

# Longitudinal changes to NIH Scientific Review Groups' composition to address gender- and region-based disparities



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## INTRODUCTION

Historically, participation in Scientific Research Groups (SRGs), which are responsible for delegating federal funding for biomedical research (e.g. NIH R01 grants), has shown disproportionate gender and geographic biases. The National Institutes of Health (NIH) is the largest funding source for biomedical research in the United States, with a pre-pandemic amount of \$29 billion disbursed to researchers in 2019<sup>[1]</sup>. These grants are highly competitive – over 54,000 applications were received in 2014, and with an average rate of funding around 17%, most proposed research goes unfunded<sup>[2]</sup>. Although the NIH has made strides to address the compositional demographic disparities between SRGs and the American public, a large gap still exists<sup>[3]</sup>.

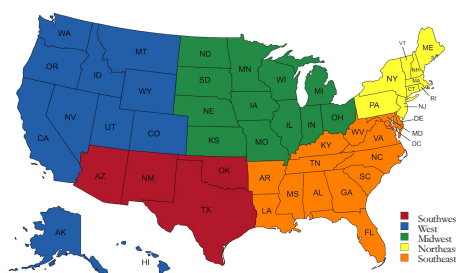
## OBJECTIVES

A longitudinal study was conducted to examine the characterize any gender and geographic biases, specifically within the NIH's Arthritis and Skeletal and Skin Diseases (AMS) meetings held in 2011, 2016, and 2021. We aimed to assess whether NIH/NIAMS' new policies aimed at increasing inclusiveness and equal representation have shifted the demographics of their SRGs to be more reflective of the United States population.

## METHODS

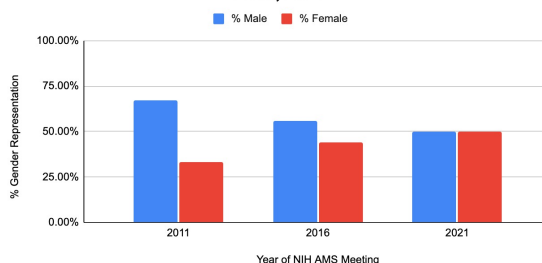
Using a pilot-tested Google Form, authors extracted the following information from NIH SRGs' meeting roster: specific institution, year of meeting, month of meeting, participant's name, post-graduate degree(s), home institution, state of residence, academic position/rank, membership status, and gender. Gender was determined through web searches of the affiliated institution(s); if gender could not be determined via web search, the website *genderize.io* was used by entering the individual's forename to make the conclusion. A probability of 0.6 was required to determine the gender of the study section member. States receiving the top 20% of NIH funding were designated as "Scientific Hubs" and were further compared.

Figure 1. Geographic Regions of the United States



Geographic Regions as National Geographic<sup>[4]</sup>

Percent Gender Representation at NIH AMS Meetings 2011, 2016, 2021



Changes in professorship status distribution between men and women in Scientific-Hub States vs. Non-Scientific Hub States over time

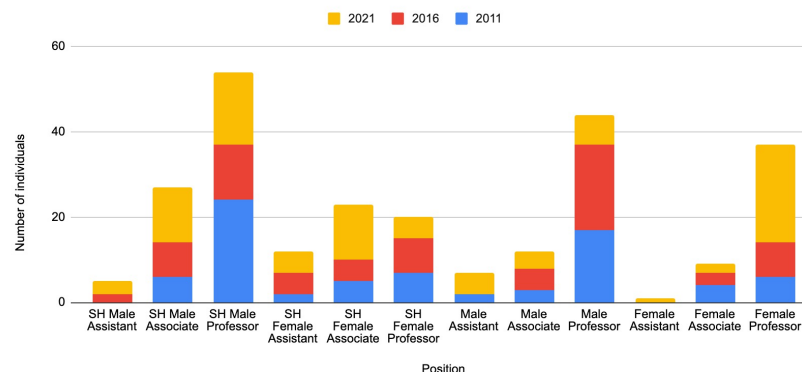
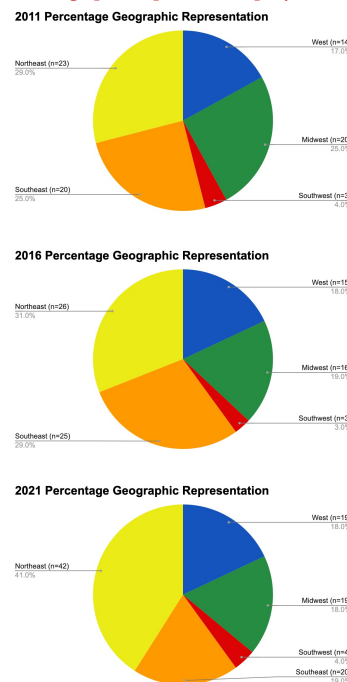


Figure 2. Geographic Representation per year



## CONCLUSION

Our findings indicate that from 2011 to 2021, the number and proportion of women serving as members of SRGs increased. This trend was seen to continue through each evaluated year, and could suggest that changes to NIH/NIAMS SRG selection policy were effective at increasing gender representation. Of note, only the South and Southwest regions were noted to have *any* increase of proportion between the years studied. States comprising the Scientific Hub group retained an overall increase in male faculty score, compared to the male faculty score of the non-Scientific Hub group's decrease, and female faculty scores rose in both groups.

Collectively, these findings do indeed suggest that gender inclusion of SRGs is improving, although geographic disparity overall remains unaddressed. Given the limited scope of this pilot study, a causal relationship cannot be established. Enhanced modeling of each region/institution's intrinsic demography, SRG application demography, and an expanded characterization of each SRG member are changes that will be included in future research.

## REFERENCES

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