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Accelerated Underwriting (A) Working Group
Virtual Summer National Meeting
July 31, 2020

The Accelerated Underwriting (A) Working Group of the Life Insurance and Annuities (A) Committee met July 31, 2020. The following Working Group members participated: Robert H. Muriel, Chair, Bruce Sartain, Vincent Tsang, Litza Mavrothalasitis and Jeff Varga (IL); Grace Arnold, Vice Chair (MN); Jason Lapham (CO); Doug Ommen, Russ Gibson, Lindsay Bates, and Mike Yanacheak (IA); Rich Piazza (LA); Cynthia Amann (MO); Chris Aufenthie, John Arnold and Ross Hartley (ND); Bruce R. Ramge, Rhonda Ahrens and Laura Arp (NE); Lori Barron (OH); Elizabeth Kelleher Dwyer, Matt Gendron and Sarah Neil (RI); Lichiou Lee (WA); and Mark Afable and Diane Dambach (WI). Also participating were: Katherina Hrouda, Lucy Jabourian, Ted Chang, and Camilo Pizarro (CA); Michele Mackenzie, (ID); Malinda Shepherd (KY); Robert Wake and Sandra Darby (ME); Karen Dennis, Kevin Dyke and Renee Campbell (MI); Bill Carmello, Michael Cebula, Marshal Bozzo, Matt Homer, My Chi To, Seema Shah, Sumit Sud and Avani Shah (NY); Cuc Nguyen (OK); Glenda Villamar (OR); and Doug Slape (TX).

1. Adopted its March 12, Feb. 20, Feb. 6, Jan. 23, and 2019 Fall National Meeting Minutes

Ms. Arnold made a motion, seconded by Commissioner Afable, to adopt the Working Group's March 12, 2020 (Attachment Two-A), Feb. 20, 2020 (Attachment Two-B), Feb. 6, 2020 (Attachment Two-C), Jan. 23, 2020 (Attachment Two-D) and Dec. 8, 2019 (*see NAIC Proceedings – Fall 2019, Life Insurance and Annuities (A) Committee, Attachment Four*) minutes. The motion passed unanimously.

2. Heard an Update Presentation on the Work of the Working Group

Director Muriel said the rest of this meeting is going to be an update presentation on the progress of the Working Group. He said he is going to review the process the Working Group is following, and Mr. Tsang will review some of the highlights of the information shared with the Working Group.

Director Muriel explained that the Working Group was formed by the Life Insurance and Annuities (A) Committee at the 2019 Summer National Meeting. He said the Working Group was charged to "[c]onsider the use of external data and data analytics in accelerated life underwriting, including consideration of the ongoing work of the Life Actuarial (A) Task Force on the issue and, if appropriate, drafting guidance for the states." He said there are 12 members on the Working Group: himself as chair, Ms. Arnold as vice chair, Colorado, Iowa, Louisiana, Missouri, Nebraska, North Dakota, Ohio, Rhode Island, Washington and Wisconsin.

Director Muriel said the Working Group held its first coordinating conference call Oct. 2, 2019, and it developed a three-phase work plan. He explained that the first phase is information gathering, the second phase will focus on identifying the issues and deciding on a work product, and the last phase will focus on putting pen to paper. He said the Working Group hopes to have a first draft of its work product by the end of this year, with a final product to the Life Insurance and Annuities (A) Committee by the 2021 Summer National Meeting.

Director Muriel said the Working Group has met 16 times, including its current meeting. He said six of those meetings were held in regulator-to-regulator session pursuant to paragraph 3 of the NAIC Policy Statement on Open Meetings (specific companies, entities of individuals) when requests were made to share information involving particular companies or company-specific proprietary intellectual property. He said the Working Group's goal is to maintain as open a process as possible, and it even held both open and regulator-to-regulator session with the same presenters.

