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Actuary

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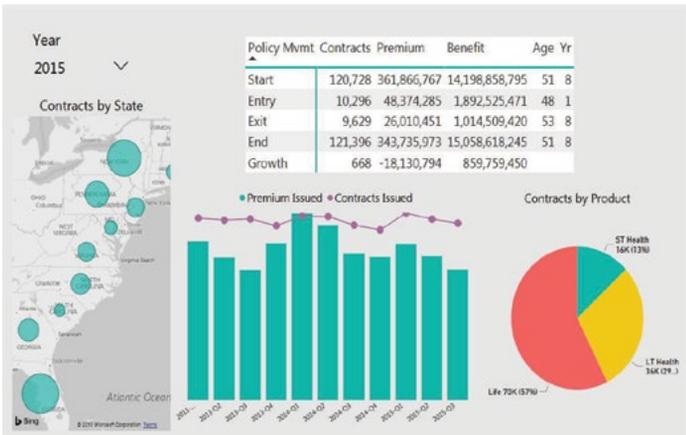


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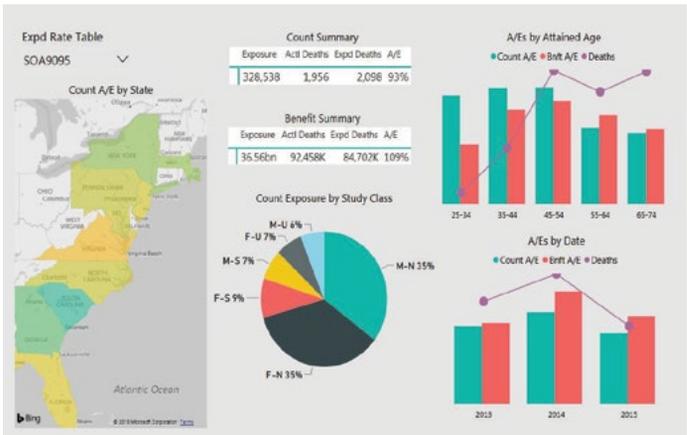
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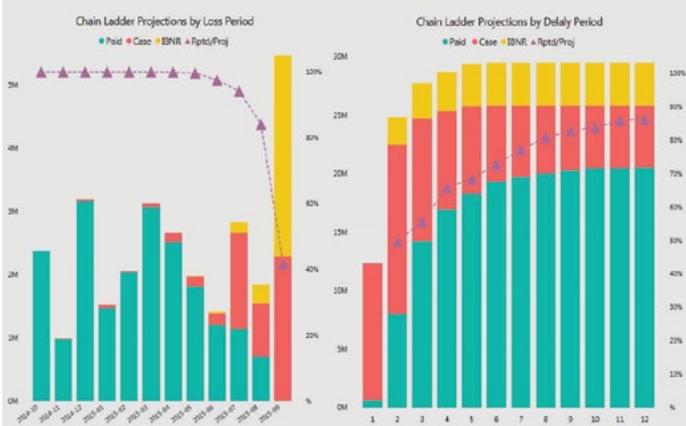
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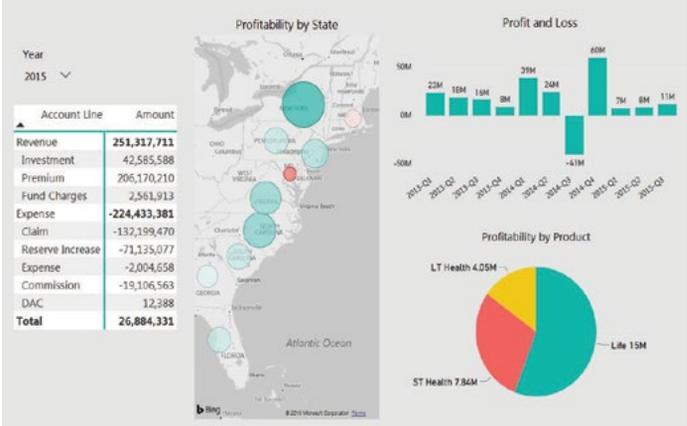
Mortality



P&C Projections



Profitability



Fostering Growth of Actuaries Around the World



PHOTO: HYON SMITH

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Did you know the Society of Actuaries (SOA) represents nearly half of all actuaries around the world?

Our membership has steadily grown, especially outside of North America. Our work as actuaries is focused on the world around us—and it is encouraging to see our membership span the globe. Our efforts on behalf of the profession mean we have multiple opportunities to collaborate with other actuarial organizations to strengthen and advance the profession.

Globally, we and other actuarial associations face similar challenges and opportunities. It is vital to keep a perspective on how companies and industries approach and manage risk in local and world markets. The SOA is a full member of the International Actuarial Association (IAA), and we collectively share best practices through participation in global committees and research.

In China and Greater Asia, we are devoting resources to support regional members, candidates and stakeholders with an array of events and projects tailored to local practice and business environments. We work closely with local actuarial associations in eight countries, where we visit universities, promote relevant research, and maintain close relationships with employers and regulators.

This May, we held our third China Annual Symposium in Beijing, and our eighth Asia-Pacific Annual Symposium in Seoul, South Korea, which broke previous attendance records. In September, I will represent the SOA at the Asian Actuarial Conference in Hong Kong.

We continue to develop and update research in Asia Pacific. For example, we've partnered with LIMRA on a series of reports focused on retirement research in localized markets. Recently, as another example of the tailored research and resources we provide, we completed several research studies focused on the Asia Pacific markets.

What about Latin America? The SOA's focus is on Argentina, Brazil, Columbia and Chile, where the actuarial profession is developing. Through our Latin America Committee (LAC), we have been reaching out to local insurance associations, universities, regulators and employers. Our LAC's multiyear plan aims to:

- » Grow awareness of the actuarial profession.
- » Enhance the reputation of actuaries in the region.
- » Help grow the skills of actuaries.

The SOA continues to identify and address opportunities and challenges in global markets. I encourage you to learn more about these developments, and work with the SOA, and its partner organizations and representatives around the world, in building our great profession and enhancing our relevance in this ever-changing world. ■

THE Actuary

Wins Publishing Awards

The Society of Actuaries (SOA) is pleased to announce *The Actuary* recently received three 2018 EXCEL Awards from Association Media & Publishing.

The EXCEL Awards are the largest and most prestigious award program that exclusively recognizes excellence in nonprofit association media, publishing, marketing and communications. Entries were submitted by, or on behalf of, any 501(c) nonprofit organization that published a project between Jan. 1 and Dec. 31, 2017.

The Actuary was recognized for excellence in three categories:

- » Silver Award for General Excellence
- » Bronze Award for Single Topic Issue (August/September 2017 Retirement Issue)
- » Bronze Award for Digital Website (Magazine)

Additionally, *The Actuary* received a 2018 Hermes Creative Award for content partnership. This award recognizes the SOA publication staff's partnership with GLC, a marketing communications agency, to redesign the magazine and publish it in print and online.

Visit our award-winning website at TheActuaryMagazine.org for more information and to check out the issue archives and web-exclusive series.





Exploring Differences

BY OLGA T. JACOBS

We must be courageous and stand up for diversity and inclusion, even if—and especially if—you are the only voice.

DIVERSITY AND INCLUSION ARE NOT BUZZWORDS. THEY ARE CALLS TO ACTION—action to build a foundation in our workplace from which we can create the best solutions to the complex business and societal problems that actuaries are tasked to solve. Science—yes, science—shows that building teams of individuals who are diverse—and accepted

for their diversity—is how you build the better mousetrap.

Diversity is more than gender, skin color and sexual orientation. Being diverse is in how we think, act and process information to come to our conclusions. As a white, straight woman, I may think and act differently than someone who isn't a mirror image of me. But

it's more than our gender, sexual orientation and the color of our skin that make us think differently. We also think differently due to whether we were raised in urban or rural settings, lived on the East Coast or West Coast, went to private or public school, played hockey or played the piano, vacationed at Cape Cod every year or never took a family

vacation, or whether we can trace our American roots back to the Mayflower or just last year.

How do we get there? With curiosity, compassion and courage. As humans, we tend to gravitate to those who are like us ... look like us, grew up in similar environments and had similar life experiences. But is that how we grow? I think we need to be curious about those who do not look like us, grew up differently and had different experiences, rather than quickly dismiss these individuals because we don't see or feel an immediate connection. We need

to show compassion and respect for our differences.

At some point in our lives, we have all felt different. My earliest memory of being treated differently due to gender happened in the second grade. The principal only selected boys to help with room set-ups. I was excluded simply because I was a girl. Being raised by a single mom whose fourth language was English gave me far too many painful moments to witness gender and ethnic discrimination. And, oh, if I only had a nickel for every time someone asked me (even during job interviews): "What are you? What kind

of name is Olga? Where are you from? Do you know you have an accent?"

We must be courageous and stand up for diversity and inclusion, even if—and especially if—you are the only voice. Demand that those who are different are not treated differently. As Jimmy Carter said, "If you fear making anyone mad, then you will ultimately probe for the lowest common denominator of human achievement." The path will make some mad; the path is not short. But with curiosity, compassion and courage, we will achieve.

I hope you enjoy this issue of *The Actuary*. ■



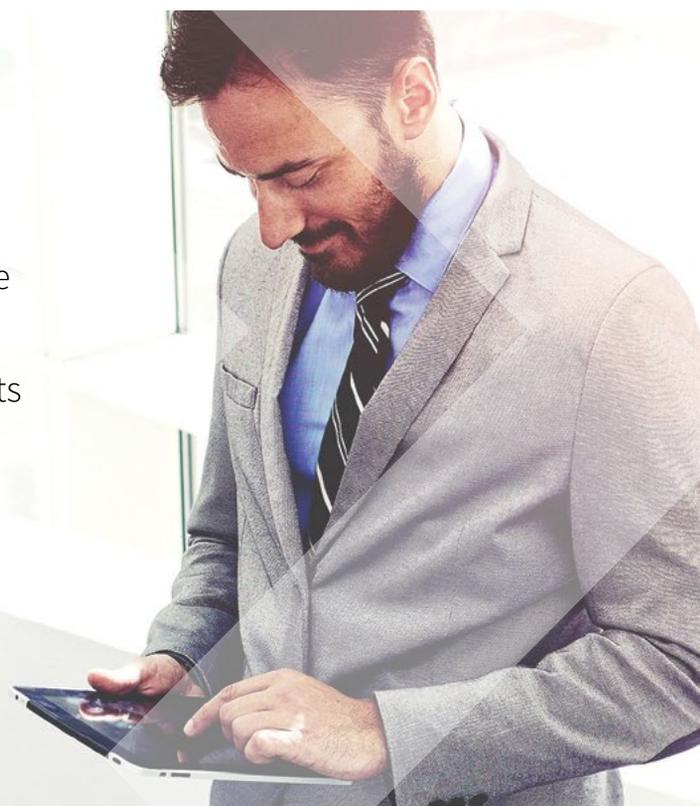
ABOUT THE WRITER

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SOCIETY OF
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International Section in the Spotlight

The International Section strives to connect actuaries around the world. Its main purpose is to encourage and facilitate professional development of its members who work in various lines of business such as international insurance, pensions and social security programs. While we mainly focus on content outside of North America, we welcome all members, even those who do not practice in the global space but are simply interested in learning. Like other Society of Actuaries (SOA) sections, we support member education and information exchange through various platforms such as meetings, seminars, newsletters and research studies.

The International Section's main projects and initiatives include our Ambassador Program, Member Social Networking, and providing worldly content and speakers at the SOA Annual Meeting & Exhibit.

The Ambassador Program began in 1993 to improve SOA objectives outside of North America. The program allowed the SOA to identify and develop international initiatives to help satisfy the professional needs of our peers working abroad, particularly in regions that lacked actuarial expertise. Several regional coordinators who act as liaisons between country ambassadors and the International Section support the Ambassador Program. Today, the Ambassador Program extends to more than 30 countries on various continents, including South America, Asia and Africa. The program helps grow our profession in underdeveloped areas, functions as a valuable resource for our global actuaries and links the SOA to other national actuarial organizations.

In the early years of the profession, actuaries working abroad were not as common compared to present day. The International Section originally was formed to help create a community for our "lonely" peers across the pond. The section served as a platform for actuaries to connect and network with fellow colleagues around the world in similar work arrangements. While the purpose of the International Section evolved with increased globalization, we still greatly value the importance of human connection. This year, the International Section will be



hosting a series of networking events around the world to promote colleague connections. The section has already hosted two successful events with the Entrepreneurial and Innovation Section in New York City. We hope to continue expanding our networking activities for our members in other cities in North America, Europe and Asia, because (let's be honest with ourselves) making friends as adults is hard without a little push.

In addition, the International Section proudly produces a wide array of global content in various mediums such as our newsletters, webinars and meetings; be sure to check our website for a comprehensive library of content. Some examples of topics recently covered in our newsletter include "Actuarial Development in Bulgaria," "The Nascent Actuarial Community of Sri Lanka" and "The CIMA Market: Insurance in French Speaking Sub-Saharan Africa: Market Overview."

We look forward to seeing all of you at our next networking event. Join the International Section if you haven't done so already! Membership allows you to stay informed with global actuarial content and grants you exclusive access to member-only competitions and networking opportunities. Membership is only \$25—that's less than the cost of two cocktails in New York City!

ABOUT THE WRITER

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The SOA Partners With Organizations Around the World for Actuarial Excellence

The Society of Actuaries (SOA) Latin America Committee (LAC), made up of SOA volunteer actuaries, is working with actuarial programs across Latin America to promote the actuarial profession and foster closer relationships through joint activities and projects of mutual interest. The LAC's main objectives are to:

- » Increase awareness of the SOA in Latin America.
- » Collaborate to improve the skills of actuaries and the actuarial profession.
- » Enhance the reputation and visibility of the profession.
- » Broaden the influence and effectiveness of actuaries in the region.

The LAC seeks to reach the actuarial community in the region, including universities, professional organizations, employers, regulators and actuarial associations. The committee will collaborate with local associations to enhance the SOA's presence in Latin America and strengthen its credibility. Over the next two years, the LAC will:

- » Deepen understanding of local demand and barriers to pursuing SOA exams and credentials.
- » Identify relevant continuing education events; leverage the SOA as a sponsor and provide SOA speakers and subject-matter experts.
- » Provide research, such as updating regional mortality tables, establish joint longevity research and initiate other relevant projects.
- » Keep ongoing communications through publications and surveys.

In Argentina, the LAC and the University of Buenos Aires (UBA) have partnered to continue the UBA actuarial curriculum excellence. The Actuarial Sciences program started in 1927 at UBA at the *Facultad de Ciencias Económicas*, and it is officially recognized by the International Actuarial Association (IAA) as fulfilling its educational actuarial syllabus.

The LAC is also currently serving as a conduit between the UBA and various universities in Colombia, Brazil and Chile to mutually collaborate in updating their respective curricula and adjusting them to the best international practices of the actuarial profession.

In October 2017, the SOA LAC visited the *Universidad Nacional* and the *Universidad de Los Andes* in Colombia.



It will travel to Brazil in 2018, where it will visit several Brazilian universities, including the *Universidad Federal de Río de Janeiro*. Following its visit to Brazil, the SOA will travel to Chile, where the LAC has been in contact with the *Universidad Católica*.

These are very exciting times for the actuarial profession in Latin America, and the LAC is proud to have the opportunity to work with the UBA and the SOA to develop actuarial academic excellence throughout Latin America.

In addition to its efforts in Latin America, the SOA has two other regional committees that address issues in other areas of the world: the China Committee and the Greater Asia Committee. These committees support members, candidates and other stakeholders with recommended research targets, professional development events, and employer and association outreach.

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Disparities in Health

Why equitable care may lead to lower cost

BY LEANNE METCALFE AND SARA C. TEPPEMA



In 2017, tennis player Serena Williams won the Australian Open during the early stages of pregnancy and then gave birth to her first child later that year. The day after the cesarean birth, Williams experienced shortness of breath and recognized this as a symptom of pulmonary embolism (she has a history of embolisms). After a period of time spent trying to convince clinical staff that she needed immediate care, and a series of diagnostic tests, physicians eventually came to the same conclusion she had and gave her the necessary treatment for pulmonary embolism. However, Williams implied in a recent interview¹ that she may have received necessary care more quickly if her claims had been taken seriously from the beginning. Even Williams, arguably one of the most powerful athletes to ever compete in any sport, struggled to make herself heard by medical practitioners, highlighting the fact that African-American women face significant disparities in the health care they receive during pregnancy and the postpartum period.

African-American women are three to four times more likely than white women to die from pregnancy-related causes.² This phenomenon is consistent across income levels and ages. In addition, African-American infants in the United States are more than twice as likely to die as white infants, a wider disparity than in 1850 during the slavery era (when the United States began keeping records on infant mortality by race).³

In fact, disparities in health care—health differences that are closely linked with social, economic or environmental disadvantage⁴—exist based on race, gender, income, sexual orientation and spoken language, and exist across every medical condition and type of health care provider throughout the United States. Eliminating or even reducing such disparities in care would result in better health for all populations and would significantly reduce the cost burden of health care. Actuaries must recognize and understand health

disparities and work to address the additional cost burden that disparities create.

Health Equity

According to the nonprofit health philanthropy Robert Wood Johnson Foundation, health equity means that everyone has a fair and just opportunity to be as healthy as possible.⁵ This requires removing obstacles to health such as poverty and discrimination; and removing their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.

For the purposes of measurement, health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups.

