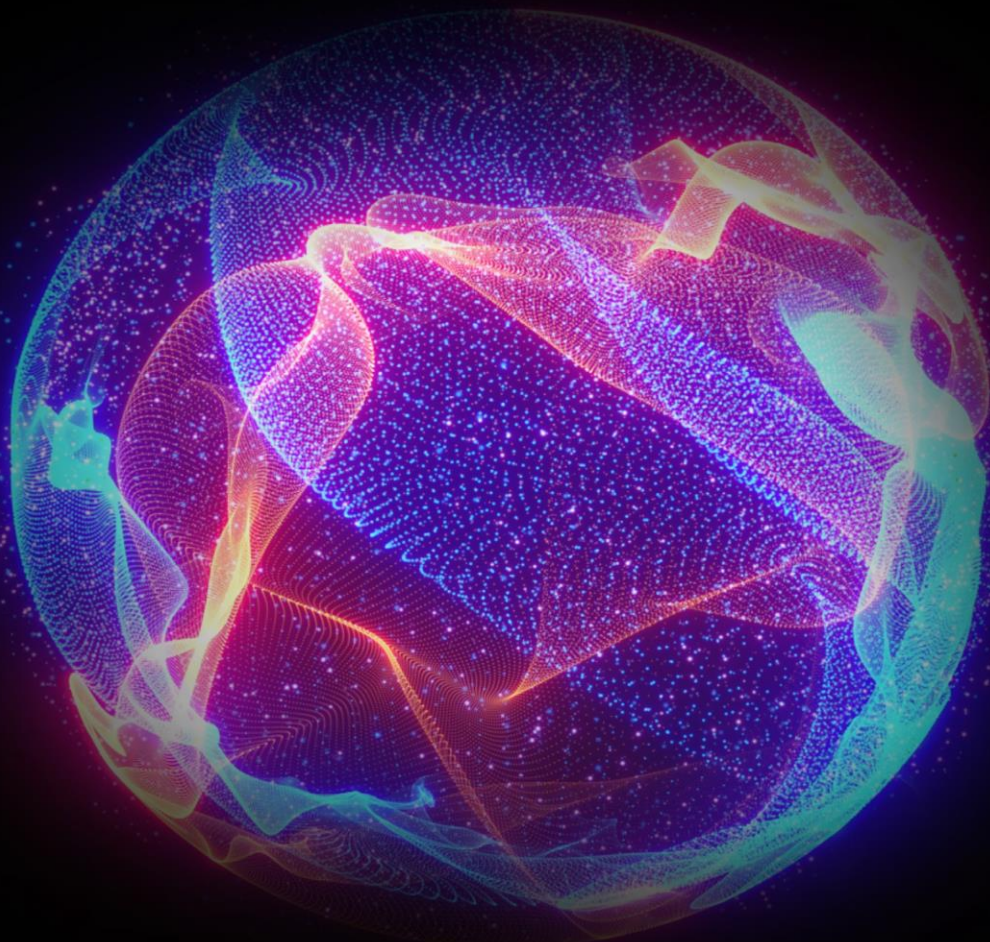


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Colorado Artificial Intelligence (AI) Regulations:

Summary of Governance and Risk Management
Framework (GRMF) Requirements for Life
Insurance companies

