



SOCIETY OF
ACTUARIES

2016 YEAR IN REVIEW

Annual Report

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Advancing the Profession

By Craig W. Reynolds, FSA, MAAA
2015–2016 SOA President

I am proud of what we as an organization accomplished during my tenure as Society of Actuaries (SOA) president. While our overall strategy is driven by our strategic plan, as SOA president, I was able to choose where I wanted to focus my personal efforts. At the beginning of my term, I identified five areas of focus that were consistent with the SOA's overall mission and vision.

My first goal was to **maintain the value and rigor of the SOA's credentials**. We announced changes to the Associate of the Society of Actuaries (ASA) curriculum to better balance short- and long-term insurance coverages for the global market, and we expanded content on predictive analytics. Employers and members shared consistent feedback with us on the huge potential of applying predictive analytics to actuarial work in both new and existing markets.

I am particularly proud of our progress regarding **inclusion and diversity**. The three key motivations for inclusion and diversity efforts are as follows:

- ➔ There is strong evidence that diverse groups are more productive and produce better outcomes.
- ➔ We want the best and brightest candidates.
- ➔ We know that being open and welcoming to all candidates is simply the right thing to do.

A standing committee of the SOA Board was created that focuses on inclusion and diversity, and we developed our [statement on diversity](#).

The SOA asked members to voluntarily provide demographic information, which will be used to help encourage and monitor our progress with diversity issues. We began working with the Casualty Actuarial Society (CAS), the International Association of Black Actuaries (IABA) and the Actuarial Foundation on a comprehensive joint research study on barriers to entering the profession. We also began work to increase the diversity of our speaker and author community, with an emphasis on diversity presentations and article topics. We will continue to identify ways to make the actuarial profession more welcoming to underrepresented groups.

We continued to support our members in **international markets**. Promoting the value, portability and recognition of our credentials outside North America



“ We strive to identify new opportunities, particularly within the field of predictive analytics. Increasing opportunities for actuaries to work in other countries and other fields for nontraditional employers is one of the best ways to enhance the value of the SOA designations.”

makes them more valuable to members in the United States and Canada who may work in companies with operations around the globe.

We formed a China Committee and a Greater Asia Committee, which advise the International Committee and the SOA Board on strategies in those two regions. As part of this effort, we opened a new office in Beijing. We also hosted the first executive training exchange program with the China Association of Actuaries (CAA), in which CAA members and staff participated in a variety of meetings with employers, government agencies and others during two weeks in the United States.

Looking to Latin America, we developed a strategy by which we are working with local stakeholders to provide continuing education and improve awareness of the actuarial profession.

I am pleased to say that **organizational relationships** have materially improved, which includes those with the American Academy of Actuaries (the Academy), the CAS, the Canadian Institute of Actuaries (CIA), the Conference of Consulting Actuaries (CCA) and the ASPPA College of Pension Actuaries (ACOPA). These relationships have been an area of significant focus so we can work

productively on shared goals and projects. Regular contact and communications are the foundations of our relationships.

My final focus, **expanding the breadth of work** for actuaries, is interconnected with those I mentioned earlier. We strive to identify new opportunities, particularly within the field of predictive analytics. Increasing opportunities for actuaries to work in other countries and other fields for nontraditional employers is one of the best ways to enhance the value of the SOA designations.

For example, we placed eight actuarial candidates as interns in companies that had never hired actuaries before, including NASA, Medtronic, Horizon Pharma and Microsoft. Most of these employers have indicated interest in hiring actuaries on a permanent basis. The SOA also initiated a marketing campaign to increase awareness of what actuaries can do in data analytics in markets where actuaries do not currently have a broad footprint.

Thank you for electing me. I have thoroughly enjoyed this opportunity to serve as the SOA president. I appreciate your support.

Setting the Bar for the Next Five Years

The Society of Actuaries (SOA) uses a strategic plan to guide our decisions as we pursue our mission. This strategic plan focuses the SOA's initiatives and investment of resources to meet our stakeholders' needs. In October 2016, the SOA Board of Directors approved a new [strategic plan](#) to guide the organization from 2017 through 2021. The plan is the result of extensive research by the Strategic Planning Task Force into the needs of all SOA stakeholders—members and candidates, employers, industry leaders, policymakers, regulators and the public. It reaffirms that the SOA's mission is to advance actuaries as leaders in the measurement and management of risk. Accomplishing this mission means achieving the vision

of actuaries as highly sought-after professionals who provide solutions to complex financial issues.

The 2017–2021 strategic plan sets out 11 objectives that were designed to focus SOA resources to carry out its mission and vision. These objectives reflect six major themes:

- ➔ Enhancing actuarial skills
- ➔ Ensuring research effectiveness
- ➔ Promoting the value of actuaries to employers
- ➔ Maintaining the value of SOA credentials
- ➔ Benefiting global stakeholders
- ➔ Improving the SOA's strategic operations



Although the plan is new, many SOA activities and programs from 2016 have already set the wheels in motion to support each of these themes.

“We felt there was a need for change ... with respect to supporting actuaries to be successful in existing, expanded and new roles. In that area, we were particularly focused on predictive analytics.”

—Cindy Forbes, FSA, FCIA, MAAA
SOA Strategic Planning Task
Force member

ENHANCING ACTUARIAL SKILLS

Globalization, increasing regulation, changing technology and the rise of big data drive the need for new skill sets. In particular, actuaries need to understand how to use new analytical techniques to make the most of data. An actuary’s ability to turn data analysis into action—by constructing recommendations and solutions and communicating them—is critical to his or her success in a world of big data. Therefore, SOA education, credentialing and professional development focus beyond analytical techniques to help actuaries turn knowledge into insight, insight into recommendations and recommendations into solutions.

The strategic plan’s objectives for this theme are to keep actuaries at the forefront of evolving methods for solving complex business problems; to cultivate a diverse membership and position it to succeed in existing, expanded and new roles, initially emphasizing predictive analytics; and to deliver education that anticipates stakeholders’ changing expectations. The SOA already has plans to revise its educational curriculum to meet stakeholders’ needs (see page 9). The curriculum for the Associate of the Society of Actuaries (ASA) designation will soon include a dedicated course in predictive analytics in which candidates will use software to analyze data sets and report findings. The new curriculum also increases the coverage of short-term insurance (health and general insurance) to provide a better balance with the coverage of long-term insurance.

ENSURING RESEARCH EFFECTIVENESS

The influence of individual actuaries is stronger when the profession itself contributes to the understanding of and develops solutions for industry and societal problems. The strategic plan objectives in this area are for the SOA to provide trusted and objective actuarial research, analysis and insight on important societal issues and to construct research programs on key industry and societal issues to systematically educate and inform stakeholders.

