

Health Care Workers and COVID-19

**Morbidity and Mortality, Sources of Stress, Burnout and Attrition, and
Sources of support**

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How often have HCW become infected with COVID-19?

2020



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Healthcare Workers (HCWs)

- Typically, when the term healthcare worker is mentioned the first groups of people that come to mind are nurses, physicians, and others involved in patient care.
- However, our healthcare workforce is also comprised of much more than just nurses and physicians, from facility management to healthcare administrators to those involved in patient care.
 - All of which are necessary to ensure that our hospitals and healthcare facilities remain the fine-tuned, efficient machines that they are.
- Therefore, in our recommendations and documentation, the term **healthcare workers (HCWS)** refers to ALL persons employed in healthcare settings.



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How often do HCW become infected with COVID-19 : WHO Global estimates

- Health-care workers account for approximately 1 in 7 coronavirus cases recorded by the World Health Organization.
- Globally, around 14 percent of COVID-19 cases reported to WHO are among health workers, and in some countries it's as much as 35 percent
- The figures are disproportionate:
 - Health workers represent less than 3 percent of the population in most countries and less than 2 percent in almost all low- and middle-income countries.



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How often do HCW become infected with COVID-19 in the USA: CDC estimates 4/2020

- Health-care workers accounted for 11 percent to 16 percent of COVID-19 cases during the first surge of infections in the United States.
- Contributing factors to the high infection rate
 - Greater levels of testing among health-care workers
 - Increased testing allows for more infections to be identified , but testing does not cause more infections
 - High risk work environment
 - Lack of appropriate PPE



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Risk of COVID-19 among the healthcare workforce

- Because of how COVID-19 is spread and the fact that individuals who contract the illness often go to emergency rooms, hospitals, and other healthcare settings, the **healthcare workforce is at a greater risk of contracting COVID-19** than the general population.
- **In 2020, approximately 4.62% of COVID-19 cases in the U.S. have been health care workers (HCWs).** However, due to the shortage of available tests and current testing capacities, the current number of infected HCWs is likely higher. In states with more complete data, HCWs accounted for up to 11% of COVID-19 cases.
 - Prior statistics showed that while some HCWs developed COVID-19 due to community exposure, *more than half* of HCWs were exposed by treating affected patients or coming into contact with infected individuals at the healthcare facility.
- We also know **HCWs are disproportionately affected** from previous outbreaks of related respiratory illnesses such as MERS.
 - In previous outbreaks in other countries between, **18-30% of the total cases were HCWs** who had contracted the illness in healthcare settings.



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Global meta-analysis of COVID-19 cases among HCW : Many are asymptomatic

- **A meta-analysis reviewed 45 global studies that included more than 44,879 health care workers**
 - **The studies reviewed reported the prevalence of COVID-19 in HCW by using either RT-PCR or a serum antibodies assay**
 - **Positive cases :**
 - **PCR (11%)**
 - **Antibody testing (5%)**
- **A significant proportion of HCW are positive for COVID-19 while asymptomatic.**
- **8 studies examined the prevalence of asymptomatic cases**
 - **The pooled prevalence of asymptomatic carriers among RT-PCR positive HCW was 46%**
 - **Over four in 10 health care workers who tested positive for COVID-19 didn't have symptoms, which means they could unknowingly spread the disease to co-workers , patients, and family members**



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Take Home Messages

- HCWs represent a population with a significant burden from COVID-19.
- HCW exhibit a high prevalence of SARS-CoV-2 infection, with a significant proportion of the infected HCW being asymptomatic carriers
- This condition favors silent transmission both in clinical and community contexts if adequate preventive measures and other standard procedures are not implemented.



