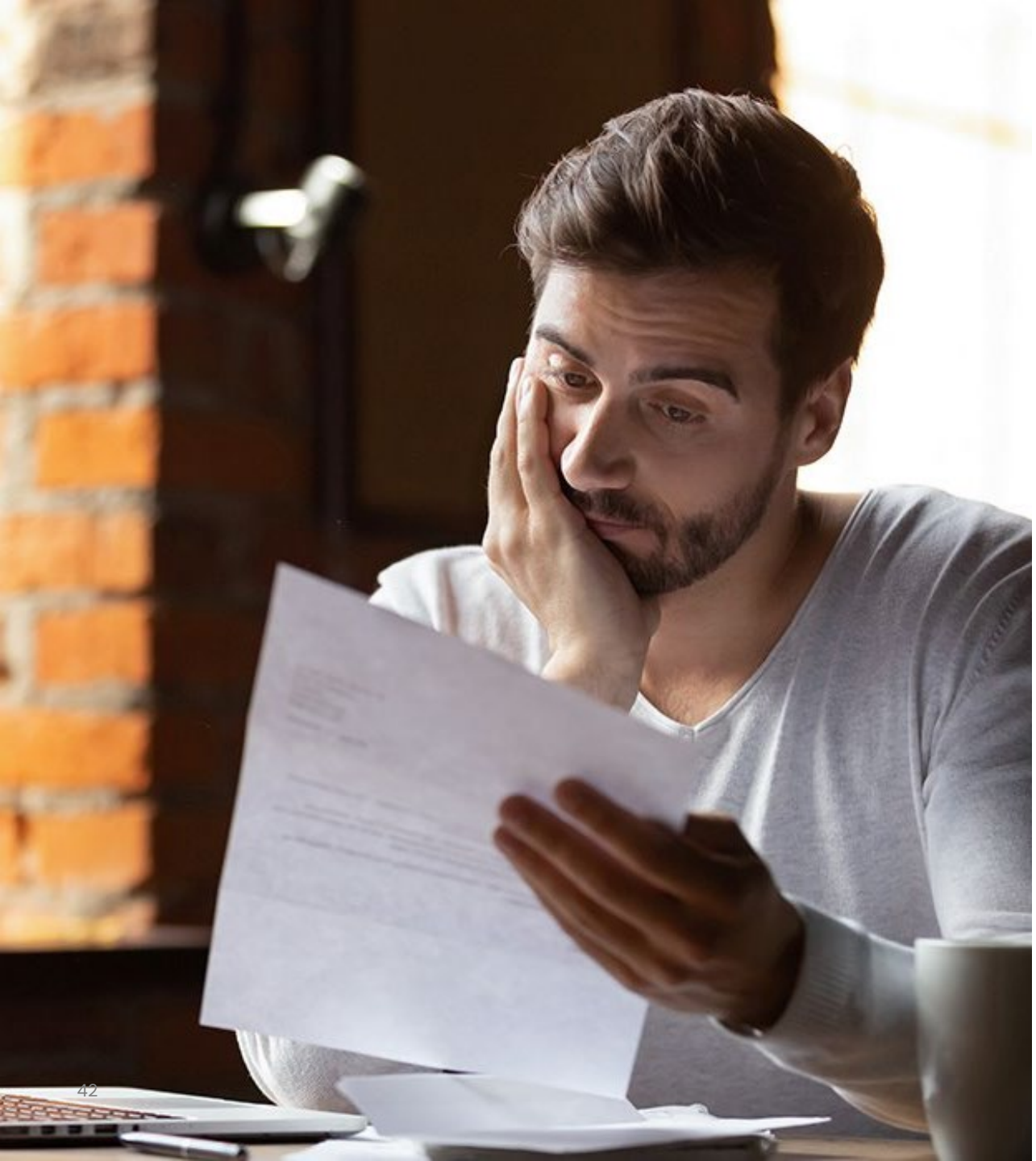
Disclosure gaps
- Nondisclosures from traditional underwriting methods

Health behaviour gaps
- Major health challenges have behavioural roots
- Managing health behaviour is challenging

Does CI have an ostrich problem?

