

Issue Brief | 2020-3 | June 2020

Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

Sara Chaganti, Amy Higgins, and Marybeth J. Mattingly



Contents

Abstract	3
Key Data Items.....	3
Introduction	4
Who Is Uninsured in New England?	5
Essential Frontline Service Workers	9
Essential Frontline Healthcare Workers	11
Essential Non-healthcare Service Workers	14
Conclusion	18
About the Authors	20
Acknowledgements	20
Endnotes	21

The views expressed in this paper are those of the authors and do not necessarily represent those of the Federal Reserve Bank of Boston or the Federal Reserve System.

Abstract

The coronavirus pandemic sweeping through the United States has highlighted critical pockets of vulnerability in our system of healthcare coverage. Essential frontline workers in particular face ongoing risk of infection and of infecting their families and others. For these workers, health insurance is critical. Healthcare workers, of course, face great risk of infection in this time, but another group of workers is also particularly vulnerable: service workers outside of healthcare settings, in industries that are deemed essential. In this brief, we analyze rates of insurance among essential frontline healthcare and non-healthcare workers across New England. In spite of relatively high rates of insurance in New England, there are roughly 50,000 uninsured essential workers across the region. These workers are at increased risk both of infection and of high out-of-pocket medical expenses if they seek care. Such economic risks may preclude them from accessing necessary care in a timely manner, with negative implications for their health. Essential healthcare workers are more likely to be insured than are non-healthcare workers. Within both groups of essential workers, Hispanics and non-Hispanic blacks are clustered in lower-wage jobs with lower rates of insurance. This brief points to the importance of comprehensive and affordable health coverage for treatment of COVID-19 for essential workers and their families, who are putting their lives on the line every day in order to keep our economy running.

Key Data Items

- More than one in 20 adult New England workers lacks health insurance (an estimated 333,000 people), putting them at financial risk if they get sick.
- Essential service workers, who are required to go to work and often interact with the public, are insured at a rate similar to other workers across New England. There are more than 50,000 uninsured essential service workers in New England. These workers are at high risk of contracting COVID-19 and incurring significant financial hardship.
- Among essential service workers, the roughly two-thirds working in healthcare are more likely to have insurance than the roughly one-third working in non-healthcare essential service jobs. Of the former group only 3.2 percent are uninsured, whereas 8.8 percent of the latter are uninsured.
- Essential workers in northern New England least often have health insurance, with more than 10 percent of low-income non-healthcare essential workers uninsured, a rate that rises to more than 25 percent for those with the lowest incomes.
- Hispanics and non-Hispanic blacks are overrepresented in certain essential service jobs, including healthcare support, food service, and building maintenance. This disproportionate distribution may account for their higher chances of being uninsured.

Introduction

The coronavirus pandemic sweeping through the United States has highlighted critical pockets of vulnerability in our system of healthcare coverage. Coronavirus spreads very easily—much more easily than most common viruses.¹ From the first reported case in the United States (on January 20, 2020),² the case count rose to close to 1.5 million nationwide and well over 100,000 in New England by mid-May 2020, according to the U.S. Centers for Disease Control and Prevention.³ Coronavirus disease (COVID-19) can cause very severe health conditions—including pneumonia, organ failure, and stroke—that require intensive medical intervention.⁴ Even with the best medical intervention, the disease can be deadly. Currently, healthcare workers are working around the clock to help patients manage the condition. The United States will soon have to address the enormous cost of this level of care, for the nation as a whole and for individuals and families who are afflicted with the disease.

Long-standing inequalities in the United States stand out sharply: certain groups will bear more of the pandemic's many costs than others. We are currently seeing disparities in rates of infection and in severity of disease and death by race/ethnicity, income, and geography. Hispanics and non-Hispanic blacks are contracting and dying of the disease at alarming rates,⁵ and recent analyses suggest that non-Hispanic blacks may be overrepresented among COVID-19 patients who require hospitalization.⁶ These trends are the product of structural barriers that have created and perpetuated racial/ethnic inequalities in many dimensions of well-being.⁷

Existing disparities in access to health insurance⁸ compound the disparate impacts of the virus.⁹ Treatment for COVID-19 can be expensive, particularly if hospitalization is required: hospitalization for COVID-19 can result in tens of thousands of dollars in treatment costs.¹⁰ Those with policies that provide limited coverage might end up delaying or foregoing treatment (which may increase both the severity of illness and the risk of death, in addition to increasing the chance of virus spread), or, if they do seek treatment, they may find themselves burdened with significant out-of-pocket expenses that affect them economically for years to come.¹¹

Among essential workers, healthcare workers face the greatest risk of infection; it is essential that they have full insurance coverage to take care of any expenses should they become ill. But service workers in other, non-healthcare essential industries—employees in, grocery stores, warehouses, and delivery industries—also face ongoing risk of infection and of infecting their families.¹² For these workers, comprehensive health insurance coverage is critical.¹³ These jobs tend to pay low wages and lack benefits, and they are disproportionately filled by people of color.¹⁴

Of course, having some form of health insurance does not guarantee that all COVID-related expenses will be covered. Some health insurance plans—both employer provided and purchased through healthcare exchanges—are designed to provide coverage only for routine preventative care and catastrophic events.¹⁵ Such plans have low premiums and high deductibles.¹⁶ This means that individuals must pay for most healthcare costs—doctor's office visits, diagnostic testing, and hospital stays—out of

pocket until their deductible is met and the insurance begins to pay. As a result, even with health coverage, they are at risk of incurring overwhelming costs or of foregoing care if cost is prohibitive. People in this situation are commonly referred to as underinsured.¹⁷

In the Northeast (New England plus New York, New Jersey, and Pennsylvania), high-deductible plans are most common among those working more hours and living above 200 percent of the federal poverty level (FPL).¹⁸ They are also more common among non-Hispanic whites than non-Hispanic blacks or Hispanics. Though a seemingly more-advantaged group tends to be covered by plans like these, sizeable numbers of the less advantaged also have them, and aggregate advantage does not predict individual risk of economic hardship following high medical bills.

The recently passed federal relief packages do provide healthcare consumers with some protection against out-of-pocket costs related to COVID-19 testing. The Families First Coronavirus Response Act (FFCRA)¹⁹ and Coronavirus Aid, Relief, and Economic Security (CARES) Act²⁰ require health insurance plans to cover most tests and testing-related costs, and mandate that these costs are pre-deductible and do not require a co-pay for the duration of the emergency period (although the legislation as it stands now leaves open the possibility that people may have to pay unexpected bills that come due in the future in certain situations).²¹ However, these enacted protections do not cover interventions for those infected with COVID-19 beyond what existing health insurance policies already cover. The Congressional actions create an emergency relief fund for hospitals and other healthcare providers to recover expenses related to testing and treating the uninsured,²² but this fund will not directly address patients' out-of-pocket costs.²³ Therefore, those with high-deductible plans who require hospitalization may still accrue significant bills, and the uninsured who require intervention may be responsible for the full cost of their medical treatments—at a time when many will be in strained financial circumstances.

This brief analyzes rates of insurance among New England's essential frontline healthcare and non-healthcare service workers and highlights the consequences of historic inequities, particularly racial and ethnic inequities, for the health and safety of our workers, their loved ones, and the public at large.²⁴

Who Is Uninsured in New England?

About one in 20 working adult New Englanders was uninsured in 2018 (the most recent year for which data are available), a rate that is lower than the rate for the rest of the United States.²⁵ These numbers, however, mask important variation in coverage by state, region, and demographic characteristics. For example, both in New England and nationally, less than one percent of seniors (65 years and up) did not have health insurance (0.4 percent and 0.8 percent, respectively), largely as a result of near universal Medicare coverage.²⁶ And only four percent of children and young adults (0 to 25 years) in New England and 8.2 percent nationally were uninsured, the rest covered either by private plans (their own or their parents') or through state children's health insurance programs (S-CHIP).²⁷

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

We also see important differences in rates of insurance within the population of working adults in New England. Working adults in Maine were less likely to be insured than their peers in other states, and overall the northern New England states show lower rates of insurance than do the southern New England states (see Table 1). Also, for the 10 percent of working New Englanders who were self-employed (a category that includes gig workers), insurance was less certain: one in ten self-employed workers in New England was uninsured (one in five nationally), and in Maine, the state with the lowest overall rates of insurance, one in five self-employed adults was uninsured.

Part-time workers in New England working 20–34 hours weekly were among the least likely to be insured, with rates lower than those of New Englanders working fewer than 20 hours, perhaps because those working fewer than 20 hours are covered by Medicaid or spousal coverage (see Table 1). And, most notably, adults living in low-income families (i.e., those with family incomes below 200 percent of the FPL) were more likely to lack insurance: In New England, 15.4 percent were uninsured (nationally, it is one in four). In northern New England, one in five working adults in this income category was uninsured.

It is worth noting that of those who are uninsured, fewer than one in five (17.9 percent) is eligible for Medicaid at the federal eligibility threshold of family income below 138 percent of the FPL.²⁸ Overall this group lives in families with incomes over three times the FPL (median 307 percent FPL).

