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THE HEALTHCARE WORKFORCE DURING COVID-19: Results from an Environmental Scan

National and Tribal Evaluation of the 2nd Generation of Health
Profession Opportunity Grants (HPOG 2.0)

July 2021

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OVERVIEW

Prior to the COVID-19 pandemic's onset in the United States in early 2020, policymakers saw the healthcare system as providing opportunities to employ low-income individuals in jobs with potential for good wages and career advancement. But the pandemic may have changed those assumptions.

This brief reviews changes in the labor market for healthcare workers during the first seven months of the pandemic, with an emphasis on those occupations targeted by a significant ongoing investment in healthcare workforce development: the Health Profession Opportunity Grants (HPOG) awarded by the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services.

PRIMARY RESEARCH QUESTION

How did the COVID-19 pandemic change the labor market for healthcare workers in HPOG-targeted occupations, including changes in labor demand, labor supply, and wages?

PURPOSE

The HPOG Program and the associated evaluation will make an important contribution to the field's collective knowledge about sector-based and career pathways programs. The brief intends to inform HPOG grantees, policymakers, and the healthcare workforce field about the state of the labor market for occupations and industry sectors targeted by HPOG programs. The brief's findings may be of interest to these stakeholders as they interpret the results from forthcoming impact evaluation analyses or develop future investments in healthcare workforce programs.

KEY FINDINGS AND HIGHLIGHTS

More than half of all HPOG participants enroll in training for either Certified Nursing Assistant, Home Health and Personal Care Aide, Licensed Practical Nurse/Licensed Vocational Nurse, or Registered Nurse occupations. People in these

occupations tend to be employed in the hospital, nursing and residential care, or home healthcare sectors.

During the pandemic, healthcare sector employment fell over 9 percent from January to April 2020 but recovered about 60 percent of those losses through September 2020. Employment patterns in those sectors that tend to employ the four healthcare occupations that are most-often targeted by HPOG differed from the overall industry and from each other.

Evidence suggests changes in demand for healthcare services and, in turn, workers largely explain the observed employment decrease and partial recovery. However, nursing and residential care facilities also faced severe challenges related to rising cost of care, which affected employment.

There was substantial slack in the healthcare labor market (i.e., excess labor supply due to the recession), relative to the pre-pandemic environment. Individual workers reported complex challenges associated with their ability and willingness to work at that time.

METHODS

The brief summarizes the results of an environmental scan of published research, analysis, and reporting and analysis of publicly available labor market data through September 2020. Our approach to identifying relevant sources was twofold. We interviewed subject matter experts, some of whom were internal to Abt Associates' career pathways research teams and others external to Abt. We then conducted an unstructured search for sources, using search topics recommended during the expert interviews. We include sources from national press outlets, professional association reports/newsletters, gray literature, and academic literature.

INTRODUCTION

The coronavirus (COVID-19) pandemic disrupted nearly every aspect of life in the United States, both personal and professional. In the spring of 2020, millions of workers, across all industries, lost their jobs.¹ Unemployment rates spiked for all workers, especially those with lower levels of skills and education. Outbreaks of disease placed intense stress on local healthcare systems and workers (Keeley et al. 2020; Sterling, Tseng, and Poon 2020; Pappa et al. 2020).

Prior to the pandemic, policymakers saw the healthcare system as providing opportunities to employ low-income individuals in jobs with potential for good wages and career advancement. But the pandemic may have changed those assumptions. This brief reviews the state of the labor market for healthcare workers from January through September 2020,² with a focus on those healthcare occupations and industry sectors targeted by the Health Profession Opportunity Grants (HPOG) Program.³

The analysis draws on published research, accounts from national media outlets (e.g., The New York Times, The Washington Post, and National Public Radio) and local broadcast or print media, and Abt's own tabulations of available labor market data, all as they relate to the pandemic's effects on healthcare workers. The analysis is intended to inform HPOG grantees, policymakers, and the healthcare workforce field about the state of the labor market for occupations and industry sectors targeted by HPOG programs. The findings may be of interest to these stakeholders as they

interpret the results from forthcoming impact evaluation analyses or develop future investments in healthcare workforce programs.

Box 1. Highlights from the Brief

- More than half of all HPOG participants enroll in training for either Certified Nursing Assistant, Home Health and Personal Care Aide, Licensed Practical Nurse/Licensed Vocational Nurse, or Registered Nurse occupations. People in these occupations tend to be employed in the hospital, nursing and residential care, or home healthcare sectors.
- During the pandemic, healthcare sector employment fell over 9 percent through April 2020 but recovered about 60 percent of those losses through September 2020. Employment patterns in those sectors that tend to employ the four healthcare occupations that are most often targeted by HPOG differed from the overall industry and from each other.
- Evidence suggests changes in demand for healthcare services and, in turn, workers largely explain the observed employment decrease and partial recovery. However, nursing and residential care facilities also faced severe challenges related to rising cost of care, which affected employment.
- There was substantial slack in the healthcare labor market, relative to the pre-pandemic environment. Individual workers reported complex challenges associated with their ability and willingness to work at this time.

This brief has four sections. The remainder of this Introduction identifies the occupations and industry sectors relevant to our analysis and describes trends in employment and compensation in the healthcare industry.⁴ The

¹ See the April 2020 Employment Situation, published by the Bureau of Labor Statistics (BLS): https://www.bls.gov/news.release/archives/empisit_05082020.htm.

² The World Health Organization declared the coronavirus outbreak a pandemic on March 11, 2020. Our analysis ends in September 2020 due to the timing of the preparation and submission of this brief. That September end point roughly

aligns with the beginning of an increase in COVID-19 cases in Fall 2020.

³ See Box 2 for more information on the HPOG Program.

⁴ In this brief, the healthcare "industry" comprises employers in health-related "sectors" (e.g., hospitals, physicians' offices, testing laboratories, home healthcare services) that hire workers in various "occupations" (i.e., categories of workers

second and third sections discuss trends related to the demand for and supply of healthcare workers, respectively. They offer insight into how changes in demand and supply explain some of the observed changes in employment and compensation. The fourth section summarizes the findings and discusses possible directions for future research.

INDUSTRY AND OCCUPATION CONTEXT

The healthcare workforce is broad, covering a wide range of occupations and a large share of national employment. In January 2020, the healthcare industry employed nearly 11 percent of all nonfarm employees.⁵

Throughout this brief, we emphasize the pandemic's impacts on those occupations for which HPOG participants commonly train (see **Box 2** for background on HPOG). In particular, more than half of all HPOG participants enrolled in training for either Certified Nursing Assistant (CNA; 30%), Home Health Aide and Personal Care Aide (HHA/PCA; 10%), Licensed Practical Nurse/Licensed Vocational Nurse (LPN/LVN; 10%), or Registered Nurse (RN; 7%) jobs (Loprest and Sick 2020).

Therefore, we focus on the pandemic's effects on these four occupations. When insightful, the brief also notes findings relevant to other occupations involved in the ongoing response to the pandemic, including Contact Tracer and Respiratory Therapist.

Box 2. About HPOG

In 2010 and 2015, the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services awarded [Health Profession Opportunity Grants \(HPOG\)](#) to support demonstration projects that provide education and training to Temporary Assistance for Needy Families (TANF) recipients and other low-income adults for occupations in the healthcare industry.

HPOG has dual policy goals: (1) increasing earnings and (2) providing a skilled workforce to meet the needs of the healthcare sector. Towards those dual goals, local HPOG programs are to prepare participants for occupations in the healthcare field that pay well and are expected to either experience labor shortages or be in high demand.