Awakening CI needs: Make it relevant



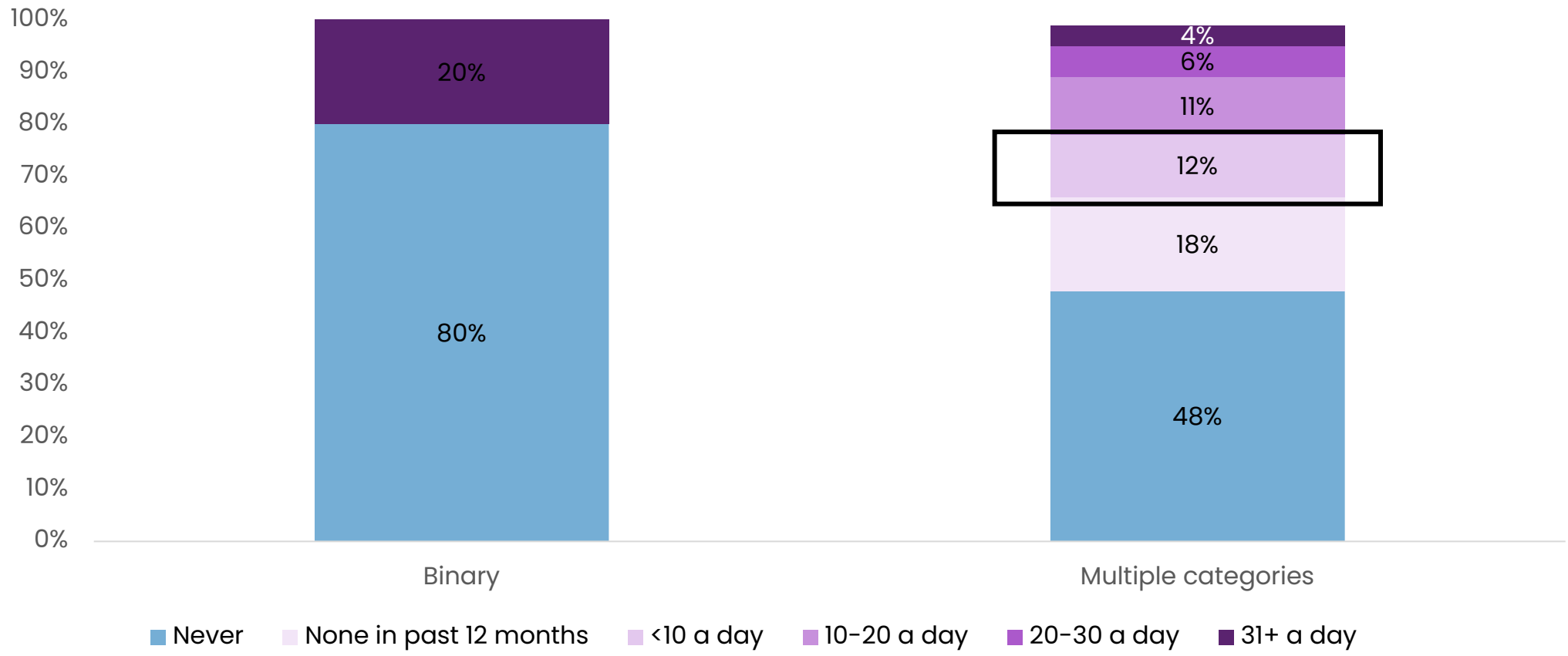


Reduce complexity

- Actuarily sophisticated products can be complex[1]
- Complexity is counterproductive[2]
- Low understanding hinders sales[3]
- Comprehension can be managed[4]

1. Life and Health Insurance Product Trends: Insights from RGA-supported product launches | RGA
2. The paradox of choice
3. Understanding Life – The Impact of Life Insurance Knowledge on Consumer Attitudes and Behaviors, LIMRA.
4. Searching for simplicity: RGA

The non-disclosure challenge: Smoking



Source: RGA research

Simple question redesign increases disclosures

Significantly increased disclosures and only **2** seconds longer to answer than the binary version

When was the last time you used tobacco or nicotine substitutes?

