# **FUTURE** FELLOWS

March 2022, Volume 28, No.

### CAS Race and Insurance Pricing Research published in 2022!

By Mallika Bender, FCAS, CAS Diversity, Equity & Inclusion Staff Actuary

Since the CAS Board of Directors approved the CAS Approach to Race and Insurance Pricing in December 2020, CAS volunteers and staff have been hard at work on activities to position CAS and our members as leaders in the industry dialogue on potential racial bias in insurance practices. As part of that approach, the CAS has produced four Research Papers that provide a foundation for actuaries and industry professionals as they develop solutions to identify and address potential systemic bias in insurance pricing and advance actuarial practice overall.

#### Approaches to Address Racial Bias in Financial Services: Lessons for the Insurance Industry

In reviewing issues of racial bias in mortgage-, personal- and commercial-lending institutions and credit-scoring industries, this paper highlights the solutions that these sectors have implemented to address this bias. These include government intervention, internal bias testing and monitoring measures, and new product development to mitigate bias. While none of these solutions has proven to be a silver bullet, there are still opportunities for the insurance industry to learn from these approaches and potentially apply them in our sector.

Methods for Quantifying Discriminatory Effects on Protected Classes in Insurance Actuaries are perfectly poised to bring their skills to the table when it comes to identifying, measuring and addressing potential bias in their models. This paper examines mathematical approaches to defining and measuring fairness in predictive models. It also provides a high-level overview of bias mitigation techniques that can be performed during the input, modeling or output phase of a model, once a set of fairness criteria has been adopted. Defining Discrimination in Insurance

Several terms are commonly used in recent discussions around discrimination in insurance: protected class, unfair discrimination, proxy discrimination, disparate impact, disparate treatment and disproportionate impact. This paper explores these terms, providing historical and practical context for them and illustrating the inconsistencies in how different insurance industry stakeholders define them.

#### Understanding Potential Influences of Racial Bias on P&C Insurance: Four Rating Factors Explored

Consumer advocates and regulators often cite examples of insurance rating factors that may unintentionally introduce racial bias in the pricing process. This paper examines four commonly used rating factors in personal lines insurance - credit-based insurance score, geographic location, home ownership and motor vehicle records - to understand how racially biased policies and practices outside of the system of insurance contribute to concerns about bias in insurance rating. The paper explores sources of concern like redlining in the mortgage lending industry, information used or ignored in traditional credit reporting and bias in traffic policing, while keeping in mind that the potential translation of these issues into insurance rates is not easily measured, at least for now.

These four papers will be published on the CAS website in mid- to late March. Keep an eye on the CAS weekly e-bulletin for further announcements.

If you have questions about the CAS Approach to Race and Insurance Pricing, email diversity@casact.org.

#### CALENDAR OF EVENTS

CAS WEBINAR: WAYS OF WORKING: HOW THE PANDEMIC HAS CHANGED HOW ACTUARIES WORK January 20, 2022

CAS VIRTUAL TRUNK SHOW April 6, 2022

CAS Spring Meeting Orlando, Florida May 15–18, 2022

Actuarial Colloquia June 2022

Seminar on Reinsurance Virtual Conference June 13–14, 2022

CASUALTY LOSS RESERVE SEMINAR September 19–21, 2022

CAS ANNUAL MEETING November 6–9, 2022

Learn More and Register at casact.org/calendar

### "Oh! It's the Monty Hall Problem!": Survivor and Game Theory

#### By Holley R. Rouse, CAWG Candidate Representative

**SPOILER ALERT!** If you haven't watched Season 41 of Survivor or haven't watched Episode 11 and don't want to be spoiled, skip this article. Otherwise, please read on.

The reality show *Survivor* has been a phenomenon since it premiered in 2000. For 35 days (26 days in the most recent season), contestants compete to be the last person standing and win one million dollars. *Survivor* is about relationship building, physical endurance and strategy in the form of game theory played out on our screens.

