



IAI 15th Webinar on Health Care Insurance

WTW

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Agenda

- 1. Introduction**
- 2. AI strategy for health insurers**
- 3. Smarter portfolio management with AI**
- 4. Broader AI use cases and governance**
- 5. Questions**



Introductions

Company Overview

One global organisation with local knowledge and complementary expertise working in unison



Rich Heritage

Servicing clients since **1828**

Global reach, local Expertise

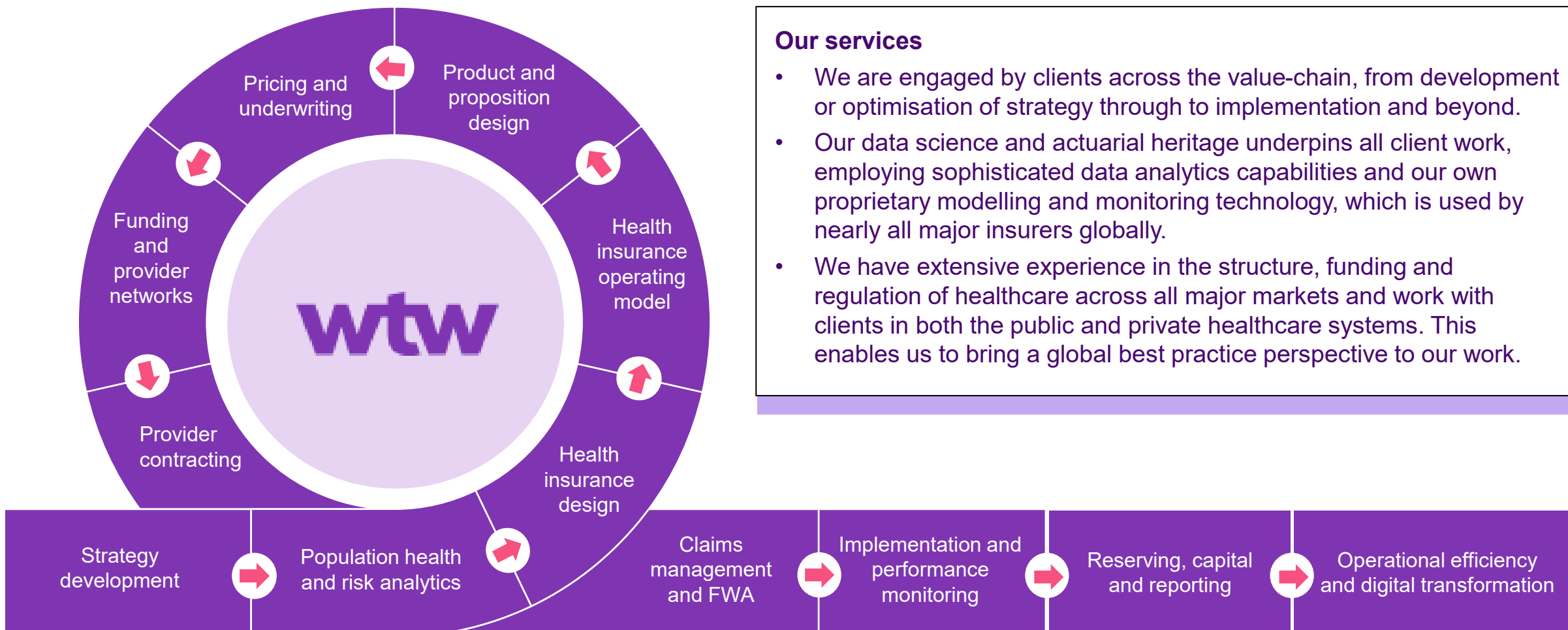
140+ countries & markets served by **47,000** colleagues

Global & diversified client base

- **90%** of the **Fortune Global 500**
- **89%** of the **U.S. Fortune 1000**
- **96%** of the **FTSE 100**

Consulting services across the health insurance value-chain

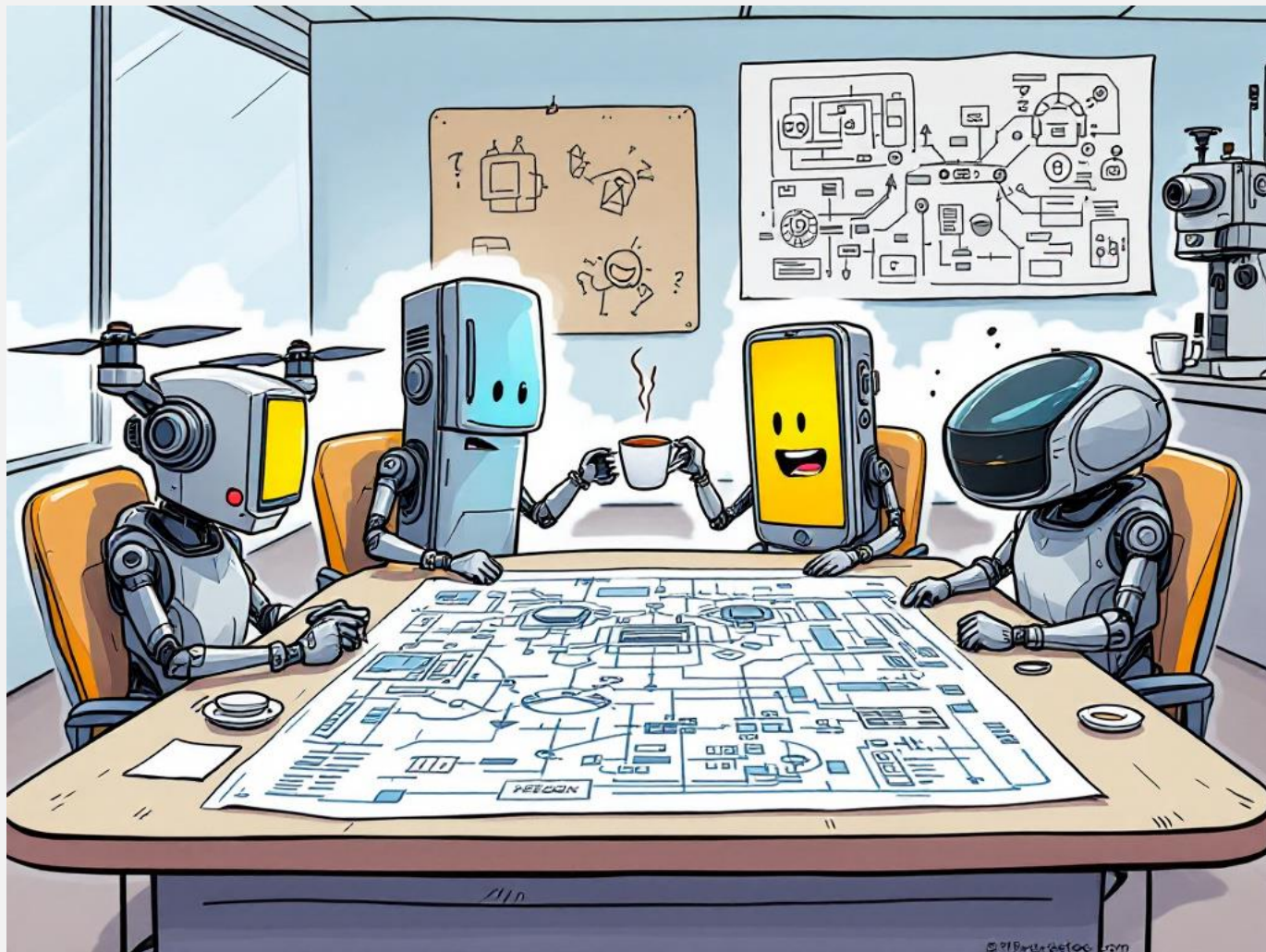
Our services span the spectrum from strategy development through to post-implementation support