Research efforts in 2016 provided a solid foundation for meeting these objectives (see page 13). For example, the SOA joined with other organizations to develop the Actuaries Climate Index (ACI)—an educational tool designed to inform actuaries, policymakers and the public about climate trends and their potential impact. The SOA also collaborated on the release of the Actuaries Longevity Illustrator, an online tool to help people understand the risk of outliving their retirement income. Published reports included the annual mortality improvement scale for pension plans (MP-2016), studies addressing various aspects of health care risk, and resources for actuaries affected by updates to the Standard Valuation Law.

*“The plan and vision purposely use bold language: We want actuaries to be **leaders**. We want to be **relevant**. We want the credentials to be **prestigious**.”*

—Albert J. Moore, ASA, MAAA
SOA Strategic Planning Task
Force member

PROMOTING THE VALUE OF ACTUARIES TO EMPLOYERS AND OTHER STAKEHOLDERS

The SOA’s responsibility to members and the profession is to ensure that employers and other stakeholders continue to seek out members for their skills in measuring and managing risk. Both the mission and vision statements make this clear.

The SOA already has a multiyear initiative to cultivate opportunities for actuaries in a number of professional environments (see page 16). Advances were made in 2016 in three key areas: a marketing communications campaign was used to increase awareness of and opportunities for actuaries in health care predictive analytics; an internship program exposed nontraditional employers such as Metabiota, Microsoft and NASA to the value of the actuarial skill set in nontraditional roles; and market research focused on opportunities for actuaries in risk management roles.

MAINTAINING THE VALUE OF SOA CREDENTIALS

Every SOA credential establishes foundational knowledge necessary to qualify to practice. These credentials assure employers and other stakeholders that members have demonstrated understanding of high-quality, relevant and practical educational content that emphasizes cutting-edge techniques, professional standards and lifelong learning. Thus, the new strategic plan’s objective is to ensure that the SOA’s credentials are prestigious, relevant and globally recognized.

2017–2021 STRATEGIC PLAN

In addition to the coming changes in educational curriculum mentioned earlier, the SOA Board has approved the development of a pilot program for a predictive analytics certificate, which will launch in 2017. The SOA also entered into a joint venture with the Institute and Faculty of Actuaries (IFoA) called CAA Global to administer and promote the Certified Actuarial Analyst (CAA) qualification around the world. The SOA Center for Certified Actuarial Analysts LLC is a new subsidiary of the SOA that provides a community for individuals with the qualification to network (see page 11).

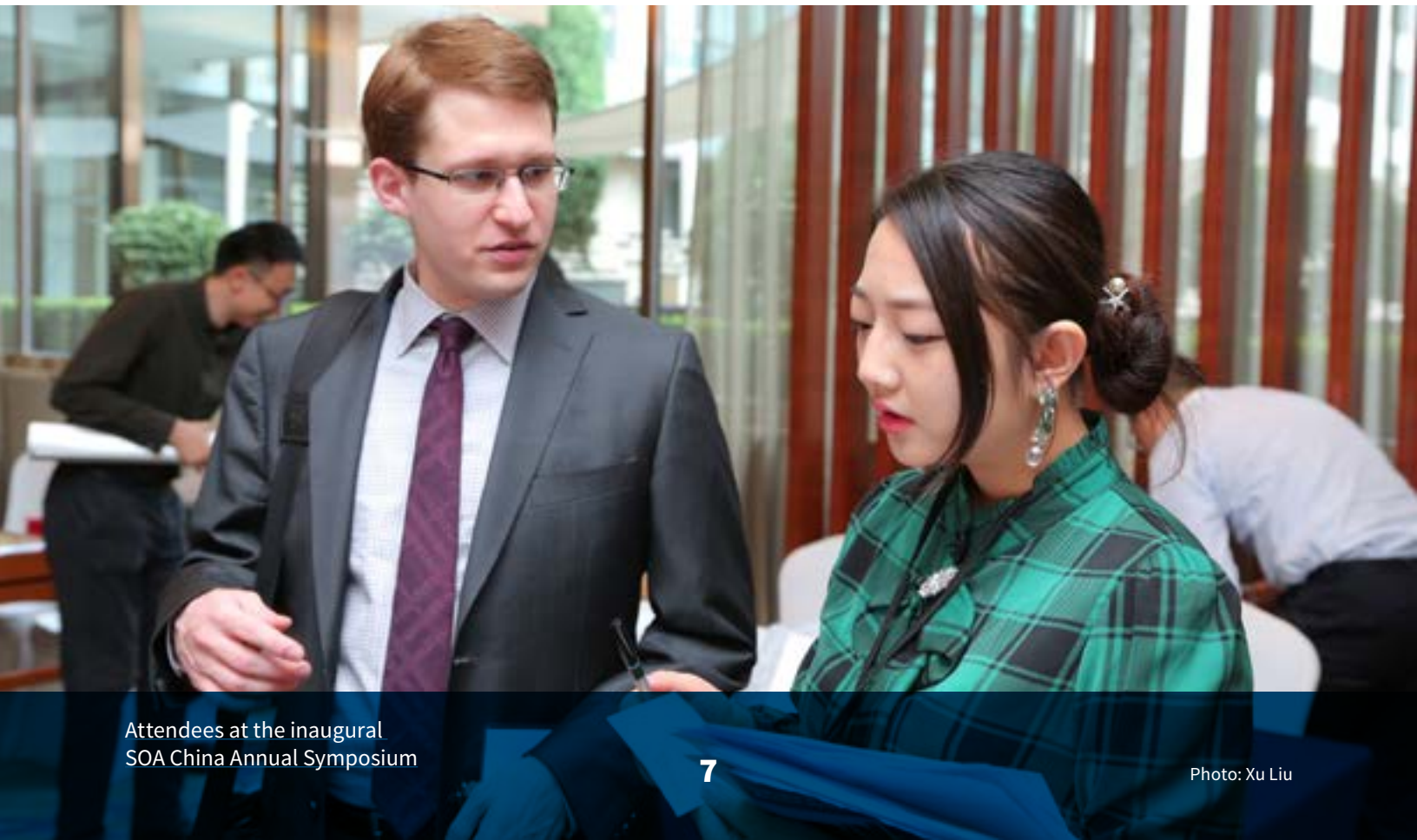
BENEFITING GLOBAL STAKEHOLDERS

Of the SOA's more than 27,000 members, 15 percent are located outside of North America—as are 22 percent of its 37,000 candidates—and face challenges and issues specific to their regions. The SOA is committed to providing its international members, candidates and other stakeholders with appropriate support, which acknowledges that many of them reside in countries

with vibrant actuarial organizations. The objective here is not to supplant those organizations but to provide the services necessary to serve stakeholders effectively in their local markets.

In 2016, the SOA opened an office in Beijing and hosted the inaugural SOA China Annual Symposium (see page 19). It also established the Greater Asia Committee to focus on the needs of members in Hong Kong, Indonesia, Korea, Malaysia, Singapore, Thailand and Taiwan. Similarly, the activities of the Latin America Committee are directed toward supporting the actuarial communities in Argentina, Brazil, Chile and Colombia.