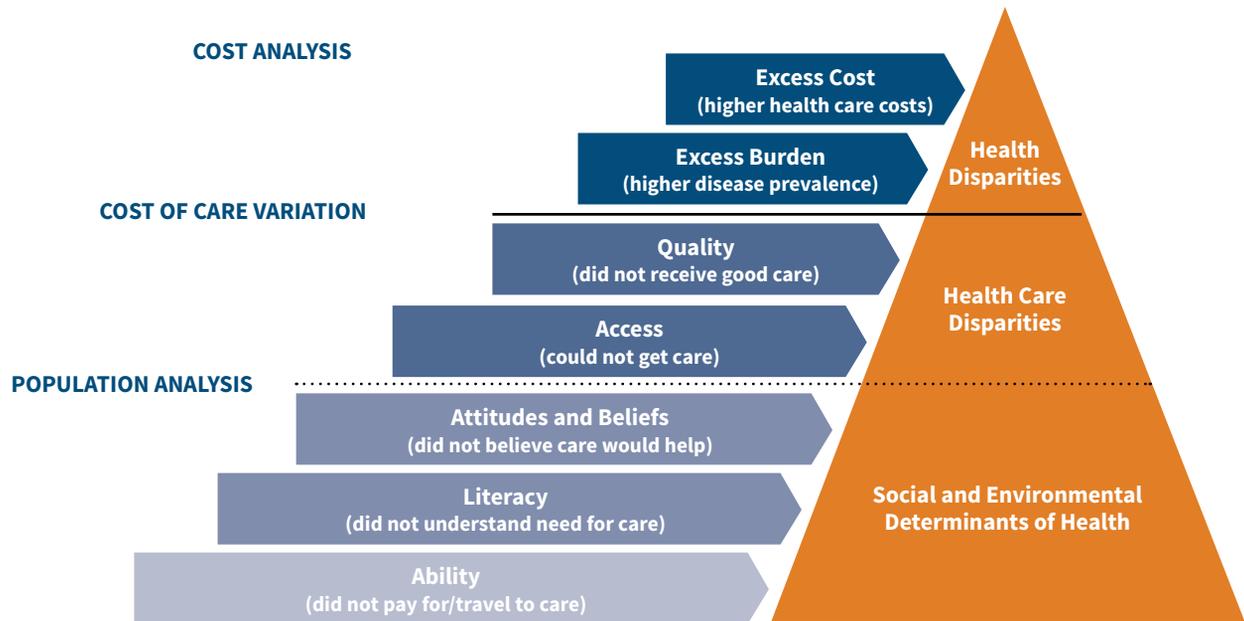
Elimination of disparities would help to give all people the same opportunity for good health and enable longer and improved lives. It would also help reduce the cost burden of health care in the

DEFINING QUALITY AND ACCESS TO HEALTH CARE

The Institute of Medicine defines health care quality and access as follows:

- » Quality is the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.
- » Access to health care means having the timely use of personal health services to achieve the best health outcomes. Attaining good access to care requires three discrete steps:
 - 1 | Gaining entry into the health care system
 - 2 | Getting access to sites of care where patients can receive needed services
 - 3 | Finding providers who meet the needs of individual patients and with whom patients can develop a relationship based on mutual communication and trust

Figure 1 Causes of Excess Costs Due to Health Disparities



Source: Health Care Service Corporation

United States: Nationally, health disparities totaled an estimated \$102 billion in direct medical costs in 2016 and will cost an estimated \$1.3 trillion from 2017 to 2022. Consumers bear an additional \$28 billion in out-of-pocket costs each year because of health disparities.^{6,7,8}

A Framework to Study Health Disparities

In order to understand the impact of health disparities on its members, the Clinical Research and Strategy team at customer-owned health insurer Health Care Service Corporation⁹ (HCSC) studied the excess costs attributed to negative outcomes for different ethnic, gender, language proficiency, urbanicity and income cohorts among its members. Specifically, we looked at the health care outcomes in general as well as specific conditions.

Figure 1 outlines three types of disparity drivers: disparities in health, disparities in health *care*, and social and environmental determinants of health.

Disparities in Health: Variations in Disease Prevalence and Cost

The first type of health disparity driver is observed from excess costs and excess disease prevalence across various cohorts and compared to overall population benchmarks. For example, in the national population, African-Americans under age 35 are five times more likely than the average

American to die from asthma. Transgender or gender nonbinary people have significantly higher rates of mental health care utilization and higher emergency department utilization than their cis-gender counterparts.¹⁰ Transgender people are 10 times more likely to attempt suicide than the average population.

Within the HCSC population, several conditions drove excess medical costs due to disparities. Musculoskeletal conditions such as lower back pain resulted in an annual \$1.2 billion of costs that could be avoided because of health disparities. Respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD) generated about \$600 million of excess costs due to disparities. Other conditions with high excess costs include myeloproliferative diseases such as lymphoma and leukemia, liver diseases, and circulatory diseases such as hypertension and coronary artery disease (CAD).

Disparities in Health Care: Variations in Quality and Access

The second type of driver is health *care* disparities, which can be measured by variations in the delivery of health care associated with variables that can affect quality of, and access to, health care services.

Many studies document the disparities in health care quality and access for African-Americans.¹¹ In comparison

with their white American counterparts, and even accounting for factors such as insurance status, income, age, co-morbid conditions and symptom expression, African-Americans:

- » Are less likely to receive appropriate cardiac medication.
- » Are less likely to undergo coronary artery bypass surgery.
- » Are more likely to be late-stage diagnosed for breast cancer.
- » Are less likely to receive hemodialysis and kidney transplantation.
- » Are more likely to receive a lower quality of basic clinical services such as intensive care.
- » Have significantly higher rates of life-threatening pregnancy and childbirth complications.

The HCSC data analysis highlights three major interrelated factors that influence quality and access to care.

- 1 | **Income.** In general, income has a stronger relationship with total health costs than ethnicity. This fact may be especially important when thinking about benefit design and member cost sharing.

HOW THE HCSC DATA SET WAS DERIVED

The Health Care Service Corporation (HCSC) data set used in this article was derived from the following:

- » Using claims data from the highest cost 10 major diagnostic categories (MDCs) for members aged 18–64, “excess” costs were quantified for each cohort (by ethnicity), within each diagnostic category.
- » Excess costs were defined as average per-capita costs that exceeded either the median or minimum per-capita spend by cohort for the same MDC.
- » Results were segmented by line of business (LOB) and year across all member-residing states.
- » Analysis used data from the Latino Strategy Study, which was received from the Enterprise Analytics team in January 2017.

- 2 | **Urbanicity.** Urban residence correlates with emergency department (ED) use for nonemergent medical needs, possibly signaling low access to nonfacility outpatient services. Rural residence correlates with lower use of both ED and outpatient services. High crime and violence areas also reduce access to quality health care as well as increase stress levels of residents, which has been associated with negative health outcomes.
- 3 | **English language proficiency.** English language proficiency can have a significant effect on how early disease is detected and how effectively it is managed over time.

Social Determinants of Health

The concept of social determinants of health (SDOH) has received considerable attention from the public health and health care communities in recent years. Social determinants, such as a person’s environment or personal characteristics, make up the complex set of home and community factors that shapes every person’s life. They are sometimes referred to as the upstream drivers of health since they may seem very indirectly related to health and can occur many years before a health event or outcome.¹²

- » Ethnicity for each claimant was imputed from Acxiom data; further analysis of primary source race, ethnicity and language data should be prioritized to verify findings—particularly for group members.
- » Diseases not included in each cohort’s highest costing 10 MDCs are not included in this analysis; thus, the cost of disparities may be understated.
- » Calculated paid medical cost per claimant (paid cost per claimant per MDC, per ethnic cohort, by LOB and year).
- » Determined cohort with median and minimum paid cost per claimant for each MDC.
- » Calculated the average excess cost per claimant per cohort, per MDC, against two benchmarks:
 - » Cohort with median paid cost per claim by MDC
 - » Cohort with minimum paid cost per claim by MDC
- » Multiplied average of excess cost per claimant for MDC by the number of claimants per cohort for MDC.
- » Summarized total cost of disparities by condition, cohort, LOB and state.

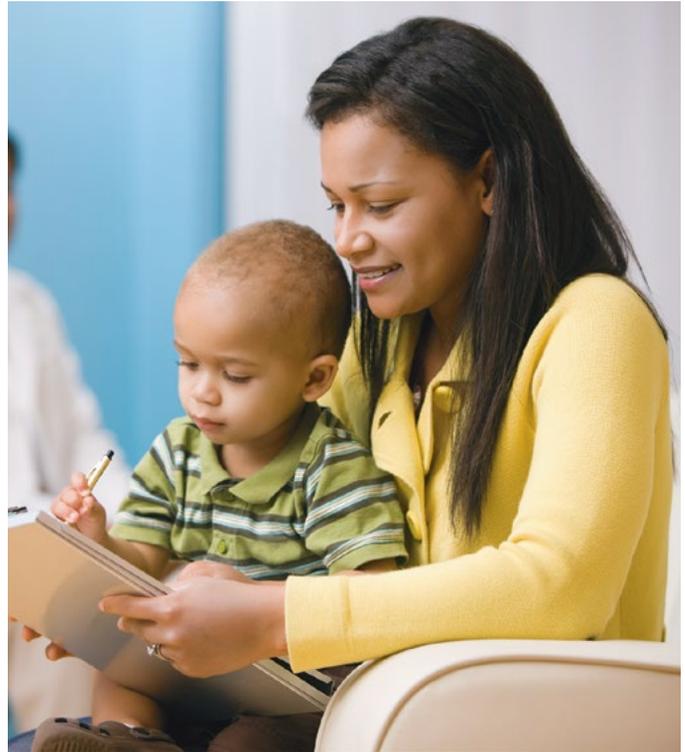
In the framework presented, SDOH is the underlying foundation, because if these upstream causes of poor health could be fully addressed, other disparities would be reduced significantly. For example, programs in Portland, Chicago and Minneapolis provide housing and other nonmedical social services to vulnerable populations and have reduced the cost of health care by up to 55 percent over several years.¹³ In this example, addressing the social determinant of stable housing can improve health and reduce health care costs. Figure 2 illustrates the many social determinants of health.

Based on publicly available data and HCSC data by ZIP code, the impact of several social and environmental determinants of health were analyzed by the HCSC Enterprise Analytics team to uncover statistically significant drivers of several high-cost health outcomes for HCSC’s employer group members. (See Figure 3.)

Not surprisingly, higher incidence of asthma is associated with PM2.5, a common measure of atmospheric particulate matter, or air quality. But asthma is also positively associated with the rate of violent crime. Such associations may also indicate a relationship between stress and asthma.

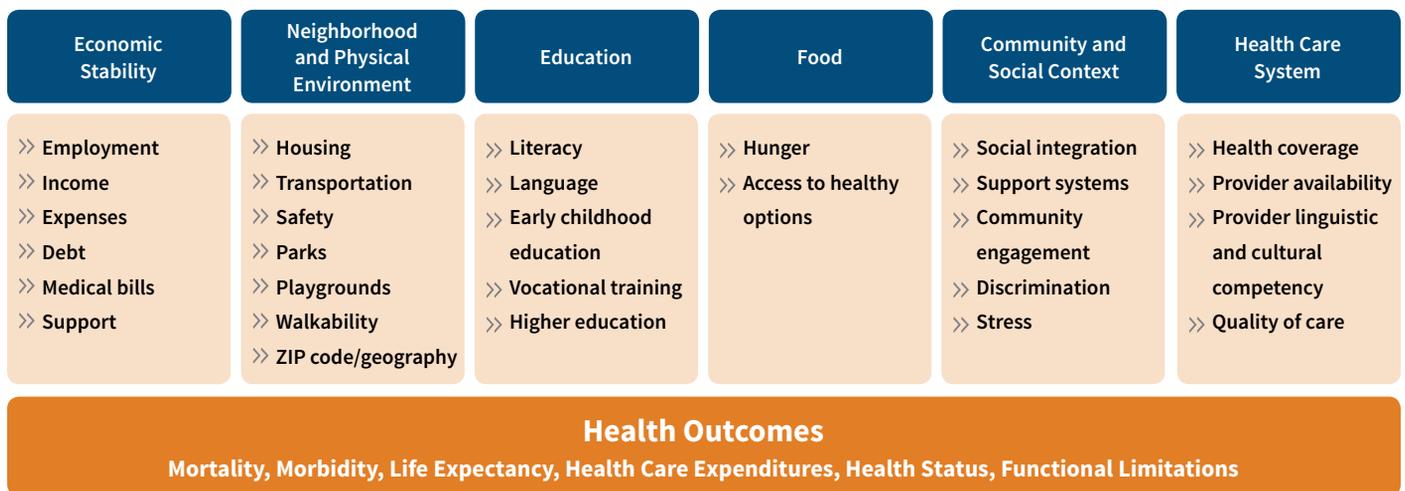
As might also be expected, diabetes incidence is associated with the obesity rate, food insecurity and access to exercise opportunity. However, it is also associated with lack of language proficiency, suggesting that diabetics may not be able to understand treatment options as described by clinicians who predominantly speak English.

Coronary artery disease (CAD) incidence is also associated with PM2.5, exercise opportunity and violent crime,



but perhaps more surprisingly it is also associated with a lack of access to dentists. A recent article (see the Public Health web-exclusive series of *The Actuary*¹⁴) highlights the importance of dental care; poor dental care can lead to several serious medical conditions such as CAD, endocarditis and exacerbation of other diseases.

Figure 2 Social Determinants of Health



Source: Artiga, Samantha, and Elizabeth Hinton. 2018. “Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity.” The Henry J. Kaiser Family Foundation. May 10. <https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>. Accessed July 20, 2018.

Figure 3 Statistically Significant Determinants of Health

All indicators shown are statistically significant at P <.01. Orange = negative association, Blue = positive association

Social and Environmental Determinants	Health Care Utilization	
<ul style="list-style-type: none"> % Violent crime % Children in poverty Overall neighborhood segregation Average daily PM2.5 (inhalable particulate matter) 	<ul style="list-style-type: none"> Outpatient medical visits Behavioral outpatient visits 	Asthma
<ul style="list-style-type: none"> Segregation with high percentage Latino % Food insecure % Asian with limited English language proficiency % Obese % Latino with limited English language proficiency % Access to exercise opportunities 	<ul style="list-style-type: none"> Behavioral outpatient visits Outpatient medical visits 	Diabetes
<ul style="list-style-type: none"> % Violent crime % Food insecure % Obese % Access to exercise opportunities Rate of PCPs per 1,000 people % African-American Segregation with high percentage Native American % of families with severe housing problems Average daily PM2.5 (inhalable particulate matter) 	<ul style="list-style-type: none"> Behavioral outpatient visits Outpatient medical visits 	Chronic Obstructive Pulmonary Disease
<ul style="list-style-type: none"> % Asian with limited English language proficiency % Obese % Food insecure % Native American % African-American 	<ul style="list-style-type: none"> Behavioral outpatient visits Outpatient medical visits 	End Stage Renal Disease
<ul style="list-style-type: none"> % Obese % Violent crime Segregation with high percentage Latino Average daily PM2.5 (inhalable particulate matter) 	<ul style="list-style-type: none"> Behavioral outpatient visits Outpatient medical visits 	Chronic Heart Failure
<ul style="list-style-type: none"> % Latino with limited English language proficiency % Obese % Violent crime % Access to exercise opportunities Average daily PM2.5 (inhalable particulate matter) Segregation with high percentage Native American % Latino Dentist rate 	<ul style="list-style-type: none"> Behavioral outpatient visits Outpatient medical visits 	Coronary Artery Disease

Source: Health Care Service Corporation

Actuaries must play a role in supporting policy changes that address social determinants and eliminate disparities.



The Path Forward

A number of initiatives are successfully addressing disparities for vulnerable populations. Hennepin Health in Minnesota has developed an accountable care organization¹⁵ to address social determinants of health for the local Medicaid population. Through partnerships with behavioral health and housing organizations, it has improved care for members with chronic conditions, reduced utilization of emergency room visits and reduced overall health care costs.¹⁶

Since 2012, the state of Oregon has been working to transform its Medicaid program to encourage greater coordination of care and deliver care through regional coordinated care organizations (CCOs). (Oregon's Medicaid transformation was described in the Public Health web-exclusive series of *The Actuary* earlier this year.¹⁷) Oregon's CCOs were required to develop transformation plans to reduce disparities in care. The state also established health equity coalitions, which advise CCOs on cultural and linguistic diversity, and increased its investment in community health workers. These interventions were associated with a reduction over time in a narrowing of the disparity in primary care utilization, an important factor in disease prevention.¹⁸

These examples share a number of policy tools and strategies that are emerging to address the SDOH.¹⁹ Other strategies that programs may use to address disparities and improve a population's health include:

- » Use of health impact assessments to review needed, proposed and existing social policies for their likely impact on health.
- » Application of a "health in all policies" strategy, which introduces improved health for all and the closing of health gaps as goals to be shared across all areas of government.

Actuaries must play a role in supporting policy changes that address social determinants and eliminate disparities. We can address health disparities with these actions:

- » Support the collection of data by our employers, wherever possible, to include variables such as race, ethnicity, housing status, language and nonbinary gender identification. At the very least, merge neighborhood data such as those used in the HCSC study.
- » Incorporate these variables into risk adjustment, pricing, valuation and forecasting work to show their importance.
- » Analyze these variables and demonstrate the cost/benefit of investments in programs that address SDOH.
- » Structure financial incentives for providers that address differences in care access and quality for marginalized members.
- » Get involved with local public health and community organizations to bring an actuarial mindset to public health discussions.

Conclusion

It is financially and socially expedient to address health care inequities. According to the U.S. Census Bureau, in less than 25 years, half of the U.S. population will comprise people of color; we need to be prepared to care for an increasingly diverse population. By understanding health disparities and social determinants of health, we can improve health equity and reduce overall health spend. ■



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BY AMY R. KESSLER



as a Team

A case study of Prudential's pension risk transfer business



Since 2009, I have had the privilege of being a leader in the Pension Risk Transfer (PRT) team at Prudential Financial. In this business, we help pension funds in the United States proactively manage investment and longevity risk, and create retirement security for their members by insuring their pension risk. We also reinsure pension risk for insurers outside of the United States. During nearly a decade of focus and effort, our team has:

- » Attracted, developed and retained the finest talent.
- » Studied the real unmet needs of our prospective clients.
- » Delivered significant innovation that transformed our industry.
- » Achieved top sales and honors in our chosen markets.
- » Managed risk effectively.
- » Delivered significant profitable growth.
- » Set our sights on another decade of innovation and success.

