Do Differences in Internal Medicine Resident Salaries Correlate with Variation in Regional Cost of Living?

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INTRODUCTION

In most cases, resident physicians enrolled in an accredited graduate medical education program are salaried employees of their program. Their salary is generally funded by the Centers for Medicare & Medicaid Services (CMS) through a complex formula where hospitals receive a lump sum payment to cover what is termed direct graduate medical education cost and then each program independently determines salary and benefits for their residents.¹ However, there is minimal external oversight and guidance on each program's methodology for such determination.² There is a paucity of data to assess how these salaries are determined and whether they are set appropriately. Since relative cost of living has been shown to influence compensation for other occupations,³ we aim to examine the differences in internal medicine resident salaries across the USA to see if these differences correlate with variation in cost of living based on the geographical location of the program.

METHODS

A list of US-based, non-military internal medicine residency programs was compiled from multiple sources. The salaries for first year residents (PGY-1) in each program in the 2018–2019 academic year were tabulated through querying publicly available information on the Internet or in cases where such information was not readily available, by directly contacting the program through email or phone. Some programs could not be reached while others declined to provide the requested information. Overall, we obtained salary information for 285 programs. The 2016 US Bureau of Economic Analysis (BEA) Regional Price Parity (RPP) data for Metropolitan Statistical Area was used as a surrogate for cost of living. The 2016 data

set was selected, since for salary determination, it would have been the most recent data available prior to the start of the 2018–2019 academic year. A total of 3 additional rural programs were excluded due to inability to have reliable surrogate cost of living data, leading to inclusion of 282 programs in our study.

RESULTS

Across the country, in the 2018–2019 academic year, there existed a wide range of annual salaries for first year residents in internal medicine residency programs, ranging from mid-\$40,000 to just over \$70,000. Overall, the differences in PGY-1 salaries correlated poorly with our selected cost of living index based on the BEA RPP data (multiple $R = +0.6$, $R^2 = 0.4$) (see Fig. 1). There was no significant difference when comparing correlation strength between university programs and university-affiliated/community programs.]→

DISCUSSION

In large part, GME is funded using public funds which must be utilized in an accountable manner and be consistent with workforce needs.² Although our study does not examine the root causes of the poor correlation between the differences in resident salaries and regional variation in cost of living, one could hypothesize that it may be multifactorial. Such factors could include inadequate oversight and guidance by external sources, both governmental and non-governmental, such as accrediting organizations. Additionally, this may just be a symptom of an outdated CMS funding formula which may not be funding various programs equitably, leading to budgetary windfalls or shortfalls. We expect that our findings can assist residency programs in adjusting resident salaries in future years by utilizing reliable economic indicators. Clearly, more studies are needed to determine equitable salaries and to elucidate potential causes for the existing variance.

Lastly, although we recognize that many other factors must be considered when selecting a residency program, prospective residents should also be aware of this variance and consider financial implications of their residency program selection.

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Figure 1 PGY-1 salary vs. cost of living index with linear regression trend line.

Limitations of our study include exclusion of number of programs due to inability to obtain reliable salary information which may have skewed our findings. Our study only considered salaries and did not include any other non-salary compensation such as fringe benefits, signing bonus, food subsidies, or educational allowance which may influence the overall outcome. Finally, RPP is one potential surrogate for cost of living, and therefore, salaries might correlate better with other indices.

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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