Participants in HPOG are mainly single women in their 20s and 30s, many of whom have dependent children. At the time of enrollment in HPOG, more than half of those participants had some college education, about one-third had a professional license or certification, and about one-quarter were already in school.

This brief was developed under the [HPOG 2.0 National Evaluation](#). The HPOG evaluations are a key component of OPRE's broader [Career Pathways Research Portfolio](#).

We expect the pandemic's effects to vary not only by occupation but also by industry sector (i.e., the type of employer and workplace setting). As such, we also review evidence of the pandemic's effects among those sectors that tend to employ workers in occupations targeted by HPOG trainings.⁶ In the appendix, **Table A1** shows how workers in the four focal occupations listed above were distributed across the healthcare industry prior to the pandemic.

performing jobs defined by tasks and responsibilities, such as Medical Assistant, Phlebotomist, or Registered Nurse).

⁵ Authors' calculations based on data from the BLS Current Employment Statistics: <https://www.bls.gov/ces/>. BLS collects employment data from nonagricultural business

establishments, so "nonfarm" employees are those employed by those establishments.

⁶ Data on the specific occupations and industry sectors that HPOG trainees enter following training is unavailable as of this writing.

More than two-thirds of CNAs worked in nursing care facilities (40%) or hospitals (29%), with the remaining 31 percent spread across residential care facilities (13%), home healthcare services (5%), offices of physicians (1%), outpatient care centers (1%), and other industries (10%). Nearly half of HHA/PCAs worked in home healthcare settings (27%) or residential care facilities (18%).⁷

Though LPN/LVNs tend to work across a relatively wider range of sectors, almost 60 percent work in nursing care facilities (30%), hospitals (15%), or home healthcare services (13%). Employment of RNs is concentrated largely in hospitals (61%).

Given this industrial mix, we focus on the pandemic’s effects in hospitals, nursing care facilities, and home healthcare settings, with some discussion of other residential facilities and nonmedical home care.

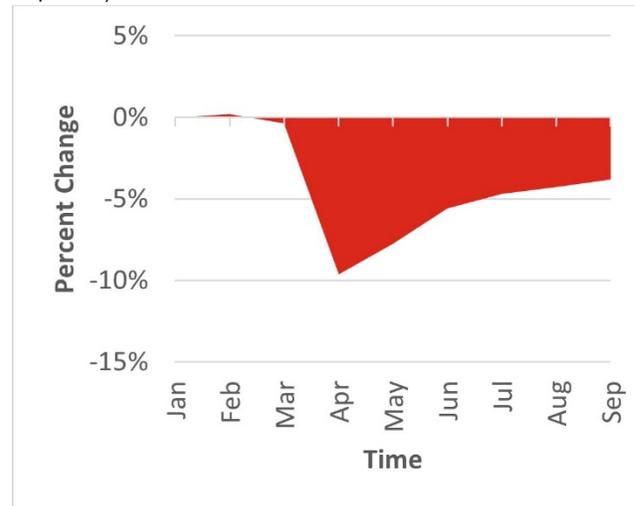
CHANGES IN EMPLOYMENT

One might expect a pandemic to increase demand for healthcare services and therefore employment of healthcare workers. Actual changes in employment under COVID-19—during the time period we examine—are not consistent with that expectation.

We suspect that decreasing demand for healthcare services (discussed in section two) likely explains the decreases in employment shown in Bureau of Labor Statistics data shown in **Chart 1**. Across the industry, employers cut employment by over 9 percent from January through April 2020. We refer to this period as Period 1. Following that drop, the industry recovered about 60 percent of those losses from May through September 2020, which we refer to as Period 2. **Appendix Chart A1** illustrates how Periods 1 and 2 align with daily new COVID-19 case counts. We explore the dynamics in more detail in sections two and three below, on

changes in healthcare worker demand and supply.

Chart 1. Cumulative Change in Healthcare Employment (Jan-Sep 2020)



Source: <https://www.bls.gov/ces/>

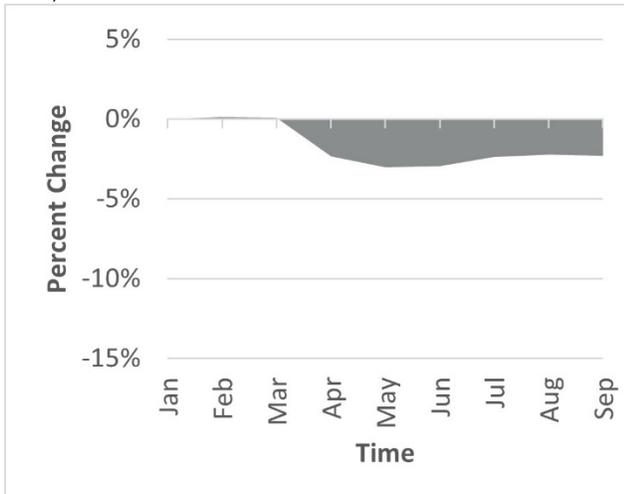
Those healthcare sectors that employ the largest shares of HPOG-targeted occupations also cut employment, but the sector-specific patterns differ from each other and from the industry as a whole.

Hospital employment remained about 2-3 percent below January 2020 levels through both periods (**Chart 2; Table A2**). The relative stability of hospital employment may reflect an increase in demand for hospital care from COVID-19 that had been offset by declines in hospital admissions for reasons other than COVID-19. Nonetheless, hospitals employed fewer workers than they did prior to the pandemic.

⁷ We expect this percentage would be larger if we could consider HHAs alone. HPOG trainings target HHA jobs more

often than PCA jobs, which tend to provide nonmedical care.

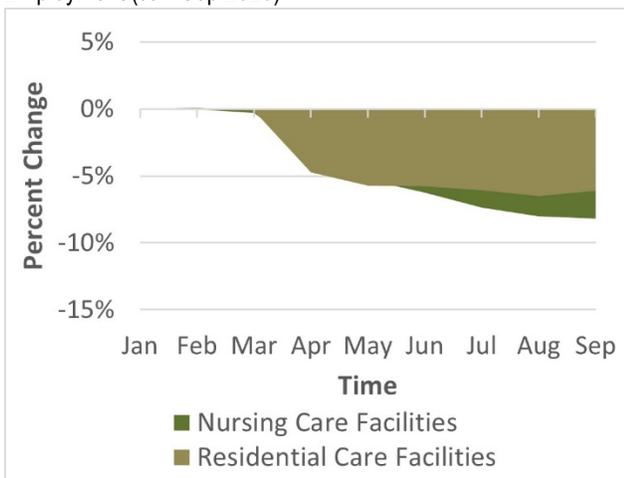
Chart 2. Cumulative Change in Hospital Employment (Jan-Sep 2020)



Source: <https://www.bls.gov/ces/>

Relative to overall healthcare employment, employment in nursing care facilities and residential care facilities (i.e., employment in long-term care) did not decrease as rapidly in Period 1 — employment decreased 4.3 percent — but these sectors barely recovered any of those losses through Period 2 (**Chart 3; Table A2**). In fact, those employers slowly continued to cut jobs almost every month. Relative to pre-pandemic levels, both sectors employed about 6-8 percent fewer workers in September 2020.

