



Colorado's watershed AI
regulation and proposed
testing rule for life insurers

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**Regulatory
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US

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A review of Colorado's artificial intelligence regulation framework for insurers

Colorado's artificial intelligence (AI) governance and testing framework holding life insurance insurers accountable for their data and remedying outcomes that result in unfair discrimination is now in place for life insurers with initial compliance for the major governance elements of the regime with an initial compliance assessment narrative statement due in June, 2024.

On September 21, 2023, the Colorado Division of Insurance (CDOI) adopted a new first-in-the-nation AI regulation: Regulation 10-1-1 Governance and Risk Management Framework Requirements for Life Insurers' Use of External Consumer Data and Information Sources, Algorithms, and Predictive Models.¹ It is in effect November 14, 2023. This regulation establishes governance and risk management requirements for life insurers authorized to do business in Colorado that use external consumer data and information sources (ECDIS), as well as algorithms and predictive models and AI data used in underwriting.

A week later, on September 28, 2023, the Division unveiled the companion to this framework: a proposed quantitative testing regime.²

The rules arose from legislation that requires insurers to show explicitly to the Colorado insurance division regulators how they are testing their data and tools to ensure they do not result in unfair discrimination.³

Specifically, on July 6, 2021, Colorado Governor Polis signed Senate Bill (SB) 21-169. The law protects Colorado consumers from insurance practices that result in unfair discrimination on the basis of race, color, national or ethnic origin, religion, sex, sexual orientation, disability, gender identity, or gender expression.⁴ SB21-169 requires insurers to demonstrate to the CDOI how they are testing their data and tools to ensure they do not result in unfair discrimination.

The first-of-its-kind legislation directs the insurance commissioner to work with stakeholders before adopting rules on how the insurers should test and demonstrate that their use of big data is not unfairly discriminating against consumers. The Division's stakeholder engagement process has been underway since early 2023 for both underwriting practices in life insurance and in private passenger auto insurance for property and casualty (P&C) insurers. This vigorous process continues.⁵

With the adoption of this new life insurance governance and reporting regulation, life insurers have time to come into compliance by December 1, 2024, with an initial summary due June 1, 2024, summarizing progress made toward complying with the requirements, including identifying the areas still under development and any challenges encountered.



Bias testing process teed up for life insurers

The separate draft testing rule set has tangible thresholds for analysis and measurement of unfair discrimination and will require a top-to-bottom, detailed system to be put in place for the underwriting of life insurance policies written by companies that use AI or contract with companies that use AI and external data. Traditional underwriting factors or variables may still be used to differentiate premiums for life insurance policies.

This life insurance testing regime proposal mandates annual testing for unfair discrimination by race or ethnicity using linear regression to model outcomes for life insurance premium rates charged in policies extended to Hispanic, Black, Asian/Pacific Islander, and White insureds. Insurers will use the Bayesian Improved First Name Surname Geocoding (BIFSG) to estimate race and ethnicity of applicants and policyholders.⁶

As currently drafted the initial life insurance testing exercise will apply to policy application data through December 31, 2023. Subsequent tests must be performed annually to include additional application data through December of the previous year. The proposed testing rule will go into effect only after a multilayered comment and open session involvement period, with informal and formal comments accepted through October 26, 2023, followed by stakeholder sessions. These sessions showcase concerns among the insurance sector as a whole with some of the testing protocols and the factors used, the output percentages that would trigger second-phase or variable testing, the complexity of coverage and sometimes multiple insureds on policies, or a stated need for a safe harbor. Colorado regulators were open to suggestions but stressed the need to have working testing protocols in place without excessive delays.⁷

The P&C governance risk framework and P&C testing protocols will both be developed by the Colorado insurance division regulators in the coming months and will not be effective until next year, at the earliest. As of yet, they have not been drafted. The P&C governance regulations will be followed by bias testing regulations.

A lighter touch? NAIC process offers AI model governance guidance to most states

Colorado has more than 1,500 insurers licensed to do business in the state and is ranked 17th in life insurance premiums, so many US insurance companies will be impacted by the new rules. .