Table 1 | Percentage Uninsured Among Workers in the United States, New England Region and Individual States

Population	US	New England	NE-North	ME	NH	VT	NE-South	MA	CT	RI
Total employed, age 26–64	11.0%	5.6%	8.5%	10.1%	8.1%	6.0%	4.8%	3.4%	7.3%	6.1%
Working 35+ hours/week	9.8%	5.1%	7.5%	8.7%	7.0%	5.9%	4.4%	3.1%	6.4%	5.6%
Working 20–34 hours/week	18.0%	8.9%	14.3%	17.6%	14.5%	6.6%	7.4%	5.1%	11.8%	8.3%
Working 1–19 hours/week	15.0%	6.7%	11.7%	15.5%	11.7%	5.1%	5.3%	3.3%	8.9%	7.7%
Works for wages	10.0%	5.0%	7.4%	8.6%	7.1%	5.5%	4.3%	3.1%	6.4%	5.8%
Self-employed	19.4%	11.2%	16.7%	20.8%	17.1%	8.9%	9.1%	6.2%	14.4%	8.8%
Family income ≥ 200% FPL	7.2%	4.2%	6.3%	7.1%	6.1%	5.0%	3.6%	2.7%	5.3%	4.6%
Family income < 200% FPL	27.5%	15.4%	22.1%	25.4%	24.6%	11.0%	13.2%	8.8%	20.7%	14.7%

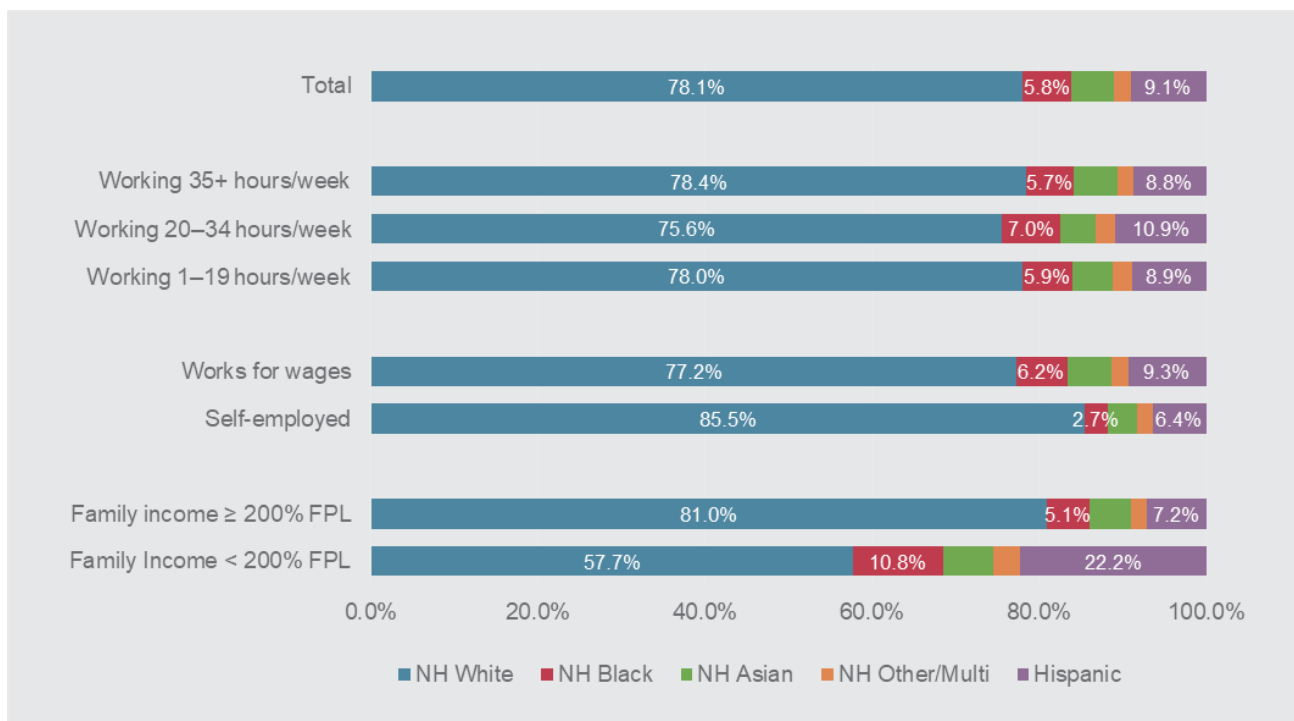
Note: All estimates are weighted. Statistical significance tested within rows between northern and southern New England and between each New England state and Massachusetts using bivariate logistic regression. All differences within row categories are statistically significant at $p < .05$ except that Vermonters working 1–19 hours/week are not statistically different from Massachusetts residents, as indicated by italics.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

Demographically, workers are distributed unevenly across types of job in New England, and this disproportionate distribution has important consequences for insurance coverage among certain racial/ethnic groups. In 2018, the adult civilian workforce across New England was overwhelmingly white: Overall the workforce was 78.1 percent non-Hispanic white, 5.8 percent non-Hispanic black and 9.1 percent Hispanic (also 5.1 percent non-Hispanic Asian and 2.0 percent non-Hispanic other/multiracial). Yet Hispanics were overrepresented among two groups that have health insurance at lower rates: part-time workers employed 20–34 hours per week (10.9 percent), and workers from low-income families (22.2 percent). (See Figure 1.)

Figure 1 | Distribution of Workers in New England by Race/Ethnicity



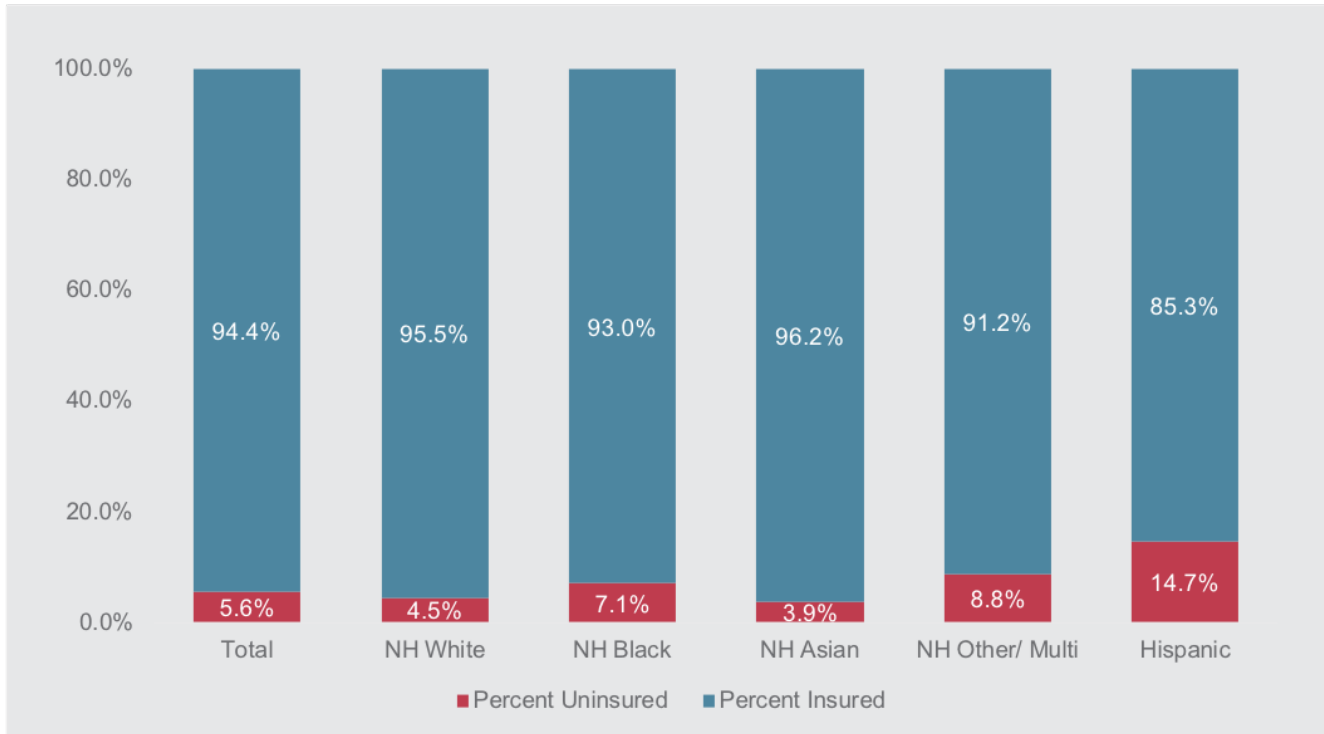
Note: All estimates are weighted. Statistical significance was tested between race/ethnicity (reference was non-Hispanic white). Multinomial logistic regressions were used to test for significant differences across hours worked/week and class of worker (reference is working 35+ hours/week and works for wages, respectively) Bivariate logistic regression was used to for significant differences across family incomes (reference family income >= 200% FPL). All differences across each employment characteristic are statistically significant at $p < .05$ except that the share of non-Hispanic Asians working 1–19 hours/week does not differ from the share of non-Hispanic whites working 1–19 hours/week.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Non-Hispanic black and Hispanic working adults in New England are uninsured at disproportionately high rates (see Figure 2). Notably, 14.7 percent of working Hispanic

adults lack any health insurance, a rate that is nine percentage points higher than that of working New Englanders overall.