Chart 3. Cumulative Change in Nursing and Residential Care Employment (Jan-Sep 2020)



Source: <https://www.bls.gov/ces/>

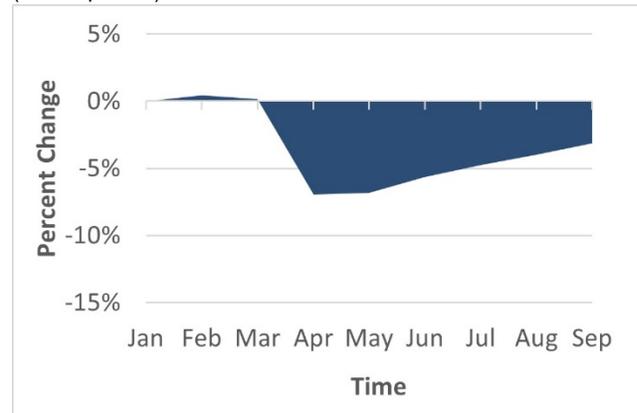
Patients in long-term care face higher risk for severe COVID-19 illness (Chidambaram 2020). As discussed below, risks to the health of both

long-term care patients and staff and the costs associated with caring for high-risk patients appear to have contributed to a steady decrease in employment in long-term care facilities.

Home healthcare followed a pattern comparable to the rest of the healthcare industry, though the swings in employment were smaller.

Employment decreased about 7 percent in Period 1, and over half of that reduction has been recovered through September (**Chart 4; Table A2**). The below-average drop and average recovery might, in part, stem from an increased emphasis on in-home care, as some patients avoided congregate long-term care centers.

Chart 4. Cumulative Change in Home Healthcare Employment (Jan-Sep 2020)



Source: <https://www.bls.gov/ces/>

CHANGES IN COMPENSATION

Economists expect shifts and movements in supply and demand for labor to affect not only the number of workers employed but also wages paid to employed workers. Thus, a decline in demand for healthcare that leads to a decline in demand for healthcare workers would be expected to lead to a drop in hourly wages, cash earnings, and total compensation.

Available data suggest that during the second quarter of 2020, per capita compensation (i.e., wages and salaries plus the value of fringe benefits) decreased slightly across the healthcare industry, before increasing again in the third quarter. This pattern did not extend to

hospitals, residential care facilities, and nursing care facilities.

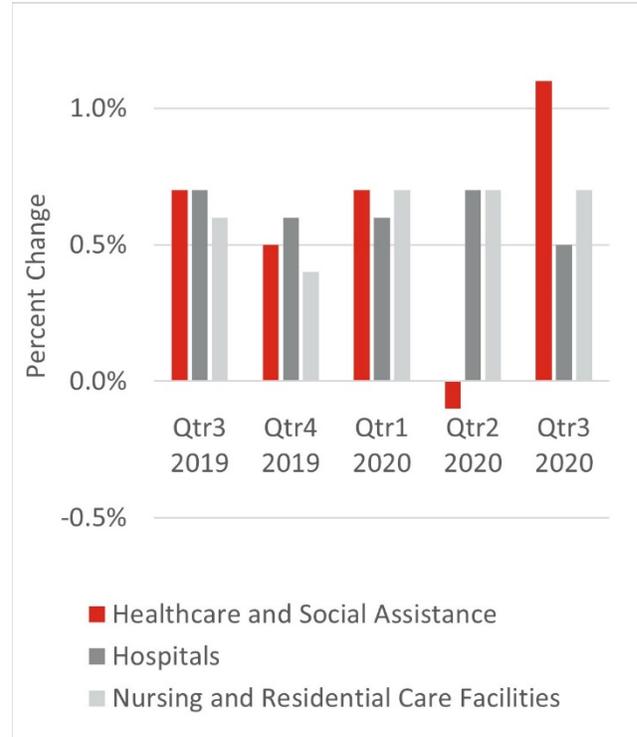
From March to June, total compensation costs in the healthcare and social assistance industries fell 0.1 percent, driven largely by a 0.4 percent decrease in wages and salaries (Table A3).⁸ From June to September, compensation costs increased 1.1 percent.⁹

Among hospitals and long-term care facilities, we observed neither a clear acceleration nor deceleration in compensation costs (Chart 5). We have not found analyses that attempt to explain the steady rate of change in compensation in those sectors. Anecdotal explanations suggest that, according to employers, compensation depends on reimbursement rates set by federal and state health insurance programs (St. Anthony 2020). Nationally, about 60 percent of nursing care residents are covered by Medicaid (Kaiser Family Foundation 2017). Though many states have taken advantage of emergency flexibility to increase Medicaid reimbursement rates, we are not aware of any evidence that those changes affect wages (Schubel 2020; Kaiser Family Foundation 2020).

The lack of any evidence of rising pay in the hospital, nursing/residential care facilities, or home healthcare sectors aligns with anecdotal reports of workers protesting or organizing for hazard pay or increased compensation in response to working during the pandemic (Feldman 2020; Benchaabane 2020). To our knowledge, those efforts have been largely unsuccessful at prompting widespread enactment of hazard pay policies at the state or

federal level, though some efforts have yielded increases in pay by individual employers (Krajcsik 2020; WGRZ Staff 2020).

Chart 5. Three-month Percent Change in Employment Cost Index



Source: <https://www.bls.gov/ncs/ect/>

Nationwide trends may obscure changes reported from state and local labor markets. In the first months of the pandemic, some hospitals reported having to pay substantially more to hire so-called travel nurses — who represent less than 1 percent of the national nursing workforce — through temporary healthcare staffing agencies (Beasley 2020).¹⁰

A few states provided hazard pay to healthcare workers through federal Coronavirus Aid, Relief,

⁸ The Employment Cost Index (ECI) maintained by the federal Bureau of Labor Statistics tracks changes in the employer costs of labor over time, independent of the influence of employment shifts among occupations and industry categories (Ruser 2001), much like its Consumer Price Index (CPI) tracks changes in the costs of a basket of consumer goods and services. Total compensation includes employer costs for wages and salaries, and employee benefits such as insurance and paid leave. The ECI includes hazard pay in wages and salaries.

⁹ The prices for goods and services changed at similar rates during this period. The CPI decreased 0.3% from March to June 2020 and increased 1.2% from June to September 2020. <https://www.bls.gov/cpi/>

¹⁰ Travel nurses are temporary nursing staff who generally work under a contract between a staffing agency and hospital. For more information see: <https://www.pantravelers.org/articles/traveling-basics>

and Economic Security (CARES) Act funds (Downey 2020; Giambone 2020; Department of Vermont Health Access, n.d.). In Pennsylvania, for example, the governor used \$50 million in federal CARES Act funds to award grants to employers to fund hazard pay increases of \$3 per hour. About 640 awardees were selected from more than 10,000 applications, and nearly two-thirds of the funds were awarded to healthcare firms. Many of those were nursing, residential, and home care facilities. Some states, including Massachusetts and Maine, have negotiated with unions representing healthcare workers to offer hazard pay to workers in state facilities (Murphy 2020; Solis 2020; Morin 2020).

In summary, sectors employing large shares of HPOG-targeted occupations did not report substantial swings in compensation following the onset of the pandemic, certainly not nationally. Yet, the prior section found that those same sectors significantly reduced employment during the pandemic. The next two sections explore how changes in the demand for and supply of healthcare workers might provide insight into these trends in employment and compensation.

TRENDS IN LABOR DEMAND

Output (i.e., the contribution to Gross Domestic Product (GDP)) from the combined healthcare and social assistance industries decreased 1.9 percent in the first quarter of 2020 and 15.1 percent more in the second quarter, contributing to the overall decrease in GDP.¹¹ Our review suggests that a reduction in demand for healthcare services, and by extension workers, largely explains this shrinking of the healthcare industry and decrease in employment during Period 1 (January-April 2020). This would be consistent with decreasing compensation

identified above. Recovery in the demand for both healthcare services and workers seems to explain some of the partial recovery in employment during Period 2 (May-September 2020).