Before taking a closer look here, it is important to be mindful of the National Association of Insurance Commissioners' (NAIC) work on its own model bulletin addressing the use of AI and predictive models.

On October 13, the NAIC released the second draft of its governance document, "Model Bulletin on the Use of Artificial Intelligence Systems by Insurers."⁸ It has less restrictive language around oversight of third parties than its predecessor, the first draft, and encourages (but does not mandate) testing for biased outcomes. The document is not a model law; it is intended as guidance.

In the NAIC's guidance bulletin, insurers' risk management and internal controls must address a host of items, including validating testing outputs if testing is used. "This validation can take the form of comparing model performance on unseen data available at the time of model development to the performance observed on data post-implementation, measuring performance against expert review, or other methods," according to the NAIC draft.



A glimpse at the new life insurance governance and risk management rule

The Regulation 10-1-1 Governance and Risk Management Framework Requirements for Life Insurers' Use of External Consumer Data emphasizes the need for documentation and description of multiple components of an insurer's external/algorithmic data usage. Governance and reporting requirements are extensive but broad.

Governance requirements:

- Governing principles that outline the insurer's values and objectives for ensuring that ECDIS is used fairly and compliantly and that there is oversight by the board of directors or a committee of the board where senior management has a responsibility and accountability for setting and monitoring the overall strategy for using ECDIS. This includes a cross-functional AI governance group composed of representatives from key functional areas. Comprehensive annual reviews of the governance structure and risk management framework and updates to the required documentation are required to ensure continued accuracy and relevance.
- Policies, processes, and procedures for the design, development, testing, deployment, use, and ongoing monitoring of ECDIS and AI models that use ECDIS. This includes a system for addressing consumer complaints and inquiries on this external data/AI use and a description of the process used for selecting external resources including third-party vendors.
- Assessment rubric and inventory controls and prioritizing risks associated with the deployment of ECDIS, and associated algorithms and predictive models, with an accurate inventory. There should be a detailed description of each, plus the outputs generated through their use as well as any material updates or changes in the ECDIS inventory and the rationale for each update or change.
- Ongoing monitoring regarding the performance of ECDIS-based algorithms and predictive models, including accounting for "model drift."

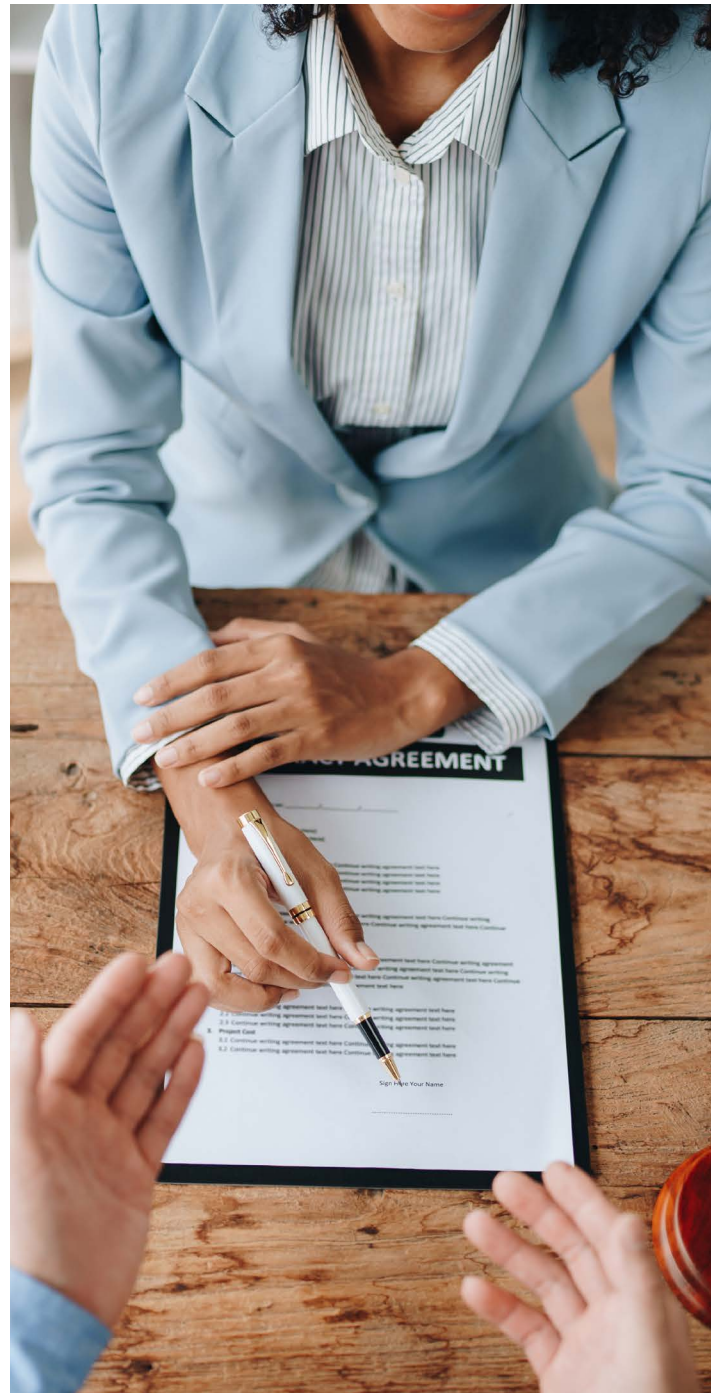
Reporting requirements:

- Initial Narrative Report. Life insurers that are using ECDIS, as well as algorithms and/or predictive models that use ECDIS, as of November 14, 2023, must submit a narrative report summarizing the progress made toward complying with the rule's governance requirements. This report must include the identification of areas still under development, any difficulties encountered, and expected completion date. This report is due **June 1, 2024**.
- Annual Narrative Report. Insurers that are using ECDIS, as well as algorithms and/or predictive models that use ECDIS, must submit each December 1, beginning in 2024, a narrative report summarizing compliance with the requirements and qualifications of each individual responsible for ensuring compliance. This must identify the specific requirements for which that individual is responsible. This report must be signed by an officer attesting to compliance. If a life insurer cannot attest to compliance, the insurer must submit to a corrective action plan. The report cannot exceed 10 pages.
- Exemptions. Life insurers that do not use ECDIS or algorithms and/or predictive models that use ECDIS are exempt from the requirements. However, they must submit to CDOL within one month of November 14, 2023, and on December 1 annually thereafter, an attestation indicating that the insurer does not use these AI sources. Insurers that later plan to use these data sources must submit a narrative summary report prior to using ECDIS or algorithms and/or predictive models.

A closer look at the new AI/bias quantitative testing draft proposal for life insurers

The first testing rules that will be in place will apply to life insurers that use external data or AI or use data from third parties who utilize external data and predictive models.

- Life insurers must determine if there is a statistically significant difference in the premium rate per \$1,000 of face amount for policies issued to Hispanic, Black, and Asian/Pacific Islander insureds relative to White insureds, if algorithms or predictive models using ECDIS are used by either the insurer or an outside vendor/third party.
- Using linear regression, insurers would determine if there is a statistically significant difference in approval rates of equal to or greater than **five percentage points**, which would necessitate further testing. If less than five percentage points, no further testing is required.
- If the five-percentage-point threshold is triggered, insurers must further test their external data sets or the third-party data sets to identify the specific variable(s) contributing to the observed differences.
- Insurers must use two separate logistic regression models to model the binary underwriting outcome of decisions for approval or denial.
- All variables, including those based on ECDIS and traditional underwriting factors (policy type, face amount, age, gender, tobacco) must be included in the second model along with “dummy variables” for estimated race and ethnicity.
- Insurers must compare the AI models’ coefficients for each external data source variable and note any difference. If any of these AI/external data variables exhibits a difference, both the external-date-based variable and the algorithm or predictive model that uses that variable will be **judged to be unfairly discriminatory** because it has a direct relationship to a disproportionately negative outcome.
- **Remediation** must be undertaken by the insurer **immediately**, using the steps in the risk management framework rule. Additional testing is necessary to demonstrate the remediation’s effectiveness.
- Enforcement by the CDOI is expected after the rule becomes official and is locked in place, after a phase-in period.



