

# Medical Training Programs Impact on VHA Physician Workforce Recruitment, Productivity, and Turnover

**PhiYen Nguyen**, MPP, VA Boston Healthcare System  
*Policy Analyst, PEPReC*

**Yufei Li**, MPH, VA Boston Healthcare System  
*Senior Data Analyst, PEPReC*

**Kertu Tenso**, MA, VA Boston Healthcare System  
*Graduate Fellow, PEPReC*

**Izabela Sadej**, MSW, VA Boston Healthcare System  
*Senior Policy Analyst, PEPReC*

**Elsa Pearson Sites**, MPH, VA Boston Healthcare System  
*Policy Director, PEPReC*

**Melissa Garrido**, PhD, VA Boston Healthcare System  
*Director, PEPReC*

**Steven D. Pizer**, PhD, VA Boston Healthcare System  
*Chief Economist, PEPReC*

## Bottom Line Up Front

The Veterans Health Administration (VHA) is the largest provider of physician training programs in the United States. VHA evaluators studied how different physician training program sizes in different geographical areas can impact VHA staffing outcomes (e.g., clinic productivity rates, provider turnover rates, time to fill physician job vacancies). VHA may have more success hiring at facilities with growing physician training programs, especially in more desirable locations. However, those locations may not always correspond with those with the greatest workforce needs.

## Why This Matters

### Physician Shortage Issue

The United States (US) faces a critical shortage of physicians, exacerbated by a growing and aging population, an aging physician workforce, and impacts of the COVID-19 pandemic.<sup>1-3</sup> Projections indicate a possible deficit of 37,800 to 124,000 physicians by 2034.<sup>4</sup>

The Veterans Health Administration (VHA) is responsible for providing comprehensive care to over nine million Veterans and is not immune to these provider shortages.<sup>5</sup> VHA has seen a 10% physician turnover rate in recent years exacerbated by a lack of qualified applicants, non-competitive pay, and high turnover of support staff.<sup>6</sup>

### Physician Training Programs and Relation to VHA

The national Graduate Medical Education system plays a crucial role in addressing provider shortages by training the next generation of physicians.<sup>7</sup> The total number of training positions (i.e., residency positions) influences the size of the overall physician workforce.<sup>7</sup> The geographic location of these training programs affects physician distribution.<sup>7</sup> Previous studies have explored rural-urban variations in physician recruitment but have overlooked the impact of public school quality and the socioeconomic status of recruited trainees.

VHA is the largest health education and training provider in the US, with around 70% of all physicians completing at least part of their training with VHA.<sup>8</sup> Studies show that physicians tend to remain in the areas where they trained, suggesting that VHA may have the capacity to retain physicians within its own facilities.<sup>9-12</sup> Although the Choice Act of 2014 allocated funds to increase training positions within VHA, previous studies have not examined training program impacts on VHA facility outcomes.<sup>13</sup>




## New Evaluation

The Partnered Evidence-based Policy Resource Center (PEPReC) evaluated how VHA physician training program size impacts: 1) VHA facility productivity; 2) VHA facility turnover rates; and 3) time to fill current physician vacancies. These outcomes are used to assess the impact on clinic performance and how training programs may affect recruiting early career physicians. PEPReC conducted two similar quasi-experimental statistical analyses to further investigate these evaluation questions.

## Evaluation Questions

- Do changes in the number of trainees affect **productivity**?
- Do trainee allocations affect retention and **turnover**?
- Does having a training program make **recruiting** easier?
- Do these effects vary by facility **location**?

VHA Facility Productivity and Turnover  
Data Sources

<ul style="list-style-type: none"> <li>Office of Academic Affiliations physician training expense data</li> <li>Corporate Data Warehouse productivity &amp; turnover data</li> <li>Health Resources and Services Administration Health Professional Shortage Areas (HPSA) data</li> </ul>	 141 VHA Facilities  26 Specialties  11 Years of Data (2011-2021)
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Methods & Analysis

It is possible that facilities might determine the size of their training programs partially in response to their productivity and turnover (the reverse of the relationship is to be evaluated). To remove such effects from the estimates, an instrumental variables technique was used in this evaluation.<sup>14</sup> Analyses examined whether results differed in established HPSA primary care shortage areas.

