

Faculty Attrition Analysis by Gender, Race, Ethnicity, and Age

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Background

Background: Faculty recruitment and retention are high priorities for all medical schools and academic medical centers. There is evidence to suggest that faculty identifying with minoritized groups may be subject to higher attrition rates. A disproportionate loss of individuals who identify with underrepresented groups can perpetuate underrepresentation among faculty and/or physicians and lead to a multitude of issues including loss of valuable clinical and scientific talent, and a lack of concordant mentors for students, trainees, and early career- faculty.

Objective

The purpose was to examine faculty attrition at a large medical school and its hospital affiliates, using identity characteristics of gender, race, ethnicity, and age.

Methods

Six teaching hospitals affiliated with Harvard Medical School (HMS) participated, and we received permission from institutional representatives to use demographic data collected by hospitals at the time of initial employment. These data were combined with academic appointment data from the Office for Faculty Affairs and resulted in a master dataset that included race, ethnicity, age, gender, terminal degree, academic rank, and term dates for appointments. Race was grouped as White, Black, Asian, and Other (American Indian, Native Hawaiian, and 2 or more races). Ethnicity was Hispanic and non-Hispanic. The categories were predetermined by the dataset available.

HMS faculty with ladder appointments during 2017-2021

- Lecturers
- Instructors
- Assistant professors
- Associate professors
- Professors

➤ Initial analysis: all faculty; subgroup analysis: adjustments to the denominator for missing data

Descriptive statistics were used as well as Poisson regression analysis with attrition as the dependent variable, defined by whether a faculty member left HMS. Variables such as affiliate department, division, name were deidentified prior to analysis. As this was a deidentified database study and there were no interactions with individual faculty, the Mass General Brigham (MGB) institutional review board (IRB) waived the requirement for participant consent and approved the study as exempt from requiring further review.

Results

Key findings:

1. ~1 in 5 people left (2440; 20.8%) during the study period
2. Faculty associated with minoritized race and ethnicity groups were significantly more likely to leave (Table 1)
3. Women not significantly more likely than men; except at age extremes (Figure 1)
4. Younger people more likely to leave; each additional year decreased the probability of leaving until about age 50 (Figure 2)

| Race | IRR | P | CI |
|-------|-----|--------|-----------|
| White | 1 | | |
| Asian | 1.3 | <0.001 | 1.21-1.46 |
| Black | 1.4 | 0.014 | 1.07-1.77 |
| Other | 1.4 | 0.038 | 1.02-1.80 |

| Ethnicity | IRR | P | CI |
|--------------|------|-------|-----------|
| Not Hispanic | | | |
| Hispanic | 1.40 | 0.001 | 1.15-1.71 |

Table 1' Poisson regression shows that all minoritized race and ethnicity groups are more likely to leave. IRR= incidence rate ratios; P=p value;; CI=confidence interval.

*Limitations include, but are not limited to, inability to account for missing data or subcategories of race/ethnicity ,sexual orientation/gender identity, and disability that were not previously collected.