In today's economy, global knowledge is part of the perspective required of most actuaries, including those who focus primarily on their own domestic markets. In preparing the strategic plan, the task force learned from business leaders that it is important for most actuaries to have some global context relevant to their jobs: from



Attendees at the inaugural
SOA China Annual Symposium

2017–2021 STRATEGIC PLAN

the global market for pharmaceutical development to global financial markets, global reinsurance markets, international regulatory capital standards and international accounting and reserving standards.

SOA research, such as the SOA–LIMRA study about retirement in China, can expand the perspective of actuaries in North America. Similarly, a follow-up to the executive training exchange program will send senior SOA members to China to observe its actuarial environment and methods in 2017. The SOA will continue to work to provide members and candidates with the global understanding necessary to their roles.

IMPROVING THE SOA'S STRATEGIC OPERATIONS

Making sure an organization's infrastructure can support its mission and goals necessitates attention to many components. The SOA's strategic plan calls for using

efficient, sustainable models and processes; addressing environmental changes in a timely manner; working with other actuarial organizations for mutual benefit of the stakeholders; and cultivating diversity within its membership and candidate base.

Working toward this goal, the SOA Board has already approved changes to its committee structures so board members' participation can be distributed more efficiently (see page 23). It also established a new committee to advise the SOA Board on ways to promote diversity and inclusion.

Further plans to meet the new objectives will be implemented throughout 2017 and reported on the SOA website, which also includes [a detailed description of how the strategic plan was developed](#).



Working Toward the Future

Fulfilling the Society of Actuaries' (SOA's) mission and vision to position actuaries as leaders and highly sought-after professionals wouldn't be possible without a top-quality educational program. This means making sure its curriculum is thorough and up-to-date, providing actuaries with skills that are valuable to today's employers. In 2016, the SOA announced new requirements—effective in mid-2018—for both the Associate of the Society of Actuaries (ASA) designation and the Chartered Enterprise Risk Analyst (CERA) credential. To address the global education of professional analysts, the SOA also partnered with the Institute and Faculty of Actuaries (IFoA) to administer and promote the Certified Actuarial Analyst (CAA) qualification around the world.


ROLLING OUT A NEW CURRICULUM

Beginning in 2015 as part of the SOA Learning Strategy initiatives, the ASA Curriculum Review Task Force worked for 10 months to evaluate the ASA curriculum and recommend changes. Much of this time was devoted to reaching out to major stakeholders—employers, academic institutions, other associations and SOA members and candidates—to get as much

feedback as possible on the proposed curriculum. The approval rating was about 80 percent, and some stakeholder suggestions were incorporated in the final recommendations sent to the SOA Board. Those recommendations were approved in June 2016.

The [changes](#) address new subjects important to current and expected industry needs, and they make use of new assessment techniques such as a project to be completed in a proctored environment. The main drivers behind the changes were twofold:

- A global market demand for skills in predictive analytics. This was the most prevalent growth area noted by stakeholders, so the new curriculum includes two components to better prepare candidates for opportunities in the field. The first component is called Statistics for Risk Modeling, which provides a transition from mathematical statistics to predictive analytics. The second is a dedicated Predictive Analytics course in which candidates use computer packages to analyze data sets and report findings.



In 2016, we held 8 major meetings, 32 seminars and 60 webcasts totaling 100 events. In addition, we offered 16 virtual sessions and 57 podcasts.

EDUCATION

➔ Growth of short-term insurance coverage. The traditional educational pathway favored long-term insurance, but the new curriculum increases the coverage of short-term insurance (health and general insurance) as well, providing a better balance of emphasis. A new Short-Term Actuarial Mathematics Exam replaces the current Exam C and includes product-oriented information relating to short-term insurance.

In addition, the review task force considered the forthcoming syllabus for the International Actuarial Association (IAA) when making recommendations for change. The SOA provided significant input to the development of the IAA syllabus, and that earlier work informed the review.

Although two new components have been added, and topics have been shifted among the various exams, nothing has been taken out of the curriculum. This increases the time necessary to achieve the ASA designation, but it also adds value to that designation by ensuring that candidates have undergone the most rigorous and complete training available anywhere.

No changes will take place immediately; the new curriculum will go into effect on July 1, 2018. The SOA

In 2016, the SOA administered more than 80,000 actuarial examinations to more than 37,000 candidates.

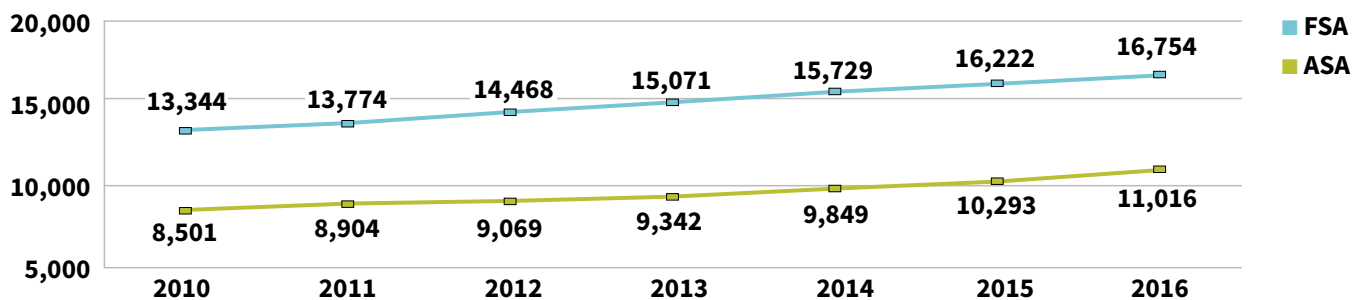
will be working to complete the new syllabus and will periodically update stakeholders. A primary focus will be on informing candidates who are already in the ASA system regarding what exams they will need to take to obtain their ASA as the transition period progresses. Because CERA requirements include ASA components, similar changes have been made to the CERA curriculum, and the transition period will be the same.

PREDICTIVE ANALYTICS

PILOT CERTIFICATE PROGRAM

Knowing that predictive analytics is a growth area of the industry, SOA members have expressed interest in acquiring and improving skills in this field. In 2016, the SOA Board approved the development of a pilot program for a predictive analytics certificate. The program will focus on practical instruction, integrate soft skills, and be of a rigor consistent with our credentials. The format will be a combination of an online and an in-person program conducted over a five-month period. Results from the

2010–2016 MEMBERSHIP TOTALS



EDUCATION

pilot program will inform the Professional Development Committee's 2017 recommendations to the board about integrating certificate program options into the SOA's suite of professional development offerings.

ENHANCING GLOBAL APPEAL

The SOA supports actuaries around the world, and in 2016, it worked with the IFoA to create a joint venture called [CAA Global](#). The CAA program will train actuarial support personnel in the skills necessary to become professional analysts. Upon completion of the program, participants will earn a CAA qualification, which was developed by the IFoA in 2014. By providing a formal framework that ensures high-quality education, the program will increase public confidence in the work done by these professionals and provide dependable support for other actuaries. Qualified CAAs will be able to affiliate with the IFoA or the [SOA Center for Certified Actuarial Analysts LLC](#), a new SOA subsidiary.