AI strategy for health insurers

The hype about Generative AI and Agentic AI



In the last two years we have all heard and read a lot about how technology like **Gen AI** will **radically transform insurance** (and the world in general)...

...and then, the last months have been about **Agentic AI**...

...so, **how real is the disruption** potential and should we care?

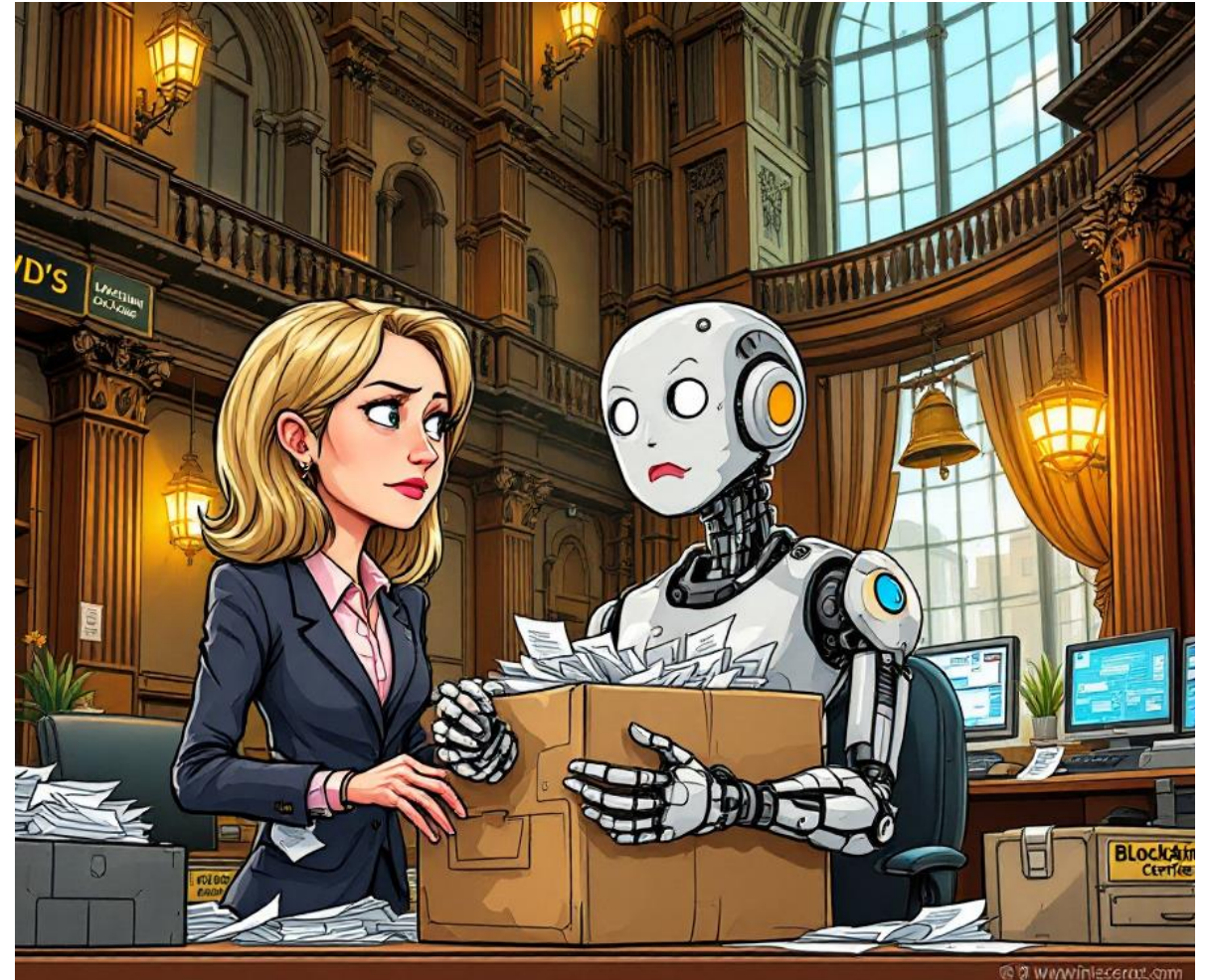
AI is...

...the development of computer systems that can perform **tasks typically requiring human intelligence**.

...about creating machines that can **learn, reason, and solve problems**.

...**not** just about **automating** tasks;

...about enabling machines to **adapt and improve**.



AI is...



AI therefore **presupposes the ability to predict** and forecast future outcomes.

Those outcomes can be very simple to predict or very complex, they can be deterministic or stochastic, single or multiple, independent or interconnected.

This is why a great part of what AI does is predicting patterns and outcomes to optimize an objective function, but **its actual goal is to do so by imitating human decision making.**

What is “true AI” and how are we using it in insurance?

