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Bumps in the Telematics Road: Privacy and Transparency

Volunteers Make Things Happen

CAS Releases Race & Insurance Pricing Series Phase II Papers

November-December 2024

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on the cover

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actuarialREVIEW

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editor'sNOTE By DR. SARAH SAPP, *AR* EDITORIAL/PRODUCTION MANAGER

The Value of Volunteering

In each November/December issue of *Actuarial Review*, we take time to recognize a member or group of members who have made exceptional volunteer contributions to the CAS over the year. In this issue, you will meet members of the Actuarial Professional Analysis (APA) Task Force, who have taken on the challenge of putting together a comprehensive evaluation to validate or redefine the importance of various content areas for P&C actuaries. As you will read in the story, these volunteers are committed to contributing 20 hours of work per month toward the ongoing project!

That kind of commitment got me thinking about the volunteers in my life who make such a huge difference in what we contribute to the actuarial community through our publication. I asked one of our *Actuarial Review* Working Group rockstar volunteers, CAS Fellow Rob Kahn, why he spends countless hours reading and editing and writing content for our publication. His reply: "Self-expression coupled with a desire for appreciation." That is what we at the CAS aim to do — show appreciation for all the hard work our volunteers put in to keep this organization going.

According to the latest CAS Quinquennial Survey, over half of our members have volunteered in the last five years. More than half of volunteers (53.6%) are satisfied with their overall experience volunteering with CAS, and 17.7% are very satisfied. It was of note that we received 52 comments from those who were satisfied or very satisfied, describing common themes of reasons to volunteer such as networking/working with other volunteers or staff (60%), giving back to the organization (27%) and achieving personal goals (12%).

Volunteering with the CAS is beneficial to both personal and professional growth. It strengthens the actuarial community, enhances leadership skills and expands industry knowledge. Volunteers contribute to advancing the profession, shaping CAS initiatives and fostering collaboration, ensuring the organization's continued relevance and success.

In addition to the focus on volunteerism, you will find a cover story by CAS Fellow Rachel Hunter on issues surrounding telematics and privacy. Our "Meet the VEEP" column introduces you to our Vice President-International Keith Berman, who gives the inside scoop on how the CAS is growing globally.

Actuarial Review welcomes story ideas from our readers. Please specify which department you intend for your item: Member News, Solve This, Professional Insight, Actuarial Expertise, etc.

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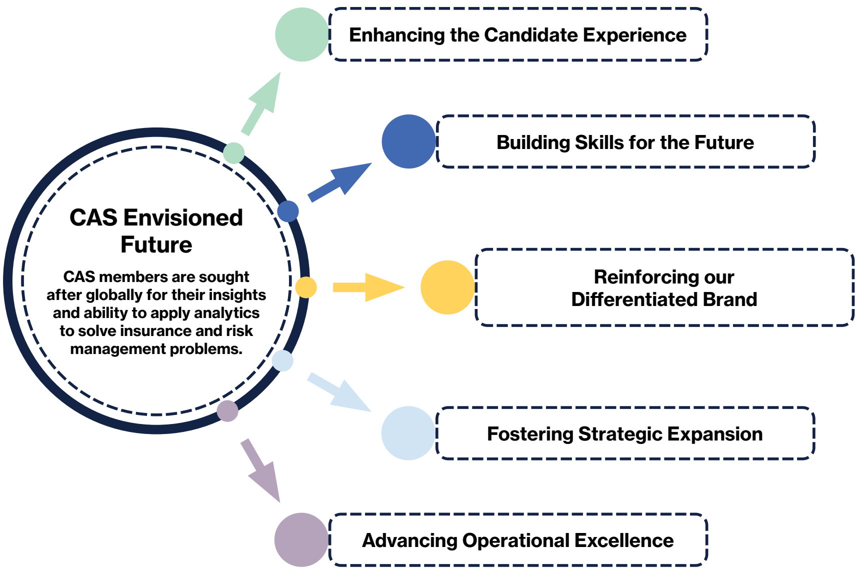
Follow the CAS

president's MESSAGE By FRANK CHANG

A Time for Reflection, A Time for Planning



"Yet the timeless in you is aware of life's timelessness, and knows that yesterday is but today's memory and tomorrow is today's dream." — Kahlil Gibran

The last year has been quite an eventful year for me and for the CAS. I'd like to provide a short reflection of 2024 on what we sought to accomplish as well as a few thoughts on the upcoming year.

Back in January, I set some priorities for myself to lean in on throughout the year. As a reminder, these priorities included:

1. Updating the CAS Strategic Plan.
2. Building skills for the future by launching the Property & Casualty Predictive Analytics (PCPA) requirements and planning the next set of admissions requirements through the Actuarial Professional Analysis (APA) survey.
3. Implementing the recommendations of the Governance Task Force.
4. Strengthening our early pipeline, our engagement with volunteers and members and our relationships with international members and peer actuarial organizations.

CAS Strategic Plan

After a year of hard work under the leadership of Board Member Len Llaguno, Past President Roosevelt Mosley and our CEO Victor Carter-Bey, the Strategic Planning Task Force was able to put together a well thought-out, updated set of pillars addressing many of the challenges and opportunities the CAS will face in the upcoming years. Many thanks to the CAS Executive Council and the Board, as well as all the many volunteers, members and CAS Staff who provided input into the updated plan.

The leadership of the CAS and I strongly believe that the candidate experience is critical to our future, so we added a pillar to our Strategic Plan focusing solely on this. This pillar had already been proposed based on candidates' feedback to our Admissions staff and volunteers prior to the unfortunate challenges with examinations that we all faced on May 1, 2024. We are committed now both to improving the candidate experience and to hardening our examination process to ensure nothing like this ever happens again.

I firmly believe that the updated plan and pillars will provide the CAS with the right vehicle through which we can focus our efforts.

Building skills for the future

The launch of the future PCPA requirement is well under way, thanks to the heavy lift of volunteers within The CAS Institute, our Admissions staff, our beta testers and graders and the informal set of micro-volunteers who completed the hands-on module and commented throughout. While many actuarial societies around the world have a predictive analytics requirement, ours is the only one focused on applications within P&C insurance.

I'd also like to thank all of those who took the Actuarial Professional Analysis survey, as well as the volunteers who helped construct and edit the survey before its release. The feedback we gathered from this survey will help ensure that we are indeed building skills that account for the future.

Governance

The Governance Committee was able to complete all of its Phase 1 tasks, which include:

1. Reviewing all board committees and task forces, examining staffing allocations and constructing char-

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from page 6

ters approved by the board.

2. Launching the Human Capital and Compensation Committee, a new committee replacing an outdated operational committee, as well as forming a [Membership Linkage Task Force] (MLTF) to help the board improve membership engagement.
3. Reviewing and revising the position descriptions of vice president, president and president-elect, as well as creating a new position description for the CEO.

The board committees and task forces, which are mostly made up of board members, help the board serve their strategic purpose without needing to delve into every single detail because such work can be delegated to a small group of their peers. In the past year, this structure has helped the CAS Board establish a great rhythm of decision-making and maintain a good strategic focus. This work will help with our new Strategic Plan pillar titled Advancing Operational Excellence. I'm particularly optimistic that the MLTF and the Admissions Governance Council will help the CAS execute other parts of the updated Strategic Plan.

Finally, I'd like to thank Kris DeFrain, the Governance Committee outgoing chair, as well as Justin Brenden, Steve Belden and Todd Rogers for their leadership and work. Thanks also to the CAS Executive Council, the CAS Department Chiefs and CEO Victor Carter-Bey for their work refining the position descriptions.

Building our pipeline

In my last column, I mentioned that the CAS Student Central Summer Program had 468 participants from 30 countries. The CAS University Recognition Program, which recently turned one year old, has recognized dozens of universities across the world.

In the past year, I've visited a dozen universities, including many international ones, to talk about and share my passion for the CAS and generate interest in our organization among the students. In particular, the Sri Sathya Sai Institute of Higher Learning, a CAS Gold-level recognized university, stands out as a rare gem. Not only do they have dozens of students passing MAS-I and II, but they also graduate students from bachelor's through Ph.D. in actuarial science, many of whom end up in P&C in India.

This is a pleasant development because life and health often dominate actuarial employment, hence, they also dominate university programs. The CAS also had a presence at the Actuarial Student's National Association (ASNA), a student-organized convention in Canada.

I'd like to thank the University Engagement Advisory Working Group as well as all our volunteers and university liaisons for continuing to engage future actuaries, giving us the feedback we need and helping the CAS to strengthen our pipeline.

Engaging members, volunteers and employers

For member engagement, the CAS leadership has relied on more forums to gather feedback on large initiatives.

For the Admissions Transformation Plan and, more recently, the APA, we've held multiple Town Halls with ample time for questions, as well as conducting roundtables, focus groups and surveys. The Strategic Plan also underwent a series of vetting processes. We presented an initial version to the CAS Executive Council and Board, held three focus groups with members and two CAS Virtual Town Halls, received a lot of

ACTUARIAL REVIEW *LETTERS POLICY*

Letters shall not contain personal attacks or statements directly or implicitly denigrating the characters of individuals or particular groups; false or unsubstantiated claims; or political rhetoric. Letters should be no more than 250 words and must include the author's name and phone number or email address, so the editorial staff can confirm the author. Anonymous letters will not be published. There shall be no recurrence of topics; issues previously addressed will not be the subject of continued letters to the editor, unless new and pertinent information is provided. No more than one letter from an individual can appear in every other issue. Letters should address content covered in AR. Content regarding the CAS Board of Directors or individual departmental policies should be directed to the appropriate staff and volunteer groups (e.g., board, working groups, committees, task forces or councils) instead of AR. No letter that attempts to use AR as a platform for an ulterior purpose will be published. Letters are subject to space limitations and are not guaranteed to be published. The AR editorial volunteer and staff team reserves the right to edit any submitted letter so that it conforms to this policy. Decisions to publish letters and make changes to submissions shall be made at the discretion of the AR Working Group and CAS staff.

For more information on AR editorial policies, visit https://ar.casact.org/wp-content/uploads/2023/06/AR_Statement_of_Purpose.pdf member feedback and refined the plan. Then we presented it again to the CAS Board and at the CAS Leadership Summit to get feedback from the Executive Council, working group chairs and staff. Next, a near final version went to the Board again, followed by a two-week open comment period to all members.

We have made great strides here in terms of transparency. I'm optimistic that this will continue to improve with the MLTF, led by incoming CAS President Dave Cummings.

In addition to member engagement, we are focusing on employer engagement. We are making refinements to our employer engagement strategy, which includes the work of the Employer Advisory Council (EAC), as well as meeting with CAS members who work in regulation, and planning for expanded international and Canadian employer outreach. I have also enjoyed visits with new CAS members and employee resource groups at four of the larger insurers in the U.S. This work to better engage member employers will continue into the next year and beyond.

We love all our members, but we really cherish our volunteers. At the Spring Meeting, we created a Volunteer Appreciation Lounge — complete with a chocolate fountain, a champagne toast and special treats. In addition to the Volunteer Interest and Participation Survey, the CAS has made it easier than ever to participate with micro-volunteer efforts like University Liaisons, Member Advisory Panel, focus groups, Diversity Impact Group and Student Central Summer Program mentors, judges and presenters. The CAS has also created a handy [webpage] to learn about volunteering and the different volunteer groups.

CAS Associates in Taiwan with CAS President Frank Chang (center) at the Joint Property/Casualty Actuarial Seminar in Taipei.

Attendees at the CAS China Insurance Summit in September 2024.

CAS volunteers are essential to our success and continued operation, so I make time to meet with and talk to them when traveling. Recently, I met a CAS member based in China who volunteers as an item-writer for one of our upper exams, an area of critical need. If you are considering volunteering, we could definitely use help there.

I'd like to thank the Volunteer Resources Working Group as well as the chairs of all our working groups and committees for their work taking on critical needs and efforts, and for helping us to understand and develop ways to connect with our volunteers.

Collaborating with international organizations

Our international leadership team includes CAS Chief Business Officer Joyce Warner, CAS Director of International Relations Katie Mulembe, CAS International Relations Manager Bo Lin, and CAS Country Director (China) and Staff Actuary Ran Guo, and VP-International Keith Berman. They have been developing ways for us to collaborate with our

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international counterparts and create memorable events for our international members. In the past year, I've visited and spoken in person and virtually at over a dozen of our peer actuarial organizations throughout the world. These meetings have built relationships with local actuarial presidents and leaders to help plant seeds for future partnerships.

At this year's CAS China Insurance Summit in September, we had nearly 200 attendees. One of those attendees, an ACAS, first-time attendee, remarked that if this is how the CAS does events, she would go to all of them! Despite being on the other side of the world, these members felt that they could be part of the CAS community and get great continuing education where they lived.

… an ACAS, first-time attendee [at the China Insurance Summit], remarked that if this is how the CAS does events, she would go to all of them!

Also in September, the Joint Property/Casualty Actuarial Seminar was held with the Actuarial Institute of Chinese Taipei for our members and candidates in Taiwan. This event, likewise, spurred appreciation for our efforts to provide continuing education and helped them feel like being a part of the CAS community. For the Associates and Fellows who never were able to fly to the U.S. to "walk" at one of our celebrations of new members at Spring or Annual Meetings, we held a special photo session, complete with a CAS banner, courtesy of Ran Guo.

It is also important to recognize that we need to build strong relationships with U.S.-based organizations like the American Academy of Actuaries, the Conference of Consulting Actuaries, the Society of Actuaries and the National Association of Insurance Commissioners. To this end, I've established three-year presidential assignments that divide the U.S., Canada and the rest of the world among the CAS President, President Elect and Past President, so that each organization would have a presidential contact to help build strong connections with the CAS.

Looking to the future

The year wasn't without challenges. A lot of unexpected things happened that took extra time to address. Despite that, we were able to make the CAS stronger over the past year. As we move to 2025, there are a few reasons to expect the CAS to continue its upward trajectory.

First, we have a strong Strategic Plan, a strong governance structure and updated vice president position descriptions in place to help us stay focused. One of the hardest challenges I faced last year was finding the right place to address incoming valid requests. For every critical challenge, we should have a place and an owner that isn't difficult to find or determine. In 2025, I believe this will be true.

Second, we have a great leadership team with a seasoned and talented board, a veteran executive council and dedicated CAS staff leadership. Even though William Wilder, our out-going vice president-admissions served us for four years, the reins are passing to Jason Russ, who has been an active member of the Admissions Governance Council. Russ has just wrapped up his three-year term on the board and has been attending Admissions and Syllabus and Examination Committee (SECOM) activities over the last few months. Also, the 2023-2024 CAS Board developed a great board culture and camaraderie with healthy dialogue focused on what matters, using email and other methods to deliberate and get to decisions effectively. Incoming President Dave Cummings is also a long-time CAS leader and CAS veteran, with a strong vision for the Executive Council, Membership Engagement and the future of the CAS.

Finally, reflecting on the trajectory of conversations, I see and hear a lot more expressions of good intent among our volunteers, staff and leadership. All of us are passionate about the CAS, and the best way for all of us to work together is to assume good intent. In the past, misunderstandings would be attributed, based on assumptions, to group dynamics; however, more recently, I've seen more and more assumptions and expressions of good intent, which then resolve simple roles and responsibilities questions versus escalating into something more.

