

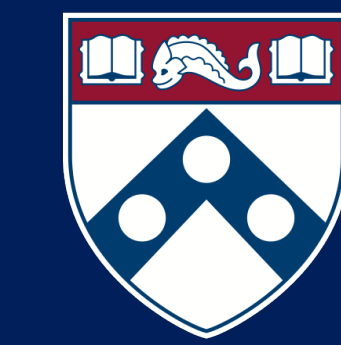
Female and Racial Diversity in the Field of Otorhinolaryngology: A Nationwide Longitudinal Analysis of Medical Students, Residents, and Faculty



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Abstract

The field of otolaryngology continues to diversify across all levels of training. Increased representation in providers can lead to better outcomes for patients. We utilized the data from 2007-2022 from the Association of American Medical Colleges and American College of Graduate Medical Education to examine medical student, residency applicant, resident, and academic faculty demographics. We analyzed trends over time and identified there was statistically significant increase of female and underrepresented in medicine (URM) ENT residents, however ENT continues to have a smaller proportion of these populations compared to other specialties. Since 2019, there has not been any statistically significant increase in female and URM representation in ENT faculty. While there have been great strides in increasing diversity, much work remains in building an otolaryngology workforce representative of the patient population.

Introduction

Numerous studies have shown the benefit of a medical workforce representing the diversity of the patient population. Over the past two decades, there have been increased efforts to recruit those underrepresented in medicine across all levels of training. Notable recent initiatives include grants for URM away rotation grants and outreach programs to local communities. We sought to quantify these changes across the past years, examining all levels of training – medical students, residents, and faculty. In addition, we compared ENT demographics to other surgical and non-surgical specialties.

Methods

Annual data from 2007-2022 was collected from the Association of American Medical Colleges and American College of Graduate Medical Education regarding medical student, residency applicant, resident, and academic faculty demographics. Data includes medical student matriculation from 2013, ERAS applicant data from 2018, resident data from 2007, faculty data from 2019. Trends and differences were analyzed using the Cochran Armitage, linear regression, and chi-square testing. Run charts of these populations were also generated for visualization.

