Draft Pending Adoption

Draft: 8/2/21

Market Information Systems (D) Task Force
Virtual Meeting (*in lieu of meeting at the 2021 Summer National Meeting*)
July 28, 2021

The Market Information Systems (D) Task Force met July 28, 2021. The following Task Force members participated: Mike Kreidler, Chair (WA); Chlora Lindley-Myers, Vice Chair (MO); Evan G. Daniels represented by Cheryl Hawley (AZ); Ricardo Lara represented by Pam O'Connell (CA); Michael Conway represented by Damion Hughes (CO); Andrew N. Mais represented by Kurt Swan (CT); Trinidad Navarro represented by Frank Pyle (DE); Dana Popish Severinghaus represented by Erica Weyhenmeyer (IL); Vicki Schmidt represented by Tate Flott (KS); Grace Arnold represented by Paul Hanson (MN); Troy Downing represented by Troy Smith (MT); Marlene Caride represented by Ralph Boeckman (NJ); Russell Toal (NM); Barbara D. Richardson (NV); Judith L. French represented by Rick Campbell (OH); Doug Slape represented by Leah Gillum (TX); James A. Dodrill represented by Jeannie Tincher (WV); and Mark Afable represented by Rebecca Rebholz (WI). Also participating was: Brent Kabler (MO).

1. Adopted its Spring National Meeting Minutes

Director Lindley-Myers made a motion, seconded by Ms. O'Connell, to adopt the Task Force's March 22 minutes (*see NAIC Proceedings – Spring 2021, Market Information Systems (D) Task Force*). The motion passed unanimously.

2. Adopted the Report of the Market Information Systems Research and Development (D) Working Group

Mr. Kabler said the Working Group met July 21, July 15, and June 16. During these meetings, the Working Group reviewed the progress of the implementation of the Market Information Systems (MIS) metric report recommendations for metric updates and methods to improve metric result reporting and data quality.

Mr. Kabler said the Working Group heard presentations from NAIC staff and the Center for Economic Justice (CEJ) regarding the use of artificial intelligence (AI) in market analysis. He said NAIC staff retained a consultant to develop both AI, as well as more traditional statistical techniques, to construct predictive models of insolvency risk. He said NAIC staff believe the methods show promise and could significantly advance financial risk surveillance. Among AI and statistical models explored were decision tree analysis, generalized linear models (GLMs), and logistic regression. Birny Birnbaum (CEJ) encouraged the Working Group to adopt a long-term perspective and develop a multiyear plan to explore AI techniques that might be beneficial to market analysis. Mr. Birnbaum also indicated state insurance regulators have failed to acquire granular transactional data that could be leveraged by AI methods to provide a much more robust surveillance system to reduce consumer harm.

Mr. Kabler said the Working Group reviewed comments received on the proposed changes to the Regulatory Information Retrieval System (RIRS) coding structure.

Mr. Kabler said the Working Group reviewed outstanding Uniform System Enhancement Requests (USER) and approved a request to add the complaint subject code to i-Site+ and the Consumer Insurance Search (CIS). The RIRS coding change and restructure has been the most ambitious project of the Market Information Systems Research and Development (D) Working Group. He said he has been working on it even before the Working Group was formed.

Superintendent Toal made a motion, seconded by Director Lindley-Myers, to adopt the Market Information Systems Research and Development (D) Working Group report. The motion passed unanimously.

3. Adopted the RIRS Coding Change Proposal

Commissioner Kreidler said the Market Information Systems Research and Development (D) Working Group adopted the RIRS proposal prior to the Spring National Meeting and reported on its adoption to the Task Force during the Spring National Meeting. He said that at that time, the Task Force agreed to expose the proposal on the Task Force web page, receive comments, and consider its adoption during the Summer National Meeting.

Commissioner Kreidler said the Working Group reviewed the proposal with representatives of the Financial Analysis Solvency Tools (E) Working Group and the state producer licensing directors and their feedback were incorporated into the proposal. He said the proposal was also reviewed with the state back-office system vendors, who made a recommendation to create a user's

guide for the new codes, and the vendors do not anticipate any additional cost to implement the necessary system changes to support the proposal.

Commissioner Kreidler said comments were received from the California Department of Insurance (DOI) and the CEJ. Mr. Birnbaum said he supports the proposed changes to RIRS coding. He said his comments were focused on prioritization of origin of action codes and disposition codes. He said multiple codes are allowed on RIRS entries and it would be useful to prioritize them when inputting to show the relative importance. Mr. Kabler said that was a good suggestion but noted that analysts will generally use their own subjective prioritization when reviewing an action with multiple codes.

Superintendent Toal made a motion, seconded by Commissioner Richardson, to adopt the RIRS coding change proposal. The motion passed unanimously.

4. Heard a Report on Outstanding USER Forms

Chris Witt (NAIC) said USER Form 10082 is the request to add a Complaints Database System (CDS) subject code for "pandemic" and a coverage code for "business interruption." He said while completing this request, it was discovered that subject codes are not displayed. He said the USER Form 10082 is complete, and the Working Group approved a new USER Form 10083.1 to display the subject codes in i-Site+ and CIS.

Mr. Witt explained the first page of the USER Form Status Update identifies other market regulation projects that are outside the USER form process. These are projects arising from *State Ahead* initiatives or that are needed to maintain and update existing systems such as the Market Conduct Annual Statement (MCAS) submission tool. This information is included to assist the Task Force and the Working Group in their prioritization.

Having no further business, the Market Information Systems (D) Task Force adjourned.

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Draft: 11/1/21

Market Information Systems (D) Task Force
E-Vote
October 29, 2021

The Market Information Systems (D) Task Force conducted an e-vote that concluded Oct. 29, 2021. The following Task Force members participated: Mike Kreidler, Chair (WA); Chlora Lindley-Myers, Vice-Chair (MO); Lori K. Wing-Heier (AK); Peni Itula Sapini Teo (AS); Evan G. Daniels (AZ); Ricardo Lara (CA); Michael Conway (CO); Andrew N. Mais (CT); Trinidad Navarro (DE); Doug Ommen (IA); Dana Popish-Severinghaus (IL); Vicki Schmidt (KS); James J. Donelon (LA); Grace Arnold (MN); Troy Downing (MT); Marlene Caride (NJ); Russell Toal (NM); Barbara D. Richardson (NV); Judith L. French (OH); Glen Mulready (OK); Andrew R. Stolfi (OR); Cassie Brown (TX); Michael S. Pieciak (VT); Mark Afable (WI); and Allan L. McVey (WV).

1. Adopted its 2022 Proposed Charges

The Task Force considered adoption of its 2022 proposed charges. The Task Force's 2022 proposed charges remain consistent with 2021, except for the removal of the charge to make recommendations for the incorporation of artificial intelligence (AI) abilities in the NAIC market information systems.

A majority of the Task Force members voted in favor of adopting its 2022 proposed charges (Attachment One-A).

Having no further business, the Market Information Systems (D) Task Force adjourned.

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NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Virtual Meeting

MARKET INFORMATION SYSTEMS RESEARCH AND DEVELOPMENT (D) WORKING GROUP
November 5, 2021 / October 14, 2021

Summary Report

The Market Information Systems Research and Development (D) Working Group met Nov. 5 and Oct. 14, 2021.

1. During the Nov. 5 meeting in regulator-to-regulator session, pursuant to paragraph 3 (specific companies, entities, or individuals) and paragraph 6 (consultations with NAIC staff members) of the NAIC Policy Statement on Open Meetings, the Working Group:
   A. Reviewed the outstanding Uniform System Enhancement Requests (USERs) in the NAIC application development team backlog. The work in progress included: Market Conduct Annual Statement (MCAS) preparation for the 2021 data year; cloud migration; Market Information Systems (MIS) data analysis metrics updates; USER form 10051 to implement Market Actions Tracking System (MATS) web service in State Based Systems (SBS); USER form 10065 to provide data access and download from NAIC systems; USER form 10071 to redesign and enhance iSite+ reports using interactive data visualization and add data analytics; and USER form 10047 to add an option to display data by group code.
   B. Considered two new USER forms:
      i. 10084 – Create, or enhance, an MCAS Personalized Information Capture System (PICS) event to notify subscribers on a recurring basis of outstanding waiver and extension requests.
      ii. 10085 – Add a new Complaints Database System (CDS) coverage type code for telehealth.

      The Working Group unanimously voted to move both requests forward for preliminary review.
   C. Reviewed the 2020 MIS data analysis metric results. The Working Group will continue its analysis of the results and determine recommendations to improve data quality.

2. During the Oct. 14 meeting, the Working Group:
   A. Reviewed and adopted the artificial intelligence (AI) subject matter expert (SME) group's recommendation, which included:
      i. Evaluate currently available market analysis data and assess its quality.
      ii. Adopt a more rigorously statistical approach to identify the predictive power of market scoring systems; and integrate data into a single overall analysis.
      iii. Incorporate promising AI modes of analyses, as well as traditional statistical modeling.
      iv. Assess ways AI can improve the efficiency of qualitative analysis and facilitate pattern recognition across larger volumes of textual evidence.
      v. Explore potential data sources suitable for AI techniques.

The Market Information Systems Research and Development (D) Working Group Review of Artificial Intelligence Techniques in Market Analysis

Executive Summary

This report fulfills the Market Information Systems Research and Development (D) Working Group charge to evaluate the potential benefits of artificial intelligence (AI) in relation to market analysis. After careful consideration, the Working Group concluded that there may be possible benefits to improve analysis techniques. Several caveats are discussed as well. AI may not be suitable for data currently available to state insurance regulators. In addition, some of the techniques perform complex data mining operations, which can produce results that lack a clear interpretation. Lastly, AI techniques are designed for, and many require, very large datasets. As such, AI should be contemplated in the context of a long-range plan, beginning with repairing known issues with existing data, and employing more rigorous traditional statistical techniques to assess predictive accuracy of analytical tools. Subsequently, state insurance regulators can consider the acquisition of data appropriate to AI.

