MEMORANDUM

To: Director Barbara D. Richardson
        Chair, Innovation, Cybersecurity, and Technology (H) Committee

From: Commissioner Michael Humphreys, Chair of Workstream One (Surveys) of the Big Data and
        Artificial Intelligence (H) Working Group

Cc: Sixteen-State Subject Matter Expert Group; Kris DeFrain (NAIC)

Date: May 12, 2025

Re: 2025 Health Artificial Intelligence (AI)/Machine Learning (ML) Survey Analysis

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The 2025 Health Artificial Intelligence/Machine Learning Survey (Health AI/ML Survey) was conducted to inform the work of the Big Data and Artificial Intelligence (H) Working Group in support of its charge to:

> *Research the use of big data and artificial intelligence (including machine learning) in the business of insurance and facilitate discussion to consider updates to the regulatory framework for the oversight of the use of AI by insured entities. Provide recommendations to the Innovation, Cybersecurity, and Technology (H) Committee in response to such activities.*

The survey was conducted under the market examination authorities of 16 requesting states (Colorado, Connecticut, Illinois, Iowa, Louisiana, Maryland, Minnesota, Nebraska, North Dakota, Oklahoma, Oregon, Pennsylvania, Vermont, Virginia, West Viriginia, and Wisconsin) and completed by insurers who 1) had more than $250,000,000 of earned premium on a countrywide basis in 2023 and currently write business in one of the 16 participating states, or 2) represent a significant portion of the market share in one or more of the lines of business for one of the 16 states participating in the survey.

Note this survey is limited to the application of AI/ML in health insurance products only. The following subject matter experts (SMEs) represented the sixteen states:

CO:	Jason Lapham
CT:	Paul Lombardo
IL:	C. J. Metcalf
IA:	Jared Kirby
LA:	Nichole Torblaa
MD:	Mary Kwei
MN:	Fred Andersen
NE:	Megan VanAusdall
ND:	Colton Schulz
OK:	Andy Schallhorn
OR:	Brian Fjeldheim
PA:	Commissioner Michael Humphreys and Shannen Logue

VT:	Former Commissioner Kevin Gaffney and Mary Block
VA:	Melissa Gerachis
WV:	Joylynn Fix
WI:	Lauren Van Buren

This memorandum contains the SME summary of the survey analysis, key takeaways, and some recommendations for next steps. The SMEs also approved public distribution of the associated NAIC staff's full survey report, which provides more detail about the survey results.

SURVEY ANALYSIS SUMMARY

Artificial Intelligence/Machine Learning Model Use by Companies

In contrast to the Private Passenger Auto and Home AI/ML Surveys, this survey intentionally includes Generalized Linear Models (GLMs) and Generalized Additive Models (GAMs) as types of AI models in scope, so the data should be interpreted as applying to insurers' predictive models including these model types. Out of 93 companies completing the survey, 86 companies currently use, plan to use, or plan to explore using AI/ML as defined for this survey. This equates to 92% of reporting companies. For comparison, 88% of the companies responding to the PPA Survey, 70% of the companies responding to the Home Survey, and 58% of companies responding to the Life Survey reported they currently use, plan to use, or plan to explore using AI/ML (where AI/ML algorithms were defined as *excluding* GLMs and GAMs in the PPA and Home surveys. The Life survey included GLMs and GAMs in the definition of AI model types).

Among the total number of AI/ML models that have been implemented by health insurers responding to this survey, the percentage use in each of the 10 operational areas breaks down as follows:

Operational Area	Percentage In Production
Strategic Operations	79%
Utilization/Severity/Quality Management	70%
Fraud Detection	70%
Sales & Marketing	70%
Claims Adjudication	62%
Data Processing	60%
Risk Adjustment	50%
Risk Management	41%
Product Pricing and Plan Design	37%
Prior Authorization	29%

Of the 7 companies that indicated they had no plans to use or explore the use of AI/ML, the most common reason was "no compelling business reason." The second most common reasons reported were "lack of resources and expertise", "reliance on legacy systems requiring IT, data, and technology upgrades", and "risk is not commensurate with current strategy or appetite." Note that these responses are not mutually exclusive as multiple reasons may be applicable.