This article describes who we are, what we have accomplished and how we have incorporated diversity and inclusion into the very fabric of our business. After reading this article, you will be armed with tools and best practices you can apply and nurture among teams in your business, whatever business that may be. With specific hiring practices, training, team building, goal setting, accountability and feedback, a diverse and inclusive team can achieve differentiated results in innovation, growth and profitability.

The PRT Team at Prudential Financial

We are a pension leader and have built our flagship PRT business on one of the world's strongest insurance and asset management platforms, bringing together the core capabilities required to succeed. Together with our colleagues across Prudential, we have provided integrated pension plan services since 1928 and have grown to:

- » The second-largest active institutional manager of domestic fixed income¹
- » The third-largest institutional money manager for defined benefit plans,² managing assets for 23 of the 25 largest corporate funds³
- » The largest manager of U.S. pension buy-outs,⁴ having completed nearly \$50 billion in transactions for many household names
- » The leading reinsurer of pension longevity risk, with \$50 billion reinsured since 2011⁵



Many in our industry know what we have done, but very few know how we did it. In fact, the single most frequent question I hear from clients, competitors and colleagues is wondering exactly how we achieved our results.

We did all the typical things required to succeed in business: long-range strategic planning, plotting the disruption of our own market, finding the right people with the right mix of skills, persevering through many setbacks, thoughtfully approaching each important opportunity and building a resource base aimed at our breakout goals. These steps alone explain some of our success, but not all of it. There is an important intangible that our team has carefully cultivated since long before it was fashionable. Our secret is diversity and inclusion. Our success proves that what is right for our people is nothing short of fantastic for the bottom line.

A Clear Business and Talent Strategy

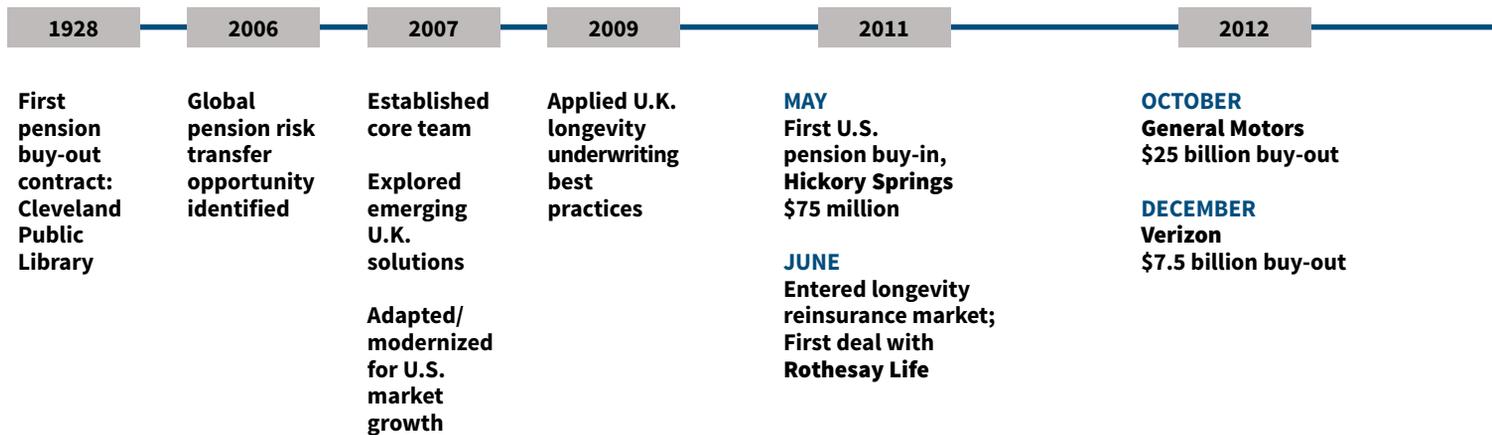
The timeline in Figure 1 shows the steps we have taken to build the PRT business. We’ve insured/reinsured nearly one-third of global pension risk activity since 2011.⁶ Though Prudential completed its first pension buy-out in 1928 for the Cleveland Public Library, the U.S. market was very small through the beginning of this century, producing less than \$3 billion per year in volume. In 2006, as the Pension Protection Act was making its way through Congress, more stringent funding rules combined with mark-to-market accounting on the balance sheet promised to make pension de-risking a significant market opportunity. In response, Prudential established a core team in 2007 to explore emerging PRT solutions in the United



Kingdom and adapt and modernize the business for U.S. market growth. However, the financial crisis intervened and decimated pension funds in the United States, bringing the average funded status from 108 percent of liabilities to 74 percent⁷ and diverting the industry’s attention to recovery.

While many U.S. firms reduced their commitment to the market in 2008 and 2009, Prudential’s U.S. team took a contrarian view. We doubled down, believing the two major market disruptions that opened this century (the dot-com bust and the financial crisis) would cause companies to pursue pension de-risking with renewed commitment when they could afford to do so. Since our clients had a significant challenge that needed solving, we focused on the work of building the team and the capabilities that would be needed for the future.

Figure 1 Prudential’s Global Pension Risk Transfer Milestones



Source: Prudential Retirement as of Dec. 31, 2017.

Adapting Best Practices From Across the Pond

In 2009, we adopted the best practices in longevity underwriting that were actively used in the United Kingdom, including the use of postal code modeling to establish the socioeconomic group and life expectancy of the pensioners. This investment would not have made sense with the market under \$3 billion per year, but it would pay off if we could move the market into a period of aggressive growth. At the same time, we started educating plan sponsors about pension risk and building two new product offerings. The first was a U.S. pension buy-in product, which would allow a pension fund to de-risk without any adverse accounting impact. This effort succeeded in 2011 when our team completed the first U.S. pension buy-in transaction. The second new product offering was international longevity reinsurance, which we pursued because of robust demand from the rapidly growing U.K. market—a market that led the world in pension de-risking. The opportunity to reinsure U.K. risk would allow us to grow profitably and learn as an active participant in the most advanced market in the world. This effort also succeeded in 2011 when we completed our first longevity reinsurance transaction for Rothesay Life in the United Kingdom.

Throughout 2009, 2010 and 2011, we cultivated large U.S. pension buy-out opportunities and prepared our teams for these transactions. In 2012, these efforts succeeded with the \$25.2 billion General Motors transaction and the \$7.5 billion Verizon transaction. The sheer size of these deals caused us to rethink everything about the business—from the form of contract to the in-kind transfer of assets to the manner in which the participants would

be onboarded. We approached these transactions with all members of our multidisciplinary team fully engaged in collaborative problem-solving. The team was respectful and inclusive, giving each member the courage to bring his or her best to the table every day. Each time we ran into a challenge, someone on the team came forward with an idea that often was improved upon as everyone considered and contributed to the discussion. Every member of the team has been responsible for solving major challenges that arose along the way, proving the power of inclusion for innovation in business.

2013 was a quiet year in the market, but a very busy year for us at Prudential. Having launched our domestic PRT and international longevity reinsurance businesses and proven the possibility of aggressive growth, we used this time to plan and build. We added diverse talent in nearly every team to build out our distribution, underwriting, pricing, reserving, modeling, portfolio management, product management, finance, legal, risk, operational, compliance and transactional teams. A key goal in this expansion was to make sure we could succeed in the domestic and international markets simultaneously, while maintaining a sustainable pace to avoid burnout and turnover. This investment in diverse talent paid off in 2014 when we completed the largest and—at the time—most innovative longevity risk transfer in the history of the market, covering \$28 billion of pensioner liabilities for the British Telecom Pension Scheme. In the very same year, we were able to manage several important transactions in the U.S. market, including pension buy-outs for Motorola Solutions and Bristol-Myers Squibb.

2014

JULY
British Telecom
\$28 billion captive
longevity reinsurance

“Deal of the Year”

U.S. BUY-OUTS
Motorola Solutions
Bristol-Myers Squibb

2015

U.S. BUY-OUTS
Philips
Kimberly-Clark
JCPenney

2016

DECEMBER
Named top innovator
by CIO magazine in
Corporate Liability Strategies
for the fourth time

DECEMBER
“Reinsurer of the Year” for
the third consecutive year

U.S. BUY-OUTS
WestRock
United Technologies

2017

Flow reinsurance for small
buy-ins and buy-outs

SEPTEMBER
MMC UK Pension Fund
\$4.3 billion captive longevity
reinsurance

DECEMBER
“Reinsurer of the Year” for
the fourth consecutive year

U.S. BUY-OUTS
The Hartford
International Paper

The success continued in 2015, 2016 and 2017, with many more noteworthy transactions, including Philips, Kimberly-Clark, JCPenney, WestRock, United Technologies and International Paper.

The Competitive Advantage of a Diverse and Inclusive Team

While our financial strength and capital have been fundamental to this record of success, we do compete with similarly situated firms. As such, strong ratings, healthy surplus and significant risk-taking ability matter a great deal, but they are not unique to Prudential in the PRT business. What is unique to Prudential is the quality of our people.

Our team was built to have *deep expertise across multiple disciplines*, including defined benefit (DB) pensions, insurance product management, longevity underwriting, product pricing, portfolio management, collateral management, finance, treasury, law, compliance, risk management, tax, accounting, reserving, operations and technology. Many of our professionals joined our team from other firms or other parts of Prudential, bringing diverse work experiences and backgrounds to the table.

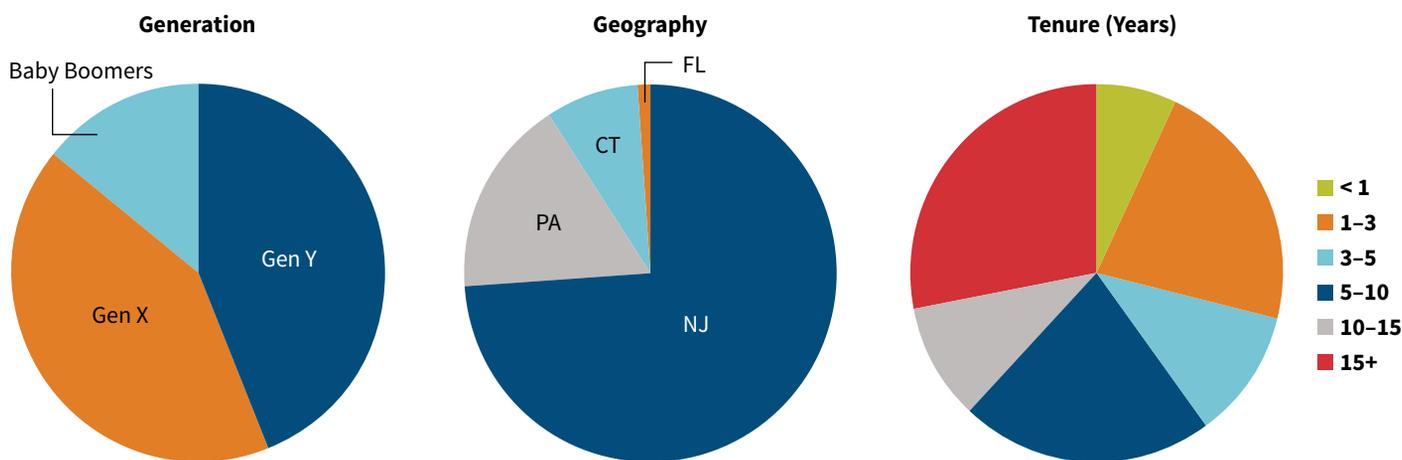
There are many other dimensions of diversity that were carefully cultivated in our team. More than half of our employees are women and, as shown in Figure 2, we have broad representation by generation, geography and tenure. It has also been very important to welcome people of color, members of the LGBTQ community and people from all over the world (as shown in Figure 3). A diverse talent strategy is a great starting point for any business in building toward inclusion and success in innovation.

Many members of our team have spent more than 20 years in the financial services industry and many brought *experience and credibility in the pension market*, which grew considerably as each innovation succeeded and each new transaction was announced.

The ability to transform our industry and sustain our success year after year and transaction after transaction came from the power of the collaboration within this diverse, multidisciplinary team. In almost every transaction, our clients would present new challenges and require customization to tailor a PRT solution to meet their needs. No matter what hurdle or issue arose, our team was consistently able to engage in open and transparent dialogue, sharing observations, concerns and ideas to build on proven structuring skills. To this day, we are still structured to engage as a team, with every discipline represented when planning how to bring forward our strategy, and when something new or innovative is being considered. This collaboration and inclusion has enabled us to find prudent approaches, controls and boundaries for innovation. We have consistently seen that the best way to find problems before they arise is to bring together this powerful and inclusive team and empower everyone to speak up, whether the issue is an anomaly in the data or a new benefit we have not previously covered. Part of our commitment to one another is to voice concerns for the group to resolve. The result has been a track record of successful execution. This inclusive environment can be created in any group of colleagues.

Once on our books, a PRT transaction can last for 50 years or more. For onboarding clients and working with beneficiaries, we have always understood that our

Figure 2 Prudential Pension Risk Transfer Team: Representation by Generation, Geography and Tenure



Source: Prudential Retirement as of March 31, 2017.

Figure 3 Prudential Pension Risk Transfer Team: Countries of Origin

Source: Prudential Retirement as of March 31, 2017.

culture of excellent service would be a source of competitive advantage and sustainable growth. We invested and continue to invest in operations, administration and technology. Moreover, representatives of these areas are active and important members of the transaction teams to ensure that our high standards for execution can be consistently met.

Taken together, the combined efforts of this diverse and inclusive team to innovate, execute and manage risk have driven significant growth in sales and earnings. Our account values have grown at a 25 percent annual rate from \$30 billion at the end of 2011 to \$93 billion at the end of 2016. Moreover, we expect to produce internal rates of return (IRRs) at or above our targets on all new business written, and the business mix is prudently diversified with good underwriting performance on the existing book.⁸

Diversity and Inclusion Fuel Success

The business case for diversity and inclusion has been championed by Prudential's senior leaders and rooted in our core values. Prudential Retirement President Phil Waldeck has said, "Diversity defines how Prudential is successful and how we make an impact externally and on each other." It has allowed us to build a sustainable competitive advantage by creating the necessary conditions for inno-

vation and risk management in an engaging environment that is better for our employees, customers and shareholders. Waldeck has also said, "Bringing our best requires a broad range of thinking, and to have this we need a broad range of backgrounds."

Diversity alone is not enough. To unleash the collaborative power of your people for innovation, risk management or any significant undertaking, you also need inclusion—which is harder to achieve than diversity alone. To realize both requires intentional focus and specific practices in:

- » Recruiting and hiring
- » Training and development
- » Performance management

For many years, we have had strict requirements to post opportunities and have been required by the highest levels of senior management to consider a diverse slate of final candidates for every open role. These practices move the needle because each hiring manager is held accountable and will need to explain a failure to meet expectations at the C-suite level. Leaders also have been supported through the years with excellent training on diversity, including the many dimensions of diversity depicted in Figure 4 on page 26.

This training has been focused on recognizing and overcoming bias, but it goes well beyond that to help teams and leaders understand the business value of diversity of thought. Leaders are taught to ask a number of key questions, all of which can be used in any business.

- » Do they have a preconceived notion of how a project or opportunity should be pursued and how it will end? Do they state their view first, or last after considering input from others?
- » Do they seek the views of a few or of many? Is every member of the team comfortable enough to speak up if they disagree or spot a challenge?
- » Is active engagement, collaboration and problem-solving happening in front of the whole team?
- » What does disagreement on the team look like? Is it respectful? Is everyone listening?
- » Are people thanked for bringing challenges to light?
- » Does the leader offer the opportunity for high-profile projects to the same people time and time again, or is opportunity broadly shared across the team?
- » Does the leader communicate clear standards to all?
- » Does the leader take the time to have one-on-one conversations or meetings to give ongoing feedback and guidance to all employees?

Since leadership is learned, this support is instrumental in helping leaders be thoughtful about improving team climate and performance. Moreover, since a company’s

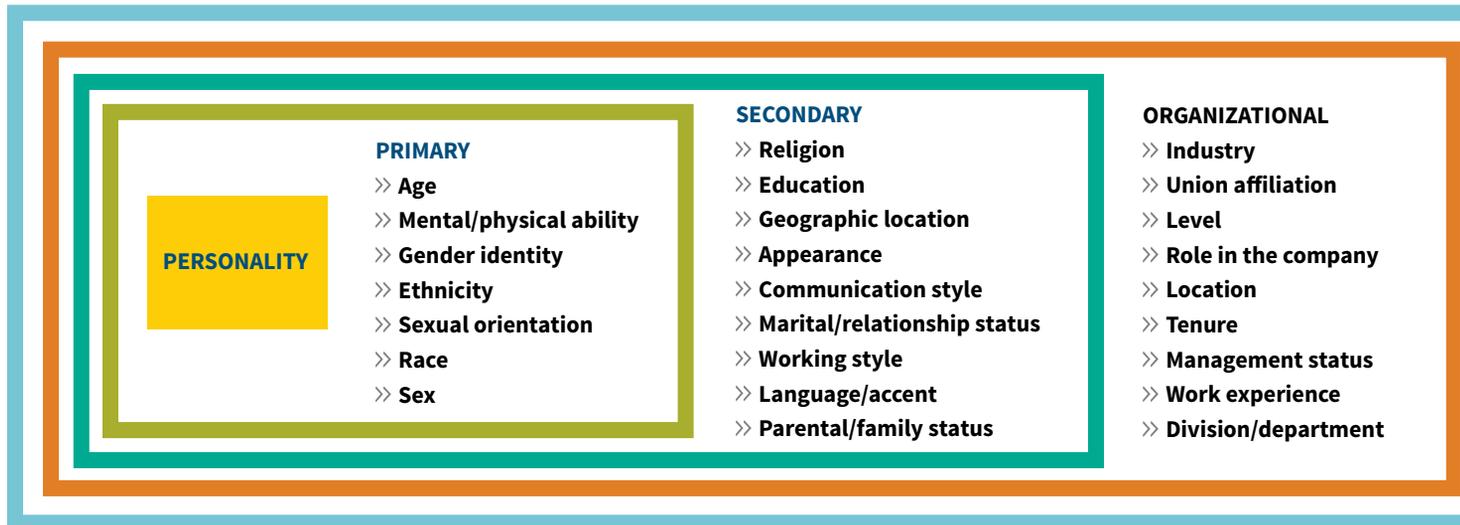
single biggest investment is in its people, cultivating strong leaders who position their team members to consistently deliver their best is simply good business.