Introduction

In early 2021, the Market Information Systems Research and Development (D) Working Group received a charge from the Market Information Systems (D) Task Force to explore possible applications of artificial intelligence (AI) methods in market analysis. An early difficulty encountered by the Working Group is that the term "AI" itself has a variety of contested meanings. In addition, private sector entities have adopted the term as a marketing concept and inappropriately apply the label to products simply as a selling point. As such, the term has come to acquire a variety of meanings and is an "essentially contested concept."[1]

At its most general level, the term "AI" implies machine capacities that mimic or are analogous to processes of human reasoning and learning and entail some degree of machine autonomy in which learning occurs without significant human intervention. Beyond this general description, the Working Group did not feel that an attempt to define the term more strictly would be fruitful. Rather, the term is employed simply as a shorthand reference for a collection of various techniques that algorithmically seek patterns in data that are predictive of some future outcome. Common methods include machine learning, neural networks, and decision tree analysis. These processes are often contrasted to the traditional hypothetical-deductive methods of model specification associated with classical statistics. However, there does not appear to be a bright line of demarcation so that a particular technique can be firmly fixed within either category.

In addition, the Working Group focuses on what is commonly called "narrow AI," in which machine algorithms are employed for narrowly defined and limited tasks. More advanced systems, called

[1] The term "essentially contested concept" was coined by W.B. Gallie in the seminal presentation to the Aristotelian Society in 1956.

"general AI," possess generalized autonomous problem-solving capacities that are comparable to the processes of the human brain, and they are able to adapt to novel situations or information (Macnish et al., 2019).

It is important to emphasize the ways in which AI modeling techniques contrast to the standard scientific model employed in classical or traditional statistics:

Classical Statistics: Method of hypothetical-deductive reasoning in which hypotheses are clearly and narrowly specified *prior* to data testing, often with a prior understanding of the underlying causal nature of the relationships between variables. **Purpose:** To further causal understanding.

AI: Often employs a type of "data mining" in which a machine pattern-seeking algorithm is released "into the wild" to identify possible correlations between variables that may be predictive of some independent variable. Hypotheses are not specified prior to data analysis, and the algorithm may very well identify correlations that would not have occurred to an analyst and whose causal relationship is constructed post-hoc (to the degree that AI users are concerned with causality at all). **Purpose:** Predict future outcomes or events.

The difference between these two approaches is not trivial, and significant disagreements about the advantages and disadvantages of AI remain. It is of note that AI did not emerge principally from university statistics departments, but rather from the field of computer science. Many statisticians remain skeptical of the techniques and have offered up a variety of caveats for their use. For example, recently the American Statistical Society (ASA) reacted to the "reproducibility crisis" afflicting some disciplines that have discovered, with much consternation, that a large volume of published works could not be replicated. The concern was that increasingly less rigorous statistical methods departing from the hypothetical-deductive approach were becoming more prominent in a variety of fields, undermining confidence on research findings. Remarking on departures from a rigorous hypothetical-deductive approach with "data mining" and like methods in which pattern seeking is largely ceded from a researcher to a machine, the ASA warned about improper inferences that might result from such techniques. The ASA centered its discussion on the p-value, related to the probability that some observed relationship occurred by chance along. A low p-value is often employed to minimize the probability that chance relationships will be misinterpreted as a relationship that is a meaningful, non-random outcome:

"Conducting multiple analyses of the data and reporting only those [analyses] with certain p-values…renders the reported p-values essentially uninterpretable. Cherry-picking promising findings, also known by such terms as data dredging, significant chasing, significance questions, selective inference and a 'p-hacking' leads to a spurious excess of statistically significant results…and should be vigorously avoided" (Wasserstein & Lazar, 2016).

To translate the ASA's statement into more easily understood and less technical terms, the ASA is warning against *false positives* in which an analysis produces random or chance correlations between items that are not meaningfully related—that is, where a chance relationship is mistaken for a true causal relationship. That AI largely jettisons causal understanding as its primary goal (to the degree that causality is a concern at all) increases the probability that statistical results may be uninterpretable in any meaningful sense. This is clearly evinced by the increasing debate among state insurance

regulators and insurers regarding the meaning of statistical relationships appearing in predictive models that lack intuitive or, in many cases, even plausible explanations. See Appendix A for further discussion of the ASA statement.

The discussion above is not intended to sway state insurance regulators one way or the other with respect to AI. The purpose is simply to proffer some caveats shared by many statisticians. A final caveat is the AI techniques were developed to analyze very large data sets consisting of millions of records and possibly thousands or tens of thousands of variables. It is said to have an advantage in that algorithms can perform a large volume of analyses across different constellations of variables in a way that would be highly impractical employing traditional (and manual) model building. For small data sets, such as the limited data currently available to market analysts, it is unclear whether the expense associated with developing AI techniques can be justified, nor whether AI is at all superior to traditional model building methods. This is not an unimportant point and is discussed in more depth elsewhere in this recommendation.

Current Status of Market Analysis

Quantitative market analysis relies on just a handful of data sources:

The Complaint Database System (CDS): The NAIC compiles complaints against insurers received by state insurance regulators. Thus, each state has access to a national-level database. Complaint indices are "normalized" by expressing the volume of complaints to premium, compared with the overall industry total.

The Regulatory Information Retrieval System (RIRS): Regulatory actions in relation to insurance entities are captured in the RIRS database. Actions range from intervention in financially troubled entities to violations of producers and insurance carriers. Each record identifies the cause of the action, as well as any orders, fines, or restitution amounts. The RIRS database is currently being substantially revised to capture significantly more detail.

The Market Actions Tracking System (MATS): The MATS database captures information pertaining to market conduct exams, as well as actions short of exams. Data captured include area of scrutiny (claims, underwriting, etc.) and the outcome of the market action (order, fine, etc.). By matching MATS actions with RIRS, additional detail about the nature of the violation can be assessed.

The Market Conduct Annual Statement (MCAS): The MCAS was developed to capture data with the primary purpose of assessing an insurer's market performance and identify potential market irregularities. The data focus primarily on claims handling and underwriting, and data are scrutinized with respect to claims processing times and denials, nonrenewal and cancellation practices, and overall turnover in a book of business. Data are captured by line and coverage. To date, MCAS data are collected for life and annuities, private automobile, homeowners, health (both on and off the federally facilitated marketplace [FFM]), long-term care (LTC), lender-placed insurance, disability income, and private flood.

Miscellaneous Data Sources: Some financial data has been incorporated into market information systems. Insurers that are under financial stress, or that rapidly expand into or contract out of a line of business, or that exhibit high defense or other adjudication costs, may be subjected to additional analysis. While financial indicators are only indirect or proxy measures of potential market issues, and by themselves may have no clear market-based interpretation, interpretation within the context of a host of other indicators may be reflective of the present of a market-relevant issue.

The NAIC, in conjunction with state insurance regulators, has developed a broad scope "market score" that incorporates much of the data referenced above, which is made available to regulators via the Market Analysis Prioritization Tool (MAPT). One such data are "normalized" by the premium volume and scope of company operations as necessary. For example, several RIRS-based ratios express the volume of RIRS actions in relation to premium volume, the number of states in which they have significant premium, and a composite ratio that incorporates both premium and scope. Each ratio is given a score, and their contribution to the overall score weighted according to their perceived predictive relevance. For example, financial ratios are accorded significantly less weight than complaints, as their relationship to market misconduct is considered more speculative and indirect.

An important caveat is that predictive analytics is not well developed in market regulation. The ratios employed in the Market Analysis Review System (MARS) have not been subjected to rigorous statistical tests that demonstrate their analytic utility. While some work has been performed in this regard, such work is significantly hampered by a dearth of appropriate data. For example, future RIRS actions are often employed as the dependent variable (the outcome of interest to be predicted). However, this presents all manner of statistical challenges. While it is certainly reasonable to use prior outcomes (past RIRS actions) to predict future outcomes (the RIRS actions to be predicted), employing RIRS actions as both dependent and independent variable introduces significant complexities in the interpretation of any observed relationship between the two. One can imagine, for example, that the use of RIRS actions in market analysis invites greater scrutiny to a given insurer, and that in turn generates future regulatory actions precisely because the company received additional scrutiny. Companies that have no "prior offenses" fail to attract regulatory scrutiny, so that any infractions may escape regulatory action *for precisely that reason*. This problem is certainly not insurmountable, but it must be explicitly recognized in any model building exercise, whether with AI or with more conventional statistical techniques.

In general, the paucity of rich data sources has significantly hampered the adoption of more rigorous analytical techniques. To return to RIRS, these data are not rich sources of detailed information. Schematics are not well designed "from the ground up." Essential data are missing, such as line of business.

Any consideration of AI or any other analytical techniques must necessarily view the utility of such techniques within the context of available data. Regardless of the validity of a technique in general, it will have limited utility if data are themselves limited. Any recommendation to employ such methods must therefore at the same time recommend a thorough review of available data.

Importantly, results of quantitative analysis are always treated as merely suggestive and tentative and are regarded as at most a precursor to more qualitative analysis. It currently is employed to prioritize

entities that may merit additional scrutiny and to narrow focus on a much more limited subset of companies out of a larger pool of companies. It therefore primarily prioritizes limited regulatory resources.