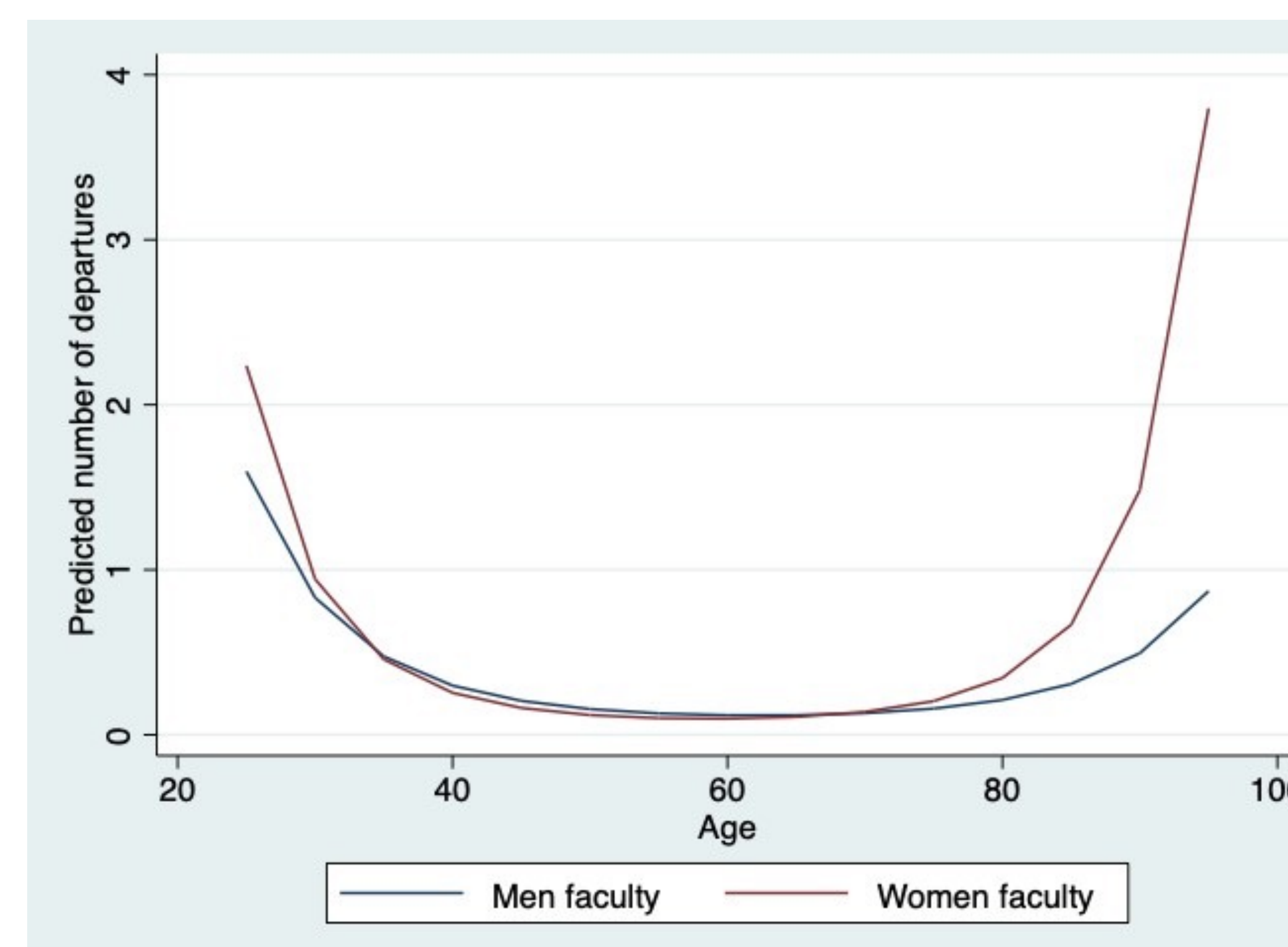


Figure 1: Women faculty were more likely than men faculty to leave at an early and late age.