**MAKING AN
IMPACT THAT
MATTERS**

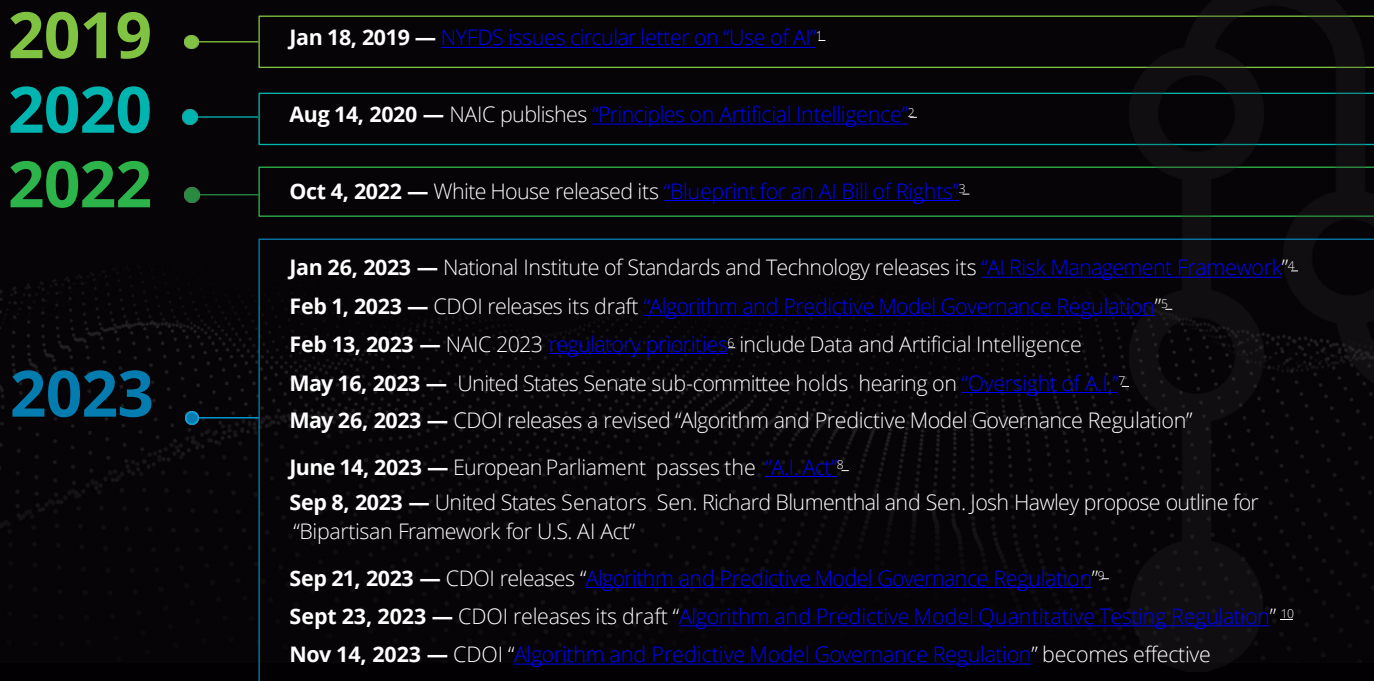
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Overview of Colorado Division of Insurance's (CDOI) AI Regulations

The AI regulatory landscape continues to mature as government agencies refine and build upon previous guidance designed to manage AI risk, to reasonably ensure equality and transparency, and to provide trust in automated systems. This is evidenced by recent publications including the White House's [Blueprint for an AI Bill of Rights](#), issued in October 2022, and the [Artificial Intelligence](#)

[Risk Management Framework](#), issued by the National Institute of Standards and Technology (NIST) in January 2023. Additionally, the National Association of Insurance Commissioners (NAIC) continues to prioritize responsible data and AI use by insurers as reflected in its 2023 [regulatory priorities](#).

Figure 1 — Timeline



Continuing down the path of making the governance requirements more tangible, the CDOI released the AI regulation on September 21, 2023 (initial draft issued on February 1, 2023, and revised draft on May 26, 2023), and proposed a "draft" of its "Algorithm and Predictive Model Quantitative Testing Regulation" on September 23, 2023.

Following active engagement with industry stakeholders, the CDOI intends to establish requirements for a life insurance company's internal AI Governance and Risk Management Framework (GRMF) as part of its adopted AI regulation and additional requirements related to testing and reporting as part of its proposed quantitative testing regulation.

