

EXECUTIVE (EX) COMMITTEE AND PLENARY

Executive (EX) Committee and Plenary, April 14, 2021, Minutes

Adopted the Amendments to *Unfair Practices Model Act* (#880) (Attachment One)

Adopted the *Real Property Lender-Placed Insurance Model Act* (#631) (Attachment Two)

Adopted the *Regulatory Review of Predictive Models* white paper (Attachment Three)

Adopted the *Antifraud Plan Guideline* (#1690) (Attachment Four)

Adopted the *Guideline for Administration of Large Deductible Policies in Receivership* (#1980) (Attachment Five)

Report on States' Implementation of NAIC-Adopted Model Laws and Regulations (Attachment Six)

Draft Pending Adoption

Draft: 4/27/21

Executive (EX) Committee and Plenary
Virtual 2021 Spring National Meeting
April 14, 2021

The Executive (EX) Committee and Plenary met April 14, 2021. The following members participated: David Altmaier, Chair (FL); Dean L. Cameron, Vice Chair (ID); Chlora Lindley-Myers, Vice President (MO); Andrew N. Mais, Secretary-Treasurer (CT); Raymond G. Farmer, Most Recent Past President (SC); Lori K. Wing-Heier (AK); Jim L. Ridling (AL); Alan McClain (AR); Evan G. Daniels (AZ); Ricardo Lara represented by Bryant Henley (CA); Michael Conway (CO); Karima M. Woods represented by Sharon Shipp (DC); Trinidad Navarro (DE); John F. King represented by Martin Sullivan (GA); Colin M. Hayashida (HI); Doug Ommen (IA); Dana Popish Severinghaus (IL); Stephen W. Robertson represented by Holly Lambert (IN); Vicki Schmidt (KS); Sharon P. Clark (KY); James J. Donelon (LA); Gary D. Anderson (MA); Eric A. Cioppa represented by Timothy Schott (ME); Kathleen A. Birrane (MD); Anita G. Fox (MI); Grace Arnold (MN); Mike Chaney represented by Mark Haire (MS); Troy Downing represented by Bob Biskupiak (MT); Mike Causey represented by Michelle Osborne (NC); Jon Godfread (ND); Bruce R. Ramge represented by Martin Swanson (NE); Chris Nicolopoulos (NH); Marlene Caride (NJ); Russell Toal represented by Jennifer Catechis (NM); Barbara D. Richardson (NV); Linda A. Lacewell represented by My Chi To (NY); Judith L. French (OH); Glen Mulready (OK); Andrew R. Stolfi (OR); Jessica K. Altman (PA); Elizabeth Kelleher Dwyer (RI); Larry D. Deiter (SD); Carter Lawrence (TN); Doug Slape (TX); Jonathan T. Pike (UT); Scott A. White (VA); Michael S. Pieciak represented by Kevin Gaffney (VT); Mike Kreidler (WA); Mark Afable (WI); James A. Dodrill (WV); and Jeff Rude (WY).

1. Adopted the Report of the Executive (EX) Committee

Commissioner Altmaier reported that the Executive (EX) Committee met April 14 and adopted the April 7 report from the joint meeting of the Executive (EX) Committee and the Internal Administration (EX1) Subcommittee.

The Executive (EX) Committee also adopted its interim meeting report from March 16 and Feb. 24, which included the following action: 1) adopted the March 3 minutes of the Internal Administration (EX1) Subcommittee, including investment reports and recommendations on the NAIC's long-term investment portfolio; 2) approved next steps for the Long-Term Care Insurance (LTCI) Legal Restructuring fiscal; 3) approved the exposure of the NAIC System for Electronic Rate and Form Filing (SERFF) Modernization – Mobilization and Pilot Phase fiscal for public comment; 4) approved the State Based Systems (SBS) State Implementations 2021 fiscal for public comment; 5) approved the exposure of the Property/Casualty (P/C) Rate Model Review Staffing Resources fiscal for public comment; 6) appointed Commissioner Clark to serve on the National Insurance Producer Registry (NIPR) Board of Directors, effective April 9, 2021; 7) received an update on the 2020 year-end financial results; 8) reviewed the NAIC Conflict of Interest Policy; 9) approved moving the Financial Stability (EX) Task Force from the Executive (EX) Committee to the Financial Condition (E) Committee; 10) approved the following non-regulator appointments to the SERFF Advisory Board: Birny Birnbaum (Center for Economic Justice—CEJ) as the consumer representative; Andrea Davey (Athene Annuity and Life Company) as the life insurance representative and vice chair; Phyllis Hollerbach (Zurich North America) as the health insurance representative; and Susan Gould (The Hanover Insurance Group) as the P/C representative; 11) appointed the following members to the 2021 NAIC Consumer Participation Board of Trustees: Commissioner Conway as chair; Director Lindley-Myers; Superintendent Toal; Commissioner King; Commissioner Caride; and Commissioner Altman; 12) reappointed the following consumer representatives to serve on the 2021 Consumer Participation Board of Trustees: Amy Bach (United Policyholders); Brendan Bridgeland (Center for Insurance Research—CIR); Bonnie Burns (California Health Advocates—CHA); Brenda J. Cude (University of Georgia); Katie Keith (Out2Enroll); and Sarah Lueck (Center on Budget and Policy Priorities—CBPP); 13) approved an amendment to the NAIC Grant and Zone Fund Policy; 14) heard an update on NAIC cybersecurity; and 15) selected Las Vegas, NV, as the site of the 2025 Fall National Meeting.

The Executive (EX) Committee adopted the reports of its task forces: 1) Climate and Resiliency (EX) Task Force; 2) Government Relations (EX) Leadership Council; 3) Innovation and Technology (EX) Task Force; 4) Long-Term Care Insurance (EX) Task Force, including its new subgroup charges; and 5) Special (EX) Committee on Race and Insurance.

The Executive (EX) Committee adopted a Request for NAIC Model Law Development of amendments to the *Nonadmitted Insurance Model Act* (#870).

The Executive (EX) Committee received the 2020 annual report of the NAIC Designation Program Advisory Board and received a status report on the NAIC *State Ahead* strategic plan implementation.

Draft Pending Adoption

The Executive (EX) Committee received a status report on model law development efforts for amendments to: the *Model Regulation to Implement the Accident and Sickness Insurance Minimum Standards Model Act* (#171); the *Annuity Disclosure Model Regulation* (#245); the *Life Insurance Disclosure Model Regulation* (#580); the *Unfair Trade Practices Act* (#880); the *Insurance Holding Company System Regulatory Act* (#440) and the *Insurance Holding Company System Model Regulation with Reporting Forms and Instructions* (#450); and new models, including the Real Property Lender-Placed Insurance Model Act; the Pet Insurance Model Act; and the [State] Pharmacy Benefit Manager Licensure and Regulation Model Act.

The Executive (EX) Committee heard reports from NIPR and the Interstate Insurance Product Regulation Commission (Compact).

Director Cameron made a motion, seconded by Commissioner Mais, to adopt the April 14 report of the Executive (EX) Committee. The motion passed.

2. Adopted by Consent the Committee, Subcommittee and Task Force Minutes of the 2020 Fall National Meeting

Commissioner Ommen made a motion, seconded by Commissioner Conway, to adopt by consent the committee, subcommittee and task force minutes of the 2020 Fall National Meeting. The motion passed.

3. Adopted Amendments to the *Unfair Trade Practices Act* (#880)

Commissioner Godfreed reported that the amendments to Model #880 were adopted by the Executive (EX) Committee during the 2020 Fall National Meeting.

Commissioner Godfreed shared that the rebating issue began when agents/brokers discounted or shared a portion of their commission with an insured or prospective insured in order to induce them into purchasing a policy. Anti-rebating laws have been the law in some states for a long time, in some cases more than 100 years. The original goal was to ensure company solvency while also leveling the playing field for insurers and preventing unfair trade practices and discrimination.

Many states have adopted the anti-rebating language contained in Model #880, while others have crafted their own anti-rebating language. The overarching intent was to prevent insurers and producers from providing an insured or a prospective insured anything of value not specified or contained in the policy that may act as an inducement to purchase insurance.

Over the years, many states have issued various bulletins that not only provide guidance with respect to their anti-rebating law, but also carve out certain exceptions to the laws, most of which focus on the ability of insurers and agents to engage in certain promotional and advertising type activities without running afoul of the law. Over time, some stakeholders have suggested anti-rebating laws are obstacles or impediments to innovation in the insurance space, and one of the concerns specifically identified by startups and incumbents alike are the inconsistencies in anti-rebating law interpretation and practices across the states.

The Innovation and Technology (EX) Task Force began discussing rebating issues at the 2018 Summer National Meeting because of the increased interest in offering value-added products and services such as risk mitigation devices and related services that are not necessarily addressed within the applicable insurance policy language.

After finding that state interpretation and application of anti-rebating laws varies and after reviewing the history of Model #880 along with the history and the intent of the anti-rebating portion, it became clear that applying the anti-rebating laws to new insurance products and services could be challenging.

During the 2019 Summer National Meeting, the Task Force voted to move forward with the development of a Request for NAIC Model Law Development to open Model #880 to amend or add to the language in Section 4(H)(2). The request was adopted by the Task Force in October 2019 and the Executive (EX) Committee during the 2019 Fall National Meeting.

The Task Force established a model drafting group led by Superintendent Dwyer that included seven additional states (Alabama, Alaska, Iowa, Missouri, North Dakota, Ohio and Washington); consumer representatives; the industry (one startup and five other industry representatives); and one state legislator, Indiana Rep. Matt Lehman, who is president of the National Council of Insurance Legislators (NCOIL).

Draft Pending Adoption

Several drafts were exposed for public comment and all comments were reviewed. The final draft was adopted by the Task Force on Dec. 4, 2020 and adopted by the Executive (EX) Committee on Dec. 9, 2020.

Executive Deputy Superintendent of Insurance To reported that New York submitted comments to the proposed amendments at the Task Force level addressing its concerns. She said, “Our main issue with the amendment is that it includes language that is unclear or ambiguous, leaving room for consumer discrimination, which is what we are trying to avoid.” She also said the definitions of the types of value-added products or services are not clear enough, leaving too much ambiguity about what can be provided. She said the amendments focus on the offer of products while not addressing that such products or services must also be given in a nondiscriminatory manner. She also said the amendments do not address the situation where a policy is part of a group policy. She said New York encourages those states that adopt these amendments to address the ambiguities in their legislation.

Commissioner Richardson expressed support for some of New York’s issues and for the “unlevel playing field”, noting that Section 4H(2)(f) sets up a problem not only for consumers but also for independent brokers.

Commissioner Ommen expressed general concerns about uniform application of the law, particularly where there is no central place to locate how the provisions are being interpreted in other states.

Commissioner Donelon inquired as to whether the insurance agent trade associations had weighed in on the model. Superintendent Dwyer stated that the Big I submitted written and verbal comments and PIAA was on the drafting group.

Commissioner Godfread made a motion, seconded by Commissioner Mais, to adopt the amendments to the *Unfair Trade Practices Act* (#880) (Attachment One). Kentucky, Louisiana, Mississippi, Nevada, New York and Washington voted against the motion. The motion passed, with California abstaining.

4. Received the Report of the Life Insurance and Annuities (A) Committee

Commissioner Caride reported that the Life Insurance and Annuities (A) Committee met April 12. During this meeting, the Committee adopted its 2020 Fall National Meeting minutes and its task force and working group reports: Accelerated Underwriting (A) Working Group; Annuity Disclosure (A) Working Group; Annuity Suitability (A) Working Group; Life Insurance Illustration Issues (A) Working Group; Life Insurance Online Guide (A) Working Group; Life Actuarial (A) Task Force; Experience Reporting (A) Subgroup; Guaranteed Issue (GI) Life Valuation (A) Subgroup; Indexed Universal Life (IUL) Illustration (A) Subgroup; Longevity Risk (E/A) Subgroup; Variable Annuities Capital and Reserve (E/A) Subgroup; Valuation Manual (VM)-22 (A) Subgroup; and Retirement Security (A) Working Group.

The Committee heard an update on the Special (EX) Committee on Race and Insurance Workstream Four. Workstream Four has begun to delve into the practices and barriers that potentially disadvantage minority and underserved populations in the life insurance and annuity lines of business.

The Committee adopted modifications to its 2021 charges: 1) disbanding the Annuity Disclosure (A) Working Group pending adoption of the participating income annuity revisions to the *Annuity Disclosure Model Regulation* (#245); and 2) disbanding the Retirement Security (A) Working Group, as it has fulfilled its charge.

The Committee discussed life insurer practices related to COVID-19: 1) heard from the Consumer Federation of America (CFA) regarding a letter to NAIC President Altmaier and the chair of the Life Insurance and Annuities (A) Committee requesting that the NAIC develop a model for life insurance underwriters who may delay or deny coverage for people who have or had COVID-19; 2) heard from the Compact regarding life insurance application questions related to COVID-19 and COVID-19 vaccinations; and 3) discussed social media misinformation that COVID-19 vaccinations will affect policyholders’ life insurance benefits.

5. Received the Report of the Health Insurance and Managed Care (B) Committee

Commissioner Godfread reported that the Health Insurance and Managed Care (B) Committee met April 12 and heard from Jeff Wu, Deputy Administrator, Centers for Medicare & Medicaid Services (CMS) on the Biden administration’s activities of interest to the Committee. He discussed the progress of enrollment to date in the health insurance marketplaces as part of the current special enrollment period. He also discussed the challenges to enrollment in the marketplaces, including the premium cost. Mr. Wu outlined how provisions in the recently enacted federal American Rescue Plan Act (ARPA) could address the premium cost issue for some marketplace enrollees. He also briefly touched on the recently enacted federal No Surprises Act

Draft Pending Adoption

and acknowledged the work of state insurance regulators in this area to address surprise bills. Mr. Wu also discussed the recent federal legislation focused on the COVID-19 pandemic.

The Committee also adopted its 2020 Fall National Meeting minutes.

The Committee received an update on the Special (EX) Committee on Race and Insurance Workstream Five related to its charge to examine and determine which practices or barriers exist in the insurance sector that potentially disadvantage people of color and/or historically underrepresented groups in the health insurance line of business and make recommendations on action steps.

The Committee adopted the report of the Regulatory Framework (B) Task Force, but deferred adoption of the proposed new [State] Pharmacy Benefit Manager Licensure and Regulation Model Act pending further discussion.

The Committee adopted its task force, working group and subgroup reports: the Health Actuarial (B) Task Force, Senior Issues (B) Task Force; Health Innovations (B) Working Group; Consumer Information (B) Subgroup, Health Care Reform Actuarial (B) Working Group; State Rate Review (B) Subgroup; Long-Term Care Actuarial (B) Working Group; Long-Term Care Pricing (B) Subgroup; Long-Term Care Valuation (B) Subgroup; Health Innovations (B) Working Group; Regulatory Framework (B) Task Force; Accident and Sickness Insurance Minimum Standards (B) Subgroup; Employee Retirement Income Security Act (ERISA) (B) Working Group; Mental Health Parity and Addiction Equity Act (MHPAEA) (B) Working Group; Pharmacy Benefit Manager Regulatory Issues (B) Subgroup; Senior Issues (B) Task Force; and Long-Term Care Insurance Model Update (B) Subgroup.

6. Received the Report of the Property and Casualty Insurance (C) Committee

Commissioner Schmidt reported the Property and Casualty Insurance (C) Committee met April 13. During this meeting, the Committee adopted its 2020 Summer National Meeting and 2020 Fall National Meeting minutes.

The Committee adopted the reports of its task forces and working groups: Casualty Actuarial and Statistical (C) Task Force; Surplus Lines (C) Task Force; Title Insurance (C) Task Force; Workers' Compensation (C) Task Force; Cannabis Insurance (C) Working Group; Catastrophe Insurance (C) Working Group; Pet Insurance (C) Working Group; Terrorism Insurance Implementation (C) Working Group; and Transparency and Readability of Consumer Information (C) Working Group

The Committee adopted an extension for revisions to the proposed Pet Insurance Model Act.

The Committee heard an update on recent workshops related to disaster preparedness and response, including a roundtable held with the Federal Emergency Management Agency (FEMA). The Committee appointed an NAIC/FEMA Advisory Group with the following charge: The NAIC/FEMA Advisory Group will assist state insurance regulators in engaging and collaborating with FEMA on an ongoing basis by establishing a process for the oversight, prioritization and reporting of disaster-related regional workshops and other exercises to improve disaster preparation and resilience.

The Committee also: 1) heard a presentation related to insurance rating for dog breeds, including a request for state insurance regulators to collect additional rating data and not allow the use of dangerous dog breed lists; 2) discussed the status of proposed charges related to P/C insurance issues being developed by the Special (EX) Committee on Race and Insurance; and 3) heard a report from New York state insurance regulators on its recently adopted Cyber Insurance Risk Framework, which details best practices for insurers in managing cyber insurance risk.

7. Adopted the Real Property Lender-Placed Insurance Model Act (#631)

Commissioner Schmidt reported that real property lender-placed insurance issues were explored during a 2012 NAIC public hearing, as well as addressed by a New York regulation and Florida orders.

The former Creditor-Placed Insurance Model Act Review (C) Working Group first considered revising the *Creditor-Placed Insurance Model Act (#375)* related to lender-placed insurance on personal and real property throughout 2015, 2016 and 2017. In July 2017, the Working Group decided to split personal property from real property and draft two different models. The Property and Casualty Insurance (C) Committee adopted this Request for NAIC Model Law Development in 2017. Since that time, the Lender-Placed Insurance Model Act (C) Working Group has been tasked with creating a new model law focusing on lender-placed homeowners' insurance.

Draft Pending Adoption

The Working Group reviewed sections of a draft model on various conference calls and asked for comments on an ongoing basis throughout 2017 and 2018. A draft model was exposed in March 2018 and was discussed on Sept. 18, 2018. The final draft of the model was exposed for public comment from Oct. 19, 2020, through Nov. 3, 2020.

Numerous written comments were submitted to and addressed by the Working Group, including from the CEJ, the National Consumer Law Center, a joint industry group (the American Bankers Association, the Consumer Credit Industry Association, the Council of Insurance Agents & Brokers, the National Association of Mutual Insurance Companies, and the American Property Casualty Insurance Association), as well as numerous states.

Commissioner Schmidt noted a recent comment letter from consumer groups advocating for a requirement of dual interest coverage. Commissioner Schmidt stated that both the Working Group and the Committee had discussed the issue and had determined not to include such a requirement. Commissioner Mais suggested adding the dual/single interest to charges for ongoing Committee work.

The Working Group adopted the model on Nov. 13, 2020, and the Property and Casualty Insurance (C) Committee adopted the model on Dec. 8, 2020.

Commissioner Schmidt made a motion, seconded by Commissioner Donelon, to adopt the *Real Property Lender-Placed Insurance Model Act* (#631) (Attachment Two). The motion passed, with California abstaining.

8. Adopted the Regulatory Review of Predictive Models White Paper

Commissioner Schmidt reported that the Casualty Actuarial and Statistical (C) Task Force was given two charges last year: 1) draft changes to the *Product Filing Review Handbook* to include best practices for the review of predictive models and analytics filed by insurers to justify rates; and 2) draft guidance for the review of state rate filings based on complex predictive models. The Task Force drafted the white paper, *Regulatory Review of Predictive Models*. More than 10 state actuaries contributed to the draft. There were many public exposures of the paper, and it was adopted by the Task Force in fall 2020 and adopted by the Property and Casualty Insurance (C) Committee on Dec. 8, 2020.

As an overview, the *Regulatory Review of Predictive Models* white paper: 1) describes best practices for regulatory review of generalized linear models (GLMs), which is the most often filed model, for the private auto and home lines of business; and 2) provides changes to the *Product Filing Review Handbook* to include best practices for review of predictive models and analytics filed by insurers to justify rates.

The Task Force developed best practices for the review of any model, line of business and insurance application. At the highest level, the best practices are: 1) ensure compliance with current rating laws; 2) review all aspects of the model, including input, assumptions, adjustments and output; 3) evaluate how the model interacts with and improves the rating plan; and 4) enable competition and innovation in the rate review process.

In addition to the best practices, there is detail attached to the paper as Appendix B—Information Elements and Guidance for a Regulator to Meet Best Practices' Objectives (When Reviewing GLMs). Commissioner Schmidt said this section could be useful to a state insurance regulator when reviewing a rating plan based on a GLM. Additionally, there is commentary on what might be important about that information and some insight as to when the information might identify an issue the state insurance regulator needs to be aware of or explore further.

Commissioner Schmidt made a motion, seconded by Commissioner Ommen, to adopt the *Regulatory Review of Predictive Models* white paper (Attachment Three). The motion passed.

9. Received the Report of the Market Regulation and Consumer Affairs (D) Committee

Commissioner Richardson reported the Market Regulation and Consumer Affairs (D) Committee met April 13. During this meeting, the Committee took the following action: 1) adopted its 2020 Fall National Meeting minutes; 2) adopted revisions to the Market Conduct Annual Statement (MCAS) Best Practices Guide; 3) adopted revisions to the four market analysis chapters of the *Market Regulation Handbook*; 4) adopted a 14 calendar-day limitation on MCAS filing extension requests; and 5) adopted a requirement for companies to identify MCAS filing attestors by both line of business and by state. This will be implemented for the 2021 data to be reported in 2022.

Draft Pending Adoption

The Committee heard a presentation on lead generators and improper marketing of health insurance. These issues have been monitored by a broad consortium of state insurance regulators with expertise in antifraud, market conduct and health insurance. The Antifraud (D) Task Force will discuss potential next steps on this issue.

The Committee adopted the reports of its task forces and working groups: Antifraud (D) Task Force; Market Information Systems (D) Task Force; Producer Licensing (D) Task Force; Market Conduct Annual Statement Blanks (D) Working Group; Market Conduct Examination Guidelines (D) Working Group; Market Analysis Procedures (D) Working Group; and Privacy Protections (D) Working Group.

10. Adopted the Amendments to the Antifraud Plan Guideline (#1690)

Commissioner Richardson reported that during the 2020 Fall National Meeting, the Market Regulation and Consumer Affairs (D) Committee adopted revisions to the *Antifraud Plan Guideline* (#1690). This effort was led by Commissioner Navarro, chair of the Antifraud (D) Task Force.

Commissioner Navarro reported the focus was to reorganize the guideline into a more intuitive order, to eliminate repetitive requirements and to add suggestions to better meet existing requirements in place in most states. Most of the language in the guideline was not changed but simply rearranged to simplify the process. A comprehensive narrative was added to explain the guideline is not mandated in all states but is considered a best practice. The guideline covers the application, definitions, creation and submission of an antifraud plan to the states, the regulatory requirements for an insurance company to create an antifraud plan, and confidentiality protection for a company's antifraud plan.

The revised guideline was adopted by the Antifraud (D) Task Force on Nov. 16, 2020 and adopted by the Market Regulation and Consumer Affairs (D) Committee during the 2020 Fall National Meeting.

Commissioner Navarro made a motion, seconded by Commissioner Clark, to adopt the amendments to the *Antifraud Plan Guideline* (#1690) (Attachment Four). The motion passed.

11. Received the Report of the Financial Condition (E) Committee

Commissioner White reported that the Financial Condition (E) Committee met April 13 and adopted its March 8, 2021, and 2020 Fall National Meeting minutes, which included the following action: 1) adopted a request for extension of time for model law development from the Mortgage Guaranty Insurance (E) Working Group; 2) adopted a new charge for the Qualified Jurisdiction (E) Working Group and repositioned the Working Group to report directly to the Committee [The Qualified Mutual Recognition of Jurisdictions (E) Working Group will: develop a process for evaluating jurisdictions that meets the NAIC requirements for recognizing and accepting the NAIC group capital calculation (GCC)]; and 3) adopted proposed recommendations to the Financial Regulation Standards and Accreditation (F) Committee with respect to the GCC and the liquidity stress test (LST).

The Committee adopted the reports of the following task forces and working groups: Accounting Practices and Procedures (E) Task Force; Capital Adequacy (E) Task Force; Examination Oversight (E) Task Force; Financial Stability (E) Task Force; Receivership and Insolvency (E) Task Force; Reinsurance (E) Task Force; Risk Retention Group (E) Task Force; Valuation of Securities (E) Task Force; Group Capital Calculation (E) Working Group; Group Solvency Issues (E) Working Group; Mortgage Guaranty Insurance (E) Working Group; and National Treatment and Coordination (E) Working Group. The report of the National Treatment and Coordination (E) Working Group included disbanding the Biographical Third-Party Review (E) Subgroup.

The Committee adopted changes to the *Statement of Statutory Accounting Principles (SSAP) No. 71—Policy Acquisition Costs and Commissions*.

The Committee adopted the new Guideline for Definition of Reciprocal State in Receivership Laws.

The Committee appointed the new Receiver's Handbook (E) Subgroup and adopted the following related charge: Review the *Receiver's Handbook for Insurance Company Insolvencies* (Receiver's Handbook) to identify areas where information is outdated, updates are required, or additional guidance is needed. Based on this review, draft and propose recommended edits to the Receiver's Handbook. Complete by the 2022 Fall National Meeting.

Draft Pending Adoption

Note: Items adopted within the Financial Condition (E) Committee’s task force and working group reports that are considered technical, non-controversial and not significant by NAIC standards—i.e., they do not include model laws, model regulations, model guidelines, or items considered to be controversial—will be considered for adoption by the Executive (EX) Committee and Plenary through the Financial Condition (E) Committee’s technical changes report process. Pursuant to this process, which was adopted by the NAIC in 2009, a listing of the various technical changes will be sent to the NAIC members shortly after completion of the Summer National Meeting, and the members will have 10 days to comment with respect to those items. If no objections are received with respect to a particular item, the technical changes will be considered adopted by the NAIC membership and effective immediately.

12. Adopted the Guideline for Administration of Large Deductible Policies in Receivership (#1980)

Commissioner White reported that, in 2016, the Property and Casualty Insurance (C) Committee published the *Workers’ Compensation Large Deductible Study*. It was also suggested the Receivership and Insolvency (E) Task Force consider developing possible enhancements to the U.S. receivership regime with regard to large deductible policies. As the work was taken up, a dozen or so states had already adopted variations of model language proposed by the National Conference of Insurance Guaranty Funds (NCIGF) on the topic. This NAIC guideline follows similar principles as the NCIGF model, but the Task Force believes it is an improvement on prior versions of the NCIGF model.

Commissioner White said the states may choose to keep their existing large deductible language or update it with the new guideline. The Task Force strongly encouraged the states that do not currently have a receivership provision that addresses large deductible policies to consider adopting this guideline.

Commissioner White made a motion, seconded by Commissioner Afaible, to adopt the *Guideline for Administration of Large Deductible Policies in Receivership* (#1980) (Attachment Five). The motion passed.

13. Received the Report of the Financial Regulation Standards and Accreditation (F) Committee

Superintendent Dwyer reported that the Financial Regulation Standards and Accreditation (F) Committee met April 8 in regulator-to-regulator session, pursuant to paragraph 7 (consideration of individual state insurance department’s compliance with NAIC financial regulation standards) of the NAIC Policy Statement on Open Meetings, to: 1) discuss state-specific accreditation issues; and 2) vote to award continued accreditation to the insurance departments of New Mexico and Tennessee.

The Committee also met April 12 in open session and adopted its 2020 Fall National Meeting minutes.

The Committee adopted, immediately by reference, revisions made during 2020 to NAIC publications that are required for accreditation purposes (e.g., the *Accounting Practices and Procedures Manual* [AP&P Manual]) that were deemed insignificant.

The Committee exposed the proposed revisions to the Part A: Laws and Regulations Preamble for a 30-day public comment period ending May 13. The proposed revisions update the XXX/AXXX Captive Reinsurance Framework references to the *Term and Universal Life Insurance Reserve Financing Model Regulation* (#787), which is effective for accreditation Sept. 1, 2022.

The Committee exposed the 2020 revisions to the *Insurance Holding Company System Regulatory Act* (#440) and the *Insurance Holding Company System Model Regulation with Reporting Forms and Instructions* (#450) for a 30-day public comment period ending May 13, with the recommendation that the revisions will be effective for all states beginning Jan. 1, 2026. The revisions implement a Group Capital Calculation (GCC) for the purpose of group solvency supervision and a Liquidity Stress Test (LST) for macroprudential surveillance.

The Committee encourages all states with a group impacted by the “Bilateral Agreement between the United States of America and the European Union on Prudential Measures Regarding Insurance and Reinsurance” and a substantially similar agreement between the United States and the United Kingdom (together, the Covered Agreements) to enact the GCC revisions to Model #440 and Model #450 for those groups, effective Nov. 7, 2022. The Committee also strongly encourages all states with a group impacted by the LST to enact the relevant revisions to Model #440 and Model #450 as soon as possible.

Draft Pending Adoption

14. Received the Report of the International Insurance Relations (G) Committee

Commissioner Anderson reported that the International Insurance Relations (G) Committee met April 7 and adopted its March 25, 2021; Feb. 3, 2021; Jan. 6, 2021; and 2020 Fall National Meeting minutes, which included the following action: 1) approved submission of NAIC comments on the IAIS draft *Application Paper on Supervision of Control Functions*; 2) approved submission of NAIC comments on the IAIS draft *Application Paper on Resolution Powers and Planning and Consultation on the Development of Liquidity Metrics*; 3) approved submission of NAIC comments on the joint Sustainable Insurance Forum (SIF) and IAIS draft *Application Paper on the Supervision of Climate-Related Risks in the Insurance Sector*.

The Committee heard an update on key 2021 projects and priorities of the IAIS, including: 1) implementation assessment activities related to the holistic framework for systemic risk; 2) the ongoing ICS monitoring period and expected timeline; 3) activities and priorities related to climate risk and sustainability; and 4) the ongoing global impact of COVID-19 on supervisors and the insurance sector.

The Committee heard a presentation on scalar methodologies from the American Academy of Actuaries (Academy).

The Committee heard an update on international activities, including recent virtual meetings and events with international colleagues; plans for a virtual spring 2021 NAIC International Fellows Program; recent meetings of the OECD Insurance and Private Pensions Committee and Environment Directorate; recent meetings of the SIF and other regional supervisory dialogues; and the May 25–26 virtual 2021 NAIC International Insurance Forum.

15. Received a Report on the States' Implementation of NAIC-Adopted Model Laws and Regulations

Commissioner Altmaier referred to the written report for updates on the states' implementation of NAIC-adopted model laws and regulations (Attachment Six).

Having no further business, the Executive (EX) Committee and Plenary adjourned.

W:\National Meetings\2021\Spring\Plenary\4-Plenary.docx

REQUEST FOR NAIC MODEL LAW DEVELOPMENT

This form is intended to gather information to support the development of a new model law or amendment to an existing model law. Prior to development of a new or amended model law, approval of the respective Parent Committee and the NAIC's Executive Committee is required. The NAIC's Executive Committee will consider whether the request fits the criteria for model law development. Please complete all questions and provide as much detail as necessary to help in this determination.

Please check whether this is: New Model Law or Amendment to Existing Model

1. Name of group to be responsible for drafting the model:

Innovation and Technology (EX) Task Force

2. NAIC staff support contact information:

Denise Matthews
dmatthews@naic.org
816-783-8007

3. Please provide a brief description of the proposed new model or the amendment(s) to the existing model. If you are proposing a new model, please also provide a proposed title. If an existing model law, please provide the title, attach a current version to this form and reference the section(s) proposed to be amended.