SURVEYED PRODUCT LINES

The product lines surveyed focused on Comprehensive/Major Medical and Student Health Plans, and were defined in accordance with the National Association of Insurance Commissioners' (NAIC) 2023 Annual Statement Instructions for completing the Accident and Health Policy Experience Exhibit:

- COMPREHENSIVE MAJOR MEDICAL
    - Individual Business (Line A. 1.)
    - Group Business – Single Employer – Small Employer (Line B. 1.1.)
    - Group Business – Single Employer – Other Employer (Line B. 1.2.)
- STUDENT
    - Individual Business (Line A. 6.)
    - Group Business – Other Medical (Non-Comprehensive) (Line B. 8.)

Comprehensive/Major Medical: Policies that provide fully insured indemnity, HMO, PPO, or Fee for Service coverage for hospital, medical, and surgical expenses. This category excludes Short-Term Medical Insurance, the Federal Employees Health Benefit Program and non-comprehensive coverage such as basic hospital only, medical only, hospital confinement indemnity, surgical, outpatient indemnity, specified disease, intensive care, and organ and tissue transplant coverage as well as any other coverage described in the other categories of this exhibit. Group business is further segmented under this category as follows (please note there is a separate category for Administrative Services Only/Administrative Services Contract business).

Single Employer: Group policies issued to one employer for the benefit of its employees. This would include affiliated companies that have common ownership.

Small Employer: Group policies issued to single employers that are subject to the definition of Small Employer business, when so defined, in the group's state of situs.

Other Employer: Group policies issued to single employers that are not defined as Small Employer business.

Individual Business: Health insurance where the policy is issued to an individual covering the individual and/or their dependents in the individual market. This includes conversions from group policies.

Student: Policies that cover students for both accident and health benefits while they are enrolled and attending school or college. These can be either individual policies or group policies sponsored by the school or college.

In the survey, 76 companies indicated that they issue individual major medical plans, 67 indicated they issue small group major medical plans, 66 indicated they issue large group major medical plans, and 18 companies indicated they issue student health plans. Companies may issue more than one product type.

MODELS BY INSURER OPERATION

Ten insurance operational areas were covered by the survey for each product line and within each operational area, several functions were surveyed. The operational areas surveyed were Strategic Operations, Prior Authorization, Utilization/Severity/Quality Management, Fraud Detection, Product Pricing and Plan Design, Data Processing, Risk Adjustment, Sales & Marketing, Risk Management, and Claims Adjudication. The following highlights the survey results in each of the operational areas.

Strategic Operations
The questions in this section concerned the ownership relationship between the companies and provider groups, the use of AI/ML in the contracting process, and requirements of in-network and out-of-network providers to use AI/ML processes. In the individual product line, 14 companies indicated they own provider groups, while in the small group, large group, and student health product lines, companies indicated they owned 10, 8, and 0 provider groups, respectively. In the individual product line, 12 companies indicated they are owned by a provider group, while in the small group, large group, and student health product lines, 9, 9, and 0 companies respectively, indicated they are owned by provider groups.

Companies were asked if they were using, planning to use, or exploring the use of AI in their provider contracting process. In the individual product line, 21 companies indicated they were using AI in their contracting process, while for small group, large group, and student health, the results were 13, 12, and 1 company(ies), respectively.

Regarding their intentions to require network providers to use a system, service, or software that uses AI/ML, in the individual product line, 19 companies indicated yes, while in the small group, large group, and student health product lines, 16, 15, and 7 companies respectively, indicated yes.

Prior Authorization
The questions in this section focused on whether AI/ML was used to determine whether prior authorization was required, used to review prior authorizations for approval and denial, and other prior authorization functions. The table below summarizes the results.

Prior Authorization	Individual	Small Group	Large Group	Student Health
Required	26	27	28	6
Approval	52	47	45	14
Denial	9	7	5	2
Other	20	15	15	4

Some of the other uses included the use of AI tools to identify the completeness of medical records, pre-authorization fraud detection, clinical records review, automated data entry for prior authorizations, scanning medical records to determine if they met clinical criteria, to speed up the intake process for a prior authorization request, and to extract and display information from scanned clinical documents.