- **Algorithm and Predictive Model Governance Regulation** (*effective: November 14, 2023*): The regulation is designed to reasonably ensure that life insurers' use of external consumer data and information sources (ECDIS), algorithms, and predictive models (i.e., AI models) do not result in unfairly discriminatory insurance practices with respect to race. This is believed to be the first such regulation on AI targeting insurers, and specifically life insurance.

- **"DRAFT" Algorithm and Predictive Model Quantitative Testing Regulation** (*effective in 2024 (tentative)*): The draft regulation builds upon the prior legislation from Colorado designed to minimize unfairly discriminatory insurance practices which may result from algorithms, AI, and the use of ECDIS. The regulation sets out testing and reporting requirements for insurers who leverage ECDIS either directly or as an input to algorithms or models used in the underwriting process.

Based on recent regulatory trends, there is a possibility that other states may follow suit and/or the scope of the regulation may be expanded to other types of insurance (e.g., auto, property) and other industries utilizing ECDIS.

Requirements per CDOI’s adopted AI regulation include –

AI Governance and Risk Management Framework (GRMF)

Insurers dealing with life insurance are responsible to ensure that the following requirements are met, including instances where third-party vendors are engaged:

1. **AI governing principles** ^(5A1) to ensure that use of ECDIS and AI models using ECDIS are designed to prevent unfair discrimination
2. **Board or board committee & senior management oversight** ^(5A2&3) of GRMF, and for setting and monitoring the overall strategy on the use of ECDIS and AI models and provide direction for AI governance
3. **Documented cross-functional governance group** ^(5A4) with representatives from key functional areas
4. **Documented policies and procedures** ^(5A5) including assigned roles and responsibilities to ensure that ECDIS and AI models are documented, tested, and validated
5. **Documented processes and protocols to address consumer complaints and inquiries** ^(5A6) about use of ECDIS and AI models
6. **A rubric for assessing and prioritizing risks** ^(5A7) associated with the use of ECDIS and AI models, including insurance practices’ customer impact
7. **An up-to-date inventory of ECDIS and AI models** ^(5A8) in use, including version control, detailed descriptions, purpose, problem their use is intended to solve, potential risks, and safeguards
8. **Documented explanation of changes to the inventory** ^(5A9) as well as rationale for the change
9. **Documented description of testing to detect unfair discrimination** ^(5A10) from use of ECDIS and AI models and steps taken to address disproportionate negative outcomes
10. **Documented description of ongoing monitoring** ^(5A11) of ECDIS and AI models including accounting for model drift ECDIS and AI models including accounting for model drift
11. **Documented description of process of selecting external resources** ^(5A12) including third-party vendors
12. **Annual reviews of the governance structure and risk management framework** ^(5A13) and updates to required documentation to ensure its accuracy and relevance

Reporting (Once the final AI regulation goes into effect)

Insurers using ECDIS and AI models using ECDIS should submit the following –



- **On June 1, 2024** ^(6A) A report summarizing progress toward complying with GRMF, areas under development, challenges encountered, and expected completion date
- **On December 1, 2024, and annually thereafter** ^(6B) — A report summarizing compliance with GRMF requirements, along with the title of each individual responsible for ensuring compliance (for each requirement). This report must be signed by an officer attesting to compliance with this regulation
- Insurers using ECDIS may additionally become subject to the newly proposed Algorithm and Predictive Model Quantitative Testing Regulation

Insurers that do not use ECDIS and AI models using ECDIS should submit the following –



- In **one month** ^(6C) from the effective date of this regulation and on **December 1 annually thereafter** ^(6C) – An attestation indicating they do not use ECDIS

Insurers that do not use ECDIS and AI models using ECDIS as of the effective date of this regulation, but subsequently plan to use ECDIS and/or AI models using ECDIS should submit the following –



