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# DIVERSITY SPOTLIGHT

## Constructing an Actuarial Diversity Pipeline for the Future

By John W. Robinson



*Author's note: This article is based on a letter that I recently sent to the boards of the Society of Actuaries (SOA), the Casualty Actuarial Society (CAS) and the Actuarial Foundation, advocating for the construction of an Actuarial Diversity Pipeline that is of sufficient scale to solve the problem of minority underrepresentation.*

A research project commissioned by the SOA, the CAS, the Actuarial Foundation and the International Association of Black Actuaries (IABA) sought to assess the barriers to entry to the actuarial profession experienced by African American and Latinx students.<sup>1</sup> The results, which were published near the end of 2017, recommended that the profession should pursue strategies in five areas to encourage greater diversity:

1. Create awareness of the profession among potential candidates.
2. Attract potential candidates to consider the career.
3. Convert potential candidates into actual exam takers.
4. Provide an appropriate level of support at every stage.
5. Ensure that qualified minorities remain in the profession.

The report made clear that all five areas need to be addressed robustly if real change is to be secured. For example, it is insufficient to create awareness and expect that the other elements will take care of themselves.

The profession's response to the 2017 research has been very encouraging. Several organizations and committees within organizations have assessed their activities in light of what the research says is required, and some have made adjustments to accommodate the objectives.

Table 1  
New Black Fellows Each Year, 2009–2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
13	16	12	10	6	11	9	12	5	5

Source: International Association of Black Actuaries. Annual Reports, 2009–2018, <https://www.blackactuaries.org/page/AnnualReports> (accessed August 29, 2019).

Despite these efforts, it remains unclear whether the profession as a whole has taken the necessary steps to move the needle on increasing diversity. Specifically, a clear and defined goal must be set, a strategy for how to reach that goal must be crafted, and robust and committed follow-through must be implemented. If we have any hope of solving the problem of minority underrepresentation in the actuarial profession before the next century, we need to develop a goal and we need to do so now.

### WHERE WE ARE NOW

According to IABA records, there are currently 223 black fellows in the U.S. and Canada.<sup>2</sup> Based on census counts, the number of Latinx actuaries is estimated to be of similar size.

Table 1 shows the numbers of new black fellows in recent years. Although 2010 reached a high of 16, both 2017 and 2018 saw the addition of just five new black fellows. Again, similar numbers can be estimated for Latinx actuaries.

With numbers like these, it will be very hard to make strides toward increased diversity. Drastic measures need to be taken to increase the number of minority actuaries entering the profession each year. The first step is to have a goal.

### WHAT IT WILL TAKE

How many black and Latinx fellows should there be so that we are not underrepresented? For illustrative purposes, I propose that the destination be 1,000 black and another 1,000 Latinx fellows

continuously by the year 2100.<sup>3</sup> Knowing how few new black and Latinx fellows enter the profession each year currently, we need to look long term for achieving this goal. Again for illustrative purposes, I suggest targeting 2060 as the first year we will see sustainable growth. Assuming that the length of an actuary's career is 40 years, this will give us the lead time we need to reach our goal by 2100.

### Building a Pipeline

With these parameters in mind, let's consider how many new black fellows we would need to add each year to reach our goal. (We will address Latinx fellows next.) A simple division says we need 25 a year (1,000 actuaries/40 years) starting in 2060.

To produce 25 new black fellows each year, how many must start the exam process? First we determine how many fellows were produced in 2017 (the most recent year the data is available):

$$\begin{aligned} &852 \text{ new SOA Fellows}^4 + 287 \text{ new CAS Fellows}^5 = \\ &1,139 \text{ total new fellows} \end{aligned}$$

We then divide that figure by the number of students who took their first exam in 2009, or 6,335,<sup>6</sup> to learn the percentage of students who make it through the pipeline from first exam to fellowship—17.98 percent. We further divide that by the percentage of students who pass their first exam, which is 50 percent.<sup>7</sup>

Putting it all together, to produce 25 new fellows each year, we will need  $25/17.98\%/50\% = 278$  first-exam candidates each year. For simplicity, we can round up to 300.

Now imagine a pipeline that has approximately 300 black students per class year, from high school year one to college year four, and you have an idea of how big the pipeline needs to be to attain our stated goal:

$$300 \text{ black students} \times 8 \text{ years} = 2,400 \text{ black students a year}$$

Assuming the same goal for Latinx actuaries, double all of those counts. Our pipeline is now around 4,800 African American and Latinx students. It takes actuaries, on average, 10 years to become a full actuary. Working backward from 2050, then, to the first year of high school, we have roughly 20 years—one generation—to build this pipeline. That is why we must start now.

### Doing the Work

When discussing how exactly we can build a pipeline such as this, the consensus is that we need to penetrate high schools and colleges so that we can influence students' career choices early on. Some argue that we need to be in middle schools, that even high school might be too late.

To date, however, diversity has been addressed by a relatively small number of dedicated volunteers. The IABA, founded

in 1992, now has between 200 and 300 members. The Joint Committee on Career Encouragement and Actuarial Diversity, which grew out of the IABA's scholarship program, has about 20 members.

Building and maintaining relationships with dozens of high schools and colleges across the country will require much more than a few volunteers. To ensure continuity of effort, we need permanent staff to perform these tasks. Coordination with philanthropic organizations should also be leveraged to finance and staff this effort.

### CALL TO ARMS

I call on the actuarial profession to construct an actuarial diversity pipeline that is comprehensive (addressing all five recommendations from the research) and goal-oriented, with the goal being sufficient to solve the problem of minority underrepresentation. This will require the hiring of staff and leveraging the profession's great reputation to partner with philanthropic organizations interested in promoting the actuarial profession and/or STEM in general. At some point, a pipeline of 4,800 students will need volunteer mentors, so every one of us actuaries who is interested can have a role in this adventure.

We can do this, and we should. ■

*The opinions expressed in this article are the author's and do not necessarily reflect those of his employer or the Society of Actuaries.*



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### ENDNOTES

- 1 Culture Beat. *Diversity & Inclusion Research Initiative: Executive Summary*. Presented to The Actuarial Foundation, CAS, IABA and SOA. Schaumburg, IL: Society of Actuaries. <https://www.soa.org/globalassets/assets/Files/static-pages/about/diversity-inclusion-executive-summary.pdf> (accessed Aug. 29, 2019).
- 2 International Association of Black Actuaries. 2018. *2018 Annual Report*. [https://cdn.ymaws.com/www.blackactuaries.org/resource/resmgr/docs/about\\_us/2018\\_iaba\\_annualreport\\_03111.pdf](https://cdn.ymaws.com/www.blackactuaries.org/resource/resmgr/docs/about_us/2018_iaba_annualreport_03111.pdf) (accessed Aug. 29, 2019).
- 3 Little is known about the current Native American representation within the actuarial field; an achievable goal may be 200 Native American fellows by 2100.
- 4 Stuart Klugman, senior staff fellow at the Society of Actuaries, personal communication, Aug. 21, 2019.
- 5 Casualty Actuarial Society. 2017. *2017 Casualty Actuarial Society Annual Report*. [https://www.casact.org/about/thecas/annual\\_reports/Annual-Report-2017.pdf](https://www.casact.org/about/thecas/annual_reports/Annual-Report-2017.pdf) (accessed Aug. 29, 2019).
- 6 Klugman, supra, note 4.
- 7 Exam Results. Society of Actuaries, <https://www.soa.org/education/general-info/exam-results/edu-exam-results-detail/> (accessed Aug. 29, 2019).