Fraud Detection
The questions in this section focused on how AI/ML was being used to detect and refer suspected fraudulent claims using automated decision systems, as well as to detect fraud resulting from medical providers, criminal fraud ring activity, social network fraud, and prescription drug misuse. Criminal fraud ring activity included stolen provider or member IDs, impersonating providers, and inflated treatments common to home care and DME providers. Additionally, the survey was designed to assess

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the extent to which facial recognition and behavior models were used to directly or indirectly detect fraud.

The table below summarizes the results of the fraud detection survey questions for each product line.

Fraud Detection	Individual	Small Group	Large Group	Student Health
Auto-decision on non-fraudulent claims	29	20	18	9
Detect and refer claims for potential fraud	38	34	33	12
Detect medical provider fraud	39	30	27	12
Detect criminal fraud ring activity	18	9	10	2
Detect social network fraud	9	6	7	1
Facial recognition/behavior models to detect fraud (indirectly)	1	0	0	0
Facial recognition/behavior models to detect fraud (directly)	3	0	0	0
Detect prescription drug misuse	32	21	20	10
Detect fraud other than those mentioned above	11	8	8	2

Some of the other uses included investigating and piloting third-party solutions for claims repricing, adjudication, and prior authorization risk detection, as well as detecting unusual billing patterns, potential duplicate claims, detecting complex potential fraud schemes by leveraging various machine learning model techniques, reviewing company email for potential phishing attempts, and identifying deviations from legitimate provider behavior and labeling them, such as phantom billing, upcoding, ping ponging, referral fraud, and possible kick-back arrangements.

Product Pricing and Plan Design
The questions in this section of the survey were designed to assess whether companies were using AI/ML to calculate rates or any component of a rate. The table below summarizes specific rating variables and the number of companies that indicated they were using, planning to use, or exploring use of AI/ML to calculate rating factors for those variables.

Rating Variables	Individual	Small Group	Large Group	Student Health
Geography	3	6	6	1
Tobacco - Do you screen for tobacco usage and price accordingly?	1	2	2	1
Age	2	5	5	1
Risk Adjustment Analysis	13	7	7	1
Social Determinants of Health	3	4	4	1
Claims History	11	11	13	7
PBM Rebates	1	4	3	1
Trend - utilization, cost, and severity	17	14	16	8
Benefit relativity - Actuarial Value, cost-sharing, etc.	5	3	4	1
Network factors	1	3	3	1
Morbidity	9	6	12	1
Projected enrollment	7	5	6	1
State-sponsored subsidized programs	1	1	1	1
Other: Please list, i.e. biometrics, wearables, etc.	3	3	3	1
Design plans for specific cohorts, populations, conditions etc.	13	11	14	2

Some of the factors that were identified in the "other" category were biometrics through third-party sponsorship and a partnership with another company to produce a mobile application to the tech health based on biometric data.

Most companies indicated they were in the research phase of investigating the use of AI/ML to calculate factors for various rating variables. No company indicated they implemented any AI models for this purpose in production.

Data Processing
The questions in this section of the survey attempted to assess how companies were using data to impute race and other data values, and how they were testing the data on various measures such as accuracy and validity. This section also attempted to understand what types of machine learning techniques companies were most frequently employing, including generalized linear models. Of the

four product lines, only small group was not using data to infer race or other data values. In the individual product line, 11 companies indicated they were imputing race and other data values, while fewer companies in the large group (8) and student health (1) product lines Indicated they were employing inference methods. More than 50% of the companies in each product line indicated they were testing internal, external, and algorithmic outcome data for both accuracy and validity, and they indicated the types of tests that were employed to each type of data. Some of the tests mentioned include calculating confusion matrices, area under the curve, and sensitivity metrics.

While GLMs were not the focus of the survey, there was a question that asked what percentage of their business reflects GLM modeling. In all four product lines, 68 individual, 60 small group, 48 large group, and 15 student health companies indicated that less than 25% of their business utilize GLM models. Ensemble (ENS) modeling was the dominant technique employed across the four product lines, accounting for more than 15% of the modeling techniques companies indicated they used with the exception of the other category. Companies were not asked to identify models in the "Other" category.