NAIC Unfair Trade Practices Act (Model #880)
Section 4(H)(1)

The Innovation and Technology (EX) Task Force will draft amendments to the NAIC Unfair Trade Practices Act (Model #880), focusing on Section 4H, to clarify what is considered a "rebate" or "inducement".

4. Does the model law meet the Model Law Criteria? Yes or No (Check one)

(If answering no to any of these questions, please reevaluate charge and proceed accordingly to address issues).

a. Does the subject of the model law necessitate a national standard and require uniformity amongst all states? Yes or No (Check one)

If yes, please explain why: Inconsistency in the interpretation of the Model language necessitates revisions to clarify the intent and ensure necessary consumer protections remain in place in light of technologies being deployed to add value to existing insurance products and services.

b. Does Committee believe NAIC members should devote significant regulator and Association resources to educate, communicate and support this model law?

Yes or No (Check one)

5. What is the likelihood that your Committee will be able to draft and adopt the model law within one year from the date of Executive Committee approval?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary: A significant amount of time and discussion has already been devoted to this topic including presentations from all stakeholders and discussion around draft guideline language. That should help in accelerating the development process related to this model language.

6. What is the likelihood that a minimum two-thirds majority of NAIC members would ultimately vote to adopt the proposed model law?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary:

7. What is the likelihood that state legislatures will adopt the model law in a uniform manner within three years of adoption by the NAIC?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary:

8. Is this model law referenced in the NAIC Accreditation Standards? If so, does the standard require the model law to be adopted in a substantially similar manner?

No

9. Is this model law in response to or impacted by federal laws or regulations? If yes, please explain.

No.

Adopted by the Innovation and Technology (EX) Task Force – 12/4/20
Adopted by the Executive (EX) Committee – 12/9/20

UNFAIR TRADE PRACTICES ACT

Table of Contents

Section 1.	Purpose
Section 2.	Definitions
Section 3.	Unfair Trade Practices Prohibited
Section 4.	Unfair Trade Practices Defined
Section 5.	Favored Agent or Insurer; Coercion of Debtors
Section 6.	Power of Commissioner
Section 7.	Hearings, Witnesses, Appearances, Production of Books, and Service of Process
Section 8.	Cease and Desist and Penalty Orders
Section 9.	Judicial Review of Orders
Section 10.	Judicial Review by Intervenor
Section 11.	Penalty for Violation of Cease and Desist Orders
Section 12.	Regulations
Section 13.	Provisions of Act Additional to Existing Law
Section 14.	Immunity from Prosecution
Section 15.	Separability Provision

Section 4. Unfair Trade Practices Defined

Any of the following practices, if committed in violation of Section 3, are hereby defined as unfair trade practices in the business of insurance:

- A. Misrepresentations and False Advertising of Insurance Policies. Making, issuing, circulating, or causing to be made, issued or circulated, any estimate, illustration, circular or statement, sales presentation, omission or comparison that:
- (1) Misrepresents the benefits, advantages, conditions or terms of any policy; or
 - (2) Misrepresents the dividends or share of the surplus to be received on any policy; or
 - (3) Makes a false or misleading statement as to the dividends or share of surplus previously paid on any policy; or
 - (4) Is misleading or is a misrepresentation as to the financial condition of any insurer, or as to the legal reserve system upon which any life insurer operates; or
 - (5) Uses any name or title of any policy or class of policies misrepresenting the true nature thereof; or
 - (6) Is a misrepresentation, including any intentional misquote of premium rate, for the purpose of inducing or tending to induce the purchase, lapse, forfeiture, exchange, conversion or surrender of any policy; or
 - (7) Is a misrepresentation for the purpose of effecting a pledge or assignment of or effecting a loan against any policy; or
 - (8) Misrepresents any policy as being shares of stock.

- B. False Information and Advertising Generally. Making, publishing, disseminating, circulating or placing before the public, or causing, directly or indirectly to be made, published, disseminated, circulated, or placed before the public, in a newspaper, magazine or other publication, or in the form of a notice, circular, pamphlet, letter or poster, or over any radio or television station, or in any other way, an advertisement, announcement or statement containing any assertion, representation or statement with respect to the business of insurance or with respect to any insurer in the conduct of its insurance business, which is untrue, deceptive or misleading.
- C. Defamation. Making, publishing, disseminating, or circulating, directly or indirectly, or aiding, abetting or encouraging the making, publishing, disseminating or circulating of any oral or written statement or any pamphlet, circular, article or literature which is false, or maliciously critical of or derogatory to the financial condition of any insurer, and which is calculated to injure such insurer.
- D. Boycott, Coercion and Intimidation. Entering into any agreement to commit, or by any concerted action committing any act of boycott, coercion or intimidation resulting in or tending to result in unreasonable restraint of, or monopoly in, the business of insurance.
- E. False Statements and Entries.
 - (1) Knowingly filing with any supervisory or other public official, or knowingly making, publishing, disseminating, circulating or delivering to any person, or placing before the public, or knowingly causing directly or indirectly, to be made, published, disseminated, circulated, delivered to any person, or placed before the public, any false material statement of fact as to the financial condition of an insurer.
 - (2) Knowingly making any false entry of a material fact in any book, report or statement of any insurer or knowingly omitting to make a true entry of any material fact pertaining to the business of such insurer in any book, report or statement of such insurer, or knowingly making any false material statement to any insurance department official.
- F. Stock Operations and Advisory Board Contracts. Issuing or delivering or permitting agents, officers or employees to issue or deliver, agency company stock or other capital stock, or benefit certificates or shares in any common law corporation, or securities or any special or advisory board contracts or other contracts of any kind promising returns and profits as an inducement to purchase insurance.
- G. Unfair Discrimination.
 - (1) Making or permitting any unfair discrimination between individuals of the same class and equal expectation of life in the rates charged for any life insurance policy or annuity or in the dividends or other benefits payable thereon, or in any other of the terms and conditions of such policy.
 - (2) Making or permitting any unfair discrimination between individuals of the same class and of essentially the same hazard in the amount of premium, policy fees or rates charged for any accident or health insurance policy or in the benefits payable thereunder, or in any of the terms or conditions of such policy, or in any other manner.

Drafting Note: In the event that unfair discrimination in connection with accident and health coverage is treated in other statutes, this paragraph should be omitted.

- (3) Making or permitting any unfair discrimination between individuals or risks of the same class and of essentially the same hazard by refusing to insure, refusing to renew, canceling or limiting the amount of insurance coverage on a property or casualty risk solely because of the geographic location of the risk, unless such action is the result of the application of sound underwriting and actuarial principles related to actual or reasonably anticipated loss experience.

- (4) Making or permitting any unfair discrimination between individuals or risks of the same class and of essentially the same hazards by refusing to insure, refusing to renew, canceling or limiting the amount of insurance coverage on the residential property risk, or the personal property contained therein, solely because of the age of the residential property.
- (5) Refusing to insure, refusing to continue to insure, or limiting the amount of coverage available to an individual because of the sex, marital status, race, religion or national origin of the individual; however, nothing in this subsection shall prohibit an insurer from taking marital status into account for the purpose of defining persons eligible for dependent benefits. Nothing in this section shall prohibit or limit the operation of fraternal benefit societies.
- (6) To terminate, or to modify coverage or to refuse to issue or refuse to renew any property or casualty policy solely because the applicant or insured or any employee of either is mentally or physically impaired; provided that this subsection shall not apply to accident and health insurance sold by a casualty insurer and, provided further, that this subsection shall not be interpreted to modify any other provision of law relating to the termination, modification, issuance or renewal of any insurance policy or contract.
- (7) Refusing to insure solely because another insurer has refused to write a policy, or has cancelled or has refused to renew an existing policy in which that person was the named insured. Nothing herein contained shall prevent the termination of an excess insurance policy on account of the failure of the insured to maintain any required underlying insurance.
- (8) Violation of the state's rescission laws at [insert reference to appropriate code section].

Drafting Note: A state may wish to include this section if it has existing state laws covering rescission and to insert a reference to a particular code section.

H. Rebates.

- (1) Except as otherwise expressly provided by law, knowingly permitting or offering to make or making any life insurance policy or annuity, or accident and health insurance or other insurance, or agreement as to such contract other than as plainly expressed in the policy issued thereon, or paying or allowing, or giving or offering to pay, allow, or give, directly or indirectly, as inducement to such policy, any rebate of premiums payable on the policy, or any special favor or advantage in the dividends or other benefits thereon, or any valuable consideration or inducement whatever not specified in the policy; or giving, or selling, or purchasing or offering to give, sell, or purchase as inducement to such policy or annuity or in connection therewith, any stocks, bonds or other securities of any company or other corporation, association or partnership, or any dividends or profits accrued thereon, or anything of value whatsoever not specified in the policy.
- (2) Nothing in Subsection G, or Paragraph (1) of Subsection H shall be construed as including within the definition of discrimination or rebates any of the following practices:
 - (a) In the case of life insurance policies or annuities, paying bonuses to policyholders or otherwise abating their premiums in whole or in part out of surplus accumulated from nonparticipating insurance, provided that any such bonuses or abatement of premiums shall be fair and equitable to policyholders and for the best interests of the company and its policyholders;
 - (b) In the case of life insurance policies issued on the industrial debit plan, making allowance to policyholders who have continuously for a specified period made premium payments directly to an office of the insurer in an amount that fairly represents the saving in collection expenses;

- (c) Readjusting the rate of premium for a group insurance policy based on the loss or expense thereunder, at the end of the first or any subsequent policy year of insurance thereunder, which may be made retroactive only for such policy year; or
- (d) Engaging in an arrangement that would not violate Section 106 of the Bank Holding Company Act Amendments of 1972 (12 U.S.C. 1972), as interpreted by the Board of Governors of the Federal Reserve System, or Section 5(q) of the Home Owners' Loan Act, 12 U.S.C. 1464(q).
- (e) The offer or provision by insurers or producers, by or through employees, affiliates or third party representatives, of value-added products or services at no or reduced cost when such products or services are not specified in the policy of insurance if the product or service:
 - (i) Relates to the insurance coverage; and
 - (ii) Is primarily designed to satisfy one or more of the following:
 - (I) Provide loss mitigation or loss control;
 - (II) Reduce claim costs or claim settlement costs;
 - (III) Provide education about liability risks or risk of loss to persons or property;
 - (IV) Monitor or assess risk, identify sources of risk, or develop strategies for eliminating or reducing risk;
 - (V) Enhance health;
 - (VI) Enhance financial wellness through items such as education or financial planning services;
 - (VII) Provide post-loss services;
 - (VIII) Incent behavioral changes to improve the health or reduce the risk of death or disability of a customer (defined for purposes of this subsection as policyholder, potential policyholder, certificate holder, potential certificate holder, insured, potential insured or applicant); or
 - (IX) Assist in the administration of the employee or retiree benefit insurance coverage.
 - (iii) The cost to the insurer or producer offering the product or service to any given customer must be reasonable in comparison to that customer's premiums or insurance coverage for the policy class.
 - (iv) If the insurer or producer is providing the product or service offered, the insurer or producer must ensure that the customer is provided with contact information to assist the customer with questions regarding the product or service.

- (v) The commissioner may adopt regulations when implementing the permitted practices set forth in this statute to ensure consumer protection. Such regulations, consistent with applicable law, may address, among other issues, consumer data protections and privacy, consumer disclosure and unfair discrimination.
- (vi) The availability of the value-added product or service must be based on documented objective criteria and offered in a manner that is not unfairly discriminatory. The documented criteria must be maintained by the insurer or producer and produced upon request by the Department.

Drafting Note: States may wish to consider alternative language based on their filing requirements.

- (vii) If an insurer or producer does not have sufficient evidence, but has a good-faith belief that the product or service meets the criteria in H(2)(c)(ii), the insurer or producer may provide the product or service in a manner that is not unfairly discriminatory as part of a pilot or testing program for no more than one year. An insurer or producer must notify the Department of such a pilot or testing program offered to consumers in this state prior to launching and may proceed with the program unless the Department objects within twenty-one days of notice.

Drafting Note: This Section is not intended to limit or curtail existing value-added services in the marketplace. It is intended to promote innovation in connection with the offering of value-added services while maintaining strong consumer protections.

(f) An insurer or a producer may:

- (i) Offer or give non-cash gifts, items, or services, including meals to or charitable donations on behalf of a customer, in connection with the marketing, sale, purchase, or retention of contracts of insurance, as long as the cost does not exceed an amount determined to be reasonable by the commissioner per policy year per term. The offer must be made in a manner that is not unfairly discriminatory. The customer may not be required to purchase, continue to purchase or renew a policy in exchange for the gift, item or service.
- (ii) Offer or give non-cash gifts, items, or services including meals to or charitable donations on behalf of a customer, to commercial or institutional customers in connection with the marketing, sale, purchase, or retention of contracts of insurance, as long as the cost is reasonable in comparison to the premium or proposed premium and the cost of the gift or service is not included in any amounts charged to another person or entity. The offer must be made in a manner that is not unfairly discriminatory. The customer may not be required to purchase, continue to purchase or renew a policy in exchange for the gift, item or service.
- (iii) Conduct raffles or drawings to the extent permitted by state law, as long as there is no financial cost to entrants to participate, the drawing or raffle does not obligate participants to purchase insurance, the prizes are not valued in excess of a reasonable amount determined by the commissioner and the drawing or raffle is open to the public. The raffle or drawing must be offered in a manner that is not unfairly discriminatory. The customer may not be required to purchase, continue to purchase or renew a policy in exchange for the gift, item or service.

Drafting Note: If a state wishes to limit (f) to a stated monetary limit the committee would suggest that, at the time of the drafting of this model, the lesser of 5% of the current or projected policyholder premium or \$250 would be an appropriate limit, however specific prohibitions may exist related to transactions governed by the Real Estate Settlement Procedures Act of 1974 and the laws and regulations governing the Federal Crop Insurance Corporation Risk Management Agency. States may want to consider a limit for commercial or institutional customers.

- (3) An insurer, producer or representative of either may not offer or provide insurance as an inducement to the purchase of another policy or otherwise use the words “free”, “no cost” or words of similar import, in an advertisement.

Drafting Note: Section 104 (d)(2)(B)(viii) of the Gramm-Leach-Bliley Act provides that any state restrictions on anti-tying may not prevent a depository institution or affiliate from engaging in any activity that would not violate Section 106 of the Bank Holding Company Act Amendments of 1970, as interpreted by the Board of Governors of the Federal Reserve System. The Board of Governors of the Federal Reserve System has stated that nothing in its interpretation on combined-balance discount arrangements is intended to override any other applicable state and federal law. FRB SR 95-32 (SUP). Section 5(q) of the Home Owners’ Loan Act is the analogous provision to Section 106 for thrift institutions. The Office of Thrift Supervision has a regulation 12 C.F.R. 563.36 that allows combined-balance discounts if certain requirements are met.

Drafting Note: Each state may wish to examine its rating laws to ensure that it contains sufficient provisions against rebating. If a state does not, this section may be expanded to cover all lines of insurance.

- I. Prohibited Group Enrollments. No insurer shall offer more than one group policy of insurance through any person unless such person is licensed, at a minimum, as a limited insurance representative. However, this prohibition shall not apply to employer/employee relationships, nor to any such enrollments.
- J. Failure to Maintain Marketing and Performance Records. Failure of an insurer to maintain its books, records, documents and other business records in such an order that data regarding complaints, claims, rating, underwriting and marketing are accessible and retrievable for examination by the insurance commissioner. Data for at least the current calendar year and the two (2) preceding years shall be maintained.
- K. Failure to Maintain Complaint Handling Procedures. Failure of any insurer to maintain a complete record of all the complaints it received since the date of its last examination under Section [insert applicable section]. This record shall indicate the total number of complaints, their classification by line of insurance, the nature of each complaint, the disposition of each complaint, and the time it took to process each complaint. For purposes of this subsection, “complaint” shall mean any written communication primarily expressing a grievance.
- L. Misrepresentation in Insurance Applications. Making false or fraudulent statements or representations on or relative to an application for a policy, for the purpose of obtaining a fee, commission, money or other benefit from any provider or individual person.
- M. Unfair Financial Planning Practices. An insurance producer:
 - (1) Holding himself or herself out, directly or indirectly, to the public as a “financial planner,” “investment adviser,” “consultant,” “financial counselor,” or any other specialist engaged in the business of giving financial planning or advice relating to investments, insurance, real estate, tax matters or trust and estate matters when such person is in fact engaged only in the sale of policies. This provision does not preclude persons who hold some form of formal recognized financial planning or consultant certification or designation from using this certification or designation when they are only selling insurance. This does not permit persons to charge an additional fee for services that are customarily associated with the solicitation, negotiation or servicing of policies.

- (2) (a) Engaging in the business of financial planning without disclosing to the client prior to the execution of the agreement provided for in Paragraph 3, or solicitation of the sale of a product or service that
 - (i) He or she is also an insurance salesperson, and
 - (ii) That a commission for the sale of an insurance product will be received in addition to a fee for financial planning, if such is the case.
- (b) The disclosure requirement under this subsection may be met by including it in any disclosure required by federal or state securities law.
- (3) (a) Charging fees other than commissions for financial planning by insurance producer, unless such fees are based upon a written agreement, signed by the party to be charged in advance of the performance of the services under the agreement. A copy of the agreement must be provided to the party to be charged at the time the agreement is signed by the party.
 - (i) The services for which the fee is to be charged must be specifically stated in the agreement.
 - (ii) The amount of the fee to be charged or how it will be determined or calculated must be specifically stated in the agreement.
 - (iii) The agreement must state that the client is under no obligation to purchase any insurance product through the insurance producer or consultant.

Drafting Note: This subsection is intended to apply only to persons engaged in personal financial planning.

- (b) The insurance producer shall retain a copy of the agreement for not less than three (3) years after completion of services, and a copy shall be available to the commissioner upon request.
- N. Failure to file or to certify information regarding the endorsement or sale of long-term care insurance. Failure of any insurer to:
- (1) File with the insurance department the following material:
 - (a) The policy and certificate;
 - (b) A corresponding outline of coverage; and
 - (c) All advertisements requested by the insurance department; or
 - (2) Certify annually that the association has complied with the responsibilities for disclosure, advertising, compensation arrangements, or other information required by the commissioner, as set forth by regulation.
- O. Failure to Provide Claims History
- (1) Loss Information—Property and Casualty. Failure of a company issuing property and casualty insurance to provide the following loss information for the three (3) previous policy years to the first named insured within thirty (30) days of receipt of the first named insured's written request:
 - (a) On all claims, date and description of occurrence, and total amount of payments; and

- (b) For any occurrence not included in Subparagraph (a) of this paragraph, the date and description of occurrence.

- (2) Should the first named insured be requested by a prospective insurer to provide detailed loss information in addition to that required under Paragraph (1), the first named insured may mail or deliver a written request to the insurer for the additional information. No prospective insurer shall request more detailed loss information than reasonably required to underwrite the same line or class of insurance. The insurer shall provide information under this subparagraph to the first named insured as soon as possible, but in no event later than twenty (20) days of receipt of the written request. Notwithstanding any other provision of this section, no insurer shall be required to provide loss reserve information, and no prospective insurer may refuse to insure an applicant solely because the prospective insurer is unable to obtain loss reserve information.

- (3) The commissioner may promulgate regulations to exclude the providing of the loss information as outlined in Paragraph (1) for any line or class of insurance where it can be shown that the information is not needed for that line or class of insurance, or where the provision of loss information otherwise is required by law.

Drafting Note: Loss information on workers' compensation is an example in some states of loss information otherwise required by law.

- (4) Information provided under Paragraph (2) shall not be subject to discovery by any party other than the insured, the insurer and the prospective insurer.

Drafting Note: This provision may not be required in states that have a privacy act that governs consumer access to this information. Those states considering applying this requirement to life, accident and health lines of insurance should first review their state privacy act related to issues of confidentiality of individual insured information.

- P. Violating any one of Sections [insert applicable sections].

Drafting Note: Insert section numbers of any other sections of the state's insurance laws deemed desirable or necessary to include as an unfair trade practice, such as cancellation and nonrenewal laws.

PROJECT HISTORY

UNFAIR TRADE PRACTICES ACT #880

1. Description of the Project, Issues Addressed, etc.

The NAIC's Innovation and Technology (EX) Task Force began discussing rebating issues in 2018 during the NAIC Summer National Meeting in Boston, MA, particularly because of the increased interest in offering value-added products and services such as risk mitigation devices and related services that are not necessarily addressed within the applicable insurance policy language. After finding that state interpretation and application of anti-rebating laws varies and after reviewing the history of the NAIC's *Unfair Trade Practices Act* (#880) along with the history and the intent of the anti-rebating portion, it became clear that applying the anti-rebating laws to the innovation of new insurance products and services could be challenging. The Task Force received presentations and testimony from many stakeholders, including state insurance regulators, producers, consumers, insurance companies and the startup community regarding a wide array of opinions and concerns. They also offered various suggestions for improving uniform application of anti-rebating statutes in the states. Based on this research and hearing from stakeholders, the Task Force members determined it would be appropriate to review Model #880, specifically Section 4(H)(2).

2. Name of Group Responsible for Drafting the Model and States Participating

The Innovation and Technology (EX) Task Force was responsible for the drafting of the revisions to Model #880. The process began with the formation of a drafting group. The group was led by Superintendent Elizabeth Kelleher Dwyer (RI). Seven other states participated in the drafting process: Alaska, Alabama, Iowa, Missouri, North Dakota, Ohio and Washington. Also participating were six industry representatives, including one startup; one state legislator (Rep. Matt Lehman (IN), the president of National Council of Insurance Legislators—NCOIL); and a consumer representative.

3. Project Authorized by What Charge and Date First Given to the Group

The mission of the Innovation and Technology (EX) Task Force is to: 1) provide a forum for state insurance regulator education and discussion of innovation and technology in the insurance sector; 2) monitor technology developments that affect the state insurance regulatory framework; and 3) develop regulatory guidance, as appropriate. This work was done under the specific charge:

The Innovation and Technology (EX) Task Force will:

Develop regulatory guidance, model laws or model law revisions, and white papers or make other recommendations to the Executive (EX) Committee, as appropriate.

At its meeting during the 2019 Summer National Meeting, the Task Force voted to move forward with the Request for NAIC Model Law Development to open Model #880 to amend or add to the language in Section 4(H)(2). The request was adopted by the Task Force in October 2019 and subsequently by the NAIC Executive (EX) Committee in December during the 2019 Fall National meeting.

4. A General Description of the Drafting Process (e.g., drafted by a subgroup, interested parties, the full group, etc). Include any parties outside the members that participated.

The drafting group met twice at the beginning of 2020, in January and February, and then stopped meeting for a period of time because of the COVID-19 pandemic. However, it regrouped to meet two more times in May and June. Given the Task Force had already received considerable input from stakeholders regarding this topic, the drafting group was able to move forward expeditiously and disbanded prior to the 2020 Summer National Meeting.

5. A General Description of the Due Process (e.g., exposure periods, public hearings, or any other means by which widespread input from industry, consumers and legislators was solicited)

The first draft published out of the drafting group was posted for comment on June 23. Twenty-one comment letters were submitted, and Superintendent Dwyer reviewed the changes made based on those comments during the Task Force's meeting on Aug. 7. A new draft was posted and exposed for comment on Aug. 10. Seventeen comments were reviewed, and a new draft was posted on Oct. 30. During the Task Force's meeting on Nov. 4, Superintendent Dwyer again reviewed each substantive comment, noting whether it was accepted or rejected in the latest draft. Comments regarding the Oct. 30 draft were again requested and accepted. Seven comments were reviewed, and interested parties were given an opportunity to present their points orally. Additionally, Task Force members and interested parties had the opportunity to ask questions or pose challenges to those points during a meeting on Nov. 30. Five presentations were made. Following the meeting on Nov. 30, another draft was posted on Dec. 2. During its meeting on Dec. 4 and with 44 members of the Task Force in attendance, the revised language was adopted, with Nevada dissenting and California, Hawaii, Idaho and New Jersey abstaining.

6. A Discussion of the Significant Issues (items of some controversy raised during the due process and the group's response)

While the genesis for drafting this revised language was primarily the need to clarify intentions related to the acceptability of the offering of things of value in the best interests of the consumer and to mitigate risk associated with what is being underwritten, value-added products and services, Section H(2)(e), the group also took on drafting clarifying language related to producer and insurer marketing including non-cash gifts meals, charitable donations on behalf of a customer, raffles and drawings, Section H(2)(f).

Since the term "value-added" is relatively new, there was considerable discussion regarding its use. Ultimately, the drafters and most of the state insurance regulators and interested parties agreed it was the appropriate term and needed no further defining.

There was considerable debate and discussion regarding the list in Section H(2)(e)(ii). The term "primarily designed" was discussed very thoroughly as the early use of the term "primarily intended" gave some state insurance regulators concern given the difficulty in determining "intent." There seemed to be consensus that "designed" was a much better term to use in this case. The list itself was heavily debated both in terms of it being comprehensive and there not being a "catch-all," as well as in terms of the value-added product or service needing to satisfy at least one of the listed criteria.

The cost discussed in Section H(2)(e)(iii) was also heavily debated. In the end, in addition to other language in that section, it was determined to be appropriate to include a drafting note that notes states may consider alternative language depending on their filing requirements. There was great care given to there being deference or to acknowledging some states may already have statute or regulation language that addresses or sets out permitted practices.

There was also a lot of discussion regarding Section H(2)(e)(vii). The debate was primarily around differences of opinion regarding whether offering the value-added product or service would need to be preapproved by the Department of Insurance (DOI). The concern on the part of industry was slowing down the ability to move forward with a pilot or testing something new, which led, ultimately, to the decision to require notification to the DOI, with a 21-day time period for the DOI to object.

In Section H(2)(f), great care was given to the specific terms used in this section. Given the history with this issue specific to the dollar amount, a drafting note was included to offer a suggested monetary amount but ultimately left to the state. In addition, this section addresses commercial or institutional customers as there was a great deal of discussion around excluding commercial lines from this section altogether, considering the notion that a transaction between sophisticated purchasers and sellers does not require this type of oversight.

Lastly, Section H(3) is intended to make clear that original rebating language intended to prevent abuses related to inducement to purchase or renew is still in effect, and this new language should not be construed to change that.

7. List the key provisions of the model (sections considered most essential to state adoption)

Section H(2)(e), Section H(2)(f) and Section H(3)

8. Any Other Important Information (e.g., amending an accreditation standard)

No other items are identified at this time.

W:\National Meetings\2021\Spring\Plenary_Final Minutes\Att 1 Model #880.docx

REQUEST FOR NAIC MODEL LAW DEVELOPMENT

This form is intended to gather information to support the development of a new model law or amendment to an existing model law. Prior to development of a new or amended model law, approval of the respective Parent Committee and the NAIC's Executive Committee is required. The NAIC's Executive Committee will consider whether the request fits the criteria for model law development. Please complete all questions and provide as much detail as necessary to help in this determination.

Please check whether this is: New Model Law or Amendment to Existing Model

1. Name of group to be responsible for drafting the model:

Creditor-Placed Insurance Model Act Review (C) Working Group

2. NAIC staff support contact information:

Aaron Brandenburg
abrandenburg@naic.org
816-783-8271

3. Please provide a brief description of the proposed new model or the amendment(s) to the existing model. If you are proposing a new model, please also provide a proposed title. If an existing model law, please provide the title, attach a current version to this form and reference the section(s) proposed to be amended.

Real Property Lender Placed Insurance Model Act.

The Creditor-Placed Insurance Model Act Review (C) Working Group has been discussing revisions to the Creditor-Placed Insurance Model Act (#375) which focuses on creditor-placed insurance placed on personal property and auto loans. The Working Group was originally charged with looking at lender-placed insurance on mortgage loans, including reviewing information from hearings and regulatory actions that necessitate changes to the Model Law. The Working Group has determined two separate laws should exist, one for personal property and one for real property. The Working Group would like to work on a new model concerning lender-placed insurance placed on real property mortgage loans, as described in this Model Law Request, and work on Model #375 concerning personal property loans separately.

4. Does the model law meet the Model Law Criteria? Yes or No (Check one)

(If answering no to any of these questions, please reevaluate charge and proceed accordingly to address issues).

- a. Does the subject of the model law necessitate a national standard and require uniformity amongst all states? Yes or No (Check one)

If yes, please explain why – States have taken regulatory action following abuses in the lender-placed insurance market as it relates to homeowners insurance. A consistent regulatory structure is desired to address these issues within the market.

- b. Does Committee believe NAIC members should devote significant regulator and Association resources to educate, communicate and support this model law?

Yes or No (Check one)

5. What is the likelihood that your Committee will be able to draft and adopt the model law within one year from the date of Executive Committee approval?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary: The Working Group has spent over a year hearing from interested parties on issues related to lender-placed insurance as it reviewed Model #375. It has begun drafting language but now feels that issues regarding mortgage loans should be split from issues regarding personal property loans, into two separate models. The Working Group should be able to take the existing work done on the real property discussions related to Model #375 and complete its work on a new Model.

6. What is the likelihood that a minimum two-thirds majority of NAIC members would ultimately vote to adopt the proposed model law?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary:

7. What is the likelihood that state legislatures will adopt the model law in a uniform manner within three years of adoption by the NAIC?

1 2 3 4 5 (Check one)

High Likelihood

Low Likelihood

Explanation, if necessary: The Working Group feels state legislatures will be more likely to adopt a new model related to real property lender-placed insurance, rather than a model that addresses both personal and real property.

8. Is this model law referenced in the NAIC Accreditation Standards? If so, does the standard require the model law to be adopted in a substantially similar manner?

No

9. Is this model law in response to or impacted by federal laws or regulations? If yes, please explain.

No

New Model:

Adopted by the Lender-Placed Insurance Model Act (C) Working Group, 11/13/20

Adopted by the Property and Casualty Insurance (C) Committee, 12/8/20

REAL PROPERTY LENDER-PLACED INSURANCE MODEL ACT

Table of Contents

Section 1.	Purpose
Section 2.	Scope
Section 3.	Definitions
Section 4.	Term of Insurance Policy
Section 5.	Calculation of Coverage and Payment of Premiums
Section 6.	Prohibited Practices
Section 7.	Non-Circumvention
Section 8.	Evidence of Coverage
Section 9.	Filing, Approval and Withdrawal of Forms and Rates
Section 10.	Enforcement
Section 11.	Regulatory Authority
Section 12.	Judicial Review
Section 13.	Penalties
Section 14.	Severability Provisions
Section 15.	Effective Date

Section 1. Purpose

The purpose of this Act is to:

- A. Promote the public welfare by regulating lender-placed insurance on real property.
- B. Create a legal framework within which lender-placed insurance on real property may be written in this state.
- C. Help maintain the separation between lenders/servicers and insurers/insurance producers.
- D. Minimize the possibilities of unfair competitive practices in the sale, placement, solicitation and negotiation of lender-placed insurance.