From Predictive Analytics to Machine Learning, AI, Generative AI, and Agentic AI

Traditional Predictive Analytics

- Uses historical data to predict future events
- Relies on statistical methods
- Subject to predefined rules

Machine Learning

- Uses historical data to predict future events
- Enables systems to learn from data
- Enables to improve over time
- Imposes less statistical modelling constraints
- Foundation of wider AI applications

AI

- Perform tasks typically requiring human intelligence
- Designed to emulate the human brain structure (e.g. visual cortex)
- Encompasses multiple foundational technologies or applications of machine learning
- Deep learning (CNNs, RNNs, LLMs), Automated Planning and Scheduling, Multi-agent Systems

Gen AI

- **Generate** new content (text, images, audio, data)
- **Synthesizes** contents
- Learns from data patterns
- Communicate and engage with humans in conversational fashion
- Makes use of machine learning and AI techniques, e.g. deep learning models (LLMs), generative adversarial networks (GANs), or diffusion models

Agentic AI

- AI systems that behaves **autonomously** to achieve goals and make decisions
- May include planning, learning, perception, and adaptation
- Combines multiple AI capabilities to solve problems independently (e.g. APS, CNNs, RNNs, LLMs)
- Need proper Communication, Contextualization, Orchestration

Generative AI

What makes Large Language Models fundamentally different from other AI forms?

Scale and Complexity

- Massive size and complex architectures
- Typically based on deep neuronal networks like Transformers

Data requirements

- Require enormous datasets for training
- Most LLMs trained on vast amounts of text and images from the internet
- Can then be augmented with additional data for domain specificity

Capabilities

- Generate new content, create output similar to input but not identical
- Few-shot and zero-shot learning
- Emergent abilities
- Transfer learning



Agentic AI

Transitioning from foundational models to multi-agent systems

Communication

- Prompts
- Subject matter expertise
- Structure of thought, clarity, minimum ambiguity, syntax

Contextualization

- How to interact with the real world (or the insurance world)
- Workflows
- Processes
- Access to tools

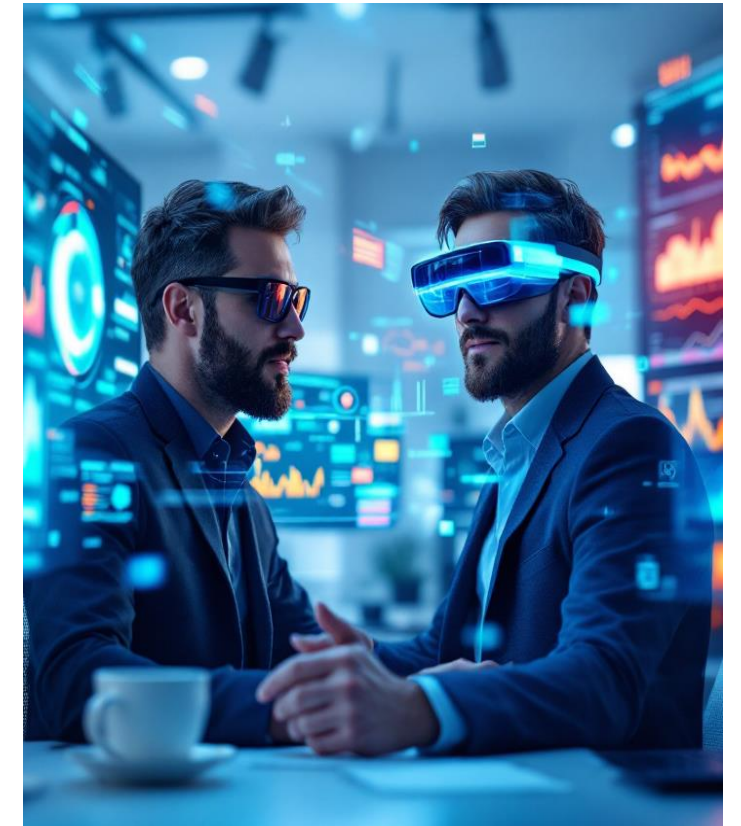
Orchestration

- Minimize hallucination and biases
- Maximize robustness, accuracy, consistency
- Teams of agents (human, artificial)
- Agent specialization, organisation, “personalities”, “skills”



Different attributes, capabilities, and maturity imply differentiated applicability

Technology	Key Attributes	Typical Inputs	Outputs/ Capabilities	Level of Autonomy	Computing Power Required	Cost (Relative)
Predictive Analytics	Uses statistical models to forecast future outcomes based on historical data	Structured data	Predictions, forecasts	Low	Low	Low
Machine Learning	Learns patterns from data to make predictions or classifications	Structured/unstructured data	Automated predictions, classifications	Moderate	Moderate	Moderate
AI (General)	Encompasses ML, rule-based systems, NLP, computer vision, etc.	Various (text, images, data)	Decision support, automation	Moderate to high	Moderate to High	Moderate to High
Generative AI	Creates new content (text, images, scenarios) based on learned patterns	Large datasets (text, images)	Synthetic data, documents, responses	Moderate	High	High
Agentic AI	Autonomous agents that perceive, reason, act, and learn to achieve goals	Real-time data, environment feedback	Goal-driven actions, adaptive decisions	High	Very High	Very High



Smarter portfolio management with AI

Examples: Portfolio Management & Underwriting



Automate

- **Portfolio dashboards:** Real time dashboards for conversion & retention segmentation, actual vs. expected, impact analysis and deployment tracking
- **UW feedback capture:** Systematic structured capture of underwriter rationale, overrides and decision logic into a versioned data asset that feeds back into pricing models
- **Cross-function reconciliation:** Automated reconciliation across pricing, underwriting, claims and finance at every data refresh; discrepancy reports generated automatically
- **Streaming data pipelines:** Daily batch transfers replaced by streaming data pipelines; telematics, IoT, satellite imagery and weather signals processed, versioned and cached in real time



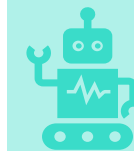
Predict

- **Segment trawling:** Automatic identification of multi-dimensional segments driving changing experience, with a focus on root cause analysis which is surfaced without manual investigation, continuously updated
- **Competitor dynamics:** Dynamic competitor response models: tracks conversion/retention shifts that infer market moves and predicts how competitors will react to your rate changes
- **CLTV modelling:** Customer lifetime value integrating renewal probability, cross-sell propensity, claims history and channel acquisition cost
- **Multi year portfolio trajectory:** Rolling scenario projections across 3–5 year horizon including capital implications, updated continuously from live portfolio performance data



Suggest

- **Next best portfolio actions:** Active Portfolio Management AI Agent creates predictive signals, business rules and contextual knowledge to recommend pricing and UW actions with rationale and confidence levels
- **UW rule guidance:** UW Rule AI Agent suggests targeted changes to automated UW rules to adjust UW footprint in direct response to emerging claims experience
- **Rate recommendations:** Rate Recommendation AI Agent creates technical cost, elasticity, UW constraints and business objectives into traceable, prioritised rate recommendations delivered continuously for a Human to approve
- **UW judgement encoding:** Text and sentiment analysis of UW rationale identifies patterns of value creation and destruction, with structured feedback loop into UW guidance and pricing parameters



Act

- **Active portfolio management:** APM AI Agent executes approved overlay adjustments within pre defined guardrails, catching emerging loss trends, acting within days, not months; autonomous within set parameters
- **UW decision support :** AI Agent surfaces modelling insights at point of decision, determines price/terms flexibility automatically and stages approved changes with full traceability
- **Low risk deployment:** Deployment & QA AI Agent automates tariff compatibility checks, regression testing and version control, enabling frequent deployment for approved low risk changes
- **Continuous governance:** All AI Agent activities are monitored in real time, enforcing fairness guardrails, detecting bias and generating audit trails

Deterministic

Non- Deterministic

The impact of AI?