Season 41 introduced many new twists and new game theory conundrums. As always, backwards induction is the chief game

theory concept of *Survivor*. Every player is reasoning backwards from the desired outcome of winning the million dollars to figure out the steps they must make to get there. Actuarial students should be familiar with this concept from planning an exam study schedule to pass an exam.

Prisoner's dilemma was featured heavily during this season, especially in the first few episodes when select players have to make a choice, risking or protecting their vote depending on the choice the other players make. It's taken various forms on *Survivor*, though this was a new iteration.

Episode 11 of season 41 also introduced a new twist, "Do or Die." The first person eliminated from the immunity challenge, Deshawn Radden, had to choose one of three boxes, only one of which would guarantee him safety and immunity from votes at Tribal Council. The other two boxes would send him home without a vote and end his *Survivor* journey. "Monty Hall problem!" Xander whispered when Jeff offered to let Deshawn switch boxes, which made me smile with delight then frown in horror as Deshawn made the incorrect choice and kept his box. Luckily for Deshawn and in defiance of the odds, he made the right decision to keep the box, as it was revealed to contain a fire symbol indicating he was safe and immune from the vote at Tribal Council.

The "Monty Hall" problem was named after Monty Hall, the original host of the television game show *Let's Make a Deal*. The premise is simple: There are three blind options and the contestant chooses one. The host reveals one of the two not chosen and asks the contestant whether they want to switch their choice. It is important to know that the host will not reveal the winning box to keep the game interesting, so you know the



winning box is either the chosen box or the one unrevealed. Most people believe your odds increase to 50% when one of the boxes is taken away. Therefore, most people believe you should stick with the original guess. However, statistically, your odds of winning the desired prize are better if you switch. It is a real-life example of Bayes theorem.

In reality, there are nine different outcomes to the Monty Hall problem as follows:

Your Box	Safe Box	Host Box	Don't Switch	Switch
1	1	2 or 3	Safe	Eliminated
1	2	3	Eliminated	Safe
1	3	2	Eliminated	Safe
2	1	3	Eliminated	Safe
2	2	1 or 3	Safe	Eliminated
2	3	1	Eliminated	Safe
3	1	2	Eliminated	Safe
3	2	1	Eliminated	Safe
3	3	1 or 2	Safe	Eliminated
Probability of Safety			3/9 (33%)	6/9 (67%)

As you can see, if you don't switch boxes, the probability of being safe is the same as the probability of being safe when you choose boxes originally, 1 in 3 or 33%. Switching boxes doubles your chance of winning, which is a counter-intuitive solution.

There are many other examples of probability and statistics in *Survivor* that actuarial students may recognize. Please share with us if you have another Survivor game theory puzzle that you would like to see in a future issue of *Future Fellows*.

### Meet CAS CAWG's New Member Volunteers and Candidate Representatives

#### By Jack Richards, CAWG Candidate Representative

Please welcome two new member volunteers and three new candidate representatives to the Candidate Advocate Working Group (CAWG)! These volunteers help advocate candidates' viewpoints to the broader CAS community. The candidate representatives are your voice in the CAS – don't hesitate to reach out to CAWG@casact.org with any feedback, ideas or comments!

#### New member volunteers

Wesley Griffiths, FCAS, has been a long-time CAS volunteer having spent time on the Exam Committee, serving as chair on both the University Engagement Committee as well as the Leadership Development Committee. He currently teams with other CAS members to represent the CAS at the International Association of Actuaries. Wes achieved his FCAS designation in 2009 and has worked at Travelers most of his career, concentrating primarily in a commercial lines capacity. In his role at Travelers, he focuses his energy on deepening connections and engagement across the broad data and analytics community at all levels. His passion in that area is what brought him to this working group, and he is excited to work hard to better the experience for the future of the CAS and of the profession – our candidates.