State insurance regulators avail themselves of the formal analytical processes adopted by the NAIC. Quantitative or "baseline" analysis identifies entities with anomalous indicators that significantly depart for industry-wide values. A "level 1" analysis may be pursued, in which an analyst devotes additional scrutiny to such things as complaint trends, common reasons complaints are lodged against an insurer, similarities in RIRS actions, etc. If concern still remains (or additional concerns are identified) subsequent to level 1 analysis, a structured level 2 analysis may be performed. A level 2 analysis requires a much greater commitment of time and resources. For example, rather than just manually reviewing complaint data to identify patterns, an analyst may manually review actual complaint documentation to garner a more detailed understanding of the nature of complaints.

As a preliminary to the following discussion, AI/statistical analysis may have two primary functions within the context of the current market analysis structure:

1. More accurately identify companies that merit the additional expenditure of resources necessary to perform the more labor-intensive level 1 and level 2 analyses. Analysis processes that more efficiently identify problem companies for this purpose are by definition more effective and more effectively target resources by avoiding "false positives" (for lack of a better word).
2. Potentially, AI methods could assume many of the functions that are currently performed manually. For example, many of the pattern-seeking analysis performed by analysts in a level 1 review could conceivably be more efficient if automated. Potentially, AI could identify patterns that might elude a human analysis. A very advanced level of AI could perhaps assume complex analysis involved with manually reviewing complaint files and documents. However, while the possibility is raised here, it is not further pursued. That level of AI suitable for tasks may not even exist as yet, or if it does, it may be so specialized that it may not be available to state insurance regulators. Even if available, the likely enormous costs themselves would render them highly impractical.

Whether such AI exists, is available at a practical cost, and can actually out-perform more conventional analyses are questions that the Market Information Systems Research and Development (D) Working Group is simply unable to satisfactorily address. The Working Group merely suggests initially limiting the scope of ambitions to a few methods that are commonly, if not universally, recognized as AI, such as machine learning or neural networks. More expansive or ambitious efforts may result in a fruitless search for "unobtanium."[2]

Given very large data sets, well beyond what is currently available to market analysts, AI may have clear advantages to more conventional approaches. The slow, methodical, hypothetical-deductive

[2] A tongue-in-cheek term originating among engineers in the 1950s. It is defined by Wikipedia as "… any hypothetical, fictional, or impossible material, but it can also mean a tangible but extremely rare, costly, or reasonably unobtainable material. Less commonly, it can refer to a device with desirable engineering properties for an application, but which are exceedingly difficult or impossible to achieve."

approach that forms the core of conventional statistics may have advantages in terms of generating valid causal conclusions. However, AI may have certain advantages with respect to confronting the enormity of modern data. As AI is well-suited to performing much more expansive analysis and pattern-seeking routines over vast quantities of data, it may well identify predictive patterns that would have escaped conventional analysis or that are counterintuitive such that some hypotheses may never have occurred to an analyst employing a standard hypothetical-deductive approach. However, there are distinct disadvantages as well, and they are shared by other approaches often termed "data mining." The fact is that patterns may lack an intuitive meaning, and the manner in which such patterns are identified and render interpretation may be unclear. Additionally, patterns may generate numerous "false positives," apparent patterns or correlations that are purely random and possess no meaning or any real predictive power whatsoever. This is not fatal for AI techniques, but it introduces much in the way of caveats and requires significant remedial measures to be employed. This problem is so significant that it merits a much fuller discussion in a separate section below.

The Work of Market Information Systems Research and Development (D) Working Group

The Working Group solicited input from various parties. Two parties delivered presentations to the Working Group:

1. On June 16, 2021, the Working Group discussed a presentation regarding AI methods currently being explored by NAIC staff to predict which insurers are likely to experience financial stress, including insolvency. Beginning in January 2021, an outside consulting group was retained to develop both AI as well as more traditional statistical techniques to construct predictive models of insolvency risk. The efforts are ongoing at the time of writing. Presenters believed the methods were promising and could significantly advance financial risk surveillance. Among AI and statistical models explored were decision tree analysis, generalized linear models (GLMs), and logistic regression.

2. During the Working Group's June 21, 2021, meeting, Birny Birnbaum (Center for Economic Justice—CEJ) encouraged the Working Group to adopt a long-term perspective and develop a multiyear plan to explore AI techniques that might be beneficial to market analysis. He also indicated that state insurance regulators have to date failed to acquire granular transactional data that could be exploited by AI methods to afford a much more robust surveillance system to reduce consumer harm to the extent possible.

   After the meeting, the Working Group convened a subject-matter expert (SME) group with the intent of creating a draft recommendation to be submitted to the Working Group.

Recommendations

The Working Group recommends developing a long-range plan, in a sequence of five steps.

I. Existing Market Analysis Data

As noted above, market analysis suffers from a paucity of detailed data. Some movement in expanding data and remedying deficiencies was made with a complete redesign of the RIRS data, which will facilitate analysis of factors related to an entity sanctioned by state insurance regulators. If

implemented, RIRS will also capture much more detailed data related to the specific misconduct that garnered a regulatory response. The RIRS proposal is currently under discussion with the Market Information Systems (D) Task Force, to which Working Group reports.

The remainder of available data also suffers from significant deficiencies. Insurers employ a variety of definitions to produce MCAS data. Even such a fundamental concept as a "claim" is reported differently by different insurers, making market-wide analysis challenging. For example, the MCAS defines a claim in the conventional sense of "a demand for payment." Investigation by the Missouri Department of Commerce & Insurance (DCI) has determined that the definition is interpreted in wildly divergent ways across the industry that simply makes meaningful comparison impossible and renders key market indicators or ratios largely meaningless. Some insurers set up a claim on a coverage that is reasonably related to the facts of the incident as relayed by a claimant. Other insurers set up all possible coverages on a policy as a claim in their internal systems regardless of whether those coverages might be reasonable implicated in a claim. As might be imagined, those carriers have significantly higher ratios of claims closed without payment. This and other issues remain with the MCAS and significantly impair market analysis.

Recommendation 1: Survey currently available market analysis data, and identify substantive deficiencies based on the nature and substance of the data elements collected. Ensure that all data are consistently reported across insurers to the degree practical and ensure adherence to definitions of data elements.

II. Existing Methods of Market Analysis

Current quantitate methods of market analysis are large based on *ad hoc* and *intuitive* understanding of how data indicators might be related to market misconduct. For example, one of the earliest indicators developed are complaints received by state insurance regulators regarding insurers. It is probably not unreasonable to interrogate complaint data to identify trends over time, as well as just overall complaint volume, to attempt to identify potential problems in a market. Similar indices consider the volume of RIRS actions, as well as the gravity of infractions in terms of potential consumer harm. It is the opinion of many state insurance regulators that such indicators possess a rational relationship to market misconduct and are relevant to identify market actors that might benefit from a heightened level of regulatory scrutiny.

While the Working Group agrees with the rationale behind such market indicators, analytical tools have not to date been subjected to more rigorous statistical methods to clearly identify the predictive power and assess their relative importance or weight. For example, the MAPT, maintained by the NAIC and available to state insurance regulators, employs overall insurer scores based on various indicators. However, the weight of these indicators employed in the score were assigned by state insurance regulators based on experience, as well as assessment of whether a likely relationship have a clear rational meaning. For example, complaint ratios are weighted significantly more heavily than things like financial indicators. The Working Group believes subjecting the scoring system to rigorous statistical analysis could yield significant benefits in identifying problem market actors.

Recommendation 2: In conjunction with recommendation 1 (assess data quality), state insurance regulators should adopt a much more rigorously statistical approach to identify the predictive power of market scoring systems, assess how each variable should be weighted in terms of its unique contribution to productiveness, and drop those that lack analytic utility. In addition, effort should be made to integrate data into a single overall analysis. For example, the MAPT does not incorporate MCAS data, which is typically subject to a separate analysis. The Working Group believes that a "piecemeal" approach is likely less effective than a more integrated approach.

It is noted that the current state of data will likely prove limiting and that such efforts may not make much progress until additional data are made available (such as the proposed revisions to the RIRS data, currently subject to NAIC discussion).

III. Available Approaches: Exploring AI

In additional to more traditional statistical tools, such as various types of regression models and correlation analyses, AI may offer additional benefits. Some commercial statistical packages have incorporated AI methods. The statistics package SAS, which is widely used in both the private and public sectors, makes some AI techniques available in its standard statistical module.[3] In addition, SAS has developed a module called Enterprise Miner, which incorporates both data mining and some lower-level AI routines. (For those familiar with the terms, it performs such things as decision-tree analysis, neural networks, and like forms of analyses). Other modules make machine learning available—a potentially powerful type of analysis that modifies prior predictive algorithms as new data become available.

Recommendation 3: In undertaking recommendation 2, incorporate various promising AI modes of analyses, as well as traditional statistical modeling. Constantly assess the precision of model outcomes relative to objectives such as identifying potential market issues.

IV. Qualitative Analysis

The current model of market analysis incorporates a multistage hierarchical structure. First, quantitative analysis such as that produced by the MAPT identifies potential market problems and narrows focus to entities that appear to exhibit potential areas of regulatory concern. Having narrowed down the focus of analysis to a much more limited pool of candidates, market analysts in the states engage in more manual or qualitative analysis of additional information sources. For example, an analyst may review a selection of complaint files to identify additional patterns of market behavior to better understand their nature and substance.

[3] SAS is markets in "modules," each consisting of a different suite of capabilities that can be tailored to a user's need. For example, "base SAS" provides standard data handing programs. A "statistics module" provides a wide-ranging set of analytical routines.

