



# Artificial Intelligence and Underwriting: An Augmented Look at the Big Picture

## A new reality

Think of a photograph: static, unchanging, a single moment caught in time. Then think of a movie: dynamic, continuously moving, a collection of moments strung together to tell a complete story. Now take it a step further to virtual and augmented reality: a computer-generated simulation of a three-dimensional environment that allows for interaction using special tools.

This progression of imaging technology resembles the evolution of life insurance underwriting. For years, the process of underwriting resembled viewing a photograph, or at least a limited series of photographs. Underwriters presented with static facts, including blood test results, were asked to analyze these facts and interpret their meaning in terms of risk over time.

With more information available from both traditional and non-traditional sources – motor vehicle records, prescription histories, credit data, etc. – underwriters can now access lengthy histories and view a more dynamic, complete picture of applicants (more like a movie). Equipping underwriters with tools to access and analyze this additional information is enabling the development of accelerated solutions in which applicants can be underwritten dynamically, based on their behaviors over time, via a more frictionless, consumer-friendly process.

Moving forward, big data, insurance analytics, and the availability of non-traditional data are leading underwriters into the augmented reality era: streams of information continuously collected and subsequently feeding algorithms and machine learning tools that convert that data into immediate, actionable insights. The result will be multi-dimensional, interactive, and predictive view of risk that will change the way we look at underwriting.

## Artificial intelligence in underwriting

Some of the most exciting advances in recent years come from the field of artificial intelligence (AI). We are already more familiar with AI in our everyday lives than we may realize. Navigation systems in cars that adapt and re-calculate directions when we make a wrong turn is just one example. In underwriting, AI can update analysis instantaneously as new data becomes available and optimize risk management insights to create more accurate recommendations.

One area that appears especially promising for AI applications is disease management and the insurability of people once considered impaired. Those diagnosed with diabetes, for example, can now access technology that continually provides digital biomarkers, such as glucose levels, blood pressure, and heart rate. While in the past people were reluctant to comply with self-measurement, we are seeing evidence of this changing through advances made in the field of persuasive technology. In one case, users of a glucose monitor became “addicted” to the device and scanned themselves as many as 45 times a day.<sup>1</sup>

When these technologies are bundled with insurance products, the proposition for applicants to share their data can be matched with insurers offering financial incentives (e.g. premium reduction, changes of the sum assured, cash back) to those reaching the clinical outcomes set in the disease management program. The envisioned AI tools can then be used to analyze the flood of medical and non-medical data and update risk calculations immediately, not only providing more accurate underwriting outcomes for the insurer, but encouraging healthier behaviors among insureds.



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At RGA Asia Pacific, we have developed diabetes products in multiple markets, including the recent launch of a diabetes wellness product in Singapore, and are exploring ways to incorporate AI and InsureTech into our risk assessment for such offerings. In Japan, our initiative to digitize health checks will make a wealth of medical information available for computer analysis. By applying AI, we will be able to automate risk assessment for certain cases and enable underwriters to be more efficient and effective.

While AI and other technologies will improve and speed up underwriting, nothing yet envisioned can replace the value of expert human insight, particularly for difficult facultative cases. These advances should be viewed as a means to augment, not replace, human capabilities. Underwriters will remain a vital part of the industry – they'll just start with a better look at the big picture.

Contact [gmosis@rgare.com](mailto:gmosis@rgare.com) to learn more about new technologies reshaping the insurance industry.

## REFERENCES

1. Source: <https://www.bloomberg.com/news/articles/2017-03-16/how-to-get-diabetics-addicted-to-data>