Section 2. Scope

- A. This Act applies to insurers and insurance producers engaged in any transaction involving lender-placed insurance as defined in this Act.
- B. All lender-placed insurance written in connection with mortgaged real property, including manufactured and mobile homes, is subject to the provisions of this Act, except:
 - (1) Transactions involving extensions of credit primarily for business, commercial or agricultural purposes.
 - (2) Insurance offered by the lender or servicer and elected by the mortgagor at the mortgagor's option.
 - (3) Insurance purchased by a lender or servicer on real estate owned property.
 - (4) Insurance for which no specific charge is made to the mortgagor or the mortgagor's account.

Drafting Note: Nothing in this Act shall be construed to create or imply a private cause of action for violation of this Act, and the commissioner shall have authority to enforce this Act subject to the laws of this state. Furthermore, nothing in this Act shall be construed to extinguish any mortgagor rights available under common law or other state statutes.

Section 3. Definitions

As used in this Act:

- A. “Affiliate” shall mean a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, the person specified.
- B. “Individual lender-placed insurance” means coverage for individual real property evidenced by a certificate of coverage under a master lender-placed insurance policy or a lender-placed insurance policy for individual real property.
- C. “Insurance Producer” means a person or entity (or its Affiliates) required to be licensed under the laws of this state to sell, solicit or negotiate insurance.
- D. “Insurer” means an insurance company, association or exchange authorized to issue lender-placed insurance in [insert applicable state] (or its Affiliates).
- E. “Investor” means a person or entity (and its Affiliates) holding a beneficial interest in loans secured by real property.
- F. “Lapse” means the moment in time in which a mortgagor has failed to secure or maintain valid and/or sufficient insurance upon mortgaged real property as required by a mortgage agreement.
- G. “Lender” means a person or entity (and its Affiliates) making loans secured by an interest in real property.
- H. “Lender-placed insurance” means insurance obtained by a lender or servicer when a mortgagor does not maintain valid and/or sufficient insurance upon mortgaged real property as required by the terms of the mortgage agreement. It may be purchased unilaterally by the lender or servicer, who is the named insured, subsequent to the date of the credit transaction, providing coverage against loss, expense or damage to collateralized property as a result of fire, theft, collision or other risks of loss that would either impair a lender, servicer or investor’s interest or adversely affect the value of collateral covered by limited dual interest insurance. It is purchased according to the terms of the mortgage agreement as a result of the mortgagor’s failure to provide evidence of required insurance.
- I. “Loss ratio” means the ratio of incurred losses to earned premium.
- J. “Master lender-placed insurance policy” means a group policy issued to a lender or servicer providing coverage for all loans in the lender or servicer’s loan portfolio as needed.
- K. “Mortgage agreement” means the written document that sets forth an obligation or a liability of any kind secured by a lien on real property and due from, owing or incurred by a mortgagor to a lender on account of a mortgage loan, including the security agreement, Deed of Trust and any other document of similar effect, and any other documents incorporated by reference.
- L. “Mortgage loan” means a loan, advance, guarantee or other extension of credit from a lender to a mortgagor.
- M. “Mortgage transaction” means a transaction by the terms of which the repayment of money loaned or payment of real property sold is to be made at a future date or dates.
- N. “Mortgagee” means the person who holds mortgaged real property as security for repayment of a mortgage agreement.
- O. “Mortgagor” means the person who is obligated on a mortgage loan pursuant to a mortgage agreement.
- P. “Person” means an individual or entity.

- Q. “Real Estate Owned Property” means property owned or held by a lender or servicer following foreclosure under the related Mortgage agreement or the acceptance of a deed in lieu of foreclosure.
- R. “Replacement Cost Value (RCV)” is the estimated cost to replace covered property at the time of loss or damage without deduction for depreciation. RCV is not market value, but it is instead the cost to replace covered property to its pre-loss condition.
- S. “Servicer” means a person or entity (and its Affiliates) contractually obligated to service one or more mortgage loans for a Lender or Investor. The term “Servicer” includes entities involved in subservicing arrangements.

Section 4. Term of Insurance Policy

- A. Lender-placed insurance shall become effective no earlier than the date of lapse of insurance upon mortgaged real property subject to the terms of a mortgage agreement and/or any other state or federal law requiring the same.
- B. Individual lender-placed insurance shall terminate on the earliest of the following dates:
 - (1) The date insurance that is acceptable under the mortgage agreement becomes effective, subject to the mortgagor providing sufficient evidence of such acceptable insurance.
 - (2) The date the applicable real property no longer serves as collateral for a mortgage loan pursuant to a mortgage agreement.
 - (3) Such other date as specified by the individual policy or certificate of insurance.
 - (4) Such other date as specified by the lender or servicer.
 - (5) The termination date of the policy.
- C. An insurance charge shall not be made to a mortgagor for lender-placed insurance for a term longer than the scheduled term of the lender-placed insurance, nor may an insurance charge be made to the mortgagor for lender-placed insurance before the effective date of the lender-placed insurance.

Section 5. Calculation of Coverage and Payment of Premiums

- A. Any lender-placed insurance coverage, and subsequent calculation of premium, should be based upon the replacement cost value of the property as best determined as follows:
 - (1) The dwelling coverage amount set forth in the most recent evidence of insurance coverage provided by the mortgagee (“last known coverage amount” or “LKCA”), if known to the lender or servicer.
 - (2) The insurer shall inquire of the insured, at least once, as to the LKCA; and if it is not able to obtain the LKCA from the insured or in another manner, the insurer may proceed as set forth below.
 - (3) If the LKCA is unknown, the replacement cost of the property serving as collateral as calculated by the insurer, unless the use of replacement cost for this purpose is prohibited by other state or federal law.
 - (4) If the LKCA is unknown and the replacement cost is not available or its use is prohibited, the unpaid principal balance of the mortgage loan.
- B. In the event of a covered loss, any replacement cost coverage provided by an insurer in excess of the unpaid principal balance of the mortgage loan shall be paid to the mortgagor.
- C. An insurer shall not write lender-placed insurance for which the premium rate differs from that determined by the schedules of the insurer on file with the commissioner as of the effective date of any such policy.

Section 6. Prohibited Practices

- A. An insurer or insurance producer shall not issue lender-placed insurance on mortgaged property that the insurer or insurance producer or an Affiliate of the insurer or insurance producer owns, performs the servicing for, or owns the servicing right to the mortgaged property.
- B. An insurer or insurance producer shall not compensate a lender, insurer, investor or servicer (including through the payment of commissions) on lender-placed property insurance policies issued by the insurer.
- C. An insurer or insurance producer shall not share lender-placed insurance premium or risk with the lender, investor or servicer that obtained the lender-placed insurance.
- D. An insurer or insurance producer shall not offer contingent commissions, profit sharing, or other payments dependent on profitability or loss ratios to any person affiliated with a servicer or the insurer in connection with lender-placed insurance.
- E. An insurer shall not provide free or below-cost outsourced services to lenders, investors or servicers, and an insurer will not outsource its own functions to lenders, insurance producers, investors or servicers on an above-cost basis.
- F. An insurer or insurance producer shall not make any payments, including but not limited to the payment of expenses to a lender, insurer, investor or servicer for the purpose of securing lender-placed insurance business or related outsourced services.

Section 7. Non-Circumvention

Nothing in this Act shall be construed to allow an insurance producer or an insurer solely underwriting lender-placed insurance to circumvent the requirements set forth within this Act. Any such part of any requirements, limitations or exclusions provided herein apply in any part to any insurer or insurance producer involved in lender-placed insurance.

Section 8. Evidence of Coverage

Lender-placed insurance shall be set forth in an individual policy or certificate of insurance. A copy of the individual policy, certificate of insurance, or other evidence of insurance coverage shall be mailed, first class mailed, or delivered in person to the last known address of the mortgagor or delivered in accordance with [inset reference to Electronic Transaction Act].. Notwithstanding any other statutory or regulatory required information, the individual policy or certificate of insurance coverage shall include the following information:

- A. The address and identification of the insured property.
- B. The coverage amount or amounts if multiple coverages are provided.
- C. The effective date of the coverage.
- D. The term of coverage.
- E. The premium charge for the coverage.
- F. Contact information for filing a claim.
- G. A complete description of the coverage provided.

Section 9. Filing, Approval and Withdrawal of Forms and Rates

- A. All policy forms and certificates of insurance to be delivered or issued for delivery in this state and the schedules of premium rates pertaining thereto shall be filed with the Commissioner.

- B. The Commissioner shall review the rates to determine whether the rates are excessive, inadequate or unfairly discriminatory. This analysis shall include a determination as to whether expenses included by the insurer in the rate are appropriate.
- C. All insurers shall re-file lender-placed property insurance rates at least once every four (4) years.
- D. All insurers writing lender-placed insurance shall have separate rates for lender-placed insurance and voluntary insurance obtained by a mortgage servicer on real estate owned property.
- E. Upon the introduction of a new lender-placed insurance program, the insurer shall reference its experience in existing programs in the associated filings. Nothing in this Act shall limit an insurer's discretion, as actuarially appropriate, to distinguish different terms, conditions, exclusions, eligibility criteria or other unique or different characteristics. Moreover, an insurer may, where actuarially acceptable, rely upon models or, in the case of flood filings where applicable experience is not credible, on Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) data.
- F. No later than April 1 of each year, each insurer with at least \$100,000 in direct written premium for lender-placed insurance in this state during the prior calendar year shall report to the Commissioner the following information for the prior calendar year:
 - (1) Actual loss ratio.
 - (2) Earned premium.
 - (3) Any aggregate schedule rating debit/credit to earned premium.
 - (4) Itemized expenses.
 - (5) Paid losses.
 - (6) Loss reserves, including case reserves and reserves for incurred but not reported losses.

This report shall be separately produced for each lender-placed program and presented on both an individual-jurisdiction and countrywide basis.

- G. Except in the case of lender-placed flood insurance, to which this paragraph does not apply, if an insurer experiences an annual loss ratio of less than 35% in any lender-placed program for two consecutive years, it shall submit a rate filing (either adjusting its rates or supporting their continuance) to the Commissioner no more than 90 days after the submission of the data required in F. above.

Drafting Note: The 35% trigger for re-filing rates is not intended to be, nor should be interpreted as, a loss ratio standard for determining whether rates are excessive or inadequate. The loss ratio standard in this section is solely directed to prompt a re-filing of rates by the insurer.

- H. Except as specifically set forth in this Section, rate and form filing requirements shall be subject to the insurance laws of this state.

Section 10. Enforcement

The Commissioner shall have all rights and powers to enforce the provisions of this Act as provided by section(s) [insert section(s) number] of the Insurance Code of this state.

Section 11. Regulatory Authority

The commissioner may, after notice and hearing, promulgate reasonable regulations and orders to carry out and effectuate the provisions of this Act.

Section 12. Judicial Review

- A. A person subject to an order or final determination of the commissioner under Section 8 or Section 13 may obtain a review of the order or final determination by filing in the [insert title] Court of [insert county] County, within [insert number] days from the date of the service of the order, a written petition praying that the order of the commissioner be set aside. A copy of the petition shall be served upon the commissioner, and the commissioner shall certify and file in the court a transcript of the entire record in the proceeding, including all the evidence taken and the report and order or final determination of the commissioner. Upon filing of the petition and transcript, the court shall have jurisdiction of the proceeding; and the questions determined shall determine whether the filing of the petition shall operate as a stay of the order or final determination of the commissioner, and they shall have power to make and enter upon the pleadings, evidence and proceedings set forth in the transcript a decree modifying, affirming or reversing the order or final determination of the commissioner, in whole or in part. The findings of the commissioner as to the facts, if supported by [insert type] evidence, shall be conclusive.

Drafting Note: Insert appropriate language to accommodate to local procedure the effect given the commissioner's determination.

- B. To the extent that the order or final determination of the commissioner is affirmed, the court shall issue its own order commanding obedience to the terms of the order or final determination of the commissioner. If either party applies to the court for leave to adduce additional evidence and shows to the satisfaction of the court that the additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the commissioner, the court may order the additional evidence to be taken before the commissioner and be adduced upon the hearing in the manner and upon the terms and conditions the court may deem proper. The commissioner may modify the findings of fact, or make new findings by reason of the additional evidence so taken, and shall file such modified or new findings that are supported by [insert type] evidence with a recommendation if any, for the modification or setting aside of the original order or final determination, with the return of the additional evidence.

Drafting Note: Insert appropriate language to accommodate to local procedure the effect given the commissioner's determination. In a state where final judgment, order or final determination or decree would not be subject to review by an appellate court, provision should therefore be inserted here.

- C. An order issued by the commissioner under Section 13 shall become final:
- (1) Upon the expiration of the time allowed for filing a petition for review if no petition has been duly filed within that time except that the commissioner may thereafter modify or set aside the order to the extent provided in Section 13.
 - (2) Upon the final decision of the court if the court directs that the order of the commissioner be affirmed or the petition for review be dismissed.
- D. No order of the commissioner under this Act or order of a court to enforce the same shall relieve or absolve any person affected by the order from liability under any other laws of this state.

Drafting Note: States may delete this section if the substance of it already exists in state law.

Section 13. Penalties

An insurer that violates an order of the commissioner while the order is in effect may, after notice and hearing and upon order of the commissioner, be subject at the discretion of the commissioner to either or both of the following:

- A. Payment of a monetary penalty of not more than \$1,000 for each violation, but not to exceed an aggregate penalty of \$100,000, unless the violation was committed flagrantly in a conscious disregard of this Act, in which case the penalty shall not be more than \$25,000 for each violation, but not to exceed an aggregate penalty of \$250,000.

- B. Suspension or revocation of the insurer's license.

Drafting Note: States may delete or modify this section if the substance of it already exists in state law.

Section 14. Severability Provisions

If any provision of this Act, or the application of the provision to any person or circumstance, is for any reason held to be invalid, the remainder of the Act and the application of such provision to other persons or circumstances shall not be affected thereby.

Section 15. Effective Date

This Act shall take effect [insert effective date].

PROJECT HISTORY

REAL PROPERTY LENDER-PLACED INSURANCE MODEL ACT

1. Description of the Project, Issues Addressed, etc.

The Creditor-Placed Insurance Model Act Review (C) Working Group was appointed in May 2015 with a charge to review information from a 2012 public hearing on lender-placed insurance (LPI) and determine if changes were needed to the *Creditor-Placed Insurance Model Act* (#375) having to do with creditor-placed automobile insurance. The Working Group met throughout 2015, 2016 and 2017 to review a New York regulation and Florida orders concerning LPI. In 2017, the Working Group began discussing the need to split the topics of personal property and real property into two different sections or two different models. In July 2017, the Working Group decided it would need to split the personal property from real property into two different models, and the Property and Casualty Insurance (C) Committee adopted a Request for NAIC Model Law Development on July 18, 2017.

In 2018, the Property and Casualty Insurance (C) Committee appointed the Lender-Placed Insurance Model Act (C) Working Group to only focus on drafting a new model related to lender-placed homeowners' insurance.

2. Name of Group Responsible for Drafting the Model and States Participating

The 2020 members of the Lender-Placed Insurance Model Act (C) Working Group were: Florida (Chair), Rhode Island (Vice Chair), Alaska, California, Connecticut, District of Columbia, Louisiana, Mississippi, North Dakota, Oklahoma, Texas, Virginia and Wisconsin.

3. Project Authorized by What Charge and Date First Given to the Group

On July 18, 2017, the Property and Casualty Insurance (C) Committee adopted a Request for NAIC Model Law Development. In 2018, the Property and Casualty Insurance (C) Committee appointed the Lender-Placed Insurance Model Act (C) Working Group to only focus on drafting a new model related to lender-placed homeowners' insurance.

4. A General Description of the Drafting Process (e.g., drafted by a subgroup, interested parties, the full group, etc). Include any parties outside the members that participated

The Lender-Placed Insurance Model Act (C) Working Group reviewed sections of the Real Property Lender-Place Insurance Model Act (Model) on various conference calls and asked for comments on an ongoing basis throughout 2017 and 2018. A draft of the Model was exposed in March 2018, and it was discussed on Sept. 18, 2018. The final draft of the Model was exposed on Oct. 19, 2020, through Nov. 3, 2020.

Numerous written comments were submitted to the Working Group, including from the Center for Economic Justice (CEJ); the National Consumer Law Center (NCLC), a joint industry group made up of the American Bankers Association (ABA), the Consumer Credit Industry Association (CCIA), the Council of Insurance Agents & Brokers, the National Association of Mutual Insurance Companies (NAMIC), and the American Property Casualty Insurance Association (APCIA); as well as numerous states.

5. A General Description of the Due Process (e.g., exposure periods, public hearings, or any other means by which widespread input from industry, consumers and legislators was solicited)

Once the focus of the Model was limited to real property in 2018, the Lender-Placed Insurance Model Act (C) Working Group exposed the draft of a new model law for real property LPI in March 2018 for a 45-day public comment period ending April 30, 2018. On Sept. 18, 2018, the Working Group reviewed comments received, as well as a new draft of the Model reflecting those comments. The Working Group exposed the new draft through Oct. 31, 2018.

The Working Group met Oct. 19, 2020, to hear from commenters on the most recent version of the proposed Model and to expose the Model for a 15-day public comment period ending Nov. 3, 2020.

On Nov. 13, 2020, the Working Group met to hear from commenters and review new edits to the Model made by Rhode Island. The Working Group agreed to several changes to the Model and unanimously adopted the Model during this conference call.

6. A Discussion of the Significant Issues (items of some controversy raised during the due process and the group's response)

Scope of the Model: Early on, consideration was given to revising Model #375 so that it would include both personal property and real property. The Lender-Placed Insurance Model Act (C) Working Group decided to create a new model focused on real property, and a model law request was adopted by the Property and Casualty Insurance (C) Committee on July 18, 2017. In its 2018 charges, the Working Group was charged with only creating a new model focused on real property.

Tracking Expenses and Review of Rates: Some commenters wanted a prohibition of tracking expenses because they said servicers are paid for tracking, and the practice of allowing insurers to provide free tracking and recoup the cost from LPI premiums is unfair. Working Group members argued that states retain the authority to review expenses in rate filings and judge whether expenses are appropriate to pass to consumers. The Working Group agreed to revise Section 9B to read: "The Commissioner shall review the rates to determine whether the rates are excessive, inadequate or unfairly discriminatory. This analysis shall include a determination as to whether expenses included by the insurer in the rate are appropriate."

Loss Ratios: Some commenters argued for a lower loss ratio threshold. The Working Group agreed to a drafting note following Section 9G that reads: "The 35% trigger for re-filing rates is not intended to be nor should be interpreted as a loss ratio standard for determining whether rates are excessive or inadequate. The loss ratio standard in this section is solely directed to prompt a re-filing of rates by the insurer."

Single and Dual-Interest: Some commenters argued that only dual-interest LPI be permitted because the borrower is named as an additional insured with dual-interest and has some rights to file a claim under the policy. The Working Group found most policies to be dual-interest, and it decided not to include a prohibition of single-interest LPI within the Model.

7. Any Other Important Information (e.g., amending an accreditation standard).

None.

W:\National Meetings\2021\Spring\Plenary\Att 2 RealPropertyLenderPlaced.docx

Adopted by the Casualty Actuarial and Statistical (C) Task Force, 9/15/20
Adopted by the Property and Casualty Insurance (C) Committee, 12/8/20
Adopted by the Executive (EX) Committee and Plenary, 4/14/21

Casualty Actuarial and Statistical (C) Task Force
Regulatory Review of Predictive Models
White Paper

Table of Contents

I.	Introduction	2
II.	What is a “Best Practice?”	2
III.	Some Issues in Reviewing Today’s Predictive Models	3
IV.	Do Regulators Need Best Practices to Review Predictive Models?	4
V.	Scope	5
VI.	Confidentiality	5
VII.	Best Practices for Regulatory Review of Predictive Models	6
VIII.	Proposed Changes to the <i>Product Filing Review Handbook</i>	7
IX.	Proposed State Guidance	11
X.	Other Considerations	12
	Appendix A – Best Practice Development	13
	Appendix B – Information Elements and Guidance for a Regulator to Meet Best Practices’ Objectives (When Reviewing GLMs)	14
	Appendix C – Glossary of Terms	44
	Appendix D – Sample Rate-Disruption Template	51

I. INTRODUCTION

Insurers' use of predictive analytics along with big data has significant potential benefits to both consumers and insurers. Predictive analytics can reveal insights into the relationship between consumer behavior and the cost of insurance, lower the cost of insurance for many, and provide incentives for consumers to better control and mitigate loss. However, predictive analytic techniques are evolving rapidly and leaving many state insurance regulators, who must review these techniques, without the necessary tools to effectively review insurers' use of predictive models in insurance applications.

When a rate plan is truly innovative, the insurer must anticipate or imagine the reviewers' interests because reviewers will respond with unanticipated questions and have unique educational needs. Insurers can learn from the questions, teach the reviewers, and so forth. When that back-and-forth learning is memorialized and retained, filing requirements and insurer presentations can be routinely organized to meet or exceed reviewers' needs and expectations. Hopefully, this white paper helps bring more consistency to the art of reviewing predictive models within a rate filing and make the review process more efficient.

The Casualty Actuarial and Statistical (C) Task Force has been charged with identifying best practices to serve as a guide to state insurance departments in their review of the predictive models¹ underlying rating plans. There were two charges given to Task Force by the Property and Casualty Insurance (C) Committee at the request of the Big Data (EX) Working Group:

- **Draft and propose changes to the *Product Filing Review Handbook* to include best practices for review of predictive models and analytics filed by insurers to justify rates.**
- **Draft and propose state guidance (e.g., information, data) for rate filings based on complex predictive models.**

This white paper will identify best practices for the review of predictive models and analytics filed by insurers with regulators to justify rates and will provide state guidance for the review of rate filings based on predictive models. Upon adoption of this white paper by the Executive (EX) Committee and Plenary, the Task Force will make a recommendation to incorporate these best practices into the *Product Filing Review Handbook* and will forward that recommendation to the Speed to Market (EX) Working Group.

As discussed further in the body of the white paper, this document is intended as guidance for state insurance regulators as they review predictive models. Nothing in this document is intended to, or could, change the applicable legal and regulatory standards for approval of rating plans. This guidance is intended only to assist state insurance regulators as they review models to determine whether modeled rates are compliant with existing state laws and/or regulations. To the extent these best practices are incorporated into the *Product Filing Review Handbook*, the handbook provides that it is intended to "add uniformity and consistency of regulatory processes, while maintaining the benefits of the application of unique laws and regulations that address the state-specific needs of the nation's insurance consumers."

II. WHAT IS A "BEST PRACTICE"?

A best practice is a form of program evaluation in public policy. At its most basic level, a practice is a "tangible and visible behavior... [based on] an idea about how the actions... will solve a problem or achieve a goal."² Best practices are used to maintain quality as an alternative to mandatory legislated standards and can be based on self-assessment or benchmarking.³ Therefore, a best practice represents an effective method of problem solving. The "problem" regulators want to solve is probably better posed as seeking an answer to this question: How can regulators determine whether predictive models, as used in rate filings, are compliant with state laws and/or regulations?

Key Regulatory Principles

In this white paper, best practices are based on the following principles that promote a comprehensive and coordinated review of predictive models across the states:

1. State insurance regulators will maintain their current rate regulatory authority and autonomy.

¹ In this white paper, references to "model" or "predictive model" are the same as "complex predictive model" unless qualified.

² Bardach, E., and Patashnik, E., 2016. *A Practical Guide for Policy Analysis, The Eightfold Path to More Effective Problem Solving*. Thousand Oaks, CA: CQ Press. See Appendix A for an overview of Bardach's best-practice analysis.

³ Bogan, C.E., and English, M.J., 1994. *Benchmarking for Best Practices: Winning Through Innovative Adaptation*. New York, NY: McGraw-Hill.

2. State insurance regulators will be able to share information to aid companies in getting insurance products to market more quickly across the states.⁴
3. State insurance regulators will share expertise and discuss technical issues regarding predictive models to make the review process in any state more effective and efficient.
4. State insurance regulators will maintain confidentiality, in accordance with state law, regarding predictive models.

Best practices are presented to state insurance regulators for the review of predictive models and to insurance companies as a consideration in filing rating plans that incorporate predictive models. As a byproduct of identifying these best practices, general and specific information elements were identified that could be useful to a regulator when reviewing a rating plan that is wholly or in part based on a generalized linear model (GLM). For the states that are interested, the information elements are identified in Appendix B, including comments on what might be important about that information and, where appropriate, providing insight as to when the information might identify an issue the regulator needs to be aware of or explore further. Lastly, provided in this white paper are glossary terms (see Appendix C) and references (contained in the footnotes) that can expand a state insurance regulator's knowledge of predictive models (GLMs specifically).

III. SOME ISSUES IN REVIEWING TODAY'S PREDICTIVE MODELS

The term "predictive model" refers to a set of models that use statistics to predict outcomes.⁵ When applied to insurance, the model is chosen to estimate the probability or expected value of an outcome given a set amount of input data; for example, models can predict the frequency of loss, the severity of loss, or the pure premium. The GLM⁶ is a commonly used predictive model in insurance applications, particularly in building an insurance product's rating plan.

Depending on definitional boundaries, predictive modeling can sometimes overlap with the field of machine learning. In this modeling space, predictive modeling is often referred to as predictive analytics.

Before GLMs became vogue, rating plans were built using univariate methods. Univariate methods were considered intuitive and easy to demonstrate the relationship to costs (loss and/or expense). Today, many insurers consider univariate methods too simplistic because they do not take into account the interaction (or dependencies) of the selected input variables.

Today, the majority of predictive models used in personal automobile and home insurance rating plans are GLMs.⁷ According to many in the insurance industry, GLMs introduce significant improvements over univariate-based rating plans by automatically adjusting for correlations among input variables. However, it is not always easy to understand the complex predictive model output's relationship to cost. This creates a problem for the state insurance regulator when model results are difficult to explain to someone (e.g., a consumer) who has little to no expertise in modeling techniques.

Generalized Linear Models

A GLM consists of three elements:⁸

- A target variable, Y , which is a random variable that is independent and is assumed to follow a probability distribution from the exponential family, defined by a selected variance function and dispersion parameter.
- A linear predictor, $\eta = X\beta$.
- A link function g , such that $E(Y) = \mu = g^{-1}(\eta)$.

⁴ The states can share information if they can maintain confidentiality and legally share such information. Information about a classification plan documented in one state could be shared with another state.

⁵ A more thorough exploration of different predictive models will be found in many books on statistics, including:

- Geisser, S., 2016. *Predictive Inference: An Introduction*, New York, NY: Chapman & Hall.
- James, G., et al., 2017. *An Introduction to Statistical Learning: with Applications in R*, New York, NY: Springer Science+Business Media, pp. 87–90. Accessed online at <http://faculty.marshall.usc.edu/gareth-james/ISL/ISLR%20Seventh%20Printing.pdf>.

⁶ The GLM is a flexible family of models that are unified under a single method. Types of GLMs include logistic regression, Poisson regression, gamma regression, and multinomial regression.

⁷ Goldburd, M., et al., 2016. "Generalized Linear Models for Insurance Rating," CAS Monograph Series, Number 5, Second Edition, pp. 52–58. Accessed online at www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf.

⁸ Information on model elements can be found in most books on statistics.

As can be seen in the description of the three GLM components above, it may take more than a casual introduction to statistics to comprehend the construction of a GLM. As stated earlier, a downside to GLMs is that it is more challenging to interpret a GLM's output than that of a univariate model.

To further complicate the regulatory review of models in the future, modeling methods are evolving rapidly and are not limited just to GLMs. As computing power grows exponentially, it is opening the modeling world to more sophisticated forms of data acquisition and data analysis. Insurance actuaries and data scientists seek increased predictiveness by using even more complex predictive modeling methods. Examples of these methods include predictive models utilizing random forests, decision trees, neural networks, or combinations of available modeling methods (often referred to as "ensembles"). These evolving techniques will make a state insurance regulator's understanding and oversight of filed rating plans that incorporate predictive models even more challenging.

In addition to the growing complexity of predictive models, many state insurance departments do not have in-house actuarial support or have limited resources to contract out for support when reviewing rate filings that include the use of predictive models. The Big Data (EX) Working Group identified the need to provide the states with guidance and assistance when reviewing predictive models underlying filed rating plans.⁹ The Working Group circulated a proposal addressing aid to state insurance regulators in the review of predictive models as used in personal automobile and home insurance rate filings. This proposal was circulated to all Working Group members and interested parties on Dec. 19, 2017, for a public comment period ending Jan. 12, 2018.¹⁰ The Working Group's effort resulted in new charges for the Casualty Actuarial and Statistical (C) Task Force (see Section I—Introduction) to identify best practices that provide guidance to the states in their review of predictive models.

Credibility of GLM Output

If the underlying data is not credible, then no model will improve that credibility, and segmentation methods could make credibility worse. GLM software provides point estimates and allows the modeler to consider standard errors and confidence intervals. GLMs effectively assume that the underlying datasets are 100% credible, no matter their size. If some segments have little data, the resulting uncertainty would not be reflected in the GLM parameter estimates themselves (although it might be reflected in the standard errors, confidence intervals, etc.). Even though the process of selecting relativities often includes adjusting the raw GLM output, the resultant selections are typically not credibility-weighted with any complement of credibility.^{11,12} And, selected relativities based on GLM model output may differ from GLM point estimates. Lack of credibility for particular estimates could be discerned if standard errors are large relative to the point estimates and/or if the confidence intervals are broad.

Because of this presumption in credibility, which may or may not be valid in practice, the modeler—and the state insurance regulator reviewing the model—would need to engage in thoughtful consideration when incorporating GLM output into a rating plan to ensure that model predictiveness is not compromised by any lack of actual credibility. Another consideration is the availability of data, both internal and external, that may result in the selection of predictor variables that have spurious correlation with the target variable. Therefore, to mitigate the risk that model credibility or predictiveness is lacking, a complete filing for a rating plan that incorporates GLM output should include validation evidence for the rating plan, not just the statistical model.

IV. DO REGULATORS NEED BEST PRACTICES TO REVIEW PREDICTIVE MODELS?

It might be better to revise the question of "Do regulators need best practices to review predictive models?" to "Are best practices in the review of predictive models of value to regulators and insurance companies?" The answer is "yes" to both questions.

Regulatory best practices need to be developed that do not unfairly or inordinately create barriers for insurers, and ultimately consumers, while providing a baseline of analysis for state insurance regulators to review the referenced filings. Best practices will aid regulatory reviewers by raising their level of model understanding. Also, with regard to scorecard

⁹ Big Data (EX) Working Group March 24, 2018, minutes (*see NAIC Proceedings – Spring 2018, Innovation and Technology (EX) Task Force, Attachment Two*). Accessed online at https://www.naic.org/prod_serv/PRC-ZS-18-01.pdf.

¹⁰ All comments received by the end of January 2018 were posted to the NAIC website March 12, 2018, for review.

¹¹ Sometimes insurers do review complements of credibility and further weight the GLM output with those complements. While this may not be a standard practice today, new techniques could result in this becoming more standard in the future.

¹² GLMs provide confidence intervals, credibility methods do not. There are techniques such as penalized regression that blend credibility with a GLM and improve a model's ability to generalize.

models and the model algorithm, there is often not sufficient support for relative weight, parameter values, or scores of each variable. Best practices can potentially aid in addressing this problem.