Figure 2 | Insurance Rates for New England’s Workers by Race/Ethnicity



Note: All estimates were weighted, and statistical significance was tested between race/ethnicity (bivariate logistic regression reference is non-Hispanic white). All differences are statistically significant at $p < .05$. An additional test of significance that excluded non-Hispanic white (reference non-Hispanic black) indicated further significant differences in insurance rates between all race/ethnicity groups.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

The remainder of this brief examines insurance rates among essential healthcare and non-healthcare frontline service workers and looks at variation in rates of insurance within each group. Because these workers face particularly high risks of exposure to the coronavirus, if they are unable to access treatment due to lack of insurance, they could unintentionally compromise their own and their families' health and contribute to the spread of the virus more generally because of their ongoing contact with the public.

Essential Frontline Service Workers

Health insurance is particularly important for essential frontline workers. We selected essential worker categories to review in accordance with those service industries deemed essential in Massachusetts, which has the largest share of workers in New England.²⁹ It

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

is worth noting that several recent studies have attempted to define groups of workers most affected by the pandemic by industry or by occupation.³⁰ This brief uses both industry and occupation codes to identify essential industries and the jobs within those industries that put workers at greatest risk.³¹

The healthcare industry includes a range of service occupations, most of which are included in this brief.³² Some occupations involve direct patient care, while others complement direct care. Direct-care roles include healthcare practitioners and technicians,³³ such as doctors and nurses, and healthcare support occupations,³⁴ such as nursing assistants and home health aides. Those in community and social service jobs,³⁵ such as therapists and social workers, also directly care for patients. Complementary roles include protective service, food service, and building maintenance in healthcare facilities,³⁶ as well as office and administrative support jobs.³⁷ While not involved in direct patient care, these jobs are central to the healthcare industry's overall functioning, and also put workers at risk of exposure.³⁸ It is important to note that healthcare workers in community and social-service jobs and in office and administrative support jobs likely have greater opportunity for telework and, therefore, may face lower risk of infection. However, some portion of these workers are required to show up in person, so we include them in this brief.³⁹

A variety of service industries other than healthcare are also deemed essential, and we include them here. These include a number of retail trade industries (such as grocery stores and pharmacies),⁴⁰ transportation and warehousing,⁴¹ administrative support and waste management/remediation,⁴² social assistance,⁴³ accommodation and food services,⁴⁴ as well as "other services."⁴⁵ Jobs within these many industries include grocery store cashiers and stockers, warehouse pickers and packagers, security guards, bus drivers, postal workers, and others.⁴⁶ Recently, significant media coverage has called attention to the vulnerability of these service workers, many of whom work for low wages, do not receive benefits, and often do not receive the safety training and protective gear that healthcare workers receive.⁴⁷ The CDC and OSHA have released guidelines for essential industry workplaces to protect their employees, but company compliance is not mandatory.⁴⁸ As with healthcare workers, there is variation among workers in these other essential industries when it comes to contact with the public and the ability to telework.

A large literature documents disparities in pay, benefits, working conditions, etc. between groups of jobs in a segmented and increasingly polarized labor market.⁴⁹ We see this segmentation within groups of jobs in essential service occupations in New England. There are significant differences in job characteristics and worker demographics between and within each group of frontline workers. Essential healthcare jobs pay significantly more than do essential non-healthcare jobs: an average of \$61,000 per year for the former but only \$42,000 for the latter. Within healthcare jobs, healthcare practitioner positions pay on average about \$90,000 per year, while healthcare support jobs pay on average about \$30,000, lower even than essential non-healthcare jobs. Healthcare community support and office administration jobs pay in the same range as essential non-healthcare jobs, averaging around \$40,000 per year.

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England:
Who Lacks Access to Care for COVID-19?

Within essential non-healthcare jobs, there is also variation in average annual wages: over \$50,000 for office and administrative service jobs, and around \$40,000 for all other jobs. Rates of insurance coverage and racial/ethnic representation show sharp distributional differences between jobs. As a result, while all essential workers face tremendous risk to their health, certain groups also face increased financial risk due to low wages and lack of insurance.

Essential Frontline Healthcare Workers

About one in eight adult workers in New England (11.9 percent) has an essential frontline job in healthcare. These jobs include both direct patient care and support jobs, such as those in food service, building maintenance, and office administration.⁵⁰ Many workers in these jobs are at great risk of infection with COVID-19.

Essential frontline healthcare workers in New England have high rates of insurance overall: only 3.2 percent of these workers are uninsured (see Table 2). Even those in healthcare who work part-time or are self-employed hold insurance at high rates. As is the case for rates of insurance coverage among the New England population as a whole, rates of coverage among essential healthcare workers are lower among low-income families. And northern New England (Maine, New Hampshire, Vermont) continues to show lower rates of insurance overall than southern New England (Massachusetts, Connecticut, Rhode Island).

Table 2 | Percentage Uninsured Among Frontline Essential Healthcare Workers in New England

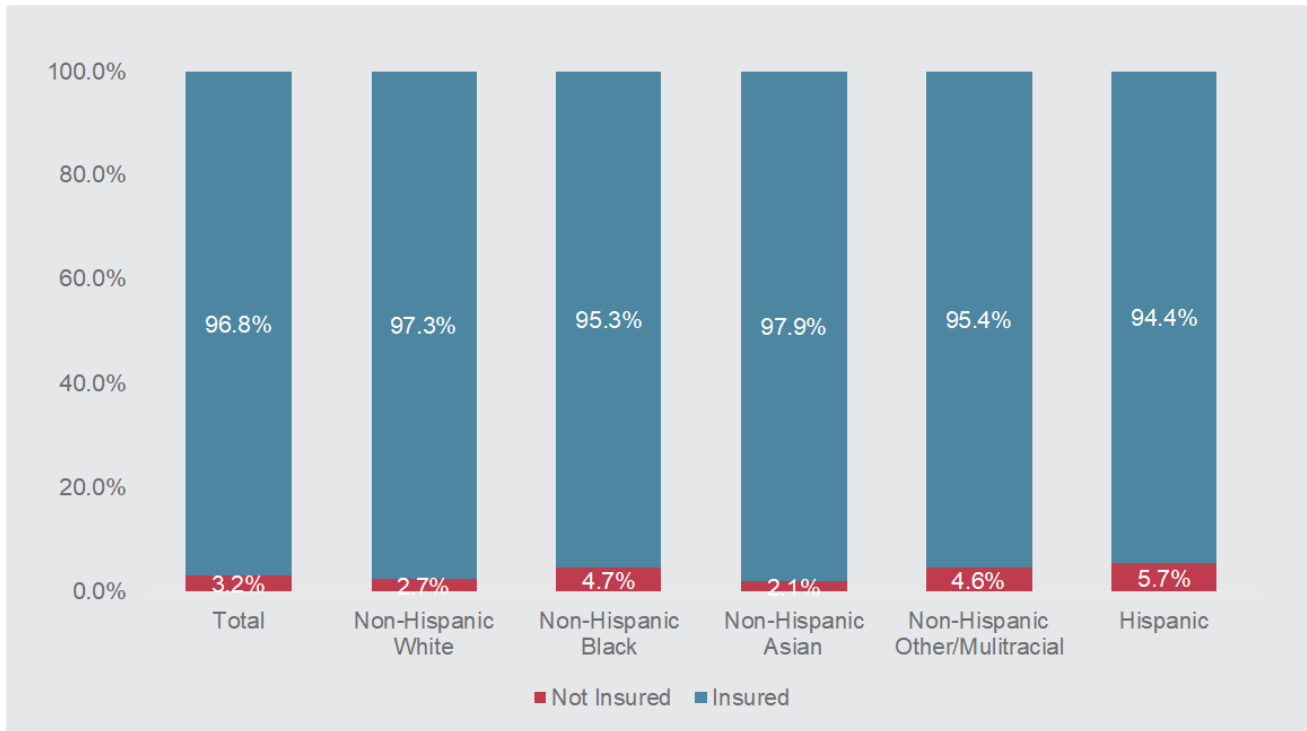
Population	New England	NE-North	NE-South
Total working age 26–64	3.2%	4.9%	2.7%
Working 35+ hours/week	2.8%	3.8%	2.5%
Working 20–34 hours/week	4.3%	7.8%	3.4%
Working 1–19 hours/week	4.9%	10.9%	3.1%
Works for wages	3.1%	4.7%	2.7%
Self-employed	5.8%	10.2%	4.3%
Family income ≥ 200% FPL	2.5%	3.5%	2.2%
Family income < 200% FPL	7.8%	13.5%	6.1%

Note: All estimates are weighted. Statistical significance tested between New England regions (bivariate logistic regression north vs. south), and all differences across rows are statistically significant at $p < .05$. State-level estimates are not shown because small numbers may compromise reliability.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

In spite of high rates of insurance overall among these workers, racial disparities persist: Non-Hispanic black and Hispanic workers are more likely to be uninsured than are Non-Hispanic whites and Asians (see Figure 3).⁵¹

Figure 3 | Rates of Insurance Among Frontline Essential Healthcare Workers in New England by Race/Ethnicity