**Bailey Hescock, ACAS,** couldn't wait until after her exams to start volunteering for the CAS, so she joined the CAWG. She is excited for the opportunity to learn what's on candidates' minds to help improve their experiences while supporting her peers as they work towards their designations. Bailey grew up and went to college in Idaho but has moved to Connecticut to join the Actuarial Leadership Development Program at The Hartford, where she works on the commercial lines auto and property reserving team. She is working toward her FCAS with only exams 8 and 9 left. Outside of work and studying, Bailey enjoys travelling and puzzles, and spending time with her pup, Toasty Toast.

#### New candidate representatives

A former Candidate Liaison Committee (CLC) member encouraged **Claire DiOrio** to join the CAWG (formerly CLC). She's enthusiastic about working with the CAS — she is most excited about writing *Future Fellows* articles and engaging in conversations about mental health with CAS candidates and members. She works for CNA Insurance as an actuarial consultant in the claim analytics department. She has MAS-II, Exam 5 and Exam 6 left to attain her ACAS designation. Her hobbies include going to comedy shows and trying out new restaurants in Chicago and reading.

**Othon Hamill** joined the CLC after inquiring about how postexam survey information was used in the exam development process. He was pleased to hear that each comment is read and catalogued, and he encourages people to voice their opinions during the post-exam survey. He graduated from Brigham Young University in 2020 with





Wesley Griffiths

Bailey Hescock







Claire DiOrio

Jack Richards

a degree in actuarial science and now works for the American Family Insurance Group in small commercial lines. One of the favorite parts of his job is using the CAS-published Python module, Chainladder, to advance methods and projects in reserving. Othon lives in Seattle with his wife, and when not studying, he can be found catching up on professional tennis, dabbling in crossword building and fly-fishing around the Pacific Northwest.

Othon Hamill

Jack Richards joins the CAWG after volunteering on a variety of CAS committees since 2018, most recently on the University Engagement Working Group. In addition to his CAS experience, he was a student leader in college for Gamma Iota Sigma, which represents 5,000+ students, on the board of trustees. Jack hopes to advocate for candidates and integrate candidate perspectives across CAS working groups. He is looking forward to hearing candidate feedback and ideas, and he encourages all candidates to reach out. Jack graduated from Drake University in 2020 and joined Deloitte Consulting as a business analyst in the actuarial and insurance solutions practice. He has experience in cyber insurance pricing, reserving and actuarial modernization across consulting, industry and start-up environments. Jack lives in Chicago and enjoys playing golf and tennis in his free time.

Thank you to our former CAWG volunteers for helping to advocate for candidate viewpoints across the CAS: Meghan Goldfarb, FCAS; Leisha Cavallaro, ACAS; Layla Trummer, ACAS; Nate Williams, Chandler Fischbeck, and Victor Wang. Candidates interested in joining the CAWG can apply annually.

### Beyond Actuarial Problems: Successful Exam Study After Graduation

#### By Othon Hamill, CAWG Candidate Representative

f all the courses I took while at school, one class prepared me for exam taking more than the rest: the lowly, one-credit, Stat 372 class, "Actuarial Problems." It focused primarily on sample problems and the test-taking skills necessary for students pass Exam P, rather than every item on the exam syllabus itself. That class was 1/120th of the credits I needed to graduate, but it was responsible for firmly planting me onto the actuarial path as I passed my first exam. I graduated two years ago but still find myself wishing with every new exam sitting I could take that class over and over again.

The transition to studying while working full-time after studying for exams while in college is difficult, but I've found my better sittings have been the ones where I tried my best to faithfully recreate the environment and teachings of that class.

So, keeping that class in mind, I'd like to point out for our soonto-be and recent grads what lessons I've learned about how university students can transition more painlessly into studying for actuarial exams while employed full-time.

#### If you fail to plan ...

The first day of Stat 370 was like the first day of any other class: You go through the syllabus. We had a brief outline of what we were going to learn: which days we'd cover, what material and how our time would be used during the hour-long class. The first time I studied for an exam after graduation, I skipped this step and paid for it. Unfortunately, Ben Franklin's maxim held true for me: "If you fail to plan, you plan to fail."