Investing in a Diverse and Inclusive Team

In addition to leadership training, one of the most powerful ways we have invested in our diverse talent is by establishing a teaching culture with a robust learning program. Every new hire is welcomed into our team with an in-depth set of courses taught by our business leaders. We cover everything from our products and markets to transaction terms and the financial considerations behind our business. Another SVP and I teach the first course in the program quarterly. This allows all new hires to meet us and become comfortable with the business leaders right away. We never fail to talk about our vision for the team and why diversity and inclusion are fundamental to our success. We also ask our new hires to use their fresh perspectives and experiences to ask questions and voice concerns, and to later be generous with their time and teach others. In addition to the new-hire training program, we have a vibrant “lunch and learn” series and an annual learning day. We also offer leadership training and tuition reimbursement.

Offering training and professional development to all is a fundamental cornerstone of creating a diverse and inclusive team. Where there is a vibrant meritocracy, full of opportunity for development, people bring their best every day. This is the crucial link between diversity and fostering

Figure 4 Dimensions of Diversity



Adapted from: Loden, Marylin, and Judy B. Rosener. 1991. *Workforce America! Managing Employee Diversity as a Vital Resource*. New York: McGraw-Hill. Gardenswartz, Lee, and Anita Rowe. 2003. *Diverse Teams at Work: Capitalizing on the Power of Diversity*. Alexandria, VA: Society for Human Resource Management.

the sustainable competitive advantage, the impact of which is evident on the bottom line.

Finally, performance management and accountability may be the most important part of bringing diversity and inclusion successfully into a business environment. People focus on business objectives that are enumerated in their individual goals, and where there is a direct connection to their performance rating, compensation and opportunity for advancement. Since diversity and inclusion are proven to positively affect business results, each person has a diversity and inclusion objective and is held accountable for fulfilling it. A failure to meet a diversity and inclusion objective must have just as big an impact on a person's performance rating, compensation and opportunity for advancement as missing any other important goal in our business.

The diversity of the team contributes to a sustainable competitive advantage because:

- » We are able to attract top talent from firms that are not inclusive.
- » Diversity of thought and experience is important in effective collaboration, innovation and risk management.
- » Our team reflects the diversity of decision makers in the pension industry as well as our policyholders.
- » Our team brings language skills, cultural agility and an understanding of other countries where we may seek to reinsure risk.

CULTURAL

- » Power and authority views
- » Language
- » Time
- » Being or doing
- » Competition or cooperation
- » Conflict resolution preferences
- » Traditions/observances
- » Personal space
- » Individual or team
- » Flexible or structured

It can be a challenge to integrate so many perspectives. We have addressed this challenge by developing a very clear decision-making framework and specifying who is responsible, accountable, informed and consulted in each matter.

Diversity Is for All of Us

Too often today, the focus on diversity is narrowly defined and its value is underappreciated or unknown. For those just beginning this journey, it may help to start with a focus on building greater diversity in a team by gender and race, but it is important to very quickly add to these dimensions with age, ethnicity, disability, sexual orientation, country of origin, military service, educational training, professional experience and many more attributes. When a team truly embraces diversity across its many dimensions, diversity is for all of us. When fully incorporated in recruiting and hiring practices, training and development, and goal setting and performance management, it can unleash the right climate for inclusion and the intangible that allows the team to attract and retain the best talent, thrive, collaborate, innovate, grow and manage risk. ■

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BY MITCHELL STEPHENSON

The Case for Diversity

How diversity in the workplace can influence the performance
of individuals and companies



*Where
diversity is
supported,
people
thrive.*

—Richard Branson

T

he world is changing. Less than 50 years ago, NASA sent the first man to the moon. Since then, technology has improved and spread rapidly. Take the average car, for example. It has more computing power than NASA's entire system did during the moon launch.¹ Look at your smartphone. It has millions of times more computing power than all of NASA had in 1969.²

We can expect even more drastic changes in the coming decades. Estimates show that by 2040, 75 percent of all vehicles will be driverless.³ NASA has made plans for humans to live on Mars within decades. Artificial intelligence (AI) is already in use today, and its capabilities are growing.

How can we best compete in the future? We must consider that question both as individuals and as companies. There is a clear need for more professionals in the fields of science, technology, engineering and math (STEM). In the last decade, STEM jobs grew six times faster than non-STEM jobs.⁴ If trends continue, by 2040, the United States could see a shortage of 1.1 million STEM workers.⁵

One reason behind this projected shortfall in STEM workers is the lack of diversity. The National Center for Science and Engineering Statistics maintains statistics on the diversity within the U.S. workforce. In its 2017 report, it states: "The representation of certain groups of people in science and engineering (S&E) education and employment differs from their representation in the U.S. population. Women, persons with disabilities and three racial and ethnic groups—blacks, Hispanics, and American Indians or Alaska Natives—are underrepresented in S&E."⁶

The report also includes demographic projections. By 2060, minorities will account for more than half—56 percent—of the U.S. population. This is an increase from 38 percent at the time of the report's publication in 2017. As baby boomers retire, more professionals will leave STEM employment. About half of engineering and advanced manufacturing workers are approaching, or at, retirement age. As workers retire, not enough new workers are taking their place in these fields. In addition, the STEM workforce was no more diverse in 2015 than it was in 2001,⁷ despite the changing demographics in the United States. To address projected shortfalls, we need younger and more diverse professionals to enter the workforce, and this includes the actuarial profession. Like the overall trend in STEM professions, most minority groups are underrepresented in the actuarial field when compared to the general population.⁸



Companies in the top quartile for racial and ethnic diversity are **35 percent** more likely to have returns above the national industry median.

What Is Diversity?

We often link the concept of diversity to that of identity diversity. Identity diversity refers to personally identifiable characteristics such as race, ethnicity, gender and sexual orientation. Many large companies—such as Intel, PepsiCo and Microsoft—fund major programs to encourage identity diversity. Intel recently pledged \$300 million to its diversity efforts with the goal of reaching full representation of women and underrepresented minorities in its workforce by 2020. PepsiCo invested \$100 million in its educational initiative to help women and girls worldwide achieve success in the workforce.⁹ In addition, Microsoft launched a scholarship program to help students with disabilities go to college.¹⁰ Companies involved in such initiatives are helping to generate a more diverse workforce, which will help address the projected shortfall in STEM professionals. Companies that have more diverse workforces and management teams also see a positive impact on their financial performance.

Impact of Diversity on the Bottom Line

The consulting organization McKinsey & Company studies how identity diversity

ties to financial performance. Its 2015 report outlined several key findings. Companies in the top quartile for racial and ethnic diversity are 35 percent more likely to have returns above the national industry median, while companies in the top quartile for gender diversity are 15 percent more likely to have returns above the median. On the flip side, companies in the bottom quartile for gender and ethnic diversity are less likely to achieve above-average returns than the average company in the study.¹¹

What's the connection between a diverse workforce and an increase in a company's performance? Ethisphere Institute executives Ty Francis and Erica Salmon Byrne discussed this during an episode of Nasdaq's *Behind the Bell*. They found companies that do business with integrity outperform the market. When companies encourage diversity and inclusion, according to Francis and Byrne, more of their employees feel a sense of belonging, and they are therefore more committed to the business. When employees are more committed, they do business with more integrity. This impact of diversity on company culture, and on integrity, is a key reason why companies

with diverse management teams outperform their peers.¹²

As keynote speaker at the 2017 Society of Actuaries (SOA) Annual Meeting & Exhibit, Scott E. Page offered a more technical explanation of the impact of diversity on performance. He explained that diverse groups typically outperform individuals because of something he called the “diversity bonus.” Page demonstrated this effect through several examples. In these examples, when models were combined, they outperformed the results of any one of the individual models. This occurred because the average deviation from the best possible answer got smaller as more diverse models were grouped together. Page argued that this concept applies to people as well as to mathematical models.¹³ This effect is known as cognitive diversity, or diversity of thought. The more diverse viewpoints that are represented within a group of individuals, the better the overall output of the group is likely to be.

The Importance of Inclusion

So far, we’ve seen that cognitive diversity results in better modeled and group results, and companies with diverse workforces and management teams outperform their peers. It then follows that identity diversity can lead to cognitive diversity. People from different backgrounds often have different experiences from one another, and groups made up of people from varying backgrounds may generate innovative ideas that individuals in homogenous groups do not. There is another important element required to achieve diversity of thought: It is important to focus on inclusion. Even in a room full of diverse individuals, we cannot fully achieve the benefits of diversity of thought when we fail to include each person in the discussion.

To place an explicit focus on inclusion, we must consider inherent differences in personality types—such as introverts and extroverts—that may have nothing to do with identity diversity. Introverts are individuals who prefer to recharge their energy in a quiet setting where they are alone. Extroverts are those who generate energy by being around and interacting with other people. Susan Cain, the keynote speaker at the 2012 SOA Annual Meeting & Exhibit, is a popular writer who has written extensively about workplace dynamics between introverts and extroverts. She argues that the workplace is moving toward one that favors extroverts and their strengths. Data supports this: Up to 50 percent of the workforce self-identifies as introverts, yet 96 percent



92 percent of meeting participants say that if they could more freely share ideas in meetings, they would feel more engaged and happy at work.

of leaders and managers self-identify as extroverts.¹⁴ The workforce seems to place a premium on promoting more extroverted employees. That means that the views of introverts may often be overlooked or underappreciated. Cain notes that “the bias against introversion leads to a colossal waste of talent, energy and happiness.”¹⁵ In a group setting, if we fail to successfully engage and appreciate the views of all parties—including both the introverts and extroverts in the room—we will not fully tap into the cognitive diversity of the group.

How to Encourage Diversity and Inclusion in Your Daily Practice

We may not be able to change everything at our companies—including hiring practices or whether there is a diversity program and talent mobility—but there are still actions we can take to make a difference. Here are some ways that you, as an individual, can encourage a culture of diversity and inclusion and fully tap into the cognitive diversity of your team.

- » **Make sure to hear from everyone.** According to research by Wisemply and Censuswide, 41 percent of meetings are dominated by just two of the meeting attendees, and 92 percent of meeting participants say that if they could more freely share ideas in meetings, they would feel more engaged and happy at work.¹⁶ The solution is simple: Find a way to hear from everyone at a meeting. It may be difficult to break the flow of discussion at times, but by doing so you gain input from those who have not yet spoken. This will help you to capitalize on the benefits of diversity of thought. This is especially important when meeting with others on the phone. It can be difficult to find the right time to speak during a conference call, especially when there are a lot of attendees on the line. It is incumbent upon the meeting organizer to call on people, including those who have not yet contributed. Even as a participant, you can always turn to others in the room or ask others on the phone for their point of view if they have not spoken in a while. Effectively engaging everyone is the best way to collect all points of view to best achieve effective diversity of thought.
- » **Try a matrixed approach.** A matrixed team is one that is put together on a project-by-project basis and is usually composed of people who have unique skills. This approach can also be used to expose employees to



A matrixed approach can motivate, engage and make participants feel included, as they are able to contribute to the decision-making process.

new assignments. More important, it gives employees an opportunity to work with a different group of people on each new project. This can offer participants more diversity in their interactions with colleagues. A matrixed approach can also motivate, engage and make participants feel included, as they are able to contribute to the decision-making process. In an article published by Management Square, the author explains that a matrixed approach “encourages democratic leadership style which incorporates the input of project team members before managers make decisions. This contributes valuable information that leads to employee satisfaction and increased motivation.”¹⁷ This combination of diversity in interactions with other employees and an increased feeling of inclusion can make a matrixed approach highly effective. If your organization does not employ a matrixed system, you can still seek out the benefits of such an approach: Ask to work on projects with a group of individuals with whom you do not normally work. The benefits of working with and learning from others with whom you do not normally work will improve the diversity of your own experience. It will also make your contributions more valuable in the future.

» **Choose mentors and mentees that don’t look like you.** Mentors are an important part of our professional growth and development. They guide us through important decisions, provide valuable insights and help us to understand ourselves better. We can have more than one mentor at a time. In some cases, it can benefit us greatly to work with mentors who do not look like we do. This can expose us to different backgrounds and experiences than our own and offer viewpoints we may not have considered otherwise. Author Conrado I. Generoso said, “No man is capable of self-improvement if he sees no other

model but himself.”¹⁸ The same advantages exist for those we choose to mentor. It can help to promote diversity in a company when we mentor those who do not look like we do. Campbell Soup Company’s president and chief executive, Denise Morrison, said that “the path to diversity begins with supporting, mentoring and sponsoring diverse women and men to become leaders and entrepreneurs.”¹⁹

Bring It All Together

When it comes to technology and what the world will need in the future, there may be no better authority than Apple co-founder Steve Jobs. Apple recently broke its own record as the most valuable publicly traded company of all time.²⁰ Jobs helped bring the iPhone to more than 700 million users worldwide.²¹ He also made a compelling case for diversity. Jobs said: “A lot of people in our industry haven’t had very diverse experiences. So, they don’t have enough dots to connect, and they end up with very linear solutions without a broad perspective on the problem. The broader one’s understanding of the human experience, the better design we will have.”²²

The need to advance diversity in STEM professions is clear. There may be no better place to start than with the actuarial profession. In *U.S. News & World Report’s* 2018 Best Jobs Ranking, the job of actuary is ranked as a top job. It is also ranked as the third-best job for STEM professionals.²³ As individuals, we may not be able to change the culture of our entire company, but we can still focus on the impact we can have on others. If we put some of these practices into place in our daily routine, we can all do our own small part to encourage the growth of diversity in the actuarial profession. That will contribute to the overall diversity of STEM professionals and, in turn, make us all better prepared to address the many challenges of the future, whatever they may be. ■

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SHALL WE DANCE?

Working toward an inclusive environment
where people can be their authentic selves

BY KUDZAI CHIGIJI



S

oon after joining the corporate world, I was confronted by the subtle nuances of affirmative action, transformation, diversity and inclusion. For the first time in my life, I discovered and had to unpack the layers of my existence based on what people saw when I walked into a room: a black woman.

Given that inclusion does not seem to be common sense to everyone, we now have rules, protocol and even legislation around it. I wonder why something that is supposed to be completely natural—being an open-minded person who respects everyone, regardless of classification—has been engineered to the point that it feels almost unnatural. The outcome of having rules around diversity and inclusion is often a desperate, mad rush to tick the boxes. This leaves many spirits crushed and a wave of confusion, and results in little progress.

I have spent the past decade working tirelessly to ensure that I am known for the value of my work and that I am never reduced to my race and gender. In the past, I have conformed so that I could fit in and belong on the teams I worked with, to feel less like an outsider because of my race and gender. But along this journey, I have had a few “aha” moments that have helped me accept myself, grow, live authentically and create safer spaces for others to be their authentic selves.

Having diversity in the workplace to fulfill legislative requirements is not good enough if the intentions behind the efforts are not genuine. This is what separates diversity from inclusion. The former is simply a description of what can be seen, whereas the latter is a description of what

matters: the interactions and how people are made to feel.

“Diversity is being invited to the party, inclusion is being asked to dance—and I don’t think that you can do one without the other,” said Suki Sandhu.¹

And don’t we all want to be asked to dance?

Serving the Public

As a profession, we aim to serve the public’s best interest. But how can we deliver on this lofty goal if we cannot serve the best interests of all of the people with whom we interact on a daily basis?

We want to develop products, influence significant portions of the financial markets and create policies that have ripple effects across all socioeconomic groups. Can we achieve this without considering the health of our workplaces and colleagues?

If this desire is genuine, how can we serve the best interests of society if the profession does not mirror the world we want to serve? Allow me to state the (not so) obvious: Inclusion is a business imperative.

According to research by McKinsey & Company, companies in the top quartile for racial and ethnic diversity are 35 percent more likely to have financial returns above their

respective national industry medians.²

The organizations for which we work can only benefit from truly inclusive work environments. The cognitive diversity we so relish is a result of the diverse backgrounds (and therefore perspectives) that are invited to and sincerely included at the table.

Representation Matters

When Whoopi Goldberg was just 9 years old, she was watching TV when *Star Trek*

Diversity is being invited to the party, inclusion is being asked to dance—and I don’t think that you can do one without the other.

—Suki Sandhu

came on. There, on screen, a black woman appeared. Goldberg couldn't contain her excitement. She called out: "Come here, mum, everybody, come quick, come quick. There's a black lady on television and she ain't no maid!"³

This experience opened a whole new world to a little girl who went on to become a TV and movie icon. In her own words, "I knew right then and there I could be anything I wanted to be."⁴

This story encapsulates why we need role models with varying backgrounds from all parts of society in our profession. This isn't just to prove that the qualification is accessible to everyone who is willing to work for it, but to show that everyone is genuinely welcome in the actuarial profession. What has inspired me most during my career has been working alongside people who have supported me, welcomed me and genuinely enjoyed delivering valuable work with me. Being recognized and respected for my talent, investment, hard work and vision has been more rewarding than the qualification itself.

Counting the Real Cost

Let's be honest with one another. The actuarial profession is an elite one, with significant barriers to entry. It is an expensive qualification to pursue and a costly profession to stay in. We must evaluate the requirements as they affect those from underprivileged backgrounds who wish to enter the profession.

It is very clear that certain champions have invested heavily in opening up the profession to more people, and to them, we are forever grateful. They have given more than money. Bursaries, internships and mentorships have played pivotal roles in creating access to learning opportunities. More important, families and communities have been changed by these generous investments.

But we also need to evaluate our day-to-day (often unconscious) biases in the workplace. Hiring practices, choice of language, accessibility of training and social

norms are often hidden barriers that make it challenging for people to stay in the profession. The workplace is probably the most important learning space during the training process. Attention and awareness of others' needs can vastly improve another's experience of that space. After all, you can't expect other people to dance to your tune at all times.