However, changes in labor demand appear to vary across industry sectors and for specific healthcare occupations, including some of those targeted by HPOG trainings. We describe those patterns below. We consider some plausible explanations for these trends at the end of this section.

INDUSTRY-LEVEL TRENDS

Each month, the Current Population Survey asks workers whether the pandemic has affected their ability to work.¹² Responses confirm that decreasing demand for healthcare services caused employers to reduce their demand for healthcare labor.

In May 2020, about 20 percent of workers in healthcare (15% for hospitals and 23% for other health services) reported they had been unable to work because their employer closed or lost business due to the pandemic. From May to September (i.e., Period 2), these effects partially receded. The share unable to work decreased to 5 percent in September (2.6% for hospitals and 7% for other health services).

Sector-specific analyses confirm the sharp reduction in demand for healthcare services during Period 1. The volume of home health cases fell well below industry projections, and the Centers for Disease Control & Prevention (CDC) reported that emergency room visits in April 2020 declined more than 40 percent relative to the prior year, with the largest declines in those areas with the most severe COVID-19 outbreaks (Dobson et al. 2020;

¹¹ Overall, GDP decreased by 1.3% in the first quarter and 9.0% in the second quarter. The Bureau of Economic Analysis publishes industry-level output for the combined healthcare and social assistance industries, of which healthcare makes up the majority of the combined total.

For more information on why these industries are often

combined, see <https://www.bls.gov/iag/tgs/iag62.htm>.

¹² The Bureau of Labor Statistics added supplemental questions to the survey. Detailed results are available here: <https://www.bls.gov/cps/effects-of-the-coronavirus-covid-19-pandemic.htm>.

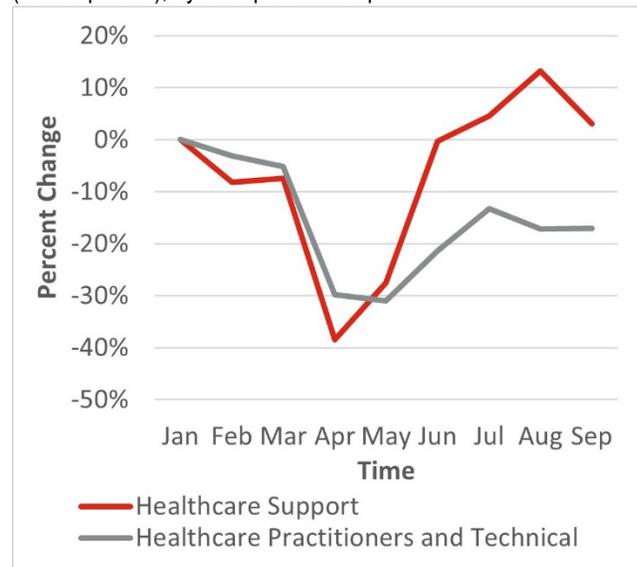
Hartnett et al. 2020). Total hospital admissions dropped nearly 70 percent below expected levels in April 2020 and then rose closer to 90 percent of expectation through September 2020 (Heist, Schwartz, and Butler 2020).

Data on job openings — a standard measure of labor demand — tell a similar story.¹³ The number of job openings in healthcare and social assistance industries fell nearly 13 percent through Period 1, driving down the job openings rate from 5.3 percent to 4.9 percent.¹⁴ From July to September 2020, the openings rate increased to pre-pandemic levels as employers sought to fill open positions again (**Table A4**).

This pattern appears to differ by occupation group, at least for Period 2. Online job postings, roughly comparable to job openings as a source of data on labor demand, dropped at similar rates among both healthcare support occupations and healthcare practitioners and technical occupations during Period 1.

By contrast the recovery may have been stronger among the lower-skilled healthcare support occupations (e.g., Nursing Assistant, Home Health Aide, and Personal Care Aide), the majority of which include positions often targeted by HPOG training.¹⁵ Postings for these positions exceeded pre-pandemic levels from July through September 2020, whereas postings for higher-skilled healthcare practitioners had not yet fully recovered (**Chart 6**). These higher-skilled practitioner and technical occupations include some at upper levels of the Nursing career pathway (e.g., Registered Nurse) but also include others that HPOG participants do not typically pursue (e.g., Physician, Therapist).

Chart 6. Cumulative Percent Change in Online Job Postings (Jan-Sep 2020), by Occupation Group



Source: <https://www.burning-glass.com/research/open-data-job-postings/>

OCCUPATION-SPECIFIC INCREASES

Despite what appears to have been a clear decrease in labor demand across the healthcare sector through the spring of 2020 (Period 1), there are several accounts of increasing demand for specific occupations in direct response to the pandemic. Some of those occupations are among those targeted by HPOG training activity.

Job postings for Respiratory Therapist on Indeed.com increased 35 percent from January to April 2020, and employers' searches for respiratory therapists increased six-fold over the same period (Konkel 2020). Some nursing homes reported additional hiring of temporary nursing assistants to shore up staffing in anticipation of greater need (Hauslohner and Sacchetti 2020).

¹³ Job openings or job postings are used to measure labor demand. As employers' demand for labor increases, they will post more openings; when demand decreases, they post fewer.

¹⁴ The job openings rate is the ratio of job openings to the sum of job openings and the number of employed workers.

¹⁵ Burning Glass Technologies compiles a proprietary list of

online job postings, with occupation-level detail. Though the level of online postings is much lower than total openings published by the Bureau of Labor Statistics, monthly changes in the two series have followed similar patterns since January 2020 (**Table A4**). The Bureau does not publish statistics on job openings by occupation.

Often considered key to the public health response to the pandemic, estimates for the total number of contact tracers needed nationally reached into the hundreds of thousands (Luo, Chong et al. 2020). The estimated need for contact tracers according to public health experts might differ from the real demand coming from state and local public health agencies. For example, agencies could shift staff responsibilities to include contract tracing without hiring new workers — a topic we discuss in more detail below. More fundamentally, the demand for contact tracers depends on the extent to which state and local governments prioritize contact tracing and therefore seek to fill Contact Tracer positions as a response to the pandemic. States’ plans are difficult to ascertain, but in May 2020 they expected to hire tens of thousands of additional tracers (Simmons-Duffin 2020a; Kellman 2020). Since then, as of September 2020, hiring plans slowed and about a dozen states reported relying on volunteer tracers (Simmons-Duffin 2020b).

The pandemic also expanded the need for a “new” occupation related to conducting health screenings as individuals enter shared spaces (Nova 2020; Sostek 2020). Sometimes called Temperature Checker and other similar titles, the position involves application of basic COVID-19 screening protocols.

DISCUSSION OF CAUSES

It is difficult to disentangle the many factors that affect demand for healthcare services and workers during the pandemic. Key considerations include the medical needs of individuals who develop COVID-19, the effects of government stay-at-home orders, and the behavioral responses and spending patterns of

healthy individuals and those with conditions other than COVID-19.

One analysis attempted to isolate labor market effects of increasing COVID-19 caseloads from the effects of government interventions and consumer behavior: From March to April 2020, it appears that increases in a local area’s per-capita COVID-19 caseload might have slightly decreased or had no effect on local healthcare employment, independent of stay-at-home orders (Dalton 2020).¹⁶ This suggests that the incidence of the virus itself did not substantially increase (or decrease) healthcare employment. Thus, any changes in employment should stem from stay-at-home orders, which surely reduce demand for healthcare. The author did attempt to separately control for voluntary reduction in economic activity and government-imposed restrictions on individual activity, but noted the challenge with doing so.