Most exam courses available online offer a study plan generator, outlining your progression through the exam material. I'd highly recommend investing the time of your first day of studying to modify that plan to fit your needs. Consider days you know that you won't be able to study. Set benchmarks for where you want to be at a given time. Decide when, where and how you'll take your practice tests. A successful study plan starts on day one.

#### Studying as regularly scheduled programming

Although the actuarial problems class was essentially voluntary, it forced me to dedicate regular and consistent time to studying beyond what I was already doing on my own. I knew I was going to study for an exact amount of time, in a specific room, without distractions. Those same lessons apply to studying without the benefit of a scheduled class. I find myself with only so much energy in the day, and even small decisions about studying slowly eat up some of the energy I could've put into better studying.

To replicate that environment in the months before I took MAS-I, I solidified my study plan. I blocked my work calendar for 60 minutes on either side of my working day to prevent work from creeping into my study time. I decided beforehand where I'd study, and my coworkers knew I was out of reach. I made all the hard decisions before I even began to study, and that regular routine made those



my most effective hours of study.

#### Space for learning

One of the things I missed the most about studying in college was my university's library. After years at the same university, most students can remember their favorite nook of campus to study, and I was no different. My recommendation is to replicate your own favorite studying nook as best you can. Public libraries, shared spaces in your apartment building, a quiet room at home, a table at your favorite coffee shop or even a spare conference room at the office can make excellent substitutes for your familiar space. Do some exploring and research in the early days of exam preparation and stick to what you find works. There are enough facets of exam taking to worry about — where you study shouldn't be one of them.

#### Paid study hours

One of the brightest spots of studying as a full-time employee are paid study hours. Most actuarial employers and many other employers will offer generous paid study to their employees, generally 120 hours or so for a first sitting, depending on the exam. This time is precious, so make the most of it and be aware of how much your company offers and other restrictions on this valuable time. I know some students who refer to use it for consecutive days before the exam, and some students who prefer to take an hour or two a day for months before the exam. Either way, if you're lucky enough to have paid study hours, one of the first steps in your study plan should include a pointed conversation with your manager about how you'd like to carry out your study hours.

#### **Question answering**

As the first day of Stat 370 ended, both the professor and graduate student who managed the class made a point of emphasizing that we'd be learning by doing examples and demonstrating to our classmates how we had solved the day's problems. Our study sessions began with first principles, then came applications where each of us would work on a problem, and finally students would work through some

### An Introduction to the Actuarial Standards of Practice

#### By Mark Maenche, ACAS, MAAA, CIC, CRM

pon entering into the actuarial profession, you may remember being greeted with an alphabet soup of acronyms: CAS, IBNR, CERA, CIA, UCE, ASOP, MAAA and CCA. By the end of this article, I hope to provide clarity to *Future Fellows* readers about at least one of these: ASOPs or the Actuarial Standards of Practice. Don't worry if you don't know much about them. Several ASOPs are covered on exams, so if you are not familiar with them now, you will be as you progress to Exam 5 and beyond.

ASOPs are the set of standards established by the Actuarial Standards Board (ASB) to help the actuarial profession govern itself professionally. The ASB comprises nine members selected by presidents and presidents-elect of the American Academy of Actuaries (AAA or Academy), the Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA). The ASB is charged with overseeing the process whereby ASOPs are developed and published. The best description of what ASOPs are comes directly from the ASB website: "These ASOPs describe the procedures an actuary should follow when performing actuarial services and identify what the actuary should disclose when communicating the results of those services."