A Word on Language

Being able to speak a particular language with the right accent, quickly or without any grammatical flaws is not an indicator of intelligence—or humanity—and should not be the measure by which we issue opportunities and kindness. It is unacceptable for one's actuarial abilities to be assessed by one's ability to speak a language that is neither the main business language of the country, nor the language of one's training nor one's native language.

Language is widely used as a subtle form of oppression, even in 2018. Being sensitive to other people's language abilities takes little effort, yet it makes a big difference in their lives. A couple of years ago at an International Actuarial Association (IAA) meeting, an announcement was made that we should keep meetings in English and that we should all speak slowly and loudly, and take care to enunciate. English is not the gold standard, but it is a comfortable middle ground for most people when we speak slowly and use simple words. It was a small gesture that made an indelible impression on me. That one comment brought with it a great deal of self-reflection and resulted in a week of much more engaging (though slightly slower) conversations with people from all around the world.

Let's Undress the Window

I would be remiss if I did not call out "window dressing" in this discussion of diversity. This practice of hiring an individual purely (or even mainly) for the purposes of optics is demeaning, not just to the newly hired

Hiring practices, choice of language, accessibility of training and social norms are often hidden barriers that make it challenging for people to stay in the profession.

man or woman, but also to the organization that fails to cultivate the full potential of the individual.

The politics surrounding affirmative action legislation and the demands of the markets in different jurisdictions are nuanced. There is no clear formula, but at no point does it require that any employee be reduced to a face, color, sexuality or disability. This steals from the intellectual capital

we are working tirelessly to raise, as well as how the individual is viewed by his or her peers. The idea of (and use of the term) “diversity hire” is never in anyone’s best interest.

We are incredibly fortunate to be part of a profession with exceptionally high standards that are supported by rigorous academic and practical training. The last time I checked, the standards were the same for all of us.



It's Not All About Race and Gender

Diversity and inclusion are about recognizing that we are all different, and we need to be aware of this and create safe spaces to be authentically different. Our individualism and uniqueness can serve collective interests. However, we are often told to change ourselves to be accepted by the collective.

There are strong factors at play when one is the first in a family to go to college or work in a corporate environment, or if English is not the primary language spoken where one comes from, or if someone's family did not have much when one was growing up. The workplace conversations about weekend golfing and triathlon training can come across as alienating very early on in that person's career. If you are a golfer, no one is saying you must stop. But have you ever asked your colleagues what they enjoy doing over the weekend?

Have you considered the challenges for your disabled colleagues? Even something as simple as adequate shade for a colleague with albinism, or a ramp for the colleague in a wheelchair, or making sure not to schedule key

work events during religious events can create a more welcoming and inclusive environment.

I know. There is so much to consider! How could you possibly be expected to remember it all, let alone care? You are not required to hold hands and sing "Kumbaya" at work. But you are expected to be considerate, and that can start by being inquisitive. Listen to the stories of those around you. Willful ignorance is dangerous, and none of us can continue to hide behind "I didn't know" when we could have simply cared enough to ask.

Pride, Prejudice and Preferences in a New Dispensation

Kenya Denise McQueen: "It's not a prejudice, it's a preference."

Brian Kelly: "Sure, it's your preference to be prejudiced."

This exchange between characters in the 2006 movie *Something New* has stuck with me. We are all allowed to have our preferences and to make decisions based on them. But we need to ensure that we do not impose our preferences on other people or use them to evaluate the worth of other people.

Key to my personal growth in the more recent past has been studying personality types. The revelation for me has been, "We are fundamentally different from one another!" Learn about the people around you instead of just expecting them to be like you. At the core, we have differences that are hard to overcome. That is not to say that we should not try to improve ourselves and our relationships—we should all be striving to grow and develop. But we need to accept each other's fundamental differences, and that is impossible if we never learn what those differences are.

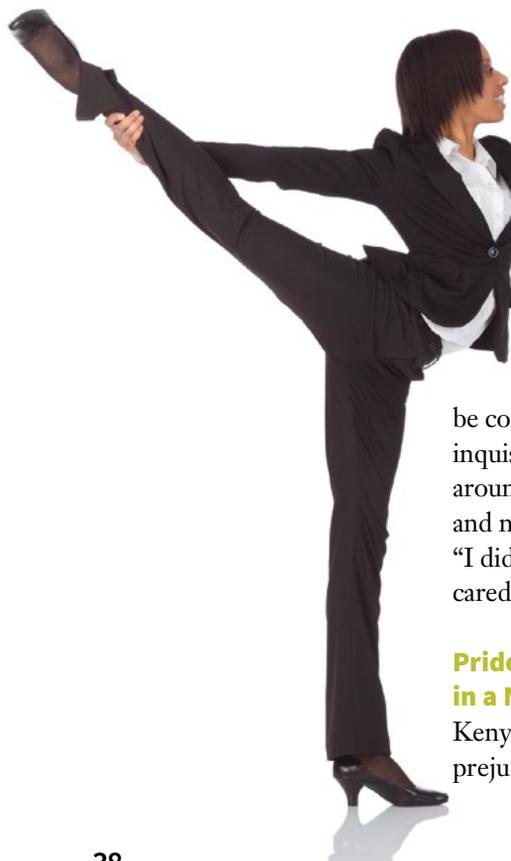
Despite all the titles, credentials and designations we carry before and after our names, we are first and foremost humans. If you think you are better than anyone else, even for a second, you need to check yourself. The person sitting next to you, whether in the office, the train, the bus or a queue, is no less or more human than you are.

If I have any words of caution for those who do not see the need for change, simply have a look at global events, whether in Hollywood, politics, global banks, large corporations or the newest startups. The tolerance for dogmatic and unaccommodating perceptions of humanity is dwindling. Haughty pride will need to make way for sensible humility as the world becomes more intertwined.

There has been great progress in the recent past, but we must also evaluate ourselves as individuals and continue to demand better from (and for) ourselves, not just from others.

Make the Circle Bigger

As we seek to strengthen diversity and inclusion in the actuarial profession, bear



in mind that this is much bigger than the profession. This is about cultivating healthy relationships with a broad range of people. We cannot do our jobs effectively and be true to our mission when we are oblivious to the needs of the public. On this journey, we must carefully examine how it affects our lives in a broader sense. It is not enough to put in great effort in making everyone on our multicultural team of actuaries feel included if we then refuse to change our attitude toward the cleaners in the office or our neighbors. We must open up in all corners of our lives.

Inclusion does not, in any form or fashion, equate to the exclusion of any one group of individuals by race, gender, sexuality, religion and so on. If your neighbor has more, it does not mean you must now have less.

We are all allowed to be afraid. In fact, it is a natural reaction. But we also have a responsibility to ourselves and to those around us to assess the rationality of our fears and push past them. We must not act out of fear.

Hello From the Other Side

If you consider yourself a minority, (historically) underprivileged, a person of color or one with any kind of disadvantage, I hope you have been paying attention. The preceding applies to you as well. It is very easy to consider yourself a victim. At times, that is the unfortunate reality. But it is possible to reposition yourself.

We all need to carefully consider how accessible we have made our worlds and how we treat people we consider more privileged. Differences can be scary to some people. Your world might look intimidating. Some people might even feel they are not welcome. Talk about your culture, and talk about it with pride. When conversations that seem alien to you come up, feel free to ask questions and then confidently discuss your family traditions and pastimes. Your cultural and religious holidays are in no way inferior,

less interesting or less socially acceptable. You might be surprised to discover your volunteer work on Saturday mornings or your family naming traditions are far more interesting to your colleagues than the usual office conversations. It's time to bring your music to the party as well, and to change the rhythm from time to time.

I have taken it upon myself to educate my colleagues about my Shona culture—whether it is the trials of being raised by African parents in the diaspora, the ironies of lobola negotiations, cultural faux pas or our lengthy funeral proceedings. Conversely, I have learned a great deal about Irish, Tswana, Zulu, Igbo and Afrikaans traditions in the process. In between trying to beat deadlines, fixing code and seemingly endless meetings, new worlds are opening up and there is often a good laugh and a powerful lesson around the corner. It also makes for more fun at work.

We need to redefine corporate cultural norms and ensure that they do not create unnecessary barriers for anyone. I understand that there are limits and progress might be slow, but every effort counts.

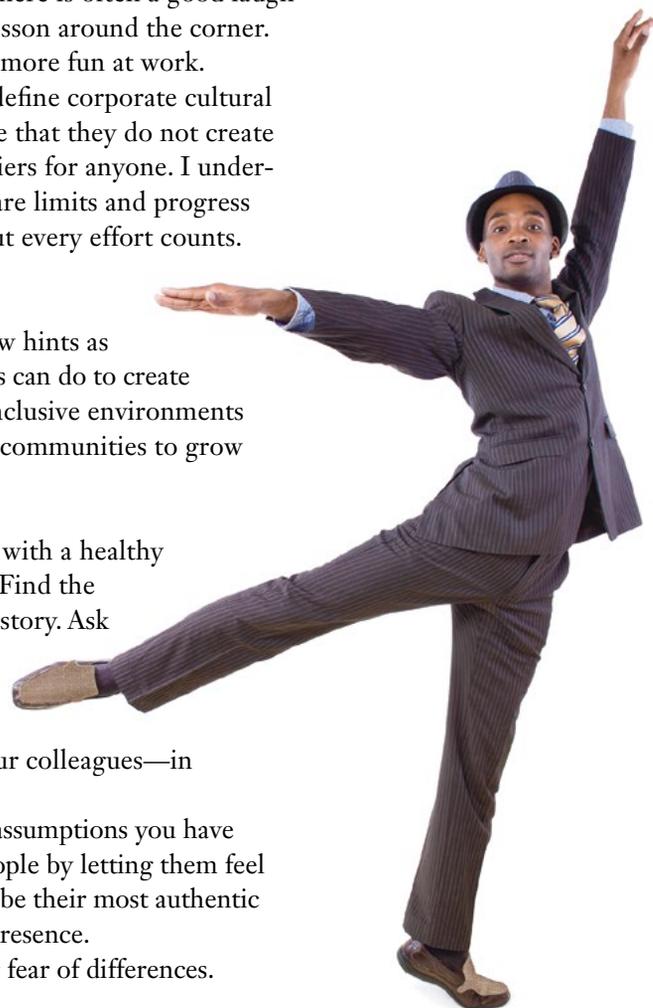
So What Now?

I've dropped a few hints as to what each of us can do to create safer and more inclusive environments for more diverse communities to grow and thrive.

- » Tell your story with a healthy sense of pride. Find the beauty of your story. Ask others to tell their stories. Listen. Learn more about your colleagues—in all ranks.
- » Challenge the assumptions you have about other people by letting them feel comfortable to be their most authentic selves in your presence.
- » Challenge your fear of differences.

A person who is nice to you, but rude to the waiter, is not a nice person.

—Dave Barry⁵



***Injustice
anywhere is a
threat to justice
everywhere.***

—Martin Luther King Jr.

- » Help someone who you think might not be able to return the favor (that might mean helping someone who is your leader).
- » Think about the day-to-day needs of others. Take their needs into consideration as you plan work activities.
- » Give yourself a chance to learn and intentionally make changes based on what you learn. Ask as many questions as you need to in a sincere manner. A genuine and sincere spirit will get you much further than a fake smile and half-hearted gesture.
- » Be the voice of reason in a world where even the obvious truth is threatened daily. You can't be neutral about blatant discrimination.

We all have an obligation to speak out against injustice. Any form of discrimination needs to be called out. Our methods might be different, but silence cannot be an option. There is nothing politically correct about neutrality. Neutrality gives perpetrators the confidence to soldier on.

If you are reading this article, you are in a position of privilege in some way. You may even be considered influential in some circles. Have you ever considered how you could use your privilege and influence for the benefit of others besides those who are already privileged or look like you? What about for someone who might never be able to repay you aside from a simple “thank you”? With freedom, privilege and influence comes great responsibility.

When you look back, I hope you are found on the right side of history. The world remembers everything nowadays, thanks to modern technology. But more important, in the words of Maya Angelou, “People will never forget how you made them feel.”

Shall we dance? ■

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ABOUT THE WRITER

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BY CHRISTINE HOFBECK

The Climb to the Top

From the business world to reality TV, bias may— or may not—be present

A

t one point in my career, I was thrilled to have gotten a “big break.” My boss’s boss invited me to give a very technical presentation on my work to a group of executive vice presidents. I was thrilled, nervous and excited! When I walked into the room, I was the only woman. My boss’s boss put his arms around me, kissed me on the lips, and said to the group of male executives, “Aren’t I lucky I get to hire girls that look like this?” My work and accomplishments had been undermined by this introduction before I even started talking. It seemed that my gender and appearance had precluded my ability.

This situation is interesting because, on paper, our office was demographically diverse, with solid representation of gender, race, ethnicity, age, religion and other demographics. So, given a diverse slate, why would diversity issues still be present? Didn’t we solve that? Clearly, diversity issues are not “solved” by simply ensuring representation from varying demographic groups. But it is probably impossible to define specific criteria to discover when bias is truly present.

Now consider this experience: At one point in my life, I was thrilled to have gotten a “big break.” After many years of applying, I had finally been invited to play

CBS’s *Survivor*! Touted as “the greatest social experiment on television,”¹ *Survivor* is one of the most successful reality television shows of all time. I was thrilled, nervous and excited! Within the first couple of hours on the island, my young and beautiful tribemates formed an immediate “Core Four” alliance, referring to me and the other 46-year-old woman as the “Mom Squad.” My loyalty and challenge potential had been rejected before I had a chance to prove either. It seemed that my gender and appearance had precluded my ability.

But was this bias? Probably not.

The Diversity Conundrum

The two situations described seem similar, yet they illustrate why diversity issues are so difficult to understand and dissect. Sometimes we need to look not only at the numbers, but also at the way people are made to feel. In the business example, I felt completely disrespected. In the *Survivor* example, I felt my tribemates were simply making their best predictions of how to keep the tribe physically strong.

Despite the complexity of the diversity issue, most would agree that we do not solve a diversity problem by simply ensuring representation from varying demographic groups. True diversity is achieved when varying backgrounds, experiences, races, ethnicities, ages, genders, sexual orientations, marital status and [pick any descriptive group you like] are fairly represented *as a result of* people

being judged solely on the basis of their performance and contributions, and it is an inclusive environment. Is this possible in a business setting? How?

Demographic-blind Business Practices

There are many reasons I love being an actuary, but one of these is that the exam process is blind to demographics. Exam candidates are assigned a number, and graders know only the unique number. They do not know gender, race, ethnicity, national origin, age, marital status or any other identifying characteristic. You could be a purple alien sitting for an exam, and that would be unknown to the graders. Thus, our actuarial qualifications are based solely on our knowledge of the subject matter and our ability to express that knowledge.

Can organizations structure work processes to similarly reduce inherent bias? Yes, they can and should. Consider the often-cited example of orchestra auditions. Back in the 1970s, major orchestras generally were made up of only 5 to 10 percent women. By the late 1990s, the percentage of women in orchestras had quadrupled to about 25 to 30 percent. The reason for the change? The introduction of gender-blind auditions.² Candidates would audition for the

orchestra behind a screen. Much like the actuarial exam graders, the judges have no information on the demographics of a candidate (many women would even remove their shoes to avoid the telltale sounds of a woman's shoes influencing the decision). The judges would make their selections based on ability alone.

Organizations can and should take steps to minimize bias in a business setting. For example, consider replacing names on resumes with candidate numbers during the hiring process. It is possible that background information could reveal or infer demographics (i.e., Eagle Scout versus Gold Award), but it's a start. Age bias could potentially be eased if college graduation year was removed from the resume. Years of experience could infer age, but experience is relevant and graduation year is not.

Of course, once an interview is scheduled and executed, demographics become known. But the initial impression would shift toward evaluation based on ability and qualifications. To ease potential bias at the interview stage, interviewers and those who make hiring decisions should be trained to recognize and avoid unconscious bias.

"Likeability" has been extensively studied,³ and one of the known factors that influences likeability is similarity. If we are more likely to *like* people who are similar to us, then we are also more likely to *hire* people who are similar to us. Training can help ease this basic human tendency so that we can hire based on qualifications, potential and other role-related attributes.

The Pipeline Issue

But considering the orchestra example, why do blind auditions lead to just 25 to 30 percent women in the orchestra? Why not 50 percent? Well, even with the most airtight, unbiased business practices in place, organizations may still be struggling with a pipeline issue—that is, a non-diverse pipeline of candidates entering the field in the first place. A recent study conducted on behalf of the Society of Actuaries (SOA), The Actuarial Foundation, the Casualty Actuarial Society (CAS) and the International Association of Black Actuaries (IABA) identified multiple factors that inhibit a diverse pipeline of actuarial candidates, including financial barriers with respect to exam fees, lack of mentors and lack of awareness of the profession at the high school level.⁴



"The Survivor Devil" — Christine "Chrissy" Hofbeck on the thirteenth episode of *Survivor* 35, themed Heroes vs. Healers vs. Hustlers on the CBS Television Network.

SURVIVING SURVIVOR

In the game of *Survivor*, immunity and reward challenges are developed to be inherently demographic blind. During my season (Heroes vs. Healers vs. Hustlers), castaways balanced on floating structures in the ocean, stacked blocks, shot slingshots, built block towers with our feet, pulled marbles out of bags and unscrambled words. Winning immunity and rewards was based on ability. It didn't matter if the player was male or female, single or married, white or of color, young or old, tall or short.

PHOTO: SCREEN GRAB/CBS



“The Past Will Eat You Alive”—Christine “Chrissy” Hofbeck on the fifth episode of *Survivor* 35, themed Heroes vs. Healers vs. Hustlers on the CBS Television Network.

PHOTO: ROBERT VOETS/CBS

In fact, SOA membership statistics confirm that despite our demographic-blind exam grading process, our profession still largely comprises white men. (See Figure 1.)