Consumer spending on healthcare, as measured by privately collected data on credit and debit card spending, decreased by nearly 60 percent from January 2020 to mid-April 2020. Healthcare spending slowly recovered but remained about 13 percent lower than pre-pandemic levels, as of late September 2020 (Chetty et al. 2020).¹⁷

This general pattern is consistent across states, though healthcare spending exceeds pre-pandemic levels in some. Even in New York State, where the number of COVID-19 cases increased sharply in March and April, overall spending on healthcare decreased by two-thirds during Period 1.

Hospital sector analysts make the same demand-side argument. They identify the postponement or cancellation of elective procedures, which hospitals rely on for large shares of overall revenue, as a source of

¹⁶ Employment in other industries, such as leisure and hospitality, are much more sensitive to increases in local COVID-19 caseloads.

¹⁷ In response to the pandemic, Chetty and coauthors have built a publicly available tracker of economic activity that

aggregates data collected by private businesses to monitor trends in consumer spending, employment, job postings, and other key indicators. This tracker allows for close to real-time monitoring of economic activity, without the lags associated with publication of government data sources on similar topics.

significant stress on hospital budgets. Those stressors force layoffs and furloughs (Khullar et al. 2020; Leinfelder 2020).

Labor demand-side effects for nursing homes differ. Amidst some reports of patients' shifting away from congregate care settings, the pandemic also significantly increased facility operating costs, forcing employers to consolidate staffing (Spanko 2020b). Some opted to lay off nonmedical staff. Rising costs also forced small single-site operators to close, citing insufficient financial support from state and federal governments (Spanko 2020a). Supply-side mechanisms appear particularly relevant to the employment situation in nursing homes, which we explore in the next section.

Job losses across the rest of the economy likely affect employment in healthcare, as unemployed workers increasingly lose access to employer-provided health insurance. Given evidence that expanding access to health insurance increases demand for healthcare workers, the reverse is likely true, as well (Dillender 2020).

Nonetheless, industry-wide demand for healthcare workers appeared to have partially recovered through September 2020. In light of this recovery, we explore trends in labor supply in the next section.

TRENDS IN LABOR SUPPLY

Relative to the pre-pandemic economy, the healthcare national labor market clearly had excess labor supply in the first several months of the pandemic. Generally, the unemployment rate — the share of the labor force that is not working but is looking for work — serves as a key indicator of available labor supply. Following the start of the pandemic, the unemployment rate among healthcare and social assistance workers increased sharply, peaking in spring 2020 at about 10 percent and falling to 4.5 percent in September 2020, roughly double the rate from the previous year. For reasons discussed below, more than other healthcare

workers, HPOG trainees may face more slack in the labor market.

Despite clear evidence of excess supply across the industry as a whole, our review also uncovered documented “shortages” of healthcare workers in specific contexts. We review evidence for those shortages and explore government responses to labor market supply in this section.

The section concludes with a discussion of labor supply from the perspective of an individual worker's ability and willingness to work. For a variety of reasons, healthcare workers could end up working more, including a desire to care for those in need and plain economic necessity. They could also work less, perhaps due to concern for their own health or childcare responsibilities.

HPOG TRAINEES MAY FACE A SLACKER LABOR MARKET

Some data suggest that HPOG-targeted occupations and trainees may have faced more slack in the labor market than did other healthcare workers. First, women in healthcare were more likely than men to become unemployed during the pandemic, and women make up the majority of HPOG participants. In April, the jobless rate reached 11.6 percent among women in healthcare and social assistance, nearly double the rate for men in those industries (6%). One year prior, those unemployment rates among women and men were nearly comparable (1.8 versus 2.2 percent, respectively) (McDermott and Cox 2020). The difference in the unemployment rate by sex are highest in non-hospital settings, such as long-term care facilities. Though this gap appeared to have closed in subsequent months, there is some evidence that decreases in rates of unemployment among women generally were due to their dropping out of the labor force (Hoff 2020).

Second, the jobless rate was higher among people working in lower-skill healthcare

occupations. In September 2020, the unemployment rate for workers previously employed in healthcare support occupations was 7.2 percent, more than double the rate among workers from higher-skilled practitioner and technical occupations (2.7%).

The excess supply of support workers is especially notable given the available evidence that demand in those occupations — as measured by online job postings — had returned to pre-pandemic levels. Of course, those support workers could have been searching for work in other industries or in other occupations, a topic we mention below in the section on the willingness to work in healthcare.

In response to concerns over insufficient capacity to care for COVID-19 patients, policymakers and employers took steps to facilitate an increase in the available supply of such healthcare workers. The success of those efforts depends, in part, on workers' ability and willingness to meet the demands of the pandemic labor market. We explore each of those three topics — shortages, responses, and ability and willingness — in the sections below.

EXAMPLES OF SUPPLY SHORTAGES

While the concept of labor shortages can be complex,¹⁸ we rely here on employers' self-reported shortages and instances in which researchers and industry experts argue that the short-term demand for healthcare services, as a result of COVID-19, appears to exceed the available supply of labor required to respond.

Available estimates found that in September 2020 a majority of states were experiencing a shortage or were at risk of a shortage of workers for critical care positions in hospitals (Luo, Erikson et al. 2020).¹⁹ As shown in **Table A5**, those shortages were more prevalent among medical doctors, including hospitalists, intensivists, and pharmacists and less prevalent among critical care RNs — an occupation requiring substantial nursing training.²⁰ About 20 states had shortages of one critical care position included among HPOG-targeted occupations: Respiratory Therapist.

Table A5 also illustrates how these labor shortages changed over time. In April 2020, several states had a shortage of critical care workers. Consistent with nationwide reductions in COVID-19 caseloads²¹ — and perhaps persistent low demand for other health services — shortages in critical care declined through mid-summer but appear to have quickly increased in August and September 2020. We consider the implications of that estimated increase in the discussion of directions for future research in this brief's final section.

The supply of healthcare workers in long-term care settings has also received much attention, due to their high rates of COVID-19 infections and absenteeism among staff. Relying on data collected from nearly every nursing home in the country, McGarry, Grabowski, and Barnett (2020) found that nearly one in five nursing homes reported a shortage of nurse's aides (17%) or nurses (15%) between May and July 2020.²² Fewer facilities reported shortages of so-called clinical staff (~2.5%), including physicians and advanced practice nurses.

¹⁸ The concept of a "labor shortage" requires careful definition, and the process by which economists might identify a labor shortage goes beyond the scope of this brief (Veneri 1999; Barnow, Trutko, and Piatak 2013).

¹⁹ These estimates rely on assumptions about hospitals' deployment of "surge staffing" strategies and staff attrition. Estimated shortages decrease under surge staffing scenarios and increase as assumed rates of staff attrition increase.

²⁰ Hospitalists are physicians who provide inpatient care predominantly in settings such as medical wards, acute care

units, intensive care units, rehabilitation centers, or emergency rooms. Intensivists are physicians who provides special care for critically ill patients. They are also known as critical care physicians.

²¹ *The New York Times* maintains an ongoing count of COVID-19 cases: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>.

²² Nurses, in this case, include RNs and LPN/LVNs.

Reported shortages were more common among facilities with COVID-19 cases among residents and staff, those for which larger shares of facility revenue came from Medicaid, and those with lower scores on ratings of overall and staffing-related quality.

Restrictions placed on outside visitors — many of whom provide informal care — exacerbated staff shortages (McGilton et al. 2020).

LABOR SUPPLY RESPONSES

Amidst the overall decrease in labor demand and employment in healthcare, government and employers took a variety of measures to shift the capacity of the healthcare workforce to respond to acute demands of the pandemic. As needed, employers tried to increase hiring of new healthcare workers, shift workers' responsibilities, and increase the use of telemedicine. Policymakers' typical approach was to temporarily adjust training and licensing requirements for certain occupations to ease barriers to entry.