Risk Adjustment

The survey questions in this section focused on the use of AI/ML to inform methodologies around risk adjustment and to model risk adjustment factors. In the individual product line, 43 companies indicated they use AI/ML to inform methodologies around risk adjustment, while in the small group, large group, and student health product lines, 33, 23, and 9 companies indicated similar use, respectively. Further, in the individual product line, 42 companies indicated they use AI/ML to model risk adjustment factors, while in the small group, large group, and student health product lines, 30, 21, and 8 companies indicated similar use, respectively. More than 50% of the companies reported implementing AI/ML in production to inform methodologies around risk adjustment and to model risk adjustment factors.

Sales & Marketing

The questions in this section of the survey addressed several aspects of the sales and marketing function as summarized in the table below.

Sales & Marketing	Individual	Small Group	Large Group	Student Health
Online advertising targeted towards consumers	33	24	25	8
Identification of Recipients of Mail or Phone Advertising	30	15	15	8
Develop products, programs, or services for existing customers	32	20	18	3
Identify sales opportunities	31	21	17	2
Identification of Potential Customer Groups	31	27	26	10
Demand Modeling	24	20	19	4
Online sales, quoting, or shopping experience	34	26	24	9
Structure broker compensation	--	1	4	1
Identify ICHRA* sales opportunities	--	6	4	2
Identify candidates for self-funding/stop-loss arrangements	--	18	16	3
Other sales & marketing-related solutions	20	11	15	1

*individual coverage health reimbursement arrangements

Companies mentioned several other sales & marketing related solutions that include Adobe Image creation, Hootsuite, open enrollment retention, marketing material generation, online discussion monitoring & analysis, A/B testing, member support, content generation and optimization, and to identify sales opportunities. More than 50% of the companies reported implementing AI/ML in production to support sales and marketing functions. The number of companies that have AL/ML in production varies greatly across use cases and product lines.

Risk Management

The risk management questions in the survey focused on wearable technologies, wellness and discount programs, and technologies to detect diseases and smoking. The chart below shows the companies that are currently using, planning to use, or exploring the use of AI/ML in risk management.

Risk Management	Individual	Small Group	Large Group	Student Health
Wearable Devices	22	11	9	3
Wellness Initiatives	28	15	15	3
Discount Medical Programs	5	6	4	2
Technology to Detect Smoking	3	1	1	1
Disease Detection	21	16	14	3
Other Risk Management Functions	18	24	22	9

Some of the other uses of AI/ML that companies mentioned using for risk management included overbilling; investigating and piloting third party solutions, including SHIFT technologies, claims repricing, adjudication, and prior-authorization risk detection; and to detect unusual billing patterns and potential duplicate claims, and enhancing fraud detection capabilities.

Claims Adjudication

The claims adjudication survey questions focused on coding, benefit eligibility, detection of first-party liability, and negotiating out-of-network claims with providers. The table below reflects the number of companies currently using, planning to use, or exploring the use of AI/ML in these areas across the four product lines.

Claims Adjudication	Individual	Small Group	Large Group	Student Health
Analyze any of the following coding areas:				
Rx inpatient	23	16	16	8
Rx outpatient	24	17	17	9
Behavioral Health inpatient	21	16	15	8
Behavioral Health outpatient	23	18	15	8
Medical Health inpatient	27	18	17	9
Medical Health outpatient	27	20	21	10
Benefit eligibility determination	20	15	16	8
Detect first-party liability	13	14	9	4
Negotiate out of network claims with providers	9	8	9	2
Other claims adjudication functions	33	38	35	10

Some of the other AI/ML uses employed for claims adjudication included pre-authorization fraud detection, duplication of providers and billing, claims suspension, claims automation, insights, and recommendations for claims approval, resolving issues (edits), assessing high-dollar claim risk, and optimizing routing for manual examiners when needed.

AI TESTING BY PRODUCT LINE

Unlike the private passenger auto, homeowners, and life insurance surveys, the health insurance survey focused several questions on the testing of AI/ML processes. The explosive use of AI/ML and concerns about its fairness was the impetus to gain a better understanding of how companies were testing their AI/ML systems for bias, model drift, accuracy, reliability, and unfair discrimination. The table below summarizes the key results.