#### Defining and Refining ASOPs

ASB's process for creating or revising ASOPs can take anywhere from several months to a couple of years, depending on the magnitude of the revisions or the development of a new ASOP. The process of revision/development follows this pattern:

- The ASB approves proposals for new or revised standards based on a review of current and emerging practices. A task force is formed to draft the standard.
- An initial draft is prepared. Relevant practice area standing committees, the ASB and the Academy legal counsel review these proposed exposure drafts.
- Upon review and approval of the exposure draft, it is released for review to all members. Anyone interested can submit comments on this draft. Commenters may include individual actuaries, companies, government entities and any other stakeholders who may be impacted by the topic of the draft.
- The task force formed to draft the ASOP reviews all comments and determines what revisions will be made. The comments are summarized and responded to as revisions are prepared. The drafting group includes the rationale for the changes when incorporating relevant comments. The summary and response to comments appear in the appendices of each ASOP.

• Another exposure draft may be issued after this previous step or, if that is not necessary, the final standard is published.

#### The Importance of ASOPs

ASOPs exist for two broad reasons: (1) To protect you as an actuary, and (2) to protect companies and consumers.

Standards offer protection to an actuary in several ways. First, the ASOPs can help you if you have never done a particular type of project. They provide guidance for organizing and preparing a project. The text of each standard gives insight that can help you not miss something important that should be included. Second, when actuaries follow the ASOPs, their work can be validated and defended in the event of a civil or professional disciplinary action.

Companies and consumers are also protected by the establishment of ASOPs. This is accomplished by designating the appropriate procedures and techniques that define the completeness of the actuarial work product. The Standards can be used, therefore, to evaluate if a report produced by an actuary is following established guidance. Additionally, since ASOPs are maintained and updated regularly, they provide a means for an actuarial practice to stay current with relevant trends within the industry. These elements of the Standards foster trust with the public and provide a basis for discipline in the event that an actuary does not follow the applicable Standards.

#### Conclusion

The CAS Code of Professional Conduct requires that all members comply with the applicable ASOPs. Familiarize yourself with the Standards online at http://www.actuarialstandardsboard.org/standards-of-practice/ or ask a more seasoned actuary for assistance with applying ASOPs to the work you are performing. This benefits you and maintains the well-being of the entire actuarial profession. You have a part to play in upholding the reputation of your fellow actuaries!

**Helpful link:** The AAA has created an "Applicability Guidelines" Excel file that can serve to assist actuarial professionals as to which ASOPs might be helpful on common assignments. Download it at https://www.actuary.org/sites/default/files/files/ Applicability\_Guidelines.xls.

**Note:** While the ASOPs apply to actuarial work in the U.S., other jurisdictions have similar standards of practice. If you are not in the U.S., we encourage you to seek out the standards that are applicable to your work. **f** 

### Mental Health Check-In: My Story

#### By Mindy Moss, FCAS

As we approach two years of living through a global pandemic, it's a good time to talk about mental health. Everyone has been dealing with their own struggles, and then there is the added stress of taking exams! Throughout the remainder of 2022, we will be producing articles interviewing various people about their own experiences with mental health. To kick things off, I want to share my story.

or as long as I can remember, I've struggled with at least mild levels of anxiety. It was a running joke in my family that "Mindy worried enough for everyone." For the most part though, I could deal with the anxiety and function in my day-to-day life. But all of that changed on February 27, 2018, when my son was born.

Postpartum depression sucked my joy out of life. I became anxious about everything, always assuming the worst-

case scenario even when nothing was wrong. In the words of one of my friends, "Postpartum depression robs you of moth-

erhood." And it robbed me for six months, until I finally broke down and got help. I knew I wouldn't be able to talk about how I was feeling, so I wrote everything down on a piece of paper and handed it to the doctor. I was diagnosed with severe postpartum depression and prescribed an antidepressant. That doctor honestly saved my life.

It was easy to let the depression go on for so long without treatment because I threw myself into the things I had to do. I showered and went to work every day. I woke up early and stayed up late studying for Exam 8. I took care of my baby. Every day I went through the motions while bottling up this immense feeling of dread. It took the support from my amazing spouse to be able to take the leap to get help. I thought it was a sign of weakness, but it was the bravest thing I've ever done.