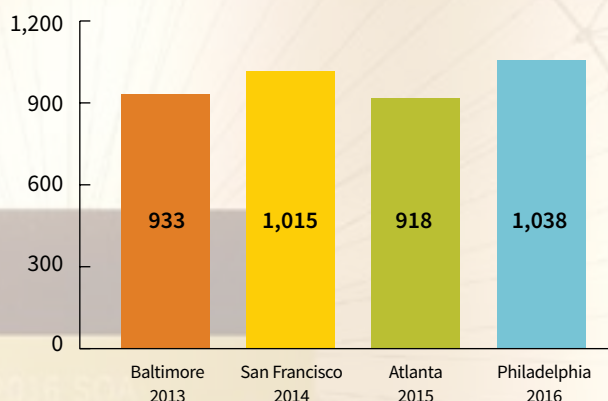
In January 2016, the SOA helped sponsor the annual Actuarial Students National Association (ASNA) convention held in Niagara Falls, Ontario, which was attended by more than 600 students. ASNA works with Canadian universities to support the actuarial leaders of the future with a variety of national-level programs and opportunities.



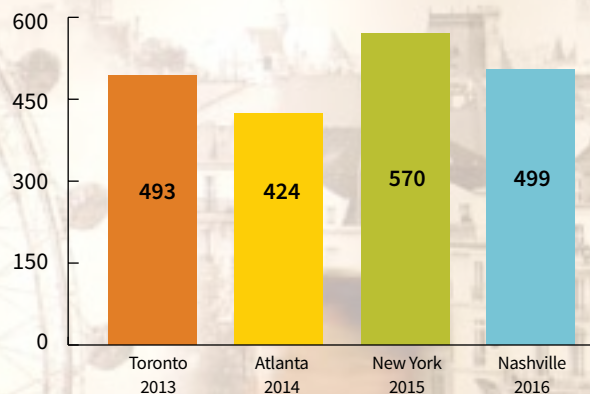
SOA President Craig W. Reynolds, FSA, MAAA, and Nick Salter, past president of the Institute and Faculty of Actuaries (IFoA), at the formation of CAA Global

EDUCATION

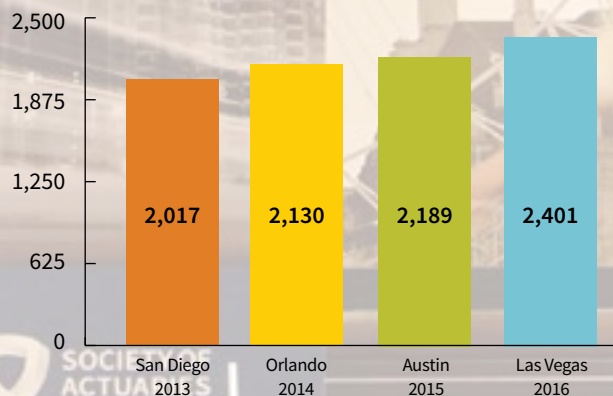
HEALTH MEETING ATTENDANCE



LIFE AND ANNUITY SYMPOSIUM ATTENDANCE



SOA ANNUAL MEETING & EXHIBIT ATTENDANCE



Please note that the attendance numbers include all attendees (member, nonmember, one-day attendees, presenters, exhibitors, staff, complimentary, etc.)

New Professional Development Seminar Topics in 2016

- Longevity Webcast Series
February, March, July, October
- Health Predictive Analytics Seminar
July, Chicago
- Short-Term Insurance Reserving Workshop
August, Bangkok
- Inaugural SOA China Annual Symposium
September, Beijing
- Longevity 12 Conference
September, Chicago

Building the Foundation

It would be impossible for actuaries to develop solutions to today's complex problems without reliable and current data. The Society of Actuaries (SOA) both develops and sponsors research projects that provide such data, which serve as a basis for decision making. Projects from 2016 provided insights on the ever-changing environment, involved partnerships and collaboration with other national and global organizations, and addressed a wide variety of insurance industry topics.

KEEPING UP WITH THE TIMES

Demographics and regulations never remain static for long, and we are now in a period of significant shifts. SOA members have access to current knowledge and evolving methods to solve business problems. Baby boomers are reaching retirement age, medical and lifestyle advances mean greater longevity, and retirement systems present continuing challenges. All of this means that pre- and postretirement have become major areas of focus for risk professionals.

In October, the SOA released its [annual mortality improvement scale for pension plans](#) (MP-2016), incorporating the most current mortality data from the U.S. Social Security Administration (SSA). The MP-2016 showed a slight decline in life expectancy due to a slower average rate of mortality improvement.

Health care also continues to undergo myriad changes with the Affordable Care Act (ACA) at both state and national levels. The SOA published several studies addressing various aspects of health care risk, including the following:

- A study examined how [Kansas enrollees in individual ACA plans](#) used pharmaceuticals to see how enrollment timing may correlate with relative prescription drug costs.
- Another study analyzed [risk pool data for individual exchange plans](#) and found an increase in the population's weighted average measure of risk.

The SOA also issued the 2016 update to its model for projecting long-term health care cost trends.



WORKING WITH OTHERS

As today’s industries and issues cross local, national and global boundaries—from natural disasters to health care and retirement—actuaries around the world are dealing with similar or related challenges. The SOA has teamed up with other associations and organizations to research and disseminate data to help address complex issues affecting society.

One example is the [Actuaries Climate Index](#), an educational tool designed to inform actuaries, policymakers and the public about climate trends and their potential impact. The index was developed by the Climate Change Committee, a joint effort of the SOA, the American Academy of Actuaries, the Canadian Institute of Actuaries and the Casualty Actuarial Society. The index provides objective data about changes in the frequency of extreme climate events in the continental United States and Canada.

The SOA also collaborated with the Academy on the [Actuaries Longevity Illustrator](#), an online tool to help people understand the risk of outliving their retirement income.

Another example of collaboration is research from the SOA and LIMRA on the [retirement market in China](#). This series of reports looks at consumer attitudes, beliefs and behaviors on a variety of retirement issues in China.