As noted above, AI techniques such as text analysis could potentially expand such exercises and improve the identification of concerning patterns at a deeper level, as well as assess ways to improve the efficiency of other qualitative tasks.

Recommendation 4: Assess ways AI can improve both the efficiency of *qualitative* analysis and facilitate pattern recognition across larger volumes of textual evidence, including most especially complaints, but perhaps other textual sources. For example, the "level 1" analysis formalized in NAIC market system may include a review of the "management discussion and analysis" of the financial annual statement.

V. Longer-Range Planning

As noted above, data mining and AI techniques were developed primarily as tools to analyze large volumes of data. For data past a certain magnitude, including especially those containing many hundreds or even thousands of variables, the traditional hypothetical-deductive cornerstone that is the cornerstone of traditional statistical inference may be ill-suited as well as cost-prohibitive in terms of time and resources. If the purpose is solely prediction as opposed to causal understanding, AI can fine-tune predictive algorithms by testing relationships that may be unlikely to occur to a statistician employing causal modeling.

Currently, such large volumes of data are unavailable to market analysts, though they could potentially be obtained. More granular data pertaining to claims, underwriting, and other areas of company operations are routinely collected via the "standard data requests" adopted as a supplement to the *Market Regulation Handbook* and commonly employed in market conduct exams.

However, AI and data mining can churn up counterintuitive statistical relationships that defy ready interpretation. In addition, it is likely to detect proxy relationships that are not understood. Proxy relationships, in which a third variable is substituted for an underlying variable of interest, are often employed in statistical models. This is often due to the accessibility or cost of obtaining data of the actual causal variable of interest. However, when employed in traditional statistical analysis, the nature of the relationship between the proxy variable and the actual variable of interest is generally well understood. This is not true of AI techniques that employ or resemble data mining.

The techniques are also likely to generate some number of purely chance relationship, where a correlation is generated by random chance. Inferential statistics seek to minimize mistaking a chance relationship for a meaningful association. Typically, the use of a p-value requirement of 0.05 or less limits the probability of accepting a random relationship to no more than 5% of occurrences. However, a 5% threshold means that over time, false, or chance relationships will be misinterpreted of a true correlation.

This fact is not fatal for the use of AI in market analysis, but it does represent a strong caveat for those employing the techniques, at least those that share elements with data mining. Careful interpretations of p-values should recognize an increased possibility of false positives. Observed relationships should be assessed and validated over time to ensure correlations are stable. In addition, once relationships

are identified via AI and found useful, standard statistical models should also be employed to test whether different techniques yield superior predictive power. Additional discussion of caveats is presented in the appendix.

That said, there is much potential of AI in market analysis, *assuming that additional, more granular, data are available*. As noted, such techniques are most suited for large datasets whose very size would make a standard statistical approach impractical just given the sheer number of possible correlations available for testing.

Recommendation 5: Systematically explore potential data sources suitable for AI techniques, with an eye for discovering patterns and relationships in relation to some well-defined outcome one is attempting to predict. This may be identifying entities that may merit additional regulatory scrutiny in a way that is currently done by the less sophisticated methods employed in the MAPT or with the MCAS. Larger volumes of data, such as the standard data requests, can be subjected to AI to identify problematic claims handling, underwriting, and other insurer practices.

Summary of Recommendations

Recommendation 1: Survey currently available market analysis data, and identify substantive deficiencies based on the nature and substance of the data elements collected. Ensure that all data are consistently reported across insurers to the degree practical, and ensure adherence to definitions of data elements.

Recommendation 2: In conjunction with recommendation 1 (assess data quality), state insurance regulators should adopt a much more rigorously statistical approach to identify the predictive power of market scoring systems, assess how each variable should be weighted in terms of its unique contribution to productiveness, and drop those that lack analytic utility. In addition, effort should be made to integrate data into a single overall analysis. For example, the MAPT does not incorporate MCAS data, which is typically subject to a separate analysis. The Working Group believes that a "piecemeal" approach is likely less effective than a more integrated approach.

Recommendation 3: In undertaking recommendation 2, incorporate various promising AI modes of analyses, as well as traditional statistical modeling. Constantly assess the precision of model outcomes relative to objectives, such as identifying potential market issues.

Recommendation 4: Assess ways AI can improve both the efficiency of *qualitative* analysis and facilitate pattern recognition across larger volumes of textual evidence, including most especially complaints, but perhaps other textual sources. For example, the "level 1" analysis formalized in NAIC market system may include a review of the "management discussion and analysis" of the financial annual statement.

Recommendation 5: Systematically explore potential data sources suitable for AI techniques, with an eye for discovering patterns and relationships in relation to some well-defined outcome one is attempting to predict. This may be identifying entities that may merit additional regulatory scrutiny in

a way that is currently done by the less sophisticated methods employed in the MAPT or with the MCAS. Larger volumes of data, such as the standard data requests, can be subjected to AI to identify problematic claims handling, underwriting, and other insurer practices.

Appendix: Caveats

Recently, some fields of scientific inquiry have experienced much consternation and hand-wringing due to the so-called "replicability crisis" resulting from the realization that many studies published in top-tier journals could not be replicated. In 2015, Open Science Collaboration published research into the replicability of psychological studies. Of the 100 studies that were subjected to testing, replications yielded statistically significant results in only 36% compared to 97%of the original publications (Open Science Collaboration, 2015). Similar reproducibility issues were found in other fields.

Attention was directed at quantitative methods, particularly those made possible by modern computing power. Researchers can run countless variations of models, including multiple different variables, cross-effects, and other tweaks, until they eventually produce positive or statistically significant results. The inevitable outcome of the lack of rigor of such methods is that many chance correlations will be mistaken for meaningful relationships.

Think of it this way. The probability of obtaining all heads from 10 flips of a fair coin is 1/1024. So, if a researcher actually performed the experiment 1,024 times and obtained 10 heads at least once, it would obviously be improper to infer that the coin was a two-headed coin. Without knowledge of the total number of trials, one might reject the "null hypothesis" that the coin is fair, and results would be "statistically significant" with a p-value of (1/1,024) = 0.00098, well below the 0.05 maximum threshold to establish statistical significance. But the true p-value can only be calculated with knowledge of the total number of trials prior to obtaining the recorded result, such that the true p-value is well above the maximum threshold.

There are no allegations of willful misconduct so much as careless and sloppy methods, producing much introspection about how statistics methods are taught to scientists at colleges and universities. The problem is so significant that the following year, the American Statistical Association (ASA) released a statement regarding misuse of p-values and practices known as "p hacking" or "data dredging." A letter from the ASA is reprinted below, with a link to the full statement (used with permission).

Really, this is a warning for state insurance regulators not to adopt a casual attitude about apparent relationships turned up by the methods. When such methods are employed, modelers should be on constant guard against mechanical interpretations of model outputs. It is important to fully understand what is going on in the "black box" of an AI algorithm, the results of all statistical tests performed, and the totality of processes generating final results.

A high number of false positives that prompt regulatory follow-up can risk draining away regulatory resources going down blind allies.

AMERICAN STATISTICAL ASSOCIATION RELEASES STATEMENT ON STATISTICAL SIGNIFICANCE AND *P*-VALUES

Provides Principles to Improve the Conduct and Interpretation of QuantitativeScience

March 7, 2016

The American Statistical Association (ASA) has released a "Statement on Statistical Significance and *P*-Values" with six principles underlying the proper use and interpretation of the *p*-value [http://amstat.tandfonline.com/doi/abs/10.1080/00031305.2016.1154108#.Vt2XIOaE2MN]. The ASA releases this guidance on *p*-values to improve the conduct and interpretation of quantitative science and inform the growing emphasis on reproducibility of science research. The statement also notes that the increased quantification of scientific research and a proliferation of large, complex data sets has expanded the scope for statistics and the importance of appropriately chosen techniques, properly conducted analyses, and correct interpretation.

Good statistical practice is an essential component of good scientific practice, the statement observes, and such practice "emphasizes principles of good study design and conduct, a varietyof numerical and graphical summaries of data, understanding of the phenomenon under study, interpretation of results in context, complete reporting and proper logical and quantitative understanding of what data summaries mean."

"The *p*-value was never intended to be a substitute for scientific reasoning," said Ron Wasserstein, the ASA's executive director. "Well-reasoned statistical arguments contain much more than the value of a single number and whether that number exceeds an arbitrary threshold. The ASA statement is intended to steer research into a 'post $p<0.05$ era.'"

"Over time it appears the *p*-value has become a gatekeeper for whether work is publishable, at least in some fields," said Jessica Utts, ASA president. "This apparent editorial bias leads to the 'file-drawer effect,' in which research with statistically significant outcomes are much more likely to get published, while other work that might well be just as important scientifically is never seen in print. It also leads to practices called by such names as '*p*-hacking' and 'data dredging' that emphasize the search for small *p*-values over other statistical and scientific reasoning."

The statement's six principles, many of which address misconceptions and misuse of the *p*-value, are the following:

1. *P-values can indicate how incompatible the data are with a specified statistical model.*
2. *P-values do not measure the probability that the studied hypothesis is true, or theprobability that the data were produced by random chance alone.*
3. *Scientific conclusions and business or policy decisions should not be based only onwhether a p-value passes a specific threshold.*

4. *Proper inference requires full reporting and transparency.*
5. *A p-value, or statistical significance, does not measure the size of an effect or theimportance of a result.*
6. *By itself, a p-value does not provide a good measure of evidence regarding a model orhypothesis.*

The statement has short paragraphs elaborating on each principle.