The medication was miraculous, and within a month I was starting to feel like myself again. It helped me keep it together through some big life changes (moving across the state, buying a home and switching jobs). Things were going great! And then March 2020 happened. While the world was on pause, my anxiety skyrocketed. How was I going to keep my family healthy? How was I going to work from home with a toddler? When would I be able to see my mom again? The thoughts never stopped coming.

Since I was already on an antidepressant and was terrified to go to the doctor's during the beginning of the pandemic, I decided to try therapy. It was scary at first, and it took me quite a while to really open-up to my therapist. But after a few weeks, we started working on some practical things I could do to help with my anxiety. One of the things that helped me the most was creating two lists: a list of all my unrealistic expectations for myself and another list that had "good-enough" expectations on it. I still use this today when I start to feel overwhelmed.

Despite the help I was receiving from therapy, I was still feeling anxious and depressed. It didn't help that my exam plans got changed (as did everyone's), which led to even more stress. It was time for me to go back to the doctor. We chatted about what was going on, and she increased my dose of antidepressant significantly. It took another month or so, but eventually everything seemed to stabilize.

Fast-forward two years: I'm still on medication and I'm seeing a different therapist. Most days are

good, but there are still days where my depression gets the best of me. On those days, I try to take some time for myself. I know some activities will "fill my cup" more than others: creating art, taking bubble baths and exercising. The depression will tell me to lounge on the couch and binge TV shows, but for me that makes it worse.

Over the course of my mental health journey, I've learned some important things that I want

to share:

- You never know what someone else is going through. Be patient and kind to others.
- *Give yourself grace.* You're doing amazing, even if it doesn't feel like it.
- There is no shame in needing medicine for mental health.
- Be a safe space for someone else to talk about their mental health. You may never know how much that helps someone.
- Talk about your own mental health. It's time we all ended the stigma; you'd be amazed at how much better you feel after getting everything out into the open

There is one action item I want to leave for everyone. Even if you feel amazing every day, this activity can still benefit you. *Make a list of activities that fill your cup*. If you don't know what those are, do some trial and error. This list will come in handy if you are ever feeling tired or overwhelmed or just want to do something nice for yourself. And you do deserve that because, no matter who you are or where you are on your journey, you are enough — just the way you are. **f** 

### **Beyond Actuarial Problems**

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of the day's problem on the whiteboard at the front of the class. Although nerve-wracking for some of us, after a few days we found this to be a method for us to engage with each other and ask more frequent questions, a practice that benefited both the student who asked the question and the student who explained an answer. Asking and answering questions is an effective way to solidify recently learned material but does require a group.

#### If you want to go far, go together

Arguably the biggest lesson of the class was how effective grouplearning can be, both in learning the material and building a support system. The Stat 370 class was a half dozen students, so, as we worked our problems together, it was clear who had studied the section and who might need some help. Our constant exposure to each other kept us accountable. As a full-time employee you won't be lucky enough to have study-mates assigned, but it's not a terribly difficult situation to emulate. Most larger companies maintain communities for their actuarial employees to do just that. If your company doesn't have enough employees, groups can be found through online forums or within purchased actuarial courses. These groups can be as complex as grouped study sessions or as simple as a group of people who reminds each other to meet certain benchmarks by a given date.

Whether your group system includes weekend check-ins or just

a couple of problems during a lunch break with a colleague, the buoying effect of building a group of students around you can help lift you to a passing score.

#### A final word

My final piece of advice for new full-time employees is to not forget that you're more than just an actuarial student.

Sure, your new occupation and the actuarial exams can take up a significant part of your life, but you are more than just your exam results. The transition from a university program to full-time employment can be joyful, boring, thrilling or sometimes downright disheartening, but that's all okay. Brighter days are around the corner, and there's no shame in asking for help from others or taking some time to yourself to figure out how to get to those brighter days quicker. If you find yourself in that situation, I'd recommend paying close attention to *Future Fellows*' new series on mental health. If you're not in that situation, be aware some of your coworkers and others around you may be. Offer help when you can.

