



October 26, 2023

Commissioner Michael Conway  
Colorado Division of Insurance  
1560 Broadway, Suite 850  
Denver, CO 80202

Dear Commissioner Conway,

On behalf of the American Academy of Actuaries<sup>1</sup> Life Practice Council and Casualty Practice Council, thank you for the opportunity to comment on Colorado's draft regulation, *Concerning Quantitative Testing of External Consumer Data and Information Sources, Algorithms, and Predictive Models Used for Life Insurance Underwriting for Unfairly Discriminatory Outcomes*. Overall, we support Colorado's initiative to prevent unfairly discriminatory practices in insurance. In terms of the design of the data testing requirement, we want to share some actuarial perspectives for further consideration.

As the draft testing regulation is updated and additional testing is completed by the Academy and other groups, we look forward to continued conversations with the department.

Our key recommendations include:

**1. Use of Bayesian Improved First Name Surname Geocoding (BIFSG) Estimated Rate and Ethnicity**

The proposed regulation requires companies to use the BIFSG method for classifying prospective and current policyholders by race or ethnicity. While the BIFSG method has broad appeal in imputing race and ethnicity, various means of implementation can produce different results. Choice of Census data (e.g., 2010, 2020) and methods of classification (e.g., single vs. probabilistic) may result in different conclusions on the indication of unfairly discriminatory practices. Inferring race is an active area of study, so there may be new, improved options that emerge over time and present suitable alternatives to BIFSG.

**2. Testing Methods**

While we support testing to help prevent unfairly discriminatory practices, we are concerned about the types of tests being used and the potential risks and implications.

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<sup>1</sup> The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

In Section 8, the regulation prescribes a method for changing variables when Section 6 testing produces differences in acceptance rates greater than 5%. From a strictly mathematical perspective, adding variables will change the coefficients and can cause failure when performing additional tests. Adding variables to a regression often causes coefficients for variables already in the model to change, because regression coefficients are jointly estimated.<sup>2</sup> Other theories on the results and risks of adding variables exist. While we don't have a specific recommendation for a threshold, we would offer our assistance as you work to establish a threshold.

The testing method in Section 6 is based on a difference in p-values between the inferred results using BIFSG. Use of p-values may not be indicative of bias with certain data samples. If the sample size is very large, the p-value tends to be smaller. Smaller sample sizes may not be statistically significant and assessments of bias using p-values may not be reliable. Research is ongoing on the use of p-values to change the methodology and decrease these known issues. We encourage Colorado to consider the limitations in prescribing the use of p-values in this regulation.

### 3. Definitions

Considering the definitions that are described within the proposed regulation, we would highlight the following:

- I. The definition of Motor Vehicle Records (4.H.) may be overly specific and narrow. For example, it excludes commonly used and important records such as moving violations or license suspension/revocation, which have been traditional underwriting factors for many years.
- II. The definition of policy type (4.I.) is somewhat broad and may cause companies to fail the proposed tests. For example, permanent products would combine whole life and universal life. This ignores the guaranteed nature of whole life and the nonguaranteed nature of universal life, which drives different premium rates per thousand dollars of face amount. Additionally, "whole life" would combine fully underwritten whole life with simplified issue, final expense and other types of policies that fall at different points on the underwriting continuum. These products have different underwriting and mortality expectations. Because potential insureds apply for a specific type of policy during the application process, testing accept/decline and premium rates within the requested policy type may serve as a more reasonable basis for testing. Furthermore, the use of "duration of the term" should be further clarified. Is the intent to refer to the level premium period within a term insurance policy? If so, it is important to keep in mind that most level premium period products have different rates based on the length of the level premium period. However, the duration of the term contract is much longer than the level term period, given that it ends at attained age 95.

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<sup>2</sup> See "[Interpreting Regression Coefficients](#)"; The Analysis Factor; Dec. 20, 2021.