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Main lessons: Why healthcare workers get COVID19

1. Whenever we let our guard down, we are at risk. In other words, even though we think we are taking precautions, there are everyday situations where we become careless.
2. Not only patients, but also colleagues must be considered a virus carrier.
3. Pre-symptomatic and asymptomatic colleagues spread infection.
4. Interacting with colleagues with mask down can be potentially dangerous.
5. Spread also happens in non-patient care areas: break rooms, nursing stations, cafeteria.
6. Having lunch together involves not only lowering of mask, but also conversation (generates aerosols) and prolonged exposure time (sitting together at a table).
7. Infections occurred more in non-COVID wards - where people were less alert.
8. There were no infections in ICU or COVID wards (everyone was alert).
9. Patients with atypical symptoms and delayed diagnosis contributed to HCW infections.
10. When more testing became available, there was less infection (people were identified early).
11. HCW can get infected outside the workplace (14% cases); i.e. from the family or community.
12. In 50% cases, no source was identified.

Zabarsky et al Am J Inf Control 11 Aug



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HCW Mortality Data

COVID-19

2021



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Global HCW mortality

- In April 2021, Amnesty International reported that more than 17,000 health-care workers have died from COVID-19 across 79 countries.
 - Amounts to a health worker dying every 30 minutes
- This number probably represents a fraction of the true global death toll of health-care workers because of factors including poor documentation of deaths in some countries (and scant recording of profession), inconsistent definitions of health-care worker across nations, and data obfuscation.



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HCW COVID-19 Mortality: top 5 countries

- > 3,507 healthcare workers died from COVID-19 in the United States
- >3,371 in Mexico
- >1,143 in Brazil
- >1,131 in Russia,
- >931 in the United Kingdom.



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Lost on the Frontline (USA) Database: median age of HCW death, 4/8/2021

- In the general population, the median age of death from COVID-19 is 78. Yet among healthcare workers in our database, it is only 59.
 - Hundreds of even younger people also died while working on the frontlines.

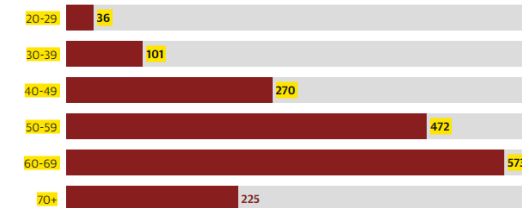
finished our count on 7 April 2021.

These are our findings.

More than half were younger than 60

In the general population, the median age of death from Covid-19 is 78. Yet among healthcare workers in our database, it is only 59. The majority of people who died were under the age of 60. Hundreds of even younger people also died while working on the frontlines.

Of the 1,677 people for whom we have age data,



A majority of deceased healthcare workers identified as people of color

Although non-Hispanic white Americans account for about 60% of the US population, and Black Americans account for 13% of the population, we found that white healthcare workers died at a lower rate.

Of the 862 people for whom we have race data,



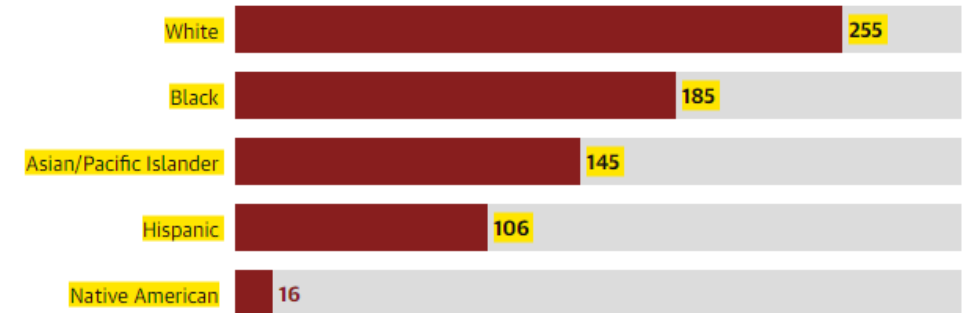
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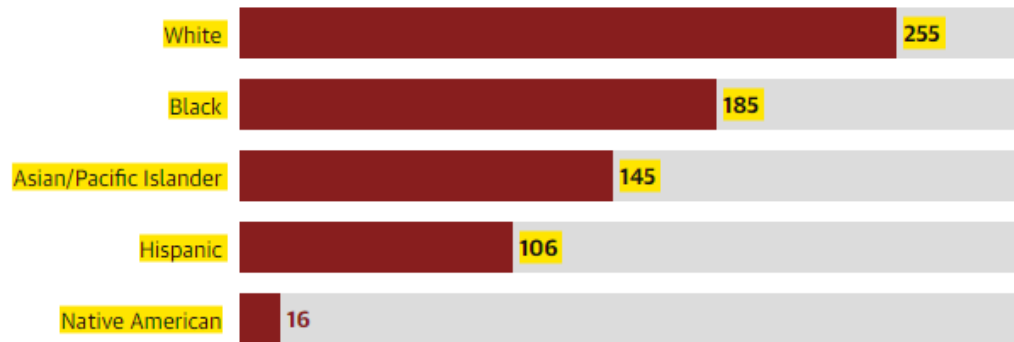