**AI will not replace
insurance expertise
- it will enhance it**

- AI automates and accelerates processes
- AI can detect higher-dimensional patterns
- AI cannot replace human judgement and accountability
- But that accountability changes
- Humans remain in loop - interactive, interrogative layer - assisted, not replaced

The impact of AI?

Insurance-specific expertise must be embedded in AI

AI will not replace insurance expertise - it will enhance it

- Generic AI is not enough for regulated insurance-specific contexts
- Need to incorporate insurance knowledge, including
 - governance
 - explainability
 - deterministic checks

The impact of AI?

**Governance and
human accountability
will change**

- AI Agents can automate “routine” work and escalate “exceptions”
- Oversight will evolve to being policy-driven & exception-based
- Leaders will need to define guardrails, thresholds and decision policies
- This can be supported by “governance agents”
- Oversight becomes more real-time

**AI will not replace
insurance expertise
- it will enhance it**

**Insurance-specific
expertise must be
embedded in AI**

The impact of AI?

**Skills need to evolve -
need domain expertise
and AI-fluency**

- Insurance experts will need
 - to design, interpret and challenge AI agents
 - to design Agentic systems
 - to practise in other areas as technical functions converge

**AI will not replace
insurance expertise
- it will enhance it**

**Insurance-specific
expertise must be
embedded in AI**

**Governance and
human accountability
will change**

The impact of AI?

Insurance software must embrace AI

- Insurance software needs
 - to harness AI
 - to integrate with Agentic systems
 - to cater for changed insurer operating models
- New agent-to-agent communication protocols may replace traditional APIs

AI will not replace insurance expertise - it will enhance it

Insurance-specific expertise must be embedded in AI

Governance and human accountability will change

Skills need to evolve - need domain expertise and AI-fluency

The impact of AI?

Winners will be those who operationalise AI

- Implementation, not experimentation, gets results
- Human + agent systems – analytical team becomes 5 humans + 50 agents?
- Technical function alignment with shared insight

AI will not replace insurance expertise - it will enhance it

Insurance-specific expertise must be embedded in AI

Governance and human accountability will change

Skills need to evolve - need domain expertise and AI-fluency

Insurance software must embrace AI

The impact of AI?

Expertise and experience becomes more, not less, valuable

- Value will shift to tasks where expertise gives competitive edge
 - Expert systems design, interpretation, judgement, governance, strategic decisioning
- Experience will matter
 - Which raises interesting issues

AI will not replace insurance expertise - it will enhance it

Insurance-specific expertise must be embedded in AI

Governance and human accountability will change

Skills need to evolve - need domain expertise and AI-fluency

Insurance software must embrace AI

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Winners will be those who operationalise AI

A modern office interior with large windows, a man standing by a chalkboard, and a group of people seated at a table. The scene is brightly lit with natural light from the windows and modern pendant lights. The man is wearing a light-colored shirt and dark trousers, holding a tablet. The chalkboard has some faint diagrams or notes on it. The people at the table are seen from behind, suggesting a meeting or presentation.

Broader AI use cases and governance

Bending the Cost Curve

Accelerating claims inflation is the most critical issue in private health insurance. Leading insurers are increasingly deploying AI to understand and address the drivers of claims inflation

