DRAFT 7-8-21
Comments on this draft are requested by email to jcook@naic.org by close of business July 30, 2021

Accelerated Underwriting (A) Working Group
Ad Hoc Drafting Subgroup

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Introduction

In 2019, the NAIC established an accelerated underwriting working group to consider the use of external data and data analytics in accelerated life insurance underwriting, including consideration of the ongoing work of the Life Actuarial (A) Task Force on the issue and, if appropriate, draft guidance for the states. A more detailed procedural background can be found in the appendix. This paper is the output of over a year's work by regulators to understand the current state of the industry and its use of accelerated underwriting. It summarizes what has been learned over the past year, contextualizes that learning and the topic of accelerated underwriting within other NAIC work and standard regulatory product evaluation processes, and makes recommendations for regulators and insurers when evaluating accelerated underwriting.

Accelerated underwriting in life insurance may provide potential benefits to both consumers and insurers if applied in a fair and non-discriminatory manner. In order to fairly deliver the benefits of more convenient and cost-effective processes, regulators and insurers should be guided by current law related to fair trade practices and unfair discrimination.

What is Accelerated Underwriting?

Throughout this paper, we use the term accelerated underwriting in life insurance. We propose the following as a definition:

> Accelerated underwriting in life insurance is a process to replace traditional underwriting and allow some applications to have certain medical requirements (such as paramedical exams and fluid collection) waived. The process generally uses predicative models or machine learning algorithms to analyze data pertaining to the applicant, which includes both traditional and non-traditional underwriting data that comes from both the applicant and external sources.

To understand accelerated underwriting in life insurance, it helps to understand underwriting in general and how it functions. Life insurance underwriting is the process of determining eligibility and classifying applicants into risk categories to determine the appropriate rate to charge for transferring the financial risk associated with insuring the applicant. Traditional life insurance underwriting involves assessing the applicant's physical health, usually through answers to questions on an application, blood work, urine analysis, doctor's notes, medical records and a physical exam. Once this information is collected, an underwriter determines whether an applicant is eligible for coverage and the risk class to which that individual belongs. In addition to traditional underwriting and accelerated underwriting, there is also a process called simplified underwriting, or simplified issue. Simplified underwriting relies on very limited information (typically the applicant's sex and age) and little, if any, additional information. Generally, there is no risk classification beyond age, gender, and possibly smoker status. Due to the limited

information collected about an applicant with simplified underwriting, the expected mortality is higher than with traditional or accelerated underwriting, and the price reflects that mortality.[1]

In addition to collecting an applicant's medical history, the types of data typically collected for use in accelerated underwriting rely upon multiple variables that are components or data points in predicative models or machine learning algorithms. Examples of the variables used by some accelerated underwriting models include: credit data, medical information bureau (MIB) data, public records, motor vehicle reports, smart phone apps, consumer activity wearables, claim acceleration tools, individual consumer risk development systems, purchasing history, behavior learned through cell phone usage and social media. An insurer may, or may not collect all this data from an applicant.

Accelerated underwriting may be limited to certain applicants applying for certain life insurance products. The exact parameters of the application of accelerated underwriting varies by insurer.

Presentations made to the Working Group indicated that life insurers use accelerated underwriting in two primary ways: 1) Accelerated underwriting is used to "triage" applicants, where unsuccessful applicants are re-routed to traditional underwriting, and successful ones continue through the accelerated underwriting process; or 2) Accelerated underwriting is used to create a score for an applicant to then be put into different risk categories. Accelerated underwriting employs a predictive model or machine learning algorithm, which is tested and modified via back-testing. The program learns from its mistakes to improve itself, using an underwriter's feedback. It evolves over time. In fact, most accelerated underwriting algorithms used in life insurance are in their second or third generation. The COVID-19 pandemic sped up the adoption of accelerated underwriting in the industry as both consumers and insurers looked for options to purchase and write policies that relied more on technology and involved less in-person contact.

Presentations made to the Working Group indicated that adverse underwriting decisions would be reviewed by human underwriters. While some accelerated underwriting programs would issue policies based solely on the accelerated underwriting recommendation.