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More than a third of HCW who died were born outside the United States

Of the 862 people for whom we have race data.

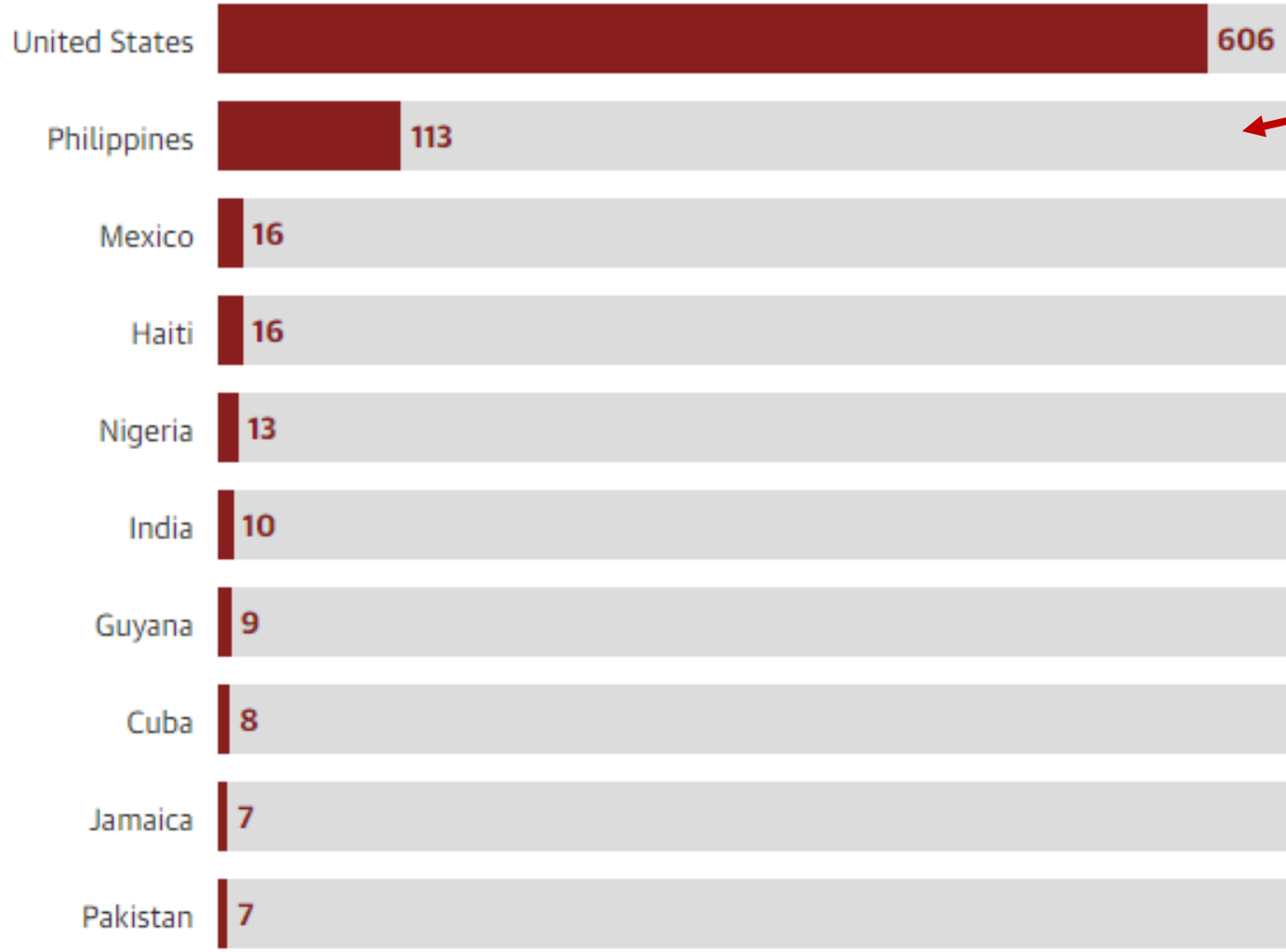


- And those from the Philippines accounted for a disproportionate number of deaths.