Best practices are not intended to create standards for filings that include predictive models. Rather, best practices will assist the states in identifying the model elements they should be looking for in a filing that will aid the regulator in understanding why the company believes that the filed predictive model improves the company's rating plan and, therefore, makes that rating plan fairer to all consumers in the marketplace. To make this work, state insurance regulators and the industry need to recognize that:

- Best practices provide guidance to state insurance regulators in their essential and authoritative role over the rating plans in their respective state.
- Every state may have a need to review predictive models, whether that occurs during the approval process of a rating plan or during a market conduct exam. Best practices help the state insurance regulator identify elements of a model that may influence the regulatory review as to whether modeled rates are appropriately justified, compliant with state laws and/or regulations, and whether to act on that information.
- Best practices provide a framework for the states to share knowledge and resources to facilitate the technical review of predictive models.
- Best practices can lead to improved quality in predictive model reviews across the states, aiding speed to market and competitiveness of the state's insurance marketplace.
- Best practices aid training of new state insurance regulators and/or regulators new to reviewing predictive models. This is especially useful for those regulators who do not actively participate in NAIC discussions related to the subject of predictive models.
- Each state insurance regulator adopting best practices will be better able to identify the resources needed to assist their state in the review of predictive models.

V. SCOPE

The best practices identified in this white paper were derived from a ground-up study and analysis of how GLMs are used in personal automobile and home insurance rating plans. These three components (GLM, PPA, and HO) were selected as the basis to develop best practices for the regulatory review of predictive models because many state insurance regulators are familiar with, and have expertise in, such filings. In addition, the legal and regulatory constraints (including state variations) are likely to be more evolved, and challenging, for personal automobile and home insurance. It is through a review of these personal lines and the knowledge needed to review GLMs¹³ used in their rate filings that will provide meaningful best practices for state insurance regulators. The identified best practices should be readily transferrable when the review involves other predictive models applied to other lines of business or for an insurance purpose other than rating.

VI. CONFIDENTIALITY

Each state determines the confidentiality of a rate filing and the supplemental material to the filing, when filing information might become public, the procedure to request that filing information be held confidentially, and the procedure by which a public records request is made. Regulatory reviewers are required to protect confidential information in accordance with applicable state law. State insurance regulators should be aware of their state laws on confidentiality when requesting data from insurers that may be proprietary or a trade secret. However, insurers should be aware that a rate filing might become part of the public record. It is incumbent on an insurer to be familiar with each state's laws regarding the confidentiality of information submitted with its rate filing.

State authority, regulations and/or rules governing confidentiality always apply when a state insurance regulator reviews a model used in rating. When the NAIC or a third party enters the review process, the confidential, proprietary, and trade secret protections of the state on behalf of which a review is being performed will continue to apply.

¹³ See Appendix B.

VII. BEST PRACTICES FOR THE REGULATORY REVIEW OF PREDICTIVE MODELS

Best practices will help the state insurance regulator understand if a predictive model is cost-based, if the predictive model is compliant with state law, and how the model improves a company's rating plan. Best practices can also improve the consistency among the regulatory review processes across the states and improve the efficiency of each regulator's review, thereby helping companies get their products to market faster. With this in mind, the regulator's review of predictive models should:

1. Ensure that the selected rating factors, based on the model or other analysis, produce rates that are not excessive, inadequate, or unfairly discriminatory.
 - a. Review the overall rate level impact of the proposed revisions to rate level indications provided by the filer.
 - b. Determine whether individual input characteristics to a predictive model and their resulting rating factors are related to the expected loss or expense differences in risk.
 - c. Review the premium disruption for individual policyholders and how the disruptions can be explained to individual consumers.
 - d. Review the individual input characteristics to, and output factors from, the predictive model (and its sub-models), as well as associated selected relativities, to ensure they are compatible with practices allowed in the state and do not reflect prohibited characteristics.
2. Obtain a clear understanding of the data used to build and validate the model, and thoroughly review all aspects of the model, including assumptions, adjustments, variables, sub-models used as input, and resulting output.
 - a. Obtain a clear understanding of how the selected predictive model was built.
 - b. Determine whether the data used as input to the predictive model is accurate, including a clear understanding how missing values, erroneous values, and outliers are handled.
 - c. Determine whether any adjustments to the raw data are handled appropriately, including, but not limited to, trending, development, capping, and removal of catastrophes.
 - d. Obtain a clear understanding of how often each risk characteristic used as input to the model is updated and whether the model is periodically refreshed, to help determine whether the model output reflects changes to non-static risk characteristics.
3. Evaluate how the model interacts with and improves the rating plan.
 - a. Obtain a clear understanding of the characteristics that are input to the predictive model (and its sub-models).
 - b. Obtain a clear understanding of how the insurer integrates the model into the rating plan and how it improves the rating plan.
 - c. Obtain a clear understanding of how the model output interacts with non-modeled characteristics/variables used to calculate a risk's premium.
4. Enable competition and innovation to promote the growth, financial stability, and efficiency of the insurance marketplace.
 - a. Enable innovation in the pricing of insurance through the acceptance of predictive models, provided such models are in compliance with state laws and/or regulations, particularly prohibitions on unfair discrimination.
 - b. Protect the confidentiality of filed predictive models and supporting information in accordance with state laws and/or regulations.
 - c. Review predictive models in a timely manner to enable reasonable speed to market.

VIII. PROPOSED CHANGES TO THE *PRODUCT FILING REVIEW HANDBOOK*

The Task Force was charged to propose modifications to the 2016 *Product Filing Review Handbook* to reflect best practices for the regulatory review of GLM predictive analytics. The following are the titled sections in Chapter Three—The Basics of Property and Casualty Rate Regulation.

Product Filing Review Handbook, August 2016

CHAPTER THREE

The Basics of Property and Casualty Rate Regulation

No changes are proposed to the following sections of Chapter Three: **Introduction; Rating Laws; Rate Standards; Rate Justification and Supporting Data; Number of Years of Historical Data; Segregation of Data; Data Adjustments; Premium Adjustments; Losses and LAE (perhaps just DCC) Adjustments; Catastrophe or Large Loss Provisions; Loss Adjustment Expenses; Data Quality; Rate Justification: Overall Rate Level; Contingency Provision; Credibility; Calculation of Overall Rate Level Need: Methods (Pure Premium and Loss Ratio Methods); Rate Justification: Rating Factors; Calculation of Deductible Rating Factors; Calculation of Increased Limit Factors; and Credibility for Rating Factors.**

The following are the proposed changes to the remainder of Chapter Three:

Interaction between Rating Variables (Multivariate Analysis)

If each rating variable is evaluated separately, statistically significant interactions between rating variables may not be identified and, thus, may not be included in the rating plan. Care should be taken to have a multivariate analysis when practical. In some instances, a multivariate analysis is not possible. But, with computing power growing exponentially, insurers believe they have found many ways to improve their operations and competitiveness through use of complex predictive models in all areas of their insurance business.

Approval of Classification Systems

With rate changes, companies sometimes propose revisions to their classification system. Because the changes to classification plans can be significant and have large impacts on the consumers' rates, regulators should focus on these changes.

Some items of proposed classification can sometimes be deemed to be contrary to state laws and/or regulations, such as the use of education or occupation. You should be aware of your state's laws and regulations regarding which rating factors are allowed, and you should require definitions of all data elements that can affect the charged premium. Finding rating or underwriting characteristics that may violate state laws and/or regulations is becoming more difficult for regulators with the increasing and innovative ways insurers use predictive models.

Rating Tiers – (No change is proposed.)

Rate Justification: New Products – (No change is proposed.)

Predictive Modeling

The ability of computers to process massive amounts of data (referred to as “big data”) has led to the expansion of the use of predictive modeling in insurance ratemaking. Predictive models have enabled insurers to build rating, marketing, underwriting, and claim models with significant predictive ability.

Data quality within, and communication about, models are of key importance with predictive modeling. Depending on definitional boundaries, predictive modeling can sometimes overlap with the field of machine-learning. In the modeling space, predictive modeling is often referred to as “predictive analytics.”

Insurers' use of predictive analytics along with big data has significant potential benefits to consumers and insurers. Predictive analytics can reveal insights into the relationship between consumer behavior and the cost of insurance, lower the cost of insurance for many, and provide incentives for consumers to better control and mitigate loss. However, predictive analytic techniques are evolving rapidly and leaving many state insurance regulators without the necessary tools to effectively review

insurers' use of predictive models in insurance applications. To aid the regulator in the review of predictive models, best practices have been developed.

The term “predictive model” refers to a set of models that use statistics to predict outcomes. When applied to insurance, the model is chosen to estimate the probability or expected value of an outcome given a set amount of input data; for example, models can predict the frequency of loss, the severity of loss, or the pure premium.

To further complicate regulatory review of models in the future, modeling technology and methods are evolving rapidly. Generalized linear models (GLMs) are relatively transparent and their output and consequences are much clearer than many other complex models. But as computing power grows exponentially, it is opening the modeling world to more sophisticated forms of data acquisition and data analysis. Insurance actuaries and data scientists seek increased predictiveness by using even more complex predictive modeling methods. Examples of these methods are predictive models utilizing logistic regression, K-nearest neighbor classification, random forests, decision trees, neural networks, or combinations of available modeling methods (often referred to as “ensembles”). These evolving techniques will make the regulators' understanding and oversight of filed rating plans even more challenging.

Generalized Linear Models

The GLM is a commonly used predictive model in insurance applications, particularly in building an insurance product's rating plan. Because of this and the fact most property/casualty regulators are most concerned about personal lines, the NAIC has developed an appendix in its white paper for guidance¹⁴ in reviewing GLMs for personal automobile and home insurance.

What is a “Best Practice”?

A best practice is a form of program evaluation in public policy. At its most basic level, a practice is a “tangible and visible behavior... [based on] an idea about how the actions...will solve a problem or achieve a goal.”¹⁵ Best practices can maintain quality as an alternative to mandatory legislated standards and can be based on self-assessment or benchmarking.¹⁶ Therefore, a best practice represents an effective method of problem solving. The “problem” regulators want to solve is probably better posed as seeking an answer to this question: How can regulators determine whether predictive models, as used in rate filings, are compliant with state laws and/or regulations? However, best practices are not intended to create standards for filings that include predictive models.

Best practices are based on the following principles that promote a comprehensive and coordinated review of predictive models across the states:

- State insurance regulators will maintain their current rate regulatory authority and autonomy.
- State insurance regulators will be able to share information to aid companies in getting insurance products to market more quickly across the states.
- State insurance regulators will share expertise and discuss technical issues regarding predictive models to make the review process in any state more effective and efficient.
- State insurance regulators will maintain confidentiality, in accordance with state laws and/or regulations, regarding predictive models.

Best Practices for the Regulatory Review of Predictive Models

Best practices will help the regulator understand if a predictive model is cost-based, if the predictive model is compliant with state laws and/or regulations, and how the model improves the company's rating plan. Best practices can also improve the consistency among the regulatory review processes across the states and improve the efficiency of each regulator's review, thereby assisting companies in getting their products to market faster. With this in mind, the regulator's review of predictive models should:

¹⁴ Refer to Appendix B in the NAIC white paper, *Regulatory Review of Predictive Models*.

¹⁵ Bardach, E., and Patashnik, E., 2016. *A Practical Guide for Policy Analysis, The Eightfold Path to More Effective Problem Solving*. Thousand Oaks, CA: CQ Press. Refer to Appendix A in the NAIC white paper, *Regulatory Review of Predictive Models*, for an overview of Bardach's best-practice analysis.

¹⁶ Bogan, C.E., and English, M.J., 1994. *Benchmarking for Best Practices: Winning Through Innovative Adaptation*. New York, NY: McGraw-Hill.

1. Ensure that the selected rating factors, based on the model or other analysis, produce rates that are not excessive, inadequate, or unfairly discriminatory.
 - a. Review the overall rate level impact of the proposed revisions to rate level indications provided by the filer.
 - b. Determine whether individual input characteristics to a predictive model and their resulting rating factors are related to the expected loss or expense differences in risk.
 - c. Review the premium disruption for individual policyholders and how the disruptions can be explained to individual consumers.
 - d. Review the individual input characteristics to, and output factors from, the predictive model (and its sub-models), as well as associated selected relativities, to ensure they are compatible with practices allowed in the state and do not reflect prohibited characteristics.
2. Obtain a clear understanding of the data used to build and validate the model, and thoroughly review all aspects of the model, including assumptions, adjustments, variables, sub-models used as input, and resulting output.
 - a. Obtain a clear understanding of how the selected predictive model was built.
 - b. Determine whether the data used as input to the predictive model is accurate, including a clear understanding how missing values, erroneous values, and outliers are handled.
 - c. Determine whether any adjustments to the raw data are handled appropriately, including, but not limited to, trending, development, capping, and removal of catastrophes.
 - d. Obtain a clear understanding of how often each risk characteristic, used as input to the model, is updated and whether the model is periodically refreshed, so model output reflects changes to non-static risk characteristics.
3. Evaluate how the model interacts with and improves the rating plan.
 - a. Obtain a clear understanding of the characteristics that are input to a predictive model (and its sub-models).
 - b. Obtain a clear understanding how the insurer integrates the model into the rating plan and how it improves the rating plan.
 - c. Obtain a clear understanding of how model output interacts with non-modeled characteristics/variables used to calculate a risk's premium.
4. Enable competition and innovation to promote the growth, financial stability, and efficiency of the insurance marketplace.
 - a. Enable innovation in the pricing of insurance through acceptance of predictive models, provided such models are in compliance with state laws and/or regulations, particularly prohibitions on unfair discrimination.
 - b. Protect the confidentiality of filed predictive models and supporting information in accordance with state laws and/or regulations.
 - c. Review predictive models in a timely manner to enable reasonable speed to market.

Confidentiality

Each state determines the confidentiality of a rate filing and the supplemental material to the filing, when filing information might become public, the procedure to request that filing information be held confidentially, and the procedure by which a public records request is made. Regulatory reviewers are required to protect confidential information in accordance with applicable state laws and/or regulations. State insurance Regulators should be aware of their state laws and/or regulations on confidentiality when requesting data from insurers that may be proprietary or trade secret. However, insurers should be aware that a rate filing might become part of the public record. It is incumbent on an insurer to be familiar with each state's laws and/or regulations regarding the confidentiality of information submitted with their rate filing.

State authority, regulations and rules governing confidentiality always apply when a regulator reviews a model used in rating. When the NAIC or a third party enters into the review process, the confidential, proprietary, and trade secret protections of the state on behalf of which a review is being performed will continue to apply.

Advisory Organizations – (No change is proposed.)

Workers' Compensation Special Rules – (No change is proposed.)

Premium Selection Decisions – (No change is proposed.)

Installment Plans – (No change is proposed.)

Policy Fees – (No change is proposed.)

Potential Questions to Ask Oneself as a Regulator – (No change is proposed.)

Questions to Ask a Company

If you remain unsatisfied that the company has satisfactorily justified the rate change, then consider asking additional questions of the company. Questions should be asked of the company when it has not satisfied statutory or regulatory requirements in the state or when any current justification is inadequate and could have an impact on the rate change approval or the amount of the approval.

If there are additional items of concern, the company can be notified so it can make appropriate modifications in future filings.

The NAIC white paper, *Regulatory Review of Predictive Models*, documents questions that a state insurance regulator may want to ask when reviewing a model. These questions are listed as “information elements” in Appendix B of the white paper. **Note:** Although Appendix B focuses on GLMs for personal automobile and home insurance, many of the “information elements” and concepts they represent may be transferable to other types of models, other lines of business, and other applications beyond rating.

Additional Ratemaking Information

The Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA) have extensive examination syllabi that contain a significant amount of ratemaking information, on both the basic topics covered in this chapter and on advanced ratemaking topics. The CAS and SOA websites (<https://www.casact.org> and <https://www.soa.org>, respectively) contain links to many of the papers included in the syllabi. Recommended reading is the *Foundations of Casualty Actuarial Science*, which contains chapters on ratemaking, risk classification, and individual risk rating.

Other Reading

Additional background reading is recommended:

- CAS: *Foundations of Casualty Actuarial Science*, Fourth Edition (2001):
 - Chapter 1: Introduction
 - Chapter 3: Ratemaking
 - Chapter 6: Risk Classification
 - Chapter 9: Investment Issues in Property-Liability Insurance
 - Chapter 10: Only the section on Regulating an Insurance Company, pp. 777–787
- CAS: Statements of Principles, especially regarding property/casualty ratemaking.
- CAS: “Basic Ratemaking.”
- American Institute for Chartered Property Casualty Underwriters: “Insurance Operations, Regulation, and Statutory Accounting,” Chapter Eight.
- Association of Insurance Compliance Professionals: “Ratemaking: What the State Filer Needs to Know.”
- Review of filings and approval of insurance company rates.
- NAIC: Casualty Actuarial and Statistical (C) Task Force’s white paper, *Regulatory Review of Predictive Models*.

Summary

Rate regulation for property/casualty lines of business requires significant knowledge of state rating laws, rating standards, actuarial science, statistical modeling, and many data concepts.

- Rating laws vary by state, but the rating laws are usually grouped into prior approval, file and use or use and file (competitive), no file (open competition), and flex rating.
- Rate standards typically included in the state rating laws require that “rates shall not be inadequate, excessive, or unfairly discriminatory.”
- A company will likely determine its indicated rate change by starting with historical years of underwriting data (earned premiums, incurred loss and loss adjustment expenses, and general expenses) and adjusting that data to reflect the anticipated ultimate level of costs for the future time period covered by the policies. Numerous adjustments are made to the data. Common premium adjustments are on-level premium, audit, and trend. Common loss adjustments are trend, loss development, catastrophe/large loss provisions, and an adjusting and other (A&O) loss adjustment expense provision. A profit/contingency provision is also calculated to determine the indicated rate change.
- Once an overall rate level is determined, the rate change gets allocated to the classifications and other rating factors.
- Individual risk rating allows manual rates to be modified by an individual policyholder’s own experience.
- Advisory organizations provide the underlying loss costs for companies to be able to add their own expenses and profit provisions (with loss cost multipliers) to calculate their insurance rates.
- The CAS’ *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* provides guidance and guidelines for the numerous actuarial decisions and standards employed during the development of rates.
- NAIC model laws and regulations include special provisions for workers’ compensation business, penalties for not complying with state laws and/or regulations, and competitive market analysis to determine whether rates should be subject to prior-approval provisions.
- Best practices for reviewing predictive models are provided in the NAIC white paper, *Regulatory Review of Predictive Models*. The best practices and many of the information elements and underlying concepts may be transferrable to other types of models, other lines of insurance, and applications beyond rating.

While this chapter provides an overview of the rate determination/actuarial process and regulatory review, state statutory or administrative rule may require the examiner to employ different standards or guidelines than the ones described.

No additional changes are proposed to the *Product Filing Review Handbook*.

IX. PROPOSED STATE GUIDANCE

This white paper acknowledges that different states will apply the guidance within this white paper differently, based on variations in the legal environment pertaining to insurance regulation in those states, as well as the extent of available resources, including staff members with actuarial and/or statistical expertise, the workloads of those staff members, and the time that can be reasonably allocated to predictive-model reviews. The states with prior-approval authority over personal lines rate filings often already require answers in connection with many of the information elements expressed in this white paper. However, the states—including those with and without prior-approval authority—may also use the guidance in this white paper to choose which model elements to focus on in their reviews and/or to train new reviewers, as well as to gain an enhanced understanding of how predictive models are developed, supported, and deployed in their markets. Ultimately, the insurance regulators within each state will decide how best to tailor the guidance within this white paper to achieve the most effective and successful implementation, subject to the framework of statutes, regulations, precedents, and/or processes that comprise the insurance regulatory framework in that state.

X. OTHER CONSIDERATIONS

During the development of state guidance for the review of predictive models used in rate filings, important topics that may impact the review arose that were not within the scope of this white paper. The topics are listed below without elaboration and not in any order of importance. **Note:** This not an exhaustive list. These topics may need to be addressed during the regulator's review of a predictive model. It may be that one or more of the following topics will be addressed by an NAIC committee in the future:

- Provide guidance for state insurance regulators to identify when a rating variable or rating plan becomes too granular.
- Provide guidance for state insurance regulators on the importance of causality versus correlation when evaluating a rating variable's relationship to risk, in general and in relation to Actuarial Standard of Practice (ASOP) No. 12, *Risk Classification (for All Practice Areas)*.
- Provide guidance for state insurance regulators on the value and/or concerns of data mining, including how data mining may assist in the model building process, how data dredging may conflict with standard scientific principles, how data dredging may increase "false positives" during the model building process, and how data dredging may result in less accurate models and/or models that are unfairly discriminatory.
- Provide guidance and/or tools for state insurance regulators to determine how a policy premium is calculated and to identify the most important risk characteristics that underlie the calculated premium.
- Provide guidance for state insurance regulators when reviewing consumer-generated data in insurance transactions, including disclosure to the consumer, ownership of data, and verification of data procedures.
- Provide guidance, research tools, and techniques for state insurance regulators to monitor consumer market outcomes resulting from insurers' use of data analytics underlying rating plans.
- Provide guidance for state insurance regulators to expand the best practices and information elements contained in this white paper to non-GLM models and insurance applications other than for personal automobile and home insurance rating plans.
- Provide guidance for state insurance regulators to determine whether individual input characteristics to a model or a sub-model, as well as associated relativities, are not unfairly discriminatory or a "proxy for a protected class."
- Provide guidance for state insurance regulators to identify and minimize unfair discrimination manifested as "disparate impact."
- Provide guidance for state insurance regulators that seek a causal or rational explanation why a rating variable is correlated to expected loss or expense, and why that correlation is consistent with the expected direction of the relationship.

APPENDIX A – BEST PRACTICES DEVELOPMENT

The development of best practices is a method for reviewing public policy processes that have been effective in addressing particular issues and could be applied to a current problem. This process relies on the assumptions that top performance is a result of good practices and these practices may be adapted and emulated by others to improve results.¹⁷

The term “best practice” can be a misleading one due to the slippery nature of the word “best.” When proceeding with policy research of this kind, it may be more helpful to frame the project as a way of identifying practices and/or processes that have worked exceptionally well and the underlying reasons for their success. This allows for a mix-and-match approach for making recommendations that might encompass pieces of many good practices.¹⁸

Researchers have found that successful best-practice analysis projects share five common phases:

1. Define Scope

The focus of an effective analysis is narrow, precise, and clearly articulated to stakeholders. A project with a broader focus becomes unwieldy and impractical. Furthermore, Bardach urges the importance of realistic expectations in order to avoid improperly attributing results to a best practice without taking into account internal validity problems.

2. Identify Top Performers

Identify outstanding performers in this area to partner with and learn from. In this phase, it is key to recall that a best practice is a tangible behavior or process designed to solve a problem or achieve a goal (i.e., reviewing predictive models contributes to insurance rates that are not unfairly discriminatory). Therefore, top performers are those who are particularly effective at solving a specific problem or regularly achieve desired results in the area of focus.

3. Analyze Best Practices

Once successful practices are identified, analysts will begin to observe, gather information, and identify the distinctive elements that contribute to their superior performance. Bardach suggests it is important at this stage to distill the successful elements of the process down to their most essential idea. This allows for flexibility once the practice is adapted for a new organization or location.

4. Adapt

Analyze and adapt the core elements of the practice for application in a new environment. This may require changing some aspects to account for organizational or environmental differences while retaining the foundational concept or idea. This is also the time to identify potential vulnerabilities of the new practice and build in safeguards to minimize risk.

5. Implement and Evaluate

The final step is to implement the new process and carefully monitor the results. It may be necessary to make adjustments, so it is likely prudent to allow time and resources for this. Once implementation is complete, continued evaluation is important to help ensure the practice remains effective.

¹⁷ Ammons, D.N., and Roenigk, D.J., 2014. “Benchmarking and Interorganizational Learning in Local Government,” *Journal of Public Administration Research and Theory*, Volume 25, Issue 1, pp. 309–335. Accessed online at <https://doi.org/10.1093/jopart/muu014>.

¹⁸ Bardach, E., and Patashnik, E., 2016. *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving*. Thousand Oaks, CA: CQ Press.

APPENDIX B – INFORMATION ELEMENTS AND GUIDANCE FOR A REGULATOR TO MEET BEST PRACTICES’ OBJECTIVES (WHEN REVIEWING GLMS)

This appendix identifies the information a state insurance regulator may need to review a predictive model used by an insurer to support a personal automobile or home insurance rating plan. The list is lengthy but not exhaustive. It is not intended to limit the authority of a regulator to request additional information in support of the model or filed rating plan. Nor is every item on the list intended to be a requirement for every filing. However, the items listed should help guide a regulator to sufficient information that helps determine if the rating plan meets state-specific filing and legal requirements.

Documentation of the design and operational details of the model will help ensure the business continuity and transparency of the models used. Documentation should be sufficiently detailed and complete to enable a qualified third party to form a sound judgment on the suitability of the model for the intended purpose. The theory, assumptions, methodologies, software, and empirical bases should be explained, as well as the data used in developing and implementing the model. Relevant testing and ongoing performance testing need to be documented. Key model limitations and overrides need to be pointed out so that stakeholders understand the circumstances under which the model does not work effectively. End-user documentation should be provided and key reports using the model results described. Major changes to the model need to be documented and shared with regulators in a timely and appropriate manner. Information technology (IT) controls should be in place, such as a record of versions, change control, and access to the model.¹⁹

Many information elements listed below are probably confidential, proprietary, or trade secret and should be treated as such, in accordance with state laws and/or regulations. Regulators should be aware of their state laws and/or regulations on confidentiality when requesting data from insurers that may be proprietary or trade secret. For example, some proprietary models may have contractual terms (with the insurer) that prevent disclosure to the public. Without clear necessity, exposing this data to additional dissemination may compromise the model’s protection.²⁰

Although the list of information is long, the insurer should already have internal documentation on the model for more than half of the information listed. The remaining items on the list require either minimal analysis (approximately 25%) or deeper analysis to generate for a regulator (approximately 25%).

The “Level of Importance to the Regulator’s Review” is a ranking of information a regulator may need to review which is based on the following level criteria:

Level 1 – This information is necessary to begin the review of a predictive model. These data elements pertain to basic information about the type and structure of the model, the data and variables used, the assumptions made, and the goodness of fit. Ideally, this information would be included in the filing documentation with the initial submission of a filing made based on a predictive model.

Level 2 – This information is necessary to continue the review of all but the most basic models, such as those based only on the filer’s internal data and only including variables that are in the filed rating plan. These data elements provide more detailed information about the model and address questions arising from review of the information in Level 1. Insurers concerned with speed to market may also want to include this information in the filing documentation.

Level 3 – This information is necessary to continue the review of a model where concerns have been raised and not resolved based on review of the information in Level 1 and Level 2. These data elements address even more detailed aspects of the model. This information does not necessarily need to be included with the initial submission, unless specifically requested by a particular state, as it is typically requested only if the reviewer has concerns that the model may not comply with state laws and/or regulations.

Level 4 – This information is necessary to continue the review of a model where concerns have been raised and not resolved based on the information in Level 1, Level 2, and Level 3. This most granular level of detail is addressing the basic building blocks of the model and does not necessarily need to be included by the filer with the initial submission, unless specifically requested by a particular state. It is typically requested only if the reviewer has serious concerns that the model may produce rates or rating factors that are excessive, inadequate, and/or unfairly discriminatory.

¹⁹ Bourdeau, M., 2016. “Model Risk Management: An Overview,” *The Modeling Platform*, Issue 4, December. Accessed online at <https://www.soa.org/globalassets/assets/library/newsletters/the-modeling-platform/2016/december/mp-2016-iss4.pdf>.

²⁰ There are some models that are made public by the vendor and would not result in a hindrance of the model’s protection.

Lastly, although the best practices presented in this white paper will readily be transferrable to review of other predictive models, the information elements presented here might be useful only with deeper adaptations when starting to review different types of predictive models. If the model is not a GLM, some listed items might not apply; e.g., not all predictive models generate p-values or F tests. Depending on the model type, other considerations might be important but are not listed here. When information elements presented in this appendix are applied to lines of business other than personal automobile and home insurance or other type of models, unique considerations may arise. In particular, data volume and credibility may be lower for other lines of business. Regulators should be aware of the context in which a predictive model is deployed, the uses to which the model is proposed to be put, and the potential consequences the model may have on the insurer, its customers, and its competitors. This white paper does not delve into these possible considerations, but regulators should be prepared to address them as they arise.