Current state healthcare system

Focused on volume, casemix and reimbursement rate optimisation

Incentivises resource allocation to highest margin activity

Unsustainable utilisation growth, premium increases, coverage diminution

Encourages inpatient activity and higher complexity treatment

Disincentivises keeping people healthy and out of high-cost hospital settings

Disincentivises collaborative, holistic patient care

Few incentives to invest in advanced data analytics

Few incentives for promulgating best clinical practice across networks

Clinician engagement is focused on attracting high-yielding doctors



Target state healthcare system

Focused on outcomes, experience and waste minimisation

Encourages efficient allocation of resources

Bends the cost curve, leading to sustainability and affordability

Promotes care model innovation and predictive analytics

Incentivises population health, care coordination and proactive prevention

Fosters collaboration across specialties, disciplines and departments

Promotes transparency of integrated and real-time analytics

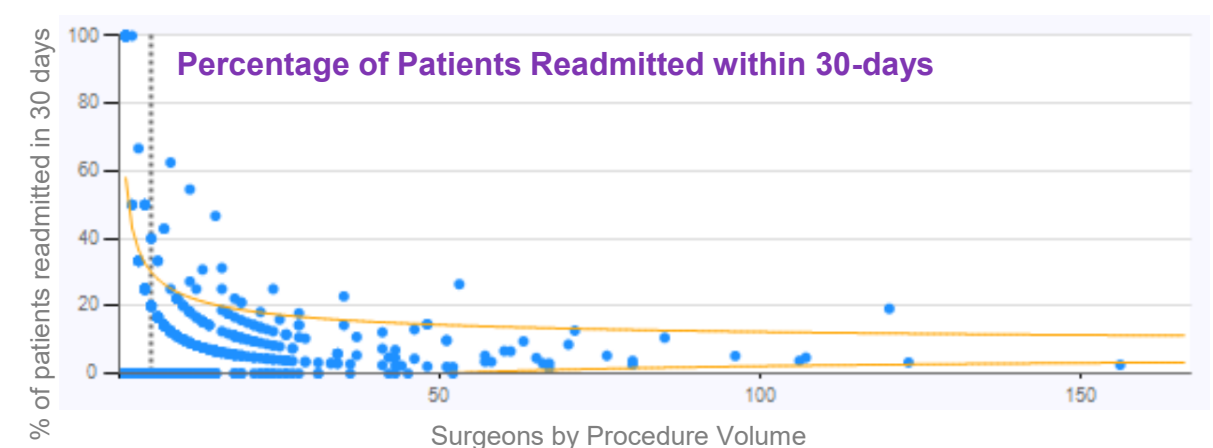
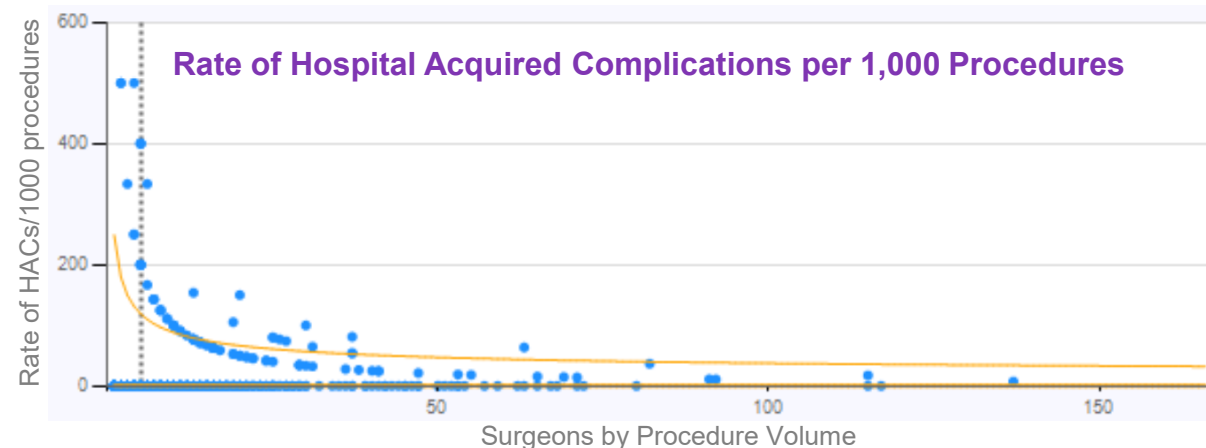
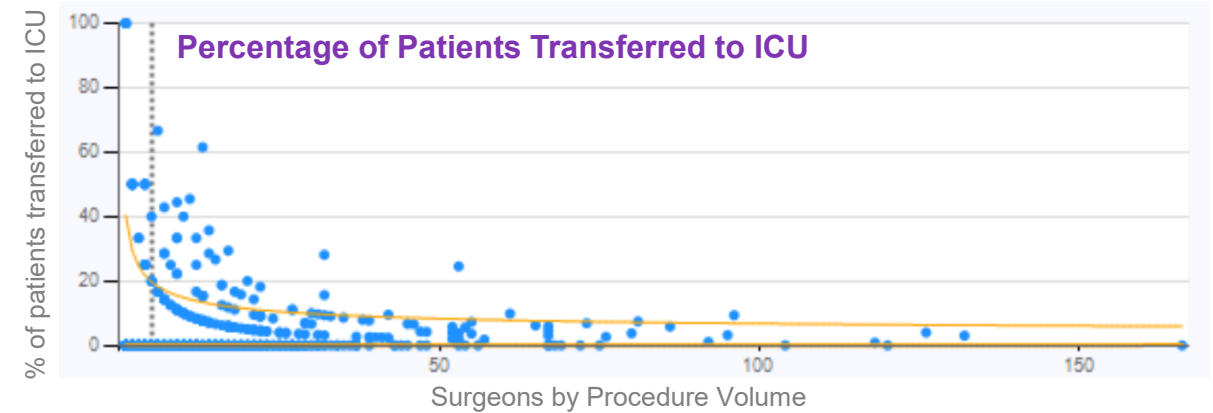
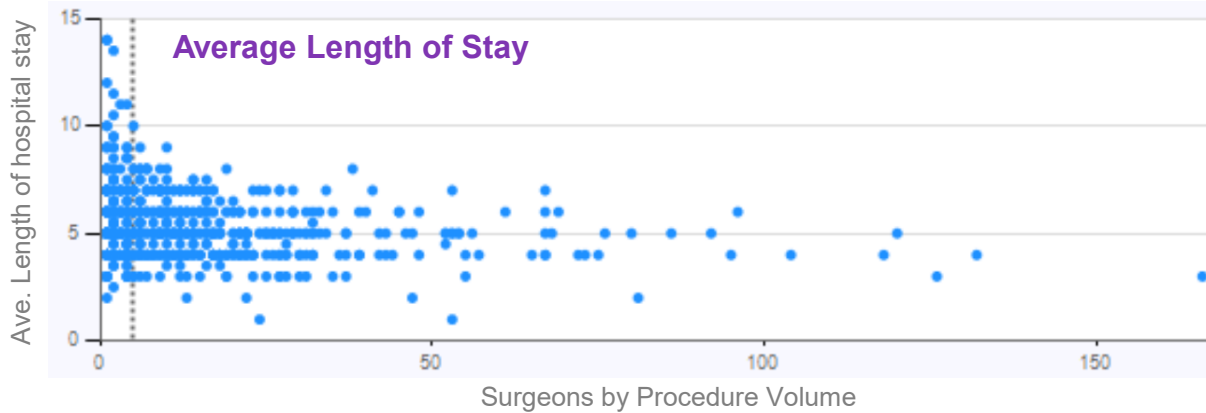
Creates a continuous learning environment focused on best practice

A comprehensive approach to clinician engagement and experience

Understanding Unwarranted Variation

AI to highlight unwarranted variation in provider performance in large, complex data sets. Used for contracting, reimbursement, provider network development, care steering, and FWA

The data represent metrics for **minor complexity hip replacement** procedures over a 1-year period. **Each blue dot represents a surgeon**



Address Fraud, Waste, Abuse and Error

AI to highlight FWA in healthcare

Recovery and Iteration

- Conducting claims audits
- Actioning recovery from retrospective outlier analyses
- Actioning product, benefits, and contracting terms
- Iteration of scoring models to enhance accuracy and real-time prevention capability and iteration of retrospective outlier models to identify and recover