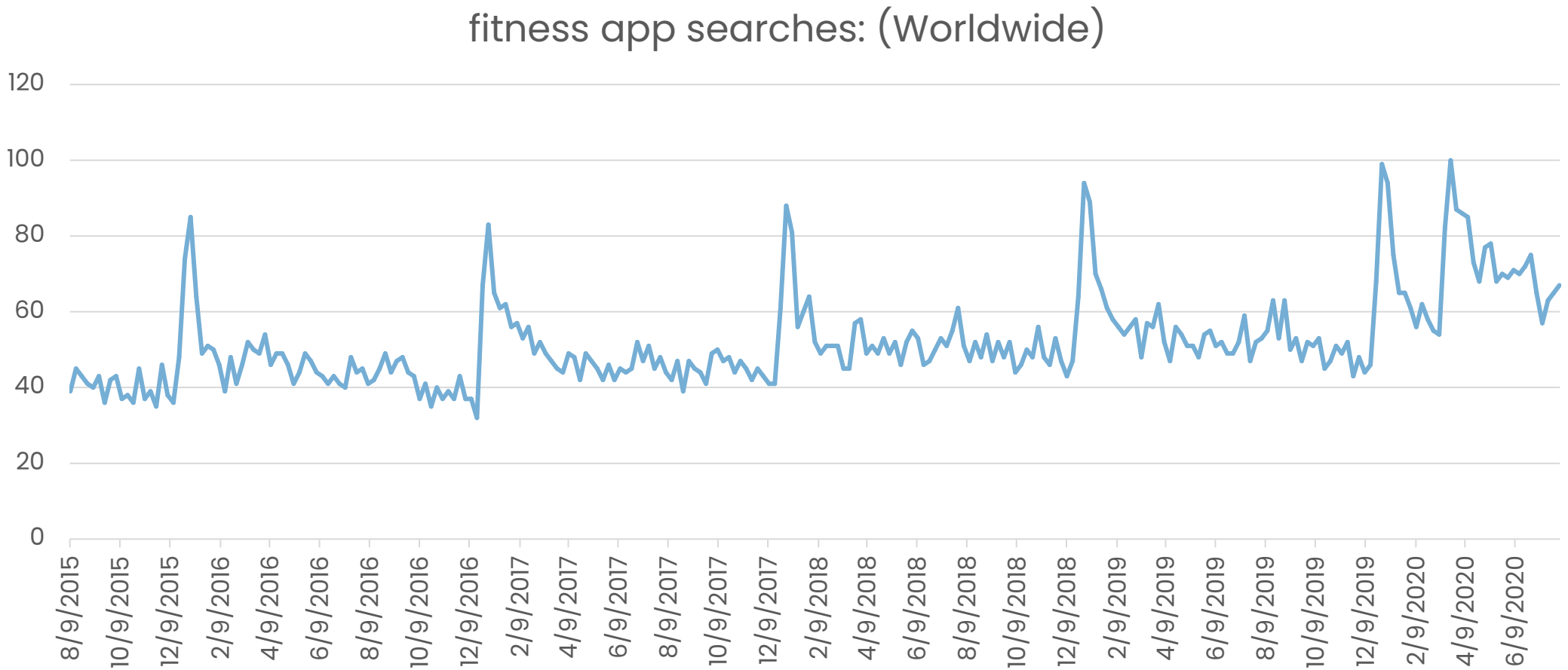
- In the past month ☐
- Between 1 month and 12 months ago ☐
- Between 12 months and 2 years ago ☐
- Between 2 years and 5 years ago ☐
- 5 or more years ago ☐
- Never ☐

In the last two years have you used tobacco or nicotine substitutes?