A. SELECTING MODEL INPUT

Section	Information Element	Level of Importance to the Regulator's Review	Comments
1. Available Data Sources			
A.1.a	Review the details of sources for both insurance and non-insurance data used as input to the model (only need sources for filed input characteristics included in the filed model).	1	<p>Request details of data sources, whether internal to the company or from external sources. For insurance experience (policy or claim), determine whether data are aggregated by calendar, accident, fiscal, or policy year and when it was last evaluated. For each data source, get a list of all data elements used as input to the model that came from that source. For insurance data, get a list all companies whose data is included in the datasets.</p> <p>Request details of any non-insurance data used (customer-provided or other), whether the data was collected by use of a questionnaire/checklist, whether data was voluntarily reported by the applicant, and whether any of the data is subject to the federal Fair Credit Reporting Act (FCRA). If the data is from an outside source, find out what steps were taken to verify the data was accurate, complete, and unbiased in terms of relevant and representative time frame, representative of potential exposures, and lacking in obvious correlation to protected classes.</p> <p>Note: Reviewing source details should not make a difference when the model is new or refreshed; refreshed models would report the prior version list with the incremental changes due to the refresh.</p>
A.1.b	Reconcile aggregated insurance data underlying the model with available external insurance reports.	4	<p>Accuracy of insurance data should be reviewed. It is assumed that the data in the insurer's data banks is subject to routine internal company audits and reconciliation. "Aggregated data" is straight from the insurer's data banks without further modification (i.e., not scrubbed or transformed for the purposes of modeling). In other words, the data would not have been specifically modified for the purpose of model building. The company should provide some form of reasonability check that the data makes sense when checked against other audited sources.</p>

Section	Information Element	Level of Importance to the Regulator's Review	Comments
A.1.c	Review the geographic scope and geographic exposure distribution of the raw data for relevance to the state where the model is filed.	2	Many models are developed using a countrywide or a regional dataset. The company should explain how the data used to build the model makes sense for a specific state. The regulator should inquire which states were included in the data underlying the model build, testing, and validation. The company should provide an explanation where the data came from geographically and that it is a good representation for a state; i.e., the distribution by state should not introduce a geographic bias. However, there could be a bias by peril or wind-resistant building codes. Evaluate whether the data is relevant to the loss potential for which it is being used. For example, verify that hurricane data is only used where hurricanes can occur.
2. Sub-Models			
A.2.a	Consider the relevance of (i.e., whether there is bias) of overlapping data or variables used in the model and sub-models.	1	Check if the same variables/datasets were used in the model, a sub-model, or as stand-alone rating characteristics. If so, verify the insurance company has processes and procedures in place to assess and address double-counting or redundancy.
A.2.b	Determine if the sub-model was previously approved (or accepted) by the regulatory agency.	1	<p>If the sub-model was previously approved/accepted, that may reduce the extent of the sub-model's review. If approved, obtain the tracking number(s) (e.g., state, SERFF) and verify when and if it was the same model currently under review.</p> <p>Note: A previous approval does not necessarily confer a guarantee of ongoing approval; e.g., when statutes and/or regulations have changed or if a model's indications have been undermined by subsequent empirical experience. However, knowing whether a model has been previously approved can help focus the regulator's efforts and determine whether the prior decision needs to be revisited. In some circumstances, direct dialogue with the vendor could be quicker and more useful.</p>

Section	Information Element	Level of Importance to the Regulator's Review	Comments
A.2.c	Determine if the sub-model output was used as input to the GLM; obtain the vendor name, as well as the name and version of the sub-model.	1	<p>To accelerate the review of the filing, it may be desirable to request (from the company), the name and contact information for a vendor representative. The company should provide the name of the third-party vendor and a contact in the event the regulator has questions. The “contact” can be an intermediary at the insurer (e.g., a filing specialist), who can place the regulator in direct contact with a subject-matter expert (SME) at the vendor.</p> <p>Examples of such sub-models include credit/financial scoring algorithms and household composite score models. Sub-models can be evaluated separately and in the same manner as the primary model under evaluation. A sub-model contact for additional information should be provided. Sub-model SMEs may need to be brought into the conversation with regulators (whether in-house or third-party sub-models are used).</p>
A.2.d	If using catastrophe model output, identify the vendor and the model settings/assumptions used when the model was run.	1	<p>To accelerate the review of the filing, get contact information for the SME that ran the model and an SME from the vendor. The “SME” can be an intermediary at the insurer (e.g., a filing specialist), who can place the regulator in direct contact with the appropriate SMEs at the insurer or model vendor.</p> <p>For example, it is important to know hurricane model settings for storm surge, demand surge, and long-term/short-term views.</p>
A.2.e	Obtain an explanation of how catastrophe models are integrated into the model to ensure no double-counting.	1	<p>If a weather-based sub-model is input to the GLM under review, loss data used to develop the model should not include loss experience associated with the weather-based sub-model. Doing so could cause distortions in the modeled results by double-counting such losses when determining relativities or loss loads in the filed rating plan.</p> <p>For example, redundant losses in the data may occur when non-hurricane wind losses are included in the data while also using a severe convective storm model in the actuarial indication. Such redundancy may also occur with the inclusion of fluvial or pluvial flood losses when using a flood model or inclusion of freeze losses when using a winter storm model.</p>
A.2.f	If using output of any scoring algorithms, obtain a list of the variables used to determine the score and provide the source of the data used to calculate the score.	1	<p>Any sub-model should be reviewed in the same manner as the primary model that uses the sub-model's output as input. Depending on the result of item A.2.b, the importance of this item may be decreased.</p>

Section	Information Element	Level of Importance to the Regulator's Review	Comments
3. Adjustments to Data			
A.3.a	Determine if premium, exposure, loss, or expense data were adjusted (e.g., developed, trended, adjusted for catastrophe experience, or capped). If so, how? Do the adjustments vary for different segments of the data? If so, identify the segments and how the data was adjusted.	2	<p>The rating plan or indications underlying the rating plan may provide special treatment of large losses and non-modeled large loss events. If such treatments exist, the company should provide an explanation how they were handled. These treatments need to be identified and the company/regulator needs to determine whether model data needs to be adjusted.</p> <p>For example, should large bodily injury (BI) liability losses in the case of personal automobile insurance be excluded, or should large non-catastrophe wind/hail claims in home insurance be excluded from the model's training, test and validation data? Look for anomalies in the data that should be addressed. For example, is there an extreme loss event in the data? If other processes were used to load rates for specific loss events, how is the impact of those losses considered?</p> <p>Examples of losses that can contribute to anomalies in the data are large losses or flood, hurricane, or severe convective storm losses for personal automobile comprehensive or home insurance.</p>
A.3.b	Identify adjustments that were made to aggregated data (e.g., transformations, binning and/or categorizations). If any, identify the name of the characteristic/variable and obtain a description of the adjustment.	1	
A.3.c	Ask for aggregated data (one dataset of pre-adjusted/scrubbed data and one dataset of post-adjusted/scrubbed data) that allows the regulator to focus on the univariate distributions and compare raw data to adjusted/binning/transformed/etc. data.	4	<p>This is most relevant for variables that have been "scrubbed" or adjusted.</p> <p>Though most regulators may never ask for aggregated data and do not plan to rebuild any models, a regulator may ask for this aggregated data or subsets of it.</p> <p>It would be useful to the regulator if the percentage of exposures and premium for missing information from the model data by category are provided. This data can be displayed in either graphical or tabular formats.</p>

Section	Information Element	Level of Importance to the Regulator's Review	Comments
A.3.d	Determine how missing data was handled.	1	<p>This is most relevant for variables that have been “scrubbed” or adjusted. The regulator should be aware of assumptions the modeler made in handling missing, null, or “not available” values in the data.</p> <p>For example, it would be helpful to the reviewer if the modeler were to provide a statement as to whether there is any systemic reason for missing data. If adjustments or recoding of values were made, they should be explained. It may also be useful to the regulator if the percentage of exposures and premium for missing information from the model data are provided. This data can be displayed in either graphical or tabular formats.</p>
A.3.e	If duplicate records exist, determine how they were handled.	1	
A.3.f	Determine if there were any material outliers identified and subsequently adjusted during the scrubbing process.	3	<p>Look for a discussion of how outliers were handled. If necessary, the regulator may want to investigate further by getting a list (with description) of the types of outliers and determine what adjustments were made to each type of outlier. To understand the filer's response, the regulator should ask for the filer's materiality standard.</p>
4. Data Organization			
A.4.a	Obtain documentation on the methods used to compile and organize data, including procedures to merge data from different sources or filter data based on particular characteristics and a description of any preliminary analyses, data checks, and logical tests performed on the data and the results of those tests.	2	<p>This should explain how data from separate sources was merged and/or how subsets of policies, based on selected characteristics, are filtered to be included in the data underlying the model and the rationale for that filtering.</p>
A.4.b	Obtain documentation on the insurer's process for reviewing the appropriateness, reasonableness, consistency, and comprehensiveness of the data, including a discussion of the rational relationship the data has to the predicted variable.	2	<p>An example is when by-peril or by-coverage modeling is performed; the documentation should be for each peril/coverage and make rational sense.</p> <p>For example, if “murder” or “theft” data are used to predict the wind peril, the company should provide support and a rational explanation for their use.</p>

Section	Information Element	Level of Importance to the Regulator's Review	Comments
A.4.c	Identify material findings the company had during its data review and obtain an explanation of any potential material limitations, defects, bias, or unresolved concerns found or believed to exist in the data. If issues or limitations in the data influenced modeling analysis and/or results, obtain a description of those concerns and an explanation how modeling analysis was adjusted and/or results were impacted.	1	"None" or "N/A" may be an appropriate response.

B. BUILDING THE MODEL

Section	Information Element	Level of Importance to Regulator's Review	Comments
1. High-Level Narrative for Building the Model			
B.1.a	Identify the type of model underlying the rate filing (e.g., GLM, decision tree, Bayesian GLM, gradient-boosting machine, neural network, etc.). Understand the model's role in the rating system and provide the reasons why that type of model is an appropriate choice for that role.	1	It is important to understand if the model in question is a GLM and, therefore, these information elements are applicable; or if it is some other model type, in which case other reasonable review approaches may be considered. There should be an explanation of why the model (using the variables included in it) is appropriate for the line of business. If by-peril or by-coverage modeling is used, the explanation should be by-peril/by-coverage. Note: If the model is not a GLM, the information elements in this white paper may not apply in their entirety.
B.1.b	Identify the software used for model development. Obtain the name of the software vendor/developer, software product, and a software version reference used in model development.	3	Changes in software from one model version to the next may explain if such changes, over time, contribute to changes in the modeled results. The company should provide the name of the third-party vendor and a "contact" in the event the regulator has questions. The "contact" can be an intermediary at the insurer (e.g., a filing specialist) who can place the regulator in direct contact with the appropriate SME at the vendor. Open-source software/programs used in model development should be identified by name and version the same as if from a vendor.
B.1.c	Obtain a description how the available data was divided between model training, test, and/or validation datasets. The description should include an explanation why the selected approach was deemed most appropriate, whether the company made any further subdivisions of available data, and reasons for the subdivisions (e.g., a portion separated from training data to support testing of components during model building). Determine if the validation data was accessed before model training was completed and, if so, obtain an explanation of why that came to occur. Obtain a discussion of whether the model was rebuilt using all the data or if it was only based on the training data.	1	The reviewer should be aware that modelers may break their data into three or just two datasets. Although the term "training" is used with little ambiguity, "test" and "validation" are terms that are sometimes interchanged, or the word "validation" may not be used at all. It would be unexpected if validation and/or test data were used for any purpose other than validation and/or test, prior to the selection of the final model. However, according to the CAS monograph, "Generalized Linear Models for Insurance Rating": "Once a final model is chosen, ... we would then go back and rebuild it using all of the data, so that the parameter estimates would be at their most credible." The reviewer should note whether a company employed cross-validation techniques instead of a training/test/validation dataset approach. If cross-validation techniques were used, the reviewer should request a description of how cross-validation was done and confirm that the final model was not built on any particular subset of the data, but rather the full dataset.

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.1.d	Obtain a brief description of the development process, from initial concept to final model and filed rating plan.	1	The narrative should have the same scope as the filing.
B.1.e	Obtain a narrative on whether loss ratio, pure premium, or frequency/severity analyses were performed and, if separate frequency/severity modeling was performed, how pure premiums were determined.	1	
B.1.f	Identify the model's target variable.	1	A clear description of the target variable is key to understanding the purpose of the model. It may also prove useful to obtain a sample calculation of the target variable in Excel format, starting with the "raw" data for a policy, or a small sample of policies, depending on the complexity of the target variable calculation.
B.1.g	Obtain a description of the variable selection process.	1	The narrative regarding the variable selection process may address matters such as the criteria upon which variables were selected or omitted, identification of the number of preliminary variables considered in developing the model versus the number of variables that remained, and any statutory or regulatory limitations that were taken into account when making the decisions regarding variable selection. The modeler should comment on the use of automated feature selection algorithms to choose predictor variables and explain how potential overfitting that can arise from these techniques was addressed.
B.1.h	In conjunction with variable selection, obtain a narrative on how the company determined the granularity of the rating variables during model development.	3	The narrative should include discussion of how credibility was considered in the process of determining the level of granularity of the variables selected.
B.1.i	Determine if model input data was segmented in any way (e.g., by-coverage, by-peril, or by-form basis). If so, obtain a description of data segmentation and the reasons for data segmentation.	1	The regulator would use this to follow the logic of the modeling process.
B.1.j	If adjustments to the model were made based on credibility considerations, obtain an explanation of the credibility considerations and how the adjustments were applied.	2	Adjustments may be needed, given that models do not explicitly consider the credibility of the input data or the model's resulting output; models take input data at face value and assume 100% credibility when producing modeled output.
2. Medium-Level Narrative for Building the Model			
B.2.a	At crucial points in model development, if selections were made among alternatives regarding model assumptions or techniques, obtain a narrative on the judgment used to make those selections.	3	

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.2.b	If post-model adjustments were made to the data and the model was rerun, obtain an explanation on the details and the rationale for those adjustments.	2	Evaluate the addition or removal of variables and the model fitting. It is not necessary for the company to discuss each iteration of adding and subtracting variables, but the regulator should gain a general understanding of how these adjustments were done, including any statistical improvement measures relied upon.
B.2.c	Obtain a description of the testing that was performed during the model-building process, including an explanation of the decision-making process to determine which interactions were included and which were not.	3	<p>There should be a description of the testing that was performed during the model-building process. Examples of tests that may have been performed include univariate testing and review of a correlation matrix.</p> <p>The number of interaction terms that could potentially be included in a model increases far more quickly than the number of “main effect” variables (i.e., the basic predictor variables that can be interacted together). Analyzing each possible interaction term individually can be unwieldy. It is typical for interaction terms to be excluded from the model by default, and only included where they can be shown to be particularly important. So, as a rule of thumb, the regulator’s emphasis should be on understanding why the insurer included the interaction terms it did, rather than on why other candidate interactions were excluded.</p> <p>In some cases, however, it could be reasonable to inquire about why a particular interaction term was excluded from a model—for example, if that interaction term was ubiquitous in similar filings and was known to be highly predictive, or if the regulator had reason to believe that the interaction term would help differentiate dissimilar risks within an excessively heterogeneous rating segment.</p>
B.2.d	For the GLM, identify the link function used. Identify which distribution was used for the model (e.g., Poisson, Gaussian, log-normal, Tweedie). Obtain an explanation of why the link function and distribution were chosen. Obtain the formulas for the distribution and link functions, including specific numerical parameters of the distribution. If changed from the default, obtain a discussion of applicable convergence criterion.	1	Solving the GLM is iterative and the modeler can check to see if fit is improving. At some point, convergence occurs; however, when it occurs can be subjective or based on threshold criteria. If the software’s default convergence criteria were not relied upon, an explanation of any deviation should be provided.
B.2.e	Obtain a narrative on the formula relationship between the data and the model outputs, with a definition of each model input and output. The narrative should include all coefficients necessary to evaluate the predicted pure premium, relativity, or other value, for any real or hypothetical set of inputs.	2	

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.2.f	If there were data situations in which GLM weights were used, obtain an explanation of how and why they were used.	3	Investigate whether identical records were combined to build the model.
3. Predictor Variables			
B.3.a	Obtain a complete data dictionary, including the names, types, definitions, and uses of each predictor variable, offset variable, control variable, proxy variable, geographic variable, geodemographic variable, and all other variables in the model used on their own or as an interaction with other variables (including sub-models and external models).	1	Types of variables might be continuous, discrete, Boolean, etc. Definitions should not use programming language or code. For any variable(s) intended to function as a control or offset, obtain an explanation of its purpose and impact. Also, for any use of interaction between variables, obtain an explanation of its rationale and impact.
B.3.b	Obtain a list of predictor variables considered but not used in the final model, and the rationale for their removal.	4	The purpose of this requirement is to identify variables the company finds to be predictive but ultimately may reject for reasons other than loss-cost considerations (e.g., price optimization). Also, look for variables the company tested and then rejected. This item could help address concerns about data dredging. The reasonableness of including a variable with a given significance level could depend greatly on the other variables the company evaluated for inclusion in the model and the criteria for inclusion or omission. For instance, if the company tested 1,000 similar variables and selected the one with the lowest p-value of 0.001, this would be a far, far weaker case for statistical significance than if that variable was the only one the company evaluated. Note: Context matters.
B.3.c	Obtain a correlation matrix for all predictor variables included in the model and sub-model(s).	3	While GLMs accommodate collinearity, the correlation matrix provides more information about the magnitude of correlation between variables. The company should indicate what statistic was used (e.g., Pearson, Cramer's V). The regulatory reviewer should understand what statistic was used to produce the matrix but should not prescribe the statistic.
B.3.d	Obtain a rational explanation for why an increase in each predictor variable should increase or decrease frequency, severity, loss costs, expenses, or any element or characteristic being predicted.	3	The explanation should go beyond demonstrating correlation. Considering possible causation may be relevant, but proving causation is neither practical nor expected. If no rational explanation can be provided, greater scrutiny may be appropriate. For example, the regulator should look for unfamiliar predictor variables and, if found, the regulator should seek to understand the connection that variable has to increasing or decreasing the target variable.

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.3.e	If the modeler made use of one or more dimensionality reduction techniques, such as a principal component analysis (PCA), obtain a narrative about that process, an explanation why that technique was chosen, and a description of the step-by-step process used to transform observations (usually correlated) into a set of linearly uncorrelated variables. In each instance, obtain a list of the pre-transformation and post-transformation variable names, as well as an explanation of how the results of the dimensionality reduction technique was used within the model.	2	
4. Adjusting Data, Model Validation, and Goodness-of-Fit Measures			
B.4.a	Obtain a description of the methods used to assess the statistical significance/goodness-of-fit of the model to validation data, such as lift charts and statistical tests. Compare the model's projected results to historical actual results and verify that modeled results are reasonably similar to actual results from validation data.	1	For models that are built using multistate data, validation data for some segments of risk is likely to have low credibility in individual states. Nevertheless, some regulators require model validation on state-only data, especially when analysis using state-only data contradicts the countrywide results. State-only data might be more applicable but could also be impacted by low credibility for some segments of risk. Note: It may be useful to consider geographic stability measures for territories within the state.
B.4.b	For all variables (discrete or continuous), review the appropriate parameter values and relevant tests of significance, such as confidence intervals, chi-square tests, p-values, or F tests. Determine if model development data, validation data, test data, or other data was used for these tests.	1	Typical p-values greater than 5% are large and should be questioned. Reasonable business judgment can sometimes provide legitimate support for high p-values. Reasonableness of the p-value threshold could also vary depending on the context of the model; e.g., the threshold might be lower when many candidate variables were evaluated for inclusion in the model. Overall lift charts and/or statistical tests using validation data may not provide enough of the picture. If there is concern about one or more individual variables, the reviewer may obtain, for each discrete variable level, the parameter value, confidence intervals, chi-square tests, p-values, and any other relevant and material tests. For variables that are modeled continuously, it may be sufficient to obtain statistics around the modeled parameters; e.g., confidence intervals around each level of an AOI curve might be more than what is needed.

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.4.c	Identify the threshold for statistical significance and explain why it was selected. Obtain a reasonable and appropriately supported explanation for keeping the variable for each discrete variable level where the p-values were not less than the chosen threshold.	1	<p>The explanation should clearly identify the thresholds for statistical significance used by the modeler. Typical p-values greater than 5% are large and should be questioned. Reasonable business judgment can sometimes provide legitimate support for high p-values. Reasonableness of the p-value threshold could also vary depending on the context of the model; e.g., the threshold might be lower when many candidate variables were evaluated for inclusion in the model.</p> <p>Overall lift charts and/or statistical tests using validation data may not provide enough of the picture. If there is concern about one or more individual variables, the reviewer may obtain, for each discrete variable level, the parameter value, confidence intervals, chi-square tests, p-values, and any other relevant and material tests.</p>
B.4.d	For overall discrete variables, review type 3 chi-square tests, p-values, F tests and any other relevant and material test. Determine if model development data, validation data, test data, or other data was used for these tests.	2	<p>Typical p-values greater than 5% are large and should be questioned. Reasonable business judgment can sometimes provide legitimate support for high p-values. Reasonableness of the p-value threshold could also vary depending on the context of the model; e.g., the threshold might be lower when many candidate variables were evaluated for inclusion in the model.</p> <p>Overall lift charts and/or statistical tests using validation data may not provide enough of the picture. If there is concern about one or more individual variables, the reviewer may obtain, for each discrete variable level, the parameter value, confidence intervals, chi-square tests, p-values, and any other relevant and material tests.</p> <p>For variables that are modeled continuously, it may be sufficient to obtain statistics around the modeled parameters; e.g., confidence intervals around each level of an AOI curve might be more than what is needed.</p>
B.4.e	Obtain evidence that the model fits the training data well, for individual variables, for any relevant combinations of variables, and for the overall model.	2	<p>For a GLM, such evidence may be available using chi-square tests, p-values, F tests and/or other means.</p> <p>The steps taken during modeling to achieve goodness-of-fit are likely to be numerous and laborious to describe, but they contribute much of what is generalized about a GLM.</p> <p>The regulator should not assume to know what the company did and ask, "How?" Instead, the regulator should ask what the company did and be prepared to ask follow-up questions.</p>

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.4.f	For continuous variables, provide confidence intervals, chi-square tests, p-values, and any other relevant and material test. Determine if model development data, validation data, test data, or other data was used for these tests.	2	<p>Typical p-values greater than 5% are large and should be questioned. Reasonable business judgment can sometimes provide legitimate support for high p-values. Reasonableness of the p-value threshold could also vary depending on the context of the model; e.g., the threshold might be lower when many candidate variables were evaluated for inclusion in the model.</p> <p>Overall lift charts and/or statistical tests using validation data may not provide enough of the picture. If there is concern about one or more individual variables, the reviewer may obtain, for each discrete variable level, the parameter value, confidence intervals, chi-square tests, p-values and any other relevant and material tests.</p> <p>For variables that are modeled continuously, it may be sufficient to obtain statistics around the modeled parameters; for example, confidence intervals around each level of an AOI curve might be more than what is needed.</p>
B.4.g	Obtain a description how the model was tested for stability over time.	2	<p>Evaluate the build/test/validation datasets for potential time-sensitive model distortions (e.g., a winter storm in year 3 of 5 can distort the model in both the testing and validation datasets).</p> <p>Obsolescence over time is a model risk (e.g., old data for a variable or a variable itself may no longer be relevant). If a model being introduced now is based on losses from years ago, the reviewer should be interested in knowing whether that model would be predictive in the proposed context. Validation using recent data from the proposed context might be requested. Obsolescence is a risk even for a new model based on recent and relevant loss data.</p> <p>The reviewer may want to inquire as to the following: What steps, if any, were taken during modeling to prevent or delay obsolescence? What controls exist to measure the rate of obsolescence? What is the plan and timeline for updating and ultimately replacing the model?</p> <p>The reviewer should also consider that as newer technologies enter the market (e.g., personal automobile) their impact may change claim activity over time (e.g., lower frequency of loss). So, it is not necessarily a bad thing that the results are not stable over time.</p>
B.4.h	Obtain a narrative on how potential concerns with overfitting were addressed.	2	

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.4.i	Obtain support demonstrating that the GLM assumptions are appropriate.	3	<p>A visual review of plots of actual errors is usually sufficient.</p> <p>The reviewer should look for a conceptual narrative covering these topics: How does this particular GLM work? Why did the rate filer do what it did? Why employ this design instead of alternatives? Why choose this particular distribution function and this particular link function? A company response may be at a fairly high level and reference industry practices.</p> <p>If the reviewer determines that the model makes no assumptions that are considered to be unreasonable, the importance of this item may be reduced.</p>
B.4.j	Obtain 5-10 sample records with corresponding output from the model for those records.	4	
5. "Old Model" Versus "New Model"			
B.5.a	<p>Obtain an explanation of why this model is an improvement to the current rating plan.</p> <p>If it replaces a previous model, find out why it is better than the one it is replacing; determine how the company reached that conclusion and identify metrics relied on in reaching that conclusion. Look for an explanation of any changes in calculations, assumptions, parameters, and data used to build this model from the previous model.</p>	2	The regulator should expect to see improvement in the new class plan's predictive ability or other sufficient reason for the change.
B.5.b	Determine if two Gini coefficients were compared and obtain a narrative on the conclusion drawn from this comparison.	3	<p>This information element requests a comparison of Gini coefficient from the prior model to the Gini coefficient of proposed model. It is expected that there should be improvement in the Gini coefficient. A higher Gini coefficient indicates greater differentiation produced by the model and how well the model fits that data.</p> <p>This is relevant when one model is being updated or replaced. The regulator should expect to see improvement in the new class plan's predictive ability. One example of a comparison might be sufficient.</p> <p>Note: This comparison is not applicable to initial model introduction. Reviewer can look to CAS monograph, "Generalized Linear Models for Insurance Rating."</p>
B.5.c	Determine if double-lift charts were analyzed and obtain a narrative on the conclusion drawn from this analysis.	3	<p>One example of a comparison might be sufficient.</p> <p>Note: "Not applicable" is an acceptable response.</p>

Section	Information Element	Level of Importance to Regulator's Review	Comments
B.5.d	If replacing an existing model, obtain a list of any predictor variables used in the old model that are not used in the new model. Obtain an explanation of why these variables were dropped from the new model. Obtain a list of all new predictor variables in the new model that were not in the prior old model.	2	It is useful to differentiate between old and new variables, so the regulator can prioritize more time on variables not yet reviewed.
6. Modeler Software			
B.6.a	Request access to SMEs (e.g., modelers) who led the project, compiled the data, and/or built the model.	4	The filing should contain a contact that can put the regulator in touch with appropriate SMEs and key contributors to the model development to discuss the model.

C. THE FILED RATING PLAN

Section	Information Element	Level of Importance to Regulator's Review	Comments
1. General Impact of Model on Rating Algorithm			
C.1.a	In the actuarial memorandum or explanatory memorandum, for each model and sub-model (including external models), look for a narrative that explains each model and its role (i.e., how it was used) in the rating system.	1	<p>The “role of the model” relates to how the model integrates into the rating plan as a whole and where the effects of the model are manifested within the various components of the rating plan. This is not intended as an overarching statement of the model’s goal, but rather a description of how specifically the model is used.</p> <p>This item is particularly important, if the role of the model cannot be immediately discerned by the reviewer from a quick review of the rate and/or rule pages. (Importance is dependent on state requirements and ease of identification by the first layer of review and escalation to the appropriate review staff.)</p>
C.1.b	Obtain an explanation of how the model was used to adjust the filed rating algorithm.	1	<p>Models are often used to produce factor-based indications, which are then used as the basis for the selected changes to the rating plan. It is the changes to the rating plan that create impacts.</p> <p>The regulator should consider asking for an explanation of how the model was used to adjust the rating algorithm.</p>
C.1.c	Obtain a complete list of characteristics/variables used in the proposed rating plan, including those used as input to the model (including sub-models and composite variables) and all other characteristics/variables (not input to the model) used to calculate a premium. For each characteristic/variable, determine if it is only input to the model, whether it is only a separate univariate rating characteristic, or whether it is both input to the model and a separate univariate rating characteristic. The list should include transparent descriptions (in plain language) of each listed characteristic/variable.	1	<p>Examples of variables used as inputs to the model and used as separate univariate rating characteristics might be criteria used to determine a rating tier or household composite characteristic.</p>

Section	Information Element	Level of Importance to Regulator's Review	Comments
2. Relevance of Variables and Relationship to Risk of Loss			
C.2.a	Obtain a narrative regarding how the characteristics/rating variables included in the filed rating plan relate to the risk of insurance loss (or expense) for the type of insurance product being priced.	2	The narrative should include a discussion of the relevance each characteristic/rating variable has on consumer behavior that would lead to a difference in risk of loss (or expense). The narrative should include a rational relationship to cost, and model results should be consistent with the expected direction of the relationship. Note: This explanation would not be needed if the connection between variables and risk of loss (or expense) has already been illustrated.
3. Comparison of Model Outputs to Current and Selected Rating Factors			
C.3.a	Compare relativities indicated by the model to both current relativities and the insurer's selected relativities for each risk characteristic/variable in the rating plan.	1	"Significant difference" may vary based on the risk characteristic/variable and context. However, the movement of a selected relativity should be in the direction of the indicated relativity; if not, an explanation is necessary as to why the movement is logical.
C.3.b	Obtain documentation and support for all calculations, judgments, or adjustments that connect the model's indicated values to the selected relativities filed in the rating plan.	1	The documentation should include explanations for the necessity of any such adjustments and each significant difference between the model's indicated values and the selected values. This applies even to models that produce scores, tiers, or ranges of values for which indications can be derived. Note: This information is especially important if differences between model-indicated values and selected values are material and/or impact one consumer population more than another.
C.3.c	For each characteristic/variable used as both input to the model (including sub-models and composite variables) and as a separate univariate rating characteristic, obtain a narrative regarding how each characteristic/variable was tempered or adjusted to account for possible overlap or redundancy in what the characteristic/variable measures.	2	Modeling loss ratios with these characteristics/variables as control variables would account for possible overlap. The insurer should address this possibility or other considerations; e.g., tier placement models often use risk characteristics/variables that are also used elsewhere in the rating plan. One way to do this would be to model the loss ratios resulting from a process that already uses univariate rating variables. Then the model/composite variables would be attempting to explain the residuals.

Section	Information Element	Level of Importance to Regulator's Review	Comments
4. Responses to Data, Credibility, and Granularity Issues			
C.4.a	Determine what, if any, consideration was given to the credibility of the output data.	2	The regulator should determine at what level of granularity credibility is applied. If modeling was by-coverage, by-form, or by-peril, the company should explain how these were handled when there was not enough credible data by coverage, form, or peril to model.
C.4.b	If the rating plan is less granular than the model, obtain an explanation of why.	2	This is applicable if the company had to combine modeled output in order to reduce the granularity of the rating plan.
C.4.c	If the rating plan is more granular than the model, obtain an explanation of why.	2	A more granular rating plan may imply that the company had to extrapolate certain rating treatments, especially at the tails of a distribution of attributes, in a manner not specified by the model indications. It may be necessary to extrapolate due to data availability or other considerations.
5. Definitions of Rating Variables			
C.5.a	Obtain a narrative regarding adjustments made to model output (e.g., transformations, binning and/or categorizations). If adjustments were made, obtain the name of the characteristic/variable and a description of the adjustment.	2	If rating tiers or other intermediate rating categories are created from model output, the rate and/or rule pages should present these rating tiers or categories. The company should provide an explanation of how model output was translated into these rating tiers or intermediate rating categories.
6. Supporting Data			
C.6.a	Obtain aggregated state-specific, book-of-business-specific univariate historical experience data, separately for each year included in the model, consisting of loss ratio or pure premium relativities and the data underlying those calculations for each category of model output(s) proposed to be used within the rating plan. For each data element, obtain an explanation of whether it is raw or adjusted and, if the latter, obtain a detailed explanation for the adjustments.	4	For example, were losses developed/undeveloped, trended/untrended, capped/uncapped, etc.? Univariate indications should not necessarily be used to override more sophisticated multivariate indications. However, they do provide additional context and may serve as a useful reference.

Section	Information Element	Level of Importance to Regulators' Review	Comments
C.6.b	Obtain an explanation of any material (especially directional) differences between model indications and state-specific univariate indications.	4	<p>Multivariate indications may be reasonable as refinements to univariate indications, but possibly not for bringing about significant reversals of those indications.</p> <p>For instance, if the univariate indicated relativity for an attribute is 1.5 and the multivariate indicated relativity is 1.25, this is potentially a plausible application of the multivariate techniques. If, however, the univariate indicated relativity is 0.7 and the multivariate indicated relativity is 1.25, a regulator may question whether the attribute in question is negatively correlated with other determinants of risk.</p> <p>Credibility of state-level data should be considered when state indications differ from modeled results based on a broader dataset. However, the relevance of the broader dataset to the risks being priced should also be considered. Borderline reversals are not of as much concern. If multivariate indications perform well against the state-level data, this should suffice. However, credibility considerations need to be taken into account as state-level segmentation comparisons may not have enough credibility.</p>
7. Consumer Impacts			
C.7.a	Obtain a listing of the top five rating variables that contribute the most to large swings in renewal premium, both as increases and decreases, as well as the top five rating variables with the largest spread of impact for both new and renewal business.	4	These rating variables may represent changes to rating factors, be newly introduced to the rating plan, or have been removed from the rating plan.
C.7.b	Determine if the company performed sensitivity testing to identify significant changes in premium due to small or incremental change in a single risk characteristic. If such testing was performed, obtain a narrative that discusses the testing and provides the results of that testing.	3	One way to see sensitivity is to analyze a graph of each risk characteristic's/variable's possible relativities. Look for significant variation between adjacent relativities and evaluate if such variation is reasonable and credible.
C.7.c	For the proposed filing, obtain the impacts on renewal business and describe the process used by management, if any, to mitigate those impacts.	2	Some mitigation efforts may substantially weaken the connection between premium and expected loss and expense and, hence, may be viewed as unfairly discriminatory by some states.