I observed this most recently at the CAS Leadership Summit, which was an energizing meeting.

To conclude, we've hit many milestones in 2024. Let's continue this positive momentum. Here's wishing everyone a great holiday season, a happy new year and a prosperous 2025!

COMINGS AND GOINGS

Joel Belliveau, FCAS, has been appointed vice president of analytics at Topsail Re. Before joining the company, Belliveau spent nine years at National General, an Allstate company, where he most recently served as an actuarial pricing manager for personal and commercial auto lines. His tenure at National General also included experience as a reserving actuary.

Business Insurance has recognized several CAS members as winners of its annual Women to Watch award. The program, which began in 2006, recognizes leading women doing outstanding work in risk management and commercial insurance. Awardees in 2024 are **Stephanie Bolstridge, FCAS; Ann Chai, FCAS; Kathy Guerville, FCAS; Alejandra Nolibos, FCAS;** and **Yvonne Palm, FCAS, FIA.** Bolstridge is the vice president, data science at Travelers, where she has worked since 2007. She was president of the Casualty Actuaries of New England from 2012-2013 and has served on the CAS Syllabus and Examination Committee. Chai was promoted to chief risk officer at Zurich North America in January 2024 and has served the company in varying capacities since 2010. Previously she spent almost eight years with CNA Insurance. Guerville is the chief underwriting officer for Ryan Specialty, where she has worked since 2016, beginning her career there as an actuary and later actuarial director. She also previously worked for seven years for Zurich Insurance Company Ltd. Nolibos is managing director for WTW, where she has worked in actuarial and director roles since 1998. She is the division leader for P&C North America Insurance Consulting and Technology, including pricing, product, claims and underwriting practices. She served on the CAS Board of Directors from 2020-2023 and in numerous other volunteer capacities with the organization. Palm is chief risk officer, director of risk management and compliance at African Reinsurance Corporation. She has previously worked for Ernst and Young, ACE Group, Markel International and Travelers Syndicate Management. Palm currently serves on the CAS Board of Directors and has served as a volunteer at the CAS in several capacities, including the International Member Services Working Group and Africa Regional Working Group.

Brandy Roth, FCAS, has been appointed vice president of actuarial services at Preferred Mutual, bringing her experience and expertise in the fields of pricing, reserving, reinsurance and predictive modeling to the company. Before joining Preferred Mutual as actuarial director in December 2023, Roth held pivotal roles at Vault Insurance, where she was instrumental in shaping their actuarial practices. Her background includes domestic and international non-life insurance experience through various leadership positions at AIG, ACE and Allstate. She has served on the CAS Syllabus and Examination Committee.

EMAIL "COMINGS AND GOINGS" ITEMS TO AR@CASACT.ORG.

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CALENDAR OF EVENTS

March 9–12, 2025
Ratemaking, Product and Modeling Seminar (RPM)
Orlando, FL

May 4–7, 2025
CAS Spring Meeting
Toronto, Ontario, Canada

June 4–6, 2025
Seminar on Reinsurance
National Harbor, MD

Visit casact.org for updates on meeting locations.

Thank you to the 2023-2024 CAS Board and Executive Council!

The CAS Board of Directors 2023-20024
Seated, left to right: *Wanchin Chou; Kathleen Ores-Walsh; Stephanie Espy;* Alicia Speight;* Kathy Olcese; Yvonne Palm; Sandy Lowe; Frank Chang, CAS President; and Amber Rohde.*
Standing, left to right: *Steve Belden; Julie Lederer; Peter Hahn;* Len Llaguno; Victor Carter-Bey, Chief Executive Officer; Justin Brenden; Joe Milicia; Jason Russ; Roosevelt Mosley Jr., CAS Board Chair; and Dave Cummings, President-Elect.*
**Appointed Directors*

The CAS Executive Council 2023-2024
Seated, left to right: *Rich Moncher, VP-Administration; Steve Berman, VP-International; Anthony Bustillo, VP-Professional Education; Erin Olson, VP-Engagement; and Frank Chang, CAS President.*
Standing, left to right: *Morgan Bugbee, VP-Research and Practice Advancement; William Wilder, VP-Admissions; Victor Carter-Bey, Chief Executive Officer; and Dave Cummings, President-Elect.*

30 YEARS
The Actuarial FOUNDATION

Transform Math Education.
Celebrate 30 Years of Unlocking Student Potential!

For three decades, we have dedicated ourselves to transforming the landscape of math education in the United States, providing free resources to empower young minds. Our focus is on igniting the passion for mathematics and fostering the next generation of problem solvers, innovators, and leaders. Over the years, we have impacted countless lives, and now it's time to commemorate our journey in a grand way.

Ways to Celebrate

01 ***Mission Math Podcast:***
To expand awareness of the Foundation's crucial work and celebrate 30 years of success, we will create four podcasts during 2024. Our guests will include key stakeholders within the actuarial community, including dedicated volunteers and TAF program participants.

02 ***Fundraise a Mathapalooza Event:***
Besides celebrating 30 years of math milestones, we need your help preparing for the next 30. We are looking for volunteers to host fun FUNDraising and/or FRIENDraising events at their place of work, actuarial club meetings, or other venues. A TAF-themed birthday party? Pub Trivia? Talent show? The possibilities and potential for fun are endless!

03 ***Community Spotlight Blogs:***
The Foundation would not be where it is today without our donors and supporters. We are grateful for the time and effort our volunteers, donors, and supporters put in to make our mission possible. Read about the stars in our community in the Foundation blog and learn how you can help!

To learn more visit:
actuarialfoundation.org/30th-anniversary

CAS STAFF SPOTLIGHT

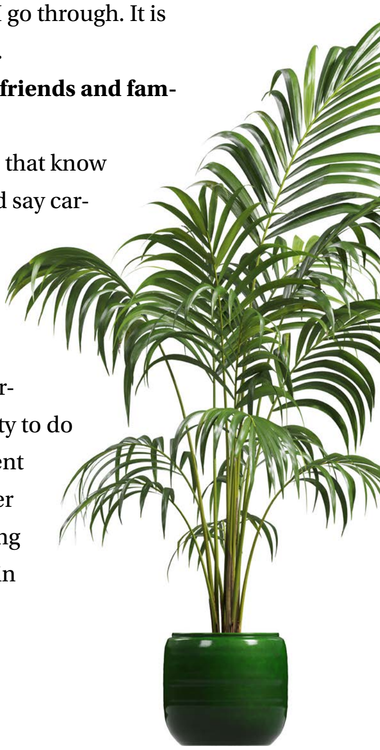
Meet Craig Harris, IT Coordinator

Welcome to the CAS Staff Spotlight, a column featuring members of the CAS staff. For this spotlight, we are proud to introduce you to Craig Harris.

- **What do you do at the CAS? How does your role support the Strategic Plan?**
  At the CAS, I work within our great IT team to consolidate efforts to provide the necessary technical resources to all employees of the CAS. This ensures that all CAS ventures, events and projects have the technology needed to provide the best support and services to members and volunteers. I am in the midst of successfully changing my career field, and I am determined to become a subject matter expert in various technical divisions, specifically cybersecurity.
- **Describe your educational and professional background. What do you bring to the organization?**
  I began by getting an associate degree in business administration. I did not pursue my bachelor's at the time, as I shifted my focus to private emergency medical care. I did this professionally for approximately four years before deciding to re-enroll in school to get my bachelor's degree in cybersecurity and information assurance. I believe I bring a sharp, problem-solving mind to the CAS, as I look to not only gain experience, but leverage the skills I have now to benefit everyone at the CAS.
- **What inspires you in your job? What do you most love about your job?**
  In the IT field in general, I am driven by solving problems and learning from trial and error. The anticipation and breakthrough of overall discovery and optimization of flows has been something that I have always been interested in. I like being able to think about how and why things work so that I may take a calculated and well-thought-out approach to resolve delays in productivity. The field of technology allows me to do all of that within its general scope, especially cyber security — which is the specialty I look to follow.
- **What is your favorite hobby outside of work?**
  I enjoy caring for my growing plant collection, eating and cooking tasty food, and watching/playing sports. I enjoy the simpler things in life while also letting my boundless and creative imagination carry me through my everyday life.
- **If you could visit any place in the world, where would you go and why?**
  For now, I would have to say Indonesia or the Amazon rainforest because I love landscape views and plants. I would say Indonesia because it seems like such a beautiful place to visit. My interest in the Amazon rainforest simply stemmed from hearing about it so much when I was a kid in school.

Craig Harris

- **What would your colleagues find surprising about you?**
  How diligent I am with my plants. Ever since I got into plants, I have found out so much about myself. They carry a certain energy that grows along with me on my journey. They almost reflect the distinct stages of life that I go through. It is very eye-opening.
- **How would your friends and family describe you?**
  I think the people that know me the best would say caring, smart and funny. I love sharing myself with the people I love and cherish the opportunity to do so with the different people I encounter that end up proving to impact my life in any way.



MEET THE VEEP

Keith Berman, VP-International

By DR. SARAH SAPP, *AR* EDITORIAL/PRODUCTION MANAGER

Keith Berman, FCAS, is not just an actuary; he's a global ambassador for the CAS, helping to expand its influence across borders and continents. As vice president-international, Berman has embraced a leadership role that is as multifaceted as it is impactful — guiding efforts to bolster the CAS's international footprint, supporting global members and developing aspiring actuaries in regions where the profession is still growing. His volunteer experience reflects a deep commitment to professional development and a passion for making a lasting difference in emerging markets.

At the heart of Berman's role lies a clear mission: to drive the strategic growth of the CAS beyond North America. This involves increasing membership, expanding the presence of CAS credentials and offering professional education that meets the needs of actuaries around the world. Berman's primary responsibility is to lead the development and execution of the operational strategy for CAS international growth and oversee the support of the CAS's international members.

The goals Berman oversees are ambitious but carefully structured. The CAS International Council has identified key performance indicators (KPIs) that serve as benchmarks for international success. "We aim for annual growth of over 7% in the number of candidates outside North America and more than 8% growth in ACAS/FCAS members outside North America," he says. "We strive to ensure that a significant percentage of international members engage in the CAS's professional education offerings."

Achieving these metrics is no small feat. Yet, for Berman, it is about more than just numbers. He emphasizes the broader vision of developing actuaries and aspiring actuaries globally, reinforcing the CAS as the gold standard for global P&C actuarial organizations. "We want to help actuaries, employers, universities and students in many countries develop their capabilities in the P&C actuarial space," Berman says.

Berman's tenure as VP has been marked by several key initiatives that reflect the CAS's commitment to growth and innovation internationally. Three projects stand out as major milestones in 2024.

One of these is the International University Recognition Program, which launched in November 2023. This program aligns closely with the CAS's recognition of universities in the U.S. and Canada, offering three tiers of recognition based on efforts to promote P&C careers and the number of students taking CAS exams. "We've enrolled 16 universities so far, and we're continuing to grow," Berman says, reflecting on the program's success in Asia, where it was piloted.

Another significant initiative is the Faculty Development Workshop, held in Kuala Lumpur, Malaysia, in October 2024. This two-day event was designed to equip faculty from various universities across Asia to teach P&C actuarial topics

Keith Berman

and guide students toward earning CAS credentials. "We had 45 faculty members from 22 universities attend," Berman notes. "They came from Malaysia, Thailand, India, China, Hong Kong, Nepal, Taiwan, Australia and Singapore." The event exemplifies the CAS's dedication to fostering talent and creating educational pathways for future actuaries in regions where the profession is still developing.

Berman is also thrilled by the success of the Latin America Case Competitions, which allowed students to apply academic knowledge to real-world actuarial problems in P&C insurance. "The Latin America Regional Working Group organized two competitions, one in Spanish and one in Portuguese," he shares. "Thirty-three teams registered for the Spanish-speaking competition, and 19 for the Portuguese-speaking one." These competitions provided an invaluable platform for students to engage with the profession while gaining a deeper understanding of an actuary's day-to-day work.

For Berman, the achievements of these working groups and committees are a testament to the collaborative efforts of CAS volunteers and staff. "I'm most proud of the progress we've made in achieving international growth and increasing the CAS brand globally," he says. "We've exceeded all three of the CAS Board KPIs in 2024." Today, there are 743 candidates outside the U.S., Canada, and Bermuda, accounting for 16% of all CAS candidates, and 603 ACAS/FCAS members, representing 5.6% of all members.

On a personal level, Berman's involvement in mentoring international students is a source of pride. "I've been a mentor for the Student Central Summer Program, which includes actuarial students from around the world," he explains. In his first year in the program his cohort comprised students from various countries in Africa; in 2024, his cohort consisted of students from India and Nepal. "They were both highly engaged groups, and I was especially proud when my most recent cohort won the case competition," Berman says. Mentorship, in Berman's view, is an integral part of nurturing the next generation of actuaries and supporting their professional development.

Berman's path to leadership is a testament to his dedication and passion for the profession. "It wasn't until roughly 10 years ago, when I was living in Buenos Aires, that I got more involved in formal volunteer work with the CAS," he recalls. In Buenos Aires, he coordinated the opening of a CAS exam test center, proctored exams, delivered exam-training to his team members and joined the Latin America Regional Working Group.

More recently, Berman chaired the International Member Services Working Group. Berman notes that his initial volunteer work helped him stay connected to international activities, even when he was no longer working abroad. "It was a great opportunity to give back to the profession while also keeping myself involved in international insurance," he says.

Berman's enthusiasm for leading international efforts is evident in everything he does. "When I was approached to take on the VP of international role, it was a no-brainer for me," he says. His love for giving back to the profession is matched by his excitement about working with actuaries in emerging markets. "The P&C actuarial profession is less developed in many countries than it is in the U.S., so there's a greater opportunity to make a big impact."

"I was frequently pushed out of my comfort zone, and that had a profound impact on my professional and personal growth." —Keith Berman

Berman advises others looking to step into volunteer leadership roles to raise their hands whenever there's a project or volunteer opportunity. "Your efforts will be noticed, and this will almost always lead to leadership opportunities down the road."

Berman's professional journey is deeply intertwined with his international experiences. After earning a bachelor's degree in finance from Washington University in St. Louis, he spent the first part of his career in Chicago. However, it was an international rotation with Zurich Insurance that broadened his horizons and led him to live abroad in Sydney, Dubai, and Buenos Aires over the course of seven years.

"I was frequently pushed out of my comfort zone, and that had a profound impact on my professional and personal growth," Berman says. From learning to surf in Australia to building lifelong friendships in Dubai and mentoring actuarial teams in Buenos Aires, his international experiences have been rich and rewarding and have shaped his perspective and influenced his leadership at the CAS.

Berman's latest professional venture is with Starr Insurance, where he will serve as their chief pricing officer. His role will focus on Starr's U.S. business, but he will also be involved with the company's international operations. "Starr has a sizable international presence, and I'm excited about the opportunity to contribute," he says.

