Association of the COVID-19 Pandemic on VA Resident and Fellow Training Satisfaction and Future VA Employment: A Mixed Methods Study

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ABSTRACT

Background The COVID-19 pandemic altered learning experiences of residents and fellows worldwide, including at the US Department of Veterans Affairs (VA). Because the VA is the largest training provider in the United States, understanding VA trainee experiences is vital to understanding the pandemic's impact on graduate medical education nationwide. Additionally, understanding the pandemic's potential impacts on future employment allows for a better understanding of any future disruptions in the supply of physicians.

Objective To examine whether COVID-19 affected the satisfaction with VA training experiences and likelihood to consider future VA employment among residents and fellows.

Methods Responses from the VA Trainee Satisfaction Survey were collected for 3 academic years (2018-2021). Quantitative analysis (bivariate logistic regression) and qualitative content analysis were conducted to determine COVID-19′s impact on satisfaction and likelihood of future VA employment.

Results Across 3 academic years, 17 900 responses from a total of 140 933 physician trainees were analyzed (12.7%). Following COVID-19, respondents expressed decreased satisfaction (84.58% vs 86.01%, P=.008) and decreased likelihood to consider future VA employment compared to prior to the pandemic (53.42% vs 55.32%, P=.013). COVID-19-related causes of dissatisfaction included the onboarding process, which slowed due to the pandemic, limited workspace that precluded social distancing, and reduced learning opportunities.

Conclusions Since the pandemic, physician trainees expressed decreased training satisfaction and decreased likelihood to seek future VA employment. Causes of dissatisfaction included increased difficulties with onboarding, further limitations to accessible workspaces, and the direct obstruction of learning opportunities including decreased patient volume or case mix.

Introduction

The COVID-19 pandemic significantly disrupted the learning experiences of residents and fellows across the United States and worldwide, including at the US Department of Veterans Affairs (VA). Through its partnerships with affiliated academic institutions, the VA conducts the largest education and training effort for health professionals in the United States. Every year, more than 45 000 physicians receive training from the VA. As such, understanding the VA trainee experience is vital to understanding the pandemic's impact on graduate medical education in the United States.

At the VA, in-person patient volumes and many outpatient services, particularly during the early months of the pandemic, decreased,[1,2] with likely impacts on medical education and training. However, there is little literature regarding the VA trainee experience during the pandemic. Outside the VA, literature has shown that trainees' learning experiences have been altered and even negatively impacted due to cancelled or postponed rotations and surgical[3,4] and other elective procedures in specialties such as dermatology[5] and otolaryngology,[6] and overall decreased work hours.[3] The pandemic also took a toll on trainees' psychological well-being, making them more vulnerable to depression and burnout,[3,6-8] psychological distress,[9] social fear,[10] anxiety,[8,11] or depersonalization[8,11] compared to their peers prior to the pandemic. Overall, the pandemic also impacted trainees' satisfaction[11,12] and likelihood of future employment.[8]

In the VA, education and training of health personnel is led by the Office of Academic Affiliations (OAA) in coordination with academic institutions providing health profession education and training. As the overseer of health professions education at all

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VA facilities, the OAA encourages all clinical trainees who have completed their rotation at the VA to complete the Trainee Satisfaction Survey (TSS). The TSS was developed in 2017 to measure trainee satisfaction with the VA clinical training experience, identify areas for improvement in the learning environment, and provide national performance metrics for the VA's educational mission. The TSS provides a national view of trainee satisfaction and likelihood to consider future VA employment for multiple physician specialties both prior to and during the pandemic.

Current literature concerning the impact of the COVID-19 pandemic on health care trainee education is limited in scope and pertains to specific programs or specialties, such as dermatology,[5] otolaryngology,[6] or surgery,[4] or certain geographic regions.[7-9] The samples in these studies were typically small[11] or only included data from after April 2020.[3,6-8,11] Researchers from the Veterans Emergency Management Evaluation Center investigated whether and how the COVID-19 pandemic impacted learning experiences for trainees and explored approaches to mitigate lost learning opportunities. The current study investigates satisfaction with VA training experience and the likelihood of trainees to consider future VA employment before and during the COVID-19 pandemic for a national sample of residents and fellows from multiple specialties and programs. Because the VA represents such a large part of physician training and education in the United States, identifying potential causes of dissatisfaction due to the pandemic and its potential effects on future employment can shed light on ways to help maintain trainee satisfaction and be better prepared to mitigate the impact of future disruptions on the supply of physicians.

