

THE FUTURE OF UNDERWRITING - IT'S NEARLY HERE!



Yunus Piperdy, BSc, FCII
Head of Underwriting e-Health Innovations
RGA UK Services
London, United Kingdom
ypiperdy@rgare.com

Underwriting will radically change

In the near future, technological and medical advancements will change insurance products, how they are sold and how much they cost. Underwriting will also radically change. Two key areas of innovation are electronic health records and mobile health devices. Electronic health records are now available in the UK, while other developments are just around the corner.

Access to electronic health records

As UK medical records were computerised around 20 years ago, electronic health records are a truly rich source of historical medical data. UK family doctors (known as general practitioners or GPs) hold complete medical records for all their patients. This really helps underwriters, as comprehensive and reliable medical information is available from one source.

Until recently, UK insurers could only use a paper-based approach to request medical information from the GP. Writing insurance reports can be time-consuming for the GP, and insurance reports are often a low priority for overworked GPs, meaning some customers can wait for weeks for their life insurance to be accepted.

All this is radically changing with the introduction of new software called Intelligent GP Reporting or iGPR.

iGPR

Key Niche Health, an IT company in the Midlands, is fundamentally changing the way medical information is obtained from the GP. Its iGPR software, launched in September 2014, enables electronic data transfer of GP records to insurance companies. iGPR collates all information into an electronic file, while automatically redacting information that insurers are not allowed to see, such as results of genetic tests and information about third parties.

Executive Summary *Imagine a future where underwriters can have complete medical records available at their fingertips. Now, add to that instantly accessible up-to-date information about the applicant's blood pressure, heart rhythm and other vital physical signs. In such a future, underwriting will become faster, cheaper and better. In the UK there is a growing belief that this future is nearly here. Recent technological and medical advancements are enabling easy access to medical information, bringing challenges and major opportunities for insurers. So what do these technological and medical advances mean for underwriters?*

The iGPR software reduces the time required to provide a GP report from more than an hour to less than 10 minutes.

iGPR is available nationally to GP surgeries across the UK and has rapidly gained traction. By the time this article is published, iGPR software is likely to have been installed in more than 80% of GP practices.

Direct patient access to GP records

In 2010, the UK government promised patients access to their own medical records, with implementation to be completed by May 2015. Although this deadline has been largely missed, patients are likely to have access to their records within the next few years. The government restated its aims in a recent policy paper entitled "Personalised health and care 2020: a framework for action."

When insurance applicants can access their electronic health records directly, it will no doubt become even easier and cheaper for underwriters to obtain historical medical records.

Health information platforms

In 2014 Apple, Samsung and Google all announced plans to develop software platforms to record medical history and collate information from a variety of mobile health devices. The Apple Health Kit, released in September 2014, allows uploading of data from an iPhone to GP records in the EMIS system, which is an electronic patient record system from Leeds, UK-based Egton Medical Information Systems. The EMIS clinical system holds 40 million patient records and is used by 53% of GP surgeries in the UK. It is expected that within the next few years most GP systems will allow the uploading of information from mobile health devices.

Mobile health devices

Mobile health devices include the currently available pedometers and accelerometers, but also more advanced devices such as smartphone accessories, skin patches and futuristic in-body sensors. The global market value of wearable devices has risen by more than 1,000% since 2012 and is predicted to double by 2018.

Pedometers and accelerometers, such as the Fitbit, Nike FuelBand and Jawbone UP, are fun to use and work well as motivational tools to improve one's health; however, they are not yet of any real value from an underwriting perspective. Their value arises perhaps from people becoming used to wearing medical devices 24/7.

Key Many more mobile health devices are in the pipeline, and undoubtedly more will appear in the next few years. Once such devices start monitoring vital signs like blood pressure, heart rhythm and blood chemistry, they will become invaluable to underwriters because users will be able to share their data with the insurance company for speedier underwriting assessment.

A few futuristic examples

Interesting examples of medical devices that may become available in the next few years include blood glucose sensors, heart attack monitors and mobile devices for blood tests.

Google announced in January 2014 that it is developing a smart contact lens that will allow people with diabetes to monitor their blood glucose every second of the day. The lens, expected to become available within 5 years, consists of a wireless chip and a miniature glucose sensor. A similar invention is a temporary tattoo for people with diabetes; this skin patch

is still in the proof-of-concept stage. It will use a mild electrical voltage to pull fluid from the skin, and will contain a sensor to measure sugar levels.

Heart attack monitors will use implantable chips to give a warning a few hours before the wearer experiences chest pain or other symptoms. Still a few years away before such a device becomes available, the chip will use nanotechnology to monitor changes in blood enzymes and emit radio waves to a skin patch. This patch will then transmit data via Bluetooth to a mobile phone for transmission to a nearby clinic or hospital.

A miniature wireless cardiac monitor was used for the first time in the UK in February 2014. The Reveal LINQ device is designed to investigate irregular heartbeats and blackouts, and can automatically send updates via a wireless 3G signal to alert the clinician about abnormalities.

Mobile devices for blood testing are also being piloted. They combine mobile-phone and satellite communication technologies with fluid miniaturisation techniques to perform blood tests for HIV, viral hepatitis and sexually transmitted infections.

Theranos - "One tiny drop changes everything"

Theranos is a new laboratory testing company based in California that was founded by 19-year-old Stanford University dropout Elizabeth Holmes (now 30, and a billionaire). Under the slogan "One tiny drop changes everything," Holmes's company is disrupting the lab testing industry.