- **Prior to the use** ^(6D) of ECDIS or AI models and annually thereafter – A report summarizing compliance with GRMF requirements, along with the title of each individual responsible for ensuring compliance (for each requirement). This report must be signed by an officer attesting to compliance with this regulation

Additionally, when using third-party vendors or external resources:

- The insurer is accountable for providing any documents required by the CDOI
- Insurers may fulfill requests by letting third-party vendors provide the required materials directly to the CDOI
- All components of the GRMF must be available upon request by the CDOI on December 1, 2024, and annually thereafter



Key Terms

“External Consumer Data and Information Source” or “ECDIS” means, for the purposes of this regulation, a data or an information source that is used by a life insurer to supplement or supplant traditional underwriting factors or other insurance practices or to establish lifestyle indicators that are used in insurance practices. This term includes credit scores, social media habits, locations, purchasing habits, home ownership, educational attainment, licensures, civil judgments, court records, occupation that does not have a direct relationship to mortality, morbidity or longevity risk, consumer-generated Internet of Things data, biometric data, and any insurance risk scores derived by the insurer or third-party from the above listed or similar data and/or information sources.

“Unfairly discriminate” and “Unfair discrimination”¹¹ includes the use of one or more external consumer data and information sources, as well as algorithms or predictive models using external consumer data and information sources, that have a correlation to race, color, national or ethnic origin, religion, sex, sexual orientation, disability, gender identity, or gender expression, and that use results in a disproportionately negative outcome for such classification or classifications, which negative outcome exceeds the reasonable correlation to the underlying insurance practice, including losses and costs for underwriting.

“Bayesian Improved First Name Surname Geocoding” or “BIFSG” is a statistical modeling methodology developed by the RAND Corporation aiming to help US-based organizations identify potential racial and ethnic incongruities amongst their datasets. The approach utilizes both geocoded address information and administrative name data to predict a racial and ethnic probability for each data point. BIFSG has been found to be 41% more accurate than similar modeling relying solely on surname data and 108% more accurate than utilizing only geographic data.

Proposed Algorithm and Predictive Model Quantitative Testing Regulation

The proposed draft regulation will apply to insurers who leverage ECDIS or models that utilize ECDIS to make or support underwriting decisions. ECDIS data can include credit information; social media or purchasing habits; education, occupation, and licensure data; or public records including home ownership or court records. Before delving into the testing and reporting requirements, insurers should first understand their use of ECDIS, including by third-party input providers, to determine the applicability of these requirements.

This draft regulation prescribes two types of testing:

1. Logistic regression testing for application approval decisions
2. Linear regression testing for premium rates

Insurers must apply BIFSG estimated race and ethnicity to each of their application and premium datasets to perform testing of Hispanic, Black and Asian Pacific Islander (API) applicants and insureds relative to White applicants and insureds. Dependent on outcomes of the application approval and premium rate testing, variable testing of both datasets may be required to isolate and identify potentially discriminate variables.

Testing database	Application approvals		Premium rates	
Testing Methodology	Logistic Regression	Further Variable Testing Logistic Regression	Linear Regression	Further Variable Testing Linear Regression
Event Scope <i>(When is the testing required?)</i>	All insurers using ECDIS in the underwriting decisioning making process	Insurers with approval rate differences of 5% or greater as identified in the Applications Approvals logistic regression testing	All insurers using ECDIS in the underwriting decisioning making process	Insurers with a difference in premium rates of 5% or greater per \$1,000 of face amount as identified in the Premium Rates
Unfairly Discriminate Threshold	A difference in approval rates of 5% or greater between racial or ethnic groups using BIFSG estimated race and ethnicity variables	Any difference in model coefficient for ECDIS variables between the logistic regressions	A difference in premium rates of 5% or greater per \$1,000 of face amount between racial or ethnic groups using BIFSG estimated race and ethnicity variables	Any difference in model coefficient for ECDIS variables between the linear regressions

Statistically significant differences in the results of the regression testing of the race or ethnicity groups may require additional testing and resolution, including insurers taking steps to remediate the discriminatory outcomes identified. The proposed regulation calls on insurers to establish **accountability** for the decisions driven from AI and ensure **fairness** in their use of technology.