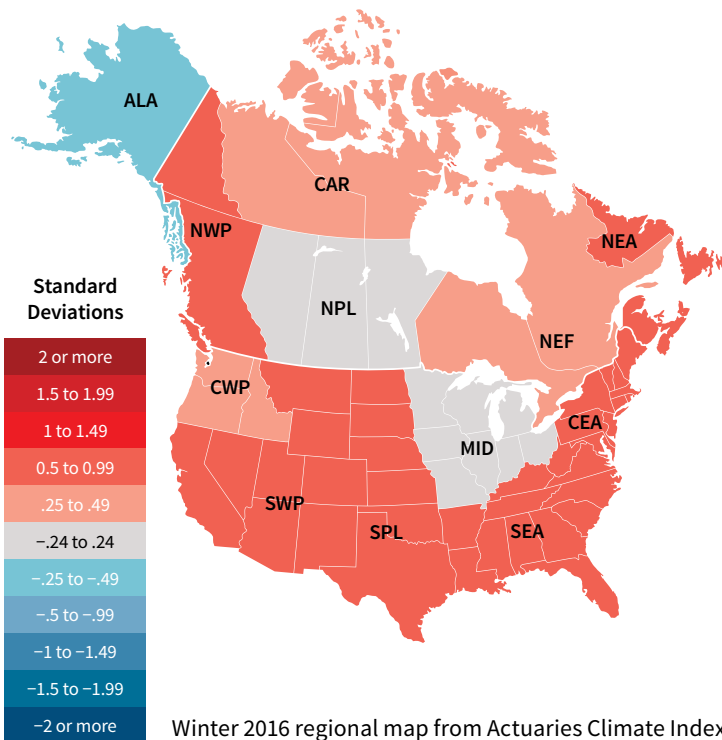
LOOKING AT THE BIG PICTURE

Regulatory changes in 2016 may impact many areas of the insurance industry. The implementation of updates to the Standard Valuation Law has required life insurance companies to determine how principle-based reserving (PBR) will affect their product offerings.

The SOA has published a variety of resources for actuaries affected by these challenges:

- The [PBA Implementation Guide](#) addresses 2015 updates to the Valuation Manual (VM-20) and incorporates lessons learned from companies working on implementation.
- The first phase of a two-phase study on the [impact of VM-20 on life insurance product development](#) is illustrated with case studies for term and universal life products.

The SOA will continue to update and report on all of these projects in the coming year.



Meeting the Demand for Information

Our modern lives—whether personal or professional—run on information. We need to know what is happening in the world around us to make informed decisions about everything from what we eat to what kind of cars we drive. Actuarial students and professionals need a great deal of information as well, including what skills employers are looking for, how to develop or refine those skills, what regulatory requirements exist at home and abroad, and how to make the most of their Society of Actuaries (SOA) membership. The SOA has worked to meet this membership need with a mix of existing programs and new initiatives.

One of the most important communications tasks the SOA performs is keeping its members apprised of developments within the association and the profession as a whole. Existing programs such as Plain Talk letters from the president and Listening Tour meetings have played a big role in disseminating updates about the SOA. The new online tool, [Regulatory Resource](#), provides links to primary sources for the meaning of and changes to regulations pertaining to health care, life and annuity, and long-term care. The links, which are updated as necessary each month, are organized by practice area and country.

Another vital communications effort is helping members and candidates find ways to interact and network. [SOA Engage](#) is an online forum, established in 2016, where users can share information, collaborate on projects and engage in discussions about the actuarial profession. It provides links to Candidate Connect, an open forum that allows aspiring actuaries to interact with SOA members,

employers and each other. Links to [SOA Explorer](#) and many social media sites are also included on the main page.

Thanks to these innovations, members' perceptions of how the SOA meets their demand for information have improved significantly during the past seven years. In an annual survey with a 10-point scale, the approval rating for measures related to the SOA's communication of important issues and qualities of transparency and accountability rose from 6.5 to 7.4 and from 5.9 to 6.8, respectively, between 2009 and 2016.

As the 2017–2021 strategic plan gets underway, the SOA will continue to keep its stakeholders informed about changes in the global and domestic environments, the actuarial profession and its own educational and research efforts.

The SOA had more than 700 million media impressions in 2016. Articles of note included:

- *The Wall Street Journal*, “Peyton Manning is Already the Super Bowl’s (Pension) MVP,” Feb. 4
- *Modern Healthcare*, “What, Me Buy Insurance? How Slow Uptake by ‘Young Invincibles’ is Driving the ACA’s Exchange Rates Higher,” May 14
- *Pensions & Investments*, “New Mortality Improvement Scale Suggests Slower Rate, dip in Life Expectancy,” Oct. 20
- *Marketwatch*, “Do You Really Know What Your Retirement Income Will be?,” Nov. 3

Getting the Word Out

Although education and research are the heart of the Society of Actuaries (SOA), supportive efforts are needed to fulfill the mission and vision of promoting actuaries as leaders in measuring and managing risk in both traditional and nontraditional fields. This is where the Cultivate Opportunities Team (COT) comes in. A multiyear initiative to develop opportunities for actuaries in a number of professional environments—initiated in 2015—picked up speed in 2016 with advances in three key areas:

- ▶ A marketing campaign to increase employer recognition of actuaries as valuable members of predictive analytics teams in the health care industry
- ▶ An internship program that exposed both employers and actuarial students to the value of the actuarial skill set in nontraditional roles
- ▶ Market research into opportunities for actuaries in risk management roles

“The statistical background that is required in actuarial science programs is a big strength for a member of our modeling team. We attempt to be data-driven in almost every assumption we make, and this requires us to be sound in our statistical modeling methodology.”

—Metabiota

SPREADING THE NEWS

In developing the predictive analytics marketing campaign, the COT chose to place the initial focus on health care. Due to the continuing changes in government reforms, the team identified a higher demand for actuaries in health care analytics. The goal of the campaign was to generate awareness and demand among employers and increase the number of actuaries in this field.

The campaign used a number of strategies to achieve its goal, including efforts to demonstrate actuarial thought leadership through speaking opportunities outside the actuarial industry; secure article placements written by SOA members in non-industry publications; cultivate relationships with nontraditional employers; and raise member awareness of opportunities in health care predictive analytics through SOA communication channels.



CULTIVATING OPPORTUNITIES

“Our SOA intern’s time with our team helped us to better understand how actuarial science supports our value-based health care strategy, as well as validated some of our assumptions about additional organizational capabilities necessary to help us drive our strategy. We continue to refine our takeaways, educate our broader organization and determine what this experience means for us moving forward.”