Results

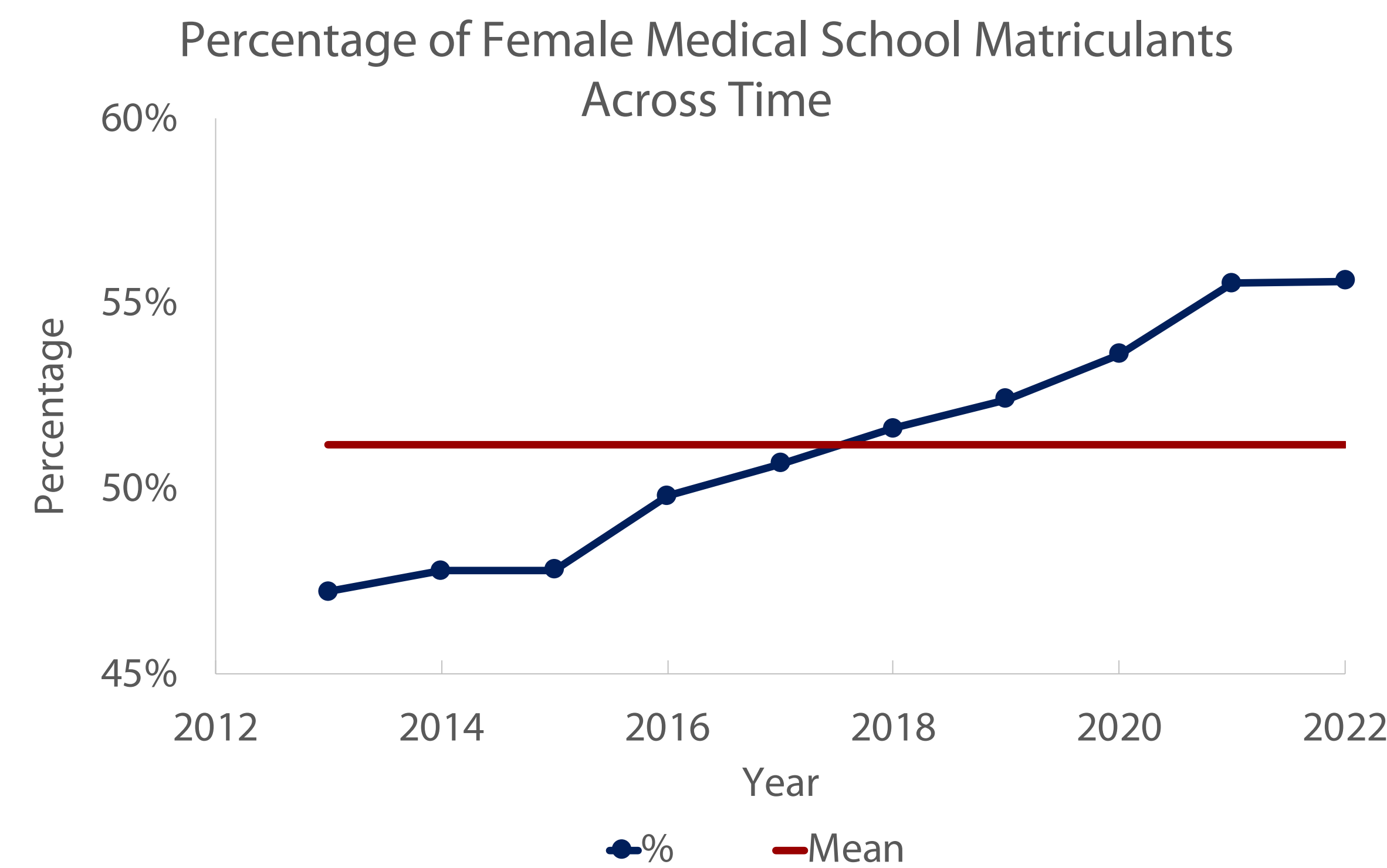


Figure 1: Run chart of female medical school matriculants. Note the increasing trend for many years, but positive shift only in the past 5 years.