Levers to Prevent and Recover

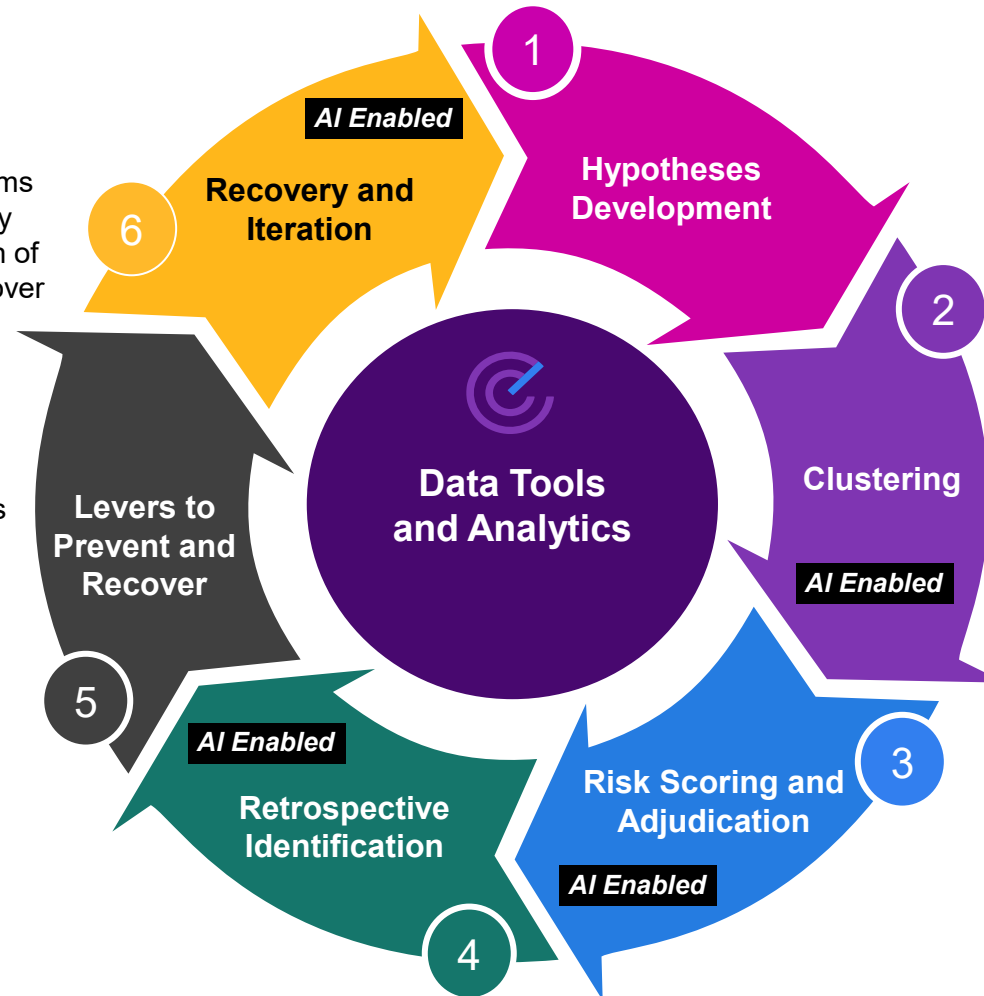
- Non-payment in real-time
- Special investigations and case management
- Product, benefits, and rule changes
- Provider contracting terms including audit rights
- Industry body partnerships
- Communications strategy
- Provider derecognition and prosecutions
- Steerage to preferred provider networks

Retrospective Identification

Variation and outlier pattern analysis conducted by clusters and longitudinally

- Provider outlier pattern analysis
- Member outlier pattern analysis
- Heat maps by provider and member

Retrospective models used to inform real-time risk scoring models



Hypotheses Development

Generation of FWA hypotheses using a combination of sources, including:

- Claims data analysis
- Existing FWA team insights and recoveries
- Custom-built expert panels
- WTW experts
- External experts

Clustering

Clustering of providers and members to enable like-for-like peer comparison and outlier identification, for example:

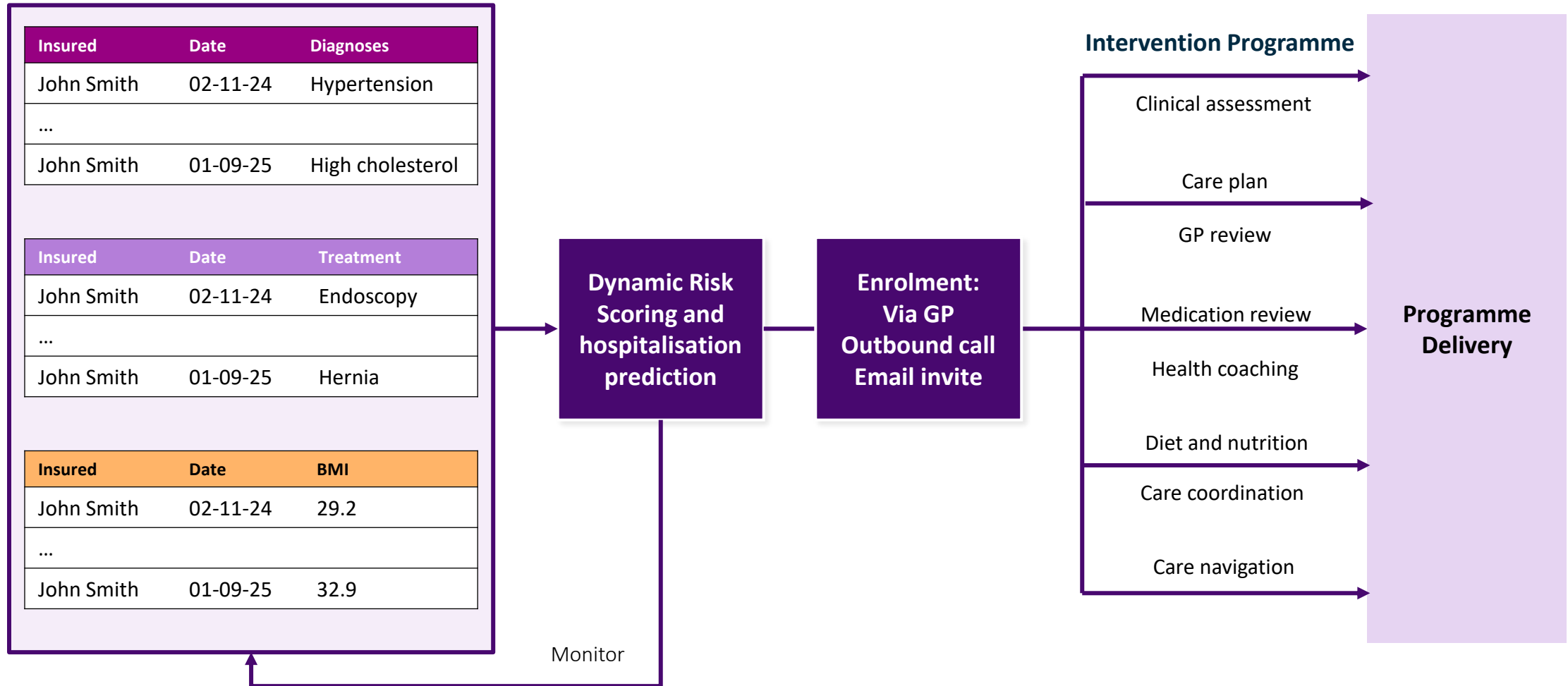
- Provider: by facility, modality, procedure, practice, coding, pricing, frequency etc.
- Member: by geography, product, demographic, modality, procedure etc.