- III. In 4.K.5, it may be helpful to add commonly used electronic factors beyond Prescription Drug Histories, such as Medical Claims Data. It may also be helpful to include factors that are used currently and are anticipated to be used more frequently in the future, such as Electronic Health Records.
- IV. The definition of “life insurer” (4.G.) and “underwriting” (4.L.), when taken together, appears to scope in facultative reinsurance. We would not recommend this inclusion, as reinsurers do not directly issue policies to insureds. Reinsurers underwrite applicants through facultative underwriting to determine whether the reinsurer can offer reinsurance on a policy to the direct writer of the policy (i.e., the ceding company.) The ultimate offer for facultative reinsurance is based on what the reinsurer would charge the ceding company, which has no impact on the premium charged to the policyholder. Testing by the reinsurer for such facultative policies is inconsistent with the ultimate outcome to the applicant. Facultative reinsurance should not be tested by the reinsurers making the offer, but rather it should be done by the company selling the policy with a direct impact on the consumer. It should also be noted that reinsurers do not underwrite automatic business ceded.

We recommend modifying the life insurer definition to instead read as “an entity currently authorized and licensed by the Commissioner to issue and sell life insurance policies in the state of Colorado.” Use of the word “policies” would align with “policy type,” rather than introducing an undefined word “product.” Also, the inclusion of “currently authorized” would not scope in companies that no longer issue policies in Colorado.

- V. As currently drafted, Section 4.D for ECDIS could be interpreted to include tools used for identity verification. While Definition 4.D. excludes traditional underwriting data (referenced in Definition K) from the definition of ECDIS, it does not explicitly include data used to verify identity and insurable interest. While data used for identity verification is not part of the underwriting or risk selection process, it is critical to the eligibility process to prevent fraud. Data used in identity verification should be excluded in the ECDIS definition along with Traditional Underwriting Data.

During the application process, one of the carrier’s key functions is to verify the identity of the insured as well as the policy owner, ensuring insurable interest and reducing the risk for money laundering. This activity is often performed separately and distinctly from the underwriting process by new business processing personnel. Third-party data tools are often used to verify identities. This process does not impact the underwriting itself, nor risk classification or premium assignment. Rather, it is used to ensure the correct individual is underwritten, such that the owner of the policy and beneficiary noted in the application have insurable interest in the potential insured. In addition, this activity confirms that when records are used for financial verification, they relate to the individual indicated in the application and that the source of funds does not

violate anti-money laundering laws. These are important steps for mitigating insurance fraud. Consequently, the use of identity verification tools should be eliminated from the testing for ECDIS in the underwriting process.

Subjecting data sources and the processes used to validate the identity to ensure the application itself is not fraudulent may make identity verification very challenging and increase fraud, thus increasing the cost to all policyholders.

#### **4. Flexibility**

Flexibility is important with this type of regulation, as technology is rapidly changing. We recommend adding flexibility into the regulation so that best practices can be used by insurers. Adding flexibility, such as making it subject to commissioner approval, allows for improvements to testing to be reflected quickly, allowing the department to adapt to the changing landscape in the most expeditious way possible.

#### **5. Direct Relationship**

We affirm our recommendation that the term “direct” not be used when describing relationships to mortality as it may imply cause of death. We believe the key is a rational explanation for the inclusion of a potential predictor for the outcome.<sup>3</sup>

#### **6. Statistical Significance**

We would urge the department to consider how testing should be modified when there is not enough data to be statistically significant. This is particularly relevant for smaller or fraternal companies, which may not have enough applications or policies to have statistically significant amounts for each race.

#### **7. Control Variables**

We note that the department identified only certain Traditional Underwriting Factors as control variables in Application and Premium Rate testing. It would be helpful for companies and other interested parties to understand the control variable selection process, particularly when some Traditional Underwriting Factors, such as health history, would appear appropriate to include as control variables.

#### **8. Scope**

We request further clarification on the initial test group. Does it include all policies issued and inforce since CO SB 21-169 was adopted? Does the initial testing include all inforce policies, with subsequent annual testing, of the one year of issued policies?

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<sup>3</sup> See the Academy issue brief [An Actuarial View of Correlation and Causation—From Interpretation to Practice to Implications](#); July 2022.

We appreciate the opportunity to offer our perspectives and recommendations. The Academy looks forward to our continued conversations and collaboration on this issue. If you have any questions or would like additional information about our comments, please contact Amanda Barry-Moilanen, life policy analyst ([barrymoilanen@actuary.org](mailto:barrymoilanen@actuary.org)).

Sincerely,

Kirsten Pedersen, MAAA, FSA  
Incoming Chairperson, Life Underwriting and Risk Classification Subcommittee