



PACIFIC LIFE

Proxy Discrimination Update

ACLI Medical Section, February 22, 2021

Mary J Bahna-Nolan, FSA, CERA, MAAA

SVP, Head of Product Innovation and Strategy

This material is for educational purposes only and for use with industry professionals.



Agenda

- How did we get here?
- What is proxy discrimination?
- Current state of the regulatory discussions?
- Where do we go from here?

A large whale is captured mid-breach, its dark, textured body arched high above the water. The whale's tail is visible, curving upwards. A massive splash of white water is erupting from the point of exit. The background is a soft, hazy sky with warm orange and pink tones, suggesting a sunset or sunrise. The water in the foreground is dark and calm.

How did we get here?

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Increasing popularity and expansion of accelerated underwriting (AUW) programs

- AUW programs started with 1 carrier in 2014
- Expansion was slow at first than accelerated quickly over the next several years
- Today, many carriers have some form of AUW program though rate of acceleration varies widely by program
- Early programs, triage decision models but evolving
 - More sophisticated algorithmic models
 - Emerging data sources
- COVID-19 response expanded limits and programs



New York DFS takes the lead by issuing Circular Letter #1 in 2019

- Driven by emergence of unconventional external data sources
- Focus based on:
 - External data that includes information not directly related to the applicant's medical condition
 - Unlawful discrimination
 - Adverse decisioning
- External data excludes MIB, MVR and criminal history search
- Requirements of external data

Non-
discriminatory

Valid rationale

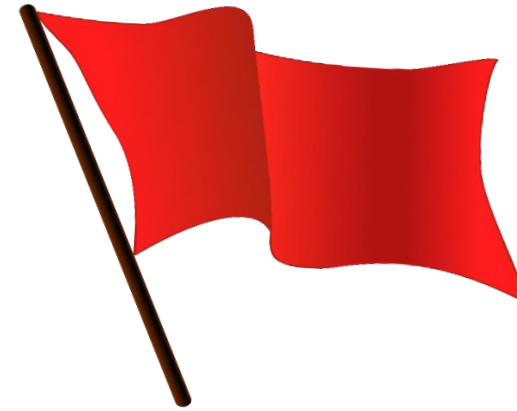
Established
guidelines &
practices

Transparency

Independently
verified

NY Circular Letter #1 and Unlawful Discrimination

- May not use external data that uses prohibited information
- External data has “potential” to reflect disguised and illegal race-based underwriting
 - Geographical data (incl. community-level mortality, addiction or smoking data)
 - Homeownership data
 - Credit information
 - Educational attainment
 - Licensures
 - Civil judgements and court records



NAIC Accelerated Underwriting (AUW) Working Group

- Under the NAIC's Life Insurance and Annuities "A" Committee
- Charge:
 - "To consider 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."
- 3 questions to attempt to answer:
 - 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.
- Noted areas of concern regarding both data inputs and model outputs – credit, criminal history, social media data

Other NAIC Groups

Innovation and Technology (EX) Task Force

- Provides a forum for regulator education and discussion of innovation and technology in the insurance sector;
- Monitors technology developments that affect the state insurance regulatory framework; and
- Develop regulatory guidance, as appropriate.

Big Data and Artificial Intelligence (EX) Working Group:

- Researches the use of big data and artificial intelligence (AI) for insurance;
- Evaluates existing regulatory frameworks for overseeing and monitoring their use
- May include model governance for the use of big data and AI for the insurance industry

Speed to Market (EX) Working Group

- Focuses on speed to market operational efficiencies

NAIC Adopts AI Principles – A good first step

- Adopted August, 2020
- Establishes consistent high-level guiding principles for AI actors
- Guidance - do not carry the weight of law or impose any legal liability
- Intended to accommodate the nature and pace of change in the use of AI by the insurance industry
- Promotes innovation, while protecting the consumer