Director Muriel said the Working Group has heard presentations from: 1) insurance companies about their accelerated underwriting programs and practices; 2) consulting firms about their experience in assisting companies to build and review accelerated underwriting programs (Deloitte, Risk & Regulatory Consulting LLC, and Milliman); 3) a consumer advocate about consumer concerns regarding the use of accelerated underwriting from a fairness perspective (Center for Economic Justice—CEJ); 4) the American Academy of Actuaries (Academy) about accelerated underwriting from an actuarial perspective; 5) lawyers from two Illinois law firms about data collection and privacy from a legal standpoint (Foley & Lardner LLP and Edelson PC); and 6) a machine learning assurance company about its experience in assisting companies to establish controls and audits for artificial intelligence (AI) (Monitaur).

Director Muriel explained the next steps that the Working Group plans to follow. He said the Working Group plans to form two ad hoc subgroups. He said one is called the Ad Hoc Liaison Subgroup, which will focus on coordinating with the all the other NAIC groups that are looking at related issues; and the other is called the Ad Hoc Drafting Subgroup, which will focus on synthesizing information and making a recommendation to the Working Group on a work product

Director Muriel said he expects that the Working Group will grapple with the answers to at least three questions: 1) whether consumers understand what information can be collected about them and how it can be used; 2) how accelerated underwriting fits into the narrative of avoiding the unfair discrimination of protected classes; and 3) whether the results of accelerated underwriting are transparent to consumers. He said the Working Group plans to have a few more presentations over the next month or so and have a first draft to expose for comment by the end of December. He said a final product should be ready for the Life Insurance and Annuities (A) Committee by the 2021 Summer National Meeting.

Mr. Tsang explained that accelerated underwriting is an emerging platform; and traditional underwriting is still the norm for most applications. He said companies are pursuing accelerated underwriting because it offers many attractive business incentives, such as the potential to save on underwriting expenses, especially for low premium policies like term life insurance, where it can take companies several years to break even. Accelerated underwriting is also attractive to companies because when underwriting takes less time, companies can underwrite more policies. Life insurance applicants also benefit from accelerated underwriting because the process can be accomplished entirely online without any invasive blood tests.

Mr. Tsang mentioned that companies may give up important medical information in using accelerated underwriting, which may lead to higher mortality risk. He said, unlike traditional underwriting, which is based on the current underwriting manual, accelerated underwriting relies on the reasonableness of its algorithm. He said accelerated underwriting also requires companies to implement additional controls and documentation responsibilities, including disclosures to applicants who receive an adverse underwriting decision.

Mr. Tsang said the use of accelerated underwriting is increasing. He said currently, companies limit which products are eligible for accelerated underwriting; usually term policies with smaller death benefits and younger issue ages are eligible. He said applications outside these limits go through normal underwriting procedures. He said as more companies use accelerated underwriting, there is the expectation that they will also relax their current accelerated underwriting eligibility limitations and allow more applications to go through accelerated underwriting.

Mr. Tsang said with respect to the data used in accelerated underwriting, insurers have the sole responsibility to collect, scrutinize and analyze the input data to ensure that it is accurate. He said some companies, with the help of reinsurers, use third parties to collect data and provide an initial risk analysis. He said some accelerated underwriting programs "triage" applications into separate groups. He explained that under some accelerated underwriting programs, when an applicant is triaged as someone who should go through the remaining accelerated underwriting steps, the algorithm then assigns the applicant a risk score and recommends a risk class. He said a human underwriter reviews that recommendation and may request a blood or urine test even when the accelerated underwriting program recommends otherwise.

Mr. Tsang said the data collected for accelerated underwriting is normally a subset of traditional underwriting data, and it includes a mix of medical and behavioral data, such as: 1) data provided in the life application; 2) an attending physician statement; 3) prescription drug history; and 4) Medical Information Bureau (MIB) info. He said it is important to note that accelerated underwriting programs and its algorithms are assisting, not replacing, human underwriters by collecting data and performing an initial risk analysis.

Mr. Tsang explained that traditional underwriting is considered the "gold standard," and each company expects its accelerated underwriting program to replicate the gold standard via back-testing. He said the interactions between the accelerated underwriting program and the human underwriter enable the algorithm to learn from its mistakes and improve via the machine learning process. He explained that back-testing may also identify isolated prior underwriting errors and provide valuable feedback to the human underwriter.