One fun fact about Keith is that he met his wife for the first time the day before the CAS Centennial meeting. He ended up skipping all the CAS meeting evening events to "go see about a girl." For their second set of dates, they met in Peru to hike the Inca Trail.

Keith Berman's leadership in the CAS's international efforts showcases the power of volunteerism and the far-reaching impact of collaboration. Through initiatives that foster education, mentorship and global growth, Berman and the CAS are shaping the future of the actuarial profession, one continent at a time.

Certify Compliance with the CAS Continuing Education Policy

All Fellows and Associates should certify their compliance with the CAS CE Policy requirements by December 31, 2024 for attestation year 2025. It's imperative that members attest by December 31 because the CAS will be transitioning to a new association management system in early January and online member profiles will not be accessible by members during the transition.

Members must certify compliance at the end of each calendar year, as compliance with the CAS CE Policy allows members to provide actuarial services in the year immediately following certification of compliance.

If a member is a practicing actuary, the member should indicate the proper attestation year as the year during which they are able to practice after having met the prior years' necessary CE/CPD requirements. For example, a member who completed their required CE/CPD requirements during 2024 will be able to provide actuarial services in 2025.

Note that even members who are ***not*** in actuarial roles should review the requirements, as CE compliance may still be required.

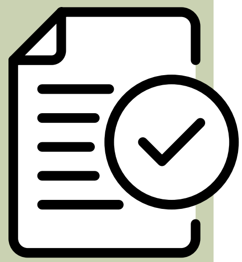
If members are not providing actuarial services, they must still submit their attestation using the "not providing actuarial services" attestation option. Members who do not provide actuarial services do not have to earn CE or meet the CAS CE Policy. The CAS CE Policy defines "Actuarial Services" as "Professional Services provided to a Principal by an individual acting in the capacity of an actuary. Such services include the rendering of advice, recommendations, findings, or opinions based upon actuarial considerations."

How to certify compliance

To certify compliance, members should attest for 2025 by December 31, 2024, by following these steps:

1. Go to casact.org.
2. Sign into your CAS member account by clicking on the "Login" tab at the top of the page.
3. Click on the "Profile" tab.
4. Under the "My Account Links," click on "My Attestation."
5. Click the "Add" button found in the upper right-hand corner.
6. Select attestation year "2025."
7. Under the "Compliance Attestation" field, select which statement applies to you.
8. Under the "Method" field, select the Recognized National Standard with which you are complying.

Members who do not certify their compliance or who do not indicate they are not providing actuarial services by **February 1, 2025,**



Should you certify compliance if …

Circumstance	Answer
You recently became a new ACAS/FCAS member	**YES,** the time you spend in independent study for exams may be counted toward CE requirements. Courses that were mandatory for the ACAS credential such as the Course on Professionalism (COP) may be counted towards CE as well.
You are an actuary working in a non-traditional area of practice (e.g., underwriter, risk manager, CEO)	**YES,** actuaries in nontraditional areas may still be providing "actuarial services" as defined above.
You did not complete the relevant amount of CE/CPD needed for your chosen Qualification Standard or Requirement	**YES,** even if members have not yet met their CE/CPD needed for their chosen Qualification Standard or Requirement, they must still attest. If actuaries attest as non-compliant, they may not provide actuarial services until they become compliant with their chosen Recognized National Standard. Actuaries may update their attestation at any time of the year to "compliant" once they have met the requirements.
You are no longer providing actuarial services	**YES,** if you recently stopped providing actuarial services, you must attest this year. Members that attested "not providing actuarial services" last year and plan to continue not providing actuarial services in 2025 will not be required to attest again unless their status changes.
You are retired	**YES,** members who are retired may still be subject to CE Policy. Only if you are not currently providing actuarial services are you exempt from attesting on an annual basis and exempt from meeting the CE requirements. If you are retired but continue to provide actuarial services from time to time, you should attest appropriately and meet CE requirements.
You are an Affiliate of the CAS	**NO,** you do not need to attest because Affiliates are not subject to the CAS CE Policy.

will be shown as non-compliant under the Continuing Education heading of the membership directory on the CAS website. Members who are listed as non-compliant may be subject to further administrative penalties as determined by the CAS Board.

For more information visit our CE related webpages:

- Continuing Education Policy,
- New ACAS Members — Attestation & CE Requirements,
- United States Qualification Standards Overview,
- Continuing Education FAQs,
- or email ce-review@casact.org.

Recognizing Excellence: Reserving Research Papers and ARIA Prize Announced

By ANNMARIE GEDDES BARIBEAU AND SARAH SAPP

The CAS is pleased to announce prizes awarded for the best reserving research papers resulting from the CAS Reserves Working Group's Call for Papers on Technology and the Reserving Actuary.

The winning papers are:

- "Navigating the Uncertainties: Robust Reserving Strategies for Catastrophic Events" by Olga Achkasova, ACAS, MAAA.
- "The Development and Use of a Claim Life Cycle Model" by Chris G. Gross, ACAS, MAAA.
- "Handling Sparse Data for Reserving Using Bayesian MCMC" by Michael L. Larsen, FCAS, MAAA.

These prize-winning papers, along with other outstanding papers stemming from the call for papers, are published in the Fall 2024 E-Forum.

Like other CAS research initiatives, CAS Call Paper Programs offer researchers the opportunity to support property-casualty actuaries by providing thought leadership and expanding actuarial knowledge. Papers are reviewed by CAS volunteers.

Three academics from Germany have won the ARIA Prize, a CAS-sponsored award established in 1997. The ARIA Board of Directors recently announced the paper "Detecting insurance fraud using supervised and unsupervised machine learning" by Jörn Debener, Volker Heinke and Johannes Kriebel in Volume 90 of the *Journal of Risk and Insurance* as winner of the 2024 ARIA Prize by the CAS. The ARIA Prize is awarded to the author(s) of a paper published by the American Risk and Insurance Association. ARIA publishes two academic journals quarterly (*Journal of Risk and Insurance* and *Risk Management and Insurance Review*). The winning paper provides a valuable contribution from the academic community to practicing casualty actuaries.

The paper acknowledges that insurance companies face a big problem with fraud, which has led to a lot of interest in using machine learning to solve it. While researchers have focused on using supervised learning to detect fraud, unsupervised learning hasn't been studied much in this area. As a result, there's not enough information to decide which type of machine learning is better for spotting insurance fraud. In this study, the researchers compare supervised and unsupervised learning using data from real insurance claims. They also partnered with an insurance company to test how well each method works in finding new fraudulent claims.

Some key findings include the following:

- Unsupervised learning, especially using isolation forests, can effectively detect insurance fraud.
- Supervised learning also works well, even though there are few labeled cases of fraud.
- Each method finds new fraudulent claims using different types of input information.

Based on these results, the researchers recommend using both supervised and unsupervised learning together rather than choosing one over the other.

The prize presentation took place at ARIA's Annual Meeting this past August. One of the authors of the prize-winning paper will be invited to present the paper at a CAS meeting.

CAS Releases New Reports in Race & Insurance Pricing Series

The CAS is pleased to announce the release of four new reports that reveal ways actuaries can detect and address potential bias in property-casualty insurance pricing.

The newest reports — which are part of Phase II of the [CAS Research Paper Series on Race & Insurance Pricing] — explore different aspects of potential unintentional bias in insurance pricing and progress from the series' historical foundations to forward-looking solutions for quantifying and addressing potential bias. The papers empower actuaries with the tools and insights to address potential bias with topics ranging from regulatory considerations in the U.S. and other countries to detecting and addressing potential bias in data and models.

"We continue to leverage the analytical skills and industry expertise of our actuaries to bring more understanding to this critical topic," said Frank Chang, FCAS, CAS president. "These reports are designed to provide insight that will spark important discussions on potential biases and encourage actuaries to engage meaningfully with stakeholders on this pressing topic. The overall CAS Research Paper Series on Race & Insurance Pricing stands as a testament to our commitment to keep CAS members informed about emerging trends and provide employers and the industry with valuable expertise."

The following four papers are available now:

"A Practical Guide to Navigating Fairness in Insurance Pricing" by Jessica Leong, FCAS; Richard Moncher, FCAS; and Kate Jordan

This paper provides actuaries with a comprehensive suite of model development and governance practices to promote fairness. It includes an overview of emerging regulations on bias and fairness in the insurance industry and other sectors such as housing, lending and hiring. The paper outlines approaches to minimize the risk of failing an analysis of unfair discrimination, covering aspects such as model governance, project planning, data preparation, model training, evaluation, selection, implementation and monitoring.

"Regulatory Perspectives on Algorithmic Bias and Unfair Discrimination" by Lauren Cavanaugh, FCAS; Scott Merkord, FCAS; Taylor Davis, FCAS; and David Heppen, FCAS

This paper offers an overview of recent regulatory activities related to algorithmic bias and unfair discrimination, focusing on collaborative efforts by U.S. state regulators within the National Association of Insurance Commissioners. It is based on results from a survey of insurance departments, detailing regulators' perspectives on algorithmic bias, acceptable methodologies for identifying and addressing bias, use of protected class inference techniques and more. Practical considerations for actuaries complying with regulatory requirements are also discussed.

"Balancing Risk Assessment and Social Fairness: An Auto Telematics Case Study" by Jean-Philippe Boucher, Ph.D. and Mathieu Pigeon, Ph.D.

This study examines how incorporating telematics data in auto insurance pricing algorithms can reduce reliance on protected or sensitive information such as age, gender, marital status, credit score and geography. Using a synthetic database built from confidential insurance data from an Ontario-based Canadian insurer, the study evaluates the potential for telematics to enhance

fairness in insurance pricing.

"Comparison of Regulatory Framework for Non-Discriminatory AI Usage in Insurance," By David Schraub, FSA; Jing Lang, FSA; Zhibin Zhang, FSA; and Mark A. Sayre, FSA. Produced with the Society of Actuaries.

This report provides a brief overview of recent and developing regulatory activity in China, Canada, Europe and the U.S. designed to avoid discriminatory use of artificial intelligence (AI) in the insurance industry. While there are common themes such as transparency, governance and accountability across jurisdictions, significant differences exist due to varied regulatory philosophies (e.g., state-led regulation in the U.S. versus centralized regulation in China), legislative approaches (industry-specific versus cross-industry) and regulatory focus (protection of rights versus fostering innovation).

Additional papers to be released soon

Additional papers in the series will be released in the next few months.

The CAS invites parties who are interested in collaborating on future research or educational opportunities on these critical topics to contact diversity@casact.org.

D.W. Simpson Contributes to the CAS Trust

The Trustees for the CAS Trust are pleased to announce that D.W. Simpson Global Actuarial Recruitment donated $5,000 to the Trust in 2024, bringing the company's total lifetime contributions to $255,000.

Established in 1979, the CAS Trust is a non-profit organization that funds actuarial research and education. One of its most notable programs is the CAS Trust Scholarship, which aims to build students' interests in the P&C actuarial profession and to encourage the pursuit of CAS designations. The CAS Trust offers up to $30,000 in scholarships each year — four $5,000 scholarships and four $2,500 scholarships.

The CAS sincerely thanks D.W. Simpson Global Actuarial Recruitment for its continued support of the CAS mission to advance actuarial science.

Inquiries and contributions to the CAS Trust should be addressed to the CAS Chief Financial Officer Todd Rogers at trogers@casact.org.

Volunteers Make Things Happen

The Actuarial Professional Analysis Team

By DR. SARAH SAPP, CAS EDITORIAL/PRODUCTION MANAGER

In an ever-evolving business landscape, the actuarial profession stands at the intersection of risk assessment, financial forecasting and strategic decision-making. Actuaries are the backbone of industries ranging from insurance to finance, offering critical insights that guide companies and governments alike. To maintain the relevance and value of this profession, the CAS announced a transformative new project poised to redefine the landscape of actuarial education and credentialing: the Actuarial Professional Analysis (APA). This comprehensive evaluation aims to validate or redefine the importance of various content areas for current and future actuaries, ensuring that CAS credentials remain the gold standard in the property and casualty (P&C) actuarial profession.

The credentialing industry recommends that credentialing associations review their content for their credentials every three to five years to ensure that they are still accurate and relevant for the industry. The comprehensive evaluation conducted through the APA will have implications for the CAS credentialing pathway. By reassessing and evaluating the content areas, the CAS aims to increase the relevance of its credentials to employers, members and candidates. This means that the skills and knowledge acquired through the CAS exam process will continue to closely align with industry needs, ensuring members are more attractive applicants in the job market.

The CAS will be able to fine-tune its examination and educational offerings to reflect the complexities and importance of various topics comprehensively.

A crucial aspect of the APA is its inclusivity. The CAS recognizes that the perspectives of its members and candidates are invaluable in this process. Therefore, all CAS members and candidates will have the opportunity to provide input, ensuring that the evaluation reflects a broad range of experiences and insights.

One of the key outcomes of the APA will be the determination of appropriate weights and cognitive levels for different content areas within the CAS credentialing pathway. This means that the CAS will be able to fine-tune its examination and educational offerings to reflect the complexities and importance of various topics comprehensively. For instance, certain areas of actuarial practice may require a deeper understanding and higher cognitive engagement, while others may be foundational but less complex. The

APA will help the CAS strike the right balance, ensuring that actuaries are well-equipped to meet the challenges of their roles.

The APA represents a significant step forward for the CAS, as it seeks to ensure that its credentialing pathway remains aligned with the demands of the current and future actuarial landscape. The analysis is not merely a review; it is a strategic effort to confirm that the content areas currently emphasized in actuarial education and examination are still pertinent and valuable, while allowing space for emerging concepts to be added. As the business environment shifts, so must the knowledge and skills that actuaries bring to the table.

The first step in developing the APA was to establish and define the APA goal: to validate or redefine the importance of actuarial content areas. The next step was to gather data from CAS members, candidates and stakeholders.

The analysis of data is well underway, as panel meeting workshops with members, surveys, stakeholder interviews and feedback discussions have already taken place. At the helm of evaluating all the data the CAS collects is the volunteer APA Task Force — with each member putting in as much as 20 hours of work per month. Each member had to apply and be selected for the group. The task force reviewed preliminary research to help define the existing ACAS and FCAS designations and key emerging topics. They then participated in stakeholder interviews and workshops to further curate an exhaustive list of topics relevant to daily actuarial work. This work was used to formulate the APA survey themes. The survey was used to gather broader insights into the most critical topics for actuarial work. Ultimately the work will direct future credentialing pathway discussions.

"Task force members evaluate all of the results from every part of the process of the APA to help inform the next step," says Maggie Lyons, director of certification development. "For example, when we did our stakeholder interviews, they reviewed all the interview notes and consolidated them into themes, and we've been using these themes to ensure that they are captured throughout the rest of the process."

Ashley Zamperini, director of certification products, explained that effective teamwork between staff and volunteers gets the complex projects completed. "With everyone bringing their various skills to the table, we are able successfully move this project forward," says Zamperini.

The team put in a similar effort with the panel workshops and focus groups that took place in July, sitting in on each one to bring their findings and feedback back to the group to see where the CAS needed to go with the membership-wide survey.