While 98 percent of members self-reported gender, only roughly 11 percent of SOA members self-reported race/ethnicity, preventing publication of statistically relevant details. However, census data for actuaries, which can be used for benchmarking, may suggest that potentially only about one-fourth of members are people of color. As our actuarial organizations continue to focus on improving the pipeline for underrepresented groups, we are seeing positive progress. Whether we’re talking about actuaries or orchestras, without a fully diverse pipeline of candidates, even the most unbiased business practices cannot erase a diversity issue.

Demographic Bias and the No-win Situation

Suppose we are able to correct the pipeline and the representation issue. Now, have we solved that diversity problem? Maybe not. We may still have some work to do to ensure inclusion, which may be defined as ensuring the right conditions are in place for every individual to achieve his or her full potential, while feeling welcomed and equally treated. Inclusion may refer to demographic differences and experiential differences like educational background, tenure, personality and training.

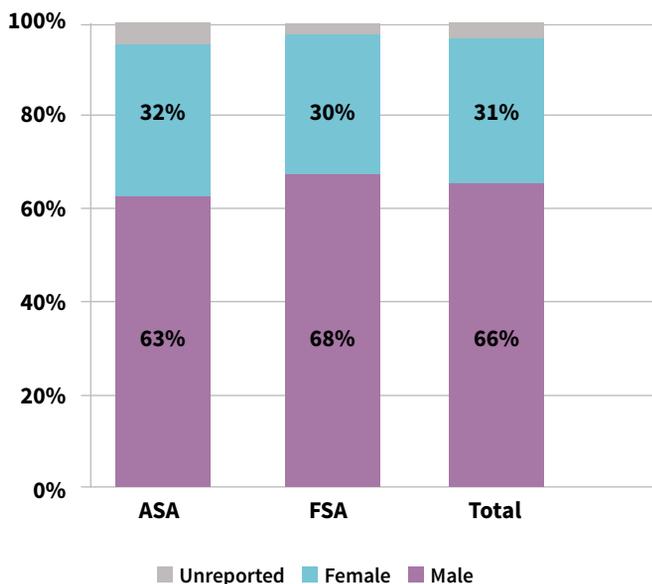
In fact, sometimes even when the organization itself works diligently to implement all the right policies and practices, the employees themselves may inadvertently foster a noninclusive environment. Consider the game of *Survivor*, where the cast is carefully and thoughtfully constructed to represent diverse demographics and experiences. Here, the players themselves can unwittingly create potential barriers. Consider this observation from one castaway about another (me), based only on visual cues, before the game even began:

“Moms honestly don’t do that well in the show, so I’m not really scared of her [Chrissy Hofbeck]. ... If I could, I’d take her to the end with me, because it doesn’t matter how good she is. People are not going to look at her like a threat and people are not going to respect her at the end, even if she plays a perfect game.”
—Survivor Castaway, pre-game interview⁵

Older moms, like one of my fellow castaways articulated in her pre-game opinion of me, do not often win *Survivor*. While this could be based on strategic or social weakness, fans of the game have nicknamed the phenomenon the “mom curse.” The idea suggests that if an older mom makes the final three by mastering the social game (building strong relationships and making good impressions), then the jury members may assume she is “just a mom” and award the win to the player sitting next to her. If she masters the strategic game (blindsiding players, controlling the vote and otherwise playing competitively), then the jury may be offended by her behaving in a manner inappropriate for mothers, again awarding the win to the player sitting next to her. *People are not going to look at her like a threat and people are not going to respect her at the end, even if she plays a perfect game.*

Ageism in the workplace is reminiscent of the *Survivor* mom curse. Hiring managers may be reluctant to hire

Figure 1 SOA Members by Gender, as of Dec. 31, 2017



Source: Society of Actuaries

an older candidate, because even if the older candidate has exactly the right qualifications, intelligence may be questioned (why did it take him or her so long to get to this level?). Professionalism may be questioned (will the older person have a problem reporting to a younger person?). There may be concern that the older person is overqualified for the role, and the hiring manager may not want a direct report who is more experienced. Is it the “older person curse”? *People are not going to look at him or her like top talent, and people are not going to respect his or her work product, even if he or she is the perfect hire.*

Consider moms versus dads versus childless adults in the workplace. Employees may view a working mom leaving work early to attend her child’s sporting or school event negatively (she does not place a high enough priority on work). Yet a man leaving work early to attend his child’s sporting or school event may be viewed positively (he is dedicated to both work and family). Employees without children may feel they don’t even have permission to leave work early to attend a close friend or family member’s event at all. It’s important to note that these feelings may be misguided, as company policy and procedure may indicate equality in each of these situations—but inclusion relates to a *feeling* of fairness and acceptance.

There are all-too-frequent stories of working moms feeling as if they were passed up for posh assignments without even being asked, on the assumption that “she wouldn’t want it.” Unmarried employees may be leaned on to work excessive overtime, justified because, “They don’t need to go home to kids.” Some employees may choose to hide personal situations, yet we’ve learned that the “don’t ask, don’t tell” concept isn’t a solution; it’s a cover-up. Additionally, those who can’t bring their complete self to work (or feel they need to mask their “real” self) may suffer and may not be able to contribute as fully as they could have if they didn’t need to hide a piece of themselves.

Unconsciously Undermining the Ultimate Goal

Raising awareness of unconscious bias is a necessary step to eliminating it. However, given that the human mind is incapable of ignoring an idea that is brought to its attention (“think of a pink elephant”), do organizations face additional complications when raising awareness of unconscious bias? Do they risk increasing the prevalence of that bias?

Some years ago, I attended a leadership meeting for my organization, and human resources was presenting on its extensive diversity efforts. It was proudly announced that all open positions and promotions would consider

a diverse slate (women and people of color must be included in the interview circuit and promotion recommendations). Additionally, qualifications could be relaxed to attract more women and people of color and fulfill this goal.

Wow! I was almost on-board, but then this last part, I felt, did women and people of color a great disservice. To me, the comment suggested that women and people of color must not be as inherently talented as white men. Additionally, I did not aspire to be identified explicitly as a female actuary, but instead as a great actuary. I stated my displeasure with the inference, and many other leaders agreed. No one wants to *feel* that they won or lost a job due to a diversity effort.

Moving Forward

Ultimately, dealing with diversity and inclusion issues takes work, but it is something we must continue and improve upon. As a woman working in a male-dominated STEM field, I am invigorated by my work. I love being an actuary, and I’m thrilled that I chose this great profession. I’m proud to see the various actuarial organizations working together toward a common goal of building a diverse profession that reflects the racial, ethnic and gender mix we represent. And as an older mom, I’m so grateful that I had an opportunity to play the great game of *Survivor*, and to prove that an older mom can truly excel in the game.

I choose to be joyful in our successes instead of resentful of the hurdles. Together, let’s keep moving forward. Let’s be conscious of making fair decisions in our own organizations and supporting diversity and inclusion efforts. Understanding, accepting and learning to work with others is the ultimate goal. Even if you don’t walk away with \$1 million, you can bet you’ll be proud of your game. ■

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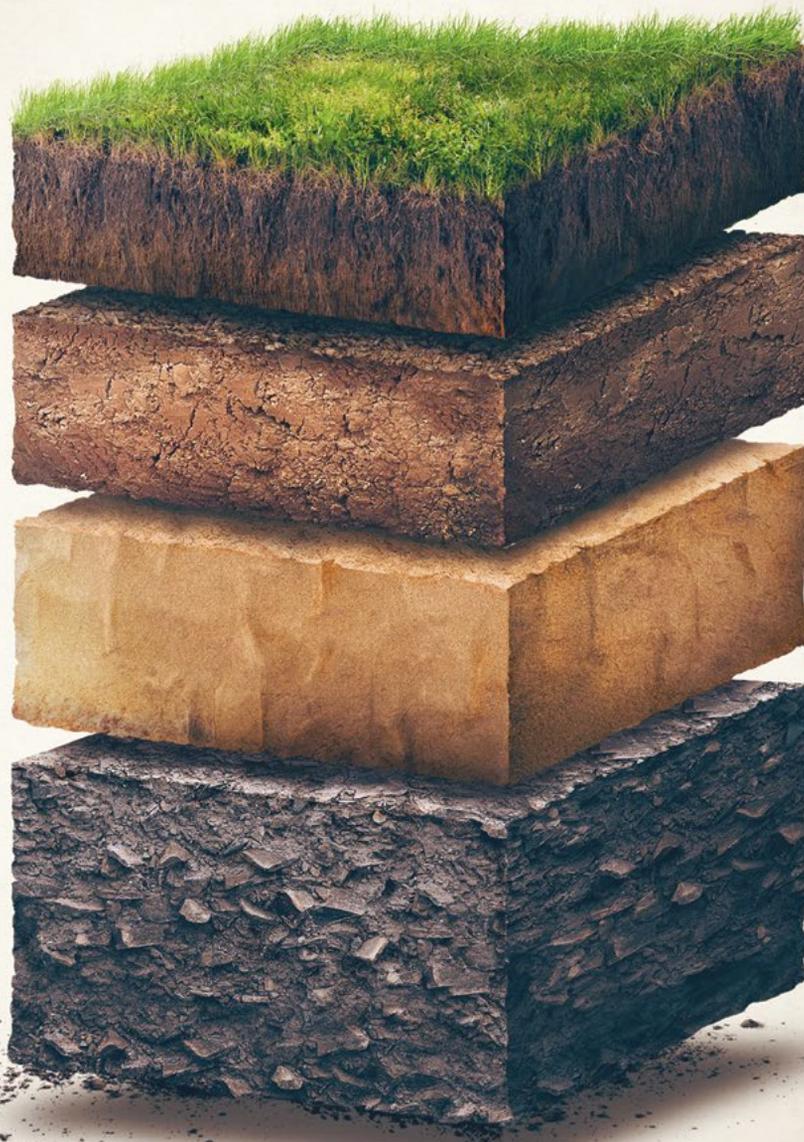
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BY ANDREA SHELDON

Diversity on a Deeper Level

Exploring the power of increased cognitive diversity through inclusion



few years ago, I attended a particularly memorable meeting. It was unforgettable for me because I was introduced to present to a team of senior advisers as “the lady actuary.” I was taken aback by a comment that seemed better suited for an episode of *Mad Men* than a modern boardroom. Why had I been labeled by my gender rather than by the characteristics that define me as an actuary?

The characteristics that define actuaries are not physically observable, and our physical characteristics provide no insight into what matters—like how we process information and how we approach problem-solving. It takes time to demonstrate these deeper characteristics, and we need a receptive audience to give us the chance to make these demonstrations.

There is growing evidence supporting the power of cognitive diversity to further support and expand traditional diversity initiatives. Traditional diversity initiatives often focus on identifiable features to protect those of us who may not otherwise have the opportunity to get past the identifiable. Those initiatives are critically important, and cognitive diversity initiatives do not replace them.

What is cognitive diversity? Achieving cognitive diversity means going beyond what is easily observable to find diversity at the deeper level, including how we approach and solve problems and how we process information. Inclusive environments promote involvement and engagement from team members with different backgrounds and traits, creating opportunities to optimize team performance through increased cognitive diversity.

My Society of Actuaries (SOA) fellowship certificate includes the Ruskin quote that “the work of science is to substitute facts for appearances and demonstrations for impressions.” A focus on inclusion creates opportunities for demonstrated characteristics to substitute for initial impressions.

Measuring Cognitive Diversity Can Be Challenging

The issue of gender diversity in positions of leadership remains a complex one, to ensure reasonable representation of men, women and non-binary individuals. Edmund McConney served as the inaugural SOA president in 1949. In his presidential address, he referred to the SOA as a “society of professional men.”¹ Men served as SOA presidents for more than 30 years before Barbara Lautzenheiser became the first female SOA president in 1982. Three other women have followed Lautzenheiser as SOA president: Daphne Bartlett (1990–1991), Anna Rappaport (1997–1998) and Tonya Manning (2012–2013).²

The United States Supreme Court was comprised entirely of men until Ronald Reagan appointed Sandra Day O’Connor in 1981. Since then, three other women have been named Supreme Court justices: Ruth Bader Ginsberg (1993), Sonya Sotomayor (2009) and Elena Kagan (2010). O’Connor retired in 2006, and the three women who followed her still serve on the Supreme Court.³

Figure 1 summarizes the number of females among SOA presidents, U.S. Supreme Court justices and the U.S. population as a whole.

Figure 1 Gender Diversity Among SOA Presidents, Supreme Court Justices and the U.S. Population

Group	Female	Total	Percentage Female
Society of Actuaries presidents	4	68	5.9%
U.S. Supreme Court justices	4	113	3.5%
U.S. population (in millions)	157	309	50.8%

Data from: Society of Actuaries. “SOA Past Presidents.” <https://www.soa.org/about/governance/board-and-leadership/past-presidents> (accessed July 13, 2018).
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The percentage of female SOA presidents (since 1949) is higher than the percentage of female Supreme Court justices (since 1789), but both are significantly less than the percentage of females in the U.S. population. U.S. population estimates are from the 2010 U.S. Census and show that more than half of the population is female.⁴

The current composition of the U.S. Supreme Court might suggest progress has been made on the gender diversity front—three of nine current justices are female. In a 2015 interview, Ginsberg shared her perspective on when there will be enough women on the Supreme Court: “When I’m sometimes asked when will there be enough and I say, ‘When there are nine,’ people are shocked. But there’d been nine men, and nobody’s ever raised a question about that.”⁵

These statistics show gender diversity in SOA leadership and on the Supreme Court. It is more difficult, however, to demonstrate cognitive diversity. How many Supreme Court justices are introverts? How many are conceptual thinkers? It is considerably more challenging to answer these questions because these characteristics are harder to observe.

While we know that Ginsberg, Sotomayor and Kagan are women, it is less widely known that all three justices were born and raised in New York City. Ginsberg was born in Brooklyn, Sotomayor hails from the Bronx, and Kagan was raised on the Upper West Side of Manhattan. This means one-third of sitting U.S. Supreme Court justices were born in and influenced by their experiences in a city where less than 3 percent of the U.S. population lives. How does their gender diversity and geographic diversity affect their cognitive diversity?

The Power of Increased Cognitive Diversity Through Inclusion

Building strong, diverse and inclusive teams is critical to the success of any organization. Emerging evidence suggests increased cognitive diversity forms the foundation of a strong team. Harnessing the power of cognitive diversity requires a focus on inclusion and an investment in empowerment ... with the potential for extraordinary outcomes.

Amy Wilkinson distilled interviews with more than 200 leading entrepreneurs into six essential disciplines for

successful innovators and shared her findings in *The Creator’s Code: The Six Essential Skills of Extraordinary Entrepreneurs*. She found that *networking minds* is one of the six essential disciplines. Wilkinson explains that to network minds, leaders must “harness cognitive diversity by assembling all kinds of thinkers.”⁶

Alison Reynolds and David Lewis published their cognitive diversity research findings in *Harvard Business Review’s* “Teams Solve Problems Faster When They’re More Cognitively Diverse.”⁷ Reynolds and Lewis found that increased cognitive diversity had a measurable impact on executive team performance.

Similar research is building the evidence that cognitively diverse teams with differing backgrounds and perspectives strengthen the combined output of a team. The first step is an inclusive environment that attracts and retains cognitively diverse team members. Inclusion initiatives can help assemble individuals who employ different approaches to solving problems. This diversity of thought can enable creative and optimal problem-solving and idea generation.

Maximizing the output from a cognitively diverse team requires a respect and understanding for how different personalities contribute. Complementary strengths and weaknesses bring out the collective strengths of a team. However, differing perspectives can create conflict and inefficient communication when those differences are not understood and respected.

It can be a costly mistake to assume our peers or audience think and absorb information as we do. How you present a new idea may immediately turn someone away. Some people may approach change more cautiously, while others may forget caution and move forward aggressively. It is the harmony of differing approaches that can often maximize outcomes. Awareness of these differences can facilitate effective communication, reduce and resolve conflict, and enable us to work together more effectively.

Team members should invest the time to understand and appreciate other team members’ differing perspectives. Teams sometimes use resources like the Myers-Briggs Type Indicator and Keirsey Temperament Sorter as frameworks to understand team members at a deeper level. Socionics is a branch of psychology and sociology that focuses on personality types like alphas and betas to study differences

A focus on inclusion creates opportunities for demonstrated characteristics to substitute for initial impressions.

in how we process information, communicate and interact that can support our collective understanding and respect.

While I do not always agree that we each fall into specific cognitive categories, I have observed the value in understanding, appreciating and respecting our differences. Leaders should create an empowering environment that facilitates effective involvement from a cognitively diverse group, and they should implement strategies to engage all team members. Effective engagement strategies allow leaders to harness the full potential of a cognitively diverse team. I strongly believe that enlightened leadership that appreciates the value of cognitive diversity through inclusion will be best positioned to achieve strong outcomes. Diversity of thought in a collaborative setting fuels innovation, and thoughtful leadership strategies can elicit strong team performance.

Bringing It All Together

I recently attended my first women's leadership session at an actuarial meeting. I had always avoided these sessions because I view myself as an actuary who happens to be a woman rather than as a "woman actuary." I was pleasantly surprised when the panelists focused on statistically-driven messages about the measurable power of inclusion. I was actively engaged along with many others in the audience as we spoke about our experiences with the power of cognitive diversity through inclusion. I left the session feeling energized to spread the word about our evolving, holistic view of what it means to cultivate cognitive diversity. I realized the importance of these types of sessions and my sense of responsibility to participate, regardless of how I like to be defined.

Evidence suggests broad cognitive diversity forms the foundation of a strong team. As I look at the team members with whom I work, we have bachelor's degrees through Ph.D.s, and a wide variety of backgrounds: neuropsychology, philosophy, civil engineering, biology, chemistry, and, of course, mathematics and actuarial science. We have natural leaders working with strong consensus builders, while some are cautious and others are more aggressive. Some love being in the weeds and immersed in the technical details, while others love the forest, management and communication.

Harnessing the power of cognitive diversity requires a focus on inclusion and an investment in empowerment ... with the potential for extraordinary outcomes.