In light of misuses of and misconceptions concerning *p*-values, the statement notes that statisticians often supplement or even replace *p*-values with other approaches. These include methods "that emphasize estimation over testing such as confidence, credibility, or prediction intervals; Bayesian methods; alternative measures of evidence such as likelihood ratios or Bayes factors; and other approaches such as decision-theoretic modeling and false discovery rates."

"The contents of the ASA statement and the reasoning behind it are not new—statisticians and other scientists have been writing on the topic for decades," Utts said. "But this is the first time that the community of statisticians, as represented by the ASA Board of Directors, has issued a statement to address these issues."

"The issues involved in statistical inference are difficult because inference itself is challenging," Wasserstein said. He noted that more than a dozen discussion papers are being published in the ASA journal *The American Statistician* with the statement to provide more perspective on this broad and complex topic. "What we hope will follow is a broad discussion across the scientific community that leads to a more nuanced approach to interpreting, communicating, and using the results of statistical methods in research."

About the American Statistical Association

The ASA is the world's largest community of statisticians and the oldest continuously operating professional science society in the United States. Its members serve in industry, government and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare. For additional information, please visit the ASA website at www.amstat.org.

For more information:

Ron
Wasserstein

Citations

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NAIC

Market Information Systems Research and Development (D) Working Group Backlog Update

Displaying **28** issues at **12/Nov/21 8:05 AM**.

Key	Request Summary	Date Created	Current Status	Detailed Description	Last date Updated	Request Type	Epic Link
MKTREGREQ-57	MFL-MIS Team Q3 Cloud Migration Work	2/19/2021	Closed	This ticket encompasses all AWS cloud migration tasks as outlined in https://jira.naic.org/browse/ITGP-122 to be completed in Q3.	10/22/2021	Technical Request	
MKTREGREQ-40	Phase 1 - MCAS/FDR separation planning	3/11/2020	Closed - Detailed work will begin as resources become available	As NAIC staff we will need to spend time to assess the full scope of the MCAS/FDR separation project, and develop a plan in order to accomplish the task while keeping MCAS available to collect filings and updated yearly as requests are received.	10/27/2021	Business Request	MCAS/FDR Separation - Parent Epic
MKTREGREQ-51	MCAS MVP for 2021 filing year	2/12/2021	In Progress - Teams currently working on updates for 2021 data filing year	As a Market Regulator I want to be able to collect all MCAS data for data year 2021 by the filing deadline of 4/30/2022.	10/26/2021	Business Request	
MKTREGREQ-100	MFL-MIS Team Q4 Cloud Migration Work	9/17/2021	In Progress - 4 of 5 environments completed. On track for 12/4 production completion	This is the epic ticket for all work the MFL-MIS team will be doing in Q4 related to ITGP-134	10/22/2021	Technical Request	
MKTREGREQ-38	2021 Updates to MIS Data Analysis Metrics	12/3/2020	In Progress - All but CDS A2 report are ready for review	This Epic contains all of the requests as approved by MISTF for 2021. This group of stories will be worked as individual requests and pushed to production as requirements are developed..	10/25/2021	Regulator Request	
MKTREGREQ-44	USER form 10051 - Implement MATS service in SBS	2/12/2021	In Progress - SBS & MFL teams working to complete interface	*What:* Implement MATS Web Service in SBS to Provide SBS Examination module integration for automated submission of information to MATS. *Who:* Regulators that use the SBS Examination module *When:* As soon as possible *Why:* SBS users are duplicating effort by entering information into 2 separate systems that are not in sync *Request Date:* 4/19/2014	10/22/2021	Regulator Request	
MKTREGREQ-66	USER Form 10065 - Provide functionality to access and download data from NAIC systems.	7/16/2021	In Progress - CDS & RIRS data now being loaded to Snowflake data platform, MCAS data is in progress.	State Ahead – Enterprise Data Asset Management Phase II The next phase of the data governance and data warehouse initiative will leverage the lessons learned in Phase I to build out the architecture and tools needed to increase NAIC and NIPR's ability to make data available to regulators in a timely and cost effective manner and improve our data capabilities. The new AWS data platform will consist of three layers: a Data Lake (raw data) layer to contain all data in its original format, a lightly curated layer where data cleansing and some data structure may be applied to data sets (more geared towards data exploration and machine learning., and a business data layer where data will be highly structured (more geared towards data access and usage by state regulators and NAIC applications). Data stewardship will be applied to the remaining financial and market regulation data sets and those data sets will be loaded to the Enterprise Data Platform for use by other State Ahead projects. Additional data policies, standards, and processes will be created and enhancements to the data architecture and toolsets will be implemented.	7/21/2021	Regulator Request	
MKTREGREQ-67	USER Form 10071 - Redesign and enhance I-SITE reports using interactive data visualization and add data analytics.	7/16/2021	In Progress - CDS & RIRS data dashboards are now sourced from platform, MCAS in progress. Expected Q3 2022	State Ahead – Market Regulation Self-Service Dashboard The purpose of this project is to create Tableau dashboards to replace current iSite+ market regulation tools and applications to provide visual representation of the data. This includes reports containing regulatory actions (RIRS data), complaint data (CDS data), MCAS data, financial data, producer data, and antifraud data. Finally, this project will help ensure NAIC staff continues to provide the necessary support to the NAIC members for the ongoing development of MCAS blanks and market analysis.	7/21/2021	Regulator Request	
MKTREGREQ-65	USER Form 10047 - Add option to display data by group code.	7/16/2021	In Progress - CDS & RIRS data dashboards are now sourced from platform, MCAS in progress.	State Ahead – Market Regulation Self-Service Dashboard The purpose of this project is to create Tableau dashboards to replace current iSite+ market regulation tools and applications to provide visual representation of the data. This includes reports containing regulatory actions (RIRS data), complaint data (CDS data), MCAS data, financial data, producer data, and antifraud data. Finally, this project will help ensure NAIC staff continues to provide the necessary support to the NAIC members for the ongoing development of MCAS blanks and market analysis. This project will replace the Financial MAPT. The Tableau version of the Financial MAPT will likely include filtering by group code. The Market Conduct Data Improvements (MAPT) Phase II State Ahead project addresses the ability to review MCAS data by group.	7/21/2021	Regulator Request	

MKTREGREQ-50	Separate MCAS from FDR	7/27/2020	Prioritized	As Market Regulation staff we would like to have MCAS running in a system separate from FDR so that we can more quickly and easily modify and test MCAS changes requested by regulators as we move to production. Our current system setup requires that multiple departments coordinate and depend on each other. Those departments include Market Regulation, Financial Services, and ITG. The following features will be delivered as a condition of satisfaction for the Market Conduct Annual Statement (MCAS)/NAIC Financial Data Repository (FDR) separation project. * Update to submit data to RDC instead of FDR, thereby creating the single source of truth (https://jira.naic.org/browse/MCAS-406) * Enable business users to enter validations into RDC without technical team intervention (https://jira.naic.org/browse/MCAS-407) * Add metadata management to RDC to (e.g. describe filing blank) (https://jira.naic.org/browse/MCAS-408) * Update backend validations engine to run validations that are today run only by FDR (https://jira.naic.org/browse/MCAS-409) * Enhance FDR with APIs necessary to access required financial data (https://jira.naic.org/browse/MCAS-410) * Recreate any required MCAS data processing performed by FDR (e.g. rankings and ratios functions) (https://jira.naic.org/browse/MCAS-411) * Update or recreate MCAS reports using the new single source of truth (https://jira.naic.org/browse/MCAS-412) * Update 3rd party data consumers (e.g. MARS) to use the new single source of truth (https://jira.naic.org/browse/MCAS-413)	10/28/2021	Business Request	
MKTREGREQ-33	USER Form 10054 - Support for Attachments: Facilitate submission of supporting documentation.	9/5/2019	Prioritized	*What:* Describing WHAT the user is requesting. *Who:* Describing WHO this request will impact *When:* Describing WHEN this request is required (if there's a deadline) *Why:* Describing WHY this request is needed, including why it's important to more than one jurisdiction. This should also include what happens if this request is not approved. *Request Date:* 4/9/2014 As per the MIS Task Force State Survey Project Action Plan #23: Support for Attachments: Facilitate submission of supporting documentation. (ex: orders) USER Form 10021: Allow entry of multiple state regulatory actions in RIRS. (added 3/20/13)	6/11/2021	Regulator Request	
MKTREGREQ-34	USER Form 10075 - MAPT Add Overall Score, National Score etc. to MAPT	9/5/2019	Prioritized	*What:* The Market Analysis Prioritization Tool (MAPT) currently provides three years (CY, PY & PY1) of the underlying data relied upon for each of the main component and subcomponent scores and the CY Overall Score, National Score and State Score. To assist in trending analysis of the data during the baseline process, we would also find it useful if the MAPT reports included the current year and previous two years of the Overall Score, National Score, and State Score, as well as the main component and sub-component scores. This request is similar to USER Form 10067 regarding the creation of an MCAS Ratio Trend Report; *Who:* Cheryl Hawley - AZ *When:* As soon as possible *Why:* Making technical changes to the MAPT reports or creating a new MAPT Scoring Report will allow users to have three years of scoring data available through one source rather than having to save the PY & PY1 data while it is available on iSite+ and then merging it with the CY data for analysis of trends and patterns to identify potential areas for improvement and/or concern. *Request Date:* 11/9/2016	6/11/2021	Regulator Request	
MKTREGREQ-37	USER Form 10077 - MAPT allow a user to select a new function "All Policy" to kick off all (18) reports.	9/5/2019	Prioritized	*What:* The data available in this report (Market Analysis Market Share Search Criteria) is not available through any other search tool at the level of detail (Policy Type). Please see attached Excel file. Please give me a call if you need more information. Either have an "All Policy Types" option or have the option to highlight more than one policy type (which is available in other reports). *Who:* Ibrahim Al-Hajiby (MN) - All state regulators who access MAPT *When:* Describing WHEN this request is required (if there's a deadline) *Why:* I currently have to go run 18 different reports and compile them manually which is time consuming and increases chances of error. *Request Date:* 4/24/2017	6/11/2021	Regulator Request	
MKTREGREQ-43	MIS Metrics available for Regulator self-service	9/24/2019	Prioritized	We are developing reports that have been generated manually using queries in the past. The vision is to place these reports in iSite+ by data source and allow the State Regulators access as needed.	10/28/2021	Business Request	
MKTREGREQ-46	USER form 10081 - Make MCAS data available in MAPT	2/12/2021	Prioritized	*What:* Make MCAS data available in MAPT to make it easier to access all of the relevant state's data *Who:* Cheryl Hawley (AZ) *When:* No deadline *Why:* Easier access to all of a state's data to conduct effective and efficient analysis; saves time and more efficient/effective use of limited resources *Request Date:* 3/6/2019	7/16/2021	Regulator Request	