Fair and Ethical



Accountable



Compliant



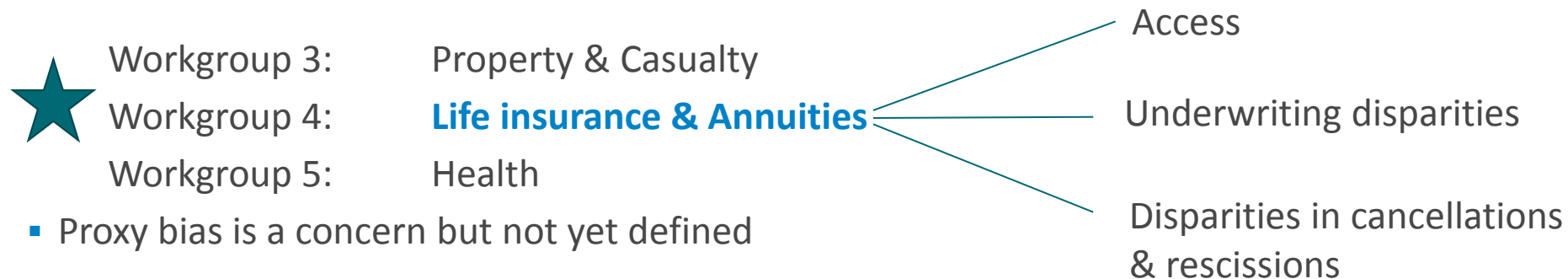
Transparent



Secure, Safe and Robust

NAIC Special (EX) Committee on Race & Insurance

- Formed to conduct research and analyze the level of diversity and inclusion within the insurance sector
- Formed 5 workgroups to research and examine practices or barriers and recommend next steps:
 - Research and analyze the level of diversity and inclusion within the insurance sector (Workgroup 1) and within the NAIC (Workgroup 2)
 - Examine and determine which current practices or barriers exist in the insurance sector that potentially disadvantage people of color and/or historically underrepresented groups.



NATIONAL COUNCIL OF INSURANCE LEGISLATORS (NCOIL) PROPERTY/CASUALTY INSURANCE MODERNIZATION ACT

- Defines proxy discrimination
- Makes clear that proxy discrimination is unfairly discriminatory in all kinds of insurance
- “Unfairly discriminatory” refers either to:
 1. Rates that cannot be actuarially justified, or
 2. To rates that can be actuarially justified but are based on proxy discrimination.
- Differences in premiums “for policyholders with like loss exposures, so long as the rate reflects such differences with reasonable accuracy” are not scoped in

What is Proxy Discrimination?

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Proxy discrimination v Disparate impact

Proxy Discrimination¹

- A facially neutral practice that disproportionately harms members of a protected class.
- In AI, most likely to occur when prohibited traits are directly predictive of legitimate outcomes in ways that cannot be more directly captured by alternative data

Disparate Impact

- Legal theory of liability in Title VII of 1964 Civil Rights Act
 - Definition recognized as applicable to Fair Housing Act in 2015²
- An unnecessary discriminatory effect on a protected class caused by a practice or policy (as in employment or housing) that appears to be nondiscriminatory³
- Does NOT require intent

Does the legal concept of disparate impact apply to life insurance underwriting?

1. Proxy Discrimination in the Age of Artificial Intelligence and Big Data, *Anyu E.R. Prince** & *Daniel Schwarcz***, 105 IOWA L. REV. 1257 (2020)

2. *Texas Department of Housing and Community Affairs v. Inclusive Communities Project*

3. *Merriam-Webster.com Legal Dictionary*, Merriam-Webster, <https://www.merriam-webster.com/legal/disperate%20impact>. Accessed 17 Feb. 2021

Definitions vary

NCOIL

- “Proxy Discrimination” means the intentional substitution of a neutral factor for a factor based on race, color, creed, national origin, or sexual orientation for the purpose of discriminating against a consumer to prevent that consumer from obtaining insurance or obtaining a preferred or more advantageous rate due to that consumer’s race, color, creed, national origin, or sexual orientation¹
- Requires intent
- States do not feel there is a significant issue in insurance underwriting

NAIC

- Does not have a formal definition
- Have referenced the definition from Professor Daniel Schwarcz
- Proxy discrimination occurs when insurers discriminate based on facially-neutral traits that:
 - (i) are correlated with membership in a protected groups, AND
 - (ii) are predictive of losses for precisely that reason.

1. National Council of Insurance Legislators (NCOIL Property/Casualty Insurance Modernization Act

Is what is fair also equitable?

- Voluntary nature of life insurance
- Insurers ability to have target markets
- Equitable or fair to one group may be unfair or inequitable to another
- ASOP* No. 12 – Risk Classification
 - States risk classification must be based on sound actuarial principles related to actual or reasonably anticipated experience to assign risks to groups based upon the expected cost or benefit of the coverage or services provided;
 - Provides guidance on what is considered equitable
 - A risk classification system only considered equitable if:
 - Differences in rates reflect material differences in expected cost for risk characteristics.
 - Demonstrated if it can be shown that the variation in actual or reasonably anticipated experience correlates to the risk characteristic.

* US actuaries are guided by ASOPS which provide guidance on the techniques, applications, procedures, and methods that reflect appropriate actuarial practices in the US.

Correlation v Causation

- Much of our current underwriting and risk selection process is based on correlation and not causation
 - E.g., Smoking, BMI, Diabetes are correlated to increased mortality but not the cause of death
- Given life insurance underwriting assesses a risk with non-cancellable rates and risk classification at issue that must hold for years to come, causal underwriting would be problematic
- Under ASOP No. 12, Risk Classification, NOT necessary for an actuary to establish a cause-and-effect relationship between the risk characteristic and expected outcome

Is the concern limited to non-medical data?