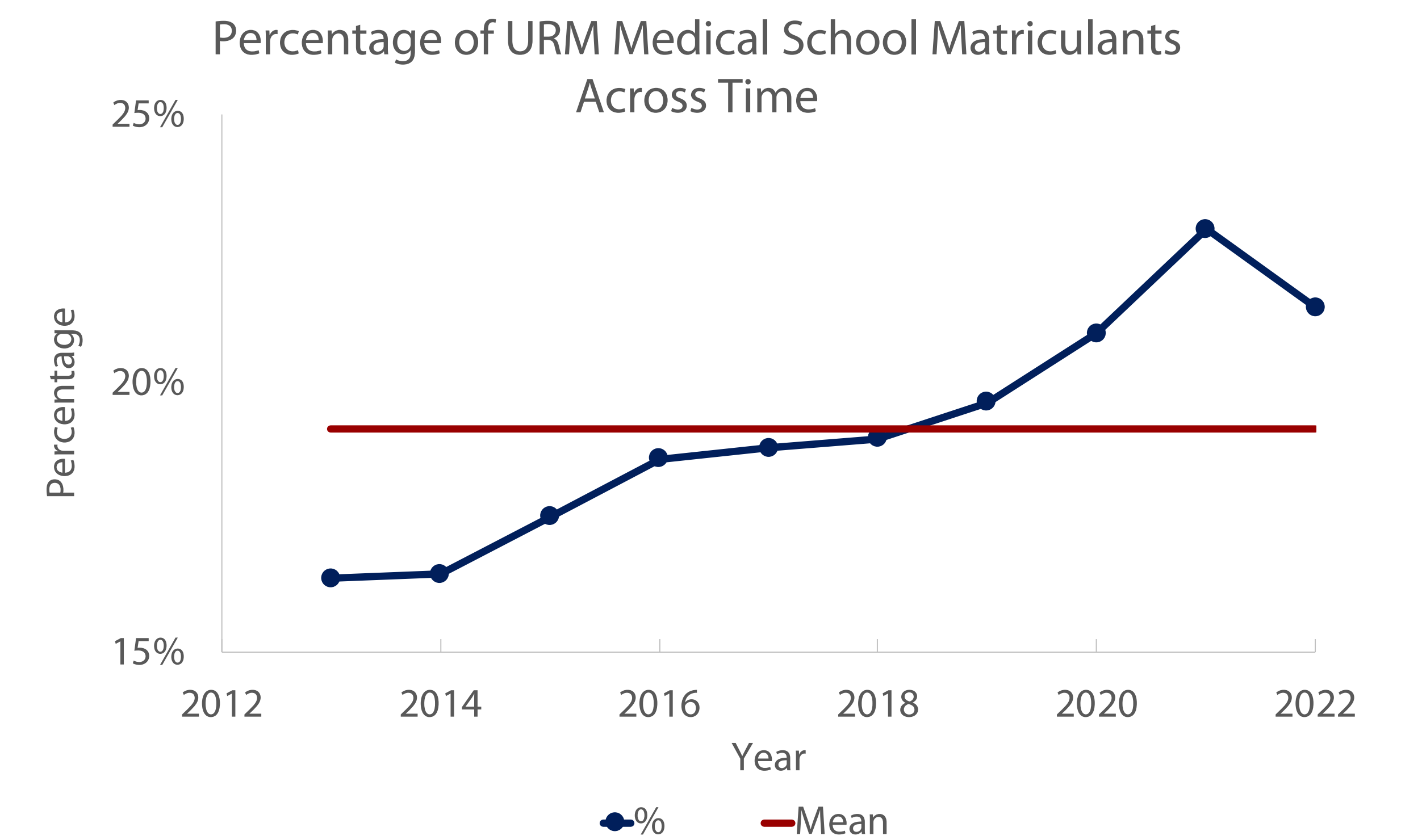


Figure 2: Run chart of URM ENT medical school matriculants. Note the positive shift over the past 4 years, but abbreviated growth trend.