AI Testing	Yes	No
Does your company test for bias in modeling data?	59	25
Does your company test for bias in algorithmic outcomes?	63	21
Does your company test for model drift?	63	25
Does your company apply statistical methods to infer protected class characteristics?	32	52
Does your company conduct audits on its AI/ML models?	59	25
Does your company document the following on its AI/ML models?		
Model Validation	64	20
Model Testing for Bias	63	21
Model Drift	60	24
Reliability of Model Outcomes	67	17
Accuracy of Model Outcomes	69	15
Error Analysis	64	20
Unfair Discrimination	53	31

The companies discussed a myriad of approaches they employ to test for bias in algorithmic outcomes. Companies indicated they perform disparate errors analysis, performance tracking and bias analysis by race and ethnicity, and that they follow the Office of Management and Budget (OMB) guidance on bias testing. One company mentioned using speech technology as a method for inferring race. Companies also mentioned using the vendor Microsoft FairLearn (aka AI Foundry) for conducting bias testing. Responsible AI was a term used to describe an AI intake process that identifies risks and attempts to mitigate them before an AI/ML process can be approved for implementation. The specific statistical techniques mentioned to check for bias included disparate impact, equalized odds, demographic parity, sensitivity, specificity, positive predictive value, negative predictive value, and area under the curve analysis.

Companies discussed the inference methods they employ to infer race to conduct bias testing for racial differences in algorithmic outcomes. The method cited most often was the Bayesian Improved First Name Surname Geocoding (BIFSG) inference method followed by Bayesian Improved Surname Geocoding (BISG), and the Area-Based Deprivation Index. The Area-Based Deprivation Index (ADI) measures the level of socioeconomic disadvantage in a given geographic area. This measure was created by the Health Resources & Services Administration.

A 3-phase waterfall approach to inferring race was described as follows:
1. Phase 1: Source race information from different administrative and clinical datasets.
2. Phase 2: Derive race/ethnicity using a person-level or family-level imputation processes when clinical information is not available or available information is inconsistent.
3. Phase 3: Leverage the BIFSG method if data from the above two phases are not available.

The approach has the potential to be more accurate than using the BIFSG method alone. However, the BIFSG method does not always return a result and additional techniques would be needed to make an inference.

The companies discussed processes adopted to monitor model drift. Chief among them was a five-part process with the following components:

1. **Data and Model Monitoring**: Tracking data drift and model drift over time and identifying when model assumptions about the data no longer hold true.
2. **Model Interpretation**: Review of SHAP (SHapley Additive exPlanations) values to understand the contribution of each feature to the model predictions.
3. **Bias and Fairness Evaluation**: Ensuring the model remains fair and unbiased over time.

4. **Generalizability**: Testing of how well the model performs on unseen data.
5. **Impact Review**: Assessing the model's effectiveness in solving the intended problem.

Data drift measurements included comparing raw and scaled modeling data periodically to assess whether model inputs are consistent with prior models. Model drift measurements were analyzed by percentile of risk scores on train, validation, and test data sets. The metrics employed included precision, recall, specificity, sensitivity, F1 and weighted F1 scores. More comprehensive approaches employed by companies can be found in the AI Testing section of the report.

Finally, companies discussed their approaches to auditing the data. The types of audits mentioned included bias audits, performance and drift audits, compliance audits, equity audits, clinical & operational validation audits, and independent internal audits. Additionally, companies discussed documentation standards that audits are held to. The standards include requiring documentation on the AI program design, data concepts, AI system performance and requirements, equity audits, validation, and monitoring.

CUSTOMER DATA CORRECTION

Non-Fair Credit Reporting Act (Non-FCRA) Data Disclosures to Consumers

Insurers were asked about their processes for informing consumers about data collection—when and how their data is used, *other than what is required by law* under the Fair Credit Reporting Act. By operational use, 36% reported "yes" for the data used for Product Pricing and Plan Design, Claims Adjudication, Prior Authorization, Utilization/Severity/Quality Management, Fraud Detection, Risk Management, Risk Adjustment, and Data Processing, while 33% reported "yes" for the data used for Sales & Marketing and Strategic Operations.