—Medtronic

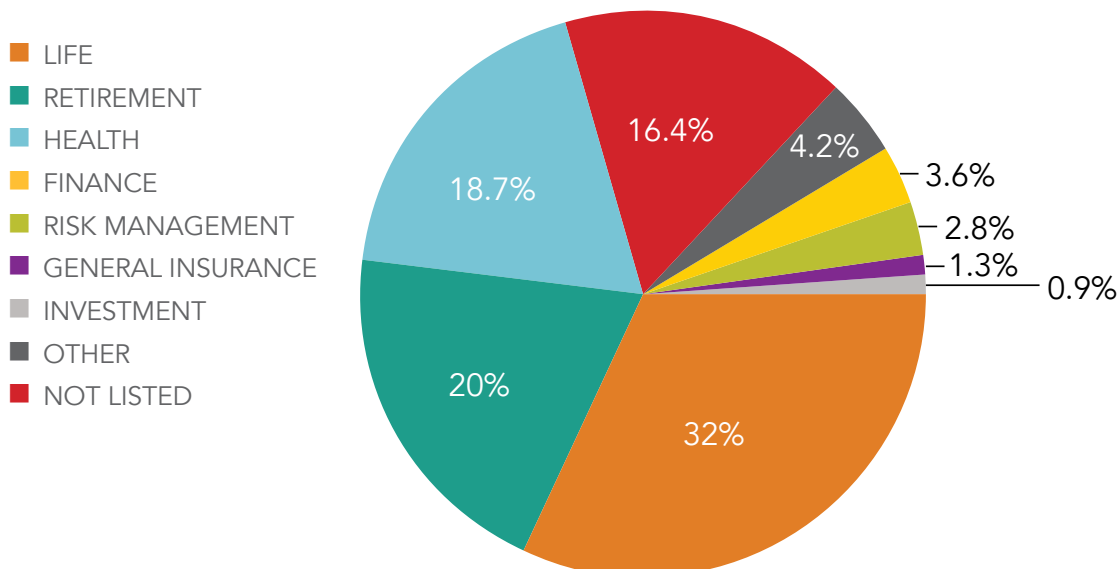
In addition, actuaries in health care analytics shared their experiences through eight 90-second videos with accompanying written case studies. These [Health Care Insights from Actuaries](#) provide information about careers and challenges in the field. [Additional videos](#) are available on the SOA’s YouTube channel.

All of these efforts generated interest among both employers and actuaries. As a result of the campaign, 10 employers that don’t traditionally hire actuaries either posted new positions for actuaries or agreed to consider hiring actuaries.

EXPLORING THE UNKNOWN

The objective of the SOA’s internship program is to gain an understanding of employers’ needs and demonstrate to them that the knowledge the interns have gained through their actuarial education and SOA credentialing examinations is valuable in nontraditional roles that previously have not employed actuaries. Success is a participating employer eventually hiring the intern and also seeing the advantages of hiring actuaries for other senior or mid-level roles within the company.

2016 PRIMARY AREAS OF PRACTICE



CULTIVATING OPPORTUNITIES

In 2016, eight students received 10-week internships with seven employers:

- ➔ Halo (business analytics solutions)
- ➔ Horizon Pharma (biopharmaceuticals)
- ➔ Medtronic (medical technology)
- ➔ Metabiota (biotechnology)
- ➔ Microsoft (technology)
- ➔ NASA (space agency)
- ➔ Sports Info Solutions (sports data)

All of the companies gave favorable reports on the interns' work, with Halo, Horizon Pharma and Medtronic offering full-time employment to their interns after graduation. Metabiota hired two credentialed actuaries for its team.

The feedback from employers provided insight into what actuarial skills the nontraditional employers valued most, including the following:

- ➔ Analysis execution and application
- ➔ Application of modeling methodology
- ➔ Translation of technical results into succinct and usable insights for a nontechnical audience
- ➔ An understanding of data and the correct application of it to develop visuals
- ➔ Strong mathematical/statistical background

Given the valuable information received and the positive experiences of both employers and interns, the SOA plans to expand the internship program in 2017 to include more nontraditional employers and nontraditional roles with traditional actuarial employers.

RESEARCHING THE MARKET

The COT's Risk Management Subteam, which worked to identify actuarial opportunities in this market, conducted quantitative and qualitative research in 2016. The focus was on actuaries' roles in model validation within the U.S. insurance industry. The subteam found that growth in this field is expected to match the future growth of the actuarial profession; that many actuaries are already performing model validation as part of their jobs; and that future hiring will depend on regulatory changes, business needs and technology. As a result, plans for 2017 include continued communication about actuaries in model validation and promoting professional development opportunities in this area through dedicated seminars, research, meeting sessions and articles.



Expanding Our Horizons

The foundation of the Society of Actuaries' (SOA's) international activities rests on four pillars: support for members and candidates, university relationships, relationships with regulatory authorities and employer relationships. In 2016, the International team and SOA Board committee continued the work begun years ago to build and strengthen all four of these pillars with its activities in China, greater Asia and Latin America. The following is only a sample of this work.

IMPROVING UNDERSTANDING WITH THE EAST

In September 2016, a landmark event took place in Beijing: The Inaugural SOA China Annual Symposium had more than 180 attendees, providing learning and networking opportunities for both SOA members and nonmembers. One of the keynote speakers was renowned economist Deyun Cao, executive vice

president and secretary-general of the Insurance Asset Management Association of China (IAMAC), who shared broad views on China's economic growth. Other presenters covered topics including health, pension insurance, using asset liability management in a changing interest rate environment, enterprise risk management and other topics tailored to China's actuarial committee.

The SOA also hosted the first CAA-SOA Executive Training Exchange, inviting six senior members of the China Association of Actuaries (CAA) to visit employers, universities and associations in the United States. After sharing information about Chinese and U.S. actuarial practices across all types of businesses, the participants became strong advocates of the relationship between the SOA and CAA. Plans to send senior North American actuaries to China are in the works for 2017.



INTERNATIONAL DEVELOPMENT

An April reception heralded the official opening of the SOA office in Beijing. More than 100 SOA members, professionals, regulators and scholars attended, including representatives from major Chinese insurance companies and the China Insurance Regulatory Commission (CIRC).

CONNECTING WITH GREATER ASIA

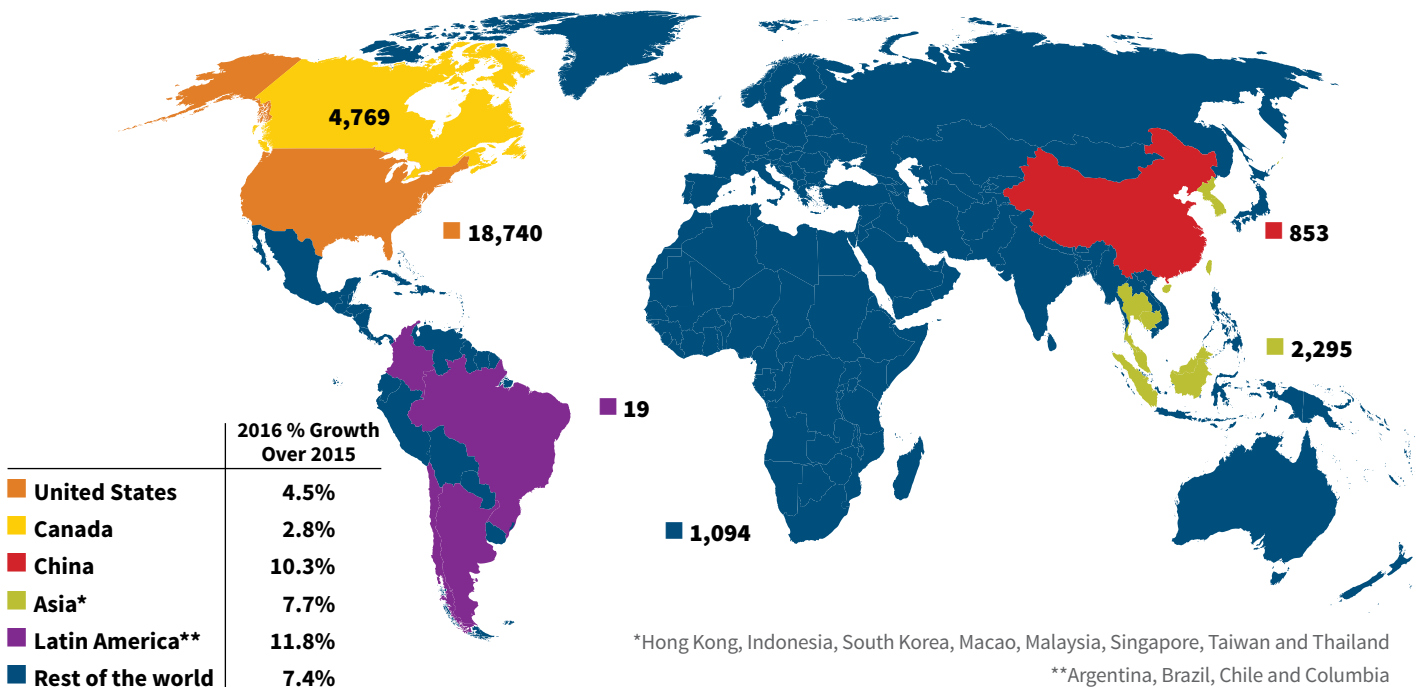
The SOA has long had a significant membership in other areas of Asia, so the Greater Asia Committee was established in 2016 to focus on those communities' needs. The committee focuses on seven countries/regions in which to target activities: Hong Kong, Indonesia, Korea, Malaysia, Singapore, Thailand and Taiwan. Although the various actuarial communities are at different points in the evolution of the profession, the committee developed a 2016–2018 strategy for pursuing activities in the region as a whole:

- ➔ Promote the actuarial profession and the value of the SOA credential
- ➔ Increase membership services, often through joint programs with local associations
- ➔ Expand the SOA's support for and involvement with local universities
- ➔ Identify research proposals focused on regional issues and data

As one example of activities in greater Asia, SOA representatives attended a symposium organized by Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia (READI). The project's goal is to increase the number and quality of actuarial graduates to meet the country's growing demand for actuaries.

MEMBERS BY REGION

27,770 TOTAL MEMBERSHIP COUNT FOR 2016



INTERNATIONAL DEVELOPMENT

“Future and Insights” was the theme of the Sixth SOA Asia-Pacific Annual Symposium in Hong Kong, where speakers included both John Leung, the commissioner of insurance in Hong Kong, and Billy Wong, the 2014 president of the Actuarial Society of Hong Kong. The SOA also co-sponsored the 20th Asian Actuarial Conference in Gurgaon, India, which was organized by 30 actuarial organizations in Asia and focused on the challenges and opportunities presented by the region’s changing political, economic and demographic situations.

BUILDING TIES SOUTH OF THE BORDER

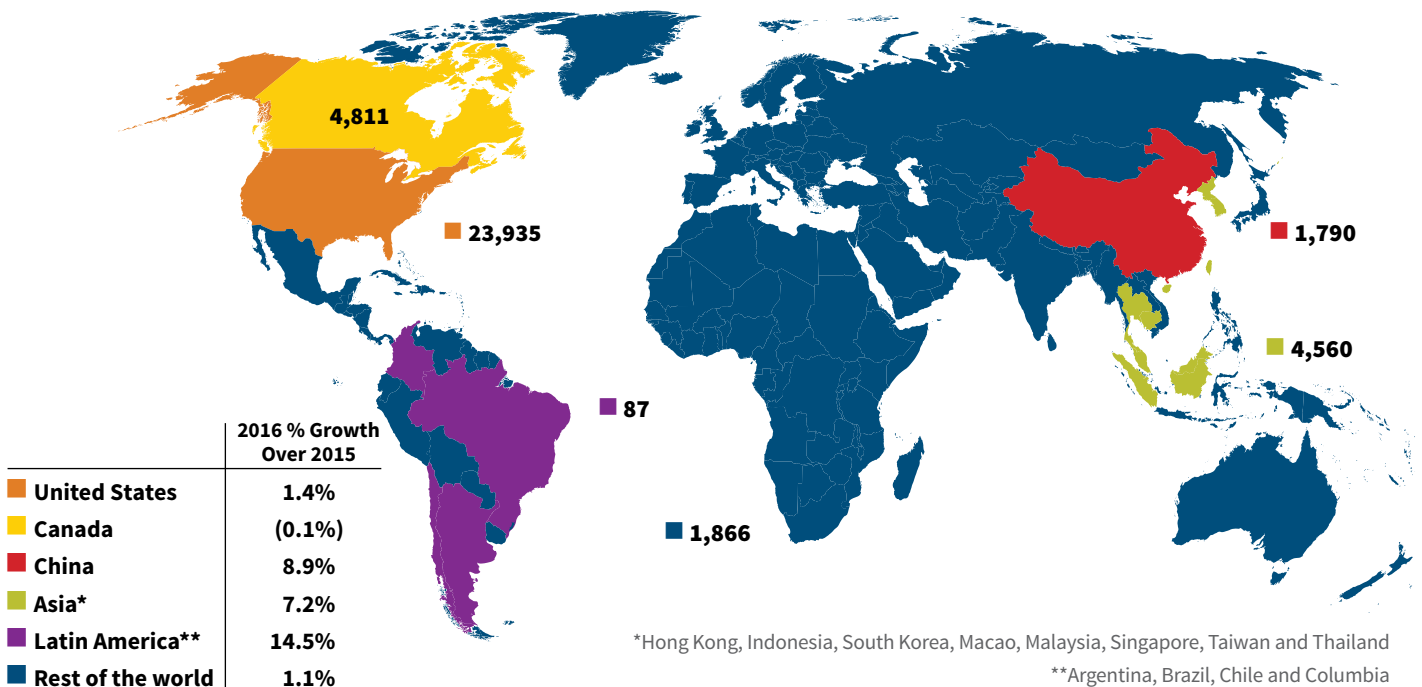
As with the other two International subcommittees, the Latin America Committee has been formed to provide

a region-specific approach to the actuarial profession. The committee had its first face-to-face meeting in Buenos Aires in November, and its activities are directed toward Argentina, Brazil, Chile and Colombia. Several of the attending committee members also participated in a university colloquium where actuarial professionals presented findings from research conducted in their own countries.

The SOA Board approved the Latin America Committee’s strategy objectives for 2016, which primarily involve supporting members and candidates in the four countries mentioned by strengthening ties with local associations, universities and employers.

CANDIDATES BY REGION

37,049 CURRENT CANDIDATES FOR 2016



2015–2016 Financial Results

As a 501(c)(3) tax-exempt organization, the Society of Actuaries (SOA) must manage its yearly income and expenditures to ensure that it has sufficient resources to achieve its mission and core objectives now and in the future.