Objectives
This study examines whether COVID-19 is associated with the satisfaction of VA training experiences and the likelihood to consider future VA employment among residents and fellows.

Findings
Following COVID-19, respondents expressed decreased satisfaction and decreased likelihood to consider future VA employment compared to prior to the pandemic. Causes of COVID-19-related dissatisfaction included increased difficulties with the onboarding process, further limitations to accessible workspaces, and more direct impacts of the pandemic on education and training, including diminished learning opportunities such as decreased patient volume or case mix.

Limitations
Limitations included low response rates and qualitative responses limited to negative impacts.

Bottom Line
The current study draws attention to the pandemic's association with declines in education and training at the VA, which represents a large part of physician training and education in the United States.

Methods

The TSS is a national survey of VA physician trainees completed throughout the academic year. For this study, we define a physician trainee as including residents and fellows from 146 VA facilities and various specialties who completed at least one rotation at a VA facility. Responses for the current analyses consisted of physician trainee responses from 3 academic years (2018-2021). Survey responses include satisfaction with different components of the VA training experience, likelihood to consider future VA employment, and various demographic data (eg, program, specialty, etc). The research team, which is not affiliated with the OAA, was granted access to the data by the OAA through a process that is open to all researchers. As a condition of the approval to use the dataset, publication of quotes was prohibited to ensure confidentiality and respondent anonymity in accordance with the survey's assurances to respondents at the time of data collection.

Measures

Prior to the pandemic ("pre-pandemic") was defined as any response provided before February 29, 2020, while the COVID-19 pandemic period ("pandemic") included any response after April 1, 2020. Data from March 2020 was excluded, as it was unclear from the TSS whether the training period occurred before or after COVID-19.

Responses to the question "Overall, how satisfied are you with your VA training experience?" were used to measure overall satisfaction and were collapsed into 2 groups: Satisfied (satisfied/very satisfied) and Dissatisfied (dissatisfied/very dissatisfied). Responses to the question "As a result of your training experience, how likely would you be to consider a future employment opportunity at a VA medical facility?" were used to measure likelihood of future VA employment and were collapsed into 2 groups: Likely (likely/very likely) and Unlikely (unlikely/very unlikely). The TSS does not include a "neutral" response option. The survey questions are available as online supplementary data.

Other satisfaction measures examined the onboarding experience, clinical faculty/preceptors, clinical learning environment, physical environment, working environment, and respect at work. If respondents indicated dissatisfied/very dissatisfied, they were prompted to specify the cause of dissatisfaction and

TABLE 1
Logistic Regression Predicting Overall Satisfaction and Likelihood of Future VA Employment

COVID-19 Group	% Satisfied[a,b]	Pre-Pandemic vs Pandemic Difference in % Satisfied (95% CI)	% Likely[b,c]	Pre-Pandemic vs Pandemic Difference in % Likely (95% CI)
Pre-pandemic	86.01%	NA	55.32%	NA
Pandemic	84.58%	-1.43% (-2.49%, -0.37%)	53.42%	-1.90% (-3.40%, -0.40%)

Abbreviation: NA, not applicable.
[a] P=.008.
[b] % refer to the proportions or the probabilities of reporting satisfied/likely.
[c] P=.013.

were able to enter an open-ended response. No open-ended response was solicited for satisfied/very satisfied responses.

Statistical Analyses

Two separate logistic regressions were conducted to test the relationship between a single predictor (pandemic group) and the 2 outcome variables: overall satisfaction and likelihood of future VA employment. Margin commands were used to calculate the probability and the difference in the probabilities of reporting satisfied/very satisfied and likely/very likely for each pandemic group (pre-pandemic group vs pandemic group). Association of the pandemic group with each outcome variable was expressed as the difference in the percentage of outcome between the pre-pandemic and pandemic groups. Stata SE 17 (StataCorp LLC, College Station, TX) was used to carry out the analyses.