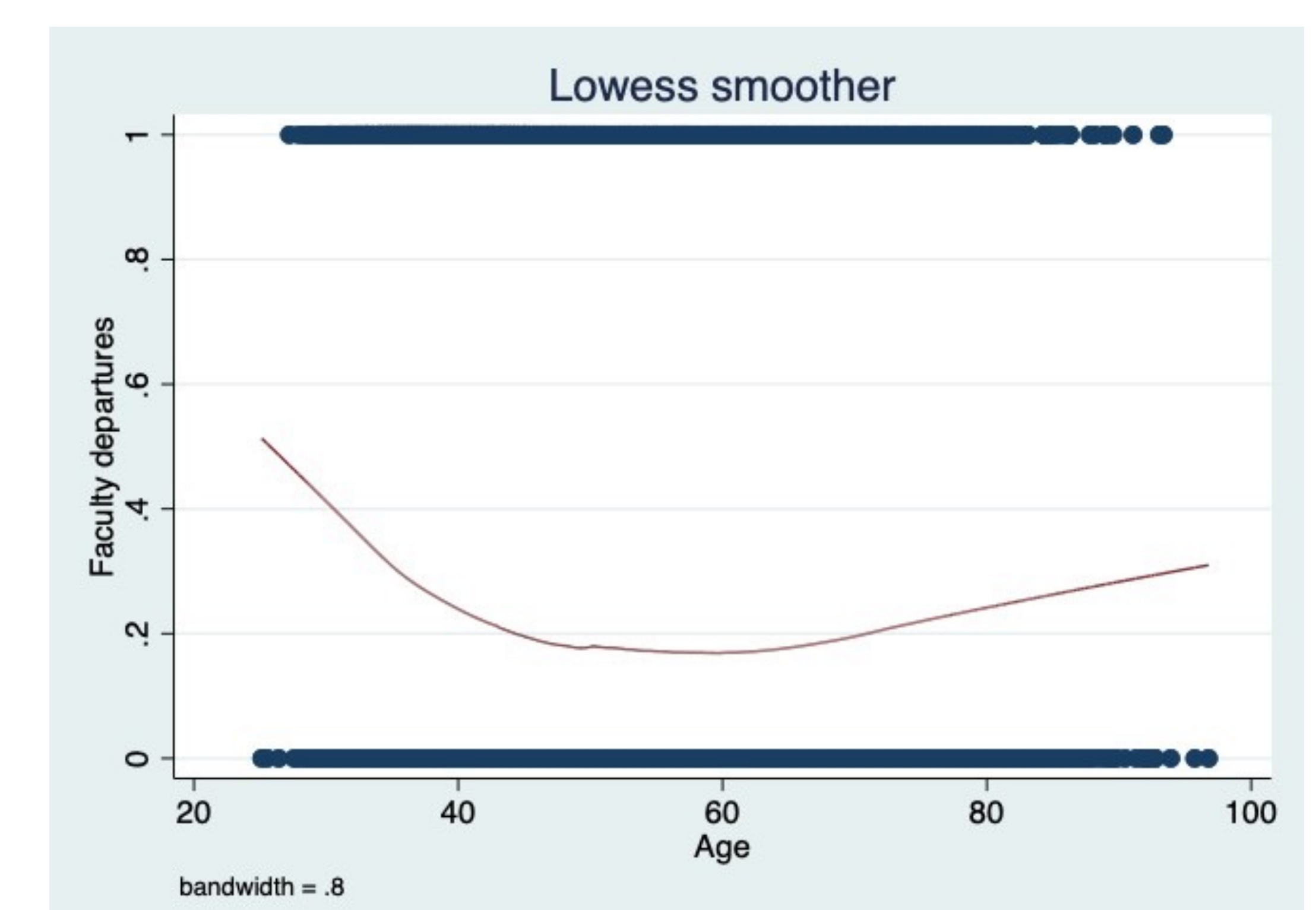


Figure 2: Younger faculty members were more likely to leave, and with each additional year this decreased the probability until about age 50 . After age 50, the probability increased.

Conclusion:

This analysis examined medical school faculty attrition and found that during the study period, women were not more likely to leave than men except at two ends of the age spectrum. All minoritized race and ethnicity groups were more likely to leave. Causality and the specific contribution of COVID-19 pandemic were not examined, and these would be important next steps in order to identify appropriate interventions.



Faculty Attrition Analysis by Gender, Race, Ethnicity, and Age

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Category: Research

Objective: Faculty retention is a high priority for medical schools and academic medical centers. In this study we examined faculty attrition using identity characteristics of gender, race, ethnicity, and age.

Methods: Six teaching hospitals affiliated with Harvard Medical School (HMS) participated. Demographic data collected by hospitals at the time of initial employment were combined with academic appointment data from the Office for Faculty Affairs and resulted in a master dataset that included race, ethnicity, age, gender, terminal degree, academic rank, and term dates for appointments. Race was grouped as White, Black, Asian, and Other (American Indian, Native Hawaiian, and 2 or more races). Ethnicity was Hispanic and non-Hispanic. The categories were predetermined by the dataset available. The study period was 2017-2021. HMS faculty ladder appointments were lecturers, instructors, assistant professors, associate professors, and professors.. All faculty included in the initial analysis; subgroup analyses focused on gender, race, ethnicity, age, academic rank, and profession (physician vs. non-physician), with adjustments to the denominator for missing data. Descriptive statistics were used as well as Poisson regression analysis with attrition as the dependent variable, defined by whether a faculty member left HMS. Variables such as affiliate department, division, name were deidentified prior to analysis. As this was a deidentified database study and there were no interactions with individual faculty, the Mass General Brigham (MGB) institutional review board (IRB) waived the requirement for participant consent and approved the study as exempt from requiring further review.

Results: There were 11,736 faculty included; Lecturer (233;2.0%), Instructor (5182;44.2%), Assistant Professor (3299 ;28.1%), Associate Professor (1751; 14.9%), and Professor (1271;10.8%). The 11,620 faculty members with identifiable terminal degrees were grouped as "Physician" (8,418; 71.7%) or "Non-physician" (e.g., PhD, DPhil) (3,202; 27.3%). There were 5235 (45.1%) women faculty and 3765 (71.9%) of these were Physicians. Race and terminal degree information was available for 10,973 faculty and for the Physician and non-Physician groups; respectively they were as follows: White (53.6% and 18.9%), Asian (8.0% and 15.3%), Black (2.0% and 0.4%), and Other (1.3% and 0.6%). Ethnicity and terminal degree data was available for 11,348 faculty and 3.3% were Hispanic (2.5% Physicians; 0.8% non-Physicians). During the study period, there were 2440 (20.8%) individuals who left. The gender analysis found that women were not significantly more likely to leave than men except when age was taken into account; women faculty were more likely to leave at a younger age and at an older age . Among all faculty, younger people were more likely to leave, and each additional age decreased the probability of leaving until about age 50 and then each additional year increased the likelihood of leaving. The race analysis found that Asian ($p<0.001$), Black ($p=0.014$), and Other ($p=0.038$) were significantly more likely to leave than White faculty. For ethnicity, Hispanic individuals were significantly more likely to leave compared to non-Hispanic faculty ($p<0.001$). Non-physicians were significantly more likely to leave than physicians ($p<0.001$). This is an initial analysis and some of the above results may change based on further analysis.

Conclusions: This analysis examined medical school faculty attrition and found that during the study period, women were not more likely to leave than men except at two ends of the age spectrum. All minoritized race and ethnicity groups were more likely to leave. Causality was not examined, and this would be an important next step in order to identify appropriate interventions.