What to know when reviewing Colorado's new AI/external data framework

1	<p>Adopted: The life insurance sector regulation 10-1-1 is the first element of the Colorado insurance AI oversight regime to be formally adopted. The governance and risk management framework for use of big data goes into effect November 14, 2023.</p> <ul style="list-style-type: none">• Life insurers using external consumer data, as well as external-data-based algorithms and/or predictive models must submit a narrative report summarizing their progress made toward complying with the governance requirements by June 1, 2024.• Life insurers must provide a narrative report summarizing compliance with the requirements of the governance and risk management framework and information on each individual responsible for ensuring compliance and other details on December 1, 2024, and annually thereafter.
2	<p>Proposed: The life insurance underwriting quantitative testing rule was proposed September 28, 2023, and is undergoing the stakeholder comment process. It would include application data through December 31, 2023. The report would be due April 1, 2024, and annually thereafter.</p> <ul style="list-style-type: none">• The life insurance testing proposal includes policy application approval decision testing requirements, reporting requirements, premium testing requirements, and variable testing requirements, if initial results indicate the need for further testing.• Further testing is triggered when outcome differences fall outside of the prescribed percentage-point margins. More refined testing protocols would kick in when results fall outside of the margin, indicating potential unfair discrimination, and would require two separate linear regression models to model outcomes.• If negative outcomes—that is, unfairly discriminatory—are revealed using the second round of linear regression computations, life insurers must “immediately” take steps under the governance framework to remediate these outcomes.• Life insurers must show that the remediation efforts are effective.
3	<p>Under development: The P&C governance regulation and testing protocol rules are still under development and expected to be more fully detailed and adopted in 2024, with a testing rule requiring compliance perhaps in 2025, if not 2024.</p>

What's next in Colorado and at the NAIC?

- **November 2, 2023** — Unfair Discrimination in Insurance - Private Passenger Auto Stakeholder Meeting to discuss the way forward for an auto insurance governance regulation.⁹
- **November 6, 2023** — Comments due on the NAIC's Model Bulletin on the use of Artificial Intelligence Systems by Insurers. Discussion and meetings will follow, especially at the NAIC Fall Meeting in Orlando November 28–December 4.
- **Fourth-quarter 2023** — The CDOI will be handling comments on the new life insurance testing draft and hold stakeholder engagement session(s) on it.
- **In (or before) early 2024** — Draft governance regulation on underwriting practices in private passenger auto insurance is expected from the Division. On April 6, 2023, the Division held the stakeholder engagement call on underwriting practices in private passenger auto insurance. No draft regulation has been proposed for this line of insurance products to date. However, expectations are to have a draft proposal by early 2024.
- **April 1, 2024** — Proposed date for life insurance testing report due to the Division and annually on this date thereafter (once these testing regulations are adopted).
- **June 1, 2024** — First life governance regulation deliverable. Life insurers that are using ECDIS, as well as algorithms and/or predictive models that use ECDIS, as of November 14, 2023, must submit to CDOI a narrative report summarizing the progress made toward complying with the requirements specified in Section 5 including identifying the areas still under development, any difficulties encountered, and expected completion date.
- **December 1, 2024** — Compliance with life governance regulation must be met. Insurers that are using ECDIS, as well as algorithms and/or predictive models that use ECDIS, as of the effective date of this regulation must submit to CDOI, and annually thereafter, a narrative report summarizing compliance with the requirements in Section 5 and the title and qualifications of each individual responsible for ensuring compliance along with the specific requirements for which that individual is responsible.
- **First-half 2024** — Unfair Discrimination in Insurance - Private Passenger Auto Stakeholder Meeting to discuss the way forward for an auto insurance governance regulation.

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Endnotes

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2. Colorado Division of Insurance, [Draft Proposed Algorithm and Predictive Model Quantitative Testing Regulation](#), September 28, 2023.
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