Zora Law is one of the nine volunteers who works on the project and brings a wealth of actuarial knowledge to the task force. "I became interested in contributing to the APA because I believe it is crucial for our profession to remain current and competitive in the evolving economy," says Law. "I consider myself a strong candidate due to my extensive educational background and diverse work experience. I achieved FIA status in the U.K. in 2009 and, after relocating to the U.S. in 2011, obtained FCAS through mutual recognition. My career has spanned a variety of roles, including positions at a Big 4 audit firm, international consulting firm, large, regional and multinational insurers, a small risk retention group and a tech company. These experiences have provided me with a comprehensive understanding of the profession and insights into what employers seek in an actuary."

Zora Law

As part of the APA Task Force, her responsibilities are assisting various aspects of APA workflows, including drafting performance level descriptors for ACAS and FCAS, participating in stakeholder interviews and panel workshops, and reviewing the profession-wide survey for all members to share their thoughts on APA.

"Volunteering for the APA task force not only deepens my understanding of how we define our profession but also allows me to connect with fellow actuaries," says Law. "It's an excellent opportunity to brainstorm and collaborate on strategies to enhance our profession's relevance and competitiveness, thereby attracting future talent. I find it invaluable to learn about the focus areas and needs of actuaries in various fields and to explore how the CAS can address these issues effectively."

Eduardo Esteva

Eduardo Esteva received the email inviting volunteers to participate in this new project that will shape the future of actuarial expertise. It looked like an important and interesting project to him — one where he could make a contribution. "This kind of project — where we need to create or redefine and question if we need to change direction in the work of actuaries — always is of interest to me," says Esteva.

His responsibilities include participating with other members of the task force to review the documents that exist, create new ones and agree on the new documents to be presented as a result of the task force analysis and discussion.

"This is an exciting moment to review the meaning of 'actuarial expertise.'" says Esteva. "I am eager to be part of the discussion and definition, and I look forward to a lively and interesting discussion with the other task force members and other stakeholders. I anticipate that I will grow through participating in this process. Also, it will be very satisfying to contribute to a good articulation of actuarial expertise and to know that this work will guide the growth and development of both the new and the old generations of actuaries."

"I encourage others to get involved, as I believe that sharing and hearing diverse views will help give us a broader vision of what it means to be an actuary and a stronger foundation for building consensus around the results of the project."

Thomas Heise is an actuary who has rotated into a non-actuarial leadership position with an appreciation for the skills and knowledge acquired through the credentialing process. "The rigor around the exam program creates significant opportunity for individuals in both traditional and nontraditional settings," says Heise. "The chance to provide perspective and influence the direction of future talent development within the actuarial space is exciting."

Thomas Heise

"Volunteering for a task force like this is a great way to influence the future direction of actuarial work," says Heise. "I personally value the ability to interact with a diverse group of actuaries, as it provides me with a broader perspective around actuarial work in general."

Jessica Ackley became a member of a different CAS volunteer group — the Candidate Advocate Working Group (CAWG) — which mostly focuses on serving those striving to achieve their credentials. "During the CAWG's 2024 kick-off meeting, CAS Admissions spoke to us about the purpose and plan for the upcoming APA," Ackley says. "They explained that the APA is focusing on future candidates and the future CAS credentialing pathway — so, applying to join the APA Task Force felt like it aligned well with my existing volunteer efforts."

Jessica Ackley

"One of our focuses over the last few months has been trying to define and differentiate between an ACAS and an FCAS. The obvious answer is that an

FCAS has passed more exams than an ACAS, but we've been trying to determine what that really means in practice. We spent a lot of time discussing this in task force calls, and CAS Staff also set up interviews with various actuaries to ensure we had plenty of perspectives. Our discussions involved questions like: Are there times when you would assign a project to an FCAS instead of an ACAS? If so, why? Is there a difference in an ACAS and FCAS if they both have the same years of experience in similar departments? If so, what is it? What should the difference between the two look like in the future? Should we consider changing anything in the credentialing pathway to capture that difference?"

The group is also thoroughly reviewing current Domains and Tasks on CAS Exam Content Outlines. The goal of this step is to more closely align the material that CAS exams cover with what actuaries need to know for their jobs. As one example, if it becomes clear that most actuaries aren't using a heavily tested topic and don't think it's important for future actuaries to know, the CAS may want to change how it's currently testing it or eliminate it completely. On the other hand, the group may realize there is something that actuaries wish they knew more about that isn't tested enough; if so, the CAS will have to figure out the most appropriate way to test it more heavily in the credentialing pathway going forward.

"Beyond trying to help improve the credentialing process, it's been incredibly interesting to talk to so many actuaries in the task force calls and the few focus group sessions/stakeholder interviews I observed," says Ackley. "It's also been rewarding to see how things the task force has worked on have been used in the recent APA steps. I would encourage everyone to volunteer for upcoming APA opportunities, and for any other volunteer groups that are exam-related."

As the APA progresses, it becomes clear that the CAS is committed to ensuring that its credentialing pathway evolves alongside the changing demands of the actuarial profession. Through the dedicated efforts of the APA Task Force and CAS volunteers, along with feedback from its members, this transformative project is poised to strengthen the value and relevance of CAS credentials in the modern business landscape. By aligning education and examination content with the practical needs of actuaries, the CAS ensures that its members remain well-equipped to navigate the complexities of a rapidly shifting risk environment.

The inclusive and collaborative nature of the APA emphasizes the importance of diverse perspectives in shaping the future of actuarial expertise. As more actuaries contribute their insights and experiences, the CAS will continue to refine its credentialing process to meet the needs of both employers and members. Ultimately, the APA represents a forward-thinking approach to actuarial education — one that will guide the profession into the future, attracting top talent and solidifying CAS credentials as the gold standard in the industry.

In a time of rapid change, the APA ensures that the CAS remains agile, innovative and responsive — qualities that will not only enhance the profession's standing but also drive the continued success of actuaries in every field they serve.

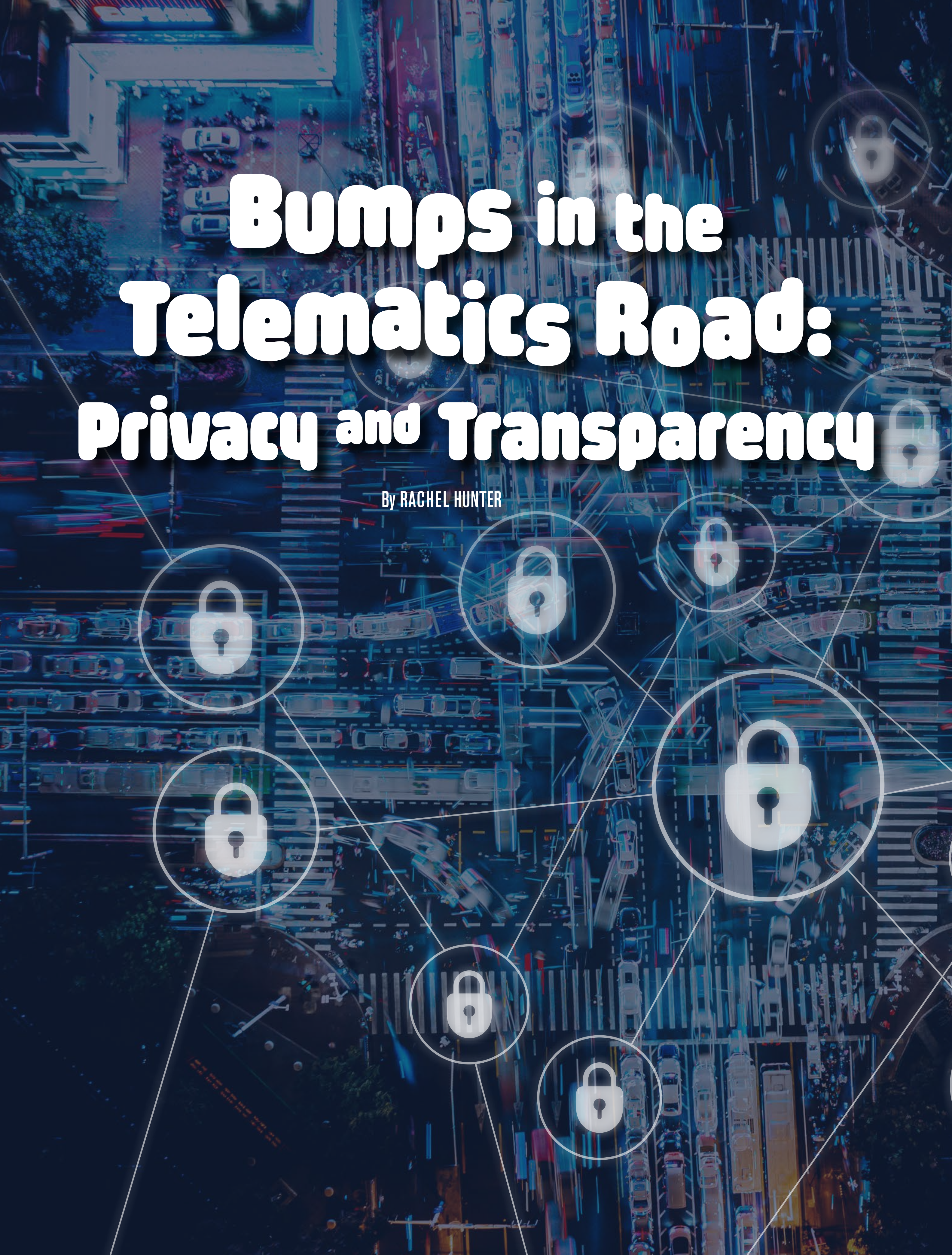
The APA represents a forward-thinking approach to actuarial education — one that will guide the profession into the future, attracting top talent and solidifying CAS credentials as the gold standard in the industry.

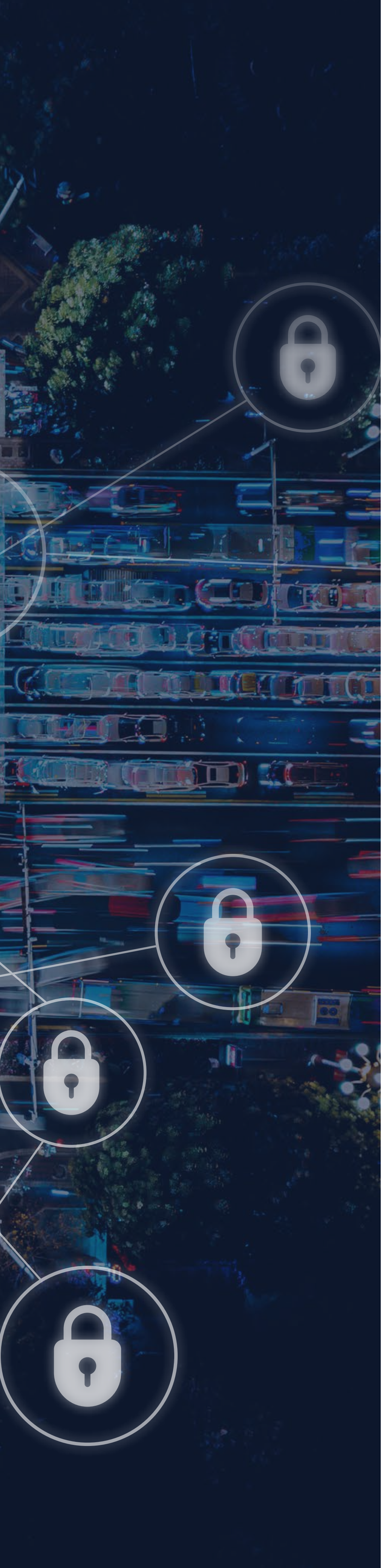
APA Task Force

Ryan Lin	Member
Jessica Ackley	Member
Tom Heise	Member
Erick Mau	Member
Alex DeWitt	Member
Zora Law	Member
Eduardo Esteva	Member
Laura Maxwell	Observer – SECOM
Jim Sandor	Observer – SECOM
William Wilder	Observer – SECOM
Ashley Zamperini	Staff
Maggie Lyons	Staff
John Kleine	Staff
Sharon Burns	Staff

Bumps in the Telematics Road: Privacy and Transparency

By RACHEL HUNTER





Buckle your seatbelts. The road to capturing data is fraught with perils for privacy and transparency.

For many years most major personal lines auto carriers have been offering usage-based insurance (UBI) programs allowing customers to be rewarded for safe driving and to do this, they have employed different methods to track driving behavior by collecting telematics data. Some of these programs have resulted in improved loss ratios for carriers while providing an answer to customer concerns that traditional pricing doesn't reflect their good driving. However, in 2024 the news about telematics has been alarming with the *New York Times* running articles such as "How G.M. Tricked Millions of Drivers Into Being Spied On (Including Me)" (April 23, 2024) and "Automakers Sold Driver Data for Pennies, Senators Say" (July 26, 2024). In light of these headlines, it is important to understand what the issues are and how they may relate to the usage of telematics and other newer types of insurance-relevant data.

My 2024 telematics journey

My own experience in buying a new car this year is illustrative of where the insurance industry stands with telematics today. In January my husband and I returned to the United States after several years of travel. We moved somewhere without transit service, so we needed to buy a car. While we were on the phone with our Safeco Insurance agent getting our policy details finalized, we were offered the RightTrack program to monitor our driving on the app for 90 days. We decided to do that to save a little money under the presumption that we'd have good driving scores. Having learned a bit about the telematics programs on the job before leaving on my extended travel break, I was also curious to experience the telematics part of the mobile app.

My husband already knew about some of the data collection associated with Hyundai BlueLink features, so as soon as we had the car, he went through all the opt-ins and opt-outs including choosing not to enroll in the Hyundai DriveScore program. There was a lot of screens to wade through for all the data sharing and privacy disclosures related to the car. Some were accessible through the BlueLink app and the Hyundai website and some were only in the car's own on-board screens. It would be easy to miss some. In fact, we're currently not sure where we stand on the SiriusXM data collection.

Having the RightTrack app enabled on our iPhones was an interesting experience. The app informed us whether we had any negative incidents during each trip and provided an ongoing rating of our overall score made up of ratings for hard braking, hard acceleration and time of day driven. We both had the app and often were both in the car, so there was a lot of work to confirm who was driving. Sometimes the phone thought my husband was driving when he was really in an airplane that was landing or taking off on a runway. Our phones periodically warned us that we had an app that was doing a very invasive level of tracking of our motion and location data. In terms of the driving scores we got, I was a bit out of practice in driving and learning the car and the local roads, so sometimes my driving wasn't as smooth and natural as it could have been. I was getting used to using the single-pedal driving mode for lower speed limit areas and really hadn't driven much for several years. However, at the end of our 90-day trial, we both ended up with "excellent" scores and with the Safeco program this meant we immediately received an additional discount on our premium beyond the initial discount for signing up. Furthermore, with the Safeco program, we would not see a surcharge for bad driving, only a discount if our behavior were good. In some telematics programs this discount applies at the first renewal but with Safeco we received an immediate credit at the end of the program.