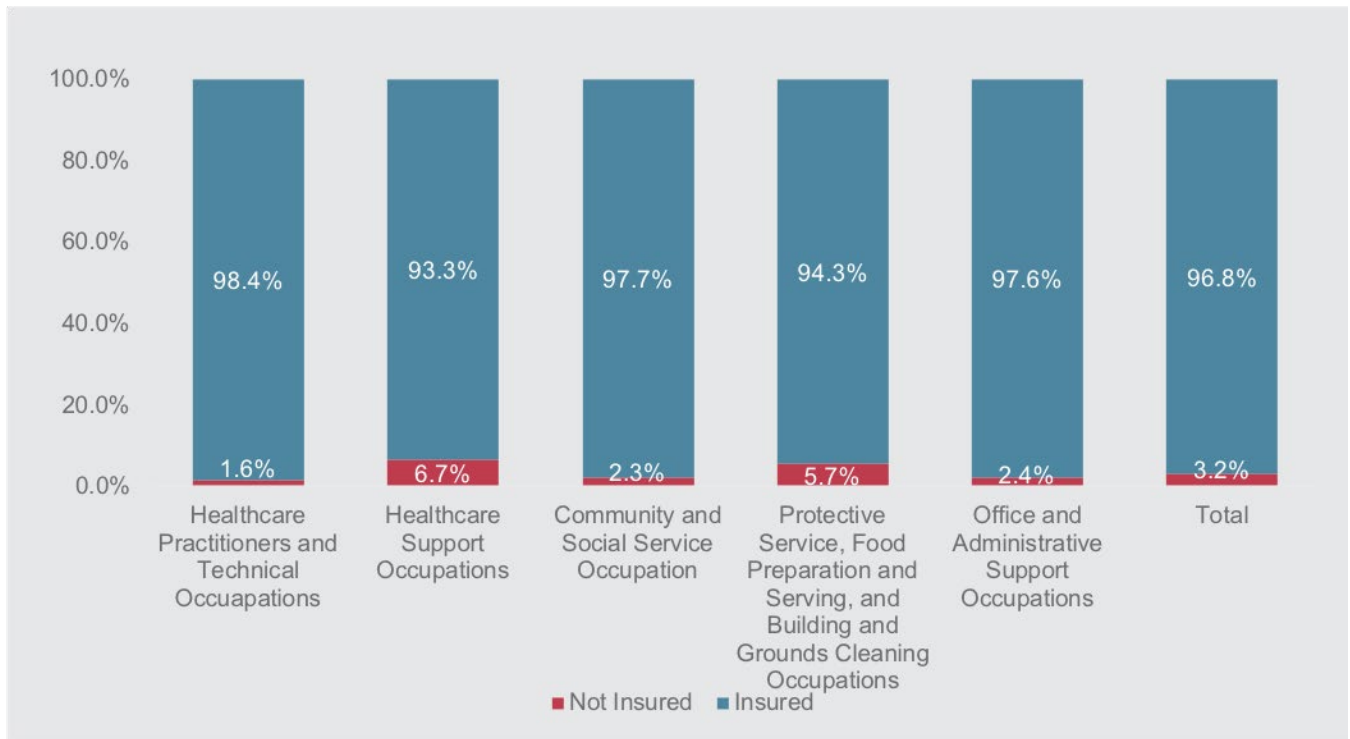


Note: All estimates are weighted. Statistical significance tested between race/ethnicity (bivariate logistic regression reference is non-Hispanic white). All differences are statistically significant at $p < .05$ except the share of non-Hispanic Asian frontline essential healthcare workers.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

This finding is likely a result of occupational segregation within frontline essential healthcare jobs. Healthcare support and protective service/food service/building maintenance workers in New England are insured at a rate significantly lower than workers in other groups (Figure 4), and these jobs are disproportionately held by people of color (Figure 5). Specifically, non-Hispanic blacks and Hispanics are underrepresented in healthcare practitioner jobs but overrepresented in healthcare support or security/food service/building maintenance jobs—the two occupation groups with the lowest rates of insurance.

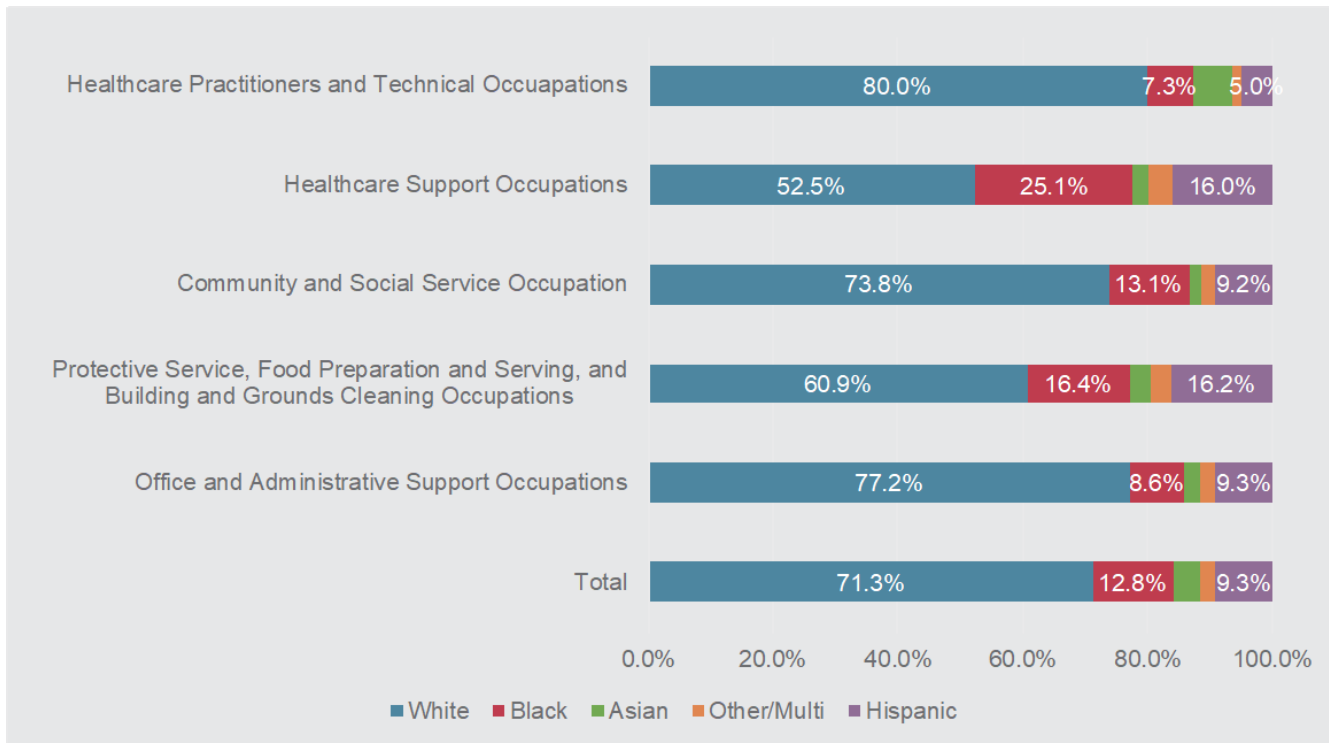
Figure 4 | Rates of Insurance Coverage by Healthcare Occupation Group in New England



Note: All estimates are weighted and statistical significance tested between healthcare occupations (bivariate logistic regression reference is healthcare practitioners and technical occupations). All differences are statistically significant at $p < .05$.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Figure 5 | Distribution of Essential Frontline Healthcare Worker Occupation Groups in New England by Race/Ethnicity



Note: All estimates are weighted. Statistical significance tested between race/ethnicity. (Multinomial logistic regression reference is non-Hispanic white, healthcare practitioners, and technical occupations.) All differences across each healthcare occupation group are statistically significant at $p < .05$ except the share of non-Hispanic Asian workers in protective service, food preparation and serving, and building and grounds cleaning occupations.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Essential frontline healthcare workers face significant risk of infection due to potential frequent and prolonged exposure to COVID-19. For the most part, very few are uninsured. Yet among these workers, non-Hispanic black and Hispanic healthcare workers are more likely to serve in healthcare industry roles that show lower rates of insurance.

Essential Non-healthcare Service Workers

While essential healthcare workers risk infection every day through ongoing exposure to patients, service workers in essential non-healthcare industries are also at risk. Workers in these essential jobs tend to be people of color and members of low-income families.⁵²

Service workers in these industries in New England are less likely to be insured than are essential healthcare workers: 8.8 percent of essential non-healthcare workers are uninsured (or close to one in twelve), whereas only 3.2 percent of essential

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England:
Who Lacks Access to Care for COVID-19?

healthcare workers are uninsured (see Tables 2 and 3). In Northern New England (Maine, New Hampshire, Vermont), essential non-healthcare workers have particularly low rates of insurance coverage, especially those who work part-time, are self-employed, and come from low-income families (see Table 3).