Reporting will be required for each ECDIS, algorithm, and predictive model which utilizes ECDIS on an annual basis to the Colorado Division of Insurance beginning April 2024, and annually thereafter.

As this regulation builds on prior CDOI AI regulations, additional enforceable requirements may be provided in the near future. Life insurance companies using ECDIS, whether directly or not, may be subjected to specific remediation requirements or other regulatory scrutiny resulting from the reporting requirements specified herein.



Deloitte's Trustworthy AI™ Framework

At Deloitte, we recognized the importance of protections and for AI-fueled organizations to earn trust in the AI-enabled assets and services provided to the public.

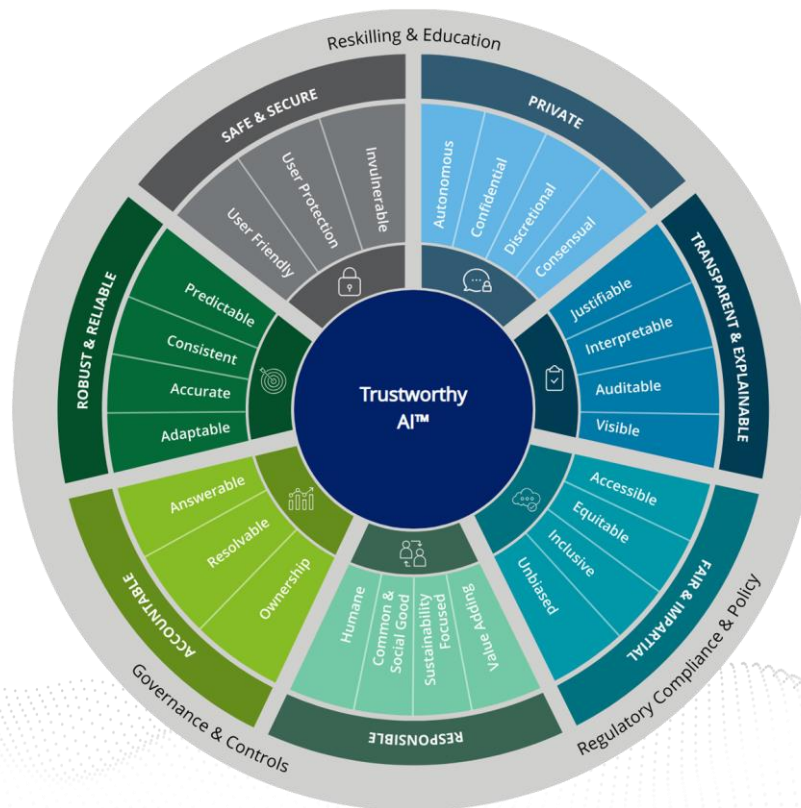
Deloitte's Trustworthy AI™ Framework and AI Governance & Risk services help provide strategic and tactical solutions to enable organizations to continue to build and use AI-powered systems while promoting Trustworthy AI (Figure 2).

Deloitte recognizes that organizations and institutions are increasingly adopting AI and automated systems for their potential to revolutionize significant aspects of the American public's daily lives from health care, to banking, to shopping, to leisure downtime, to many more. However, these innovations can be particularly susceptible to a wide range of AI-related risks through all phases of the AI life cycle. For example, AI-based

systems may introduce or reinforce a risk of perpetuating inequity and historic bias, and enforceable regulations to protect the American public by reasonably ensuring equitable, ethical, and transparent AI may not only be critical but inevitable.