	Productivity	Turnover
<b>+1 Training Slot</b>	0.3% ↓	2.0% ↑

Overall, increasing the size of medical training programs led to a small *decrease* in facility productivity and a small *increase* in turnover rates. However, these effects varied by specialty and whether the facility was in a HPSA

primary care shortage area. While some specialties such as psychiatry and psychology demonstrated a decrease in productivity, other fields like primary care and cardiology experienced an increase. The overall results (decrease in productivity, increase in turnover) were driven by areas with no primary care shortages; yet facilities in areas with primary care shortages had a small increase in productivity and no effect on turnover.<sup>14</sup>

VHA Physician Vacancies and Geographic Characteristics  
Data Sources

<ul style="list-style-type: none"> <li>Office of Academic Affiliations physician training expense data</li> <li>Workforce Management and Consulting time to fill for physician vacancy data</li> <li>Robert Graham Center Social Deprivation Index Score<sup>15</sup></li> <li>Niche.com public high school quality scores<sup>16</sup></li> </ul>	 120 VHA Facilities  18 VHA Regions  2 Years of Data (2020-2021)
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Methods & Analysis

Similar analyses were conducted with the time to fill (TTF) for physician vacancies, but Social Deprivation Index (SDI) scores and public high school quality ratings were used as a proxy for location desirability.<sup>17</sup> Due to the possibility of COVID-19 effects confounding analyses of 2020 data, sensitivity analyses were performed including 6,839 physician positions at 120 VA facilities posted in both 2020 and 2021.

	Low SDI	High Public School Rankings	Low SDI & High Public School Rankings
<b>+1 Training Slot</b>	TTF ↓ of 1.33 days	TTF ↓ of 1.50 days	TTF ↓ of 3.30 days

For physician vacancies posted in 2020, an increase in physician training program size was associated with a decrease in TTF. The impact was more pronounced in areas with lower socioeconomic deprivation and better public schools. Sensitivity analyses (stratification by year and position type) corroborated the main findings, with the impact being weaker but consistent.<sup>17</sup>

## Policy Implications

### Limitations

It was neither ethical nor practical to conduct a randomized clinical trial. Therefore, the observational nature of this work, along with limitations in data granularity, may impact the robustness (i.e., strength, reliability, and stability) of the findings. The instrumental variables approach was used to address these potentially unmeasured confounding factors in the evaluation. We were also unable to determine whether the recruitment benefits resulted from residents' retention within the same VA facility or relocation from another training program nearby. Additionally, the COVID-19 pandemic may have impacted the results, necessitating further studies with an extended timeframe.

### Discussion and Policy Relevance

Despite the noted limitations, the evaluation highlights a need for policymakers to consider potential benefits and unintended consequences (i.e., decreases in productivity) of increasing training programs.

Physician training programs also showed a positive effect on physician recruitment and retention, especially in desirable areas. These results indicate that VHA may have the capacity to retain physicians within its own facilities in more desirable areas.

To address physician shortages in less desirable areas, VHA may need to employ targeted strategies such as stronger financial incentives. With the rise of telehealth modalities, another approach could involve hiring where it is feasible and providing telehealth options to areas with higher demand for health care services.<sup>18</sup>

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## ABOUT PEPRcC POLICY BRIEFS

This evidence-based policy brief is written by Partnered Evidence-based Policy Resource Center (PEPRcC) staff to inform policymakers and Veterans Health Administration (VHA) managers about the evidence regarding important developments in the broader health system and economy. PEPRcC is a Quality Enhancement Research Initiative-funded resource center that collaborates with operational partners to design and execute randomized evaluations of VHA initiatives, develops and refines performance metrics, and writes evidence-based policy briefs. *The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.*