Table 3 | Percent Uninsured Among Frontline Essential Non-healthcare Service Workers in New England

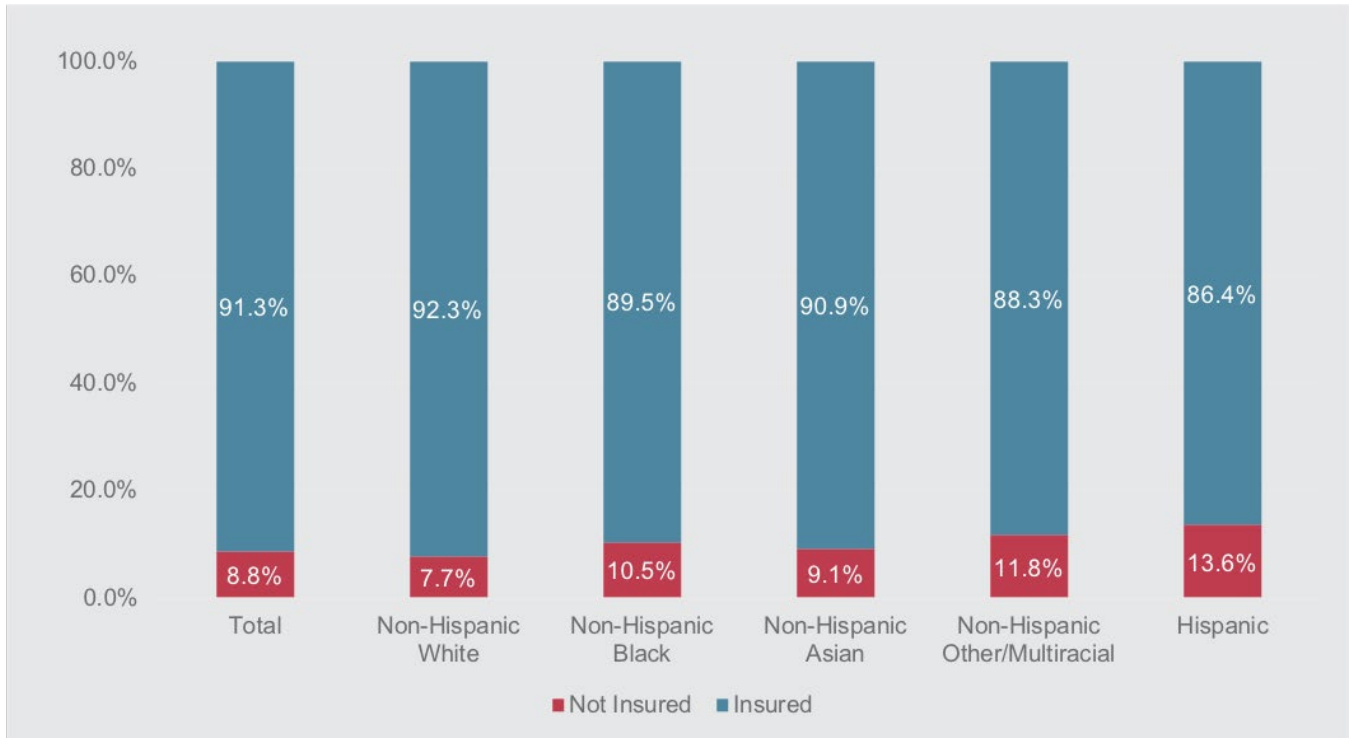
Population	New England	NE-North	NE-South
Total Working, age 25–64	8.8%	13.2%	7.3%
Working 35+ hours/week	8.0%	11.7%	6.7%
Working 20–34 hours/week	12.5%	21.0%	10.4%
Working 1–19 hours/week	7.2%	15.0%	4.7%
Works for wages	8.4%	12.7%	7.0%
Self-employed	12.8%	18.3%	11.0%
Family income ≥ 200% FPL	6.9%	9.8%	6.0%
Family income < 200% FPL	15.7%	25.9%	12.3%

Note: All estimates are weighted. Statistical significance tested between New England regions (bivariate logistic regression north vs. south), and all differences across rows are statistically significant at $p < .05$. State-level estimates are not shown because small cell sizes may compromise reliability.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

As with healthcare workers, here we also see disparities in rates of insurance by race/ethnicity. Specifically, Hispanics and non-Hispanic blacks are more often uninsured than are non-Hispanic whites and Asians (Figure 6).

Figure 6 | Rates of Insurance Coverage Among Frontline Essential Non-healthcare Service Workers in New England by Race/Ethnicity

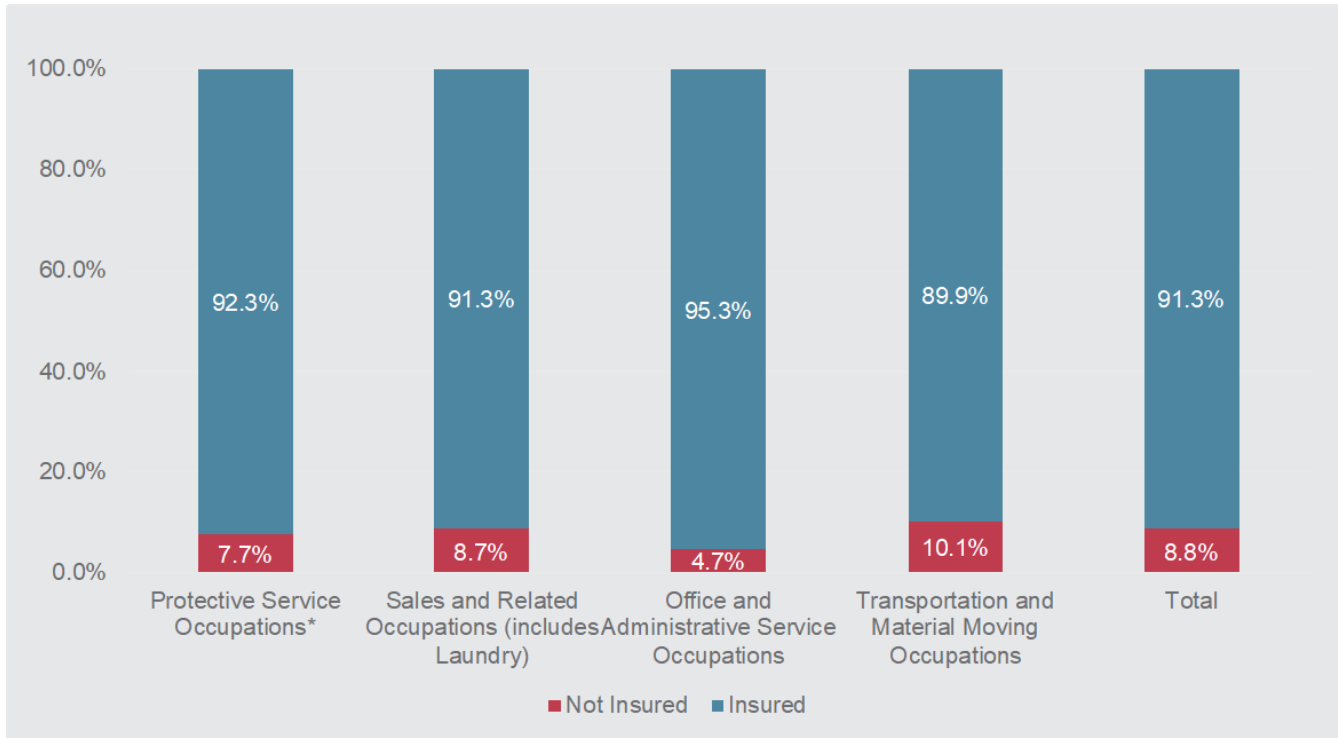


Note: All estimates are weighted. Statistical significance tested between race/ethnicity (bivariate logistic regression reference is non-Hispanic white). All differences are statistically significant at $p < .05$ except for non-Hispanic Asian.

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

And as with essential healthcare workers, we see significant differences in insurance coverage between groups of occupations within essential non-healthcare service industries. Workers in office and administrative support positions are insured at about the same rate as workers in New England as a whole, but warehouse and delivery workers (Transportation and Material Moving), grocery store employees, and laundry staff (Sales and Related Occupations) are uninsured at higher rates (see Figure 7).⁵³

Figure 7 | Rates of Insurance Coverage Among Frontline Non-healthcare Service Workers in New England by Occupation Groups



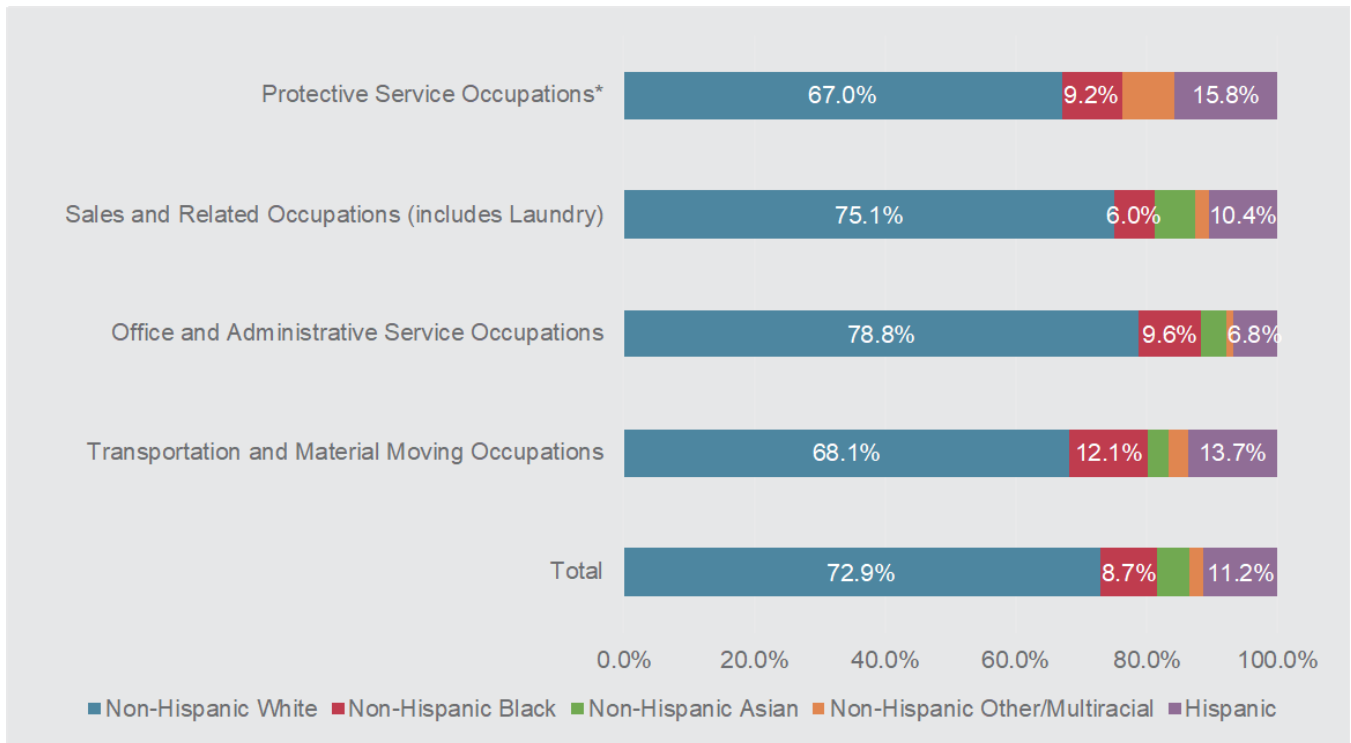
Note: All estimates are weighted and statistical significance tested between frontline non-healthcare occupations (bivariate logistic regression reference is office and administrative support occupations). All differences are statistically significant at $p < .05$.

