

Actuarial Perspectives on Accelerated Underwriting

Presented by the Life Underwriting and Risk Classification Work Group of the American Academy of Actuaries



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Abbreviations

- Accelerated Underwriting (**AUW**)
- Actuarial Standard of Practice (**ASOP**)
- Underwriting (**UW**)

These and other relevant terms are listed in the Appendix.



Agenda

- Key Messages
- Evolution of **UW**
- Principles of Risk Classification
- Actuaries and Underwriters
- Actuaries' Unique Perspective
- Summary of the Actuarial Perspective on **AUW**

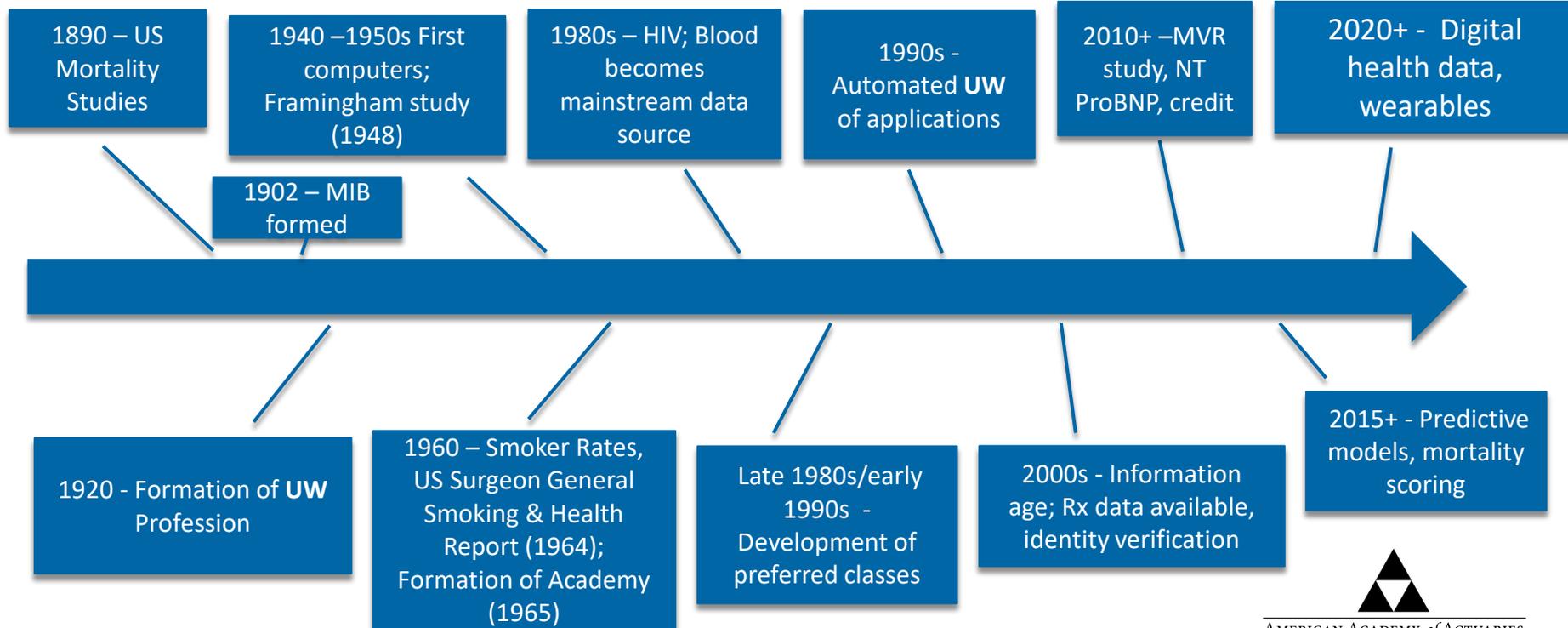


Key Messages

- **UW** process continually changes, the fundamental principles of risk classification are unchanged.
- Actuaries and underwriters together align risk classification with mortality expectations for each risk pool.
- Actuaries provide unique perspective in the design and execution of underwriting programs.
- Actuarial principles underlying **AUW** call for discipline in its development, implementation and maintenance, as with ANY **UW** program.



The Evolution of UW



Principles of Risk Classification

Risk classification is foundational in the underlying principles of insurance

- Purpose: align risk characteristics with an expected outcome
 - Group similar risks into risk pools
 - Premium rates are equitable if the difference in rates reflects the difference in risk level
- Risk alignment is demonstrated by statistical or other mathematical analysis of available data, may also use clinical experience and expert opinion
- The process of risk classification involves gathering data to understand the risk
 - Different paths, different data elements are gathered for individuals based on what is learned during the process.