MKTREGREQ-41	USER form 10053 - Review of RIRS codes	2/11/2021	Prioritized	*What:* Review of RIRS codes by the RIRS Code Review Working Group to clarify definitions for consistent usage and provide recommendations for revisions. *Who:* All states. *When:* No deadline *Why:* Modernizes outdated reporting of regulatory actions / addresses known issues. *Request Date:* 4/9/2014	7/21/2021	Regulator Request	
CIS-391	USER Form 10083.1 - Add Subject Codes to CIS Complaints by Code	8/14/2020	Prioritized	Under Construction because the committee is still working on requests involving Subject Codes As a member of the Working Group, I want to be able to display complaints tied to the new Pandemic Subject Code so that consumers can be more informed. The Pan Subject Code stands for Pandemic. There are eight other Subject codes that are also available for display - see attachment. Need sign off from Chris & revisit this with Lois	7/23/2021	Regulator Request	
MKTREGREQ-45	USER form 10080.1 - Update action date on systems participating report	2/12/2021	Preliminary Review	*What:* The Earliest Action Date on the Regulatory Systems Participating State Report Is Misleading, can we help to provides better context and understanding of the data available *Who:* Rachel Cloyd (TX) - All regulators who use RIRS *When:* No deadline *Why:* Provides better context and understanding of the data available *Request Date:* 9/25/2018	7/9/2021	Regulator Request	
MKTREGREQ-61	USER form 10080.4 - Define RIRS data dictionary	7/9/2021	Preliminary Review	*What:* Create/Update a RIRS data dictionary. *Who:* Rachel Cloyd (TX) - All regulators who use RIRS *When:* No deadline *Why:* Provides better context and understanding of the data available *Request Date:* 9/25/2018	7/9/2021	Regulator Request	
MKTREGREQ-47	USER form 10066 - MARS Merge Level 1 & 2 reviews	2/12/2021	Preliminary Review	*What:* Merge MARS Level 1 and MARS Level 2. *Who:* MAP (D) WG - Teresa Cooper NAIC *When:* This will happen with the rewrite of MARS *Why:* The Market Analysis Review System (MARS) will be redesigned to combine MARS Levels 1 and 2 into a single level designed to provide a more focused review of a company and still allow an analyst access to all the relevant data available to a company in the market information systems databases *Request Date:* 11/6/2015	6/11/2021	Regulator Request	MARS Rewrite
MKTREGREQ-48	USER form 10074 - Allow user comments to be added to level 1 review	2/12/2021	Preliminary Review	*What:* Allow for comments to be added to a Level 1 review after it has been approved. *Who:* John Haworth (WA) *When:* This will happen with the rewrite of MARS *Why:* Current system constraints do not allow comments to be added once the level 1 review has been approved. We would like to be able to do this. *Request Date:* 9/20/2016	6/11/2021	Regulator Request	MARS Rewrite
MKTREGREQ-49	USER form 10078 - Add links for reviewer	2/12/2021	Preliminary Review	*What:* Add links for reviewer. *Who:* Tom Whitener (WV) *When:* This will happen with the rewrite of MARS *Why:* ??? *Request Date:* 4/24/2017	6/11/2021	Regulator Request	MARS Rewrite
MKTREGREQ-36	USER Form 10043 - MARS - import average industry loss and expense ratio to MARS Level 1 question 11a and 11b	5/15/2018	Preliminary Review	*What:* As a user I want the MARS level 1 Review to populate question 11a and 11b with the data I am asked to review so that I can be more efficient in completing reviews. When completing a Level 1 review, analysts are asked to compare the company's loss and expense ratios to the industry average. Question 11a asks for the comparison on a national level, and Question 11b asks for the comparison on a state level. However, the industry averages are not provided for comparison. There is a link to the company's Exhibit of Business report, which provides the national average industry loss ratio, but does not provide the state average. *Who:* Randy Helder *When:* No deadline *Why:* Modernizes outdated reporting of regulatory actions / addresses known issues. *Request Date:* 2/24/2014	10/25/2021	Regulator Request	MARS Rewrite
MKTREGREQ-63	USER Form 10083.2 - Add subject codes to iSite Reports	7/16/2021	Prioritized	As regulators we would like to see Subject Codes in the CDS iSIte+ reports. * For iSite+ this would require a code change for each report that we wanted to display Subject Codes on. Subject Code is available in the data source currently used to generate the CDS reports. The effort to display Subject Code on selected iSite+ reports would be a *small to medium* effort. * For estimation purposes we expect to add the ability to select Subject Code as a value to be reported on to the Closed Complaint Counts By Code Criteria page, Closed Complaints Counts By State, and Closed Complaint Trend criteria pages. Additionally we would add the ability to select and display the Subject Code to the criteria and results page for the Detailed report. *Note*: this request may be fulfilled by changes to newly developed CDS dashboards.	7/16/2021	Regulator Request	
MKTREGREQ-64	USER Form 10083.3 - Develop a new CDS Summary Report.	7/16/2021	Prioritized	As regulators we would like to see a new CDS Summary Report. * ** This request would require the creation of a new report. The information required to create this report is available. The effort to create this report would be *medium*.	7/16/2021	Regulator Request	

MKTREGREQ-118	USER Form 10084 - Create PICS events for MCAS waiver or extension is initiated or updated but not closed	10/25/2021	Preliminary Review	*User Name:* Ginny Ewing *Phone Number:* 816.783.8649 *Email address:* [gewing@naic.org|mailto:gewing@naic.org] *User Role:* NAIC staff *User State:* *Description of the Request:* Currently a PICS event exists that notifies subscribers when an MCAS waiver or extension is initiated or updated. This is a single notification. This request is to create a new PICS event, or possibly enhance the current event, to notify subscribers on a regular basis. The recommended default for the frequency of the notification should be weekly; however, the ability to modify the frequency to a specific number of days would be desirable. *This request will impact the following system(s):* ["MCAS (Market Conduct Annual Statement)","PICS"] *This request will impact the following people(s):* This request will directly impact the state insurance regulator staff who are responsible for reviewing and taking action on MCAS filing waiver and extension requests. It will also indirectly benefit the insurance companies with more timely responses to their requests. *Any other important details:* The following recommendation was adopted by the Market Information Systems (D) Task Force during its March 22, 2021 meeting: “Create a new PICS event that notifies subscribers of pending waiver and extension requests each week.” *Requested timeline:* This request can be completed at any time. However, the sooner it is implemented, the sooner the benefits will be realized. *Estimated Value to the NAIC and Market Regulation Regulators:* This request will provide subscribers regular reminders to review and take action on outstanding waiver and extension requests. Over the past three years, the MCAS C3 and T2 metric results have indicated that ~6% of waiver requests and ~8% of extensions are not addressed. The goal is that additional reminders to the appropriate	10/25/2021	Regulator Request	
MKTREGREQ-119	USER Form 10085 - Add new 2nd level coverage for Telehealth	10/25/2021	Preliminary Review	*User Name:* Cheryl Hawley *Phone Number:* 602.364.4994 *Email address:* [cheryl.hawley@difi.az.gov|mailto:cheryl.hawley@difi.az.gov] *User Role:* Working Group member *User State:* Arizona *Description of the Request:* Recommend adding a new second level coverage for "Telehealth" under the first level coverages for Accident & Health to help states track complaints involving telehealth coverage of health care services. Potential definition for the new code: Health service that uses video calling and other technologies to help you see your doctor or other health care provider from home instead of at a medical facility. *This request will impact the following system(s):* ["CDS (Complaint Database System)"] *This request will impact the following people(s):* Those responsible for supporting the state back-offices, such as the NAIC for SBS and Vertafore for Sircon For States, will need to add the new code. State regulators responsible for entering complaint data will need to aware of the new code and how to use it. *Any other important details:* This request was entered by Ginny Ewing on behalf of Cheryl Hawley. *Requested timeline:* This request can be completed at any time. However, the sooner it is implemented, the sooner the benefits will be realized. *Estimated Value to the NAIC and Market Regulation Regulators:* This will allow for more accurate tracking of complaints involving telehealth benefits.	10/25/2021	Regulator Request	
MARS-318	MARS Rewrite EPMO Project	12/12/2019	New	The Market Analysis Review System(MARS) will be redesigned to combine MARS Levels 1 and 2 into a single level designed to provide a more focused review of a company and still allow an analyst access to all the relevant data available to a company in the market information systems databases. The rewrite will also provide more visualization of the data through the use of Tableau.	7/16/2021	Business Request	

NAIC Market Information Systems
Data Analysis Summary
November 10, 2021

Objective

It is essential that the systems on which insurance consumers and state insurance regulators depend use reliable data. These systems include, but are not limited to, the Consumer Insurance Search (CIS), Market Analysis Prioritization Tool (MAPT), Market Analysis Profile (MAP) and Market Analysis Review System (MARS). In addition to these National Association of Insurance Commissioners (NAIC) systems, many state systems and processes use NAIC Market Information System (MIS) data. Therefore, MIS data quality is critical.