Companies presenting to the Working Group stated that the accelerated underwriting process is less cumbersome and costs less than traditional underwriting. By improving the underwriting experience for consumers, life insurers also benefit from quicker policy issue times with higher policy acceptance rates. [2]

<div align="center">General Discussion of Issues and Recommendations</div>

Accelerated underwriting is using multiple variables that are components or data points in an advanced algorithm. This increasing automation of life insurance underwriting presents new regulatory challenges. As is typical, the technology has moved ahead of state regulation. While differences in process have evolved, the concern the regulators have is the same as with all underwriting -- whether or not the process is **fair, transparent and secure.** With regard to accelerated underwriting in life insurance, this pertains to input data, output data, the algorithm and the results of the process.

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[1] August 2018, Emerging Underwriting Methodologies and their Impact on Mortality Experience Delphi Study, From Society of Actuaries, Methods 3.1.1, page 9

[2] Presentations to Accelerated Underwriting (A) Working Group between Dec. 8, 2018, and Sept. 24, 2020.

Insurers' increasing use of consumer data in accelerated underwriting presents regulatory challenges. One particular challenge is the potential for **unfair discrimination**. Some companies believe a person's behavior has a strong correlation with mortality risk. This behavioral data includes gym membership, one's profession, marital status, family size, grocery shopping habits, wearable technology and credit scores. Although medical data may have scientific linkage with mortality, behavioral data may lead to questionable conclusions as correlation may be confused with causation.

For example, a high-income individual may statistically be likely to receive excellent medical care. However, a high-income individual may also have the resources for illegal drug use or other dangerous habits or hobbies. A healthy young couple, on the other hand, may not have the disposable income to join a gym, however, they may exercise on their own. In either case, the lack of a gym membership or lower income may not indicate an increased mortality risk.

Recommendations

Consistent with the artificial intelligence principles approved by the NAIC in 2020, the use of accelerated underwriting in life insurance should be fair and transparent, companies should be accountable for operating in compliance with applicable laws, and the process and data used needs to be secure. To accomplish these objectives, regulators should dialogue with life insurers and third-party vendors to determine if consumer data is being used in problematic or unfair ways, or generating unfair outcomes, as is currently prohibited under most state laws.

Insurers and other parties involved in accelerated underwriting in life insurance should:
- Take steps to ensure data inputs are transparent, accurate and reliable.
- Ensure that the external data sources, algorithms or predictive models are based on sound actuarial principles with a valid explanation or rationale for any claimed correlation and causal connection.
- Be able to provide the reason(s) for any adverse underwriting decision to the consumer and all information upon which the insurer based its adverse underwriting decision.
- Take steps to protect consumer privacy and ensure consumer data is secure.
- Have a mechanism in place to correct mistakes if found.
- Produce information upon request as part of regular rate and policy reviews or market conduct examinations.

The remainder of this paper delves into some specific topics and provides more detailed recommendations about those topics.

Input data

Data typically collected for use in accelerated underwriting rely upon multiple variables that are components or data points in predicative models or machine learning algorithms. Examples of the variables used by some accelerated underwriting models include: credit data, medical information bureau data, public records, motor vehicle reports, smart phone apps, consumer activity wearables, claim acceleration tools, individual consumer risk development systems, purchasing history, behavior learned through cell phone usage and social media. A life insurer may, or may not, collect all this data from an applicant. The use of this data may have the potential for disparate impact. This section categorizes data used in accelerated underwriting programs into three buckets: traditional data, Fair Credit Reporting Act (FCRA) data, and non-traditional data. We use these buckets to articulate considerations when each type of data is used in an accelerated underwriting program. Presentations made to

the Working Group indicated that accelerated underwriting programs may use information from each of these buckets in their predictive modelling.

Drafting Note: The Ad Hoc Drafting Group had lengthy discussions about how best to describe the distinctions between data collected by credit bureaus, the credit scores produced by those credit bureaus, insurance scores and data used in accelerated underwriting models. We seek comment on how to accurately describe these concepts and the application of the Fair Credit Reporting Act (FCRA) to this data.