Risk Scoring and Real-Time Adjudication

- Claims triage to score and categorise claims, generating actionable insights for informed downstream decisions
- Predictive model driven decision engine
- Automated model drift monitoring and alerts ensure predictive models stay relevant

Predict and Prevent Hospitalisation

AI to predict hospitalisation, risk stratify, and design interventions and care pathways

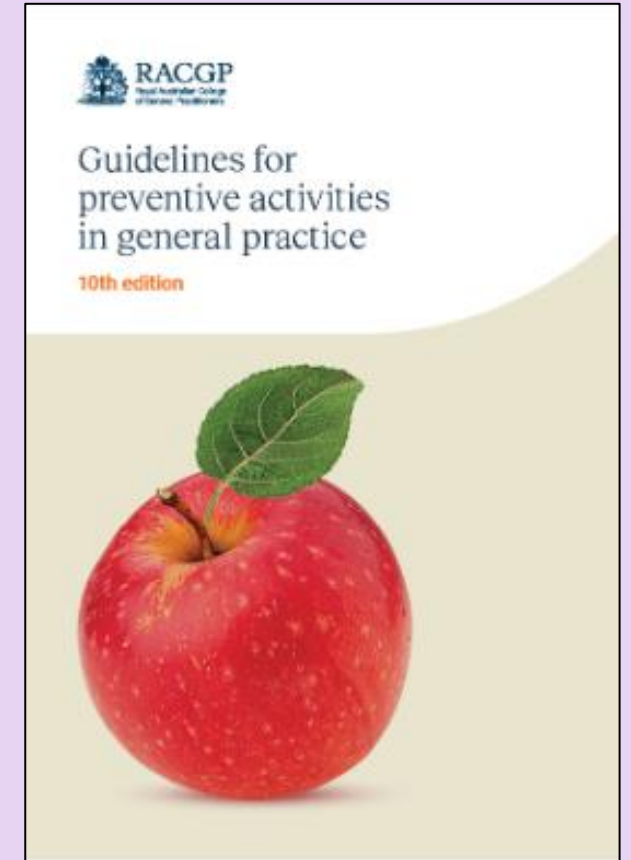


Predict and Prevent Hospitalisation

AI interrogating diagnostic data and preventative guidelines to prompt proactive closing of care gaps

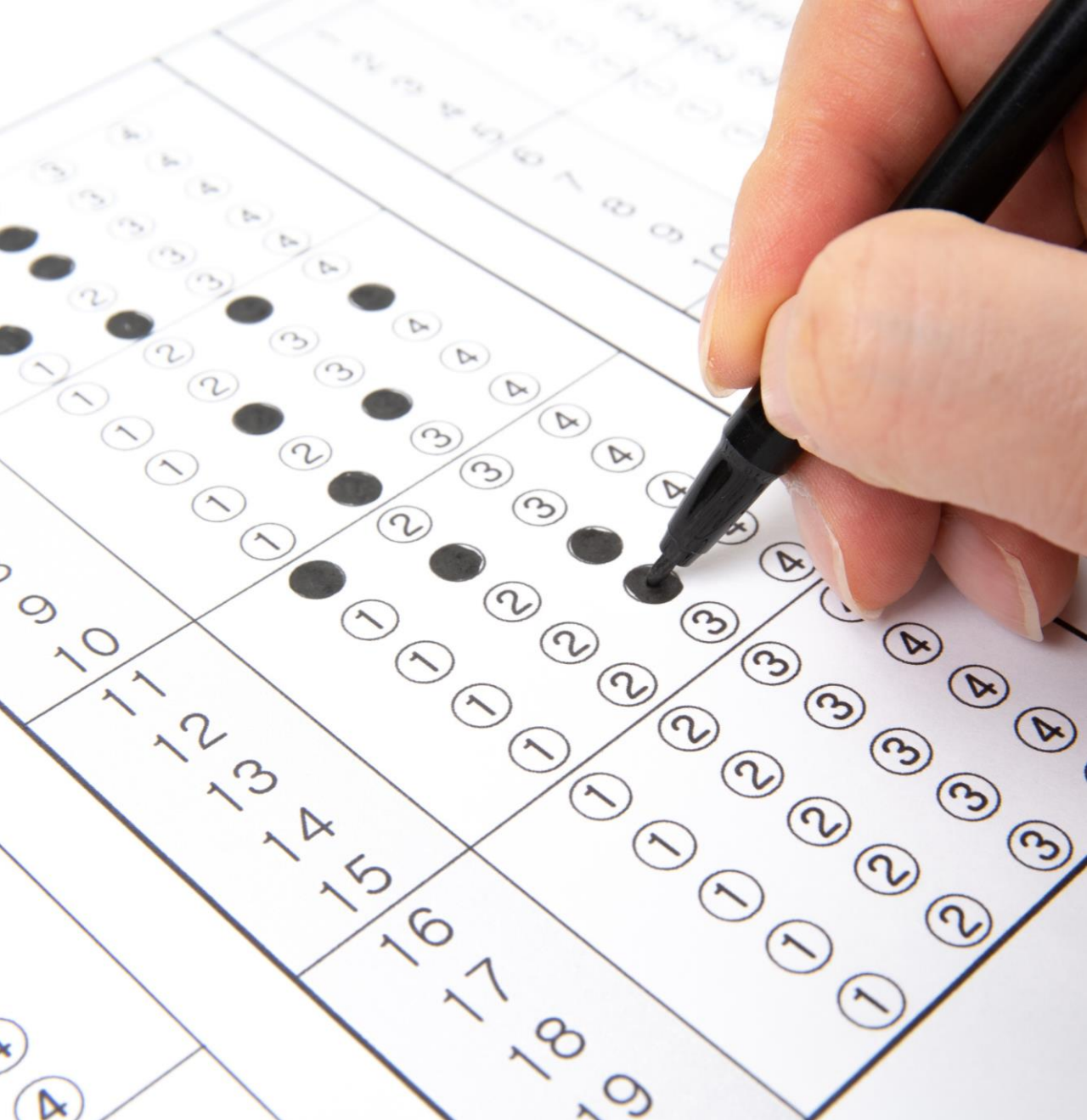
1000s of opportunities across the spectrum from the simple to more complex, enabled via AI