The MIS data analysis metrics were developed at the direction of the Market Information Systems (D) Task Force to identify potential data quality issues in the NAIC MIS database. For each system, three aspects of data quality are considered: 1) completeness; 2) timeliness; and 3) accuracy.

Results

Note: These symbols indicate the following changes between periods: (△) trending in positive direction; (–) no change or unable to determine trend; and (△) trending in negative direction.

Complaint Database System (CDS)

Completeness:

C1. Identify errors that prevented submitted complaints from successfully loading to the NAIC MIS database.

CDS C1 Trending Results As of 3/26/2021								
Year	Total Complaints Submitted	Complaints Not Loaded First Time	Complaints Not Loaded	Complaints Loaded	Errors Created	% Errors to Total Complaints Submitted	% Complaints Not Loaded to Total Complaints Submitted	△
2020*	339,137	129,851	102,373	236,764	141,385	41.69%	30.19%	△
2019	367,880	93,518	22,926	344,954	112,725	30.64%	6.23%	–

* The 2020 results reflect issues one jurisdiction encountered after changing internal procedures. NAIC staff is working with them on a resolution and does not anticipate this will be an on-going issue once resolved.

C2. Identify jurisdictions with no complaints with an entry date for year.

CDS C2 Trending Results As of 8/3/2021			
Year	# Jurisdictions That Did Not Submit Actions	% Jurisdictions That Did Not Submit Actions	△
2020	3	5.36%	–

Timeliness:

T1. Identify jurisdictions that did not submit closed complaints to the NAIC MIS database at least monthly.

CDS T1 Trending Results As of 3/31/2021				
Year	# Jurisdictions That Did Not Submit Closed Complaints At Least Monthly	# Jurisdictions That Did Submit Closed Complaints At Least Monthly	% Jurisdictions That Did Not Submit Closed Complaints At Least Monthly	△
2020	6	50	10.71%	△
2019	9	47	16.07%	△
2018*	6	50	10.71%	△
2017*	9	47	16.07%	△

CDS T1 Trending Results As of 3/31/2021				
Year	# Jurisdictions That Did Not Submit Closed Complaints At Least Monthly	# Jurisdictions That Did Submit Closed Complaints At Least Monthly	% Jurisdictions That Did Not Submit Closed Complaints At Least Monthly	△
2016	13	43	23.21%	△
2015	18	38	32.14%	–
2014	18	38	32.14%	–

* With the introduction of a new load process, 2017 (Aug – Dec) and 2018 (May – Dec) results represent partial year data.

T2. Identify jurisdictions that did not submit a current complaint to the NAIC MIS database at least monthly.

CDS T2 Trending Results As of 3/31/2021				
Year	# Jurisdictions That Did Not Submit a Current Complaint At Least Monthly	# Jurisdictions That Did Submit a Current Complaint At Least Monthly	% Jurisdictions That Did Not Submit a Current Complaint At Least Monthly	△
2020	13	43	23.21%	△
2019	20	36	35.71%	–

Accuracy:

A1. Identify complaints submitted with a confirmed indicator and only a disposition of "Complaint Withdrawn," "No Action Requested/Required," "Question of Fact/Contract Provision/Legal Issue," "Company Position Substantiated," "No Jurisdiction" or "Insufficient Information."

Not Available

A2. Identify complaints submitted for lines of business on companies that have no premium written for those lines of business on the financial annual statement.

Not Available

Market Action Tracking System (MATS)

Completeness:

C1. Compare number of "Closed" exams and entities in exams with the reported completed exams and entities in the NAIC's corresponding year's *Insurance Department Resources Report* (IDRR).

MATS C1 Trending Results As of 10/15/2021												
Year	Exams Closed in MATS	Exams Closed in IDRR	Difference Between IDRR and MATS Exams	% Exams in MATS to Exams in IDRR	% Diff to Exams in IDRR	△	Entities in Exams Closed in MATS	Entities in Exams Closed in IDRR	Difference Between IDRR and MATS Entities	% Entities in MATS to Entities in IDRR	% Diff to Entities in IDRR	△
2020	550	396	154	138.89%	38.89%	△	501	442	59	113.35%	13.35%	△
2019	382	511	-129	74.76%	-25.24%	△	461	548	-87	84.12%	-15.88%	△
2018	477	598	-121	79.77%	-20.23%	△	616	645	-29	95.50%	-4.50%	△
2017	525	544	-19	96.51%	-3.49%	△	604	920	-316	65.65%	-34.35%	△
2016	565	585	-20	96.58%	-3.42%	–	670	827	-157	81.02%	-18.98%	–

C2. Compare number of entities included in "Closed" actions with the reported entities included in market actions including Focused Inquiries and Non-Exam Regulatory Interventions in the IDRR.

MATS C2 Trending Results As of 10/15/2021						
Year	Entities in Market Actions Closed in MATS	Entities in Market Actions Closed in IDRR	Difference	% Entities in MATS to Entities in IDRR	% Diff to Entities in IDRR	△
2020	731	3,162	-2,431	23.12%	-76.88%	△
2019	617	3,885	-3,268	15.88%	-84.12%	△
2018	784	2,197	-1,413	35.69%	-64.31%	△
2017	834	2,705	-1,871	30.83%	-69.17%	–

C3. Identify records in the Regulatory Information Retrieval System (RIRS) with an origin code of "Market Conduct Exam" that do not have a corresponding record in MATS.

MATS C3 Trending Results As of 8/6/2021					
Year	RIRS Actions with 'Market Conduct Exam' Origin	RIRS Actions with 'Market Conduct Exam' Origin with MATS	RIRS Actions with 'Market Conduct Exam' Origin without MATS	% RIRS Actions without MATS to RIRS Actions with 'Market Conduct Exam' Origin	△
2020	170	1	169	99.41%	△
2019	243	8	235	96.71%	–

Timeliness:

T2. Identify actions with an estimated start date that has passed more than 30 days ago, and the status is "Called Not Begun."

MATS T2 Trending Results As of 4/1/2021									
	# Actions in 'Called Not Begun' Status with Estimated Start Date Passed the Following # Days								
Year	0-30 Days	31-90 Days	91-180 Days	181-365 Days	365+ Days	Total Actions in 'Called Not Begun' Status	Actions in 'Called Not Begun' Status w/Estimated Start Date > 30 Days	% Actions in 'Called Not Begun' w/ Estimated Start > 30 Days to Total 'Called Not Begun'	△
2020	95	44	41	66	84	330	235	71.21%	△
2019	84	168	186	128	167	733	649	88.54%	△
2018	195	66	69	67	56	453	258	56.95%	–

T3. Identify actions with a status of "In Settlement" for more than 180 days.

MATS T3 Trending Results As of 4/1/2021								
	# Actions in 'In Settlement' Status for the Following # Days							
Year	0- 180 Days	181-365 Days	366-730 Days	730+ Days	Total Actions in 'In Settlement' Status	Actions in 'In Settlement' Status > 180 Days	% Actions in 'In Settlement' > 180 Days to Total 'In Settlement'	△
2020	60	17	1	8	86	26	30.23%	△
2019	49	13	2	11	75	26	34.67%	△
2018	44	2	1	10	57	13	22.81%	–

T4. Identify actions with a status of “In Progress” for more than 18 months.

MATS T4 Trending Results As of 4/1/2021								
	# Actions in ‘In Progress’ Status for the Following # Months							
Year	0- 18 Months	19-24 Months	25-48 Months	48+ Months	Total Actions in ‘In Progress’ Status	Actions in ‘In Progress’ Status > 18 Months	% Actions in ‘In Progress’ > 18 Months to Total ‘In Progress’	△
2020	712	110	183	79	1084	372	34.32%	△
2019	747	105	243	60	1155	408	35.32%	△
2018	871	92	101	43	1107	236	21.32%	–

T5. Identify actions with a status of “Work Concluded” for more than 120 days.

MATS T5 Trending Results As of 4/1/2021								
	# Actions in ‘Work Concluded’ Status for the Following # Days							
Year	0- 120 Days	121-365 Days	366-730 Days	730+ Days	Total Actions in ‘Work Concluded’ Status	Actions in ‘Work Concluded’ Status > 120 Days	% Actions in ‘Work Concluded’ > 120 Days to Total ‘Work Concluded’	△
2020	53	26	32	37	148	95	64.19%	△
2019	47	35	36	32	150	103	68.67%	△
2018	73	13	25	6	117	44	37.61%	–

T6. Identify actions with a status of “Anticipated” for more than 120 days.

MATS T6 Trending Results As of 4/1/2021								
	# Actions in ‘Anticipated’ Status for the Following # Days							
Year	0- 120 Days	121-365 Days	366-730 Days	730+ Days	Total Actions in ‘Anticipated’ Status	Actions in ‘Anticipated’ Status > 120 Days	% Actions in ‘Anticipated’ > 120 Days to Total ‘Anticipated’	△
2020	7	18	2	21	48	41	85.42%	△
2019	32	15	23	33	103	71	68.93%	△
2018	16	15	23	28	82	66	80.49%	–

T7. Identify actions with a status of “Suspended” for more than 120 days.