<div align="center">Traditional Data</div>

Traditional data used in life insurance underwriting includes data collected through a traditional "full", as opposed to "simplified", underwriting process. This data may include the following:
- Application data (e.g., medical records, prescription questions, vocation questions, financial profile).
- Tele-interview.
- Data from the Medical Information Bureau (MIB). [3]
- Data from Motor Vehicle Records.
- Prescription drug history.
- Paramedical or medical exam, including EKG's in some instances.
- Fluids (blood, urine, swab/spit test to determine tobacco usage).
- Financial and tax information.

Considerations for use of Traditional Data
- Traditional data has a long and established history in the life insurance industry. Carriers, producers, and consumers are generally familiar with the process.
- Traditional data has a history of usage by insurance carriers. Trained underwriters and producers have years of experience and often understand the process well.
- The relationship of the traditional data elements to the risk seems reasonable, the consumer understands how the element impacts their risk classification or premium charged.
- State statutes and case law were developed based on the use of traditional data and so contain consumer protections created under the assumption that this was the type of data collected or reviewed during an underwriting process.
- Presentations made to the Working Group represented that time and costs associated with obtaining and reviewing traditional data are significant.

<div align="center">FCRA Data</div>

Data is subject to the federal Fair Credit Reporting Act (FCRA), which means applicants:

(1) Should have a right to be told if this information is used to deny insurance, and
(2) Have the ability to request the data a consumer reporting agency is providing to an insurer.

Considerations for use of FCRA Data
- FCRA data is readily available.
- FCRA data is updated regularly.
- FCRA data is already used in property/casualty lines of business.

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[3] This data is subject to the Fair Credit Reporting Act (FCRA).

- There is existing regulation and oversight by FCRA and Consumer Financial Protection Bureau (CFPB).
- Not all FCRA data is useful/ relevant to life insurance underwriting.
- If there is a dispute about findings, a consumer will have to obtain additional information and formally dispute these findings.
- FCRA data is extensive and accessing such data may result in access to non-usable credit attributes. In other words, significantly more data than is needed to determine risk may be collected.
- As additional rating factors are introduced via insurance scores or with specific data elements, disparate impact may be introduced or amplified.
- FCRA data may be used to predict mortality, but there may not be a reasonable explanation for that correlation.

Nontraditional Data

Nontraditional data used in life insurance underwriting may include the following:
- Public records (*e.g.*, assessor data, genealogy records, criminal records, court filings, voter information).
- Property/casualty data from adjacent carrier(s).
- Marketing and social data (*e.g.*, shopping habits, mortgage amount/lender, occupation and education, and social media, etc.).
- Professional licenses.
- Voice recognition used to determine smoking status.
- Facial recognition.
- Wearable devices.

Considerations for use of Nontraditional Data
- Nontraditional data may be used to predict mortality, but there may not be a reasonable explanation for that correlation.
- As additional rating factors are introduced via insurance scores or with specific data elements, disparate impact may by introduced or amplified.
- Nontraditional data does not have the same consumer protections as FCRA and traditional data. For example:
  o There may not be a clear path for consumers to know how data affected their application and may be corrected.
  o The type and purpose of data accessed is not required to be disclosed to the consumer.
  o There may be privacy concerns about the extent of the use of nontraditional data.

Recommendations

For Regulators
As stated above, general insurance law applies to accelerated underwriting programs in the same way it does traditional underwriting programs. State Departments of Insurance (DOIs) have broad regulatory authority to make inquiries into the processes and procedures of life insurers in order to investigate potential unfair trade practices. Complaints about underwriting practices are opportunities for DOIs to review a life insurer's use of accelerated underwriting and data collection methods. Additional DOI actions may include market conduct and on-site examinations as appropriate under existing authorities.

- Specifically, examiners may: Review the life insurer's underwriting practices and underwriting guidelines during an examination or upon initial submission of the policy rates and forms and confirm the proper use of the data elements.
- Request that explanation provided to the consumer for any negative action taken by the life insurer is succinct and adequately informs the consumer as to why a particular action was taken without the consumer having to make additional inquiries.
- Request information about source data regardless of whether the data or score is provided by a third party.

Form and rate reviewers may:
- Request that the life insurer provide information about how a model or algorithm will be used.
- Regulators may consider requiring filing of models used to analyze data.
- Regulators may consider questioning the extent to which data elements correlate to applicant risk.
- Request information about source data regardless of whether the data or score is provided by a third party.