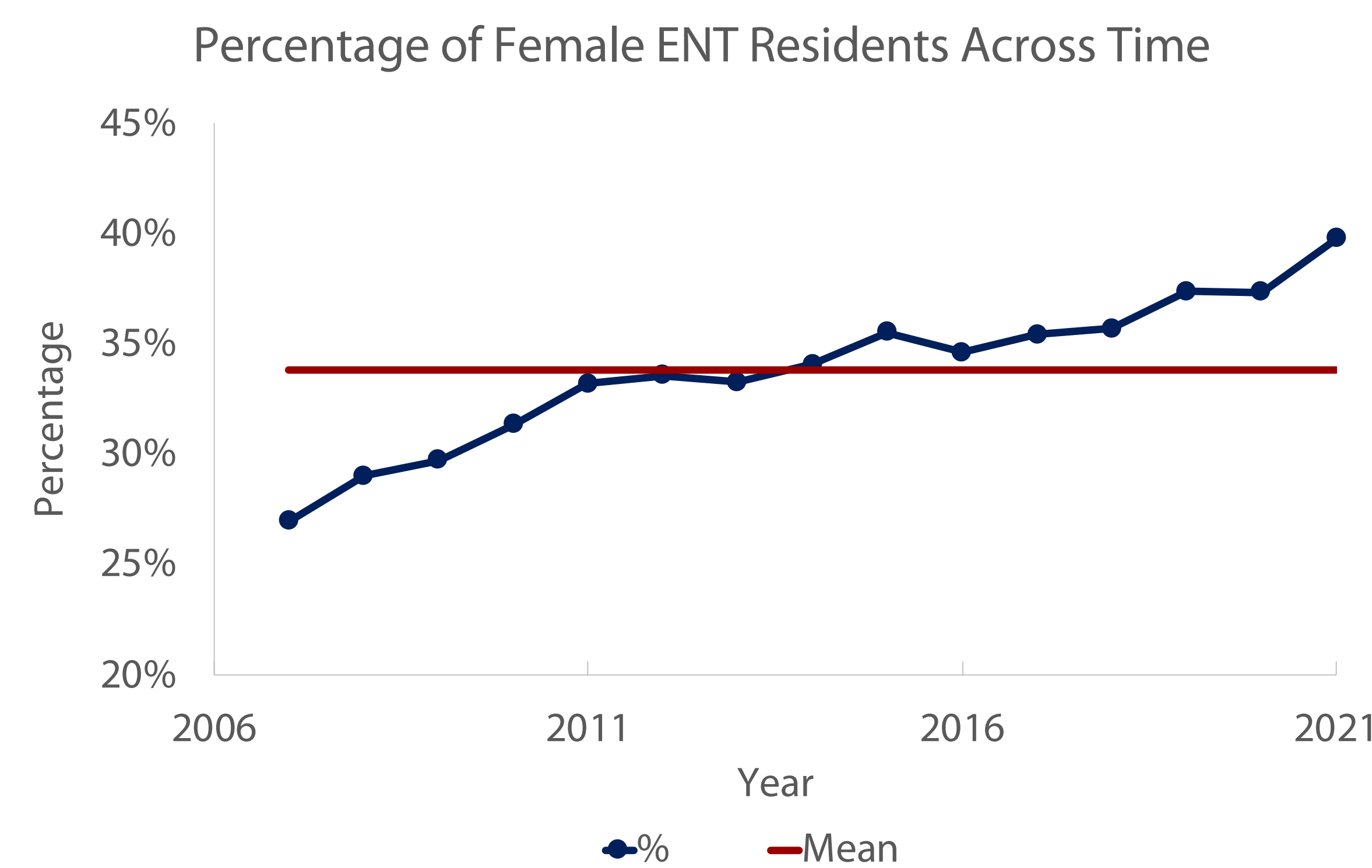


Figure 3: Run chart of Female ENT residents. Note the positive trend for many years and positive shift in comparison to the mean.