Theranos can do a range of blood tests using a tiny amount of blood. The test result is returned electronically within a few hours and the cost of the blood test is dramatically cheaper. Theranos is being rolled out to the general public in the US via Walgreens. Alliance Boots, a company wholly owned by Walgreens, has more than 2,500 pharmacy outlets in the UK.

What does this all mean for underwriting?

In the near future we will have quick and easy access to a complete medical history and up-to-date medical information from mobile health devices. The table below summarises what this means for insurers.

Challenges	Opportunities
<ul style="list-style-type: none">• Anti-selection	<ul style="list-style-type: none">• Faster
<ul style="list-style-type: none">• Regulatory risk	<ul style="list-style-type: none">• Cheaper
<ul style="list-style-type: none">• Data overload	<ul style="list-style-type: none">• Better

Challenges: Anti-selection, regulations and data overload

Consumers will soon have low-cost access to their medical status. Undoubtedly this will increase the anti-selection risk. For example, a mobile app that allows an applicant to send a photograph of a potentially cancerous mole to an anonymous Internet doctor could cause a spike in skin cancer claims for critical illness. Insurance companies will need to think about how to introduce safeguards. Will insurers have to introduce a cancer moratorium? Will they need to add more questions to the application form? Or will they just keep increasing the price of coverage?


Data privacy is a hot topic, and underwriters need to remain careful about the information they access and ensure they respect data protection regulations. Maintaining the customers' trust is essential if insurers want to avoid a consumer backlash and the risk of regulatory action.

The sheer volume of data makes it difficult to isolate the signal from the noise. Apart from increasing the workload, too much information increases the risk of missing something important. How will underwriters read through hundreds of pages of medical records and be sure of capturing vital information? Possible solutions include increasing the number of underwriters, and outsourcing or automating the underwriting process.

These challenges are not insurmountable. The UK industry has faced similar challenges in the past and new solutions will emerge.

Faster, cheaper and better

On the plus side, underwriting will become faster, cheaper and better.

 More and better information means underwriters can make faster and fairer decisions – and better customer service means happier and more loyal customers.

Customers will enjoy an easier and simpler insurance-buying experience, as better access to medical information will allow insurers to reduce the number of medical questions on application forms and increase non-medical limits.

Improvements in health, more accurate medical information and process efficiencies will all help to reduce the price of insurance. Lower rates of non-disclosure will also improve claims experience, reducing costs even further.

Ultimately, faster, cheaper and better customer service will attract more customers and allow the UK market to grow.

The future is nearly here

Electronic health records are available now, and access to up-to-date medical information from mobile health devices is not far away. The changes will bring challenges, but I am confident the industry will find new underwriting solutions. More important, these changes bring major opportunities that could prove to be lucrative, with improvements to the insurance-buying process bringing in new customers. The pace of change is increasing both in the UK and in other insurance markets around the world. Now is the time for underwriters to start thinking about how we can take these opportunities to become faster, cheaper and better. We need to get ready for these changes because the future of underwriting is nearly here.

Key underwriting points

- Electronic health records are now easily accessible in the UK.
- Mobile health devices will soon make it easier to access up-to-date information about the applicant's current physical state.
- Rapid technological changes will bring challenges and opportunities. Underwriters need to act now to monitor and prepare for these advancements.

References (All Internet links accessed March 2015)

An intelligent end to the GP paper trail, Claire Reeves, *Cover* magazine (February 2015) www.covermagazine.co.uk/cover/feature/2384556/an-intelligent-end-to-the-gp-paper-trail.

Personalised health and care 2020: a framework for action (November 2014) www.gov.uk/government/publications/personalised-health-and-care-2020/using-data-and-technology-to-transform-outcomes-for-patients-and-citizens.

EMIS integrates with Apple's HealthKit enabling smarter health records for 40 million UK patients (Sept 2014) www.emis-online.com/emis-integrates-with-apple%E2%80%99s-healthkit-enabling-smarter-health-records-for-40-million-uk-patients.

Beyond Fun: The Vital Future of Wearables – Fast Company (February 2015) <http://m.fastcompany.com/3042674/the-vital-if-unfun-future-of-wearables>.

Google Contact Lens – Wikipedia (2014) http://en.wikipedia.org/wiki/Google_Contact_Lens.

This Tattoo for Diabetics Might Mean the End of Finger Pricking – Bloomberg (January 2015) www.bloomberg.com/news/articles/2015-01-16/this-tattoo-for-diabetics-might-mean-the-end-of-finger-pricking.

Under the skin: a tiny laboratory – EPFL (2014) <http://sti.epfl.ch/page-92004-en.html>.

This tiny device sends irregular heart rate data to your doctor – Wired.co.uk (February 2014) www.wired.co.uk/news/archive/2014-02/05/monitoring-heart-rate-real-time.

Medtronic Cardiac Diagnostics & Monitoring – Reveal LINQ ICM System (2015) www.medtronicdiagnostics.com/intl/cardiac-monitors/reveal-linq/index.htm.

Fast, low-cost device uses the cloud to speed up diagnostic testing for HIV and more – *Science Daily* (January 2013) www.sciencedaily.com/releases/2013/01/130124163338.htm.

One tiny drop changes everything – Theranos.com (2015) <https://theranos.com>.

Walgreens to offer affordable and needle-free blood tests in more stores – engadget (November 2014) www.engadget.com/2014/11/18/walgreens-blood-tests/.