Around the time our 90 days with the RightTrack program were ending, I started looking for contract and consulting work opportunities. I started hearing from insurtech companies that there were things afoot with telematics and privacy that could impact the rate of adoption in personal lines insurance because of a lawsuit against General Motors (GM) and LexisNexis. I read the *New York Times* coverage about the lawsuit and the new ways that telematics data were being collected.

The early days of telematics promised the consumer they'd only be rewarded, now drivers get penalized.

So, what happened?

Telematics data collection for pricing and other uses by insurers has been evolving. When these programs first launched it usually required the installation of a device in the car or truck being tracked. Over time technology evolved to take advantage of the location and motion sensors that most of us carry around in our smart phones resulting in a smoother experience for capturing the data — no need to send a device and receive it back from the customer. Another source of data is the on-board systems in newer cars that are now connected to the internet and can send real-time data.

Insurers use telematics data in various ways. A typical pricing program might consider more than just those variables captured by RightTrack, additional variables may include speeding, phone usage and road types in coming up with a score to use in pricing. While the early days of telematics promised the consumer they'd only be rewarded, now drivers get penalized. While not all programs are solely for pricing, some focus on behavior monitoring and improvement tools, such as telematics for commercial trucking fleets. In some cases, insurers or their technology partners are working with automobile original equipment manufacturers (OEMs) to get the telematics data directly from the on-board systems of vehicles.

The lawsuits and "spying" concerns stem from a newer pathway for insurers to get the data. Companies such as LexisNexis, Verisk and Arity have been acting as clearing houses offering driver scores that insurers can then purchase to help price coverage, much like the credit-based insurance scores. This means that without the consumer doing anything, the data already exists and is provided by software embedded in newer cars or from apps that the consumer already is using on their phones. While these products can improve the quoting experience by having the driver score available immediately and without additional effort by the consumer, they have become a hot issue in the media (see the series of *New York Times* articles), where regulators and consumer advocates question how the data behind these scores is collected and shared.

Under the existing privacy and disclosure legal framework, the driving scores and associated data fall under the same FCRA regulations as credit score data and other consumer reports. As such, if an entity is sharing these driving scores and other reports based on telematics data, then they must provide full disclosures of this data collection and sharing and the ability for the consumer to request a report of their data. The primary complaint is that consumers did not realize they had opted in to this type of data collection. In some cases, the consumer could not use a desirable feature (e.g., safety features such as crash detection) without enabling the collection of their data for the driving score and in many cases the potential uses of the data in insurance pricing were not well understood by the consumer opting in to the data collection. Furthermore, some consumers felt that the language used at the time of quote did not make it clear that a third party was being contacted that had collected driving behavior on them.

So far, these concerns have resulted in media coverage, legislative attention and the end or pause of some of these telematics programs. Immediately after the March 14 *New York Times* article "Florida Man Sues GM and LexisNexis Over Sale of His Cadillac Data," GM suspended their data sharing with LexisNexis and Verisk. Hyundai completely discontinued its DriveScore program in April.

Data for these programs was collected through the on-board systems of vehicles manufactured by GM, Hyundai and Honda. As I mentioned earlier, opting out of some of the tracking technologies required consumers to look at many screens. In an April 23, 2024, *New York Times* article "How G.M. Tricked Millions of Drivers Into Being Spied On (Including Me)", the author revealed that while her husband had opted out of data collection in the smart phone app, the website had a different screen for opt-out and it was not in sync, so their data was collected.

Out of the total population of U.S. vehicles, relatively few were enrolled in these on-board telematics data capture programs. However, one can imagine that if a driver received an insurance quote and was told that an adverse factor in their quote was their driving behavior that they unintentionally consented to, they would be quite angry and ready to complain about their privacy being violated. Generally, when the insurer is seeking to use this data at the time of quote, they ask the customer's permission, but some consumers have reported that they did not understand they were giving consent. On the automaker side, there has been more complaint about the clarity of disclosures and opt-in/opt-out language. This year the state of Texas sued GM over their data collection practices, claiming GM violated the Texas Deceptive Trade Practices Act. The GM data collection disclosures were allegedly buried in 50 pages about the car's data collection and allegedly consumers were given warning messages about some vehicle safety features being disabled if they opted out.

The app-based data collection is also a new frontier for ongoing telematics data collection. Arity specializes in having advanced telematics software development kits (SDK) that can be used by partner companies to develop in-app features. These partner apps, such as Life360, GasBuddy and MyRadar have certain features that require opt-in to telematics-type data sharing. This shared data allows Arity to generate driver scores and other data that could be used in an insurance contact. According to a *New York Times* article published June 9, 2024, "Your Driving, Tracked," some consumers allege that the disclosures on the data sharing were insufficient and they were surprised to learn that a driving score existed for them using data collected from these apps. The same *New York Times* article does cite the upside of insurers having customers sign up for telematics tracking directly and that it results in perhaps fairer pricing than using credit scores.

Kate Terry, CEO and cofounder of the insurtech startup Surround Insurance, shared in her LinkedIn blog thoughts on how the optics of this were not good for the insurance industry. When I asked her about whether the industry should have anticipated these issues, she stated, "The industry did a good job of foreseeing issues related to data collection by insurance carriers, via dongle or app. Most of the recent angst over telematics for insurance, though, has come from data collected by the in-car systems installed by the car manufacturers then sold to data vendors for use in insurance. Unfortunately, consumer ire is aimed at all the players in the value chain here — manufacturers, data vendors and insurance companies. Since, as an industry, we see the benefits of using the data, for consumers and insurers, we should have been public about the need for transparency and privacy for any sensitive data we want to use long before major

newspapers were writing exposés. The industry has a duty to advocate for responsible and quick implementation of information, technology and techniques that will reduce the risk of loss and cost of insurance for consumers, and we failed in that role here."

Data collected by automakers isn't the only new thing in telematics. Arity is a leader in the space of providing telematics-related technology for smart phone apps. While not all of their products involve collecting data for insurance purposes, many of the features that Arity provides to their app partners are enabled only when the consumer also consents to data collection that can be used to produce a driving score, which Arity can provide to their partners. The consumer must consent twice: once in the app that is collecting data and when getting an insurance quote to allow the insurer to receive the report. Some consumers reported that they did not understand what was going on at either of these consent stages. This has resulted in attention from such as a July letter from U.S. Senators Ron Wyden of Oregon and Edward Markey of Massachusetts

Michael DeLong, Research and Advocacy Associate with the Consumer Federation of America (CFA), voiced concerns about telematics data collection, "We think a lot of auto insurance companies and third-party vendors are collecting enormous amounts of data on consumers via telematics. We are unsure exactly what they are doing with this data, but we believe they might be using it to narrowly categorize consumers and to increase their premiums in various ways. Or they may be selling it to other corporations to nickel and dime consumers." The lack of transparency, whether intentional or not, can give rise to these concerns.

What's the current regulatory landscape?

As is common with insurance, the laws and regulations vary quite a bit by state. California has some of the strongest consumer privacy protection laws, being the first to pass a consumer data privacy law in 2018, and other states have bills being considered in their legislatures. Many states only have the basic NAIC model regulations in place.

The NAIC Privacy Protections Working Group (PPWG) is currently tasked with updating the existing models related to consumer privacy:

- Model 670 – NAIC Insurance Information and Privacy Protection Model Act.
- Model 672 - Privacy of Consumer Financial and Health Information Regulation.

Most states have not adopted Model 670, but Model 672 has seen universal adoption. The PPWG is currently working on updates to the privacy models and the current route is to work on updating the more universally adopted Model 672.

Insights into these two NAIC models can be found in letters from Damon Diederich, Privacy Officer and Attorney at the California Department of Insurance to the PPWG (letters dated May 30, 2024 and March 3, 2022). Diederich claims that that state adoption of Model 672 was largely done because adopting nothing would result in the Gramm-Leach-Bliley Act preempting the ability of state to regulate state insurance privacy. Diedrich goes further to point out that Model 672 was originally meant to be a regulation adding detail to Model 670 and fails to incorporate some of the protections captured by Model 670 such as rights of access, correction and consumer data choice.

Diederich's May 30, 2024, letter states, "The complexities of modern data use need to be counterbalanced by robust consumer privacy protections. A modern insurance privacy law should:

- Protect consumers throughout all parts of the insurance data ecosystem and at all stages of the consumer's interaction with the licensee.
- Provide effective notices and transparency, including information about sources of personal information, uses of personal information, and disclosures of personal information.
- Inform consumers when personal information negatively impacts the price or availability of coverage for a consumer and allow the consumer to verify or contest the underlying information.
- Permit the consumer to exercise meaningful choice about whether and how their personal information is used for purposes unrelated to the consumer's insurance coverage; and
- Provide data minimization and effective records retention requirements as a safeguard against institutionalized hacking."

Most consumer advocates would argue that today's insurance privacy laws and practices in the United States fall short of this standard.

Michael DeLong of the CFA has also submitted comments to the PPWG and I asked for his thoughts on what the industry and regulators need to do surrounding consumer concerns about telematics data. “We think that every state needs stronger telematics regulations to make sure only data relevant for insurance is collected through these programs and that it is only used for insurance. Ideally, insurance companies would voluntarily adopt these standards, but they have shown little sign of doing this. So, states need to step in and mandate these protections. If the NAIC comes up with a model telematics law or bulletin, that would be quite helpful. Having driver information scores be subject to the FCRA is a good first step, but on its own it is not enough. Many consumers do not know about the FCRA or that they can request their data. State regulators should require that clear, easy-to-understand information about the driver scores be sent directly to consumers, either via mail or email or some other method. State regulators should also get more staff, funding and expertise, so they can thoroughly investigate telematics programs and hold them accountable. And consumer driving data shouldn’t go into these driver scores without their clear and informed consent.”

The current path of the NAIC PPWG is to work on revisions to Model 672 that will attempt to close some of the privacy gaps while taking certain operational considerations raised by industry representatives into account. A coalition of industry groups, including the American Property Casualty Insurance Association and the National Association of Mutual Insurance Companies, worked on a draft model known as Model 672 Plus; the NAIC PPWG is building a working group tasked with moving the draft forward. Individual states continue to move forward with their own privacy protection laws and regulations including regulations around employee data in California and Colorado, and we could even see involvement from the federal level in light of recent warnings from the Federal Trade Commission to automakers about data sharing from connected cars.

“Consumers prefer pricing that reflects individual risk, but they want that pricing to be accurate.”
—Michael DeLong

Do consumers want telematics-based pricing?

When asked about consumer acceptance of telematics versus other rating variables, such as credit score or territory, DeLong said, “Consumers prefer pricing that reflects individual risk, but they want that pricing to be accurate. They also want premiums to not be excessive, and if people are paying a lot because of their risk, they should have the opportunity to lower that cost, through actions like taking a defensive driving course. Telematics has substantial promise for consumers, but most people are put off by the sheer amount of information collected by companies and the lack of transparency; that is why uptake has been relatively low. CFA believes that auto insurers’ use of socioeconomic factors in insurance pricing and underwriting, like someone’s credit score, education, occupation, homeownership status or marital status, is extremely unfair and should be banned. These factors are used to overcharge low-income consumers and Black and Hispanic consumers. If telematics can move insurance away from this, that would be a very good thing — especially if it more accurately matches rates to risk.”

I also spoke with insurtech innovator and telematics evangelist Matteo Carbone to get his insights on the current state of telematics. He points out that today most insurers are only offering pricing based on telematics to new business customers. UBI has been used for the past two decades by U.S. insurers with an approach focused on the new business (typically referred as “switch&save”). Nowadays, six of the top ten carriers are showing UBI penetrations between 46% and 70% on the new business in their direct channels. Instead, the penetration on the agent channel has always been lower. The contention that consumers are wary of it may be wrong, it may just be that they aren’t being given the option unless they are shopping for new insurance and not using an independent agency channel to get it.

Robin Harbage, FCAS, began working with telematics at Progressive in 1997 and continued to work with it throughout his career and believes, “The value of telematics data for safety, accident response, and fair and accurate rating are so great, that the vast majority of drivers should openly welcome the introduction as a means to lower rates. Most drivers believe they are better than average, and in a manner, they are right. Since a high proportion of accidents are caused by a small proportion of drivers, it is true that well over half of drivers cause far fewer than half the accidents. The benefits to good drivers is clear, and the value to society is possible with good education about the causative behavior, which can be changed by individuals.”

The telematics route forward

Carbone suggested that while carriers continue to grow their existing telematics programs, a new approach to collecting telematics data may be needed, “The optimal approach is using connected data from the different sources will be available— data from OEMs and third-party apps — but change the way this is presented to policyholders. Today’s approach is the inquisitive cop, I will look for information, if I find something I don’t like you will be penalized,” he said.

“An optimal way is to give the opportunity to share verified information with your insurers,” said Carbone. “If you share information, I will look to see if you are good. The more you share, the more benefits you may unlock if the data shows you are a good risk. This is a radical shift to the proposition to policyholders today.” He went on to highlight the products of South Africa’s Discover Group whose app uses incentives, data and behavioral science to improve health outcomes. He suggests the same should be done by automobile insurers to help improve the overall loss ratio of the book, not just using telematics data to identify the best and worst risks. He added, “The usage of telematics data allows for better matching rates to risks, promoting safer driving behaviors, and reducing frauds in the claim process. All these impacts permit the offer of coverage at a lower price to a large part of the policyholders. This means being able to profitably manage a book of auto business while increasing the availability and affordability of coverage. I believe that in five or 10 years, all insurers will require telematics, and if you don’t download the app, you will be considered a nonstandard risk.”

Carbone also confirmed that while these privacy and disclosure concerns have resulted in a pause of some automakers sharing data to LexisNexis, Verisk and other partners, it has not slowed down the general path forward with telematics use at large carriers. Since 2023, Progressive has begun adding ongoing telematics features in their app that are available to a larger portion of their book. The feature currently available give crash detection and improve the claim process, however Carbone’s vision is that structured behavior change programs should also be added. He pointed out that as opposed to 10 years ago, now there are many specialized insurtech players ready to work with carriers on custom solutions for their products. Carbone pushed for the need to use telematics to confront rising loss ratios and highlighted data from a recent blog post showing that even considering the costs of working with a technology partner to implement a telematics SDK in an insurer’s app, it should be possible to see at least a 5% improvement in combined ratio in the typical implementation.

Furthermore, the need for telematics data aggregators providing the types of services, such as those that raised consumer alarm, is clear to most who look at the market today. Robin Harbage points out, “No single insurer, auto manufacturer, or communications company will ever collect a majority of telematics data. Much as with credit data, large bodies of telematics scores at point of sale will require a few aggregators to work with data sourced from multiple phone or app suppliers to collect a broad swath of driving behavior. With proper disclosure and education, it is likely consumers will willingly opt into telematics systems, if the benefits are made clear. The necessary step is for consumers to understand that they gain more value than the cost of losing some privacy in a world where they are already tracked on an extreme basis, and for companies using telematics data (this goes far beyond insurers) to be absolutely transparent about the use of the data and be willing to collaborate with a few aggregators collecting data from a broad range of vendors.”