Section	Information Element	Level of Importance to Regulator's Review	Comments
C.7.d	Obtain a rate disruption/dislocation analysis, demonstrating the distribution of percentage and/or dollar impacts on renewal business (created by rerating the current book of business) and sufficient information to explain the disruptions to individual consumers.	2	<p>The analysis should include the largest dollar and percentage impacts arising from the filing, including the impacts arising specifically from the adoption of the model or changes to the model as they translate into the proposed rating plan.</p> <p>While the default request would typically be for the distribution/dislocation of impacts at the overall filing level, the regulator may need to delve into the more granular variable-specific effects of rate changes if there is concern about particular variables having extreme or disproportionate impacts, or significant impacts that have otherwise yet to be substantiated.</p> <p>See Appendix D for an example of a disruption analysis.</p>
C.7.e	Obtain exposure distributions for the model's output variables and show the effects of rate changes at granular and summary levels, including the overall impact on the book of business.	3	See Appendix D for an example of an exposure distribution.
C.7.f	Identify policy characteristics, used as input to a model or sub-model, that remain "static" over a policy's lifetime versus those that will be updated periodically. Obtain a narrative on how the company handles policy characteristics that are listed as "static," yet change over time.	3	<p>Some examples of "static" policy characteristics are prior carrier tenure, prior carrier type, prior liability limits, claim history over past X years, or lapse of coverage. These are specific policy characteristics usually set at the time new business is written, used to create an insurance score or to place the business in a rating/underwriting tier, and often fixed for the life of the policy.</p> <p>The reviewer should be aware, and possibly concerned, how the company treats an insured over time when the insured's risk profile based on "static" variables changes over time but the rate charged, based on a new business insurance score or tier assignment, no longer reflect the insured's true and current risk profile.</p> <p>A few examples of "non-static" policy characteristics are age of driver, driving record, and credit information (FCRA-related). These are updated automatically by the company on a periodic basis, usually at renewal, with or without the policyholder explicitly informing the company.</p>

Section	Information Element	Level of Importance to Regulator's Review	Comments
C.7.g	Obtain a means to calculate the rate charged a consumer.	3	<p>The filed rating plan should contain enough information for a regulator to be able to validate policy premium. However, for a complex model or rating plan, a score or premium calculator via Excel or similar means would be ideal, but this could be elicited on a case-by-case basis. The ability to calculate the rate charged could allow the regulator to perform sensitivity testing when there are small changes to a risk characteristic/variable. Note: This information may be proprietary.</p> <p>For the rating plan, the rate order of calculation rule may be sufficient. However, it may not be feasible for a regulator to get all the input data necessary to reproduce a model's output. Credit and telematics models are examples of model types where model output would be readily available, but the input data would not be readily available to the regulator.</p>
C.7.h	In the filed rating plan, be aware of any non-insurance data used as input to the model (customer-provided or other). In order to respond to consumer inquiries, it may be necessary to inquire as to how consumers can verify their data and correct errors.	1	<p>If the data is from a third-party source, the company should provide information on the source. Depending on the nature of the data, it may need to be documented with an overview of who owns it.</p> <p>The topic of consumer verification may also need to be addressed, including how consumers can verify their data and correct errors.</p>
8. Accurate Translation of Model into a Rating Plan			
C.8.a	Obtain sufficient information to understand how the model outputs are used within the rating system and to verify that the rating plan's manual, in fact, reflects the model output and any adjustments made to the model output.	1	The regulator can review the rating plan's manual to see that modeled output is properly reflected in the manual's rules, rates, factors, etc.

Section	Information Element	Level of Importance to Regulator's Review	Comments
9. Efficient and Effective Review of Rate Filing			
C.9.a	Establish procedures to efficiently review rate filings and models contained therein.	1	<p>“Speed to market” is an important competitive concept for insurers. Although the regulator needs to understand the rate filing before accepting the rate filing, the regulator should not request information that does not increase his/her understanding of the rate filing.</p> <p>The regulator should review the state’s rate filing review process and procedures to ensure that they are fair and efficient.</p>
C.9.b	Be knowledgeable of state laws and regulations in order to determine if the proposed rating plan (and models) are compliant with state laws and/or regulations.	1	This is a primary duty of state insurance regulators. The regulator should be knowledgeable of state laws and regulations and apply them to a rate filing fairly and efficiently. The regulator should pay special attention to prohibitions of unfair discrimination.
C.9.c	Be knowledgeable of state laws and regulations in order to determine if any information contained in the rate filing (and models) should be treated as confidential.	1	The regulator should be knowledgeable of state laws and regulations regarding confidentiality of rate filing information and apply them to a rate filing fairly and efficiently. Confidentiality of proprietary information is key to innovation and competitive markets.

APPENDIX B (Continued)

Mapping Best Practices to Information Elements and Information Elements to Best Practices

Table 1 maps the best practices to each GLM information element. Table 2 maps the GLM information elements to each best practice. With this mapping, a state insurance regulator interested in how to meet the objective of a best practice can consider the information elements associated with the best practice in the table.

Appendix B: Table 1	
Best Practices Mapped to Information Element	
Information Element	Selected Best Practices Mapped to Information Element
A. Selecting Model Input	
A.1. Available Data Sources	
A.1.a	1.b, 1.d, 2.a, 2.b, 3.a
A.1.b	2.b, 2.c
A.1.c	1.b
A.2. Sub-Models	
A.2.a	1.b, 1.d, 3.a, 3.c
A.2.b	4.c
A.2.c	2.a, 2.d, 3.a, 4.c
A.2.d	2.a, 2.d, 3.a, 4.c
A.2.e	2.c, 1.d, 2.a, 3.a
A.2.f	1.b, 1.d, 2.a, 3.a
A.3. Adjustments to Data	
A.3.a	1.b, 2.a, 2.b, 2.c
A.3.b	2.a, 2.b, 2.c
A.3.c	2.b, 2.c
A.3.d	2.b, 2.c
A.3.e	2.b, 2.c
A.3.f	2.b, 2.c
A.4. Data Organization	
A.4.a	2.a, 2.b, 2.c, 3.a
A.4.b	1.b, 1.d, 2.b, 2.c
A.4.c	1.d, 2.a, 2.b, 2.c
B. Building the Model	
B.1. High-Level Narrative for Building the Model	
B.1.a	2.a
B.1.b	2.a
B.1.c	2.a
B.1.d	2.a, 3.b

Appendix B: Table 1	
Best Practices Mapped to Information Element	
Information Element	Selected Best Practices Mapped to Information Element
B.1.e	2.a
B.1.f	1.b, 2.a
B.1.g	1.b, 1.d, 2.a, 3.a
B.1.h	2.a, 2.b
B.1.i	1.b, 2.a
B.1.j	2.a, 2.c
B.2. Medium-Level Narrative for Building the Model	
B.2.a	2.a
B.2.b	2.a, 2.c
B.2.c	2.a, 3.b
B.2.d	2.a
B.2.e	2.a, 3.a, 3.b
B.2.f	2.a, 2.c
B.3. Predictor Variables	
B.3.a	1.b, 1.d, 2.a, 3.a
B.3.b	2.a
B.3.c	1.d, 2.a, 3.a
B.3.d	1.b, 1.d, 3.a
B.3.e	2.a, 3.a
B.4. Adjusting Data, Model Validation, and Goodness-of-Fit Measures	
B.4.a	2.a, 3.b
B.4.b	2.a, 3.b
B.4.c	1.b, 2.a
B.4.d	1.b, 2.a, 2.b, 3.b
B.4.e	1.b, 2.a
B.4.f	1.b, 2.a, 3.b
B.4.g	2.a, 2.d, 3.b
B.4.h	2.a
B.4.i	1.b, 2.a
B.4.j	1.d, 2.a, 3.c
B.5. “Old Model” Versus “New Model”	
B.5.a	3.b
B.5.b	2.a, 3.b

Appendix B: Table 1	
Best Practices Mapped to Information Element	
Information Element	Selected Best Practices Mapped to Information Element
B.5.c	2.a, 3.b
B.5.d	2.d, 3.a, 3.b
B.6. Modeler Software	
B.6.a	2.a
C. The Filed Rating Plan	
C.1. General Impact of Model on Rating Algorithm	
C.1.a	2.a, 3.b
C.1.b	3.b, 3.c
C.1.c	1.b, 1.d, 3.a, 3.c
C.2. Relevance of Variables and Relationship to Risk of Loss	
C.2.a	1.b, 1.d, 3.a
C.3. Comparison of Model Outputs to Current and Selected Rating Factors	
C.3.a	1.a, 1.c, 3.b
C.3.b	1.a, 1.c, 3.b
C.3.c	3.a, 3.b, 3.c
C.4. Responses to Data, Credibility, and Granularity Issues	
C.4.a	3.b
C.4.b	3.b
C.4.c	3.b
C.5. Definitions of Rating Variables	
C.5.a	2.a, 2.c, 3.b, 3.c
C.6. Supporting Data	
C.6.a	2.b, 2.c
C.6.b	1.b, 3.b
C.7. Consumer Impacts	
C.7.a	1.a, 1.c
C.7.b	1.a, 1.c
C.7.c	1.a, 1.c, 3.b
C.7.d	1.a, 1.c
C.7.e	1.a, 1.c
C.7.f	2.d

Appendix B: Table 1	
Best Practices Mapped to Information Element	
Information Element	Selected Best Practices Mapped to Information Element
C.7.g	1.c, 3.b
C.7.h	1.d, 2.b, 2.d, 3.b
C.8. Accurate Translation of Model into a Rating Plan	
C.8.a	3.b, 3.c
C.9. Efficient and Effective Review of a Rate Filing	
C.9.a	4.a, 4.b, 4.c
C.9.b	4.a, 4.b, 4.c
C.9.c	4.a, 4.b, 4.c

Appendix B: Table 2		
Information Element Mapped to Best Practices		
Best Practice	Best Practice Code	Information Element (for GLMs)
1. Ensure that the factors developed based on the model produce rates that are not excessive, inadequate, or unfairly discriminatory.		
a. Review the overall rate level impact of the proposed revisions to rate level indications provided by the filer.	1.a	C.3.a, C.3.b, C.7.a, C.7.b, C.7.c, C.7.d, C.7.e, C.7.d
b. Determine whether individual input characteristics to a predictive model and their resulting rating factors are related to the expected loss or expense differences in risk.	1.b	A.1.a, A.1.c, A.2.a, A.2.f, A.3.a, A.4.b, B.1.f, B.1.g, B.1.i, B.3.a, B.3.d, B.4.c, B.4.d, B.4.e, B.4.f, B.4.i, C.1.c, C.2.a, C.6.b
c. Review the premium disruption for individual policyholders and how the disruptions can be explained to individual consumers.	1.c	C.3.a, C.3.b, C.7.a, C.7.b, C.7.c, C.7.d, C.7.e, C.7.g
d. Review the individual input characteristics to and output factors from the predictive model (and its sub-models), as well as associated selected relativities, to ensure they are compatible with practices allowed in the state and do not reflect prohibited characteristics.	1.d	A.1.a, A.2.a, A.2.e, A.2.f, A.4.b, A.4.c, B.1.g, B.3.a, B.3.c, B.3.d, B.4.j, C.1.c, C.2.a, C.7.h
2. Obtain a clear understanding of the data used to build and validate the model and thoroughly review all aspects of the model, including assumptions, adjustments, variables, sub-models used as input, and resulting output.		
a. Obtain a clear understanding of how the selected predictive model was built.	2.a	A.1.a, A.2.c, A.2.d, A.2.e, A.2.f, A.3.a, A.3.b, A.4.a, A.4.c, B.1.a, B.1.b, B.1.c, B.1.d, B.1.e, B.1.f, B.1.g, B.1.h, B.1.i, B.1.j, B.2.a, B.2.b, B.2.c, B.2.d, B.2.e, B.2.f, B.3.a, B.3.b, B.3.c, B.3.e, B.4.a, B.4.b, B.4.c, B.4.d, B.4.e, B.4.f, B.4.g, B.4.h, B.4.i, B.4.j, B.5.b, B.5.c, B.6.a, C.1.a, C.4.b, C.4.c, C.5.a
b. Determine whether the data used as input to the predictive model is accurate, including a clear understanding how missing values, erroneous values, and outliers are handled.	2.b	A.1.a, A.1.b, A.3.a, A.3.b, A.3.c, A.3.d, A.3.e, A.3.f, A.4.a, A.4.b, A.4.c, B.1.h, B.4.d, C.6.a, C.7.h
c. Determine whether any adjustments to the raw data are handled appropriately, including, but not limited to, trending, development, capping, and removal of catastrophes.	2.c	A.1.b, A.2.e, A.3.a, A.3.b, A.3.c, A.3.d, A.3.e, A.3.f, A.4.a, A.4.b, A.4.c, B.1.j, B.2.b, B.2.f, C.5.a, C.6.a

Appendix B: Table 2			
Information Element Mapped to Best Practices			
	Best Practice	Best Practice Code	Information Element (for GLMs)
	d. Obtain a clear understanding of how often each risk characteristic used as input to the model is updated and whether the model is periodically refreshed, so model output reflects changes to non-static risk characteristics.	2.d	A.2.c, A.2.d, B.4.g, B.5.d, C.7.f, C.7.h
3. Evaluate how the model interacts with and improves the rating plan.			
	a. Obtain a clear understanding of the characteristics that are input to a predictive model (and its sub-models).	3.a	A.1.a, A.2.a, A.2.c, A.2.d, A.2.e, A.2.f, A.4.a, B.1.g, B.2.e, B.3.a, B.3.c, B.3.d, B.3.e, B.5.d, C.1.c, C.2.a, C.3.c, C.7.h
	b. Obtain a clear understanding of how the insurer integrates the model into the rating plan and how it improves the rating plan.	3.b	B.1.d, B.2.c, B.2.e, B.4.a, B.4.b, B.4.d, B.4.f, B.4.g, B.5.a, B.5.b, B.5.c, B.5.d, C.1.a, C.1.b, C.3.a, C.3.b, C.3.c, C.4.a, C.4.b, C.4.c, C.5.a, C.6.b, C.7.c, C.7.g, C.7.h, C.8.a
	c. Obtain a clear understanding of how the model output interacts with non-modeled characteristics/variables used to calculate a risk's premium.	3.c	A.2.a, B.4.j, C.1.b, C.1.c, C.3.c, C.5.a, C.8.a
4. Enable competition and innovation to promote the growth, financial stability, and efficiency of the insurance marketplace.			
	a. Enable innovation in the pricing of insurance through acceptance of predictive models, provided they are in compliance with state laws and/or regulations, particularly prohibitions on unfair discrimination.	4.a	C.9.a, C.9.b, C.9.c
	b. Protect the confidentiality of filed predictive models and supporting information in accordance with state laws and/or regulations.	4.b	C.9.a, C.9.b, C.9.c
	c. Review predictive models in a timely manner to enable reasonable speed to market.	4.c	A.2.b, A.2.c, A.2.d, C.9.a, C.9.b, C.9.c

APPENDIX C – GLOSSARY OF TERMS

Adjusting Data – Adjusting data refers to any changes made when the modeler makes any to the raw data. For example, capping losses, on-leveling, binning, transformation of the data, etc. This includes scrubbing of the data.

Aggregated Data – Data summarized or compiled in a manner that is meaningful to the intended user of the data. Aggregation involves segmenting and combining individual data entries into categories based on common features within the data. For example, aggregated raw data requested for a predictive model would be categorized in the same manner as the categories of variables which receive specific treatments within the model outputs.

Big Data – “Big data” refers to extremely large datasets analyzed computationally to infer laws (regressions, nonlinear relationships, and causal effects) to reveal relationships and dependencies or to perform predictions of outcomes and behaviors.

Composite Characteristic – A composite characteristic is the combination of two or more individual risk characteristics. Composite characteristics are used to create composite variables.

Composite Score – A composite score is a number derived by combining multiple variables by means of a sequence of mathematical steps; e.g., a credit-based insurance scoring model.

Composite Variable – A composite variable is a variable created by incorporating two or more individual risk characteristics of the insured into a single variable.

Continuous Variable – A continuous variable is a numeric variable that represents a measurement on a continuous scale. Examples include age, amount of insurance (in dollars), and population density.²¹

Control Variable – Control variables are variables whose relativities are not used in the final rating algorithm but are included when building the model. They are included in the model so that other correlated variables do not pick up their signal. For example, state and year are frequently included in countrywide models as control variables so that the different experiences and distributions between the states and across time do not influence the rating factors used in the final rating algorithm.²²

Correlation Matrix – A correlation matrix is a table showing correlation coefficients between sets of variables. Each random variable (X_i) in the table is correlated with each of the other variables in the table (X_j). Using the correlation matrix, one can determine which pairs of variables have the highest correlation. Below is a sample correlation matrix showing correlation coefficients for combinations of five variables (B1:B5). The table shows that variables B2 and B4 have the highest correlation coefficient (0.96) in this example. The diagonal of the table is always set to one, because the correlation coefficient between a variable and itself is always 1. The upper-right triangle would be a mirror image of the lower-left triangle (because correlation between B1 and B2 is the same as between B2 and B1). In other words, a correlation matrix is also a symmetric matrix.²³

	B1	B2	B3	B4	B5
B1	1				
B2	0.53	1			
B3	0.73	0.44	1		
B4	0.87	0.96	0.41	1	
B5	0.43	0.71	0.72	0.56	1

Data Dredging – Data dredging is also referred to as data fishing, data snooping, data butchery, and p-hacking. It is the misuse of data analysis to find patterns in data that can be presented as statistically significant when, in fact, there is no real underlying effect. Data dredging is done by performing many statistical tests on the data and focusing only on those that produce significant results. Data dredging is in conflict with hypothesis testing, which entails performing at most a handful of tests to determine the validity of the hypothesis about an underlying effect.²⁴

²¹ Goldburd, M., et al., 2016. “Generalized Linear Models for Insurance Rating,” CAS Monograph Series, Number 5, Second Edition. Accessed online at <https://www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf>.

²² Closter, D., and Carmean, C., 2019. “Predictive Models: A Practical Guide for Practitioners and Regulators,” CAS Ratemaking Committee. Accessed online at www.casact.org/cms/pdf/Practical_Guide_for_Evaluating_Predictive_Models_Closter_Carmean.pdf.

²³ <https://www.statisticshowto.datasciencecentral.com/correlation-matrix>.

²⁴ Davey Smith, G., and Ebrahim, S., 2002. “Data Dredging, Bias, or Confounding.” *BMJ*. 325 (7378): 1437–1438. doi:10.1136/bmj.325.7378.1437. PMC 1124898. PMID 12493654.

Data Mining – Data mining is a process used to extract usable data from a larger set of any raw data. It implies analyzing data patterns in large batches of data using one or more software programs. As an application of data mining, businesses can learn more about their customers and develop strategies related to various business functions. One application of data mining for insurance companies is analyzing large datasets to charge different groups of insureds different amounts of premium corresponding to their level of risk. Data mining involves substantial data collection and warehousing, as well as computer processing. For segmenting the data and evaluating the probability of future events, data mining uses sophisticated mathematical algorithms.²⁵

Data Source – A data source is the original repository of the information used to build the model. For example, information from internal insurance data, an application, a vendor, credit bureaus, government websites, a sub-model, verbal information provided to agents, external sources, consumer information databases, etc.

Discrete Variable – A discrete variable is a variable that can only take on a countable number of values/categories. Examples include number of claims, marital status, and gender.

Discrete Variable Level – Discrete variables are generally referred to as “factors” (not to be confused with rating factors), with values that each factor can take being referred to as “levels.”²⁶ For example, “one driver” and “more than one driver” may be levels within a “number of drivers” rating variable.

Double-Lift Chart – Double-lift charts are similar to simple quantile plots, but rather than sorting based on the predicted loss cost of each model, the double-lift chart sorts based on the ratio of the two models’ predicted loss costs. Double-lift charts directly compare the results of two models.²⁷

Exponential Family – The exponential family is a class of distributions that share the same general density form and have certain properties that are used in fitting GLMs. It includes many well-known distributions, such as the Normal, Poisson, Gamma, Tweedie, and Binomial, to name a few.²⁸

Fair Credit Reporting Act – The federal Fair Credit Reporting Act (FCRA), 15 U.S.C. § 1681 (FCRA) is U.S. federal government legislation enacted to promote the accuracy, fairness, and privacy of consumer information contained in the files of consumer reporting agencies. It was intended to protect consumers from the willful and/or negligent inclusion of inaccurate information in consumers’ credit reports. To that end, the FCRA regulates the collection, dissemination, and use of consumer information, including consumer credit information.²⁹ Together with the federal Fair Debt Collection Practices Act (FDCPA), the FCRA forms the foundation of consumer rights law in the U.S. Originally enacted in 1970, the FCRA is enforced by the Federal Trade Commission, the Consumer Financial Protection Bureau, and private litigants.

²⁵ <https://economictimes.indiatimes.com/definition/data-mining>.

²⁶ <https://www.casact.org/pubs/dpp/dpp04/04dpp1.pdf>.

²⁷ Trevet, D., 2013. “Exploring Model Lift: Is Your Model Worth Implementing?,” *Actuarial Review*, Volume 40, Number 2, May. Accessed online at <https://www.casact.org/newsletter/index.cfm?fa=viewart&id=6540>.

²⁸ Goldburd, M., et al., 2016. “Generalized Linear Models for Insurance Rating,” CAS Monograph Series, Number 5, Second Edition. Accessed online at www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf.

²⁹ Dlabay, L.R., Burrow, J.L., and Brad, B., 2009. *Intro to Business*. Mason, Ohio: South-Western Cengage Learning, p. 471, ISBN 978-0-538-44561-0.

Generalized Linear Model – Generalized linear models (GLMs) are a means of modeling the relationship between a variable whose outcome we wish to predict and one or more explanatory variables. The predicted variable is called the target variable and is denoted y . In property/casualty insurance ratemaking applications, the target variable is typically one of the following:

- Claim count (or claims per exposure).
- Claim severity (i.e., dollars of loss per claim or occurrence).
- Pure premium (i.e., dollars of loss per exposure).
- Loss ratio (i.e., dollars of loss per dollar of premium).

For quantitative target variables such as those above, the GLM will produce an estimate of the expected value of the outcome. For other applications, the target variable may be the occurrence or non-occurrence of a certain event. Examples include:

- Whether a policyholder will renew his/her policy.
- Whether a submitted claim contains fraud.

For such variables, a GLM can be applied to estimate the probability that the event will occur.

The explanatory variables, or predictors, are denoted $x_1 \dots x_p$, where p is the number of predictors in the model. Potential predictors are typically any policy term or policyholder characteristic that an insurer may wish to include in a rating plan.

Some examples are:

- Type of vehicle, age, or marital status for personal auto insurance.
- Construction type, building age, or amount of insurance (AOI) for home insurance.³⁰

Geodemographic – Geodemographics is the study of the population and its characteristics, divided according to regions on a geographical basis. This involves application of clustering techniques to group statistically similar neighborhoods and areas with the assumption that the differences within any group should be less than the difference between groups. While the main source of data for a geodemographic study is U.S. Census Bureau data, the use of other sources of relevant data is also prevalent. Geodemographic segmentation is based on two principles:

1. People who live in the same neighborhood are more likely to have similar characteristics than are two people chosen at random.
2. Neighborhoods can be categorized in terms of the characteristics of the population that they contain. Any two neighborhoods can be placed in the same category; i.e., they contain similar types of people, even though they are widely separated.

Granularity of Data – Granularity of data is the level of segmentation at which the data is grouped or summarized. It reflects the level of detail used to slice and dice the data.³¹

For example, a postal address can be recorded, with coarse granularity, as:

- Country

Or, with finer granularity, as multiple fields:

- Country
- State

Or, with much finer granularity, as multiple fields:

- Country
- State
- County
- ZIP code
- Property geo code

³⁰ Goldburd, M., et al., 2016. "Generalized Linear Models for Insurance Rating," CAS Monograph Series, Number 5, Second Edition. Accessed online at www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf.

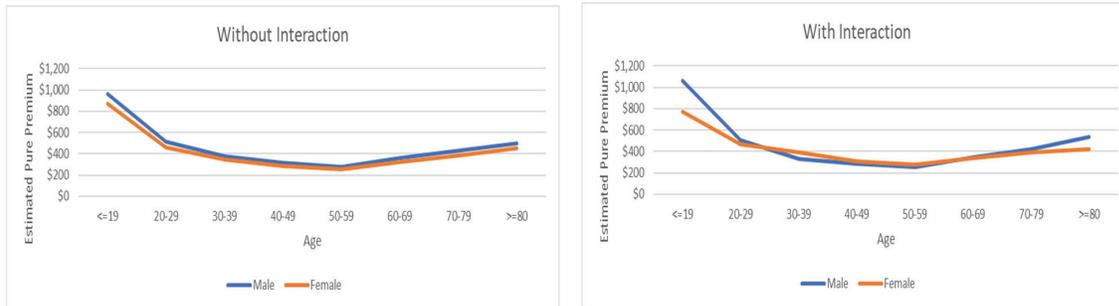
³¹ <https://en.wikipedia.org/wiki/Granularity>.

Home Insurance – Home insurance may cover, depending on the specific product, damage to the property, contents, and outstanding structures of a residential dwelling, as well as loss of use, liability, and medical coverage. The perils covered, the amount of insurance provided, and other policy characteristics are detailed in the policy contract.³² Common examples of home insurance policy forms are homeowners insurance (HO3 or HO5), renter’s insurance (HO4), and condominium insurance (HO6).

Insurance Data – Data collected by the insurance company directly from the consumer or through direct interactions with the consumer (e.g., claims). This is often referred to as “internal data.” For example, data obtained from the consumer through communications with an agent or on an insurance application would be “insurance data.” However, data obtained from a credit bureau or census would not be considered “insurance data” but would be considered “non-insurance data” instead.

Interaction Term – Two predictor variables are said to interact if the effect of one of the predictors on the target variable depends on the level of the other. Suppose that predictor variables X_1 and X_2 interact. A GLM modeler could account for this interaction by including an interaction term of the form X_1X_2 in the formula for the linear predictor. For instance, rather than defining the linear predictor as $\eta = \beta_0 + \beta_1X_1 + \beta_2X_2$, they could set $\eta = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_1X_2$.³³

The following two plots of modeled personal auto bodily injury pure premium by age and gender illustrate this effect. The plots are based on two otherwise identical log-link GLMs, built using the same fictional dataset, with the only difference between the two being that the second model includes the age*gender interaction term, while the first does not. Notice that the male curve in the first plot is a constant multiple of the female curve, while in the second plot the ratios of the male to female values differ from age to age.



Lift Chart – See definition of “quantile plot.”

Linear Predictor – A linear predictor is the linear combination of explanatory variables (X_1, X_2, \dots, X_k) in the model; e.g., $\beta_0 + \beta_1X_1 + \beta_2X_2$.³⁴

Link Function – The link function, η or $g(\mu)$, specifies how the expected value of the response relates to the linear predictor of explanatory variables; e.g., $\eta = g(E(Y_i)) = E(Y_i)$ for linear regression, or $\eta = \text{logit}(\pi)$ for logistic regression.³⁵

Missing data – Missing data occurs when some records contain blanks or “Not Available” or “Null” where variable values would normally be available.

Non-Insurance Data – Non-insurance data is any data not defined as “insurance data.” Non-insurance data includes data provided by another party other than the insurance company and is often referred to as “external data.” For example, data obtained from a credit bureau or census would be considered “non-insurance data.” However, data obtained from the consumer through communications with an agent or on an insurance application would not be considered “non-insurance data” but would be “insurance data” instead.

³² Werner, G., and Modlin, C., 2016. “Basic Ratemaking, Fifth Edition,” CAS. Accessed online at www.casact.org/library/studynotes/Werner_Modlin_Ratemaking.pdf.

³³ To see that this second definition accounts for the interaction, note that it is equivalent to $\eta = \beta_0 + \beta_1'X_1 + \beta_2X_2$ and to $\eta = \beta_0 + \beta_1X_1 + \beta_2'X_2$, with $\beta_1' = \beta_1 + \beta_3X_2$ and $\beta_2' = \beta_2 + \beta_3X_1$. Since β_1' is a function of X_2 and β_2' is a function of X_1 , these two equivalences say that the effect of X_1 depends on the level of X_2 and vice versa.

³⁴ Goldburd, M., et al., 2016. “Generalized Linear Models for Insurance Rating,” CAS Monograph Series, Number 5, Second Edition. Accessed online at www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf.

³⁵ <https://online.stat.psu.edu/stat504/node/216>.

Offset Variable – Offset variables (or factors) are model variables with a known or pre-specified coefficient. Their relativities are included in the model and the final rating algorithm, but they are generated from other studies outside the multivariate analysis and are fixed (not allowed to change) in the model when it is run. The model does not estimate any coefficients for the offset variables, and they are included in the model, so that the estimated coefficients for other variables in the model would be optimal in their presence. Examples of offset variables include limit and deductible relativities that are more appropriately derived via loss elimination analysis. The resulting relativities are then included in the multivariate model as offsets. Another example is using an offset factor to account for the exposure in the records; this does not get included in the final rating algorithm.³⁶

Overfitting – Overfitting is the production of an analysis that corresponds too closely or exactly to a particular set of data and may, therefore, fail to fit additional data or predict future observations reliably.³⁷

PCA Approach (Principal Component Analysis) – The PCA method creates multiple new variables from correlated groups of predictors. Those new variables exhibit little or no correlation between them, thereby making them potentially more useful in a GLM. A PCA in a filing can be described as “a GLM within a GLM.” One of the more common applications of PCA is geodemographic analysis, where many attributes are used to modify territorial differentials on, for example, a census block level.

Personal Automobile Insurance – Personal automobile insurance is insurance for privately owned motor vehicles and trailers for use on public roads not owned or used for commercial purposes. This includes personal auto combinations of private passenger auto, motorcycle, financial responsibility bonds, recreational vehicles and/or other personal auto. Policies include any combination of coverage such as the following: auto liability; personal injury protection (PIP); medical payments (MP); uninsured/underinsured motorist (UM/UIM); specified causes of loss; comprehensive; and collision.³⁸

Post-Model Adjustment – Post-model adjustment is any adjustment made to the output of the model, including, but not limited to, adjusting rating factors or removal of variables.

Probability Distribution – A probability distribution is a statistical function that describes all the possible values and likelihoods that a random variable can take within a given range. The chosen probability distribution is supposed to best represent the likely outcomes.

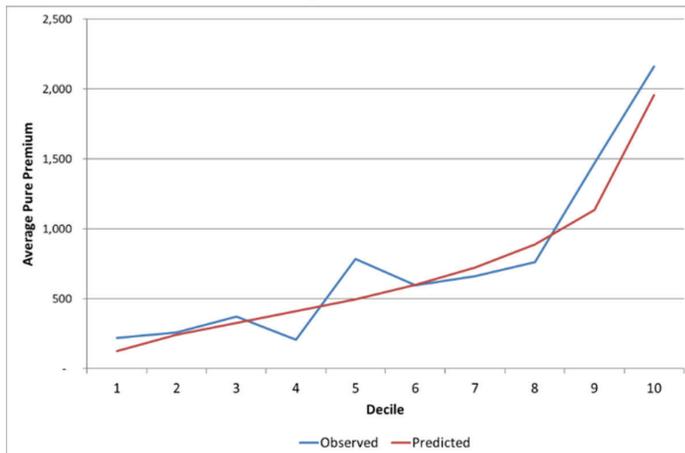
Proxy Variable – A proxy variable is any variable that indirectly captures the characteristics of another variable, regardless of whether that other variable is used in the insurer’s rating plan.