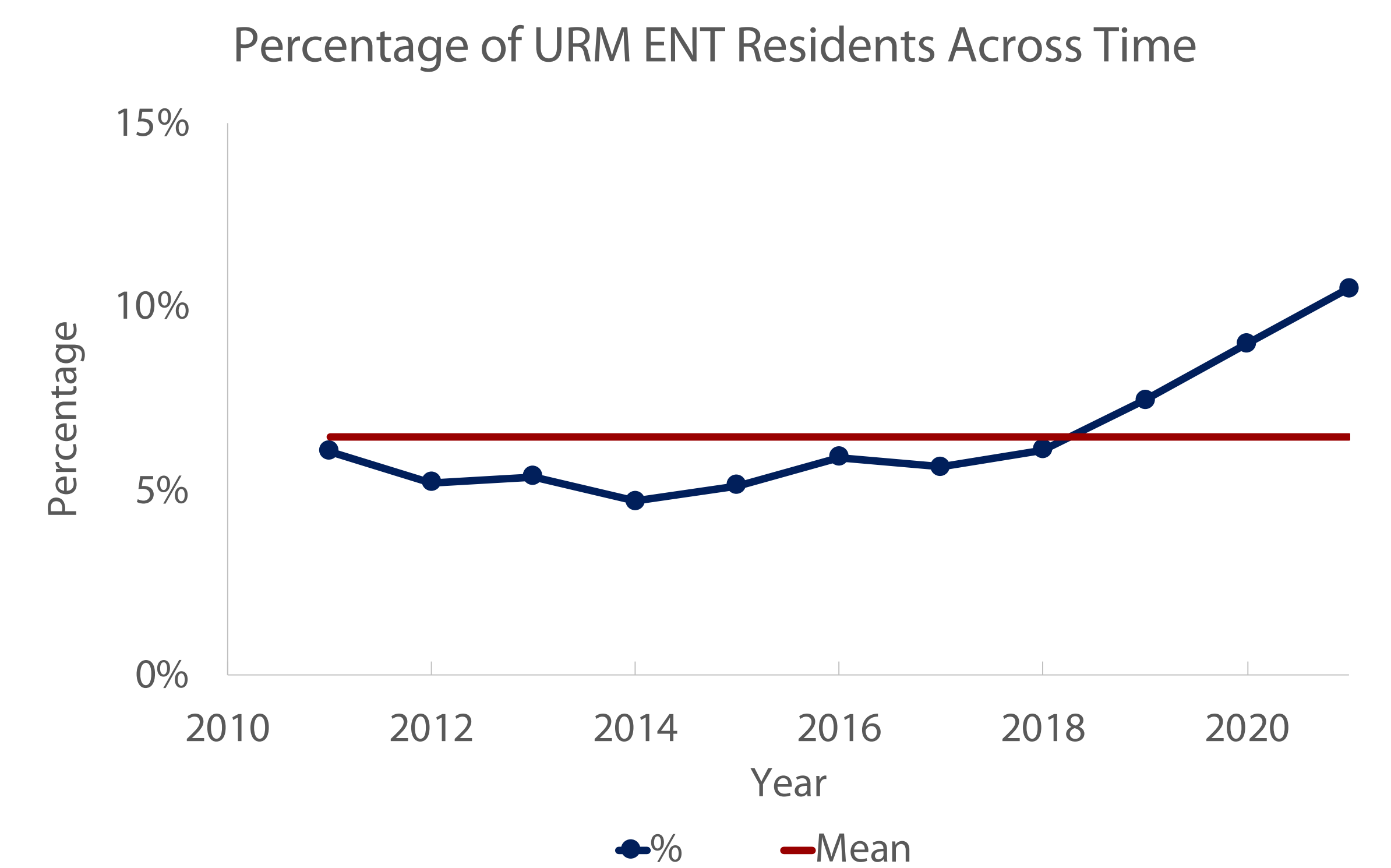


Figure 4: Run chart of URM ENT residents. Note the most recent trend of 4 years of growth. There is only a shift of 3 years beyond the mean.

In 2022, 701 (40%) of 1,763 otolaryngology residents were female and 185 (10%) were URM. Since 2007, female ENT resident representation has increased 13% ($p < 0.0001$) and URM has increased 4% ($p < 0.0001$). Most of the growth in URM started after 2018. Other surgical fields have a greater proportion of females (46% v. 40%) and URM (15% v. 10%) than ENT ($p < 0.0001$). However, growth rates of these populations are not statistically different between ENT and other surgical specialties.

In the past four years, applicants for ENT residency have significantly increased in females but not in URM applicants (f: 33-44%, $p < 0.001$; URM: 16-16%, $p = 0.66$). Other surgical and nonsurgical residency applicants had significant increases in URM (surgical: 17%-19%, $p < 0.0001$; non-surgical: 15-17%, $p < 0.0001$).

Since 2019, there has been no significant increase in female nor URM representation in ENT faculty. There is a greater female population in assistant professors (40%) than professors (18%) ($p < 0.0001$). ENT faculty (f: 35%, URM: 3%) is statistically less diverse than ENT residents (f: 40%, URM: 10%), and applicants (44%, URM: 16%) ($p < 0.001$).

Discussion

Despite increasing female and URM medical students, these populations remain underrepresented in residencies and faculty. Other surgical fields have higher proportions of URM and females. It is important to recognize that change is happening in the field but has not fully integrated into the various stages of training. Continued outreach initiatives are needed to foster greater diversity and inclusivity in the field of otolaryngology.

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