**Estimates for the Protective Services occupation group may have limited reliability due to small numbers.*

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Disproportionate distribution of non-healthcare service workers by race/ethnicity between occupation groups could be driving disparities in insurance coverage. Non-Hispanic whites are overrepresented in office and administrative support jobs, while non-Hispanic blacks and Hispanics are overrepresented in transportation and material moving jobs (see Figure 8), which have the lowest rate of insured workers. This finding is consistent with literature on occupational segregation, which suggests that workers of color are clustered in jobs with fewer benefits and harsher working conditions.⁵⁴

Figure 8. Distribution of Non-healthcare Service Workers in New England Occupation Groups by Race/Ethnicity



Note: All estimates are weighted. Statistical significance tested between race/ethnicity. (Multinomial logistic regression reference is non-Hispanic white, office and administrative support occupations.) All differences across each non-healthcare occupation group are statistically significant at $p < .05$ except the share of non-Hispanic Asian workers in transportation and material moving occupations.

**Estimates for the Protective Services occupation group may have limited reliability due to small numbers.*

Source: Authors' analyses of American Community Survey 2014–2018, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

Essential frontline non-healthcare service workers face significant risk of exposure to coronavirus. They also contend with low wages and lower rates of insurance than do healthcare workers. Prolonged illness would likely impact them significantly, particularly those who are uninsured. Hispanic and black workers are most likely to be uninsured and work in some of the lowest-paying of these jobs. Infection with coronavirus, therefore, has the potential to exacerbate existing racial/ethnic disparities.

Conclusion

Workers in the healthcare industry as well as those in non-healthcare industries that are deemed essential are critical to our ongoing survival. As we continue to practice social distancing, we depend on these workers to make food, medications, and other critical

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

commodities available to us, but service workers on the front lines of the coronavirus pandemic are at significant risk of infection and illness.

Recently, many media outlets, think tanks, and academic researchers have drawn greater attention to the employment conditions of these workers. It has been pointed out that non-healthcare service workers, in particular, are working for low wages, contending with few or inconsistent work hours, and facing high rates of infection due inability to socially distance in the workplace (as at, for example, meat-packing plants) or due to constant exposure to customers (as at supermarkets). Comprehensive health insurance is especially critical to essential service workers because they face such high risk. While anyone with symptoms will be tested and receive treatment as needed, those with no insurance or limited coverage could face hefty out-of-pocket bills after they recover—a financial burden that could extend for years.

This brief shows that although New England's essential healthcare workers are insured at high rates, there remain a large number (around 50,000) of both healthcare and non-healthcare essential workers who are at increased risk both of infection and of high out of pocket medical expenses due to lack of insurance, and many more whose coverage will be insufficient to cover the high cost of treatment. Within the healthcare industry, the jobs that pay less and are more likely to be held by people of color are also less likely to be insured. This pattern of occupational segregation, which is repeated across industries, is the product of a legacy of racial exclusion. The disparity in insurance coverage could compound existing inequalities if workers of color in low-wage jobs end up with medical debt due to COVID-related treatments.

As in healthcare jobs, people of color are overrepresented in the lower-paying non-healthcare jobs, and as in the healthcare industry, these jobs. Those who work in jobs that tend to pay less and in which people of color tend to work also are less likely to be insured. And finally, we see an important difference emerge between healthcare and non-healthcare workers. Healthcare workers on the whole are more likely to have insurance than are non-healthcare workers. Both healthcare and non-healthcare service workers are essential to our survival right now, and they both face risk of infection. The fact that they do not have equivalent protection against out-of-pocket medical expenses is a glaring inequity that should be addressed.

The federal relief packages protect against out-of-pocket costs for coronavirus testing, but do not adjust for existing disparities in health insurance coverage. Some states are instituting hazard pay for some frontline workers: Massachusetts, for example, will provide a wage increase to unionized healthcare workers during the pandemic.⁵⁵ And federal legislation has been proposed to augment pay for essential healthcare and non-healthcare workers.⁵⁶ These plans will not compensate all essential workers equally, however, and will not address the potential for significant disparities in medical debt resulting from COVID-19.

The federal relief packages create an emergency fund for healthcare facilities that treat the uninsured and do not receive compensation for such treatment. Federal aid should be expanded to cover treatment for all essential workers, so that COVID-related

medical expenses are covered without any cost-sharing for those who are insured and at no cost for the uninsured. Such a requirement would be particularly beneficial for non-healthcare essential workers, who are more likely to be uninsured. It would complement proposed hazard pay policies for this population that also seek to recognize these workers' importance to our nation's economic stability.⁵⁷ Ensuring free or low-cost treatment of COVID-19 for all essential workers, regardless of insurance status, would be a significant step toward an equitable recovery and toward preventing the pandemic from exacerbating existing inequalities.

About the Authors



Sara Chaganti

Sara Chaganti is a senior policy analyst in Regional & Community Outreach at the Federal Reserve Bank of Boston.

Sara.Chaganti@bos.frb.org



Amy Higgins

Amy Higgins is a research associate in Regional & Community Outreach at the Federal Reserve Bank of Boston.

Erin.M.Graves@bos.frb.org



Marybeth J. Mattingly

Beth Mattingly is an assistant vice president in Regional & Community Outreach at the Federal Reserve Bank of Boston.

Beth.Mattingly@bos.frb.org

Acknowledgements

The authors would like to thank Mary Burke, Prabal Chakrabarti, Gabriella Chiarenza, and Erin Graves for their thoughtful feedback on this brief and Francesca Forrest for able copyediting.