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Of the 983 people for whom we have information on their country of origin.



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Filipino Nurses have been hit particularly hard by COVID-19

- Filipino and Filipino American nurses account for more than 26.4% of U.S. nurses who have died, though the group makes up just 4% of the total nurse workforce
 - **Among the 170 RNs of color who have died, nearly half (48.8%) have been Filipino.**
- In California, where about 20 percent of nurses identify as Filipino, they accounted for nearly 70 percent COVID-19 deaths during the first surge, according to the California Nurses Association.



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Why is the mortality rate of Filipino HCWs so high?

Reasons include :

- ✓ In terms of sheer numbers, the largest concentration live and work in environments of high risk: California and New York.
- ✓ a large proportion work in bedside and critical care (acute care, medical/surgical, and ICU nursing) as well as having relatives working in long term care facilities
- ✓ Filipino frontliners often "work extra shifts to send money back to relatives in the Philippines."
 - ✓ Those extra hours, and extra exposure to patients, mean higher risk."
- ✓ Culturally, don't complain or question authority even when working in unsafe conditions
- ✓ Filipino nurses are also more likely to reside in multi-generational households,
- ✓ Low rates of testing in their communities



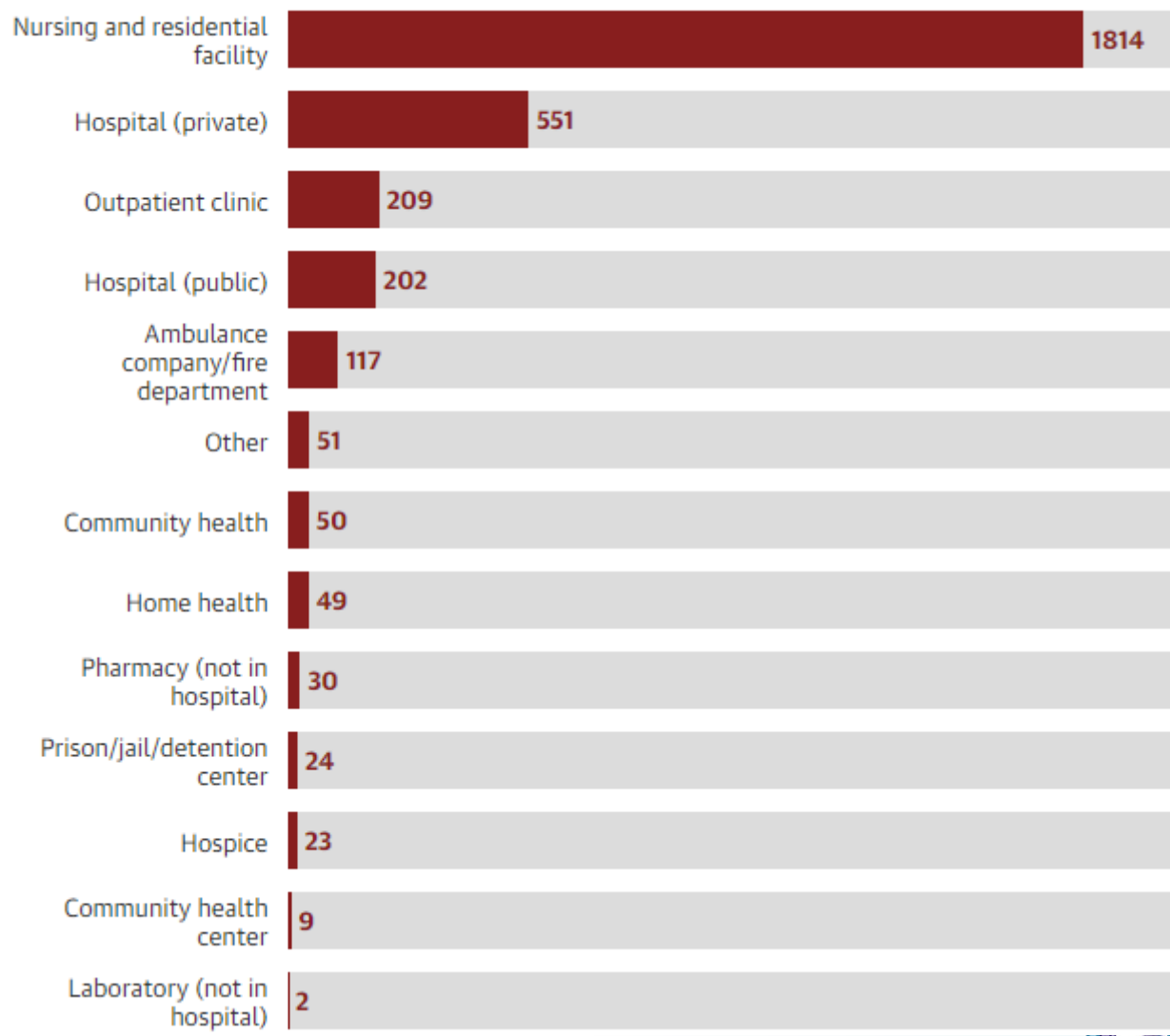
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Where did deceased HCWs work?