- **Simple example:** prompting those with T2D for eye and feet checks
- **More complex example:** prompting those aged 50+ who have had a low trauma fracture to be tested and treated for Osteoporosis (OP)
 - About two-thirds of people with OP remain undiagnosed
 - 50% of women and 20% of men >50 will sustain an OP-related fracture in their lifetime
 - Often, people will initially experience a low trauma fracture (e.g. wrist fracture) increasing the risk of a subsequent, more serious fracture
 - Approximately 60% of hip fractures are attributable to OP combined with advancing age
 - Post hip fracture, 10% of patients die within 1 month and one-third die within 1 year
 - The cost of privately treating a hip fracture ranges from £11,000 to over £18,000
 - Prompting high risk people who have had low trauma fractures to be diagnosed and treated in the outpatient environment is low cost and simple yet rarely employed.



A blurred background image showing a person in a grey suit standing at the front of a room, presenting to an audience. Several audience members in the foreground have their hands raised, indicating they have questions or want to participate. The setting appears to be a modern office or conference room with large windows in the background.

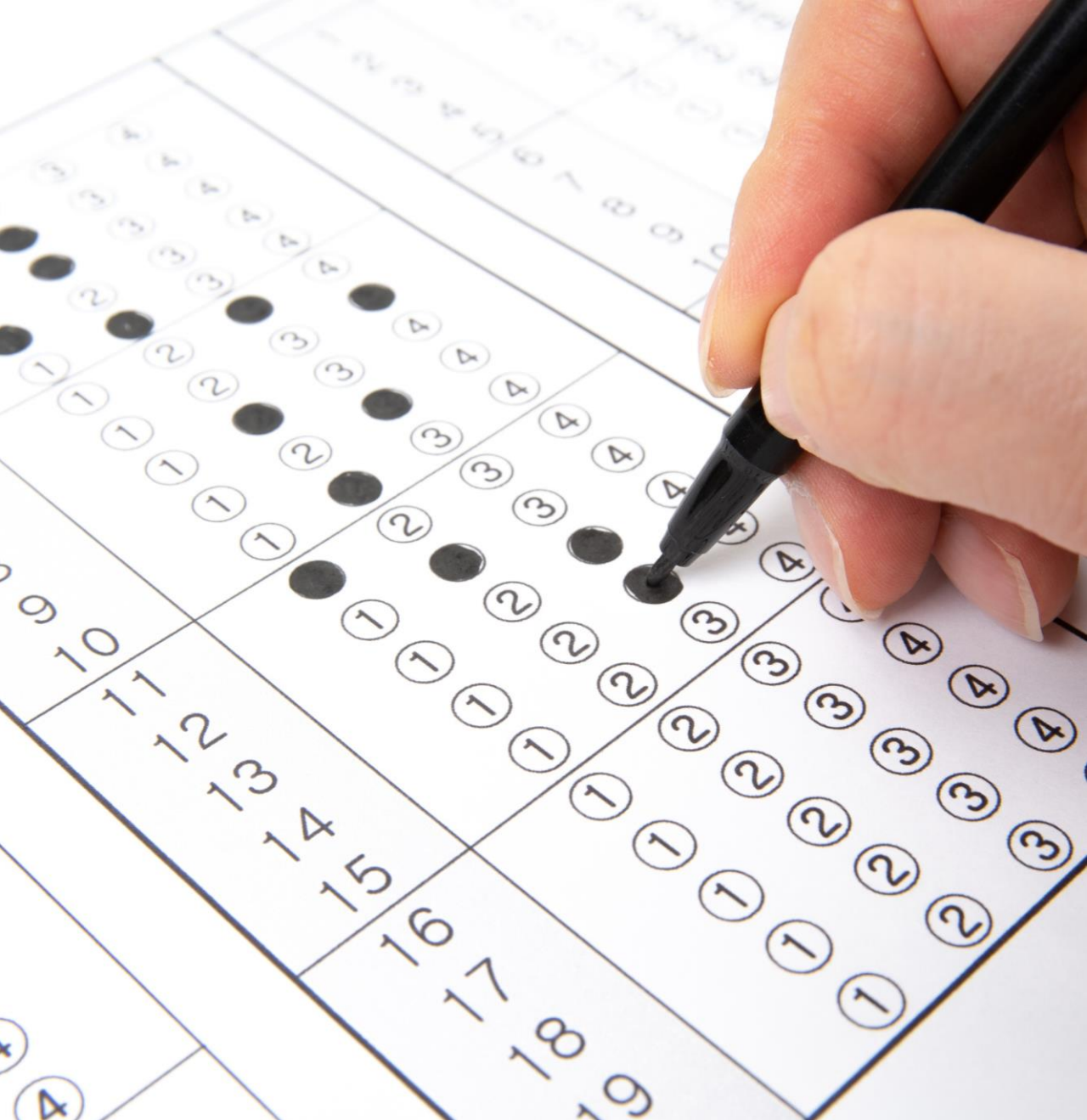
Questions?



CPD Quiz Question

Which of the following best describes the role of the “Suggest” stage in portfolio management and underwriting?

- A. Automatically reconciles data across pricing, underwriting, claims and finance to ensure consistency
- B. Generates predictive signals and recommends pricing and underwriting actions with rationale and confidence levels
- C. Tracks competitor behaviour to anticipate market responses to pricing changes
- D. Executes approved portfolio adjustments within predefined guardrails



CPD Quiz Question

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- B. Generates predictive signals and recommends pricing and underwriting actions with rationale and confidence levels**
- C. Tracks competitor behaviour to anticipate market responses to pricing changes
- D. Executes approved portfolio adjustments within predefined guardrails

Answer: Option B is correct because the Suggest stage focuses on generating recommendations for pricing and underwriting decisions. It uses predictive insights and provides rationale and confidence to guide what actions should be taken.



About WTW

At WTW (NASDAQ: WTW), we provide data-driven, insight-led solutions in the areas of people, risk and capital. Leveraging the global view and local expertise of our colleagues serving 140 countries and markets, we help you sharpen your strategy, enhance organizational resilience, motivate your workforce and maximise performance. Working shoulder to shoulder with you, we uncover opportunities for sustainable success — and provide perspective that moves you. Learn more at [wtwco.com](https://www.wtwco.com).



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