Endnotes

- ¹ “How COVID-19 Spreads,” Centers for Disease Control and Prevention, accessed May 8, 2020, https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fprepare%2Ftransmission.html.
- ² “Coronavirus Disease 2019 (COVID-19): Cases in the U.S.,” Centers for Disease Control and Prevention, accessed April 29, <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>.
- ³ As of May 19, the U.S. case count was 1,480,349, and 142,352 of those (9.6 percent) are in New England. Over half the New England cases (86,010) are in Massachusetts. “Coronavirus Disease 2019 (COVID-19): Cases in the U.S.,” Centers for Disease Control and Prevention, <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>.
- ⁴ “Complications Coronavirus Can Cause,” WebMD, accessed May 8, 2020, <https://www.webmd.com/lung/coronavirus-complications#1>.
- ⁵ John Eligon et al., “Black Americans Face Alarming Rates of Coronavirus Infection in Some States,” *New York Times*, April 7 (updated April 14), 2020, <https://www.nytimes.com/2020/04/07/us/coronavirus-race.html>; Cliff Despres, “Coronavirus Case Rates and Death Rates for Latinos in the United States,” *Salud America*, April 20, 2020, <https://salud-america.org/coronavirus-case-rates-and-death-rates-for-latinos-in-the-united-states/>; Jeffery C. Mays and Andy Newman, “The Virus Is Twice as Deadly for Black and Latino People Than Whites in N.Y.C.,” *New York Times*, April 8 (updated May 7), 2020, <https://www.nytimes.com/2020/04/08/nyregion/coronavirus-race-deaths.html>.
- ⁶ “Coronavirus Disease 2019 (COVID-19): Data Visualization,” Centers for Disease Control and Prevention, May 5, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/data-visualization.htm>.
- ⁷ See, for example, Sara Chaganti et al. “The Effects of the Novel Coronavirus Pandemic on Service Workers in New England,” Federal Reserve Bank of Boston Community Development Issue Brief, March 31, 2020, <https://www.bostonfed.org/publications/community-development-issue-briefs/2020/the-effects-of-the-novel-coronavirus-pandemic-on-service-workers-in-new-england.aspx>; Kilolo Kijakazi. “COVID-19 Health Disparities Highlight Why We Need to Address Structural Racism,” *Urban Wire: Race and Ethnicity* (blog), April 10, 2020, <https://www.urban.org/urban-wire/covid-19-racial-health-disparities-highlight-why-we-need-address-structural-racism>.
- ⁸ In the United States, working-age adults and their families typically obtain insurance through their employers. The level of coverage to which they have access, therefore, depends on the plan that their employer provides. Medicaid and State Children’s Health Insurance plans provide coverage for the lowest earners, and most elderly residents have coverage through Medicare. The Affordable Care Act (ACA) made it possible for working adults without employer-provided insurance to buy into public health plans as well. The ACA increased rates of insurance significantly, but pockets of uninsured and underinsured people remain. Most notably, research shows that racial and ethnic minorities are less likely to be covered.
- ⁹ Thomas C. Buchmueller and Helen G. Levy, “The ACA’s Impact on Racial and Ethnic Disparities in Health Insurance Coverage and Access to Care,” *Health Affairs* 30, no. 3 (March 2020), <https://doi.org/10.1377/hlthaff.2019.01394>.
- ¹⁰ Matthew Rae et al., “Potential Costs of COVID-19 Treatment for People with Employer Coverage,” Peterson-Kaiser Family Foundation Briefs, March 13, 2020, <https://www.healthsystemtracker.org/brief/potential-costs-of-coronavirus-treatment-for-people-with-employer-coverage/>. See also Abigail Abrams, “Total Cost of Her COVID-19 Treatment: \$34,927.43,” *Time*, March 19, 2020, <https://time.com/5806312/coronavirus-treatment-cost/>, for a story of a patient who was uninsured.
- ¹¹ Dan Witters, “In U.S., 14% with Likely COVID-19 to Avoid Care Due to Cost,” Gallup, April 2018, 2020, <https://news.gallup.com/poll/309224/avoid-care-likely-covid-due-cost.aspx>.
- ¹² Also particularly vulnerable to the financial and health effects of COVID-19 are the millions that are being laid off from their jobs. Congress has met the sudden shock of income loss with relief packages, but these measures do not address the loss of insurance. Some can stay on their employer plans through the Consolidated Omnibus Budget Reconciliation Act (COBRA), but their out-of-pocket premiums can often increase significantly on COBRA. Those who have lost a job can purchase health insurance through state exchanges or, if they qualify, get coverage from Medicaid. However, the application process may discourage many, and even coverage through state exchanges may hard to afford, with the result that many may still be left without insurance. It is beyond the scope of this brief to assess who among the newly unemployed may fail to access coverage through an exchange or Medicaid. Instead, we limit our focus to essential workers and who among them is at greatest risk of suffering significant financial consequences should they become sick with the virus.
- ¹³ Paid sick leave is also essential for this population, and for workers in general. Paid sick leave and health insurance complement each other in providing necessary support for workers and can slow the spread of the

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

coronavirus by allowing sick workers to quarantine and receive medical attention. Analysis of paid sick leave is beyond the scope of this brief, but other sources provide detailed information on access to paid sick leave in the United States. (See, for instance, Drew Desilver, “As Coronavirus Spreads, Which U.S. Workers Have Paid Sick Leave—and Which Don’t?” Pew Research Center, March 12, 2020, <https://www.pewresearch.org/fact-tank/2020/03/12/as-coronavirus-spreads-which-u-s-workers-have-paid-sick-leave-and-which-dont/>.)

¹⁴ Chaganti et al., “The Effects of the Novel Coronavirus Pandemic on Service Workers in New England.”

¹⁵ Gary Claxton et al., “Health Benefits in 2017: Stable Coverage, Workers Faced Considerable Variation in Costs,” *Health Affairs* 36, no. 10 (October 2017), <https://www.healthaffairs.org/doi/pdf/10.1377/hlthaff.2017.0919>.

¹⁶ In 2019, the average deductible for employer-provided high-deductible insurance plans was around \$2,500 for an individual plan and \$4,800 for a family plan. However, the deductible amount varies widely. Most plans also have an out-of-pocket maximum. “2019 Employer Health Benefits Survey, Section 7: Employee Cost Sharing,” Kaiser Family Foundation, September 25, 2019, <https://www.kff.org/report-section/ehbs-2019-section-7-employee-cost-sharing/>.

¹⁷ Although the share of uninsured persons has declined steadily and significantly since the passage of the Affordable Care Act, the percentage of those who are underinsured has increased, and underinsurance is most common among lower-income families and those with lower levels of education. Underinsurance is most common among those with employer-sponsored health insurance, which ACA did not affect, and 60% of adults aged 18–64 have employer-sponsored health insurance. Robin A. Cohen and Emily P. Zammitti, “High-Deductible Health Plan Enrollment Among Adults Aged 18–64 with Employment-Based Insurance Coverage,” NCHS Data Brief No. 317, August 2018, <https://www.cdc.gov/nchs/data/databriefs/db317.pdf>; Sara R. Collins, Herman K. Bhupal, and Michelle M. Doty, “Health Insurance Coverage Eight Years after the ACA: Fewer Uninsured Americans and Shorter Coverage Gaps, but More Underinsured,” Commonwealth Fund, February 2019, <https://www.commonwealthfund.org/publications/issue-briefs/2019/feb/health-insurance-coverage-eight-years-after-aca>).

¹⁸ We use data from the National Health Interview Survey (NHIS) to examine use of high-deductible insurance in the Northeast. The NHIS defines high-deductible plans as those with deductibles greater than \$1,100 for a single person or greater than \$2,200 for two or more persons. National Health Insurance Survey 2014–2018 five-year estimates, civilian adults aged 26–64 who were employed at the time of the survey (IPUMS USA, University of Minnesota, www.ipums.org).

¹⁹ Public Law 116-127, signed into law on March 18, 2020. Division F, Section 6001(a) addresses coverage of coronavirus testing

²⁰ Public Law 116-136, signed into on March 27, 2020, <https://www.congress.gov/bill/116th-congress/house-bill/748>. Title III, part II addresses access to healthcare for COVID-19 patients.

²¹ Kaitie Keith, “Senate Passes COVID-19 Package #3: The Coverage Provisions,” *Health Affairs*, March 26, 2020, <https://www.healthaffairs.org/doi/10.1377/hblog20200326.765600/full/>. Congress began considering legislation limiting surprise billing before the coronavirus outbreak but has not yet reached consensus. See, for instance, Jack Hoadley, Beth Fuchs, and Kevin Lucia, “Update on Federal Surprise Billing Legislation: New Bills Contain Key Differences,” *To the Point* (blog), <https://www.commonwealthfund.org/blog/2020/update-surprise-billing-legislation-new-bills-contain-key-differences>.

²² Public Law 116-136, section VII creates an emergency fund, administered by the Department of Health and Human Services, to support healthcare providers in testing and treatment of COVID-19 patients, including reimbursement for costs related to testing and treatment of the uninsured. “CARES Act Provider Relief Fund,” U.S. Department of Health and Human Services, May 14, 2020, <https://www.hhs.gov/coronavirus/cares-act-provider-relief-fund/index.html>.

²³ Reed Abelson and Margot Sanger-Katz, “Trump Says Hospitals Will Be Paid for Treating Uninsured Coronavirus Patients,” *New York Times*, April 3, 2020, <https://www.nytimes.com/2020/04/03/upshot/trump-hospitals-coronavirus.html>. It is worth noting that these funds will be disbursed directly to hospitals, rather than to states through Medicaid. This mechanism will result in those states *without* Medicaid expansion receiving disproportionately high reimbursement.

²⁴ We examine sources of insurance but do not include whether insurance is accessed through a spouse’s family policy or purchased through a state exchange. That nuance is beyond the scope of this brief.

²⁵ The category “working” includes the self-employed (e.g., gig workers) and those who work for wages; “adult” is ages 26 to 64. Conclusions are based on the authors’ analysis of the American Community Survey, 2014–2018 (IPUMS USA, University of Minnesota, www.ipums.org). Weighted estimate, includes those insured with the Indian Health Service. Significance tested at $p < 0.05$. More information is available from the authors by request.

²⁶ Medicare does not cover undocumented immigrants, who face the same risk of infection as do all others in the United States. Samantha Artiga and Maria Diaz, “Health Coverage and Care of Undocumented Immigrants,” Kaiser Family Foundation, July 15, 2019, <https://www.kff.org/disparities-policy/issue-brief/health-coverage-and-care-of-undocumented-immigrants/>.

²⁷ Youth and seniors’ rates of coverage are both significantly higher than that of working-age adults ($p < 0.05$).

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

²⁸ All New England states have expanded Medicaid, and for adults in some states, eligibility is broader. For example, adults with children in Massachusetts are eligible if family income is below 200 percent FPL. We calculated Medicaid eligibility at the federal threshold for the full sample. Tricia Brooks et al., “Medicaid and CHIP Eligibility, Enrollment, and Cost Sharing Policies as of January 2020: Findings from a 50-State Survey,” Kaiser Family Foundation, March 25, 2020, <https://www.kff.org/medicaid/report/medicaid-and-chip-eligibility-enrollment-and-cost-sharing-policies-as-of-january-2020-findings-from-a-50-state-survey/>.

²⁹ Industry groups are defined using the 2017 North American Industry Classification System (NAICS) two-digit codes. (NAICS manual viewable at <https://www.census.gov/eos/www/naics/>.) Determination of essential and nonessential industries is made at the state level and is not consistent across states. We chose Massachusetts’ definition of essential services as the standard for our sample because Massachusetts has the largest share of workers in New England. However, because of state variation in what is considered an essential service, our sample will not perfectly represent all essential workers the other New England states. Constructing a sample that incorporates such detailed state-level variation is beyond the scope of this brief. See “COVID-19 Essential Services,” <https://www.mass.gov/info-details/covid-19-essential-services#health-care/-public-health/-human-services->, for details on essential industries in Massachusetts.