Rapid Coding and Content Analysis

Qualitative data were based on the narrative survey feedback from VA physician trainees regarding the cause(s) of COVID-19-related dissatisfaction in each of the aforementioned areas. Rapid coding and thematic content analyses methods were used.[13,14] The research team conducted the qualitative analyses, identifying all narrative responses about COVID-19-related causes of dissatisfaction by searching for keywords such as "COVID," "virus," "pandemic," "PPE," "N95," "mask," "social distance," and "safety." In addition, J.B. reviewed all narrative comments to identify key issues, ensure that the keywords used in the content analysis did not miss references to the pandemic, and create initial themes, codes, and corresponding definitions based on the survey questions. Subsequently, the research team conducted a review, and additional key issues were identified in addition to the aforementioned survey questions. H.N. reviewed potentially overlapping subjects and collapsed and organized the themes to create a final coding structure with definitions; J.B. reviewed these final codes and definitions; and then J.B. and H.N. conducted independent coding to assign each narrative a code(s). The remaining 3 members of the research team met to discuss any discrepancies between J.B. and H.N. in coding and completed final assignment of code(s) to each narrative. H.N. also provided a final frequency count of each code to see which dissatisfaction factors were most frequently mentioned.

This project was reviewed by the OAA and, in accordance with VA regulations, was determined to qualify as a quality improvement, non-research activity designed for internal VA purposes. As such, the study was exempt from review by the local VA Institutional Review Board.

Results

A total of 140 933 physician trainees received training at a VA facility in academic years 2018-2019, 2019-2020, and 2020-2021.[15] Across the 3 academic years, 17 900 physician trainees responded to the TSS, resulting in a 12.7% response rate.

Overall Satisfaction and Likelihood of Future Employment

The percentage of physician trainees reporting satisfaction with their training experience decreased from 86.01% (6031 of 7012) pre-pandemic to 84.58% (9123 of 10 786) during the pandemic (P=.008; 95% CI -2.49% to -0.37%). The percentage of physician trainees reporting a likelihood to consider future VA employment also decreased from 55.32% (3879 of 7012) pre-pandemic to 53.42% (5762 of 10 786) during the pandemic (P=.013; 95% CI -3.40% to -0.40%; TABLE 1).

Dissatisfaction Themes

Of the 17 900 VA physician trainees who responded to the survey, 132 provided reasons for dissatisfaction with their VA training experience that contained keywords associated with COVID-19. Narrative written responses to the survey were typically brief (1-55 words, with a median word count of 13).

TABLE 2
Provided Reasons for Trainee Dissatisfaction During the Pandemic

Theme	Count
Access to adequate workspace and functional computers	78
Onboarding process (eg, delays in getting VA badge/access)	73
Cleanliness and social distancing	47
Challenges related to remote work including access to support staff	45
Access to personal protective equipment and cleaning supplies	40
Patient volume and diversity of case mix	39
Faculty and attending physicians (eg, competing priorities such as COVID-19)	20

Note: Out of the 17 900 VA physician trainees who responded to the survey, 132 provided reasons for dissatisfaction with their VA training experience that contained keywords associated with COVID-19.

Review of these trainees' narrative feedback identified 7 common themes (TABLE 2). The most frequently identified themes included issues with access to workspace and the onboarding process that were made worse due to COVID-19. For example, one respondent indicated that the administrative onboarding procedure was made even more difficult due to the pandemic. Another response indicated that the limited computers were scarcer due to having been converted to use for COVID-19. Additionally, responses related that workspaces which provide safe and secure distance not only for social distancing but also for privacy were particularly limited due to the pandemic. Other responses highlighted the direct impact COVID-19 had on training and education. Physician trainees stated that fewer available in-person patient visits due to the pandemic resulted in less exposure to hands-on patient care or limited patient interaction except with COVID-19 patients. Physician trainees also stated the clinical faculty had less time to provide feedback and direction to trainees because they were consumed with COVID-19-related issues.