An indication of the future AI regulatory landscape can be seen in recent proposed and enacted state and local laws governing AI in specific use cases, such as AI-based performance evaluation and hiring decisions and loan underwriting models.¹²

Figure 2 — Deloitte's Trustworthy AI™ Framework (Framework)



Understanding GRMF requirements through Deloitte's Trustworthy AI™ Framework

Deloitte's Framework has been designed to assist insurance companies in operationalizing automated systems safely and effectively, while protecting individuals and communities and adhering to emerging regulations, such as those provided by CDOI (Figure 3).

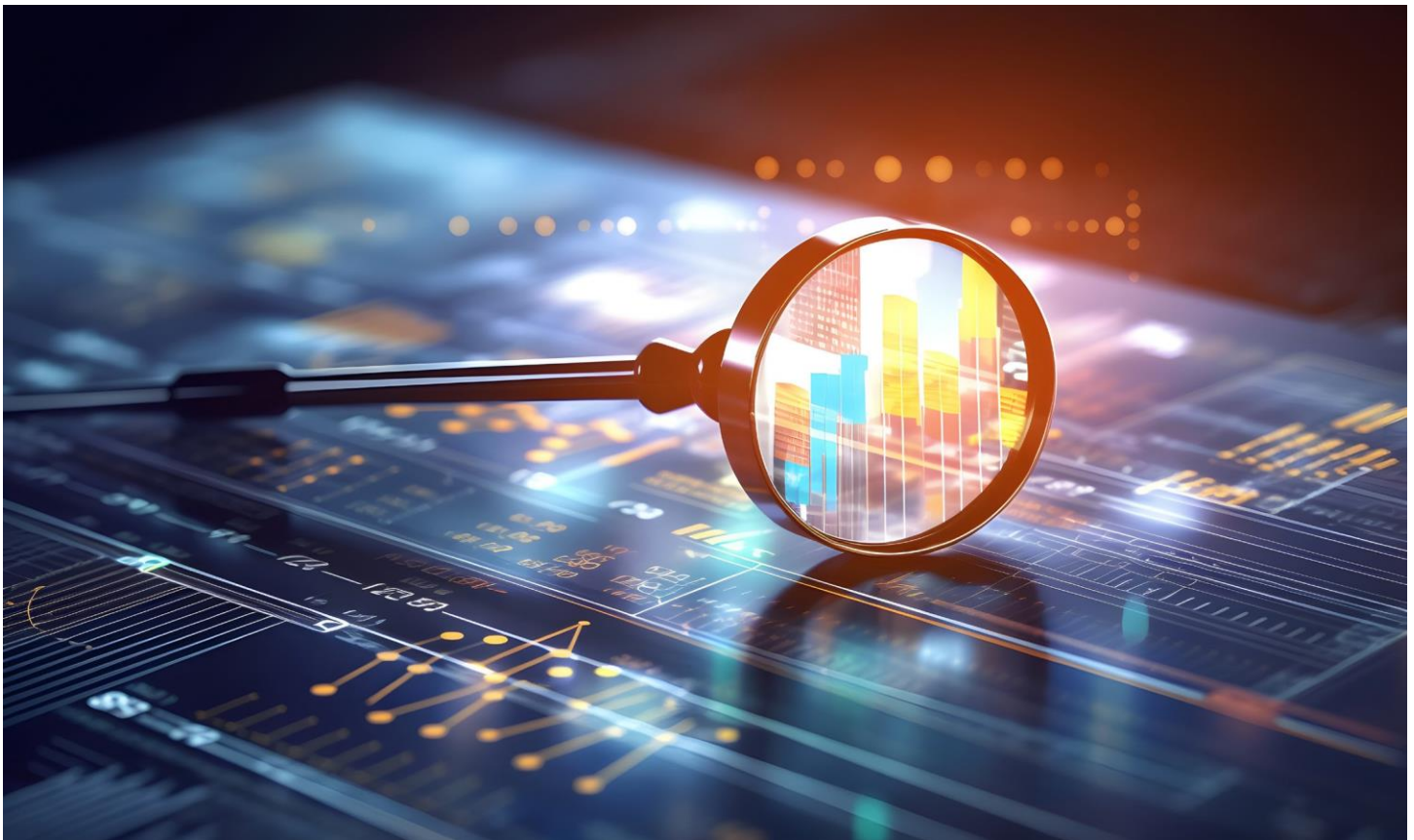
Figure 3 — CDOI's GRMF requirements and how they map to Deloitte's Trustworthy AI™ Framework (Framework)