³⁰ For examples focusing on industry, see, for instance, Alan Berube and Nicole Bateman, “Who Are the Workers Already Impacted by the COVID-19 Recession,” Brookings, April 3, 2020, <https://www.brookings.edu/research/who-are-the-workers-already-impacted-by-the-covid-19-recession/>; Sarah Bohn, Marisol Cuellar Mejia, and Julien Lafortune, “Essential Workers and COVID-19,” Public Policy Institute of California blog, March 31, 2020, <https://www.ppic.org/blog/essential-workers-and-covid-19/>; Adie Tomer and Joseph W. Kane, “How to Protect Essential Workers During COVID-19,” Brookings, March 31, 2020, <https://www.brookings.edu/research/how-to-protect-essential-workers-during-covid-19/>; Connor Maxwell and Danyelle Solomon, “The Economic Fallout of the Coronavirus for People of Color,” Center for American Progress, April 14, 2020, <https://www.americanprogress.org/issues/race/news/2020/04/14/483125/economic-fallout-coronavirus-people-color/>. For examples focusing on occupation, see, for instance, Hye Jin Rho, Hayley Brown, and Shawn Fremstad, “A Basic Demographic Profile of Workers in Frontline Industries,” Center for Economic and Policy Research, April 7, 2020, <https://cepr.net/a-basic-demographic-profile-of-workers-in-frontline-industries/?emci=9f1da077-2480-ea11-a94c-00155d03b1e8&emdi=7fb870aa-2780-ea11-a94c-00155d03b1e8&ceid=5567815>; Keith Wardrip and Anna Tranfaglia, “COVID-19: Which Workers Will Be Most Impacted?” COVID-19: Equity in Recovery Series, Federal Reserve Bank of Philadelphia, April 2020, <https://www.philadelphiafed.org/-/media/covid/covid-19-impacted-workers.pdf?la=en>; “Data Show COVID-19 Is Hitting Essential Workers and People of Color Hardest,” ACLU Massachusetts, April 8, 2020, <https://www.aclum.org/en/publications/data-show-covid-19-hitting-essential-workers-and-people-color-hardest>.

³¹ Chaganti et al., “The Effects of the Novel Coronavirus Pandemic on Service Workers in New England” also uses a combination of industry and occupation codes to identify vulnerable workers. Detailed explanation of sample definition is available from the authors on request.

³² The healthcare industry is included in NAICS code group 62, “Healthcare and Social Assistance.” Workers in certain healthcare occupations that are deemed essential are excluded from this analysis: chiropractors’ offices (NAICS code 62131/ACS industry code 7990), dentists’ offices (NAICS code 6212/ACS industry code 7980), optometrists’ offices (NAICS code 62132/ACS industry code 7990), and vocational rehabilitation providers (NAICS code 6243/ACS industry code 8390). Additionally, social assistance industries including community food, housing, and emergency services (NAICS code 6242/ACS industry code 8380), and child day care centers (NAICS code 6244/ACS industry code 8470) are also excluded because they are not healthcare industries.

³³ SOC code group 29.

³⁴ SOC code group 31.

³⁵ SOC code group 21.

³⁶ SOC code groups 33, 35, and 37, aggregated due to similarity of job characteristics and low numbers.

³⁷ SOC code group 43.

³⁸ See Nicole Hong, “3 Hospital Workers Gave Out Masks. Weeks Later, They All Were Dead.” *New York Times*, May 4 (updated May 6), 2020, <https://www.nytimes.com/2020/05/04/nyregion/coronavirus-ny-hospital-workers.html>.

³⁹ The American Community Survey includes variables that represent NAICS and SOC codes, but does not specify actual workplace. It is, therefore, impossible to determine which healthcare workers would be required to go to work (e.g., those who work in hospitals), and which might be able to telework (e.g., therapists in private practice).

⁴⁰ NAICS code groups 44–45.

⁴¹ NAICS code groups 48–49.

⁴² NAICS code group 56.

⁴³ NAICS code group 62.

⁴⁴ NAICS code group 72.

Issue Brief | 2020-3 | Health Insurance and Essential Service Workers in New England: Who Lacks Access to Care for COVID-19?

⁴⁵ NAICS code group 81.

⁴⁶ Workers in this group are drawn from SOC code groups 33 (protective service occupations), 41 (sales and related occupations), 43 (office and administrative support occupations), 51 (production occupations), and 53 (transportation and material moving occupations).

⁴⁷ See, for instance, Lazaro Gamio, "The Workers Who Face the Greatest Coronavirus Risk," *New York Times*, March 15, 2020, <https://www.nytimes.com/interactive/2020/03/15/business/economy/coronavirus-worker-risk.html>; Abha Bhattarai, "Grocery Workers Are Beginning to Die of Coronavirus," *Washington Post*, April 6, 2020, <https://www.washingtonpost.com/business/2020/04/06/supermarket-workers-deaths-coronavirus-/>; Dalvin Brown, "COVID-19 Claims Lives of 30 Grocery Store Workers, Thousands More May Have It, Union Says," *USA Today*, April 14, 2020, <https://www.usatoday.com/story/money/2020/04/14/coronavirus-claims-lives-30-grocery-store-workers-union-says/2987754001/>; Michael Levenson, "11 Days After Fuming About a Coughing Passenger, a Bus Driver Died of the Coronavirus," April 4, 2020, <https://www.nytimes.com/2020/04/04/us/detroit-bus-driver-coronavirus.html>; Thorbecke, "'I'm Not Ready to Die': New 'Essential Workers' Call for Protections, Hazard Pay in Coronavirus Crisis," *ABC News*, April 17, 2020, <https://abcnews.go.com/Business/im-ready-die-essential-workers-call-protections-hazard/story?id=70142602>.

⁴⁸ Deborah Berkowitz, "Worker Safety & Health During COVID-19 Pandemic: Rights & Resources," National Employment Law Project, April 09, 2020, <https://www.nelp.org/publication/worker-safety-health-during-covid-19-pandemic-rights-resources/>.

⁴⁹ See, for instance, Peter Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Lexington, MA: DC Heath and Company), 1971; Arne Kalleberg, *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s to 2000s* (New York: Russell Sage, 2011); Paul Taubman and Michael L. Wachter, "Segmented Labor Markets," chapter 21 In *Handbook of Labor Economics*, ed. Orley C. Ashenfelter and Richard Layard, vol. 2 (Amsterdam: Elsevier Science Publishers, 1986).

⁵⁰ Healthcare managers are excluded from this analysis because they are less likely to interact with patients regularly.

⁵¹ Workers in the Non-Hispanic other/multiracial group are also less likely to have insurance than are non-Hispanic white workers. The heterogeneity within this group makes valid interpretation of this finding difficult.

⁵² Chaganti et al., "The Effects of the Novel Coronavirus Pandemic on Service Workers in New England"

⁵³ We include laundry and dry-cleaning workers, who are usually included under Production Occupations (SOC code group 51), with Sales and Retail Workers (SOC code group 41) due to small numbers and because these their jobs are customer facing. No other Production Occupation jobs are included in the nonhealthcare essential worker sample.

⁵⁴ See, for instance, Darrick Hamilton, Algernon Austin, and William Darity Jr., (2011). "Whiter Jobs, Higher Wages: Occupational Segregation and the Lower Wages of Black Men," Economic Policy Institute Briefing Paper No. 288, February 25, 2011, https://www.epi.org/publication/whiter_jobs_higher_wages/; Catherine Ruetschlin and Dedrick Asante-Muhammad, "The Retail Race Divide: How the Retail Industry Is Perpetuating Racial Inequality in the 21st Century," Demos and National Association for the Advancement of Colored People (NAACP), 2015, <https://www.demos.org/sites/default/files/publications/The%20Retail%20Race%20Divide%20Report.pdf>; L. Sullivan et al., "Not only Unequal Paychecks: Occupational Segregation, Benefits, and the Racial Wealth Gap," Institute on Assets and Social Policy, April 2019, https://heller.brandeis.edu/iasp/pdfs/racial-wealth-equity/asset-integration/occupational_segregation_report_40219.pdf.

⁵⁵ Matt Murphy, "Hazard Pay Coming to Many Mass. Health Care Workers," *WBUR*, April 13, 2020, <https://www.wbur.org/commonhealth/2020/04/13/massachusetts-licensed-nurses-health-care-front-line-hazard-pay>.

⁵⁶ Matt Cartwright, "Rep. Cartwright Unveils Hazard Pay Proposal for Essential Workers on Front Lines of COVID-19 Fight," news release, April 21, 2020, <https://cartwright.house.gov/media-center/press-releases/rep-cartwright-unveils-hazard-pay-proposal-for-essential-workers-on>.

⁵⁷ See Terina Allen, "Up to \$25,000 Hazard Pay for Essential Workers 'One of Our Very Highest Priorities,'" *Forbes*, April 22, 2020, <https://www.forbes.com/sites/terinaallen/2020/04/22/up-to-25000-hazard-pay-for-essential-workers-one-of-our-very-highest-priorities/#7916964436d1>.