Kate Terry’s LinkedIn blog also heavily advocated for clear transparency, “Putting the fact that you might sell telematics data to a third party on page 150 of your contract for in-car services is not the same as explaining that if you opt in to an insurance driving score, it may increase or decrease your car insurance prices when you next shop. Similarly, briefly mentioning you might inspect a home is not the same as disclosing that you may use a drone or satellite imagery to look at a property and may require repairs to insure the property.” In other words, the bare minimum legally required disclosures may not be enough to get consumers on board with data sharing.

Looking at it from a business legal standpoint there is justification to say less so that it can stand in a court of law later if you don't adhere exactly to what you said, but from a relationship management standpoint the lack of transparency along with the constantly increasing automobile premiums may increase the adversarial relationship with the customer. This relationship is something that insurers and the industry in general may be able to work on improving through marketing and product design, which are not necessarily the actuary's specialty, but we can help advocate for it by showing the potential loss ratio improvements to be gained in wider use of telematics.

From an actuary's standpoint, we can help advance the cause of telematics through our communication with our colleagues, state regulators and even the public. DeLong cited a desire for "actuarial support for each variable included in the telematics algorithm and further demonstration that variables used do not result in unfair discrimination on a protected class basis" as well as "testing for unfair and unintentional bias, either by the companies or by insurance regulators." This supports the continuation of the work the CAS and actuaries across our industry are doing in the field of studying bias and how to test for it.

As actuaries, we can also prepare to be more flexible with our use of telematics data. In a world where consumers have different levels of comfort with sharing, we will need to partner with those who design the insurance product options. If we allow, as Carbone suggests, different levels of sharing of data, we need to be able to design more complex pricing programs that allow us to use the data the consumer has consented to in ways that are fair and unbiased. We will need to justify and explain these complex programs to internal company stakeholders, helping to design ways to monitor and adjust for different levels of telematics adoption and evolving sources of telematics data. And we will need to come up with ways to explain our usage of this data in pricing to regulators. All of this may require more data sharing, in-depth explanations and transparency than we are used to, but the benefits of more consumers using telematics and its potential positive impact on overall driver behavior may very well prove to be worth the extra effort and changes from the current norm.

Rachel Hunter, FCAS, is an actuarial advisor at Deloitte and a member of the AR Writing Subgroup.

DEVELOPING NEWS

The Great Burnout By JIM WEISS

"Red flag alert: The risk of change fatigue and overwhelm in your workforce is high right now." A PwC survey released in June about the present state of the global workforce found that 28% of the 56,000 workers across 50 countries surveyed were "very or extremely likely" to move on from their current companies within the next 12 months, up from 19% during the early "Great Resignation" in 2022. Also 45% of respondents experienced significantly increased workloads during the last 12 months. The survey was not all gloom and doom: 77% of workers responded they were ready to adapt to new ways of working and 72% were excited about opportunities to learn and grow in their roles. Nearly three-quarters were bullish that generative AI (GenAI) could create opportunities for upskilling and creativity, while indicators of worker financial stress among workers ticked down compared to 2023. On the other hand, nearly half of respondents indicated concerns about bias and misinformation associated with GenAI. A separate *New York Times* article from August also observed that GenAI has the potential to either push workers into "more complicated and variable work" or into roles where they "mindlessly [skim] for errors in mountain of content made by AI."

What this means for actuaries: Improved workplace safety has led to years of plummeting workers' compensation claim frequencies. Rising workloads and evolving responsibilities have the potential to generate more claims ranging from workplace accidents (e.g., lack of focus) to burnout itself. GenAI could improve worker efficacy on "easy and repetitive" tasks, but without what PwC calls "clear governance, guidelines, and training" there's also potential to create new professional- and employment-related liabilities, such as copyright infringement and hiring discrimination, respectively. Actuaries may not be immune from burnout trends either despite being named one of U.S. News's 15 lowest stress careers in May.

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Jersey Shoring Up Truck Insurance Minimums By SARA CHEN

Effective July 2024, the state of New Jersey has raised its minimum liability insurance requirement to $1.5 million for large commercial vehicles weighing more than 26,000 pounds. This new requirement, now the highest across the country, doubles the current federal minimum of $750,000. The increased insurance minimum aims to address the rising costs associated with road accidents, including medical expenses, property damage and legal fees, and is designed to ensure adequate compensation for victims with better financial protection for truckers.

The new law has faced strong opposition from trade groups on the grounds of the inevitable increase in insurance premiums for trucking companies, costing "at least $20,000 to $40,000 or more each year, up to a 20% increase" according to Tracy Denora, the executive director of the New Jersey Warehouse and Movers Association. Additionally, it has been unclear whether the law applies only to New Jersey-based carriers or also to out-of-state carriers operating within the state. Justin Zimmerman, the acting commissioner of the New Jersey Department of Banking and Insurance, offered additional clarification in a bulletin stating, "The Act amended existing law to increase the minimum limits of liability insurance coverage that must be maintained by owners and/or operators of commercial motor vehicles registered or principally garaged (i.e., base-plated or at home) in New Jersey engaged in intrastate commerce."

What this means for actuaries:
If they haven't already, actuaries should be assessing the risk exposure and updating assumptions and models, as necessary. It's also important to consider the broader implications of this law. The more immediate concern is its requirements on commercial vehicles that cross into New Jersey occasionally. A following concern is its ripple effect on other states who may follow suit in the future. These legal challenges have the potential to lead to higher defense and legal costs, which actuaries should consider.

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DEVELOPING NEWS

Beryl Hits, CAT Bond Misses By XUAN YOU

As of August 2024, the National Oceanic and Atmospheric Administration's (NOAA) 2024 Atlantic Hurricane Season forecast predicted an above-normal hurricane season this year with a range of 17-25 total named storms. Of those, eight to 13 were forecast to become hurricanes, including four to seven major hurricanes (category 3, 4 or 5). Insured losses from hurricanes continue to rise such as with Hurricane Beryl in the U.S. where estimates of insured losses have increased to $2.7 billion-$4.5 billion as of August 2024. With the increase in frequency and severity of hurricanes, many are turning to alternative risk transfer solutions such as parametric insurance for coverage.

Parametric insurance, a type of index-based insurance, is gaining increased attention for CAT risks and offers quick payouts based on predefined triggers like wind speed or rainfall levels, rather than actual losses. It is a fast-growing market; as of 2022, the parametric insurance market was valued at $12.2 billion and is expected to reach $29.1 billion by 2032, at a compound annual growth rate of 9.2%, according to DataHorizzon Research. However, one example from Hurricane Beryl underscores the issue of basis risk associated with parametric insurance. A $150 million CAT bond sponsored by Jamaica did not trigger a payout despite significant damage because the air pressure threshold was not met.

What this means for actuaries: While parametric insurance offers faster payouts and flexibility, it poses challenges for actuaries. These include managing basis risk, where payouts may not align with actual losses; pricing, which requires analyzing index data and financial impact beyond historical information; and ensuring data reliability from independent, unbiased sources like national weather services or specialist firms. Actuaries must understand the data and any potential biases to establish accurate indices.

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ETHICAL ISSUES

What to See in AB"C"D

By KENNETH HSU AND MIKE SPEEDLING, MEMBERS OF THE CAS PROFESSIONALISM EDUCATION WORKING GROUP

The Professionalism Education Working Group often gets asked to clarify if the Code of Professional Conduct and the Actuarial Standards of Practice (ASOPs) apply to various scenarios. While the articles we write pose scenarios as they apply to credentialed actuaries, we feel that these could apply to anyone doing work of an actuarial nature, regardless of whether they intend to become credentialed.

To make this truly a learning and professionalism experience, we want your feedback. You can send your comments and questions to ar@casact.org.

Last year in the *AR* May/June 2023 issue, we discussed the disciplinary process of the American Academy of Actuaries (AAA) and how the Actuarial Board for Counseling and Discipline (ABCD), which is housed at the Academy, works with the CAS to issue a disciplinary recommendation. However, the bulk of the ABCD's work does not involve complaints or cases that result in disciplinary recommendations; more commonly, they involve inquiries from actuaries seeking counseling services. The ABCD refers to these counseling services as "Requests for Guidance."

What are the professional standards that are the subject of most counseling inquiries? Before you keep reading, think of an instance in your career where you thought that professional standards might have been violated or stretched, even if you found later that they had not. What professional standards would come into play? We'll give you a minute.

What do you think are the top reasons that the ABCD is contacted for guidance?

One of the top reasons involves questions about qualification standards. Precept 2 of the Code of Professional Conduct (the Code) states (emphasis added):

> *An Actuary shall perform Actuarial Services only when the Actuary is qualified to do so on the basis of basic and continuing education and experience, and only when the Actuary satisfies applicable qualification standards.*
>
> *ANNOTATION 2-1. It is the professional responsibility of an Actuary to observe applicable qualification standards that have been* ***promulgated by a Recognized Actuarial Organization*** *for the* ***jurisdictions in which the Actuary renders Actuarial Services*** *and to* ***keep current*** *regarding changes in these standards.*

These questions come from both new Associates and very experienced actuaries. They want to determine if they are qualified to complete an Actuarial Service. If not, what do they need to do to become qualified?

After connecting with the ABCD, the inquiring actuary and ABCD member will review the U.S. Qualification Standard together and come up with an interpretation that they agree on. The inquiring actuary will then decide on what course of action to take.

Another reason actuaries ask for consultation is to interpret the Code and ASOPs. We have all read the Code and an ASOP or two. They are written to be advisory and not prescriptive. This means that they are open to interpretation. An ABCD member can consult with you to provide professional guidance as it relates to your circumstances.

Inquiring actuaries often ask about interpretation of Precept 3 — Standards of Practice:

> *An Actuary shall ensure that Actuarial Services performed by or under the direction of the Actuary satisfy applicable standards of practice.*
>
> *ANNOTATION 3-2. Where a question arises with regard to the applicability of a standard of practice, or where no applicable standard exists, an Actuary shall utilize professional judgment, taking into account generally accepted actuarial principles and practices.*
>
> *ANNOTATION 3-3. When an Actuary uses procedures that depart materially from those set forth in an applicable standard of practice, the Actuary must be prepared to justify the use of such procedures.*

The ASOPs that actuaries most commonly ask for interpretation on are

ASOP 23 on Data Quality and ASOP 41 on Actuarial Communications.

Precept 13, which relates to potential violations of the Code, is another item that is often a topic for interpretation and guidance. Why would this be? Well, it's not easy to report another actuary, colleague or friend. We may ask ourselves, "Am I overreacting or misinterpreting the situation? What are my obligations to my profession? How do I determine what my next step is?" We don't deal well with a lack of resolution. We are trained to find and resolve problems, but we may not have any experience with finding what we think is a violation by another actuary. Do we need to file a complaint, or is there another way to resolve this?

Precept 1, which relates to professional integrity, is often a topic for interpretation and guidance and comes into play in most, if not all, professional issues. How do we determine if we are satisfying the skill and care requirement (Annotation 1-1)? Am I doing my work adequately and with competence?

How can you submit an inquiry?

The ABCD will respond to actuaries' requests for guidance on professional issues. But how do you submit an inquiry? There are two general avenues to submit an inquiry for guidance. They are:

- By email: guidance@abcdboard.org (the preferred way), and
- By phone: (202) 785-7885.

What information do you have to provide?

There is not an official form or paperwork that you must fill out. While submitting an inquiry, you may include as little or as much information as you want. At minimum, you should include your name and how you would like to be contacted. Know that your submission for guidance will be strictly confidential, and even if you are explaining a potential violation by another actuary, they will not be contacted unless the ABCD receives confirmation from the requester that they want to file a complaint. Based on your inquiry type, a member of the ABCD will then be assigned, and you will have the opportunity to explain your situation or question in more detail.

We are trained to find and resolve problems, but we may not have any experience with finding what we think is a violation by another actuary.

On some rare occasions, you may submit a "tip" to the ABCD, which means you have some information that you would like ABCD to know and review; however, you do not wish to be contacted on this matter. These types of inquiries usually cannot move forward unless the alleged infringement has sufficient independent evidence, so then the ABCD will perform further review or fact finding.

A submission for guidance does not always have to be a real scenario. For example, you may submit a request for guidance explaining a potential violation without disclosing identifiable details such as the suspected company or the name of the actuary. The ABCD will assist you in interpreting the Code or the appropriate ASOPs. The ABCD will also help you identify areas of the Code or ASOPs that may be relevant to your specific scenario.

Can anyone use the ABCD's counseling services?

Are counseling services available to anyone? Can regulators, clients or employers contact the ABCD if they have questions?

The short answer is no. You must be a member of at least one of the five actuarial organizations or be in the process of joining one of the organizations. The five qualifying organizations are the American Academy of Actuaries, the Casualty Actuarial Society, the Society of Actuaries, the Conference of Consulting Actuaries and the American Society of Enrolled Actuaries. For a regulator, client or employer to contact the ABCD, they would have to meet this criterion.

How do you deal with alleged actuarial impostors?

Suppose someone you have met is providing actuarial services and claiming to be an actuary. They tell people they are credentialed and even list their actuarial initials in their email signatures. But you suspect that they are not actually qualified. They have not completed the educational requirements, have not kept up on their continuing education requirements for years, or are not a member of one of the five qualifying organizations. They are in effect impersonating an actuary and may be fraudulently providing actuarial services to their principal through deception.

Can ABCD take action against them? The answer is no. The ABCD's jurisdiction only extends to current members of the five qualifying organizations. If they aren't a current member, the ABCD can notify the associated actuarial organization, which, in turn, could choose to send a cease and desist letter or take other actions.

What happens after you contact the ABCD for counseling?

When you contact the ABCD for counseling, you will be matched to an ABCD member who is best qualified to discuss your situation. There isn't a formal triage process, but there are two CAS members who can handle P&C-specific requests. However, most of the questions can be answered by all members.

What is at the end of an inquiry?

In the article on the ABCD's disciplinary function, we noted that the ABCD will render one of four actions to the appropriate actuarial organization. They are: Private Reprimand, Public Reprimand, Suspension or Expulsion. However, for a request for guidance inquiry, all types of guidance are possible. In fact, it's not possible to group them into major categories. Very often, there is not a final recommended action or opinion that will be formed, but instead, the ABCD will help the submitter form their own opinion and come up with their own plan for next steps. The ABCD will act mostly as a sounding board.

In closing, ABCD does not provide solutions, they provide guidance. Often, the strategy of ABCD members for inquiries is to have a sound discussion with the inquiring actuary and to let the actuary come up with their own conclusion.

Special thanks to Ed Lee from the American Academy of Actuaries for his help in reviewing and editing this article.

CARe Seminar Recap — Focus on D&O By ROBERT BLANCO

Actuaries and other professionals from across the industry descended upon Boston to attend the Casualty Actuaries in Reinsurance (CARe) Seminar in June. This annual seminar offered its usual wide variety of session topics — in all there were two general sessions and 35 concurrent sessions from which to choose.

Two of the concurrent sessions, both specific to D&O (re)insurance, generated a fair amount of interactive discussion with in-person and online audiences.