Following the outbreak of COVID-19 in New York City, officials quickly identified major changes needed to their healthcare workforce, and the hospital system employed drastic measures to respond (Keeley et al. 2020). These measures included onboarding 5,000 additional nurses and redeploying staff to areas of need, often unrelated to their specialty.^{23,24} School nurses supported COVID-19 patients with activities of daily living. The City met additional staffing needs through partnerships with the U.S. Department of Defense (700 new providers), volunteers, and relocating out-of-state workers (Marsh 2020).

Noteworthy is that total employment in the hospital system in New York City did not

dramatically increase during that time. Year-over-year hospital employment was little changed in April 2020, and as of September 2020, the sector employed fewer workers. In part, this may have been due to shifts in employees between sectors of the healthcare industry.

Federal and state policy responses took different forms. In March 2020, the Centers for Medicare and Medicaid Services (CMS) temporarily reduced minimum training requirements for nurse's aides from 75 hours of both classroom and hands-on training to eight hours of online training.

Most states modified education and licensing requirements for nurses, most commonly by allowing workers to practice in a state (sometimes via telemedicine) other than the one in which they were licensed, allowing workers with inactive or expired nursing licenses to practice on a temporary basis, waiving continuing education requirements for retired workers who re-enter the labor force, and allowing nursing certification programs to substitute simulated nursing experience for in-person clinical experience (NCSBN 2020a; 2020b; 2020c). Several other states took similar steps for Respiratory Therapist requirements (Skillman et al. 2020).

Not much is known about the take-up of these new flexibilities. Following CMS's change to nurse's aide training requirements, the American Health Care Association began offering an eight-hour online course to train nurse's aides (Severns 2020).²⁵ Thus far, 30 states approved the use of this training — sometimes requiring supplemental training. It is not clear, however, how many temporary nurse's aides have been hired after completing the abbreviated training.

²³ Estimates of "surge capacity" — additional work that could be carried out by existing staff — appear to be greater among occupations such as Registered Nurse and Respiratory Therapist than Physician (Gottlieb and Mahoney 2020).

²⁴ Other reports affirm that CNAs are sometimes asked to take on higher levels of healthcare service, backfilling gaps

created as other nurses shift into critical care (Gerety 2020).

²⁵ Critics warned that the training was insufficient, particularly in the area of infection control and prevention, and put nursing home residents at greater risk of contracting COVID-19 and in fact, may have helped spread the disease (Hauslohner and Sacchetti 2020; Severns 2020).

Though telemedicine has certainly expanded since the onset of the pandemic, this may not apply to many of the occupations targeted by HPOG training, either because they are not able to be performed remotely or, in the case of home health aides, providers are not reimbursed for services provided remotely (Donlan 2020). We do know that telework tends to be concentrated among higher-skilled healthcare occupations. In September 2020, healthcare practitioner and technical occupations (14.2%) were more than three times more likely to engage in some telework than were healthcare support occupations (4.6%).

ABILITY AND WILLINGNESS TO WORK

The supply of healthcare workers during a public health emergency depends on their ability and willingness to work. Some research explores healthcare providers' willingness to work during different public health emergencies, but comparable studies have not yet been conducted in the COVID-19 context.

The most relevant existing research considers hospital workers' self-reported willingness to work when asked to predict their response to a hypothetical influenza pandemic (Balicer et al. 2010). Findings suggest that workers' perceptions of their self-efficacy (i.e., confidence in one's ability to perform duties and perceived impact of one's response) are strongly associated with willingness to respond. Other factors also associated with willingness to respond include perceived safety at work and getting to work, perception that colleagues will report for work, and a perception that one's family can function in one's absence. Findings are comparable to similar studies of EMS and public health workers (Rebmann et al. 2020; Barnett et al. 2009). This section explores available analysis and reporting on factors related to ability and willingness to work in the current pandemic.

Workers responding directly to the pandemic perceive shortages in personal protective equipment (PPE) and the risk of virus

transmission as significant sources of distress (Sterling, Tseng, and Poon 2020). The CDC identified direct-care workers as a vector for virus transmission to patients in nursing care settings (McMichael et al. 2020). Access to PPE varies across occupations and industry sectors. Healthcare support workers, such as CNAs, and staff working in nursing homes and for home health agencies reported inadequate PPE (Gerety 2020; Rau 2020).

In research and reporting conducted in 2020, these workers reported that they had not been trained in infection prevention and control procedures and that their employers did not facilitate best practices (Sterling, Tseng, and Poon 2020; Ornstein and Sanders 2020). Healthcare workers filed more than 4,000 COVID-19-related complaints with the federal Occupational Safety and Health Administration from March through June 2020 (Jewett, Luthra, and Bailey 2020).

Family responsibilities pose a significant challenge among healthcare workers responding to the pandemic. According to one report, 61 percent of long-term care workers also provide care for dependent children or adult relatives (Van Houtven, DePasquale, and Coe 2020). School and childcare center closures across the country make employment more difficult for workers with children, and this may have been particularly challenging for healthcare workers (Chin et al. 2020; Fetters 2020; Wu 2020).

Taken together, workers' concerns for their own health and that of their patients and their families contributed to elevated levels of stress and anxiety, which could have affected their willingness to work.

Though these barriers may decrease workers' ability and willingness to work, there are offsetting factors. First, consistent with the importance of self-efficacy mentioned above, some healthcare workers reported that they were highly motivated to help during the crisis (Wu 2020).

At the same time, other healthcare staff working in lower-paid healthcare positions, with low annual earnings, few health benefits, and limited paid sick and vacation leave, said that they had to continue to work to support themselves and their families, even at the risk of their own health (Gerety 2020).

The recessionary economy and associated policy responses likely affect workers' and job seekers' behavior as well. For example, the current environment probably leaves these healthcare workers with fewer alternative employment options, particularly for those who already work multiple jobs (Van Houtven, DePasquale, and Coe 2020). Also, there are varying opinions on the extent to which expansions of Unemployment Insurance depressed return to work during the summer of 2020. Studies generally found that expanded benefits reduced job search activity, though such reductions did not change employment levels, likely due to the larger fluctuations in labor demand (Marinescu, Skandalis, and Zao 2021; Dube 2021; Ganong et al., 2021).

FUTURE RESEARCH TOPICS

The COVID-19 pandemic creates a new source for demand for healthcare workers—the need to care for individuals ill with a new disease. Some evidence suggests that demand increased for specific occupations, including critical and long-term care occupations.

However, the response from policymakers (i.e., stay-at-home orders) and the public had the net effect of reducing overall demand for healthcare services and labor, in turn increasing rates of unemployment among healthcare workers. Consistent with falling demand, we see some evidence of decreasing compensation for healthcare workers industry-wide.

Those sectors that tend to employ workers in occupations targeted by HPOG trainings experienced smaller decreases in employment and no evidence of decreasing compensation. Still, some evidence suggests that HPOG

workers may have faced a slacker labor market; unemployment rates in healthcare were higher for women and those workers in lower-skill occupations.

From May to September 2020, employment had started to recover. Job openings began to increase. But employment had not yet recovered to pre-pandemic levels. In fact, nursing and residential care facilities continued to shed jobs. At the same time, unemployment rates among lower-skilled healthcare workers remained high.