³⁶ Closter, D., and Carmean, C., 2019. “Predictive Models: A Practical Guide for Practitioners and Regulators,” CAS Ratemaking Committee. Accessed online at www.casact.org/cms/pdf/Practical_Guide_for_Evaluating_Predictive_Models_Closter_Carmean.pdf.

³⁷ <https://en.wikipedia.org/wiki/Overfitting>.

³⁸ https://content.naic.org/cipr_topics/topic_auto_insurance.htm.

Quantile Plot – A quantile plot is a visual representation of a model’s ability to accurately differentiate between the best and the worst risks. Data is sorted by predicted value from smallest to largest, and the data is then bucketed into quantiles with the same volume of exposures. Within each bucket, the average predicted value and the average actual value are calculated; and, for each quantile, the actual and predicted values are plotted. The first quantile contains the risks that the model predicts have the best experience and the last quantile contains the risks predicted to have the worst experience. The plot shows two things: 1) how well the model predicts actual values by quantile; and 2) the lift of the model (i.e., the difference between the first and last quantile), which is a reflection of the model’s ability to distinguish between the best and worst risks. By definition, the average predicted values would be monotonically increasing, but the average actual values may show reversals.³⁹ An example follows:



Rating Algorithm – A rating algorithm is the mathematical or computational component of the rating plan used to calculate an insured’s premium.

Rating Category – A rating category is the same as a rating characteristic and can be quantitative or qualitative.

Rating Characteristic – A rating characteristic is a specific risk criterion of the insured used to define the level of the rating variable that applies to the insured; e.g., rating variable = driver age; rating characteristic = age 42.

Rating Factor – A rating factor is the numerical component included in the rate pages of the rating plan’s manual. Rating factors are used together with the rating algorithm to calculate the insured’s premium.

Rating Plan – The rating plan describes in detail how to combine the various components in the rules and rate pages to calculate the overall premium charged for any risk. The rating plan is specific and includes explicit instructions, such as:

- The order in which rating variables should be considered.
- How the effect of rating variables is applied in the calculation of premium (e.g., multiplicative, additive, or some unique mathematical expression).
- The existence of maximum and minimum premiums (or, in some cases, the maximum discount or surcharge that can be applied).
- Specifics associated with any rounding that takes place.

If the insurance product contains multiple coverages, then separate rating plans by coverage may apply.⁴⁰

Rating System – The rating system is the insurance company’s information technology (IT) infrastructure that produces the rates derived from the rating algorithm.

Rating Tier – A rating tier is rating based on a combination of rating characteristics rather than a single rating characteristic, resulting in a separation of groups of insureds into different rate levels within the same or separate companies. Often, rating tiers are used to differentiate quality of risk; e.g., substandard, standard, or preferred.

Rating Treatment – Rating treatment is the manner in which an aspect of the rating affects an insured’s premium.

³⁹ Goldburd, M., et al., 2016. “Generalized Linear Models for Insurance Rating,” CAS Monograph Series, Number 5, Second Edition. Accessed online at <https://www.casact.org/pubs/monographs/papers/05-Goldburd-Khare-Tevet.pdf>.

⁴⁰ Werner, G., and Modlin, C., 2016. “Basic Ratemaking, Fifth Edition,” CAS. Accessed online at https://www.casact.org/library/studynotes/Werner_Modlin_Ratemaking.pdf.

Rating Variable – A rating variable is a risk criterion of the insured used to modify the base rate in a rating algorithm.⁴¹

Rational Explanation – A “rational explanation” refers to a plausible narrative connecting the variable and/or treatment in question with real-world circumstances or behaviors that contribute to the risk of insurance loss in a manner that is readily understandable to a consumer or other educated layperson. A “rational explanation” does not require strict proof of causality but should establish a sufficient degree of confidence that the variable and/or treatment selected are not obscure, irrelevant, or arbitrary.

A “rational explanation” can assist the regulator in explaining an approved rating treatment if challenged by a consumer, legislator, or the media. Furthermore, a “rational explanation” can increase the regulator’s confidence that a statistical correlation identified by the insurer is not spurious, temporary, or limited to the specific datasets analyzed by the insurer.

Raw Data – Data originating straight from the insurer’s data banks without modification (e.g., not scrubbed or transformed). Raw data may occur with or without aggregation. Aggregated raw datasets are those summarized or compiled prior to data selection and model building.

Sample Record – A sample record is one line of data from a data source including all variables. For example:

Record	ZIP	Garage Type	Lot Size	Roof	Square Feet	Replacement Cost	Heating	Living Area SqFT	Num Stories	Style	Num Bedrooms
1	04254	garage, basement	25700	asphalt shingle	1680	213000	FORCED HOT WATER	1680	1	Ranch	3

Scrubbed Data – Scrubbed data is data reviewed for errors, where “N/A” has been replaced with a value, and where most transformations have been performed. Data that has been “scrubbed” is now in a useable format to begin building the model.

Scrubbing Data – Scrubbing is the process of editing, amending, or removing data in a dataset that is incorrect, incomplete, improperly formatted, or duplicated.

SME – Subject-matter expert.

Sub-Model – A sub-model is any model that provides input into another model.

Variable Transformation – A variable transformation is a change to a variable by taking a function of that variable, for example, when age’s value is replaced by the value $(age)^2$. The result is called a **transformation variable**.

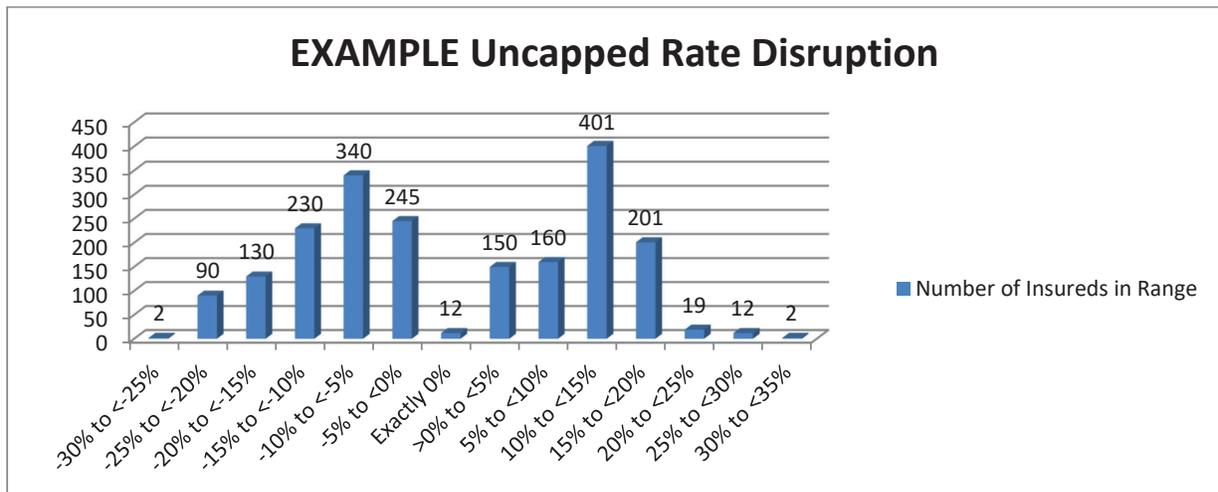
Voluntarily Reported Data – Voluntarily reported data is data directly obtained by a company from a consumer. Examples would be data taken directly from an application for insurance or obtained verbally by a company representative.

Univariate Model – A univariate model is a model that only has one independent variable.

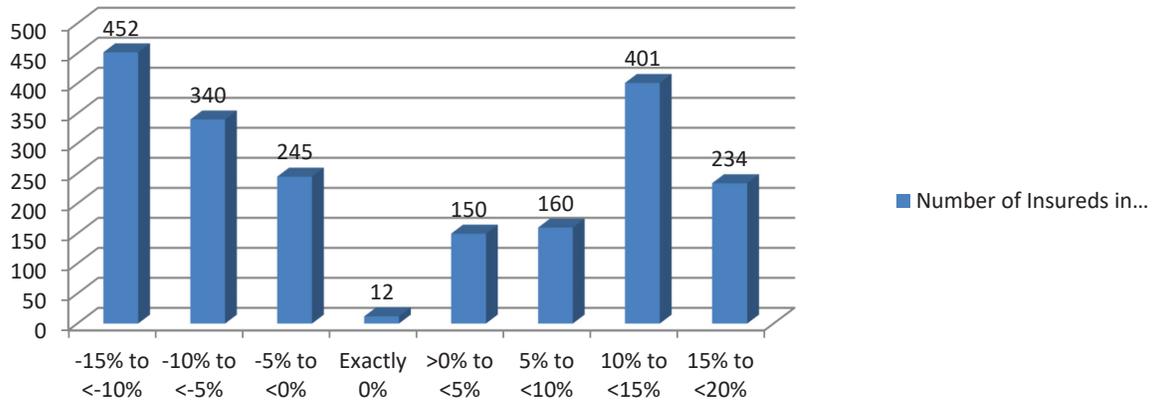
⁴¹ Ibid.

APPENDIX D – SAMPLE RATE-DISRUPTION TEMPLATE

<u>State Division of Insurance - EXAMPLE for Rate Disruption</u>		<i>Template Updated October 2018</i>	
<ul style="list-style-type: none"> First, fill in the boxes for minimum and maximum individual impacts, shaded in light blue. Default values in the cells are examples only. The appropriate percent-change ranges will then be generated based on the maximum/minimum changes. For every box shaded in light green, replace "ENTER VALUE" with the number of affected insureds within the corresponding change range. Once all values are filled in, use the "Charts" feature in Excel to generate a histogram to visually display the spread of impacts. 			
NOTE: Values of Minimum % Change, Maximum % Change, and Total Number of Insureds must reconcile to the Rate/Rule Schedule in SERFF.			
	<u>Uncapped</u>		<u>Capped (If Applicable)</u>
Minimum % Change	-30.000%	Minimum % Change	-15.000%
Maximum % Change	30.000%	Maximum % Change	15.000%
Total Number of Insureds (Auto-Calculated)	1994	Total Number of Insureds (Auto-Calculated)	1994
	<u>Uncapped Rate Disruption</u>		<u>Capped Rate Disruption (If Applicable)</u>
Percent-Change Range	Number of Insureds in Range	Percent-Change Range	Number of Insureds in Range
-30% to <-25%	2	-15% to <-10%	452
-25% to <-20%	90	-10% to <-5%	340
-20% to <-15%	130	-5% to <0%	245
-15% to <-10%	230	Exactly 0%	12
-10% to <-5%	340	>0% to <5%	150
-5% to <0%	245	5% to <10%	160
Exactly 0%	12	10% to <15%	401
>0% to <5%	150	15% to <20%	234
5% to <10%	160		
10% to <15%	401		
15% to <20%	201		
20% to <25%	19		
25% to <30%	12		
30% to <35%	2		



EXAMPLE Capped Rate Disruption



State Division of Insurance - EXAMPLE for Largest Percentage Increase				Template Updated October 2018			
• Fill in fields highlighted in light green. Fields highlighted in red are imported from the Template for Rate Disruption.							
Largest Percentage Increase				Corresponding Dollar Increase (for Insured Receiving Largest Percentage Increase)			
Uncapped Change		30.00%	Uncapped Dollar Change	\$165.00	Current Premium	\$550.00	
Capped Change (If Applicable)		15.00%	Capped \$ Change (If Applicable)	\$82.50	Proposed Premium	\$632.50	
Characteristics of Policy (Fill in Below)							
<ul style="list-style-type: none"> • For Auto Insurance: At minimum, identify the age and gender of each named insured, limits by coverage, territory, make / model of vehicle(s), prior accident / violation history, and any other key attributes whose treatments are affected by this filing. • For Home Insurance: At minimum, identify age and gender of each named insured, amount of insurance, territory, construction type, protection class, any prior loss history, and any other key attributes whose treatments are affected by this filing. 							
Automobile policy: Three insureds - Male (Age 54), Female (Age 49), and Male (Age 25). Territory: Las Vegas, ZIP Code 89105.							
Vehicle:	BI Limits:	PD Limits:	UM/UIM Limits:	MED Limits:	COMP Deductible:	COLL Deductible:	
2009 Ford Focus	\$50,000 / \$100,000	\$25,000	\$50,000 / \$100,000	\$5,000	\$500	\$1,000	
2003 Honda Accord	\$25,000 / \$50,000	\$10,000	\$25,000 / \$50,000	\$1,000	\$500	\$1,000	
No prior accidents, 1 prior speeding conviction for 25-year-old male. Policy receives EFT discount and loyalty discount.							
Primary impacts are the increases to the relativities for the age of insured, ZIP Code 89105, COLL Deductible of \$1,000, and symbol for 2003 Honda Accord.							
Most Significant Impacts to This Policy (Identify attributes - e.g., base-rate change or changes to individual rating variables)							
NOTE: If capping is proposed to apply for this policy, include the impact of capping at the end, after displaying uncapped impacts by attribute. Add rows as needed. Total percent and dollar impacts should reconcile to the values presented above in this exhibit.							
Attribute	% Impact (Uncapped)	Dollar Impact (Uncapped)	What lengths of policy terms does the insurer offer in this book of business?				
Insured Age (M/25)	12.00%	\$66.00	Check all options that apply below. <input type="checkbox"/> 12-Month Policies <input checked="" type="checkbox"/> 6-Month Policies <input type="checkbox"/> 3-Month Policies <input type="checkbox"/> Other (SPECIFY)				
COLL Deductible (\$1,000)	10.00%	\$61.60					
Territory (89105)	4.00%	\$27.10					
Vehicle Symbol (2003 Honda Accord)	1.46%	\$10.29					
Effect of Capping	-11.54%	-\$82.50					
TOTAL	15.00%	\$82.50					

State Division of Insurance - EXAMPLE for Largest Dollar Increase				<i>Template Updated October 2018</i>			
• Fill in fields highlighted in light green.							
<u>Largest Dollar Increase</u>			<u>Corresponding Percentage Increase (for Insured Receiving Largest Dollar Increase)</u>				
Uncapped Change		\$306.60	Current Premium	\$2,555.00	Uncapped Percent Change		12.00%
Capped Change (If Applicable)		\$306.60	Proposed Premium	\$2,861.60	Capped % Change (If Applicable)		12.00%
Characteristics of Policy (Fill in Below)							
<ul style="list-style-type: none"> • For Auto Insurance: At minimum, identify the age and gender of each named insured, limits by coverage, territory, make / model of vehicle(s), prior accident / violation history, and any other key attributes whose treatments are affected by this filing. • For Home Insurance: At minimum, identify age and gender of each named insured, amount of insurance, territory, construction type, protection class, any prior loss history, and any other key attributes whose treatments are affected by this filing. 							
Automobile policy: Two insureds - Male (Age 33), Female (Age 32). Territory: Reno, ZIP Code 89504.							
Vehicle:	BI Limits:	PD Limits:	UM/UIM Limits:	MED Limits:	COMP Deductible:	COLL Deductible:	
2016 Tesla Model S	\$200,000 / \$600,000	\$50,000	\$200,000 / \$600,000	\$10,000	\$2,500	\$2,500	
2015 Mercedes-Benz C-Class (W205)	\$200,000 / \$600,000	\$50,000	\$200,000 / \$600,000	\$10,000	\$2,500	\$2,500	
1 prior at-fault accident for 32-year-old female. Policy receives EFT discount and loyalty discount.							
Primary impacts are the increases to the relativities for the age of insured, symbol for 2015 Mercedes-Benz C-Class, and increased-limit factors for Property Damage and Medical Payments coverages.							
Most Significant Impacts to This Policy (Identify attributes - e.g., base-rate change or changes to individual rating variables)							
NOTE: If capping is proposed to apply for this policy, include the impact of capping at the end, after displaying uncapped impacts by attribute. Add rows as needed. Total percent and dollar impacts should reconcile to the values presented above in this exhibit.							
Attribute	% Impact (Uncapped)	Dollar Impact (Uncapped)					
Insured Age (M/33)	3.15%	\$80.48					
Insured Age (F/32)	3.23%	\$85.13					
Vehicle Symbol (2015 Mercedes-Benz C-Class)	2.45%	\$66.65					
Increased-Limit Factor for PD	1.55%	\$43.20					
Increased-Limit Factor for MED	1.10%	\$31.14					
TOTAL	12.00%	\$306.60					

PROJECT HISTORY

REGULATORY REVIEW OF PREDICTIVE MODELS

1. Description of the Project, Issues Addressed, etc.

The *Regulatory Review of Predictive Models* white paper: 1) describes best practices for regulatory review of generalized linear models (GLMs), which is the most often filed model, for the private auto and home lines of business; and 2) provides changes to the *Product Filing Review Handbook* to include best practices for review of predictive models and analytics filed by insurers to justify rates.

In addition to the best practices, there is detail attached to the paper as Appendix B labeled as general and specific information elements that could be useful to a state insurance regulator when reviewing a rating plan based on a GLM. Additionally, there is commentary on what might be important about that information and some insight as to when the information might identify an issue the state insurance regulator needs to be aware of or explore further.

2. Name of Group Responsible for Drafting the Model and States Participating

The white paper was drafted by the Casualty Actuarial and Statistical (C) Task Force. The volunteer drafters were: Rich Piazza, Chair, (LA); Vanessa Darrah and Tom Zuppan (AZ); Sydney Sloan (CO); Sue Andrews, Wanchin Chou and George Bradner (CT); Sandra Darby (ME); Phil Vigliaturo (MN); Gennady Stolyarov (NV); Eric Hintikka (TX); and Rosemary Raszka (VT). Daniel Davis (AL) and Gordon Hay (NE) participated in the first stages of drafting.

3. Project Authorized by What Charge and Date First Given to the Group

At the request of the Big Data (EX) Working Group, on June 27, 2018, the Property and Casualty Insurance (C) Committee charged the Casualty Actuarial and Statistical (C) Task Force with the following:

1. Draft and propose changes to the *Product Filing Review Handbook* to include best practices for review of predictive models and analytics filed by insurers to justify rates.
2. Draft and propose state guidance (e.g., information, data) for rate filings based on complex predictive models.

The white paper was adopted by the Casualty Actuarial and Statistical (C) Task Force on Sept. 15, 2020, and by the Property and Casualty Insurance (C) Committee on Dec. 8, 2020.

4. A General Description of the Drafting Process (e.g., drafted by a subgroup, interested parties, the full group, etc). Include any parties outside the members that participated.

As directed by the Big Data (EX) Working Group, the Casualty Actuarial and Statistical (C) Task Force used the following principles in development of the white paper: 1) there should be no change to rate regulatory authority and autonomy of each individual state; 2) while maintaining such authority and autonomy, the states will share information and expertise and will discuss technical issues with each other; and 3) confidentiality in accordance with state laws should be maintained.

State insurance regulators drafted each version of the white paper, considered interest party comments and documented responses to each comment so all parties understood the reason for or against making changes to the paper. Interested parties provided rankings of the information elements, which were used along with the drafting group's scores to arrive at the final rankings.

5. A General Description of the Due Process (e.g., exposure periods, public hearings, or any other means by which widespread input from industry, consumers and legislators was solicited)

The Task Force exposed a first draft of the white paper in December 2018 for a 60-day public comment period. That exposure period was agreed to be extended an additional week. The second draft was exposed on May 14, 2019, for a 45-day public comment period. Additional sections of the paper were drafted to propose changes to the *Product Filing Review Handbook* and

add a short section on some proposed state guidance. On Aug. 3, 2019, these sections were released for a 45-day public comment period. On Oct. 15, 2019, the third draft of the white paper was exposed for a 38-day public comment period. On Aug. 5, 2020, the white paper was exposed for a 45-day public comment period. On Sept. 15, 2020, the Task Force adopted the final version.

The paper was discussed in almost every meeting throughout the period, and interested parties were allowed to provide oral comment in addition to written comment letters. The Task Force drafting group provided written comments on each of the interested party comments, so all were aware of the decision for or against making changes and why.

6. A Discussion of the Significant Issues (items of some controversy raised during the due process and the group's response)

The following are some key issues identified during the white paper's development:

- 1) Scope—The scope of the paper was narrowed to GLM models for personal auto and home lines of business. There are other types of models, but the GLM is the most often used type of model. The lines of business were selected because those are the ones where models are most often used. The Task Force noted that much of the guidance could be extracted as applicable for other models and lines of business.
- 2) Disparate impact and proxies for protected classes—The issue posed was that the white paper did not address these topics thoroughly. The Task Force agreed that the subject of disparate impact is beyond the scope of the white paper, given that it is not current law. Proxies for protected classes is mentioned in the white paper but was also identified as an “other consideration” in the white paper. With the NAIC Special (EX) Committee on Race and Insurance, these subjects would be further discussed after completion of the white paper.
- 3) Causation vs. correlation and “rational explanation”—An item in the list of “other considerations” is the issue of causality vs. correlation when evaluating a rating variable's relationship to risk. The white paper does not recommend a requirement to prove causality; however, some state insurance regulators already expect justification beyond strict correlation. Many variables might be correlated, but that does not necessarily mean that the particular variable should be used in rating property/casualty (P/C) insurance. Therefore, the white paper suggests that companies should be prepared to provide a rational explanation for why a variable should be used in rating. If such an explanation cannot be provided, greater regulatory scrutiny of the variable may be appropriate. Further guidance on this subject is left as an “other consideration” of the white paper.
- 4) State confidentiality laws and/or regulations—Confidentiality continues to be an issue, but the drafting group believes it is addressed sufficiently. The white paper does not change the requirement for state insurance regulators to abide by state confidentiality laws and/or regulations. Anyone, including consultants and NAIC reviewers, involved in the regulatory review of rates is held to contract provisions that require abidance with state laws.
- 5) Overly prescriptive—Interested parties said the white paper is overly prescriptive, burdensome and results in costly rate regulation. At the advice of the NAIC Legal Division, a paragraph was added to the introduction that summarily says this white paper is for guidance only and has no direct impact on any state unless the state chooses to use the guidance. Additionally, the list of information elements included in the white paper were graded from 1–4, with 1 being most important to be filed. Industry participated in the scoring surveys.
- 6) Actuarial Standards of Practice (ASOPs)—There was a request for the inclusion of ASOPs in the white paper. Given the white paper applies to any filing, whether from an actuary or not, the Task Force did not add a discussion of ASOPs to the white paper. The Task Force believed actuaries should be aware that they have to abide by their own professional standards. The white paper deals with the filing itself and whoever is trying to support the filing.

7. Key Provisions of the Model (sections considered most essential to state adoption)

N/A

8. Any Other Important Information (e.g., amending an accreditation standard)

N/A

W:\National Meetings\2021\Spring\Plenary\Att 3 Predictive Model White Paper.docx

Adopted by the Executive (EX) Committee and Plenary, 4/14/21
Adopted by the Market Regulation and Consumer Affairs (D) Committee. 12/8/20
Adopted by Antifraud (D) Task Force, 11/16/20
Adopted by Antifraud Technology (D) Working Group, 10/29/20

ANTIFRAUD PLAN GUIDELINE

Narrative

As insurance fraud costs insurers and consumers billions of dollars annually, and no line of insurance is immune to fraud, state departments of insurance (DOIs) believe it's imperative that insurers make the detection, investigation and reporting of suspected fraud a priority in its overall operations. Failure to dedicate resources towards the fight against insurance fraud can tremendously affect an insurer's financial stability, as well as rates charged to consumers. In light of the aforementioned, insurers are encouraged to proactively take measures to minimize the cost of fraud.

To encourage insurers to take a proactive approach to fighting fraud, and minimize organizational risk, many states require the preparation and/or submission of an antifraud plan. Such plans are often audited and inspected for compliance purposes and/or are reviewed in conjunction with market conduct and financial examinations conducted.

While the development and submission of an antifraud plan is currently not mandated in all states, most state DOIs and fraud fighting agencies believe it is a best practice for all insurers, whether state mandated or not, to develop an antifraud plan that which documents the antifraud efforts an insurer has put in place to prevent, detect investigate and report fraud. As such, this guideline is intended to serve as a guide for insurance company special investigation units (SIU) and other interested parties in the preparation of antifraud plans that meet state mandates.

In the spirit of promoting uniformity amongst the states, and providing insurers with added insight regarding key elements that should be considered when developing an antifraud plan, state fraud bureaus are encouraged to utilize this guideline to introduce new antifraud plan legislation or revise existing antifraud plan laws in their states.

To further uniformity in this area, and assist both insurers and state DOIs with compliance efforts, the NAIC Antifraud Task Force intends to utilize this revised guideline as a basis for developing an antifraud plan submission repository / system that will streamline insurer antifraud plan compliance nationwide. Until such a system is developed and implemented, insurers are encouraged to utilize this guideline, and incorporate all information outlined within the document when developing and/or updating company antifraud plans.

Important Note: Unless this guideline is adopted by a state, this guideline does not preempt existing state laws.

ANTIFRAUD PLAN GUIDELINE

Table of Contents

Section 1.	Application
Section 2.	Definitions [reserved]
Section 3.	Antifraud Plan Creation/ Submission Requirement
Section 4.	Antifraud Plan Requirements
Section 5.	18 USC 1033 & 1034 Compliance
Section 5.	Regulatory Compliance
Section 7.	Confidentiality of Antifraud Plan
Section 8.	Required Antifraud Plan Submission

Section 1. Application

The purpose of this ~~guideline~~regulation is to establish standards for ~~state fraud bureaus, insurance company SIUs~~special investigation units (SIU) and any other interested parties regarding the preparation of an Antifraud Plan that meets the mandated requirements for ~~submitting a plan with a state Department of Insurance. Currently, twenty states require that fraud plans be prepared for inspection by the state Departments of Insurance. The concept of mandating the submission of an insurer fraud plan was developed to encourage those insurers with direct written premiums to fight insurance fraud proactively by drafting a plan to fight fraud. This plan, along with audits, inspections, or in conjunction with a market conduct examinations, ensure the insurer is following its submitted antifraud plan of [insert Department of Insurance (DOI) name].~~

These guidelines are primarily intended for state fraud bureaus as a guide in the preparation of new antifraud plan legislation, revision of existing mandated antifraud plans and for insurer SIUs in the preparation of its antifraud plans. The intention of this guideline is to collate the current twenty states' antifraud plan requirements into a guide for those states researching what should go into a plan. Most national fraud fighting agencies believe it is a good practice for all insurers, whether it is state mandated or not, to develop an internal insurance antifraud plan. Flexibility should be allowed for each insurer to develop a plan that meets its individual needs and still meets state compliance standards.

This guideline does not preempt other state laws. This guideline is not intended to preempt or amend any guidance previously published by the NAIC Antifraud Task Force or in the NAIC Fraud Prevention Law Model Act. This document is intended to provide a road map for state fraud bureaus, insurers' SIUs or contracted SIU vendors for preparation of an antifraud plan.

Drafting Note: In lieu of an agency name, states may amend this statement to incorporate a reference to a state law / rule.

Section 2. Definitions ~~reserved for state specific information~~

- A. "Insurance" means any of the lines of authority authorized by state law.
- B. "Insurance commissioner" or "commissioner" means the insurance commissioner of this state.
- C. "Insurer" means a company required to be licensed under the laws of this state to provide insurance products.
- D. "Material or substantive change" means any change, modification or alteration of the operations, standards, methods, staffing or outsourcing utilized by the insurer to detect, investigate and report suspected insurance fraud.
- E. "National Association of Insurance Commissioners" (NAIC) means the organization of state insurance regulators from the fifty (50) states, the District of Columbia and all participating U.S. territories.
- F. "Report in a timely manner" means in accordance with all applicable laws and rules of the state.

Drafting Note: States are able to insert a reference to a state law / rule if they feel it is necessary.

G. “Respond in a reasonable time” means to respond in accordance with all applicable laws and rules of the state.

Drafting Note: States are able to insert a reference to a state law / rule if they feel it is necessary.

H. “Special Investigation Unit” (SIU) means an insurer's unit or division that is established to investigate suspected insurance fraud. The SIU may be made up of insurer employees or by contracting with other entities.

I. “Suspected Insurance Fraud” means any misrepresentation of fact or omission of fact pertaining to a transaction of insurance including claims, premium and application fraud. These facts may include but are not limited to evidence of doctoring, altering or destroying forms, prior history of the claimant, policy holder, applicant or provider, receipts, estimates, explanations of benefits (EOB), medical evaluations or billings, medical provider notes, police and/or investigative reports, relevant discrepancies in written or oral statements and examinations under oath (EUO), unusual policy activity and falsified or untruthful application for insurance. An identifiable pattern in a claim history may also suggest the possibility of suspected fraudulent claims activity. A claim may contain evidence of suspected insurance fraud regardless of the payment status.

Drafting Note: States can insert, modify or delete definitions as needed and/or insert references to state law if necessary.

Section 3. Antifraud Plan Creation/Submission Requirement

A. An insurer, if required by a Department of Insurance, subject to [insert appropriate state code], shall submit to the Commissioner [or Fraud Bureau] a detailed description of the company's create an antifraud plan. All that documents the insurer's antifraud efforts plans submitted shall be subject to review by the Commissioner.

B. An insurer shall develop a written plan within [insert number of days based upon state law] days after obtaining its license to transact business within this state or within [insert number of days] days after beginning to engage in the business of insurance.

C. The DOI has the right to review an insurer's antifraud plan in order to determine compliance with appropriate state laws.

D. An insurer shall submit their antifraud plan in accordance with all state laws, regulations and requirements.

Drafting Note: States are able to insert a reference to a state law / rule if they feel it is necessary.

E. If an insurer makes a material / substantive change in the manner in which they detect, investigate and/or report suspected insurance fraud, or there is a change in the person(s) responsible for the insurer's antifraud efforts, the insurer will be required to amend [and submit] their antifraud plan within [insert number of days] days of the change(s) being made.

Drafting Note: States without mandatory submission requirements should adjust this section appropriately.

Section 4. Antifraud Plan Requirements

A. The following information should be included in the submitted An antifraud plan to satisfy this Section. The plan is an acknowledgment that the insurer and its SIU has established criteria that will be used to overview of the insurer's efforts to prevent, detect suspicious or fraudulent investigate and report all aspects of suspected insurance activity relating fraud related to the different types of insurance offered by that insurer. All antifraud plans submitted shall be subject to review by the Commissioner.

B. One SIU antifraud plan may cover several insurer entities if one SIU has the fraud investigation mission for all entities.

The plan should include:

A. ~~General Requirements~~

C. ~~(1)~~ The following information should be included in the submitted antifraud plan to satisfy this Section:

~~(1)~~ The insurer's name and NAIC individual and group code numbers;

~~(a)~~ A description of the insurer's approved lines of authority.

Drafting Note: Upon exploring the creation of an electronic fraud plan submission system, the working group will explore the possibility of the above noted information auto-populating based upon NAIC carrier data maintained by individual / group codes.