- Medical data to-date has not been the focus of discussions BUT...
- In various medical studies, proxies may be used
 - To minimize selection bias due to missing data or
 - To supply responses in place of patients who are unable or unwilling to respond to interview questions.
 - Responses from proxies may be systematically biased
- Reliance on certain studies (e.g., BMI) have been referenced as biased and flawed relative to its application across all genders and races
- There is a strong correlation between socioeconomic factors and mortality/morbidity experience
 - The racial aspect of socioeconomic differences is systemic beyond insurance application

Current state of the regulatory discussions



- NCOIL and NAIC seeming to move at different paces
- NCOIL original timing was end of year 2020
 - Next meeting March 5
- NAIC workgroup plans have been sent to parent committee but not yet public
- No specific decision dates announced publicly
- ACLI keeping an open dialogue with NAIC



Where do we go from here?

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Emergence of algorithms and external data in underwriting life insurance (1/2)

Of particular concern amongst regulators

- Lack of transparency around data usage and outcomes
- Auditability of machine learning models
- Application of unsupervised learning models
- Credit based mortality risk scores
- Use of criminal history
- Spurious correlations
- Use of proxies from alternative, nonmedical data sources coupled with the use of predictive models and algorithms inject hidden biases or proxies for protected class information, most specifically race

Mitigations

- HIPAA¹
- FCRA²
- Unfair Trade Practices Act
- Underwriting guidelines have long been based on various algorithms
 - Predictive models and improved computing power have helped to remove some of the human application or judgements in the algorithms historically used
- Algorithms (v human judgment) have the *potential* to be more transparent

¹ Health Insurance Portability and Accountability Act of 1996

² Fair Credit Reporting Act

Emergence of algorithms and external data in underwriting life insurance (2/2)

- **The racial aspect of socioeconomic differences is systemic beyond insurance application BUT**
 - There is a strong correlation between socioeconomic factors and mortality/morbidity experience
- **As such, additional analysis and judgment necessary to ensure proxies:**
 - Not unintentionally discriminatory against a protected class
 - Continue to correctly identify mortality and morbidity differentials and correlations important to the risk classification/risk pools established in pricing

Work of the ACLI

- ACLI Economic Empowerment & Racial Equity Initiative
- ACLI Principles
- Ad Hoc Working Group – cross disciplinary group
 - Two subgroups:
 - Definitions
 - Inputs/Outputs (Data Science)
 - Leaning towards a life specific definition
 - Voluntary v compulsory nature
 - No/limited ability to re-underwrite/re-price post issue or cancel once issued
 - Need to ascertain financial and insurance suitability at issue
 - Challenges with proxies used to test for bias
 - ORSA-like assessment/report on testing and validation



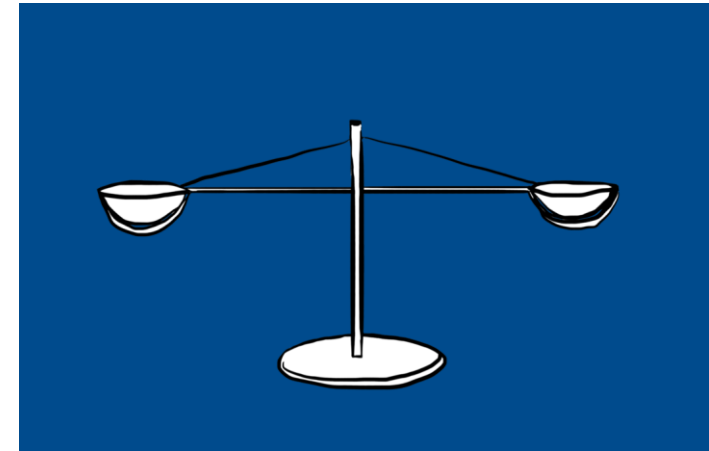
How do we test for bias when we haven't collected the protected class information?

- Use of proxies to replace lack of ground truth data currently
- Inputs from third parties
- Input (Data bias), Algorithms and outputs (Model bias)
- Model drift
- “80% Rule”
- Fairness or Disparity Measures
- Bias Metrics



Examples of Fairness or Disparity Measure Tests

- What does fairness look like for life insurance?
- Examples of Fairness or Disparity Measure tests (non-exhaustive list)
 - Prevalence
 - Predicted Prevalence
 - Predicted Rate Parity
 - False Omission Rate
 - False Positive Rate
 - False Negative Rate
 - Positive Rate Parity
 - Propensity Score Analysis
 - Degree of Influence





Thank You!

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