For Industry

Life insurers have a responsibility to know and to understand the data they are using. To accomplish this, life insurers may choose to use tools such as post-issue audits and data analysis. For example, analyses such as evaluating claims and lapse rates may be helpful. Life insurers and third-party vendors should also take steps to ensure data inputs are accurate and reliable.

Life insurers and third-party vendors should ensure that the external data sources, algorithms or predictive models are developed with sufficient internal controls and oversight and based on sound actuarial principles with a valid explanation or rationale for any claimed correlation and causal connection.

Appendix: Additional Procedural Background

At the 2019 NAIC Summer National Meeting, the Life Insurance and Annuities (A) Committee discussed a referral it had received from the Big Data (EX) Working Group. The Big Data Working Group had discussed the use of predictive models in accelerated underwriting in life insurance, instead of medical examinations and the collection of fluids. The Big Data Working Group agreed that the issue would be most appropriately addressed by the life insurance subject matter experts and voted to refer the issue of the use of external data and data analytics in accelerated underwriting in life insurance to the Life Insurance and Annuities (A) Committee (Committee).[4]

The Committee discussed the referral and acknowledged that there are a multitude of issues surrounding insurers use of data models and data analytics; issues that extend into many areas of insurance and overlap with the work of several groups at the NAIC. In addition to the Big Data (EX) Working Group, there is the Innovation and Technology (EX) Task Force, the Artificial Intelligence (EX) Working Group, the Casualty Actuarial and Statistical (C) Task Force and the Privacy Protections (D) Working Group. The Life Actuarial Task Force was also looking at the use of accelerated underwriting in life insurance from an actuarial perspective, including looking at any potential impact on insurer solvency.

The Committee agreed that an effort to delve into accelerated underwriting in life insurance would need to be narrowly focused, while taking into account the work of these other NAIC groups touching on the same topic.

Robert Muriel (IL) chaired the Working Group and Grace Arnold (MN) was the vice chair. The following were Working Group members: Jason Lapham (CO); Russ Gibson (IA); Rich Piazza (LA); Cynthia Amann (MO); Rhonda Ahrens and Laura Arp (NE); Ross Hartley and Chris Aufenthie (ND); Lori Barron (OH); Elizabeth Kelleher Dwyer (RI); Lichiou Lee (WA); Mark Afable (WI). In January 2021, Commissioner Afable became chair of the Working Group and the rest of the membership remained the same.

The Working Group met for the first time on Oct 2, 2019 and developed a work plan to accomplish its charge. The work plan contemplated the Accelerated Underwriting (A) Working Group progressing through three phases with the goal of completing its charge by the 2020 Fall National Meeting. The first phase was focused on information-gathering. The second phase focused on identifying the issues and deciding on a work product, with the final phase devoted to drafting.

During the information gathering phase the Working Group heard 15 presentations from varying stakeholders, including an academic (Professor Patrick Brocket[5]), insurance companies, consulting firms (Deloitte and Milliman), a consumer advocate (Birny Birnbaum—CEJ), the American Academy of Actuaries, lawyers from 2 Illinois law firms (Foley & Lardner and Edelson), a machine learning assurance company (Monitaur), and a data analytics company (Verisk). Several of the presentations were held in regulator-only meetings when requested by presenters in order to share proprietary and confidential company-specific information.

Regulators from the Working Group volunteered to participate in two ad hoc groups to tackle the second and third phases of its work plan: There was an ad hoc NAIC liaison group to ensure awareness of and coordination with any work, including guidelines or protocols, developed by other NAIC groups, past and present, that related to the Working Group. There was also an ad hoc drafting group that agreed to take the information gathered, identify issues, recommend and draft a work product for review and approval by the Working Group.

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[4] *See* NAIC Proceedings – Spring 2019, Innovation and Technology (EX) Task Force, Attachment Two.
[5] Gus Wortham Chair in Risk Management and Insurance at the University of Texas at Austin and Editor, North American Actuarial Journal.

In November 2020, the ad hoc drafting group shared with the Accelerated Underwriting (A) Working Group, a proposed draft outline for an educational report exploring accelerated underwriting in life insurance to provide guidance to regulators, industry, and consumer advocates and other stakeholders. In February 2021, the ad hoc groups merged.

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