The Actuary and Risk Classification

- Risk Classification is reasonable when it is based on sound actuarial principles and related to actual or reasonably anticipated experience
 - Actuaries are guided by **ASOP** #12 Risk Classification
- **AUW** should follow the principles of risk classification
 - Offers the potential to improve risk classification
 - Impact on risk classification can be more easily measured, data and algorithms are more consistent than individual human judgement that varies from person to person



Underwriters and Actuaries

In life insurance, underwriters and actuaries have different but interdependent roles related to risk classification

- Underwriters follow established risk classification principles that differentiate fairly on the basis of sound actuarial principles and/or reasonable anticipated mortality experience.
 - Underwriters are accountable for developing the **UW** process and classifying applicants into risk pools
 - They assign risks to groups based on the benefit costs of the risk pool
- Actuaries analyze changes to risk classification because of the impact to critical actuarial activities
 - Develop mortality assumptions for each risk pool
 - Reserve determination/Asset adequacy testing/risk management
- Actuaries and underwriters work together to align risk classification with mortality expectations for each risk pool.



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Actuaries Provide Unique Perspective

Some questions actuaries consider related to **AUW**.

It starts with understanding the goals of the **AUW** program.

Risk Classification

- How does AUW fit into the broader **UW** process?
- What impacts does the triage or eligibility for **AUW** process have on risk selection?
- How does this change the opportunity for adverse selection?

Data

- Is the data used relevant, credible, and of high quality?
- Is the data used unfairly discriminatory?
- Does it appropriately classify risks?
- Does it comply with laws such as HIPAA, FCRA, Unfair Trade Practices?
- How do traditional and new data elements work together?



Actuaries Provide Unique Perspective cont.

Predictive Models

- What does the model do?
- How effectively does it accomplish what it is supposed to do?
- How to validate the model?
- How are model results blended with traditional **UW** methods and data elements?

Actuarial Processes

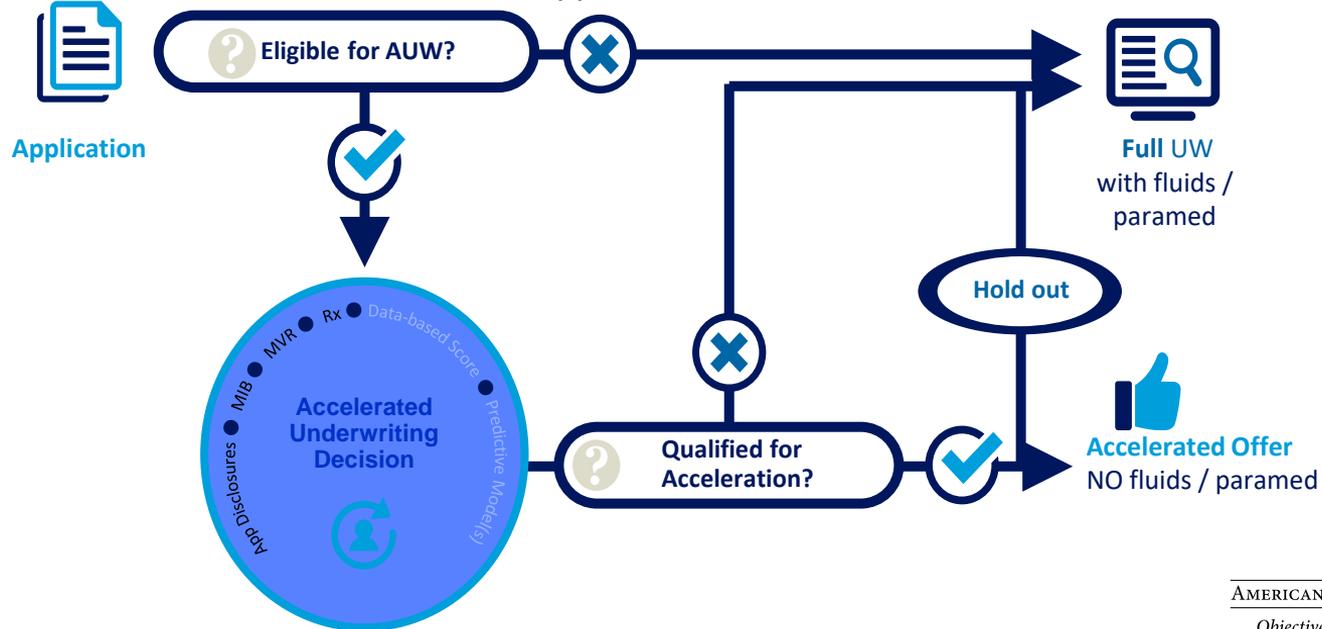
- What are the impacts of AUW on product pricing/reserve determination/asset adequacy/risk management?
- Is there new program and experience monitoring needed?
- What changes are there to target market, distribution, and mix of business?