Of the 3,132 people for whom we have data on where they worked. Community health includes people who worked at shelters, health departments and organizations that do street outreach.



566,723 confirmed cases*

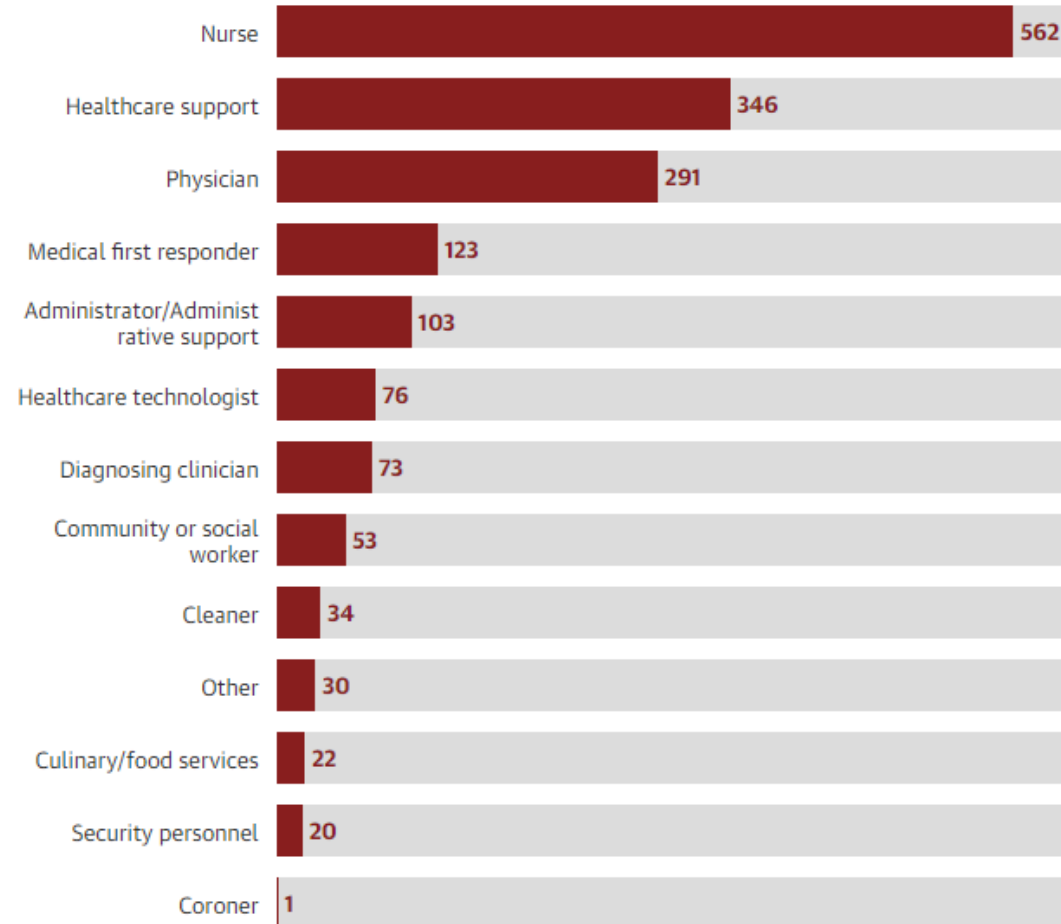


Mortality by type of HCW

Nurses and support staff account for most deaths

Roughly one in three were nurses, but the total also includes physicians, pharmacists, first responders and hospital technicians, among others.

Of the 1,734 people for whom we have information on their occupation.



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Nursing Homes – The Deadliest Occupational Site In The USA

- As COVID-19 has ravaged nursing homes it has also made working in these facilities the most dangerous job in America.
- Since the start of the pandemic, facilities have [reported](#) 760 COVID-19-related deaths among their staff. (August 2, 2020)
- If deaths continue at this pace over a full year, it will equate to more than 200 fatalities per 100,000 workers. This would more than double the rate of previous years' [deadliest](#) occupations, such as logging and commercial fishing.



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Nursing home staff shortages and lack of PPE place both HCW and residents at risk

- The acute shortage of personal protective equipment (PPE) has been disproportionately challenging for nursing homes compared to hospitals.
- With the lack of readily available space to cohort infected residents, containing the infection has been difficult.
 - Residents sometimes live in a facility for years, and moving them to units dedicated to the care of those infected is challenging because it entails moving all their belongings
 - Nursing homes have attempted to cohort staff by color coding units as green, yellow, and red, with “green units” being free of COVID-19 residents. Due to staffing shortages, nurses “floated” from one unit to another. This is a major factor in the spread of COVID-19 .*



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Nursing home staff are particularly fearful

- The pandemic has worsened the critical problem of chronic understaffing in nursing homes due to absenteeism and infected staff who were quarantined