~~(2)~~ An acknowledgment that the SIU/insurer has established criteria that will be used for the investigation of ~~acts of internal fraud and~~ suspected insurance fraud ~~relating~~ related to the different types of insurance offered by that insurer.

~~(2)~~ An acknowledgement that the insurer or SIU shall record the date that suspected fraudulent activity is detected, and shall record the date that reports of such suspected insurance fraud were sent directly to the Fraud Bureau/Department within a specific time frame.

~~(3)~~ A provision stating whether the SIU is an internal unit or an external or third party unit.

~~(3)~~ A statement as to whether the insurer has implemented an internal and/or external fraud awareness and or outreach program in order to educate employees, applicants, policy holders and/or members of the general public about insurance fraud.

~~(a)~~ A description of the insurer's external fraud awareness or outreach program(s) geared towards applicants, policy holders and members of the general public.

~~(b)~~ A description of the insurer's internal awareness / antifraud education and training initiatives of any personnel involved in antifraud related efforts. The description shall include:

~~(i)~~ An overview of antifraud training provided to new employees.

~~(ii)~~ The internal positions the insurer offers regular education and training to, such as underwriters, adjusters, claims representatives, appointed agents, attorneys, etc.

~~(iii)~~ A description of training topics covered with employees.

~~(iv)~~ The method(s) in which training is provided.

~~(v)~~ The frequency and minimum number of training hours provided

~~(vi)~~ The method(s) in which employees, policyholders and members of the general public can report suspected fraud.

~~(4)~~ A description of the insurer's corporate policies for preventing, detecting and investigating suspected internal fraud committed by company employees, consultants or others, such as underwriters, claims representatives, appointed agents, etc.

~~(a)~~ The insurer shall include a description of their internal fraud reporting policy.

- ~~(b) The insurer shall identify the person and/or position within the organization who is ultimately responsible for the investigation of internal fraud.~~
- ~~(c) A description of the insurer's standard operating procedures (SOP) for investigating internal fraud.~~
- ~~(d) The insurer shall include a description of the reporting procedures it will follow upon a criminal and/or insurance law violation being identified as the result of an internal investigation conducted (i.e. agent misconduct, referral to Fraud Unit or law enforcement, etc.).~~
- ~~(45) If the SIU is an internal unit, provide a description of whether the unit is part of the insurer's claims or underwriting departments, or whether it is separate from such departments. A description of the insurer's corporate policies for preventing fraudulent insurance acts committed by first- or third-party claimants, medical or service providers, attorneys, or any other party associated with a claim.~~
 - ~~(a) A description of the technology and/or detection procedures the insurer has put in place to identify suspected fraud.~~
 - ~~(b) The criteria used to report suspicious claims of insurance fraud for investigation to an insurer's SIU.~~
- ~~(5) A written description or chart outlining the organizational arrangement of the insurer's antifraud positions responsible for the investigation and reporting of possible fraudulent insurance acts.~~
 - ~~(a) If SIU is an internal unit, the insurer shall provide general contact information for the company's SIU.~~
 - ~~(b) If SIU is an external unit, the insurer shall provide (1) the name of the company or companies used; (2) contact information for the company; and (3) a company organizational chart. The insurer shall specify the person or position at the insurer responsible for maintaining contact with the external SIU Company.~~
 - ~~(c) If an external SIU is employed for purposes of surveillance, the insurer shall include a description of the policies and procedures implemented.~~
- ~~(6) A provision where the insurer provides the NAIC individual and group code numbers;~~
- ~~(6) A statement as to whether the insurer has established an internal SIU to investigate suspected insurance fraud.~~
 - ~~(a) A description as to whether the unit is part of any other department within the organization.~~
 - ~~(b) A description or chart outlining the organizational arrangement of all internal SIU positions/ job titles.~~
 - ~~(i) A general overview of each SIU position is required. In lieu of a general overview, insurers can provide a copy of all applicable position descriptions to the DOI.~~

Drafting Note: Upon exploring the creation of an electronic fraud plan submission system, the working group will explore the possibility insurers having the ability to upload an organization chart / list of SIU employees / position descriptions, etc

- ~~(c) General contact information for the company's SIU as well as contact information for the person/position(s) responsible for overseeing the insurer's antifraud efforts.~~

- (d) A description of the insurer's SOPs for investigating suspected insurance fraud.
- ~~(7) A statement as to whether the insurer has implemented a fraud awareness or outreach program. If insurer has an awareness or outreach program, a brief description of the program shall be included;~~
- ~~(8) If the SIU is a third party unit, a description of the insurer's policies and procedures for ensuring that the third party unit fulfills its contractual obligations to the insurer and a copy of the contract with the third party vendor.~~
- ~~(7) A statement as to whether the insurer utilizes an external/third party as their SIU or in conjunction with their internal SIU.~~
 - ~~(a) If an external/third party is used to substantially perform the insurer's SIU function, the insurer shall provide the name of the company(ies) used and contact information for the company(ies).~~
 - ~~(b) The insurance shall specific the internal persons or position responsible for maintaining contact with the external company(ies) which will serve as the insurer's SIU. The insurer shall provide a description how they will monitor and/or gauge the externa/third party's compliance with insurer antifraud mandates.~~

Drafting Note: If a state requires the disclosure of specific and/or all vendors for investigative activities conducted, this section can be modified accordingly.

- ~~(8) A description of the method(s) used to document SIU referrals received and investigations conducted.~~
 - ~~(a) An overview of any case management system and/or computer program used to memorialize SIU referrals received and investigations conducted.~~
 - ~~(b) The manner in which the insurer tracks SIU/investigative information for compliance purposes; i.e., the number of SIU referrals received, the number of investigations opened, the outcome of investigations conducted, etc.~~

Drafting Note: ~~sStates that do not mandate fraud reporting should revise or remove inapplicable or have other requirements from~~ should revise this section to reflect state requirements.

~~B. Prevention, Detection and Investigation of Fraud~~

- ~~(1) A description of the insurer's corporate policies for preventing fraudulent insurance acts by its policy holders.~~
- ~~(2) A description of the insurer's established fraud detection procedures (I.E. technology and other detection procedures).~~
- ~~(3) A description of the internal referral criteria used in reporting suspicious claims of insurance fraud for investigation by SIU~~
- ~~(4) A description of SIU investigation program (IE by business line, external form claims adjustment, vnder management SOPs)~~
- ~~(5) A description of the insurer's policies and procedures for referring suspicious or fraudulent activity from the claims or underwriting departments to the SIU.~~

~~C. Reporting of Fraud~~

- ~~(1) A description of the insurer's reporting procedures for the mandatory reporting of possible fraudulent insurance acts to the Commissioner/Bureau/Division pursuant to Section [Insert applicable State code].~~
- ~~(2) A description of the insurer's criteria or threshold for reporting fraud to the Commissioner.~~
- ~~(3) A description of insurer's means of submission of suspected fraud reports to the Commissioner (e.g. NAIC OFRS, NICB, NHCAA, electronic state system, or other)~~
- (9) A description of the procedures the insurer has established to ensure that suspected insurance fraud is timely reported to [agency/division name] pursuant to [insert reference to state law].
 - (a) A statement as to which individual(s) or group, within the organization is responsible for reporting suspected fraud on the insurer's behalf.
 - (i) When composing such a statement, companies may cite specific position descriptions in lieu of employee names.
 - (ii) A description of the insurer's criteria or threshold for reporting fraud to the Commissioner.
 - (iii) A description of insurer's means of submission of suspected fraud reports to the Commissioner (e.g. Online Fraud Reporting System (OFRS), National Insurance Crime Bureau (NICB), National Health Care Anti-Fraud Association (NHCAA), electronic state system, or other).

Drafting Note: States that do not mandate fraud reporting should revise or remove inapplicable requirements from this section.

Drafting Note: If a state has a mandatory reporting method, this section should be adjusted to reflect an acknowledgment of the reporting method.

~~D. Education and Training~~

- ~~(1) If applicable, a description of the insurer's plan for antifraud education and training initiatives of any personnel involved in antifraud related efforts. This description shall include:~~
 - ~~(a) The internal positions the insurer offers regular education and training, such as underwriters, adjusters, claims representatives, appointment agents, attorneys, etc.~~
 - ~~(b) If the training will be internal and/or external.~~
 - ~~(c) Number of hours expected per year.~~
 - ~~(d) If training includes ethics, false claims or other legal related issues.~~

~~E. Internal Fraud Detection and Prevention~~

- ~~(1) A description of insurer's internal fraud detection policy for employees, consultants or others, such as underwriters, claims representatives, appointed agents, etc.~~
- ~~(2) A description of insurer's internal fraud reporting system.~~
- (10) An insurer shall incorporate within its antifraud plan the steps it will take to ensure all information they, or a contracted party possess with regard to a specific claim or incident of suspected insurance fraud is provided in a timely and complete manner when a formal written request from the [insert agency/division name] has been received.

- (a) For the purpose of this section, the timely release of information means by the deadline provided by the DOI.

Drafting Note: States who have a specific time period in which carriers must provide information can determine if a reference to a state statute or rule is warranted.

- (b) Unless an insurer is able to cite legal grounds for withholding information, they must not redact or withhold any information that has been requested by the DOI.

- (i) If an insurer has a reasonable belief that information cannot legally be provided to the DOI, the insurer will be required to provide, in writing, a description of any information being withheld, and cite the legal grounds for withholding such information.

Section 5. 18 USC 1033 & 1034 Compliance

~~The insurer shall include a description of its policies and procedures for candidates for employment and existing employees for compliance with 18 USC 1033 & 1034 [insert applicable State code if appropriate].~~

Section 65. Regulatory Compliance

~~A Department of Insurance has the right to review insurer antifraud plans in order to determine compliance with appropriate state laws. A Department further~~The DOI has the right, in accordance with Section [insert specific state code], to take appropriate administrative action against an insurer if it fails to comply with the mandated requirements and/or state laws.

Section 76. Confidentiality of Antifraud Plan

The submission of required information is not intended to constitute a waiver of an insurer's privilege, trade secret, confidentiality or any proprietary interest in its antifraud plan or its antifraud related policies and procedures. The Commissioner shall maintain the antifraud plan as confidential. Submitted plans shall not be subject to the Freedom of Information Act (FOIA) if submitted properly under the state statutes or regulations which would afford protection of these materials [insert applicable state code].

Drafting Note: State will need to cite state specific privacy and protection authority.

Section 8. Required Antifraud Plan Submission

~~An insurer, if required by a Department of Insurance, shall submit its antifraud plan within ninety days of receiving a certificate of authority. Plans shall be submitted every 5 years thereafter. An insurer shall submit revisions to its plans within thirty days of a material change being made.~~

Drafting Note: states without mandatory submission requirements should adjust this section appropriately.

Project History

ANTIFRAUD PLAN GUIDELINE

1. Description of the Project, Issues Addressed, etc.

In 2020, the Antifraud (D) Task Force discussed implementation of the revised *Antifraud Plan Guideline* (#1690). Currently, 23 states require their insurers to file an Antifraud Plan with their insurance commissioner. The purpose of an Antifraud Plan is to describe in detail how the company detects, addresses and prevents insurance fraud.

2. Name of Group Responsible for Drafting the Model and States Participating

The Antifraud Technology (D) Working Group of the Antifraud (D) Task Force.

Chair: Utah. Participating states: Arizona, Arkansas, California, Florida, Louisiana, New Mexico, Ohio, Texas and Virginia.

3. Project Authorized by What Charge and Date First Given to the Group

On Dec. 10, 2019, the Antifraud Technology (D) Working Group was given the charge to “[r]eview and provide recommendations for the development of an Antifraud Plan Repository to be used by insurers to centrally file their antifraud plan to all states/jurisdictions.” The revision of Guideline #1690 was determined to be the first step in completing this charge. The Working Group continues to discuss potential recommendations for an Antifraud Plan Repository.

4. A General Description of the Drafting Process (e.g., drafted by a subgroup, interested parties, the full group, etc). Include any parties outside the members that participated.

The Antifraud Technology (D) Working Group initially sent a request for comments on Nov. 25, 2019, to the Antifraud (D) Task Force, interested state insurance regulators, and interested parties. The Working Group chair and the Ohio Working Group member drafted the initial revisions to Guideline #1690 that was exposed for comment in March 2020.

The Working Group met again Sept.17, 2020, to discuss additional comments received and review proposed revisions. The Working Group exposed a second draft for comment following the September call.

The Working Group met Oct. 14, 2020, to review the final draft and Oct. 29, 2020, to adopt the revised Guideline #1690.

Working Group members, state insurance regulators, and interested parties provided comments, and they were invited to participate in all Working Group calls. Revised drafts were released for comment following each Working Group call. The drafts were circulated via email and posted to the Task Force web page on the NAIC home page.

Written comments were received by the following groups:

Interested State Insurance Regulators

Minnesota, Ohio and Utah.

Interested Parties

The Center for Economic Justice (CEJ), the Coalition Against Insurance Fraud (CAIF), the National Association of Mutual Insurance Companies (NAMIC), and the National Insurance Crime Bureau (NICB).

5. A General Description of the Due Process (e.g., exposure periods, public hearings, or any other means by which widespread input from industry, consumers and legislators was solicited)

The initial draft of Guideline #1690 was exposed in December 2019. Comments were received until Dec. 31, 2019. The Antifraud Technology (D) Working Group met in March 2020 to discuss the comments received.

A second draft was distributed following the call in March. Due to the COVID-19 pandemic, the activity of the Working Group was temporarily delayed, and the comment period was extended until September. The Working Group met in September and October to finalize and adopt the revisions to Guideline #1690.

In October 2020, the Antifraud (D) Task Force exposed the revised draft for comment. No comments were received on the revised draft. The Task Force met Nov. 16, 2020, to discuss the proposed revisions and adopt the revised Guideline #1690.

The Market Regulation and Consumer Affairs (D) Committee adopted the revised Guideline #1690 during the 2020 Fall National Meeting.

6. A Discussion of the Significant Issues (items of some controversy raised during the due process and the group's response)

The purpose of Guideline #1690 is to bring greater uniformity among the states in antifraud plan requirements and to be used as a template in creating the Antifraud Plan Repository. This Antifraud Plan Repository is intended to streamline the process used by industry to submit their Antifraud Plans to all appropriate insurance departments and streamline the process for state review.

Ohio suggested incorporating a comprehensive narrative at the beginning of Guideline #1690 to explain its purpose as a best practice because not all states mandate the reporting of Antifraud Plans. Antifraud Technology (D) Working Group members, state insurance regulators, and industry representatives unanimously agreed that the language suggested by Ohio was not necessary. The Working Group decided to reorganize the structure of the existing Guideline #1690 and keep the existing language.

The Working Group added and changed definitions within Guideline #1690. The Antifraud (D) Task Force decided to modify these changes by using certain definitions from existing NAIC model laws.

The first definition added was “insurance commissioner” or “commissioner.” The Working Group incorporated the definition used in the *Insurance Data Security Model Law* (#668).

The next definition added was for “insurer.” In the initial draft, the Working Group defined “insurer” as a business entity who is in the process of obtaining or has obtained a certificate of authority to enter into arrangements of contracts of insurance or reinsurance and who agrees to: 1) pay or indemnify another as to loss from certain contingencies called “risks,” including through reinsurance; 2) pay or grant a specified amount or determinable benefit to another in connection with ascertainable risk contingencies; 3) pay an annuity to another; or 4) act as surety. Except for using the language “including annuities,” the Task Force decided to use language found in the *Suitability in Annuity Transactions Model Regulation* (#275) definition for “insurer.” This language states that an “insurer is a company required to be licensed under the laws of this state to provide insurance products, including annuities.”

The last definition added to was for the “NAIC” stating, “the NAIC is the organization of insurance regulators from 50 states, the District of Columbia and all participating U.S. territories.”

The Task Force members, state insurance regulators, and interested parties unanimously agreed that Guideline #1690 should not be considered a regulation but rather a guideline to assist states that currently require the submission of an Antifraud Plan and encourage the remaining jurisdictions to adopt a requirement for insurers' submission of an Antifraud Plan.

7. Any Other Important Information (e.g., amending an accreditation standard).

None.

W:\National Meetings\2021\Spring\Plenary\Att 4 Antifraud Plan Guideline_FINALredline.doc

Adopted by the Executive (EX) Committee and Plenary, April 14, 2021

Adopted by the Financial Condition (E) Committee, Dec. 8, 2020

Adopted by the Receivership and Insolvency (E) Task Force, Nov. 19, 2020

Adopted by the Receivership Large Deductible Workers' Compensation (E) Working Group, Nov. 5, 2020

GUIDELINE FOR ADMINISTRATION OF LARGE DEDUCTIBLE POLICIES IN RECEIVERSHIP

Drafting Note: Having the necessary statutory authority specific to large deductible workers' compensation products in receiverships is key to the successful resolution of these insurers. There are currently two statutory authority options available, and there are differences across states as to which authority has been adopted: 1) Section 712 of the NAIC *Insurer Receivership Model Act* (#555—IRMA), Administration of Loss Reimbursement Policies; and 2) the National Conference of Insurance Guaranty Funds (NCIGF) Model Large Deductible Legislation, Administration of Large Deductible Policies and Insured Large Deductible Collateral. Both provide statutory guidance that articulates the respective rights and responsibilities of the various parties, which greatly enhance a state's ability to manage complex large deductible programs in liquidation. Generally, both approaches provide for the collection of reimbursements, resolve disputes over who gets the reimbursements and ensure that the claimants are paid. The provisions in each of the two options generally complement each other, except for conflicting provisions regarding the issue of the ultimate ownership of, and entitlement to, the deductible recoveries and large deductible collateral as between the estate and the guaranty association. The issue is whether the guaranty associations, on behalf of the claimants, are entitled to any deductible reimbursements or whether they are a general estate asset that is shared pro rata by the guaranty associations and the uncovered claimants.

As of the drafting of this Guideline, the NCIGF model approach has been adopted by several states using varying language. However, the NCIGF model has evolved over time based on additional experiences from insolvencies and the NCIGF continues to modify its model as warranted. The NAIC has developed the following Guideline based largely on the principles and structure of the NCIGF model with certain modifications made by the NAIC Large Deductible Workers' Compensation (E) Working Group of the Receivership and Insolvency (E) Task Force. The following statutory language is not an amendment to the NAIC receivership models but is intended as a Guideline for use by states as an alternative to IRMA Section 712, Administration of Loss Reimbursement Policies.

Administration of Large Deductible Policies in Receivership

This Guideline shall apply to workers' compensation large deductible policies issued by an insurer subject to delinquency proceedings under [insert cite to state's receivership statute]. Large deductible policies shall be administered in accordance with their terms, except to the extent such terms conflict with this Guideline. This Guideline does not apply to policies where the insurer has no liability for the portion of a claim that is within the deductible or self-insured retention.

A. Definitions.

For purposes of this Guideline:

- (1) "Large deductible policy" means any combination of one or more workers' compensation policies and endorsements and contracts or security agreements entered into between an insured and the insurer in which the insured has agreed with the insurer to:
 - (a) Pay directly the initial portion of any claim covered under the policy up to a specified dollar amount which the insurer would otherwise be obligated to pay, or the expenses related to any claim; or
 - (b) Reimburse the insurer for its payment of any claim or related expenses under the policy up to the specified dollar amount of the deductible.

The term "large deductible policy" includes policies which contain an aggregate limit on the insured's liability for all deductible claims, a per-claim deductible limit or both. The primary purpose and distinguishing characteristic of a large deductible policy is the shifting of a portion of the ultimate financial responsibility under the large deductible policy to pay claims from the insurer to the insured, even though the obligation to initially pay claims may remain with the insurer, and the insurer remains liable to claimants in the event the insured fails to fulfill its payment or reimbursement obligations.

Drafting Note: States may wish to establish a minimum dollar deductible threshold for application of this statute based on local conditions. Because the payment of the entire amount of the claim remains the unconditional obligation of the insurer, the insured's loss reimbursement obligation should not be treated as a "deductible" for the purpose of any applicable exclusion from guaranty association coverage, even though these policies are commonly referred to as "large deductible policies."

Large deductible policies do not include policies, endorsements or agreements which provide that the initial portion of any covered claim shall be self-insured and further that the insurer shall have no payment obligation within the self-insured retention. Large deductible policies also do not include policies that provide for retrospectively rated premium payments by the insured or reinsurance arrangements or agreements,

except to the extent such reinsurance arrangements or agreements are put in place as security for the policyholder's large deductible obligations.

- (2) "Deductible claim" means any allowed claim, including a claim for loss and defense and cost containment expense (unless such expenses are excluded), under a large deductible policy to the extent it is within the deductible.
- (3) "Large deductible collateral" means any cash, letters of credit, surety bond, or any other form of security posted by the insured, or by a captive insurer or reinsurer, to secure the insured's obligation under the large deductible policy to pay deductible claims or to reimburse the insurer for deductible claim payments. Large deductible collateral may also secure an insured's obligation to reimburse or pay to the insurer as may be required for other secured obligations.
- (4) "Commercially reasonable" means to act in good faith using prevailing industry practices and making all reasonable efforts considering the facts and circumstances of the matter.
- (5) "Other secured obligations" means obligations of an insured to an insurer other than those under a large deductible policy, such as those under a reinsurance agreement or other agreement involving retrospective premium obligations the performance of which is secured by large deductible collateral that also secures an insured's obligations under a large deductible policy.

B. Handling of Large Deductible Claims.

Unless otherwise agreed by the responsible guaranty association, all large deductible claims that are also "covered claims" as defined by the applicable guaranty association law, including those that may have been funded by an insured before liquidation, shall be turned over to the guaranty association for handling.

- (1) If a deductible claim is not covered by any guaranty association, the receiver shall draw on available large deductible collateral to pay the claim; or make other arrangements with the insured to ensure the timely payment of the claim. The receiver shall pay the claim promptly from the large deductible collateral unless the insured pays the claim directly or there is no available large deductible collateral.
- (2) Deductible claims paid by the insured or by the receiver in accordance with this Guideline shall not be treated as distributions of estate assets under [insert cite to state's liquidation priority distribution statute]. To the extent the insured, or a third-party administrator on behalf of the insured, pays the deductible claim, pursuant to an agreement by the guaranty association or otherwise, the insured's payment of a deductible claim in whole or in part will extinguish the obligations, if any, of the receiver and/or any guaranty association to pay that claim or that portion of the claim. No credit or charge for an imputed or constructive distribution of any kind shall be made against the receiver or a guaranty association on the basis of an insured's payment of a deductible claim.

Drafting Note: This provision addresses so called "orphan claims," which are situations where, because of variations in state law or for other reasons, claims generally covered by the guaranty fund system are not provided such protection. States should take steps, through statutory revision or otherwise, to avoid orphan claims, especially for workers' compensation insurance. However, if such claims do exist, this provision permits the receiver to utilize available large deductible collateral, or other funds provided by the employer, to ensure that they continue to be paid. Alternative language that states may consider is as follows: "In cases where a deductible claim is not a guaranty association covered claim and the claimant has no other remedy either from the employer or other resources available in a state, the receiver may pay the claim to the extent of the deductible with available Large deductible collateral as described in subsection E(2) below."

C. Deductible Claims Paid by a Guaranty Association.

To the extent a guaranty association pays any deductible claim for which the insurer would have been entitled to reimbursement from the insured, a guaranty association shall be entitled to the amount of the reimbursement, and available large deductible collateral as provided for under subsection E to the extent necessary to reimburse the guaranty association. Such amounts shall be paid to the guaranty association net of any of the receiver's collection costs as described in subsection F. Reimbursements paid to the guaranty association pursuant to this subsection shall not be treated as distributions under [insert cite to state's liquidation priority distribution statute] or as early access payments under [insert cite to state's early access statute].

To the extent that a guaranty association pays a deductible claim that is not reimbursed either from large deductible collateral or by an insured's payments, or incurs expenses in connection with large deductible policies that are not reimbursed under this subsection, the guaranty association shall be entitled to assert a claim for those amounts in the delinquency proceeding, except as provided in subsection D(5).

Nothing in this subsection limits any rights of the receiver or a guaranty association that may otherwise exist under applicable law to obtain reimbursement from insureds for claims payments made by the guaranty association under policies of the insurer or for the guaranty association's related expenses, such as those provided for pursuant to [insert cite to state's guaranty association net worth provision], or existing under similar laws of other states.

D. Collections

- (1) The receiver shall take all commercially reasonable action to ensure that the large deductible collateral remains adequate to secure the insured's obligations, and to collect reimbursements owed for deductible claims as provided for herein:
 - (a) Paid by the insurer prior to the commencement of delinquency proceedings;
 - (b) Paid by a guaranty association upon receipt by the receiver of notice from a guaranty association of reimbursable payments;
 - (c) Paid or allowed by the receiver; or
 - (d) Approved by the receiver for payment.
- (2) If the insured does not make payment within the time specified in the large deductible policy, or within sixty (60) days after the date of billing if no time is specified, the receiver shall take all commercially reasonable actions to collect any reimbursements owed.
- (3) Neither the insolvency of the insurer, nor the receiver's or insurer's inability to perform any of its obligations under the large deductible policy, shall be a defense to the insured's reimbursement obligation under the large deductible policy.
- (4) An allegation of improper handling or payment of a deductible claim by the insurer, the receiver and/or any guaranty association shall not be a defense to the insured's reimbursement obligations under the large deductible policy.
- (5) If the receiver declines to seek or is unsuccessful in obtaining reimbursement from the insured for a large deductible obligation and there is no available large deductible collateral, a guaranty association may, after notice to the receiver, seek to collect the reimbursement due from the insured on the same basis as the receiver, and with the same rights and remedies including without limitation the right to recover reasonable costs of collection from the insured. The guaranty association shall report any amounts so collected from each insured to the receiver. The receiver shall provide the guaranty association with available information needed to collect a reimbursement due from the insured. The receiver shall notify all other guaranty associations that have paid large deductible claims on behalf of the same insured. Amounts collected by a guaranty association pursuant to this paragraph shall be treated in accordance with subsection C. The expenses incurred by a guaranty association in pursuing reimbursement shall not be permitted as a claim in the delinquency proceeding at any priority, except as agreed by the receiver at or before the time the expenses are incurred; however, a guaranty association may net the expenses incurred in collecting any reimbursement against that reimbursement.

E. Large Deductible Collateral

- (1) Subject to the provisions of this subsection, the receiver shall utilize large deductible collateral, when available, to secure the insured's obligation to fund or reimburse deductible claims or other secured obligations or other payment obligations. A guaranty association shall be entitled to large deductible collateral as provided for in this subsection to the extent needed to reimburse a guaranty association for the payment of a deductible claim. Any payments made to a guaranty association pursuant to this subsection

shall not be treated as distributions of estate assets under [Insert cite to state's liquidation priority distribution statute] or as early access payments under [Insert cite to state's early access statute]. Such payments shall extinguish the receiver's obligations to the guaranty association with respect to any claim or portion of a claim that has been reimbursed from large deductible collateral.

- (2) All claims against the large deductible collateral shall be paid first to reimburse claim payments made by the insurer, the receiver, or the guaranty associations to reimburse their deductible claim payments on large deductible policies. After these obligations are satisfied, remaining claims shall be paid in the order received and no claim of the receiver, except in accordance with this subsection, shall supersede any other claim against the large deductible collateral.
- (3) Notwithstanding any agreement between the insured and the insurer, the receiver shall draw down large deductible collateral to the extent necessary in the event that the insured fails to:
 - (a) Perform its funding or payment obligations under any large deductible policy;
 - (b) Pay deductible claim reimbursements within the time specified in the large deductible policy or within sixty (60) days after the date of the billing if no time is specified;
 - (c) Pay amounts due the estate for pre-liquidation obligations;
 - (d) Timely fund any other secured obligation; or
 - (e) Timely pay expenses.
- (4) Excess large deductible collateral may be returned to the insured when deemed appropriate by the receiver after a periodic review of claims paid, outstanding case reserves, and allowance for adverse development and claims incurred but not reported as determined by the receiver."

F. Administrative Fees

- (1) The receiver is entitled to recover through billings to the insured or from large deductible collateral all reasonable expenses that the receiver incurred in fulfilling its collection obligations under this Guideline. All such deductions or charges shall be in addition to the insured's obligation to reimburse claims and related expenses and shall not diminish the rights of claimants or guaranty associations.
- (2) To the extent the receiver cannot collect such expenses pursuant to paragraph (1), the receiver is entitled to deduct from the large deductible collateral or from the deductible reimbursements reasonable and actual expenses incurred in connection with the collection of the large deductible collateral and deductible reimbursements.
- (3) To the extent such amounts are not available from reimbursements or large deductible collateral, the receiver, or guaranty associations if provided under an agreement with the receiver under subsection D(5), shall have a claim against the estate as provided pursuant to [insert cite to state's liquidation priority distribution statute].

Drafting Note: State policymakers should decide whether this provision, when enacted, should apply to existing liquidations.

W:\National Meetings\2021\Spring\Plenary\Att 5 LgDed_Guideline_2020_Final.docx

Date: 3/18/21

State Implementation Reporting of NAIC-Adopted Model Laws and Regulations

Life Insurance and Annuities (A) Committee

- Amendments to the *Suitability in Annuity Transactions Model Regulation (#275)*—These revisions were adopted by the Executive (EX) Committee and Plenary during the February 13, 2020 conference call. Seven states have enacted these revisions to the model.
- Amendments to the *Standard Nonforfeiture Law for Individual Deferred Annuities (#805)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2020 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.

Health Insurance and Managed Care (B) Committee

- Amendments to the *Accident and Sickness Insurance Minimum Standards Model Act (#170)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2019 Spring National Meeting. NAIC staff are not aware of any state activity regarding this model.
- Amendments to the *Health Maintenance Organization Model Act (#430)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2020 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.
- Amendments to the *Insurance Holding Company System Regulatory Act (#440)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2020 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.
- Amendments to the *Insurance Holding Company System Model Regulation with Reporting Forms and Instructions (#450)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2020 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.
- Adoption of the *Limited Long-Term Care Insurance Model Act (#642)*—This model was adopted by the Executive (EX) Committee and Plenary at the 2018 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.
- Adoption of the *Limited Long-Term Care Insurance Model Regulation (#643)*—This model was adopted by the Executive (EX) Committee and Plenary at the 2018 Fall National Meeting. NAIC staff are not aware of any state activity regarding this model.

Property and Casualty Insurance (C) Committee

- Adoption of the *Travel Insurance Model Act (#632)*—This model was adopted by the Executive (EX) Committee and Plenary at the 2018 Fall National Meeting. Six states have enacted this model.

Financial Condition (E) Committee

- Amendments to the *Life and Health Insurance Guaranty Association Model Act (#520)*—These revisions were adopted by the Executive (EX) Committee and Plenary at the 2017 Fall National Meeting. 34 states have enacted these revisions to the model.

- Amendments to the ***Credit for Reinsurance Model Law (#785)***—These revisions were adopted by the Executive (EX) Committee and Plenary during the June 26, 2019 conference call. 18 states have enacted this model.
- Amendments to the ***Credit for Reinsurance Model Regulation (#786)***—These revisions were adopted by the Executive (EX) Committee and Plenary during its June 26, 2019 conference call. Five states have enacted this model.

W:\National Meetings\2021\Spring\Plenary\Att 6 2021_SNM_StatusReportAdoptedModels_FINAL.docx