I am often astonished by the incredible output from this team. They accomplish exceptional outcomes within seemingly impossible time frames. They pause to seek each other's input for problem-solving to find efficient and impressive solutions. They collaborate to learn from each other's past experiences and to find optimal approaches to various tasks. We intentionally include everyone from our interns to our most senior team members in blue-sky discussions, because we have seen the direct benefit of creatively building off each other's differing ideas. Our mutual respect for each other's varying strengths allows us to maximize our output as a group.

I am excited to see actuaries and nonactuaries alike harness the power of cognitive diversity and inclusion. Together, we can build strong teams and achieve great results! ■

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EXPERT ADVICE

LGBT Inclusion

Q&A with Ron Gebhardtsbauer, FSA, MAAA, educator at Penn State University

Tell us about your background.

Until the late 1970s, being gay or lesbian was something one did not discuss in polite society.¹ It was the “love that dare not speak its name.” Newspapers had rules to not print the words “gay” or “lesbian.” In addition, they rarely used the off-putting word “homosexuality,” which focused discussion on sex and not the root issue, love. As a result, people had a poor understanding of gay issues.

Growing up in the 1960s and 1970s, I didn’t think about this issue. Since I didn’t think about girls all the time like my male friends, I thought I might be “math-sexual,” because I loved math so much. Deep down in my subconscious, though, I knew there was something about me that wouldn’t be accepted. So I did what the typical gay kid did: I sublimated it and put all my energy into doing well in school. Maybe it helped me pass my actuarial exams quickly, which made me an officer of the Acacia Mutual Life Insurance Company at such a young age. The exams were my excuse for why I wasn’t dating.

After I got my FSA, I didn’t have any more excuses. The world was opening up, so I finally realized I was gay at age 26. It was a great time for me. My self-realization and self-acceptance made me more human, boosted my confidence and improved my ability to talk in front of groups (important for a job I later got). It also helped me understand the concerns of other marginalized groups, like African-Americans and

women, because I quickly found out what it was like to be a second-class citizen. I no longer had the protections I had taken for granted before I realized I was gay.

I became politically active, helped organize the 1979 March on Washington for Lesbian and Gay Rights, started a gay religious group for Lesbian and Gay United Methodists, and fell in love. Despite doing all of those things, I still wasn’t “out” at my pension consulting firm. I was afraid that if anyone knew, it would ruin my future. Unlike now, the business world back then wasn’t ready to talk about “our issue,” or even say the word “gay.” If we had diversity training, it was about race, ethnicity and gender. Affectional orientation wasn’t even mentioned.

While I was “out” to some friends at work, it wasn’t many, so I was living in two separate worlds. I didn’t know how my firm might react to me being gay or what clients might think. Back then, people didn’t know much about this topic, and fear often wins in those situations. Discrimination was allowed and common at workplaces, and there were no employee benefits for LGB² couples. In fact, marriage was illegal, and few LGB couples would have been brave enough to request benefits. While we were becoming more hopeful for a better future, things weren’t getting better anytime soon. A backlash was coming from some churches, and I soon learned that my industry—the insurance industry—would discriminate against gay men in the coming decade.



*Students say our profession
is welcoming because it is
an educated group, and
inclusion is correlated
with education.*

How did the AIDS crisis in the 1980s evoke change in society and the profession?

The 1980s were a difficult time for gay men due to the threat of AIDS. I worried for five years that I had it and would subsequently die a painful, ugly death, abandoned by my family and profession, until a test came out in the mid-80s that said I didn't have AIDS. While we were glad to see that decade end, a lot of good happened near the end of this time period. Gay men became visible and fought for important changes in drug protocols and for the right to be with their partners at hospitals, church services and funerals.

The insurance industry was legitimately concerned about the financial consequences of AIDS and was accused of redlining, but eventually the industry became educated on the issue. Products such as viaticals were developed to help people with AIDS convert their insurance policies into cash.

How did you come out professionally?

I became more involved in LGBT issues and sent letters to the Society of Actuaries' (SOA's) *Transactions* (the *North American Actuarial Journal* of the time) and my Penn State alumni magazine. One "outed" me to my profession and the other to my boss (who was a Penn State alum—surprise!). As the head of Pension Benefit Guaranty Corporation's (PBGC's) Insurance Operations, he was one of the top civil servants at my agency (and I was his chief actuary). Luckily, things were changing in the world and I was working in the U.S. government, which had become a more tolerant workforce. My boss said he read my letter to the editor in the Penn State alumni magazine, and although we didn't discuss it, I felt he was telling me that I wouldn't be fired or demoted for being gay.

The profession also was becoming more welcoming. I got the head of the national lesbian and gay organization to speak on AIDS at the SOA Annual Meeting & Exhibit. And at national actuarial meetings, LGB actuaries would find each other and eat lunch together if they felt brave enough to sit with the "out" actuaries. This was the beginning of LGBT affinity groups that would form (particularly at large companies) to support each other.

How did things change in the 1990s?

In the 1990s, a United Methodist bishop friend put me on a nine-member church commission to discuss what the Bible said about LGBT people. In addition, I was hired by the American Academy of Actuaries (the Academy) as the senior pension fellow and spokesperson for the profession. The amazing thing was that they hired me even though they knew I was an "out" gay man. In fact, my partner was

with me at all the Pension Committee dinners. I found the profession to be welcoming, and I am proud of that. In addition, by the late '90s some larger employers were discussing or providing domestic partner benefits.

Is the actuarial profession welcoming today?

Today, things are changing quickly. Not only can we marry the person we love due to a brave Supreme Court, but people are also finding it easier to talk about transgender issues in the media, industry and churches. My husband helped lead our church to publish a mission statement that added a "T" to our Welcoming Statement for LGB people. That was too difficult for our church back in the 1990s, but we were ready for it recently.

I'm proud to say that almost all our industry has nondiscrimination in hiring. Many insurers and other actuarial employers are ranked highly in LGBT publications. The industry and profession have moved from tolerance to acceptance and, in many cases, to support and inclusion. In October 2017 at the SOA Annual Meeting & Exhibit in Boston, a session was given on "How to Build an LGBTQ Inclusive Workplace," followed by an LGBT and Allies Reception. Individual actuaries, particularly those who know someone who is LGBT, have moved from private acceptance (that they didn't want others to know) to public acceptance. Perhaps this is because polls show a majority of Americans support marriage equality?

However, it's still not a level playing field in many states. LGBT people can still be fired from their jobs and kicked out of their apartments due to being LGBT. As we say in Pennsylvania, you can get legally married on Sunday, and fired on Monday. Thus, some couples are still closeted and/or afraid to get married. For that reason, some Pennsylvania employers still provide domestic partner benefits.³

The United States is still not of one mind on this subject. The *United Methodist Church* still can't agree on what to do, but the whole Western Jurisdiction of the church welcomes LGBT people. Transgender people in the military who came out under past rules have been scared by recent statements from the White House that they will be kicked out. As Martin Luther King Jr. said, "Let us realize the arc of the moral universe is long, but it bends toward justice." Maybe this is the long part, but I do believe that justice will prevail in my lifetime.

What do LGBT students today think about the profession?

My actuarial students at Penn State are way ahead of older generations. Even my conservative religious students are not discriminatory. For example, the Actuarial Science Club

elected one of the top students, who was from China, as the club president. I was very proud of them for being inclusive and voting for a non-American, and then found out months later that the president was also gay and that the students knew it at the time they voted. I don't think they were doing it to make a statement or to be nice—it was a non-issue for them.

LGBT students whom I've talked to have researched our industry and say it is welcoming. They only apply to companies that have LGBT Employee Resource Groups, welcoming statements (not just the nondiscrimination boilerplate), and especially those that are on the "Best Places to Work" list provided by the Human Rights Campaign (the national lobbying organization for LGBT people). Students say our profession is welcoming because it is an educated group, and inclusion is correlated with education. My LGBT graduates who are now in jobs confirm that we are a welcoming industry, they have lots of good friendships at work, they trust their bosses, and they don't see barriers to their success and promotion.

I think my students are right—our education and logic make us more likely to be welcoming. Our employers in academia, governments (that serve the public) and industry (that want customers) are ahead of the politicians and churches who are nervous about losing voters and adherents. In addition, the insurance industry may be more progressive than the rest of the financial industry because we arose out of the mutual benefit societies, which had the mission to help everyone in their communities. It's in our very nature to find group solutions and pool risks.

On the other hand, there are issues that pull us in the other direction, such as the need to underwrite and charge some people more, but laws can and have prohibited some of that. In the pension area, ERISA's fiduciary rules and the *Code of Professional Conduct*⁴ motivate us to do what is best for our clients or customers. That is VERY different than the caveat emptor (buyer beware) rule on Wall Street. In mergers and acquisitions (M&A) and reinsurance work, I love hearing my former students talk about how they work with their counterparties to make sure each has accurate data on the other party. My students are right to be proud of the actuarial profession they are entering! ■

ABOUT THE WRITER

RON GEBHARDTSCBAUER, FSA, MAAA, has recently retired from heading up the Actuarial Science program at Penn State, but he will continue teaching a course on option pricing each fall. He can be reached at rug16@psu.edu.

References

¹ In most ancient civilizations, there were famous gay lovers, such as Alexander the Great and Hephaiston, and lesbian lovers in recent times like Marlene Dietrich and Greta Garbo. But after a millennium of persecution, religions considered gay people sinners, the medical profession considered them sick and the law considered them criminals. Gay people were labeled as "sick" until the American Psychological Association (APA) declassified homosexuality as a mental disorder in 1974. That may seem like a long time ago to some, but through the lens of history, it is very recent. With regard to the law, gay men and lesbians can still be discriminated against in housing, employment and even association. Gay people were prohibited from gathering in restaurants, even in New York City, which led to the famous Riots at Stonewall Inn in 1969.

² LGB stands for lesbian, gay and bisexual. Note that the T (for transgender) was too scary for even LGB people to include in their list back then. Sometimes the "B" wasn't included either because some thought bisexuals were just afraid to be fully out as gay. We now know that is incorrect.

³ Some employers withdrew their domestic partner benefits when the Supreme Court allowed marriage equality.

⁴ For example, in the *Code of Professional Conduct* we have Precept 1 on Integrity, Precept 7 on Acting Fairly Without Conflicts of Interest, Precept 9 on Confidentiality, and Precept 10 on Courtesy and Cooperation.

NEXT STEPS: HOW TO SUPPORT LGBT INCLUSION

If you'd like to help support the LGBT community, here are some steps you can take.

- » Encourage the start of an LGBT group at your company. Or, if one already exists, become an ally.
- » Be proud, outspoken and inclusive in your language when discussing diversity by mentioning LGBT words prominently.
- » Gently or privately point out when friends unconsciously exhibit bias or microaggression.
- » Hire someone at a STEM Career Fair for LGBT students. Yes, they are at many large universities.
- » Advertise in LGBT publications that you are interested in hiring LGBT actuaries.
- » Join other industries that support nondiscrimination laws in your state and nation.
- » Attend receptions and events at SOA meetings such as Session 141: LGBTQ Actuaries and Allies Meeting and Reception at the 2018 SOA Annual Meeting & Exhibit (SOA.org/Annual). Listen to the webcast, "Building an Inclusive LGBTQ Workplace," at bit.ly/SOA-LGBTQ-Webcast.
- » Volunteer to create SOA meeting sessions on LGBT topics, such as the different needs of LGBT consumers.



VISIT **THEACTUARY**
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TWO MORE ARTICLES ON
DIVERSITY AND INCLUSION.

More Viewpoints Included Online

We filled the print version of *The Actuary* to the brim with articles on inclusion and diversity. But the interesting reading doesn't stop here. Visit TheActuaryMagazine.org for two additional pieces on diversity and inclusion.

DIVERSITY AND INCLUSION IGNITED

Margaret Resce Milkint, a managing partner at The Jacobson Group, discusses how millennials and Gen Z are demanding diversity and inclusion from their organizations, and how a globalized economy is playing a major role in the evolution of the racial and ethnic composition in the United States.

Among other topics, she cites progress worth celebrating, noting that Yale University reports women currently account for the majority of students in 93 countries and earn more bachelor's and master's degrees than their male counterparts. Most important, perhaps, is her claim that inclusion begins with creating a culture where employees feel comfortable sharing their viewpoints and ideas. Read

"Diversity and Inclusion Ignited" in its entirety at TheActuaryMagazine.org/diversity-and-inclusion-ignited.

WHAT ARE THE ODDS?

In "What Are the Odds?" Scott E. Page, Leonid Hurwicz Collegiate Professor of Complex Systems, Political Science and Economics at the University of Michigan and an external faculty member of the Santa Fe Institute, examines the value of diverse teams. He suggests that different ways of thinking produce "bonuses" when performing the complex cognitive tasks actuaries complete in their daily work.

He contends that cognitive diversity comes in part from our education and training and in part from our life experiences. Because who we are affects the nature of our experiences and how we filter and categorize life's events, our identities also matter. Thus, identity diversity correlates with cognitive diversity. Read the full article at TheActuaryMagazine.org/what-are-the-odds to learn how diversifying the pool of the actuarial profession will align with the ideal of a more integrated society. ■

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Communication Strategy for Professional Development

BY J. PATRICK KINNEY



The Vision Statement of the Society of Actuaries (SOA) establishes communication skills as one of the key drivers of our success as a profession. Arguably, the profession and the SOA have made great strides over the years in enhancing our communication tools. Our publications, including this magazine, numerous section newsletters, SOA research reports and the SOA website have undergone significant redesign in an effort to reach audiences within and outside of the profession. Meanwhile, global expansion and the continuing demand for actuarial services fuel substantial growth in SOA membership. Our professional reach has never been wider.

Yet, the perception remains that individual actuaries are not good enough at communication. Stakeholder surveys and anecdotal comments emphasize improvement is needed in this fundamental area. Every actuary needs to be able to explain his or her work and to make recommendations to the appropriate audience.

Communication Competency

The Professional Development Committee (PDC) has undertaken a strategy in recent years to provide opportunities to grow our communication skills. To some extent, this is a cultural change for the SOA and its members, driven by external factors.

In a highly simplified Strengths, Weak-

nesses, Opportunities and Threats (SWOT)

analysis, our strength has always been in technical expertise, with communication skills viewed as a weakness for us.

In today's world, there are many threats to a profession built solely on technical expertise.

The opportunity lies in combining technical expertise with communication skills. Seizing this opportunity requires effort on both individual and organizational levels.

The SOA refers to a Competency Framework in designing and evaluating our continuing professional development programs. Among the eight competencies is Communication, to both technical and nontechnical audiences. Traditional actuarial education is largely focused on developing our personal technical skills and industry knowledge.

With the use of e-Learning modules in pre-qualification education, which includes practical exercises such as summarizing findings in a written submission as well as a required oral presentation on an actuarial topic at the Fellowship Admissions Course (FAC), many SOA members have now been introduced to the practical communication

aspects of actuarial work before achieving their designations. This creates a responsibility to support continuing education for all members on these topics.

Communication at SOA Meetings

To foster improved communication skills, the PDC is increasing emphasis on the topic at existing SOA meetings. The agendas for major meetings have always identified which competencies are covered by each session. We would like to see the Communication competency highlighted as a component of more sessions. We encourage speakers to include discussion of communication methods in the content of each session. For example, a speaker at a technically oriented session could spend a few minutes on how best to deliver the results presented to a nontechnical audience.

This could consist of explaining how graphics and data visualizations can be used to make major points clear, or emphasizing simple questions that your report to management or a client should be sure to answer.

Beginning this year, you can filter SOA meeting agendas by competency and identify sessions with significant communication skills content. We have added a question to the session surveys for each meeting, asking if suitable content is included that would help you explain the methods and results presented to your audience. This is intended to give us a measure of our success in delivering material to help attendees improve their communication skills, as well as to spread awareness among speakers that addressing communication skills is important.

We have introduced additional preparation support for members who volunteer as session moderators and speakers at SOA meetings. Speakers have access to a video library of presentation best practices. A speaker mentoring program was offered for several SOA Annual Meetings & Exhibits. Updated material for moderators, many of whom are new SOA meeting volunteers, is available on the SOA website. These resources help volunteers who are planning their own presentations to be better communicators.

We introduced the Outstanding Session Awards program for speakers at major meetings. These awards are selected based on attendee feedback and are typically awarded to speakers who are excellent communicators. That is how

Actuaries are highly sought-after professionals who develop and communicate solutions for complex financial issues.

—Society of Actuaries
Vision Statement



Communication competency is developing the listening, writing and speaking skills that are needed to address diverse technical and nontechnical audiences in formal and informal settings.

they achieve high scores on the session surveys! We provide all speakers with feedback on their sessions so they can track and improve their skills over time.

Additional Learning Avenues

Many of the SOA e-Learning modules are available for self-study as continuing professional development. This includes the capstone Decision-Making and Communication (DMAC) module that has been a key component of FSA education for more than 10 years. DMAC covers processes associated with big decisions, including successful collaboration with stakeholders and the key skills that comprise effective communication: listening, writing and speaking.

One of the PDC's major efforts in the last year was to introduce the Predictive Analytics Certificate program. Given the "black box" opacity of many predictive models, the ability to analyze and communicate results is critical. The certificate program includes a final project with a significant communications component that is comparable to one of the learning objectives of the new Predictive

Analytics Exam: "to effectively communicate results of an analysis and any limitations and uncertainties."

SOA sections sponsor dozens of seminars and webinars throughout the year, many of which include thoughts on communication. One example specifically focused on communication was the "Best Practices in Health Studies" seminar that was offered adjacent to the Health Meeting in 2015, 2016 and 2017. This seminar included informative presentations about data visualization as well as talks and hands-on work on written communication.

I encourage members and candidates to consider how SOA resources and programs can fit into their strategy for professional and personal development. If you have more ideas on how we can support you, please let the PDC know. ■

ABOUT THE WRITER

J. PATRICK KINNEY, FSA, MAAA, is managing actuary of LTC Pricing for MedAmerica Insurance Company, and chair of the SOA's Professional Development Committee. He can be reached at Patrick.Kinney@medamericaltc.com.

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Actuarial Applications of New Technologies

Q&A with R. Dale Hall

Managing director of research at the Society of Actuaries (SOA), R. Dale Hall, provides research insights on technology and new practices.