		Deloitte TWAI™ Framework						
		Safe & Secure	Private	Transparent & Explainable	Fair & Impartial	Responsible	Accountable	Robust & Reliable
AI Governance and Risk Management Framework	Documented AI governance principals outlining unfair discrimination protections			✓	✓			✓
	Board or board committee and senior management oversight + clear roles and responsibilities					✓	✓	
	Documented policies, processes, and procedures for creation, deployment, and use of ECDIS and AI models			✓		✓	✓	
	AI models are safe and secure	✓						
	Documented process and protocol to address consumer inquiries and complaints		✓	✓				
	A rubric for assessing and prioritizing risks							
	Up to date inventory of ECDIS and AI models, with version control and rationale for changes documented	✓		✓	✓			✓
	Testing to detect unfair discrimination			✓	✓			✓
	Ongoing monitoring							
	Vender selection process			✓	✓	✓	✓	
	Annual review of GRMF and the accuracy and relevance of associated documentation					✓	✓	
Reporting requirement	Report on progress					✓	✓	
	Report on compliance					✓	✓	
	Regular reporting					✓	✓	

The world is experiencing significant human capacity for insight, decision making, efficiency, and innovation—all dramatically expanded by cognitive systems—during a time in which trust is paramount. The tools that assist in unleashing world-changing capabilities should be trusted to act in line with human expectations for ethics and appropriateness. The full potential of AI may hinge on that confidence.

The CDOI's AI regulation will provide specific enforceable requirements for life insurance companies using ECDIS and AI models using ECDIS in Colorado. CDOI has leveraged high-level principles, found in places like the federal regulatory guidelines, and attempted to turn them into reporting requirements for governance, documentation, and reporting. While it is expected to only apply to life insurance companies doing business in Colorado, the regulation

may set the tone for industry leading practices and other regulators looking to implement similar requirements. Additionally, CDOI has also suggested similar rules may be applied to other insurance lines or other AI or algorithmic uses. We recognize that navigating AI implementation challenges can be complex, and Deloitte Risk & Financial Advisory is committed to helping our clients navigate these challenges agilely while establishing trust with stakeholders and regulators. Deloitte Risk & Financial Advisory, with our suite of AI governance and risk assets and services, is dedicated to assisting our clients through the changing regulatory landscape and helping clients create trust, equity, and transparency as they serve the American people.



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Endnotes

- 1 [NYFDS issues circular letter on “Use of AI”](#)
- 2 NAIC publishes [“Principles on Artificial Intelligence”](#)
- 3 White House released its [“Blueprint for an AI Bill of Rights”](#)
- 4 National Institute of Standards and Technology releases its [“AI Risk Management Framework”](#)
- 5 CDOI releases its draft [“Algorithm and Predictive Model Governance Regulation”](#)
- 6 NAIC 2023 [regulatory priorities](#) include Data and Artificial Intelligence
- 7 United States Senate sub-committee holds hearing on [“Oversight of AI.”](#)
- 8 European Parliament passes the [“A.I. Act”](#)
- 9 CDOI releases [“Algorithm and Predictive Model Governance Regulation”](#)
- 10 CDOI releases its draft [“Algorithm and Predictive Model Quantitative Testing Regulation”](#)
- 11 [“Unfairly discriminate” and “Unfair discrimination”](#)
- 12 National Conference of State Legislatures [Report on Legislation Related to AI](#)



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