The annual budget takes into account the revenue received from member dues, fees for examinations and professional development offerings, sponsorships, fees for experience studies and research, and miscellaneous revenue and investment income.

This revenue sustains the human and financial resources to:

- ➔ Develop and administer credentialing exams
- ➔ Educate members through meetings and communications
- ➔ Conduct and sponsor research projects
- ➔ Promote the actuarial profession around the world
- ➔ Provide a host of other activities based on members' and candidates' needs

The financial results, which exclude section activity, reflect how much the SOA has invested in its strategic initiatives and the profession as a whole.

The accompanying chart shows a comparison of the actual 2015 results, the board-approved 2016 budget and the actual 2016 results.

Total revenues in 2015 and 2016 were \$50.7 million and \$52.7 million, respectively. The SOA 2016 financial results showed a management-basis increase in net assets of \$1,497,000.

Membership equity is measured against the following year's expenses, standing at 79 percent at the end of 2015. The current membership equity position of \$43.0 million is 76 percent of the SOA Board-approved 2017 budget. The target range of membership equity established by the board is 50 to 100 percent.

Under the board's leadership, the strength of the SOA's financial position will move strategic ideas forward and enhance our focus on the future of the profession.

FINANCIALS

Revenues	(in 1,000s)
2015 Actual	\$50,656
2016 Budget	\$49,710
2016 Actual	\$52,745
2016 Revenue Details	(in 1,000s)
Examinations	\$29,680
Dues	\$12,899
Professional Development	\$7,016
Other	\$3,150
Total	\$52,745
Change in Net Assets	(in 1,000s)
2015 Actual	<\$149>
2016 Budget	<\$1,795>
2016 Actual	\$1,497
Membership Equity	(in 1,000s)
2015 Actual	\$41,523
2016 Budget	\$39,728
2016 Actual	\$43,020

Streamlining Decision Processes

As reported last year, the Society of Actuaries (SOA) has begun streamlining its governance structure to make it more efficient for all stakeholders. In 2015, the SOA Board voted to reduce its size, standardize the length of board members' terms, and evaluate board committee assignments to determine whether some tasks could be done by non-board members. All changes are to be phased in over five years.

Work done in 2016 has advanced these objectives. Members will see changes most readily in two areas:

The structure and composition of specific board and other standing committees



The requirements for Fellows' approval of amendments to the SOA Bylaws



REDISTRIBUTING COMMITMENTS

In 2016, the Leadership Development Committee (LDC) reviewed the SOA Board committee governance structure. In addition to evaluating the various committees' effectiveness, the LDC needed to look at how a smaller board (which will shrink to 18 members by 2018) would be able to cover committee assignments without overburdening the members. At the time of the evaluation, SOA Board members were assigned to 104 positions, which worked out to approximately four per member. If all of these positions remained the same, each member would have six assignments by 2018.

The new SOA Board committee structures for 2016–2017 reduced the number of assignments to two or three per board member. This should help members focus on each assignment while allowing time for family, career and other important aspects of their lives. Easing the time commitments for assigned activities may have the added advantage of making board service more attractive to a larger percentage of SOA members.

The SOA recognizes that it is often best to make big changes in small increments. Further revisions to SOA Board committees may be forthcoming if the current changes prove effective. Addressing board members' assignments is only one part of the bigger effort to improve the SOA's overall governance. In revising the composition of committees, the LDC endeavored to be consistent—in the number of members, which board members would be included, and what their roles would be—based on each group's primary function and category (standing, strategic, task force and other). The revisions are also aligned with work that is being considered as part of the 2017–2021 strategic plan.

GOVERNANCE

SEEKING APPROVAL

Another opportunity for streamlining was identified in the process of amending the SOA Bylaws. Traditionally, votes for amendments affecting the substantive rights of members were cast by proxy and later voted on at a special meeting of the Fellows. An amendment had to be voted on by at least 25 percent of the Fellows and approved by at least two-thirds of those voting. Both the artificial construct of the proxy vote and a concern over lower participation rates for mundane amendments prompted the SOA Board's recommendation to amend the voting procedures.

In 2016, the board approved a new process that eliminates the need for proxy voting and a special meeting of the Fellows, and submits amendments directly to members for electronic or mail-in voting. To be adopted, an amendment must be approved by either two-thirds of the Fellows voting or 10 percent of all Fellows, whichever is greater. This new process modernizes procedures by allowing Fellows to adopt amendments directly but still retains strong Fellow approval requirements.

As the SOA looks toward the future with its 2017–2021 strategic plan, it will continue to evaluate and act on opportunities for improvement within its governance structure.

BOARD MEMBER PARTICIPATION IN 2016–2017 COMMITTEES

**Standing committees
(Admissions, Audit & Risk,
Finance, Governance &
Policy, Leadership Team)**

**Five SOA Board
members each**

**Strategic committees
(Issues Advisory Council,
Cultivate Opportunities
Team, International)**

**Five SOA Board
members each**



GOVERNANCE

2015–2016 Board of Directors



Craig W. Reynolds
FSA, MAAA

PRESIDENT

Craig W. Reynolds, FSA, MAAA

PRESIDENT-ELECT

Jeremy J. Brown, FSA, MAAA



Jim Toole
FSA, CERA, MAAA

VICE PRESIDENTS

Joan C. Barrett, FSA, MAAA
Gaetano Geretto, FSA, CERA, FCIA
Susan E. Pantely, FSA, MAAA
Susan R. Sames, FSA, MAAA
Jim Toole, FSA, CERA, MAAA
Teresa Russ Winer, FSA, MAAA



Jeremy J. Brown
FSA, MAAA



Teresa Russ Winer
FSA, MAAA

SECRETARY/TREASURER

Susan E. Pantely, FSA, MAAA



Joan C. Barrett
FSA, MAAA

PAST PRESIDENTS

Errol Cramer, FSA, MAAA
Mark J. Freedman, FSA, MAAA



Errol Cramer
FSA, MAAA



Gaetano Geretto
FSA, CERA, FCIA



Susan E. Pantely
FSA, MAAA



Susan R. Sames
FSA, MAAA



Mark J. Freedman
FSA, MAAA

GOVERNANCE

Elected Board Members



Rowen B. Bell
FSA, MAAA



August C. Chow
FSA, CERA, FCIA



Karen J. DeToro
FSA, MAAA



Sara Wiese
Goldberg
FSA, MAAA



Roy Goldman
FSA, CERA, MAAA



Paula M. Hodges
FSA, MAAA



Olga T. Jacobs
FSA, MAAA



Ronald L. Klein
FSA, MAAA



Jennifer L. McGinnis
FSA, CERA, MAAA



Andrew D. Rallis
FSA, MAAA



Marcus A.
Robertson
FSA, FCIA



John W. Robinson
FSA, FCA, MAAA



David K. Sandberg
FSA, CERA, MAAA



William M. Sayre
FSA, MAAA



James E. Trimble
FSA, CERA, MAAA



Genghui Wu
FSA, FCIA, MAAA