has also mentored revivals of underwriting associations in Chicago, Texas and the Carolinas, and advised many other regional, state and local associations on specific issues. During his term as AHOU VP for External Relations, Bill was a staunch promoter of increased cooperation between underwriters, actuaries and claims examiners. He has written articles for On The Risk regarding the professional status of underwriters and the importance of involvement beyond the level of one's own company.

Bill has served in a variety of roles for the Society of Actuaries and as Chair of the International Underwriting Study Group. He is one of the few North American members of ALUCA (Australasian Life Underwriting and Claims Association).

Bill resides in Lafayette, Indiana. He is a member of Mensa and a voting member of NARAS and LARAS (the National Academy of Recording Arts and Sciences and the Latin Academy of Recording Arts and Sciences). Bill produces and hosts various cultural programs in international broadcast shortwave radio.

AN INTERVIEW WITH ANGELA BOLDUC

Principal and Managing Director, Milliman IntelliScript

Milliman IntelliScript aggregates and interprets several types of electronic clinical and consumer data for risk assessment, but 22 years ago, your company launched with Prescription Data exclusively.

What obstacles were perceived as potential threats to using Rx records in underwriting?

It was mostly the fear of change. Insurance carriers are innately and understandably cautious. Plus they had concerns about automation and electronic data in general, and they weren't comfortable updating their applicant authorizations to include our required language. And then there were the underwriters, who characteristically don't want to miss any applicant information but just weren't entirely sure how instant Prescription Data could be used for risk assessment. Prescription histories can return a lot of data, so before we had a rules engine or risk scores, carriers struggled to match prescriptions to risk. We had to build out interpretation and prove its value compared to the manual search for medical records. So we were doing a lot of persuading and evangelizing back then.

You had a hand in that, Hank. You were one of the first industry experts to declare that Prescription Data was going to be a game-changer for the industry. And you were right.

How were these obstacles overcome?

Mostly with evidence. We proved ROI again and again with studies. We still do that today with every innovation and every new client. Our actuaries conduct retrospective studies using the carrier's own data and deliver solid benefit-to-cost numbers so they can engage us without doubts. When our early adopters saw the Prescription Data study results and ROI figures, they felt more confident utilizing our tools to increase efficiency and offer insurance to more people.

Milliman's actuarial reputation is what got our foot in the door. We had that credibility at our backs. As time went by, we also got reinsurer endorsements, and Rx adoption skyrocketed.

But another crucial point is that the consumer demand for a faster, more convenient purchase experience compelled carriers to be receptive to our innovations. Consumers were becoming accustomed to signing authorizations to release their data; that was viewed as an acceptable tradeoff for convenience and was just getting so normal. Data is readily available, and technology makes everything easier. They expect automation now, and insurers needed to meet those expectations to serve and compete.

What distinguished IntelliScript from its competitors?

The traits that made Milliman IntelliScript credible and desirable back then are still what distinguish us today. We have supersmart, scrappy people who bend over backwards and move mountains to help our clients. There's a fearlessness about failure here that lets innovation come more naturally, and we're willing to try new ways of doing things. So our people can take a true partnership approach to serving clients, to give them what they need even when it's out of the box. That often means integrations that accommodate a variety of workflows and customizations. (In fact, some of

our best innovations have come from these client collaborations.) The caliber or our people has just always been exceptional.

Strategically, our intense focus on the clinically and actuarially relevant interpretation of prescription histories and medical claims data has earned us the market position we have today. I am so proud of our people and their skills that have created our powerful interpretation tools.

Have any other countries started using Rx records in underwriting?

We serve the United States exclusively right now. International markets have much different regulations, resources, and data access requirements. We've scoped them out and keep them in our sights as a future challenge. But for now, we're committed to our domestic markets and bringing the carriers we already serve the very best innovation and value.

Do P&C companies use Rx records?

Not today. The auto insurance use case is intriguing. I think we may see risk scores powered by de-identified medical information in the future. Our Irix® Risk Score, which is based on Rx data (and Medical Data and/or Credit Data as optional inputs), is successfully used for mortality and morbidity risk assessment, and we can imagine retooling that solution to work for auto insurance carriers.

What's next for Milliman IntelliScript?

So much! We're in constant communication with our clients to hear what they need and build it for them. They tell us they want more data-driven tools for quickly and efficiently assessing risk through every phase of the applicant evaluation process. Last year we acquired OneRecord, a digital healthcare data company, which fast-tracked our

IF YOU PLAN PLANNING TIME WITH YOUR PLANNER
YOU MAY HAVE FOMA.

We know what it's like to feel FOMA, or Fear Of Missing Anything.

That's why we created Medical Data and Irix®—so you can get a clearer picture of each insurance applicant, instantly revealing more hidden health conditions than ever before.

Milliman **IntelliScript**®
See more. Fear less.

new product development efforts. We're currently piloting an EHR solution to supplement our existing products and replace the APS—it will be so exciting to bring that to the market. And of course, we're always exploring use cases for our tools outside the insurance industry.

Prescription Data was just the start. We've considerably broadened our data offerings and Rx-based tools, and we have strategic plans for ongoing growth and evolution. We'll keep leading the way through change and disruption so our clients can succeed for years to come.

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Thank you Angela for these thoroughgoing responses to my questions...

...at Hats Off! to IntelliScript for your groundbreaking accomplishments!

Angela Bolduc is a Principal and Managing Director at Milliman IntelliScript, where she oversees client relationships, data partnerships, recruiting and talent management, software development, and operations. She also serves on Milliman's board of directors.

A COMMENTARY ON THE SOCIETY OF ACTUARIES POSITION PAPER ON EPIGENETICS

ROB PHILIBERT MD PHD
CEO, BEHAVIORAL DIAGNOSTICS

The Society of Actuaries (SOA) recently published a generally thoughtful initial review of the potential for epigenetics in the Underwriting process[1].In general, the theses of the position paper were that two epigenetic tools, Epigenetic Aging (EA) and Cg05575921 methylation assessments, have considerable potential for employment in the underwriting process. Indeed, we are of the firm belief that at the correct price point, epigenetic testing, particularly for smoking and drinking, can provide considerable protective value. However, review of the position paper reveals two flaws of potential concern for the Underwriting Community.

The first error is relatively trivial. The sensitivity and specificity of cg05575921 of biochemically verified samples in National Institutes of Health sponsored studies are substantially greater than discussed in the document. It is true that when using arrays, which according to the BluePrint Consortium is the least accurate method for assessing methylation[2] and samples from self-reported smokers and non-smokers, the area under the curve for classifying subjects as smokers is between 0.87 and 0.90. But when using digital PCR, which can be performed very quickly, and biochemically verified subject samples, the AUC for detecting daily smoking is > 0.98[3] . As such, the SOA document understates the speed and accuracy of cg05575921 testing.