As the most recent cohort of college graduates prepare for the full-time world outside university doors, may I be one of the first to wish you best of luck in all your endeavors, especially your exam sittings.

#### The Candidate Advocate Working Group Mission

The Candidate Advocate Working Group (CAWG) focuses on issues of importance to candidates who are pursuing CAS designations. It serves as a direct point of contact for candidates to engage with the CAS and admissions working groups by sharing their thoughts and feedback. The CAWG also supports candidates' career advancement by advising candidates of resources available to them. The working group utilizes various communications tools such as the quarterly *Future Fellows* newsletter and the *Future Fellows* Hot Topics blog to engage candidates and provide information on topics of importance. Candidates may contact the Candidate Advocate Working Group at CAWG@ casact.org. The Casualty Actuarial Society is not responsible for statements or opinions expressed in articles, discussions or letters printed in *Future Fellows*.

## **FUTURE General Fellows**

*Future Fellows* is published four times per year by the Casualty Actuarial Society, 4350 North Fairfax Drive, Suite 250, Arlington, Virginia 22203.

Telephone: (703) 276-3100

Email: office@casact.org Website: www.casact.org

Presorted Standard postage is paid at Lanham, Maryland.

If you'd like to contact the Candidate Liaison Committee, you can email Candidate Advocate Working Group CAWG@casact.org. Candidate Advocate Working Group: Laura Hemmer, FCAS, Chair Ildiko Ban, FCAS Celeste Bremen, FCAS Emma Casehart, ACAS Jillian Chung, ACAS Wesley Griffiths, FCAS Bailey Hescock, ACAS Matthew Lopez, ACAS Matthew Lopez, ACAS Mark Maenche, ACAS Sarah Manuel, FCAS, MAAA Melinda Moss, FCAS Rehan Siddique, FCAS Deepti Tammareddi, FCAS Daniel Watt, FCAS

Candidate Representatives: Claire DiOrio Othon Hamill Rajwayne Neufville Nitai Patel, ACAS Jack Richards Holley Rouse Menghan Wu

CAS Director of Certification Products: Ashley Zamperini, CAE

CAS Candidate Engagement Manager: Stephanie Litrenta, CAE

CAS Director of Publications: Elizabeth A. Smith

CAS Graphic Designer: Sonja Uyenco **Subscriptions** to the newsletter are complimentary to CAS candidates who registered for a CAS Examination during the previous two years.

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**Postmaster:** Please send all address changes to: The Casualty Actuarial Society, 4350 North Fairfax Drive, Suite 250, Arlington, Virginia 22203.

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### ATP Words of the Issue

By Laura Hemmer, FCAS

opefully everyone has seen the CAS' Admissions Transformation Plan (ATP) that details the CAS' plans for the future of Admissions. If not, please visit casact.org/atp. The ATP has a wealth of details and milestones on what changes you can expect in the next few years as Admissions evolves. But there's also a lot of words in there that have specific meanings to the CAS. In our ongoing series, we will be highlighting a word or two each issue to make sure *Future Fellows* readers are as informed as possible about what the ATP really means.

**Content outline** — Rather than a syllabus, each exam will eventually have its own content outline. Also referred to as the exam blueprint, it is built from the Job Task Analysis and, rather than learning objectives, it identifies the domains, tasks and

knowledge and skills on which the candidate could be tested. Just as the CAS syllabus does today, it also includes the weight that each topic will be covered.

*Items* — This term indicates that not all exam questions are stated as questions. Every item on a professional certification exam tests knowledge that is essential for the competent actuarial practice of the minimally qualified candidate.

*Minimally qualified candidate (MQC)* — Performancelevel descriptor that distinguishes between test takers who are minimally proficient in the identified qualifications from those who are less than proficient. This description is foundational to designing the content outline, writing items and determining the passing score.