The first session, "D&O — Private and Not-For-Profit Market Update," was moderated by Lon Chang, an actuary at Ascot Group. Jennifer Bergstrom, a vice president and attorney with Sompo, presented first and provided an overview of current market conditions in the non-public D&O space. She remarked about the soft market conditions in recent years, due in part to new capacity that has, among other things, offered lower retentions. The market is also facing challenges from various elements including global conflicts, inflation pressures and the political environment.

Probability of insolvency is a key consideration in D&O underwriting. The presenter shared data on frequency of insolvencies, demonstrating a rise over the past year or so. Though an increase in claims has not necessarily been seen as a result, this could be a leading indicator that merits monitoring. A review of financials is the best practice, though this is more challenging for private companies as these are sometimes outdated or unaudited or both.

The session also included an update on SEC enforcement. One interesting focus area is "AI washing" — similar in concept to "greenwashing," entities sometimes face accusations of exaggerating AI capabilities and making false/unfounded AI-related statements. (An example of greenwashing is a company deliberately misleading the public about its environmental impact.)

She then touched upon trends in employment practices liability (EPL), noting that litigation and claims activity have increased back to pre-pandemic levels. EPL claims are particularly vulnerable to social inflation, with the proportion of awards relating to punitive and compensatory damages more than doubling from 32% (2015-2019) to 67% (2019-2023).

The market is also facing challenges from various elements including global conflicts, inflation pressures and the political environment.

Adam Guttin, claims director at Starr Adjustment Services, gave an update on emerging risks with respect to biometrics, beginning with some background.

The Biometric Information Privacy Act (BIPA) was passed in Illinois in 2008, establishing rules around the collection of biometric data by businesses. Informed consent is required prior to collection, and entities are prohibited from profiting from this data. It further provides for a private right of action for individuals, with awards of $1,000 in cases of negligence and $5,000 for intentional or reckless behavior. Of particular note is that no actual harm emanating from this data collection needs to be demonstrated.

BIPA case law has touched upon topics such as statute of limitations, potential coverage under workers' compensation, and possibility of accrual of claims per scan/collection.

Bergstrom then gave an update on fiduciary exposures in the areas of excessive fee allegations on employee health care plans, counter environmental, social and governance (ESG) litigation with respect to plans investing in ESG funds (versus other assets that could be more profitable) and cyber breaches related to plan participant data.

The formal presentation wrapped up with a brief discussion about the FTC's new rules prohibiting non-competes and California's proposed "Right-to-Disconnect" law.

The second session, titled "Is the Current D&O Market Sustainable?" and moderated by Hannah Huang, contrasted to the first session in that it primarily dealt with public directors and officers insurance.

Brian Sabia, CUO of Toa Re Americas, started by giving an overview of the state of the market. He highlighted the prevalence of price increases in 2019, followed by increasing competition, lower retentions and price decreases in recent years. Sabia also remarked that the market tends to be driven more by primary insurers rather than reinsurers.

Danny Hojnowski, senior vice president at Trans Re, then presented a price index for public D&O. He characterized it as a pure price monitor as no adjustment was made for exposure, increasing market caps and the like. The index shows steady decreases from 2013-2018, followed by marked increase for 2018-2021, and then decreases again in the most recent years. The index differentiates between working versus low/medium excess versus high attaching layers, and in a separate chart between small- versus mid- versus large-cap.

Jennifer Kowall, senior pricing actuary at SCOR Re, shared data on the incidence of securities class action (SCA) activity. She emphasized that Core SCAs have much higher severity than M&A (merger objection) SCAs, and hence focused on these. Core SCA frequency experienced steady increases from 2010-2019 (about 11% per year). Drops in frequency were observed in 2020 (maybe due to COVID) and 2022 (large increase in number of companies, which represents the denominator in the frequency figures), followed by a 7% increase in 2023. She did caution that the data does not account for dismissal rates, which haven't been published recently.

With respect to severity, Kowall alluded to inconsistent trends, no real social inflation impact and a relatively low incidence of "nuclear verdicts." She then mentioned the possibility of worsening severity due to factors such as third-party litigation and increasing use of AI by law firms to select cases to pursue.

In summary, there is no shortage of dynamic issues facing this very interesting class of business! Underwriters and actuaries will want to closely monitor emerging risks along with the ever-changing economics impacting D&O (re)insurance.

Robert Blanco, FCAS, MAAA, is the senior pricing actuary at MS Reinsurance. He is a member of the AR Working Group and the Writing Subgroup.

CAS Monograph #13: Penalized Regression and Lasso Credibility

By THOMAS HOLMES

The concept of penalized regression as a form of credibility is not new,[1] but it was not formalized into an actuarial methodology until the publication of the monograph "[Penalized Regression and Lasso Credibility](#)." This study provides an actuarial introduction to penalized regression as well as a case study illustrating this new credibility procedure.

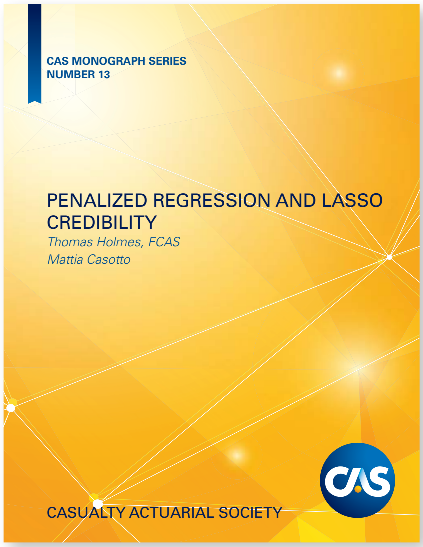
When the call for monographs on credibility was announced, my initial thought was to submit an adaptation of an existing paper titled "Credibility and Penalized Regression"[2] that was written by some of my colleagues at Akur8. This paper outlines a mathematical proof of the link between penalization and credibility. The head of the Monograph Editorial Board, Brandon Smith, FCAS, was enthusiastic about the idea of a credibility monograph on penalized regression, but pointed out that a purely mathematical paper would not make a useful monograph. Instead, he recommended that the paper include a case study to show a practical application of lasso credibility. Incorporating a case study was an ambitious expansion, but I believe this addition significantly enhances the paper's value to the actuarial community.

Rather than a standalone modeling primer, the monograph assumes a basic understanding of GLMs, and builds upon the foundation laid by the CAS Monograph #5, "Generalized Linear Models for Insurance Rating." It presents penalized regression as an enhancement to GLMs and explains the underlying support for using penalized regression as a credibility measure.

Not every lasso model qualifies as a lasso credibility model. In models configured according to the monograph, the penalty term regulates the credibility standard for the entire model. Increasing the penalty term assigns more credibility to the complement; while decreasing it assigns more credibility to the data. When properly set up, lasso credibility models are extremely quick to build. This approach utilizes the structure of penalized regression to establish a multivariate, likelihood-based credibility procedure.

The main body of the paper offers readers a clear understanding of penalized regression as a credibility model through these and other visualizations. To make the content accessible to a broad audience, the monograph places detailed mathematical proofs and discussions on Bayesian versus Frequentist interpretations in the appendices for those interested in deeper exploration.

The case study follows the methodology an insurer might use when building new models for a commercial auto line of business. We build a series of unpenalized GLM, lasso and lasso credibility models on data representing an insurer's countrywide book as well as on subsets representing large, medium, and small U.S. states. When reviewing each model, we point out the benefits and drawbacks of each technique as well as what performs well or poorly



on this particular iteration of simulated data. These use cases show how lasso credibility allows a modeler to blend the state's experience with a complement of credibility provided by the countrywide model during the modeling process. By following the modeling guidelines laid out in the monograph, we reach the (expected) result that the credibility assigned to the state-specific experience varies with the state's size, higher for larger states and lower for smaller ones. Instead of analyzing traditional metrics like deviance, Gini or p-values, the monograph discusses modeling results through the lens of credibility and actuarial appropriateness.

Countrywide models (extremely credible data)

Unsurprisingly, splitting signal between a complement and the data (lasso/lasso

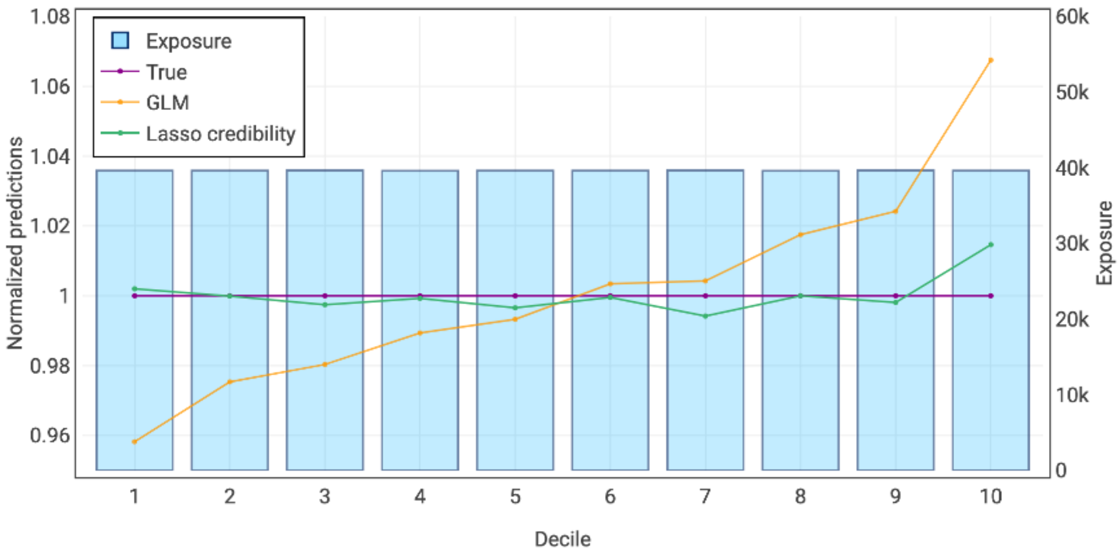
[1] https://actuaries.asn.au/Library/Events/ASTINAFIRERMColloquium/2015/MillerCredibiliyPaper.pdf.
[2] https://www.akur8.com/white-papers/credibility-and-penalized-regression.

credibility) is not materially different from assigning full credibility to the data (unpenalized GLM) on highly credible data such as with countrywide data. This portion of the case study is rather straightforward with no surprises.

Large state data (highly credible data)

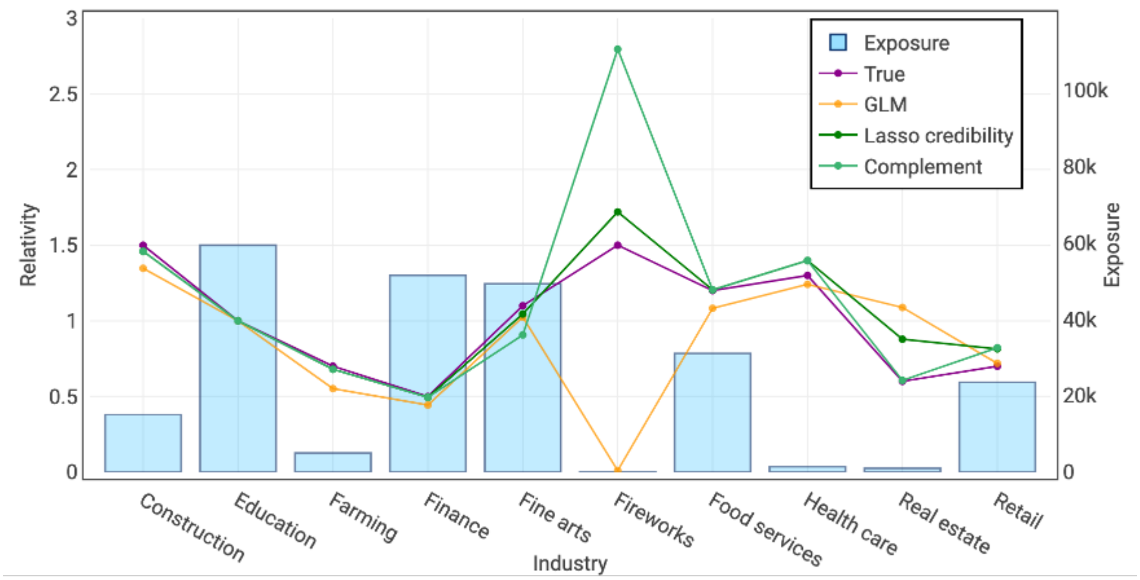
Large state GLM and lasso models are quite similar and stable in segments with high exposure, but lasso and lasso credibility approaches begin to show improvement in segments with low exposure. Even on this large dataset, there are small segments that benefit greatly from an appropriate complement of credibility. The use of a complement allows the lasso credibility model to outperform

Table 1.



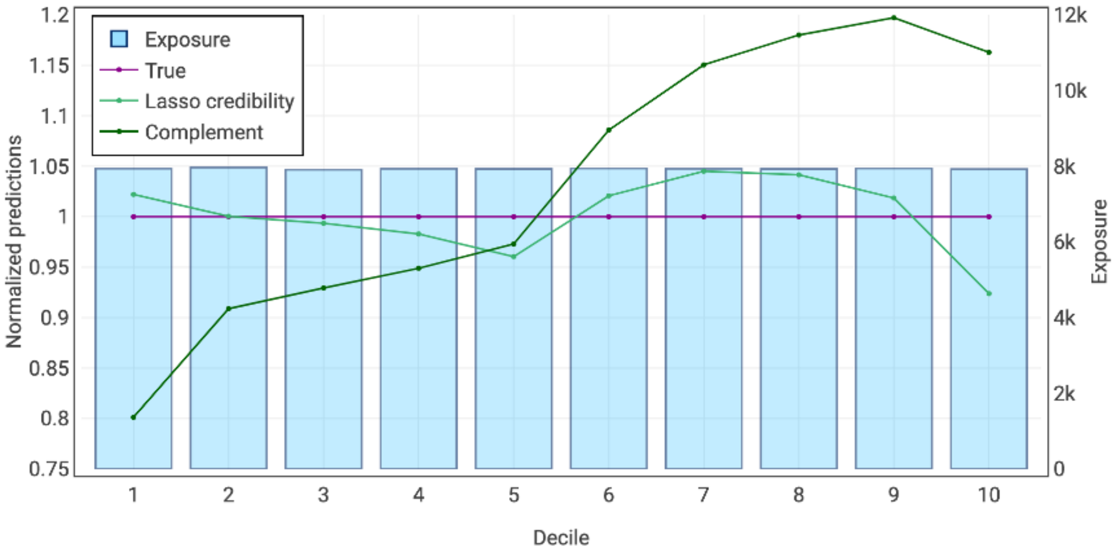
Normalized double lift chart comparing GLM and lasso credibility results on holdout data. The flatter the line, the better the model represents the true underlying risk relativities in the data.

Table 2.



Univariate chart for industry code showing exposures, modeled relativities and the true underlying risk relativity. In this chart you can see how lasso credibility is producing estimates both informed by fully credible relativities (GLM) and the complement of credibility.

Table 3.



Normalized double lift chart comparing the countrywide model to the small state lasso credibility model on holdout data. The flatter the line, the better the model represents the true underlying risk relativities in the data.

our comparison GLM. (See Table 1.)