Considering these trends and recent research findings together, we highlight a few topics for future research to inform the HPOG Program and similar healthcare occupational training programs:

- As COVID-19 caseloads continued to fluctuate, rising through the end of 2020 and falling during 2021, ongoing monitoring of trends in labor supply, wages, and employment of healthcare workers, particularly those in HPOG-related occupations, seems important.
- Gathering data on the characteristics of employers – particularly industry sector and firm size – that hire HPOG trainees would inform our understanding of trainees' risk for pandemic-specific effects and other aspects of their experiences in the labor market.
- If demand for healthcare services shifts toward in-home care, triggering future increases in demand for home healthcare workers and additional professionalization of the nonmedical home care sector, employers may need to hire more HHAs and credentialed PCAs (Bryant 2020). HPOG trainees commonly enroll in HHA training, but PCAs make up a smaller share of current HPOG training activity. Future research could explore potential expansion of both HHA and PCA trainings among HPOG grantees in addition to strategies for increasing compensation for these traditionally low-wage occupations, which would be consistent with

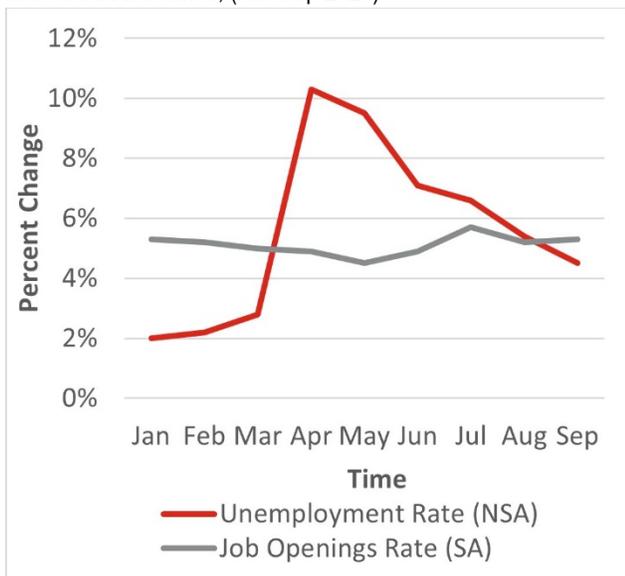
HPOG’s goal of placing trainees in jobs that pay well.

- Some state nursing boards have allowed completion of nursing practicums via virtual training. Future research could explore the effectiveness of and promising practices in expanded virtual training options in HPOG programs.
- As of September 2020, the healthcare job openings rate had largely returned to pre-pandemic levels, but the unemployment rate among healthcare workers remained nearly two times higher than the prior year’s rate (**Chart 7**). If this pattern persists, researchers might explore potential explanations, including sources for geographic, skills, or other kinds of mismatch or barriers to working, such as childcare responsibilities for low-income parents. HPOG programs may consider exploring opportunities to target trainings to address sources of mismatch or barriers exacerbated by the pandemic.

researchers might also consider the transferability of contact tracing skills, perhaps toward occupations in sectors such as medical record-keeping or social services.

- Researchers and industry experts should consider lessons to be learned from the current pandemic, both to inform the ongoing response and to prepare for future healthcare system disruptions. These lessons could inform responses to non-pandemic disruptions and general strategies for increasing the preparedness and resiliency of the healthcare workforce, particularly those who provide critical care.
- Finally, in net, demand for healthcare workers appeared to decline over the period covered by this brief. Such declines often hit new entrants hardest. This suggests a likely decline in the *level* of employment and earnings among those who graduate HPOG during the recession. Whether the pandemic altered the *impact* of HPOG on graduates will depend on the extent to which HPOG prepares workers relatively better than do alternative providers in this pandemic environment, which we will consider via the ongoing evaluation of HPOG 2.0 grantees.

Chart 7. Job Openings and Unemployment Rates, Healthcare and Social Assistance, (Jan-Sep 2020)



NSA = not seasonally adjusted; SA = seasonally adjusted.
 Sources: <https://www.bls.gov/cps/> and <https://www.bls.gov/ilt/>

- HPOG grantees are considering opportunities to expand training for contact tracing jobs. Should demand for contact tracing eventually subside once the pandemic ends,

APPENDIX

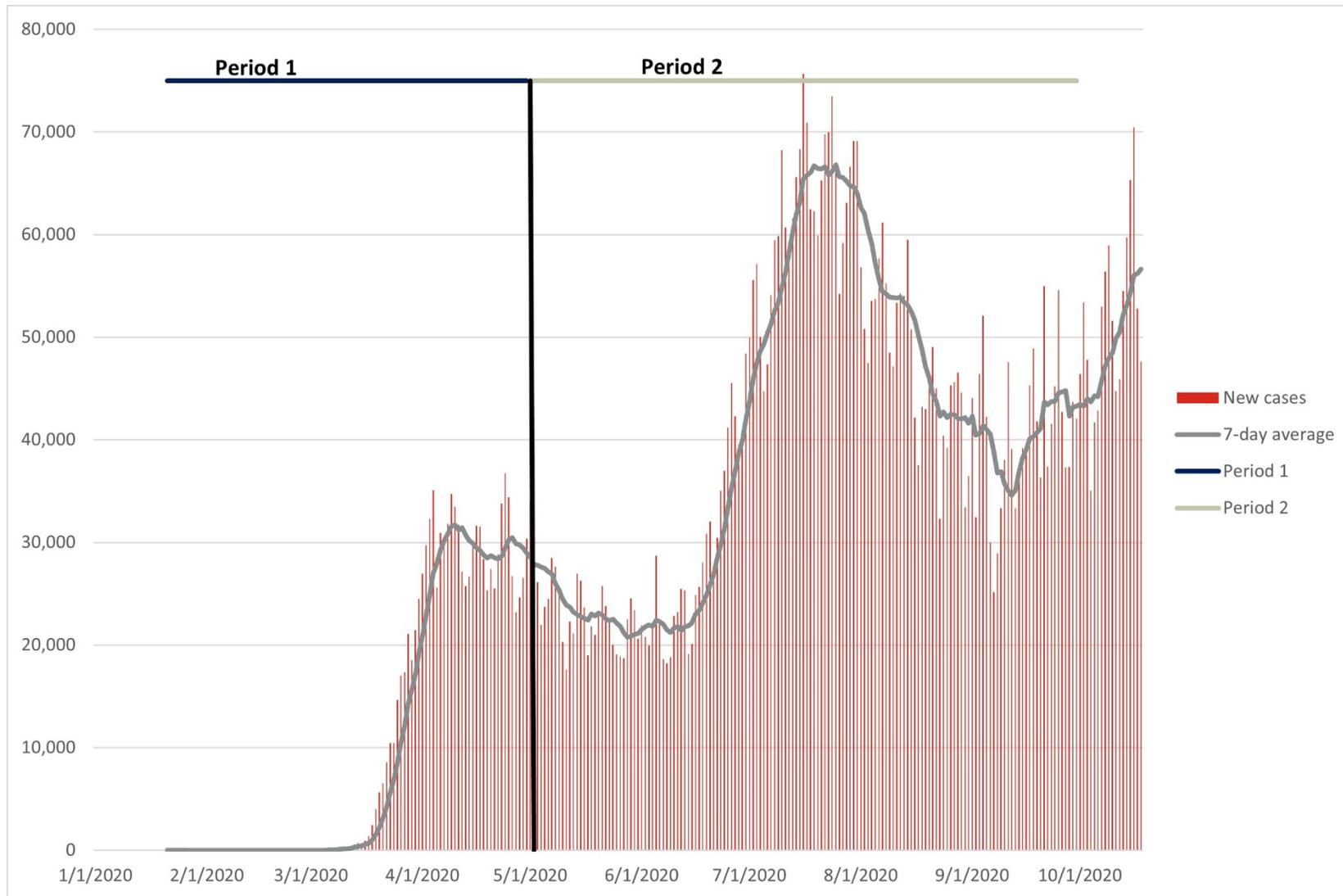
Table A1. Employment by Occupation Within Industry Sector, May 2019

Sector	Nursing Assistants	Home Health and Personal Care Aides	Licensed Practical and Licensed Vocational Nurses	Registered Nurses
Offices of physicians	1%	0%	13%	7%
Offices of dentists	0%	0%	0%	0%
Offices of other health practitioners	0%	0%	1%	0%
Outpatient care centers	1%	0%	4%	5%
Medical and diagnostic laboratories	0%	0%	0%	0%
Home healthcare services	5%	27%	13%	6%
Other ambulatory healthcare services	0%	0%	0%	1%
Hospitals	29%	1%	15%	61%
Nursing care facilities	40%	2%	30%	5%
Residential care facilities	13%	18%	10%	2%
Other	10%	52%	15%	14%
Total	100%	100%	100%	100%
(N)	(1,419,920)	(3,161,500)	(697,510)	(2,982,280)

Source: Authors' calculations based on Occupation Employment Statistics, May 2019, available at: <https://www.bls.gov/oes/>.