What type of research has the SOA explored on image recognition technology?

Hall: The SOA Research Expanding Boundaries Pool sponsored a study focusing on image recognition applications within insurance. This report examines how it can help the actuarial profession and the insurance industry. The report provides insights on image recognition techniques to improve customer service, facilitate data collection and provide additional valuable information for pricing, reserving and risk management.

The report also provides an example of how auto vehicle driver behavior can be assessed using image recognition. This process helps predict driver behavior based on images captured during driving.

As noted in the report, models can be fine-tuned with insurance-related image data. There is an opportunity to combine meaningful model output and object identification. Ultimately, it provides an opportunity for actuaries to improve the business value of image recognition techniques to address insurance problems.

What are the practical uses for the industry?

Hall: This research explores how image recognition can be applied to agricultural insurance pricing and risk analysis, to property insurance, and following extreme weather events. There are also applications possible for health insurance,

such as with pricing factors for individual customers. The report also delves into the challenges with harnessing image recognition applications, including with fraudulent claims.

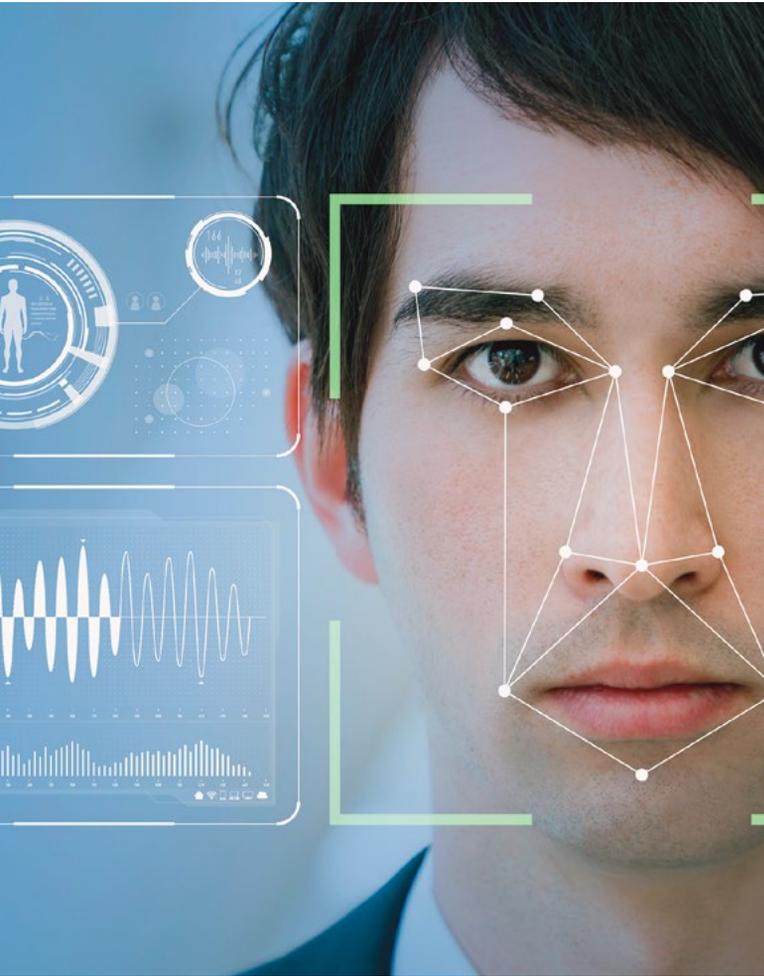
At what level are insurers approaching predictive analytics and other emerging topics involving technology?

Hall: Over the past two years, the SOA conducted a survey to gauge how insurers are working or planning to work with predictive analytics, accelerated underwriting and enhanced underwriting. The research responses focused on marketing, underwriting and post-issue management of these topics. Thirty-six companies responded to the survey, providing knowledge on which areas they're addressing. The participants noted that the most frequently implemented predictive analytics programs are underwriting risk class and decisions on underwriting requirements. The majority of companies currently working on these programs plan to implement them within two years.

What other research projects involving new technology are in development?

Hall: The SOA works on a variety of research projects looking at new technology, approaches and its impact on the profession. For instance, we have a research study to understand genetic testing, family history and mortality—in terms of the impact on life insurance. Later this year,





we are also exploring the impact of autonomous vehicle implementation on the insurance industry. As part of the SOA's strategic research efforts, we are pursuing research to highlight the evolution of technology as it applies to the actuarial profession, the insurance industry and population trends. Some of the topics we may explore include accelerated underwriting, business technology, machine learning, cyber risk, wearables, telematics and other new innovations. ■

RELATED LINKS

Image Recognition

bit.ly/ImageRecSOA

Accelerated Underwriting

bit.ly/PA-Underwrite

Strategic Research Programs

bit.ly/SOA-Strategic-Research

Visit SOA.org/Research for the latest updates on new research opportunities, data requests, experience studies and completed research projects.

ABOUT THE WRITER

R. DALE HALL, FSA, CERA, CFA, MAAA, is managing director of research at the SOA. He can be reached at dhall@soa.org.

RESEARCH READS

Student Research Case Study Challenge

The SOA announced the winners of the 2018 SOA Student Research Case Study Challenge, which include the Cass Business School at City, University of London; Nanyang Technological University in Singapore; and the University of Lisbon in Portugal. More than 70 teams of actuarial students from around the world participated in a research competition to apply their actuarial skills on a social long-term care insurance program.

bit.ly/SOA-Student-Research

Pending Insolvencies on U.S. Multiemployer Pension Plans

The SOA provided an analysis of pending insolvencies on “critical and declining” multiemployer pension plans. It explores the impact of insolvency on plan participants and contributing employers.

bit.ly/2018Pending

Cyber Risks and Other Emerging Risks

Cybersecurity ranks as the top emerging risk among risk managers, according to the 2017 Emerging Risks Survey. This report is sponsored by the Joint Risk Management Section, the SOA, the Canadian Institute of Actuaries (CIA) and the Casualty Actuarial Society (CAS). Other emerging risks include climate change, asset price collapse, financial volatility and terrorism.

bit.ly/2017-Emerging-Risks

HONE YOUR IMAGE

**Meetings**

2018 SOA Annual Meeting & Exhibit

This year's Society of Actuaries (SOA) Annual Meeting & Exhibit will take place Oct. 14–17 in Nashville, Tennessee. This event features more than 140 educational sessions, networking events and stellar keynote speakers.

Stay in tune with the actuarial profession and join industry leaders and problem solvers. More than 140 educational sessions connecting traditional actuarial functions with forward-thinking principles are waiting for you. Register before Sept. 14 for reduced rates.

SOA.org/Annual

Predictive Analytics Symposium

Equip yourself with critical predictive analytics knowledge or enhance your expertise in this field. Don't miss the second SOA Predictive Analytics Symposium, Sept. 20–21, in Minneapolis. This year's symposium is poised to be bigger and better than the first.

The symposium will feature multiple tracks for all levels of interest and knowledge, from beginner to advanced practitioner. You can also choose to mix and match sessions throughout the symposium. Reserve your spot today.

SOA.org/PASymposium

Report

Image Recognition

A new SOA report examines how actuaries can use image recognition techniques to solve insurance problems. It looks at examples of how driver behavior can be assessed using image recognition. The report provides insights on these techniques that can improve customer service, facilitate data collection, and provide additional valuable information for pricing, reserving and risk management.

bit.ly/ImageRecSOA

**Webcast**

Tune in to Webcast Recordings

Expand your knowledge base. Learn about topics such as machine learning, professionalism, pet insurance and more—at no charge. There are just two simple rules:

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- » You must be a member of the professional interest section that created the webcast to view at no charge.

Free webcast recordings are housed on SOA Engage. Log in using your SOA username and password. Go to “My Communities” and select the specific section. Webcasts that have not reached the one-year mark can be purchased for \$149 through the SOA. Don't miss this opportunity to learn, explore and tap into topics that can help you in your career.

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bit.ly/SOARecordings

Public Notice of Discipline Determination

On April 29, 2018, the Society of Actuaries (SOA) convened a Discipline Committee to review a matter referred by the Actuarial Board for Counseling and Discipline (ABCD). The Discipline Committee determined that Scott Allen, ASA, should be expelled from the SOA for material violations of the *Code of Professional Conduct (Code)*, specifically Precepts 1 and 9, effective May 24, 2018.

Mr. Allen pleaded guilty to multiple violations of federal securities law on March 19, 2012, and was sentenced to two years supervised release on March 15, 2016. Per his plea, Mr. Allen knowingly misappropriated material confidential information from his employer on two separate occasions, and shared this information with a friend to obtain unlawful financial gains through insider trading. Following the conclusion of the criminal and civil court proceedings, the matter was investigated by the ABCD, and then referred to the SOA.

Mr. Allen materially violated Precept 9¹ by disclosing confidential information learned in the course of his employment to a friend for purposes of insider trading. His violations of federal securities law likewise materially violated Precept 1² of the *Code*, specifically Annotation 1–4,³ as they reflected adversely on the actuarial profession. The Discipline Committee found Mr. Allen’s conduct egregious, as his material violations of the *Code* were directly related to his professional responsibilities. As a profession, actuaries hold positions of confidence and trust with their employers and clients, and the Discipline Committee believed his abuse of his position was a violation of the fundamental expectations of actuaries. As such, the Discipline Committee determined Mr. Allen should be expelled from the SOA for his material violations of the *Code*’s professional and ethical standards.

All members of the SOA are reminded of their responsibility to follow the *Code of Professional Conduct*.

References

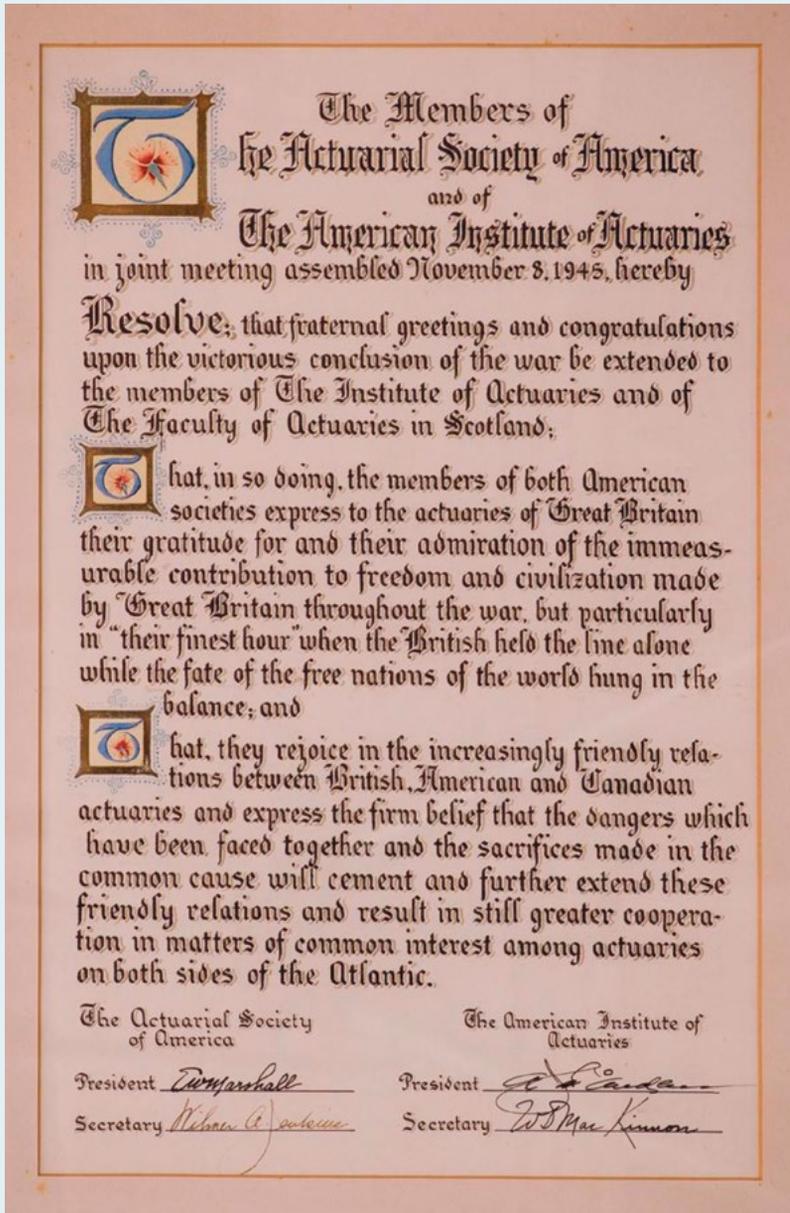
¹ **Precept 9:** An actuary shall not disclose to another party any confidential information unless authorized to do so by the principal or required to do so by law.

² **Precept 1:** An actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession’s responsibility to the public and to uphold the reputation of the actuarial profession.

³ **Precept 1, Annotation 1–4:** An actuary shall not engage in any professional conduct involving dishonesty, fraud, deceit or misrepresentation, or commit any act that reflects adversely on the actuarial profession.

Timeless

THE PAST, PRESENT AND FUTURE OF THE SOA



1945

At a joint meeting on Nov. 8, 1945, the Actuarial Society of America and the American Institute of Actuaries adopted unanimously the Resolution of fraternal greetings and congratulations to the members of the Institute of Actuaries and of the Faculty of Actuaries (at left). The document was sent to the Institute and the Faculty at the end of World War II.

Note of Interest: The respective honor rolls of the Actuarial Society of America and the American Institute of Actuaries, with duplications removed, show that 358 individuals were in service in World War II—57 fellows, 68 associates and 233 students.

Send us information about SOA historical artifacts that will enlighten everyone about our organization's past, and serve as a springboard for future growth, as the actuarial profession continues to inspire and evolve. Write to theactuary@soa.org and share.

Students + Tutors + Donations =



Math Motivators

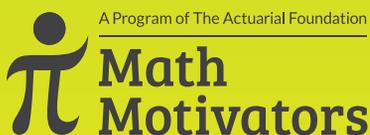
The Actuarial Foundation's Math Motivators tutoring program is working to close the achievement gap by pairing low-income high school students with professional actuaries and college students to help improve their math skills.

The program recently received a Power of A Summit Award from ASAE—the association industry's highest honor—for its efforts to foster a more educated and successful society.

Math Motivators began with no outside funding, but donations are now needed to grow the program. Double the impact of your donation to The Actuarial Foundation and help the Math Motivators program expand to more schools and communities across the country. The Society of Actuaries is generously matching its members' donations to the program for a limited time only.

With your support, it all adds up.

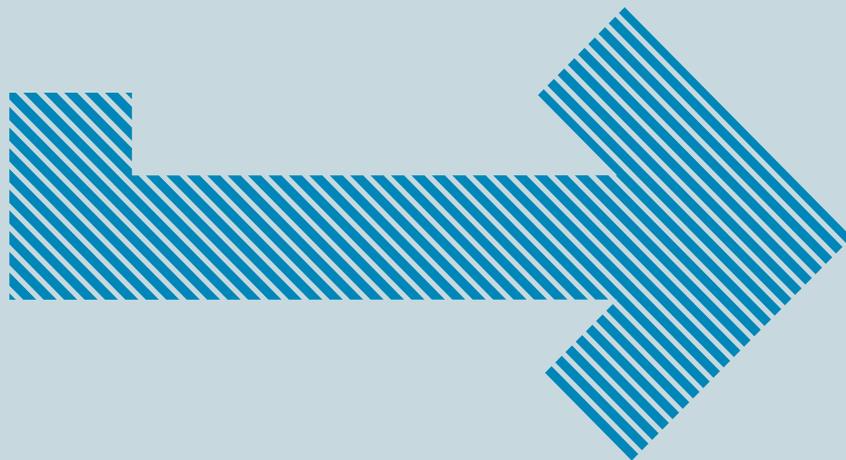
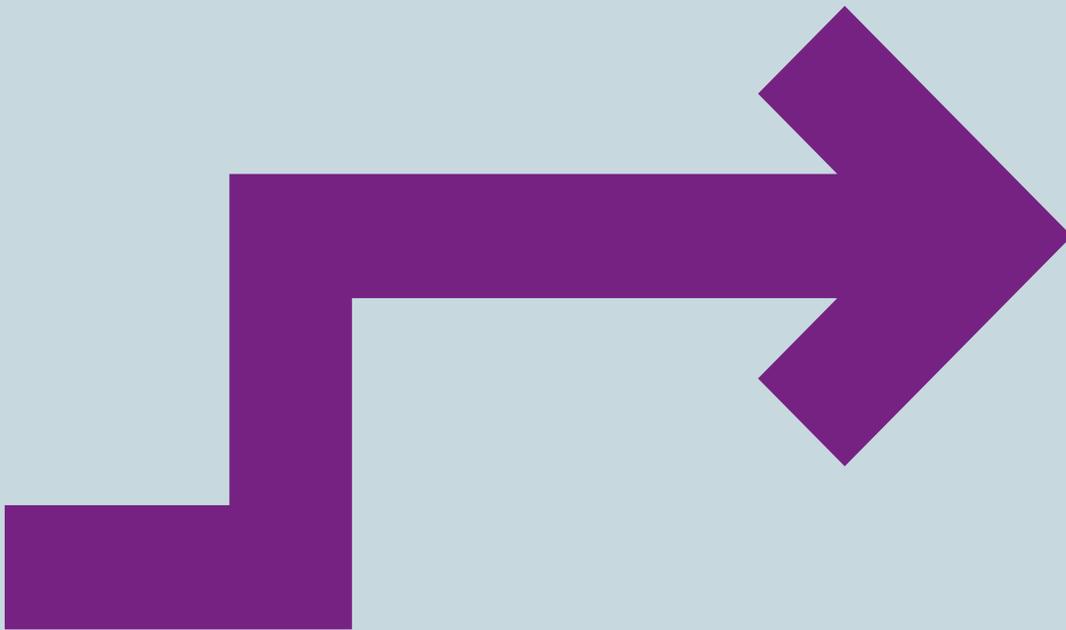
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