Mr. Tsang explained that accelerated underwriting algorithms are not static. He said most are on their second- or third-generation algorithm, and they continue to change through machine learning processes. He said insurers develop controls and documentation for the first-generation algorithms, but they sometimes place less emphasis on the controls and documentations for later generations. He said it is important that companies continue to perform the checks and balances on all generations of their accelerated underwriting programs. Besides medical data, some companies believe that behavioral data can also provide

important information about an individual's risk profile, especially for younger people. Some examples of the behavioral data collected are gym membership, profession, marital status, family size, shopping habits, wearables and credit scores.

Mr. Tsang said if behavioral data is not properly scrutinized, association may be confused with causation and lead to unfair adverse underwriting decisions. For example, a high-income individual is perceived as someone who has excellent medical care. However, a high-income individual may also have the resources for illegal drug use, or a healthy young couple may not have the dispensable income to join a gym but exercise on their own. In that case, lack of a gym membership should not indicate an increased mortality risk. He cautioned that behavioral data could lead to incorrect conclusions or unintended discrimination.

Mr. Tsang said the Working Group has spoken with only a few major life insurers about their current accelerated underwriting practices, so its findings are not conclusive. He said, generally, larger companies have resources to develop their own accelerated underwriting programs. Accelerated underwriting programs require plenty of resources, and they can be expensive.

Mr. Tsang said compliance with laws and regulations is the responsibility of a company's chief risk officer (CRO), general counsel, and enterprise risk management committee. Smaller companies may not have the required resources to develop their own programs and rely on external consulting firms to monitor and build controls for their accelerated underwriting programs.

Mr. Tsang said insurers have high expectations for accelerated underwriting programs because of their potential to reduce human errors in data processing and allow human underwriters to spend more time on high value activities. He said the potential for savings is significant for low premium products, such as term insurance. The companies expect that the expense savings, along with the ability to issue more policies, compensates for the potentially higher mortality cost.

Mr. Tsang said based on a 2019 Society of Actuaries (SOA) "Accelerated Underwriting Practices Survey," companies rely mostly on data in the application form and other medical-related data. Some companies also rely on other data such as motor vehicle records, criminal history, credit scores and financial data. Very few companies use data such as electronic health records, wearables and social media usage. Mr. Tsang said companies are currently using back-testing, random holdouts, post-issue monitoring and other techniques to examine the accuracy of accelerated underwriting programs. He said peer reviews are also used to test a program's compliance with applicable laws and regulations.

Mr. Tsang said there are several federal laws that may affect accelerated underwriting programs, such as the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which protects medical data privacy. There is the federal Fair Credit Reporting Act (FCRA), which protects credit data privacy and prohibits illegal use of credit data. Most recently, at the state level, there is the NY Circular Letter No. 1 issued in January 2019, which outlines the key compliance issues for accelerated underwriting; i.e., integrity of input data, transparency of algorithm, and adequate disclosure). There is also Florida House Bill 1189, which is the first state law that prohibits insurers from using genetic data for underwriting and pricing of life, disability and retirement products.

Mr. Tsang said credit data is not widely used in accelerated underwriting programs today, but that is likely to change over the next decade. He said credit data is popular among the companies that use it, like employers and banks, because it covers most Americans and the data is updated frequently. A few life insurers currently use credit data as an input item for their AU programs. Mr. Tsang said those companies have performed actuarial studies to justify its soundness, actuarially. He said a typical credit report contains about 800 attributes, which include a consumer's employment history, mortgage payment history and rental payment history, among other things. Insurers only use about 50 out of the 800 attributes because many of these attributes are correlated with one another.

Mr. Tsang said using credit score data is controversial, as the distributions of credit scores are quite different among ethnic groups and there is not a lot of information on how companies document their monitoring and control processes for unlawful discrimination. He said the selected attributes are perceived as variables that explain the consumer's behavior. He said the mortality hypothesis is that individuals with high credit scores are expected to have lower mortality risk profiles; but the correlation between mortality and credit score is not absolute. For example, having a high credit score does not shield a person from illness.