Note: "Other" sectors consist mostly of those in the Social Assistance industry, such as Individual and Family Services. Components may not sum to total due to rounding.

Chart A1. Daily Number of New Coronavirus Cases



Source: The New York Times Coronavirus Data in the United States, available at: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>.

Note: Period 1 spans January through April 2020. Period 2 spans May through September 2020.

Table A2. Change in Employment from January 2020 through September 2020, by Month and Industry/Sector

Industry/Sector	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
Healthcare Industry	0.2%	-0.4%	-9.6%	-7.7%	-5.6%	-4.7%	-4.3%	-3.8%
Offices of physicians	0.3%	-0.6%	-10.8%	-8.4%	-5.7%	-4.7%	-3.6%	-2.9%
Offices of dentists	0.3%	-2.9%	-55.8%	-30.2%	-10.3%	-5.2%	-3.4%	-2.6%
Offices of other health practitioners	0.4%	-1.1%	-24.0%	-17.2%	-12.1%	-10.2%	-8.9%	-7.0%
Outpatient care centers	0.1%	0.1%	-8.1%	-7.1%	-4.9%	-3.8%	-2.7%	-1.6%
Medical and diagnostic laboratories	-0.2%	-0.9%	-9.7%	-9.6%	-7.8%	-4.6%	-4.3%	-3.4%
Home healthcare services	0.5%	0.2%	-6.9%	-6.8%	-5.6%	-4.7%	-4.0%	-3.1%
Other ambulatory healthcare services	0.3%	-1.3%	-8.0%	-8.1%	-6.5%	-6.2%	-5.8%	-5.3%
Hospitals	0.1%	0.1%	-2.3%	-3.0%	-3.0%	-2.4%	-2.2%	-2.3%
Nursing care facilities	-0.1%	-0.3%	-3.3%	-5.3%	-6.3%	-7.4%	-8.0%	-8.2%
Residential care facilities	0.1%	-0.1%	-4.7%	-5.7%	-5.8%	-6.1%	-6.5%	-6.1%

Source: Authors' calculations based on Current Employment Statistics (CES), March 2021, available at: <https://www.bls.gov/ces/>. CES measures of employment cover all nonfarm employees.

Table A3. Three-month Change in Employment Cost Index, Seasonally Adjusted, by Industry/Sector

	Change in Employment Cost Index from Three Months Earlier					
	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20
Healthcare and Social Assistance Industry						
Total compensation	0.6%	0.7%	0.5%	0.7%	-0.1%	1.1%
Wages and salaries	0.5%	0.7%	0.6%	0.9%	-0.4%	1.2%
Hospitals						
Total compensation	0.6%	0.7%	0.6%	0.6%	0.7%	0.5%
Wages and salaries	0.6%	0.7%	0.7%	0.7%	0.6%	0.4%
Nursing and Residential Care Facilities						
Total compensation	0.6%	0.6%	0.4%	0.7%	0.7%	0.7%
Wages and salaries	0.6%	0.8%	0.6%	N/A	N/A	N/A

N/A = not available

Source: Employment Cost Index, accessed October 20, 2020, available at: <https://www.bls.gov/nce/ect/>.

Table A4. Job Openings and Job Postings, by Industry and Occupation Group

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
Healthcare and Social Assistance Industries									
Job openings rate (JOLTS)	5.3%	5.2%	5.0%	4.9%	4.5%	4.9%	5.7%	5.2%	5.3%
Job openings level (JOLTS)	1,161	1,131	1,087	949	896	999	1,177	1,074	1,110
Percent change from previous month		-2.6%	-3.9%	-12.7%	-5.6%	11.5%	17.8%	-8.8%	3.4%
Online job postings (BGT)	639	615	603	418	440	519	558	571	553
Percent change from previous month		-3.7%	-1.9%	-30.8%	5.3%	18.1%	7.3%	2.3%	-3.1%
Healthcare Support Occupations									
Online job postings (BGT)	83	77	77	51	60	83	87	95	86
Percent change from previous month		-8.2%	0.9%	-33.5%	17.7%	37.6%	4.9%	8.3%	-9.0%
Healthcare Practitioners and Technical Occupations									
Online job postings (BGT)	421	408	399	295	290	331	365	349	349
Percent change from previous month		-3.1%	-2.1%	-26.0%	-1.7%	14.0%	10.3%	-4.4%	0.1%

Levels in thousands; N/A = not available

Source:

Job openings are reported from Job Openings and Labor Turnover Survey (JOLTS), accessed March 9, 2021, available at: <https://www.bls.gov/jlt/>.

Job postings are reported from Burning Glass Technologies (BGT), accessed March 9, 2021, available at: <https://www.burning-glass.com/research/open-data-job-postings/>.

Table A5. States with Estimated Shortage of or Strain on Healthcare Workforce, by Occupation (Apr-Sep 2020)

Occupation	17-Apr	27-Apr	13-May	26-May	15-Jun	25-Jun	15-Jul	22-Jul	7-Aug	24-Aug	4-Sep	14-Sep
Critical Care Registered Nurse												
Shortage	5	4	1	0	2	0	0	0	0	0	1	0
Strain	0	2	4	3	4	0	0	0	10	11	22	27
Hospitalist												
Shortage	6	6	2	1	6	0	0	0	7	9	15	16
Strain	6	3	7	4	2	2	1	0	16	16	23	22
Intensivist												
Shortage	11	9	9	8	10	4	7	2	26	28	43	40
Strain	15	15	14	11	11	5	7	11	5	7	4	4
Pharmacist												
Shortage	N/A	4	2	0	4	0	0	0	6	6	10	13
Strain	N/A	7	8	6	4	2	1	0	16	20	28	26
Respiratory Therapist												
Shortage	5	6	4	2	5	0	0	0	9	5	20	21
Strain	5	7	7	7	4	3	1	0	12	26	20	18

N/A = not available

Notes:

These data are published at irregular time intervals. The dates in each column header correspond to dates of publication.

Shortage = More than 100% of the states' workforce needed to treat COVID-19 patients.

Strain = Less than 50% of workforce remaining for non-COVID-19 patients after COVID-19 demand is met.

Hospitalists are physicians who provide inpatient care predominantly in settings such as medical wards, acute care units, intensive care units, rehabilitation centers, or emergency rooms.

Intensivists are physicians who provides special care for critically ill patients. They are also known as a critical care physicians.

Source: State Health Workforce Deficit Estimator, Fitzhugh Mullan Institute for Health Workforce Equity at The George Washington University, available at: <https://www.gwhwi.org/estimator.html>.

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