

# In the nation's M.D.-Ph.D. programs, the socioeconomic gap widens

March 12 2024, by Mallory Locklear

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A new Yale study finds that M.D.-Ph.D. programs in the United States have become less socioeconomically diverse in recent years. Between 2014 and 2019, applicants from families with higher household incomes were accepted at increasingly higher rates, a trend not found among other income brackets.

The findings, which the researchers say have implications for biomedical innovation and equitable health care, were [reported](#) March 12 in *JAMA Network Open*.

Diversity in medicine has wide-reaching benefits, said Mytien Nguyen, an M.D.-Ph.D. student at Yale School of Medicine and lead author of the study. "We know that diversity in the medical field leads to more effective and equitable health care for patients," she said. "And the different perspectives that diversity brings also boosts biomedical innovation and productivity."

Achieving greater diversity in the programs that train physician-scientists, therefore, is particularly important since these individuals conduct research and treat patients, playing a pivotal role in translating research into health care.

To assess socioeconomic diversity in M.D.-Ph.D. programs, the researchers used data from the Association of American Medical Colleges, looking at applicants' acceptance rates between 2014 and 2019 and their reported household incomes. They found that pools of both applicants and accepted students became less socioeconomically diverse over that five-year period.

First, fewer prospective students from [low-income families](#) applied to M.D.-Ph.D. programs over the study period, the researchers found. Between 2014 and 2019, the percentage of applicants reporting less than \$50,000 in household income decreased from 28.4% to 25.1%.

Throughout the same time period, individuals from affluent families made up a greater proportion of accepted students. In 2014, 16.1% of applicants accepted into at least one M.D.-Ph.D. program came from households that reported more than \$200,000 in income, a rate that steadily increased to 20.9% in 2019.

Across all years assessed, 29.9% of applicants with incomes under \$50,000 were accepted in M.D.-Ph.D. programs. That rate rose steadily across higher income brackets, peaking at 50.3% for applicants with

incomes greater than \$200,000.

"And everything else being equal, including [test scores](#) and number of publications, applicants from the lowest income tier were 16% less likely than their affluent peers to be accepted into an M.D.-Ph.D. program," said Nguyen.

This finding in particular, said the researchers, suggests M.D.-Ph.D. programs may be evaluating applicants based on characteristics associated with privilege rather than merit, such as attending a prestigious undergraduate institution or the status of the person who writes the applicants' recommendations.

In a previous study, the researchers [found similar trends](#) across U.S. medical schools. Together, they said, these findings speak to a significant socioeconomic disparity in terms of the pathway into the [medical field](#).

"But this is an aspect amenable to intervention," said Nguyen.

To boost socioeconomic equity, programs should consider more holistic measures of capability in addition to traditional academic accomplishments, the researchers said. This could include criteria that evaluate qualities like grit and resilience. Programs should also not penalize low-income applicants for activities that might be more necessary for them than those with greater financial resources, such as having jobs rather than research positions, they added.

And programs should be cognizant of the socioeconomic diversity of the applicants to whom they offer interviews and of their incoming class.

"When we see this almost dose-dependent association between [program](#) acceptance and income, it suggests that whatever measures programs are

using are heavily influenced by privilege," said senior author Dr. Dowin Boatright, who is currently vice chair of research in the Department of Emergency Medicine at New York University Grossman School of Medicine but began this research while an assistant professor at Yale School of Medicine. "Directors should try to figure out what criteria are most associated with being a great scientist and a great physician, which hopefully wouldn't be just socioeconomic status."

**More information:** Mytien Nguyen et al, Socioeconomic Diversity in Admissions to MD-PhD Programs, 2014-2019, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.1951](https://doi.org/10.1001/jamanetworkopen.2024.1951)

Provided by Yale University

Citation: In the nation's M.D.-Ph.D. programs, the socioeconomic gap widens (2024, March 12) retrieved 27 April 2024 from <https://medicalxpress.com/news/2024-03-nation-md-phd-socioeconomic-gap.html>

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