Mr. Tsang said it is easy to confuse association with causation. He said two items that behave in similar patterns does not mean that one is causing the other. He said while some companies consider credit score as a valuable input to explain mortality risk, some groups challenge this view due to the potential confusion of association with causation. He said credit scores should not be used in isolation, and checks and balances must be employed to minimize the occurrence of unintended discrimination

against protected classes. He suggested that one possibility is to use credit data as a supplemental data point rather than a key input variable in order to use it as a check for a negative rather than a check for a positive.

Mr. Tsang said the FCRA protects consumers from illegal uses of their credit scores, and it allows consumers to see their data and challenge the data's validity; however, the scope of FCRA is limited, and it does not cover personal information such as credit card purchases, social media usage and wearables. Consumers do not have an avenue to challenge the validity of non-FCRA data or any adverse decisions that may arise as a consequence. Currently, few companies use non-FCRA data, but this may change over time.

Mr. Tsang highlighted a few questions that state insurance regulators may want to consider, such as whether insurance regulations should be updated to disallow the use of non-FCRA covered data or to provide avenues for customers to challenge the validity of non-FCRA data and its adverse effects.

Mr. Tsang said Birny Birnbaum (CEJ) gave a presentation where he raised a number of concerns regarding the potential for adverse underwriting decisions to unfairly affect minorities. Mr. Birnbaum said: 1) the regulatory framework has failed to keep pace with the market in terms of using big data and AI; 2) the input data used by insurers may have inherited biases, which should be removed or controlled; 3) regulations should promote fairness, and underwriting decisions should not be justified solely on actuarial soundness; and 4) the life industry should promote availability and affordability of insurance products to protected classes and curtail any unlawful discrimination. Mr. Tsang said Mr. Birnbaum also provided some other suggestions, including requiring companies using accelerated underwriting to file their accelerated underwriting programs with state insurance regulators for review, which is consistent with the accelerated underwriting programs for auto and property insurance. Mr. Birnbaum also suggested extending FCRA-type protections to all input data for accelerated underwriting.

Ms. Shepherd asked whether companies are using accelerated underwriting currently. Mr. Tsang said there are large companies developing and using their own accelerated underwriting programs, and smaller companies are working with consultants or reinsurers to develop a template to modify and use. He said right now, about 10% of applications go through accelerated underwriting, but he expects that to increase to around 40% within the next decade.

Mr. Birnbaum asked about how the Ad Hoc Liaison Subgroup and the Ad Hoc Drafting Subgroup would be formed and report their work. Director Muriel said the membership for the subgroups is just getting established, but he assured Mr. Birnbaum that the subgroups would hold open meetings to discuss how to develop and report their work to the Committee.

Peter Kochenburger (University of Connecticut School of Law) asked how important it is for accelerated underwriting modelers to be able to plausibly provide a causation analysis as well as a correlation. Mr. Tsang said it is important that there be some reasoning and rationale provided for why one variable would be causing another, above and beyond observing a pattern or correlation between two variables.

Having no further business, the Accelerated Underwriting (A) Working Group adjourned.

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Accelerated Underwriting (A) Working Group
Ad Hoc Drafting Subgroup
OUTLINE

Educational report that explores Accelerated Underwriting (AU) in Life Insurance and offers guidance to regulators, industry, and consumer advocates and other stakeholders.

I. Introduction

II. Procedural background of the WG and its Charge

III. What is AU and put it in context of traditional underwriting
- A. What is traditional underwriting
- B. How is AU similar and different from traditional underwriting
- C. What is an algorithm / artificial intelligence / machine learning
- D. How prevalent is AU
- E. Trends for the future

IV. Discussion of issues and recommendations
- A. Input data
  1. Traditional data
  2. FCRA data
  3. Nontraditional data
  4. Discussion of bias in input data
  5. Recommendations

- B. Algorithms/ machine learning
  1. What are they designed to do
  2. Evolving / machine learning – pros and cons
  3. Testing conclusions/ Back testing/ random holdouts/ algorithm assurance
  4. Testing conclusions for unfair bias & mitigation
  5. Recommendations

- C. Transparency and Privacy
  1. Description of issue
  2. Existing practices/ state and federal laws
  3. Recommendations

V. Conclusion