Medium state data (moderately credible data)

Moderately credible data shows more material advantages for the lasso credibility approach. In the univariate chart below, first note the GLM relativity, which gives 100% credibility to the data. All but one of these coefficients are significant, and an actuary may choose to file and implement these relativities directly. The complement represents an alternative relativity, perhaps the existing rates or a countrywide model. lasso credibility uses penalized regression's existing fitting process to calculate a credibility-weighted factor that considers all other variables' fit in the model. We can't strictly calculate an "assigned credibility" due to the fact that this model takes into account correlations between predictors. Instead, the model must be interpreted through both statistical and actuarial considerations. (See Table 2.)

Small state data (low credibility data)

On this size of data, a GLM is entirely unstable. An insurer would implement their countrywide model rather than spending significant modeling resources to produce a sub-optimal GLM. However, a lasso credibility model not only can be easily fit to this small dataset — it outperforms the countrywide model. (See Table 3.)

This result showcases the true power of the lasso credibility approach: lasso credibility greatly reduces the data requirements and time requirements for successful predictive modeling.

You probably have many questions after reading this article, as I have intentionally omitted many details and assumptions underlying the case study and lasso credibility. The full monograph is available on the CAS website, and the case study code will be available on the CAS GitHub.[3] I encourage you to check it out!

Thomas Holmes, FCAS, is the coauthor with Mattia Casotto of Monograph #13. Holmes is head of U.S. actuarial data science for Akur8.

[3] https://github.com/casact/mg-credibility.

Rising Economic and Social Inflation Continues to Pressure Insurance Costs, New CAS and Triple-I Study Reveals

By ANNMARIE GEDDES BARIBEAU AND DALE PORFILIO

Actuaries selecting loss trends for auto insurance should consider adding 2% to 3% for commercial auto liability and 0.7% to 1% for personal auto liability to account for increasing inflation, according to the report, *Increasing Inflation on Auto Liability Insurance — Impact as of Year-End 2023*.

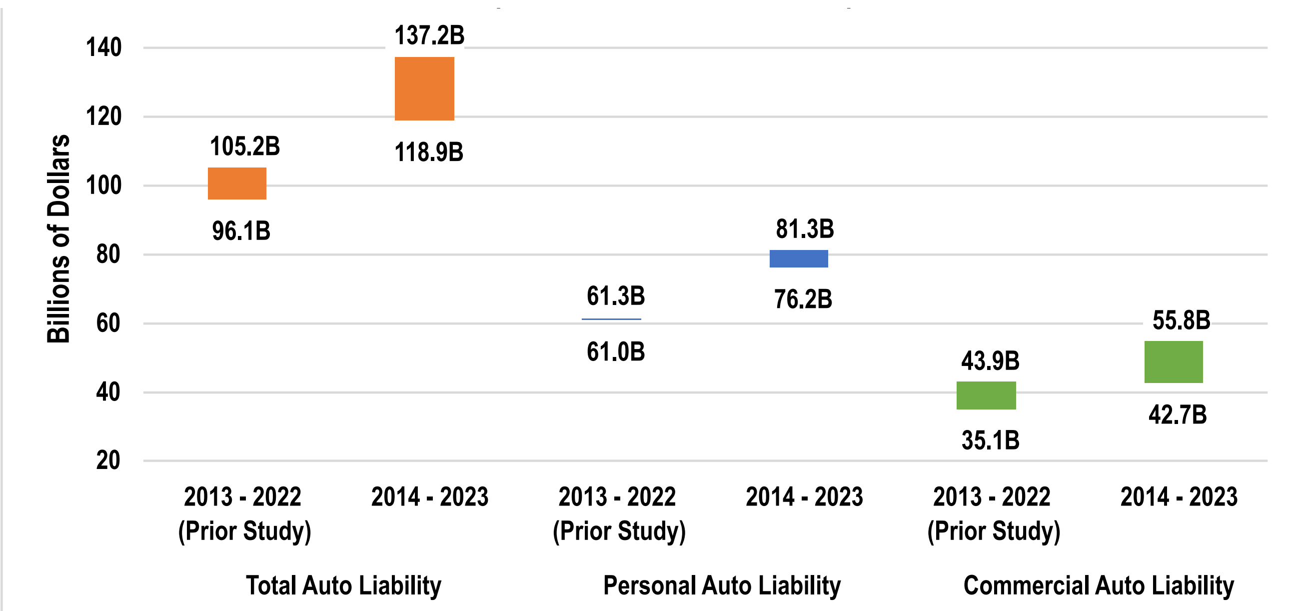
Released by the Casualty Actuarial Society (CAS) and the Insurance Information Institute (Triple-I) in October, the report demonstrates the impact of rising economic inflation (as indicated by the Consumer Price Index) and social inflation. The CPI rose by an annual average of 5.6% from 2020 to 2023. During this period, the severity of personal auto liability losses increased by an annual average of 10.6%. The severity of commercial auto liability losses was also higher than the CPI, rising by an annual average of 6.4% (see chart).

The pace of rising losses for the combination of personal and commercial auto liability lines has also intensified since the COVID-19 pandemic. Auto liability losses, along with defense and cost containment (DCC) expenses, increased by 9.9% to 11.5% of the $1.2 trillion in net losses and DCC between 2014 and 2023, which translates to a range of $118.9 billion to $137.2 billion in losses over the 10-year period. In comparison to the 2013-to-2022-decade, losses were $96 billion to $105 billion, reflecting a 24% to 31% increase in losses between the two periods.

For commercial auto liability, the increase in losses and DCC were a range of $42.7 billion to $55.8 billion, or 20.7% to 27.0% of the total — higher than the previous study's range of $35 billion to $44 billion. Personal auto liability also experienced a significant impact, with increasing inflation driving losses and DCC up by a range of $76.3 billion to $81.3 billion. This represents 7.7% to 8.2% of the total, an increase from the previous $61 billion estimate for 2013 to 2022.

The report defines social inflation as "excessive inflation in claims." Social inflation is closely tied to "legal system abuse," which Triple-I defines as practices by policyholders or plaintiff attorneys that increase the cost and time required to settle insurance claims to the detriment of consumers. The report's actuarial methodology combines both social and economic inflation, as it does not differentiate between the two underlying drivers.

Increasing Inflation - Ranges (Ultimate Loss & DCC)



IT'S A PUZZLEMENT By JON EVANS

Non-adjacent Permutations

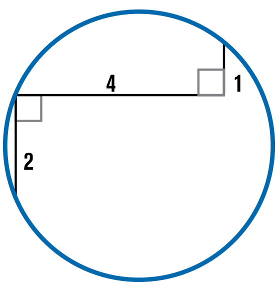
What is the probability that a random permutation of the numbers 1 through 100 will not have any consecutive numbers placed next to each other?

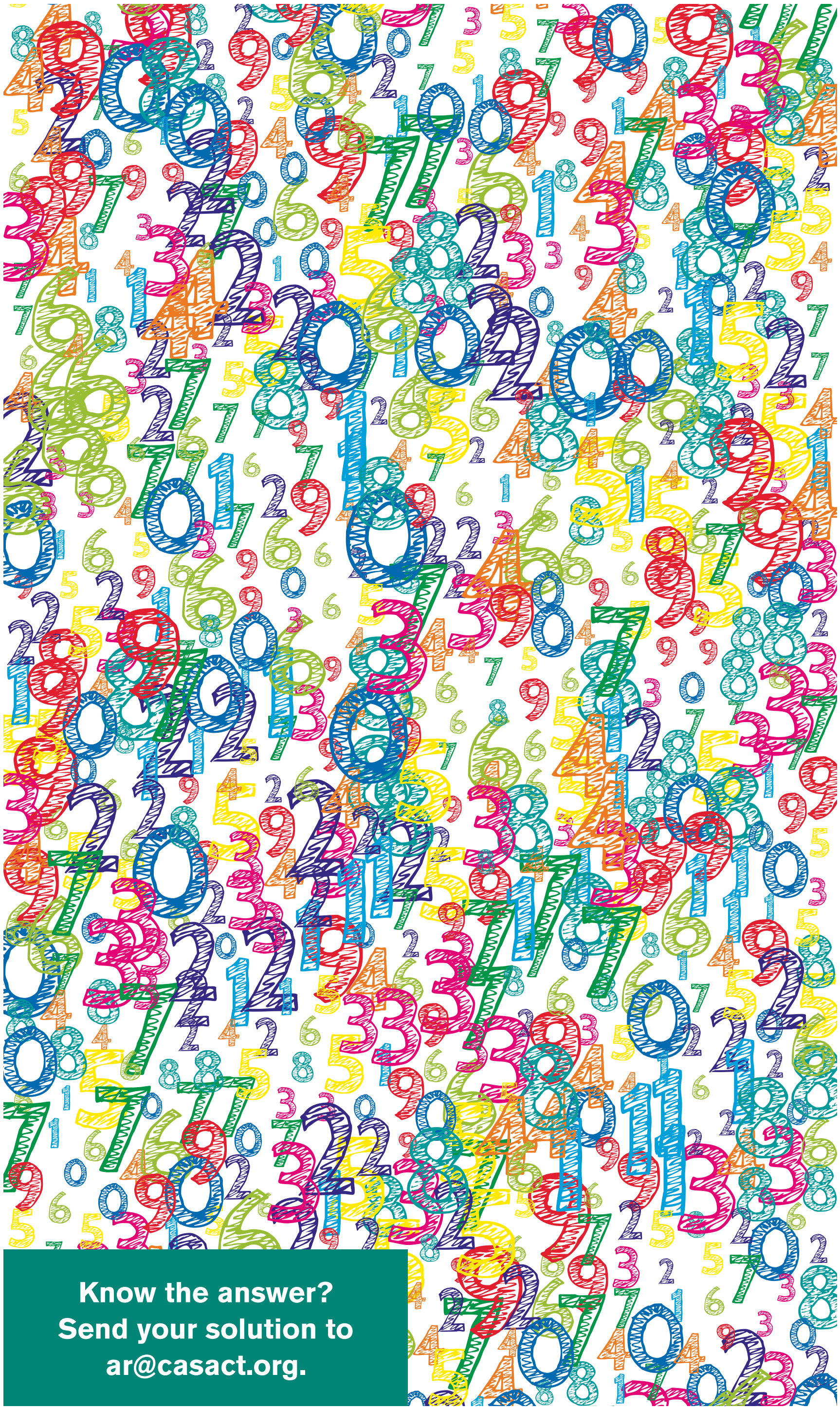
A Framed Circle

What is the area of the circle in the image below?

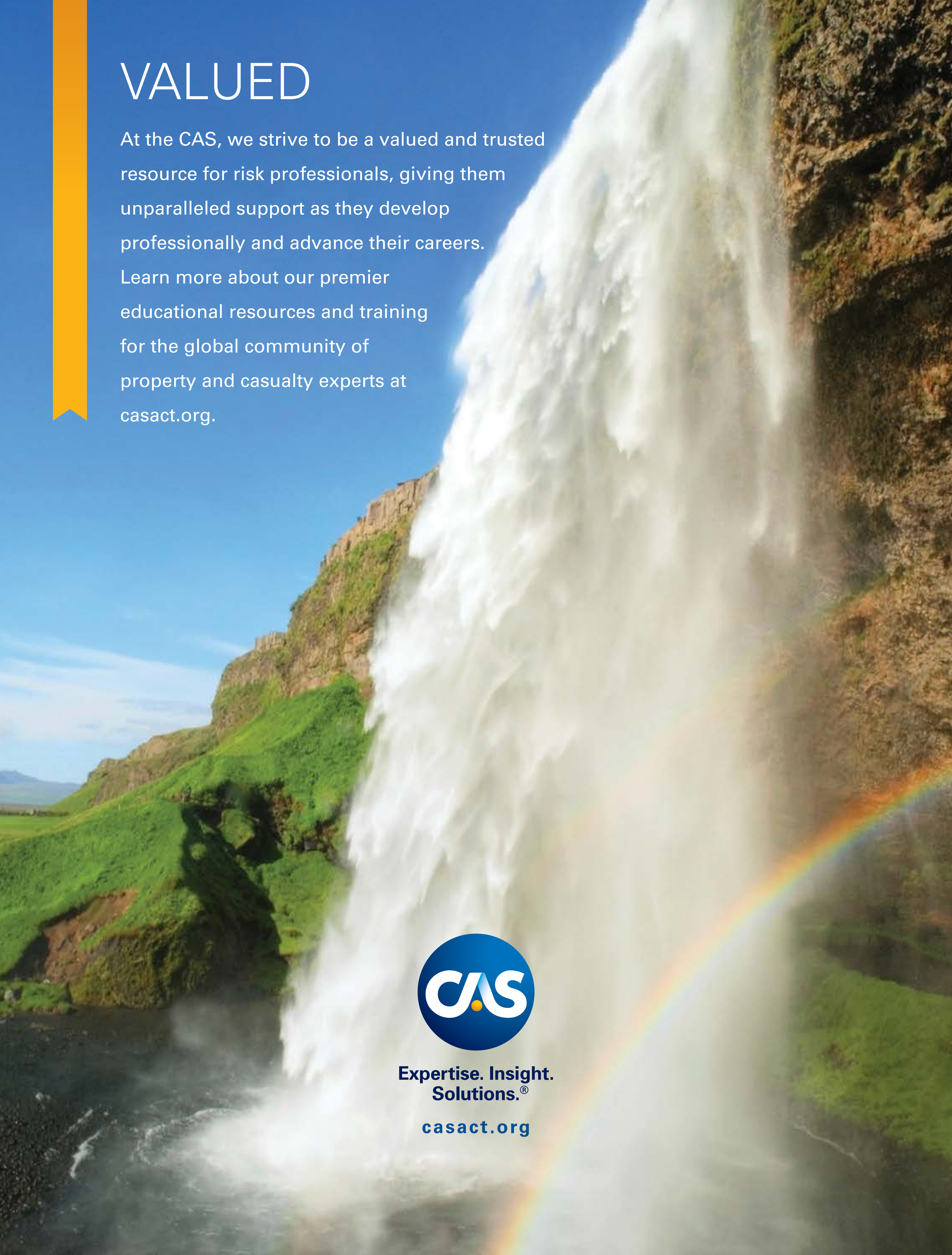
Jerry Miccolis submitted the following solution. The three points that intersect the circle are non-collinear, thus uniquely define the circle. With no loss of generality, we can designate those three points in Cartesian coordinates as (0,0), (0,2), and (4,3). Substituting those three points into the general equation for a circle, $(x\text{-}h)^2 + (y\text{-}k)^2 = r^2$, gives us three equations in three unknowns. Solving those simultaneous equations for r^2 gives us $r^2 = 425/64$, and the area is π times that value, or (425/64)π square units.

Solutions were also submitted by Roger Bovard, Al Commodore , Bob Conger, Dave Dexter, Dominick Elia, Moshe Gelbwachs, Robert Hark, Paul Henning, Rob Kahn, Rich Kollmar, Aaron Mostrom, Jim Muza, Sean Porreca, David Schofield, Emily Sledge, Chris Terrill, William Volterman and Paul Zotti.





Know the answer? Send your solution to ar@casact.org.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