Discussion

The current study draws attention to declines in education and training among a national sample of VA physician trainees in multiple specialties. Since the pandemic started, physician trainees have expressed both decreased satisfaction and decreased likelihood to seek future employment at the VA. Qualitative data indicated that dissatisfaction was centered around the increased difficulties with the onboarding process, further limitations to access of computers and workspaces, as well as the more direct impact of the pandemic on education and training, with physicians particularly indicating obstruction of their learning opportunities in the form of decreases in patient volume or case mix. It appears that while COVID-19 created some new challenges (eg, reduced patient volumes), content analysis suggests that the pandemic also exacerbated preexisting challenges the VA already encountered at some facilities in areas such as onboarding and limited availability of workspace for trainees.

Similar to previous literature outside the VA, these findings demonstrate that the pandemic's impact on graduate medical education and training resulted in decreased satsifaction[11,12] and reduced trainees' learning opportunities.[3,5,6] These findings reinforce previous study outcomes on a national scale. While statistically significant, the declines in education and training were apparent, but not large, and suggest trainees' resilience and desire to persevere in their chosen profession despite the new challenges brought about by COVID-19. In essence, the relatively small effects of the pandemic on trainee experience do not suggest a major concern regarding physician workforce supply and should provide some assurance to organizations like the VA that new entrants into the health care workforce will likely not substantially diminish in number compared to prior to the pandemic. Whether this is unique to the VA cannot be ascertained from our study but, given the number of physician trainees that receive at least some of their medical training at the VA, the data are potentially encouraging and suggest limited effects from COVID-19 on the supply of physicians, at least among those currently in the physician training pipeline. Future studies are needed to examine long-term effects and to confirm whether this finding holds true outside the VA.

Nonetheless, the impact of the pandemic on trainee satisfaction and likelihood of employment do suggest opportunities to mitigate the training-related impacts of disasters like the COVID-19 pandemic through targeted efforts aimed at preexisting trainee concerns that could be exacerbated by disasters (eg, onboarding). Suggested approaches to mitigate these concerns are outside the scope of this study, although the study does suggest areas where such efforts might best be targeted.

This study has limitations. Although the survey assessed respondents' stated likelihood of future employment, we could not assess whether fewer physicians actually subsequently applied for employment with the VA. Furthermore, while the data included information about the date that the respondent completed the survey, we could not identify the exact dates during which respondents actually were trained at the VA. Respondents completed the survey throughout the year, and accordingly we believe that the majority of respondents completed the survey relatively close in time to when they were trained at the VA. In addition, the survey does not solicit narrative or open-ended feedback for positive responses because respondents were only asked to specify causes of dissatisfaction. Thus, while the current study focuses on negative impacts of the COVID-19 pandemic on trainee satisfaction, there may be various positive experiences and outcomes that resulted, such as increasing familiarity and comfort with telehealth. Additionally, response rates for the TSS are historically low (11%-14% annually) and thus may not be representative of trainees who did not respond to the survey. The overall percentage of narrative responses was also limited, as less than 1% of respondents provided textual information concerned with COVID-19-related dissatisfaction. However, the responses were broadly representative of all VA facilities and did not cluster in certain regions; at present, the current study is the largest national sample of physician trainees from various specialties compared to current published survey data related to the COVID-19 pandemic.

Future investigation may help determine whether the changes in desire to work at the VA or in health care reported here lead to long-term declines in applications to work at the VA or declines in the number of entrants into clinical programs. If that is the case, the pandemic could result in meaningful lasting changes in health care delivery. As retention of health workforce declines[16] and is exacerbated by the pandemic,[17] consideration for approaches to improve trainee satisfaction and retain interest in clinical education become increasingly vital.

Conclusions

Since the beginning of the COVID-19 pandemic, physician trainees expressed both decreased training satisfaction and a decreased likelihood to seek future employment at the VA. Causes of dissatisfaction included increased difficulties with the onboarding process, further limitations to accessible computers and workspaces, and more direct impacts of the pandemic on education and training, including obstruction of learning opportunities such as decreased patient volume or case mix.

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