MATS T7 Trending Results As of 4/1/2021								
	# Actions in ‘Suspended’ Status for the Following # Days							
Year	0- 120 Days	121-365 Days	366-730 Days	730+ Days	Total Actions in ‘Suspended’ Status	Actions in ‘Suspended’ Status > 120 Days	% Actions in ‘Suspended’ > 120 Days to Total ‘Suspended’	△
2020	8	2	1	162	173	165	95.38%	△
2019	6	14	3	160	183	177	96.72%	△
2018	6	6	40	129	181	175	96.89%	–

Accuracy:
Note: No metrics have been defined to measure MATS data accuracy.

Market Analysis Review System (MARS)

Completeness:

C1. Identify jurisdictions that did complete the minimum threshold that year.

MARS C1 Trending Results As of 7/30/2021				
Year	Minimum Threshold	# Jurisdictions That Did Not Complete Minimum Threshold	% Jurisdictions That Did Not Complete Minimum Threshold	△
2020	25 Reviews	34	60.71%	△
2019	20 Reviews	30	53.57%	△
2018	15 Reviews	26	46.43%	△
2017	10 Reviews	19	33.93%	△
2016	1 Level One Review	7	12.50%	△
2015	1 Level One Review	9	16.07%	△
2014	1 Level One Review	10	17.86%	–

Timeliness:

T2. Identify reviews that did not use the most current financial annual statement data year.

MARS T2 Trending Results As of 7/14/2021						
Year	Current Data Year	Not Current Data Year	Total Reviews	% Current Data Year to Total Reviews	% Not Current Data Year to Total Reviews	△
2020	1,169	291	1,460	80.07%	19.93%	△
2019	1,551	296	1,847	83.97%	16.03%	△
2018	1,511	57	1,568	96.36%	3.64%	△
2017	1,533	99	1,632	93.93%	6.07%	△
2016	1,928	57	1,985	97.13%	2.87%	△
2015	1,785	56	1,841	96.96%	3.04%	△
2014	1,900	39	1,939	97.99%	2.01%	–

T3. Identify reviews that did not use the most current Market Conduct Annual Statement data year.

MARS T3 Trending Results As of 8/24/2021						
Year	Current Data Year	Not Current Data Year	Total Reviews	% Current Data Year to Total Reviews	% Not Current Data Year to Total Reviews	△
2020	1,196	15	1,211	98.76%	1.24%	–

Accuracy:

Note: No metrics have been defined to measure MARS data accuracy.

Market Conduct Annual Statement (MCAS)

Completeness:

C1. Identify non-participating jurisdictions.

MCAS C1 Trending Results As of 1/1/2021			
Data Year	# of Non-participating Jurisdictions	% Non-participating Jurisdictions	△
2019	7	12.50%	–

MCAS C1 Trending Results As of 1/1/2021			
Data Year	# of Non-participating Jurisdictions	% Non-participating Jurisdictions	△
2018	7	12.50%	–
2017	7	12.50%	–
2016	7	12.50%	△
2015	9	16.07%	–
2014	9	16.07%	–

C2. Identify missing company filings for current MCAS data year.

MCAS C2 Trending Results As of 11/10/2021				
Data Year	Total Required to File	Missing Filings	% of Missing Filings to Total Required to File	△
2020	34,459	249	0.72%	△
2019	34,594	262	0.76%	△
2018	31,331	121	0.39%	△
2017	31,599	130	0.41%	△
2016	29,645	81	0.27%	△
2015	28,881	97	0.34%	△
2014	28,927	78	0.27%	–

C3. Identify companies that were required to file, requested a waiver, and the jurisdiction did not respond.

MCAS C3 Trending Results As of 11/10/2021								
Data Year	Waivers Approved	Waivers Denied	Waivers Pending	Total Waivers Requested	% Approved to Total Requested	% Denied to Total Requested	% Pending to Total Requested	△
2020	1,613	14	150	1,777	90.77%	.79%	8.44%	△
2019	617	16	38	671	91.95%	2.38%	5.66%	△
2018	550	20	39	609	90.31%	3.28%	6.40%	△
2017	600	88	58	746	80.43%	11.80%	7.77%	–

Timeliness:

T1. Identify filings submitted 45 days after deadline for the current MCAS data year.

MCAS T1 Trending Results As of 11/11/2021				
Data Year	Total Required to File	Filed 45+ Days Late	% of 45+ Days Late Filings to Total Required	△
2020	36,219	32	0.09%	△
2019	35,190	36	0.10%	△
2018	31,948	46	0.14%	△
2017	31,599	261	0.83%	△
2016	29,645	7	0.02%	△
2015	28,881	50	0.17%	△
2014	28,927	34	0.12%	–

T2. Identify companies that were required to file, requested an extension, and the jurisdiction did not respond.

MCAS T2 Trending Results As of 11/10/2021								
Data Year	Extensions Approved	Extensions Denied	Extensions Pending	Total Extensions	% Approved to Total Requested	% Denied to Total Requested	% Pending to Total Requested	△
2020	1,465	54	92	1,611	90.94%	3.35%	5.71%	△
2019	1,272	173	98	1,543	82.44%	11.21%	6.35%	△
2018	1,468	63	150	1,681	87.33%	3.75%	8.92%	△
2017	1,740	44	189	1,973	88.19%	2.23%	9.58%	–

Accuracy:

A1. Review validation exceptions for the current MCAS data year.

MCAS A1 Trending Results As of 11/10/2021						
Data Year	Validation Exceptions on Original Filings	Current Unresolved Exceptions	Total Validations Run	Original Filing Exceptions/ Total Validations Run	△	Current Unresolved Exceptions/ Total Validations Run
2020	38,177	377	3,854,319	1.10%	△	0.01%
2019	39,793	64	4,061,530	.98%	△	0.00%
2018	22,216	53	2,911,446	.76%	△	0.00%
2017	19,958	2,386	2,677,924	.75%	△	0.09%
2016	17,626	252	1,719,728	1.02%	△	0.01%
2015	13,562	0	1,069,681	1.27%	△	0.00%
2014	14,413	640	1,021,478	1.41%	–	0.06%

A2. Identify refilings.

MCAS A2 Trending Results As of 11/10/2021				
Data Year	Amended Filings or Refilings	Total Filings	% Amended Filings or Refilings to Total Filings	△
2020	4,560	40,459	11.27%	△
2019	5,392	41,518	12.99%	△
2018	5,488	38,607	14.22%	△
2017	4,325	36,749	11.77%	△
2016	5,608	36,676	15.29%	△
2015	4,063	34,130	11.90%	△
2014	3,543	33,761	10.49%	–

Regulatory Information Retrieval System (RIRS)

Completeness:

C1. Identify jurisdictions that have not submitted actions in the past year.

RIRS C1 Trending Results As of 4/7/2021			
Year	# Jurisdictions That Did Not Submit Actions	% Jurisdictions That Did Not Submit Actions	△
2020	5	8.93%	–
2019	5	8.93%	△
2018	7	12.50%	–
2017	7	12.50%	–
2016	7	12.50%	–

C2. Identify errors that prevented submitted regulatory actions from successfully loading to the NAIC MIS database.

RIRS C2 Trending Results As of 4/8/2021								
Year	Total Actions Submitted	Actions Not Loaded First Time	Actions Not Loaded	Actions Loaded	Errors Created	% Errors Created to Total Actions Submitted	% Actions Not Loaded to Total Actions Submitted	△
2020	11,870	425	172	11,698	753	6.34%	3.58%	△
2019*	14,726	3,220	2,614	12,112	4,757	32.30%	17.75%	–

* A new load process was implemented in Q3 2017, which changed data captured regarding errors. For 2019, 'Number of Complaints Not Loaded' were included in the results. Therefore, trending information to prior years is unavailable.

Timeliness:

T1. Identify regulatory actions with a date of entry 90 days after the effective date.

RIRS T1 Trending Results As of 4/7/2021						
Year	Actions Entered Within 90 Days of Effective Date	Actions Entered 91 Days or Later than Effective Date	Total Actions Effective and Entered	% Actions Entered Within 90 Days of Effective Date to Total Actions	% of Actions Entered 91 Days or Later than Effective Date to Total Actions	△
2020	5,118	600	5,718	89.51%	10.49%	△
2019	7,049	547	7,596	92.80%	7.20%	△
2018	7,380	406	7,786	94.79%	5.21%	△
2017*	7,222	893	8,115	89.00%	11.00%	△
2016*	7,592	2,616	10,208	74.37%	25.63%	△
2015*	7,182	6,390	13,572	52.92%	47.08%	△
2014*	7,765	992	8,757	88.67%	11.33%	–

* For years 2014-2017, this metric evaluated regulatory actions with a date of entry 90 days greater than the date of action.

Accuracy:

A1. Identify regulatory actions with an 'Other' code and a write-in description that is identical to one of the other existing codes.

RIRS A1 Trending Results As of 8/5/2021				
Year	Actions With 'Other' Code and Write-In Description Identical to Existing Code	Total Actions with 'Other' Code	% Actions With 'Other' Code and Write-In Description Identical to Existing Code to Total Actions With 'Other' Code	△
2020	9	1,952	.46%	–

A2. Identify jurisdictions that used 'Other' codes in more than 20% of their regulatory actions loaded to the NAIC database.

RIRS A2 Trending Results As of 8/6/2021			
Year	# Jurisdictions with > 20% Actions w/'Other' Codes	% Jurisdictions with > 20% Actions w/'Other' Codes	△
2020	25	44.64%	–