AUW Risk Classification Process

Data is gathered to understand the risk

- Result of triage is approval or request for additional data
- What's new is that some lives could be approved faster



Data Used in **UW** Evolves

- Throughout the history of **UW**, new data sources and ways to use data have arisen
- New data or data sources should be evaluated to assess their impact on risk classification.
 - When new data is evaluated, it is evaluated for its protective value as an additional piece of data or replacement for existing data element(s)
 - Mortality studies and/or retrospective studies assess the value of data that are/can be used for **UW**
- Changes to Risk Classification are evaluated and built into product design and pricing.
- Regulation is in place that governs data used in **UW**.
 - HIPAA
 - FCRA
 - Unfair Trade Practices Act



Predictive Models

- Use data and probabilities to forecast outcomes
- Models used for **UW** may predict relative mortality or risk class
- Models incorporate statistics to identify interdependencies among data elements
 - Built using historical data
 - Validated using different historical data
- Model results are typically used more to inform **UW** decisions than to make the **UW** decision.



Monitoring AUW

As with any **UW** change, **AUW** programs need to be monitored

- Differences between how the new **UW** paradigm is working compared to previous **UW**
- Changes to the pool of issued lives

Examples of tools used to monitor:

- Random holdouts
 - Requiring some lives eligible for acceleration follow the non-accelerated process
- Post-issue Attending Physician Statements
 - Assessing the accuracy of the acceleration process by evaluating **UW** decisions of issued policies against Attending Physician Statements
- Monitoring key performance indicators
 - Distributions by underwriting classes/smoker status
 - Pass-through rates (percentage of applicants that go through the accelerated process)
- Mortality and lapse experience studies



Some Key ASOPs Related to AUW

All **ASOPs** guide actuaries when performing professional services.

Some **ASOPs** that may relate to **AUW**:

- #12 Risk Classification
- #23 Data Quality
- #25 Credibility Procedures
- #54 Pricing of Life Insurance and Annuity Products
- #56 Modeling
- Setting Assumptions (currently being drafted)

The Actuarial Standards Board regularly adds and updates **ASOPs**.

ASOPs are developed by the Actuarial Standards Board and are binding on members of the U.S.-based actuarial organizations when rendering actuarial services in the U.S.

Actuaries are bound by a code of conduct. The purpose of this Code of Professional Conduct is to require Actuaries to adhere to the high standards of conduct, practice, and qualifications of the actuarial profession, thereby supporting the actuarial profession in fulfilling its responsibility to the public.



Summary of Actuarial Perspective on **AUW**

- AUW is part of the on-going evolution of **UW**.
- As with any change in **UW**, the change needs to be tracked and monitored to understand the full impact.
 - Trade-off between mortality accuracy and evaluation time
 - Changes to the time it takes for **UW** to wear off
 - Different tools
 - Process changes
- There are existing regulations on data used in **UW**.
- Actuaries are involved in key aspects of Risk Classification and AUW programs.
 - Examples include working with underwriters, setting pricing assumptions, developing reserves and model analysis
 - **ASOPs** provide actuaries guidance, including considerations for **AUW**



Questions?

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Appendix I: Relevant Terminology

- Accelerated Underwriting (**AUW**) - AUW is a process that is dynamic in that non-medical and medical information gathering may be customized to the individual applicant.
VM-20 Underwriting Definitions Sub-group
- Actuarial Standards Board – sets standards for appropriate actuarial practice in the United States through the development and promulgation of Actuarial Standards of Practice.
- Actuarial Standard of Practice (**ASOP**) – describes the procedures an actuary should follow when performing actuarial services and identifies what the actuary should disclose when communicating the results of those services.



Relevant Terminology, cont.

- ❑ Automated underwriting - a technology solution which is designed to perform all or some of the screening functions traditionally completed by underwriters, and thus seeks to reduce the manpower, time and/or data necessary to underwrite a life insurance application.
- ❑ Algorithm – a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer
- ❑ Causation – the relationship between cause and effect; the action of causing something
- ❑ Correlation - a mutual relationship or connection between two or more things



Relevant Terminology, cont.

- Predictive Modeling - a process that uses data mining and probability to forecast outcomes. Each model is made up of a number of predictors, which are variables that are likely to influence future results.
- Underwriting (**UW**) – Process by which an insurer decides whether to issue insurance and on what terms and at what price.

Life Insurance, K. Black, et.al, 14th edition, 2013



Appendix II: Additional Resources

- ❑ https://www.actuary.org/sites/default/files/files/publications/SI_AUW_LATFPresentation_12.8.2016.pdf
- ❑ https://www.actuary.org/sites/default/files/files/publications/LATF_AUW_11.30.2017.pdf
- ❑ <http://www.actuarialstandardsboard.org/standards-of-practice/#filter=.Life>
- ❑ <https://www.soa.org/globalassets/assets/files/resources/research-report/2019/accelerated-underwriting-survey.pdf>
- ❑ <https://www.soa.org/globalassets/assets/files/research/exp-study/predictive-analytics-underwriting-report.pdf>