Consumer Opportunity to Challenge or Correct Data

Insurers responded similarly to the question of whether consumers have an opportunity to correct their data that is not included under the FCRA: 44% reported "yes" for the data used for Product Pricing and Plan Design, Prior Authorization, Utilization/Severity/Quality Management, Fraud Detection, Risk Management, Risk Adjustment, and Data Processing, while 42% reported "yes" for the data used for Claims Adjudication, and 45% reported "yes" for the data used for Sales & Marketing and Strategic Operations.

GOVERNANCE

The purpose of the model governance questions was to obtain a better understanding of the company's awareness of specific risk areas tied to selected categories in the NAIC Artificial Intelligence Principles.

Insurers were asked if the following are *documented* in their governance program:

- Fairness and ethics considerations;
- Accountability for data algorithms' compliance with laws, as well as intended and unintended impacts;
- Appropriate resources and knowledge involved to ensure compliance with laws, including those related to unfair discrimination;
- Ensure transparency with appropriate disclosures, including notice to consumers specific to data being used and methods for appeal and recourse related to inaccurate data; and
- AI systems are secure, safe, and robust, including decision traceability and security and privacy risk protections.

When asked whether they have AI/ML Governance Principles in place that model the NAIC AI Principles, nearly 92% responded "yes." Companies were asked to respond to governance questions for each operational area. The governance survey questions asked companies whether they have adopted practices with respect to:

    I.   Accountability for Data Algorithms' Compliance with Laws for Each Operational Area
    II.   Accountability for Data Algorithms' Intended Impacts
    III.   Accountability for Data Algorithms' Untended Impacts
    IV.   Accountability for Appropriate Resources and Knowledge Involved to Ensure Compliance with Laws Including those Related to Unfair Discrimination
    V.   Ensuring Transparency with Appropriate Disclosures Including Notice to Consumers Specific to Data Being Used and Methods for Appeal and Recourse Related to Inaccurate Data
    VI.   AI Systems are Secure, Safe and Robust including Decision Traceability and Security and Privacy Risk Protections

The table below reflects the percentage of companies responding to the survey affirming the above adoptions.

Operational Area	I	II	III	IV	V	VI	Other
Product Pricing and Plan Design	69%	74%	74%	80%	63%	79%	69%
Claims Adjudication	68%	74%	73%	79%	63%	77%	69%
Prior Authorization	73%	71%	71%	77%	61%	74%	75%
Utilization/Severity/Quality Management	76%	71%	71%	77%	61%	74%	75%
Fraud Detection	71%	69%	69%	75%	61%	73%	74%
Risk Management	68%	69%	69%	75%	58%	71%	70%
Risk Adjustment	70%	68%	68%	74%	58%	71%	71%
Data Processing	69%	68%	67%	74%	58%	70%	69%
Sales & Marketing	76%	67%	67%	73%	57%	69%	75%
Strategic Operations	71%	67%	67%	73%	57%	69%	73%

The "Other" column reflects companies responding that they follow guidance from other established standards established by, for example, NIST, the NAIC, the White House and others, including the Pennsylvania Division of Insurance.

THIRD-PARTY DATA SOURCES AND MODELS

Insurers identified third-party vendors they use to purchase models and/or data. A very high proportion (85%) of insurers responded that contracts with third parties do not include any conditions that would limit disclosure or otherwise limit transparency to regulators. Companies indicated that 55% of their models were developed internally with third-party components, 15% were developed by a third party, 13% were developed with a third party, and 10% were developed internally.

There were over 100 unique AI/ML techniques companies listed in the survey that were employed throughout the 10 operational areas of insurance that companies identified in the survey. These techniques are supported by third-party vendors. The chart below is a listing of the techniques employed. The full report shows the techniques used within each of the 10 insurance operational areas for each product line.