- Many of those who stay on the job are income insecure and live in multigenerational households with household members at high risk to severe COVID-19
- Although COVID-19 is described as an “occupational disease” for which HCWs need social and psychological support, studies have found that staff feel unsupported and fear returning to work.
- **Their foremost fear is fear of developing COVID-19 and transmitting the virus to their families and clients when they do not know they are infected**
 - They are also afraid of reinfection





Global Sentiment of HCW taking care of elderly in long term care facilities echoes other HCW

- “Don’t give us a medal, give us PPE [personal protective equipment].”
- This sentiment has been echoed by staff globally
- In the United States it is confirmed by accounts reporting that
 - 70% of nursing home providers are unable to find sufficient supplies for their staff.



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Working Conditions

HCW Worker Safety remains a huge issue



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National Nurses United Union July 27 survey

Responses from more
than 21,200 nurses from
50 states plus
Washington D.C.
and three territories.



24% of nurses think their employer is providing a safe workplace.



87% of nurses who work at hospitals reported reusing at least one piece of single-use PPE. Reusing single-use PPE is a dangerous practice that can increase exposures to nurses, other staff, and to patients.



54% of nurses who work at hospitals say their employer has implemented a decontamination program to “clean” single-use PPE, such as N95 respirators, between uses. Decontamination of single-use PPE has not been proven to be safe nor effective.



23% of nurses reported they have been tested for COVID-19. A lack of testing jeopardizes nurses’ health and safety and their ability to protect their patients and families.



36% of nurses who work at hospitals reported that they are afraid of catching COVID-19 and **43%** are afraid of infecting a family member.



27% of nurses reported having exposed skin or clothing when caring for suspected or confirmed COVID-19 patients, leaving nurses and their colleagues at increased risk of being exposed to the virus at work.



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