Yes ☐ No ☐

Source: RGA Research 2022

Managing health behaviour: motivation is transient

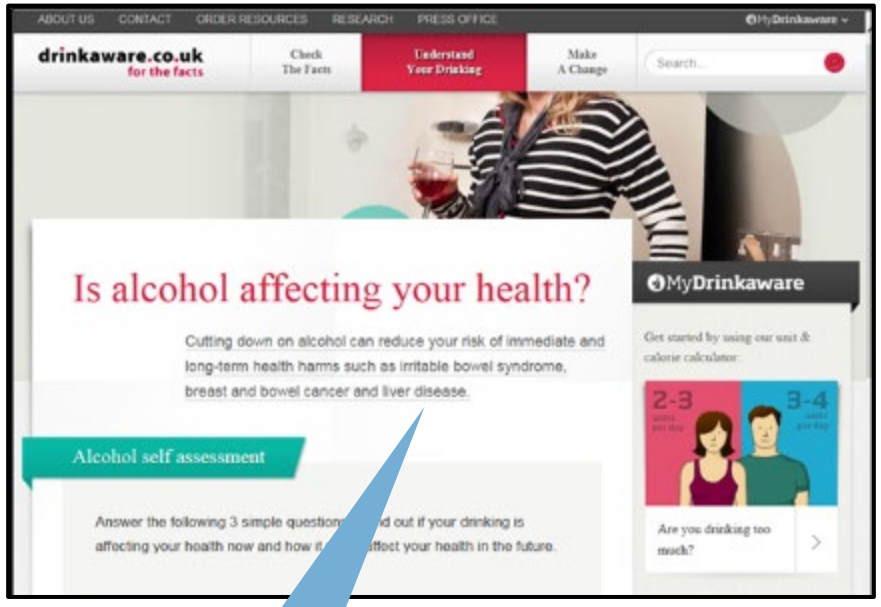


Source: Google Trends

Health behaviour is difficult to manage

Designing for real motivations

Reducing harmful levels of drinking

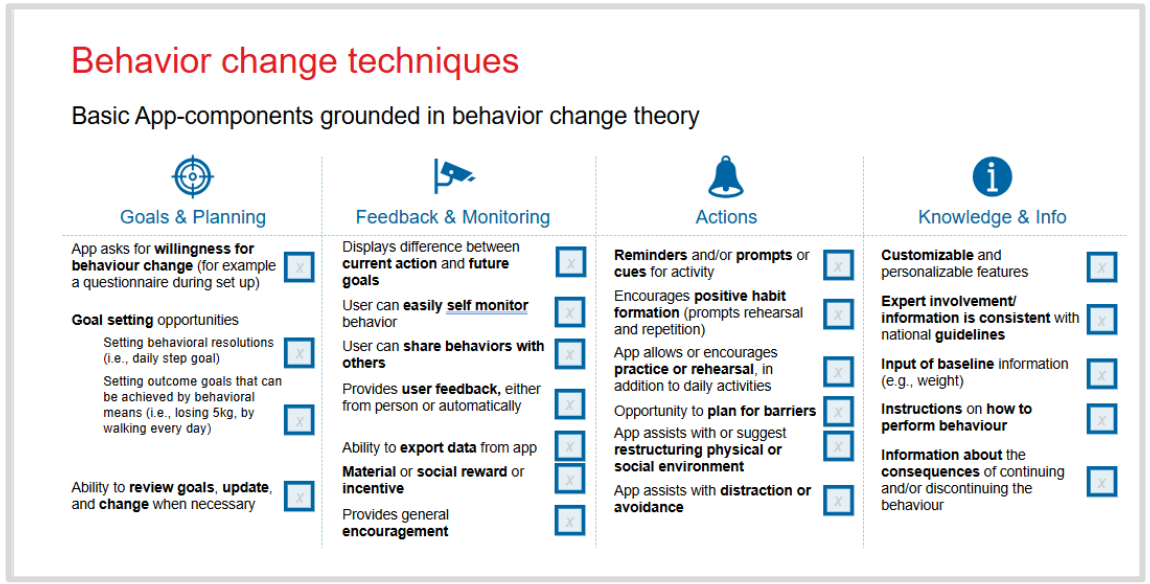


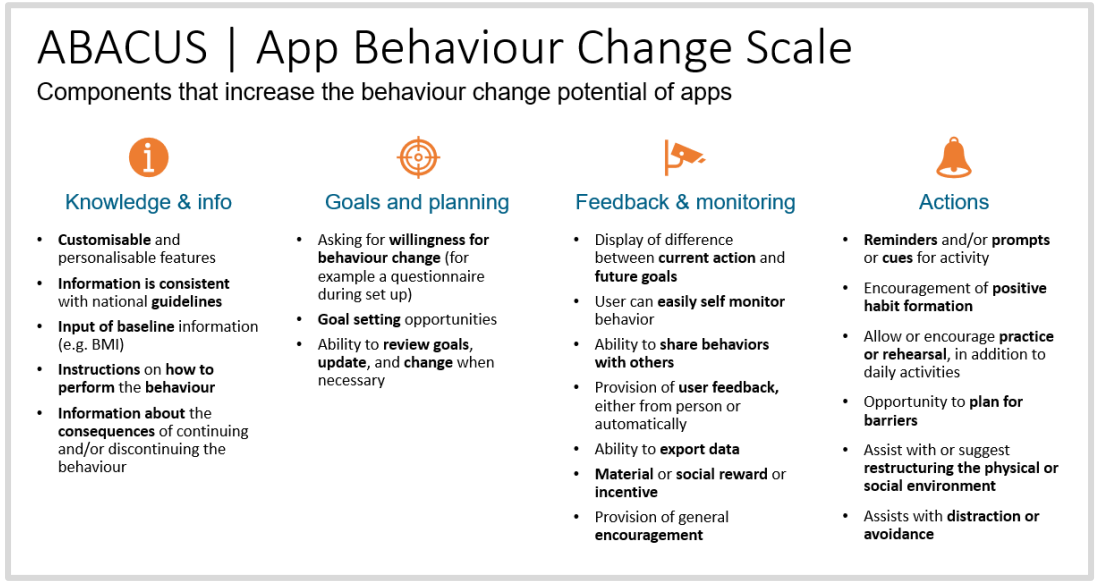
"Is alcohol affecting your health? Cutting down on alcohol can reduce your risk of …, breast and bowel cancer and liver disease"

Is alcohol affecting your appearance? Cutting down on alcohol can reduce your risk of … saggy skin, obesity and premature ageing"

Sallis, A., Attwood, S., Berry, D. et al (2016). Message framing in alcohol harm reduction: results from an RCT. https://www.tandfonline.com/doi/full/10.1080/08870446.2019.1579911

Scientifically-validated tools for behaviour change





Source: RGA research 2022, Read more
Source: The app behaviour change scale

Technology & health behaviour: intervention or selection

Towards deep integration of behavioural science in CI innovation

Mechanic

Mechanical engineer

Summary

Changing medical practice makes solely relying on historical data problematic. We have already seen impacts on product sustainability.
Consider treatment-based pay outs.

Evidence Based Innovation: Understanding the data from clinical experiences, observations and learnings for better solutions

Future benefits must align with advances in medical sciences.

Embed behavioural science to build products that align with human nature.

Trusted partner.
Proven results.