Artificial Intelligence/Machuine Learning Models		
Accenture Proprietary Model	Elastic Net	MA Plan Life Cycle
ACE	Engagement	Marketplace - HHS HCC
Adherence To Process And Procedures	Ensembles	Medicaid - CDPS
Advancement Of VBC Payment Model Portfolio	Excess Cost - Forward	Medicaid Churn
Ahn No Show	Excess Cost - Inpatient	Medicare - CMS HCC
AI Dupcheck	Excess Cost - Post Discharge	Member Retention
AIChi-Square Automatic Interaction Detection (Chaid)	Fall Prevention	Membership Forecasting
Annual Wellness Exam Completion Likelihood	Falls	Meta Llama
Anthropic: Claude	Generalized Linear Models	Microsoft: Co-Pilot
Auto Authorization Model	Google AI	Monte Carlo Simulations
Automated Approvals	Google: Gemini	Morbidity Model
Avoidable Ed	GPD AI Auto-Approval	Neural Networks
AWS Textract	Gradient Boosting Machine	New Member Acquisition
B2B Prospects	Health Archetype Predictions	NLP
Bark	Healthcare Fraud Shield	OCR
Bart	Hedis Framework/Chart Work	OpenAI: Chat-GPT 3.5/4.0/Mini/Turbo
Bayesian Modeling	Hierarchical Clustering	Orthopedic Care Alignment
Breast Cancer Screening Compliance Likelihood	High-Cost Claimant Model	Overutilizer Suite
Cancer Model(s)	Hypertension In Pregnancy	Pended Claims Model
Cardiac Event Prediction Model	IMF OEP Retention Model	Post Pay Duplicates & Date Duplicates
Cardiovascular Deterioration Risk Model	Inpatient Auth Model	Prediabetes
Catboost	Intellipath AI	Principal Component Analysis
Cervical Cancer Screening Compliance Likelihood	Kairos Prompt Pay	Product Recommendation
Chronic ER Model	K-Means	Prospective Risk Score
Classification and Regression Trees (CART)	K-Nearest Neighbor	Quality Forecasting
Clustering	Late Retiree True Prospects	Quality Improvement
CMS Benefits + Enrollment Growth	LightGBM	Random Forest
Cohere	Likely-To-Buy Aca Oep	Readmission Prevention
Colorectal Cancer Screening Compliance Likelihood	Likely-To-Buy Ma	Readmissions 7 Day
Commercial AI Auto-Approvals	Likely-To-Buy Ma Aep	Recurrent Neural Networks
Company New Business Model	Likely-To-Buy Ma N2M	RGS
Company Renewal Model	Likely-To-Churn Aca	Sentence-BERT
Compound AI - Tolstoy ++	Likely-To-Churn Ahn	SNF Episodic
Computational Technique	Likely-To-Churn Ucd Fedvip	Snowflake Cortex
Conditional Decision Trees	Likely-To-Respond By Email Ma Members	Suicide Prevention
Convolutional Neural Networks	Likely-To-Respond Ma	Trend Model
Cotiviti Variability Bins	Linear Regression	True Prospects
Custom Language Model	Living Health Enrollment - Spring	Unknown - Via Shift
Data Ingestion For Online Sales	LLM	Well 360 Model(S)
Decision Trees	Logistic Regression	Whisper
Dimensionality Reduction	Lung Cancer	XGBoost
Directory Search	MA Churn Model	
Ed Utilization	MA Member Segmentation	

NEXT STEPS

The insights gained from the survey will be used to supplement state insurance regulators' knowledge of the current regulatory framework around AI/ML, governance, consumers, and third parties, and to evaluate whether any changes should be made to the frameworks.

As the NAIC works through the potential next steps listed below, there will be efforts to collect input and feedback on the development of potential AI transparency disclosure requirements, specifically addressing who should be required to make disclosures (insurance companies, their vendors, or both), what information should be disclosed, where and in what format these disclosures should appear, when and how frequently they should be required, and what specific content elements these disclosures should contain to effectively communicate AI usage to the insurance consumer, along with efforts to collect input and feedback on prohibited practices in the development and implementation of AI systems.

Following are some potential next steps, including many activities already in progress. This list is not intended to be complete, but it may be helpful as a starting point for discussions and decision-making about what next steps to take at the NAIC:

- Explore Insurer AI/ML model usage and the level of decision-making.
- Evaluate the regulatory framework regarding the use of third-party models.
- Determine whether additional white papers on best practices would be useful on subjects in the AI/ML space.
- Explore the use of AI/ML at the product level.
- Collect feedback and input on AI regulatory framework.

Additional information was collected but not documented due to the confidential nature. Regulators may contact Dorothy Andrews, dandrews@naic.org to seek additional, but non-company identifying information. This report is confidential because data was collected under the market conduct authority of the sixteen states and agreed confidentiality protections were applied.