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Via Regulations.gov

May 23, 2022

The Honorable Martin Walsh, Secretary of Labor
U.S. Department of Labor
Attn: Douglas Parker, Assistant Secretary of Labor for Occupational Safety and Health
Occupational Safety and Health Administration
200 Constitution Ave., NW
Washington, DC 20210

RE: Post-Hearing Comments in Response to “Occupational Exposure to COVID-19 in Healthcare Settings,” 86 Fed. Reg. 16,426 (March 23, 2022) (Docket No. OSHA-2020-0004)

Dear Secretary Walsh and Assistant Secretary Parker:

On behalf of over 175,000 registered nurse (RN) members across the country, National Nurses United (NNU) submits these comments and materials to the Occupational Safety and Health Administration (OSHA) to supplement NNU’s previous comments and testimony in the OSHA Covid-19 health care rulemaking hearing regarding “Occupational Exposure to COVID-19 in Healthcare Settings,” 86 Fed. Reg. 16,426 (March 23, 2022) (Docket No. OSHA-2020-0004) (hereinafter “Covid-19 Health Care Standard”).

NNU again urges OSHA to act expeditiously and promulgate a permanent standard on Covid-19 in health care settings, but we also reiterate that OSHA must also improve the standard as proposed under the emergency temporary standard to fully protect nurses and other health care workers from the significant risk of occupational infection and exposure to Covid-19. NNU urges OSHA to adopt a final Covid-19 Health Care Standard that includes a comprehensive, multiple measures approach to Covid-19 infection and exposure control, which includes optimal workplace protections and which applies to workers and workplaces irrespective of a worker’s symptoms or vaccination status. NNU urges OSHA, in a final Covid-19 Health Care Standard, to adhere to the precautionary principle and to provide for optimal protections for workers based on the most up-to-date science on Covid-19. To reiterate NNU’s previous comments and hearing testimony, adherence to the precautionary principle and optimal occupational protections based on up-to-date Covid-19 science means that the final standard should, among other things, fully recognize aerosol transmission of Covid-19 and remove any incorporation by reference to or other reliance on Centers for Disease Control and Prevention guidance on Covid-19.

In these supplemental post-hearing comments, NNU further addresses and clarifies our position on questions from OSHA that arose during the OSHA Covid-19 health care rulemaking hearing.

I. Response to OSHA’s Post-Hearing Question on NNU Surveys of Registered Nurses on Covid-19 and NNU’s Report on Health Care Worker Covid-19 Death and Infection Data.

In response to OSHA’s question to NNU in Exhibit 13 (OSHA-2020-0004-2150) of the OSHA Covid-19 health care rulemaking hearing, NNU is attaching as appendices to these post-hearing comments summary data from each of NNU’s seven surveys of registered nurses on their experiences at work during the Covid-19 pandemic (Appendix A to Appendix G). OSHA specifically asked NNU the following:

1. OSHA requested any documentation supporting NNU’s member compliance surveys. OSHA also requests similar support for any other survey NNU has added to the docket, including, for example, National Nurses United, “Sins of Omission: How Government Failures to Track Covid-19 Data Have Led to More Than 3,200 Health Care Worker Deaths and Jeopardize Public Health,” Updated Mar 2021, which is in the docket at OSHA-2020-0004-2108_attachment_4. (OSHA)

NNU’s summary data below includes only survey questions and summary data relevant to OSHA’s rulemaking on the Covid-19 Health Care Standard. The summary data also includes only responses from RNs and advanced practice registered nurses (APRNs) who also reported in the survey that they were currently working in hospital settings.

NNU’s surveys of RNs were available online only and were open to both NNU members and non-NNU members. NNU promoted the survey through NNU’s membership contacts, through NNU email lists that include RN member and nonmember contacts, and through promotion of the surveys on social media postings and social media advertisements. Respondents were required to select which type of health care facility they currently work [Responses included: “Hospital”, “Home care hospice”, “Skilled nursing facility”, “Call center”, “Outpatient clinic (not affiliated with a hospital)”, “Outpatient surgery (not affiliated with a hospital)”, “Medical offices”, “Retired”, “Currently not employed in a health care setting”, or “Other (please specify)”. The surveys could be completed by RNs, APRNs, as well as other health care workers. However, each survey was promoted as a survey for registered nurses.

The summary data in the appendices of these post-hearing comments includes only data from respondents who are RNs or APRNs and who, at the time of each survey, reported that they worked in a hospital setting. Demographic data for each of NNU’s seven surveys of registered nurses on Covid-19 are included in Table 1. For each survey, NNU made the survey available online for the duration of the survey dates listed in Table 1.

Table 1. NNU Registered Nurse Surveys of Covid-19 Pandemic Experiences Demographic Information

	Survey Dates	# of RN and APRN Respondents Working in Hospitals	States/Territories With Respondents
Survey #1	01/30/2020 - 05/04/2020	5,404	All 50 States, Washington, D.C., Puerto Rico, American Samoa, Guam, Marshall Islands, and Virgin Islands
Survey #2	04/08/2020 - 7/13/2020	16,326	All 50 States, Washington, D.C., Puerto Rico, Guam, Marshall Islands, and Virgin Islands
Survey #3	07/07/2020 - 10/18/2020	11,805	All 50 States, Washington, D.C., Puerto Rico, Northern Mariana Islands, and Virgin Islands
Survey #4	10/14/2020 - 12/11/2020	7,397	All 50 States, Washington, D.C., Puerto Rico, and Guam
Survey #5	02/02/2021 - 04/07/2021	5,620	All 50 States, Washington, D.C., Puerto Rico, American Samoa, Guam, and Northern Mariana Islands
Survey #6	06/01/2021 - 07/26/2021	2,637	All 50 States, Washington, D.C., and Puerto Rico
Survey #7	02/03/2022 - 03/20/2022	2,575	All 50 States, and Washington, D.C.

Additionally, with respect to NNU’s report “Sins of Omission: How Government Failures to Track Covid-19 Data Have Led to More Than 3,200 Health Care Worker Deaths and Jeopardize Public Health,” our methodology for collecting health care worker death and infection data is explained in Appendix III of that report (pages 45-46).¹

II. NNU again urges OSHA to require employers use engineering controls, including ventilation, as part of a multilayered approach to Covid-19 occupational exposure and infection control in health care settings.

Ventilation is an essential tool to combat aerosol transmission of SARS-CoV-2, which OSHA should require as part of a multilayered approach to occupational exposure and infection

¹ National Nurses United. “Sins of Omission: How Government Failures to Track Covid-19 Data Have Led to More Than 3,200 Health Care Worker Deaths and Jeopardize Public Health.” National Nurses United (Updated March 2021), at pp. 45-46. https://www.nationalnursesunited.org/sites/default/files/nnu/documents/0321_Covid19_SinsOfOmission_Data_Report.pdf (Accessed May 20, 2022).

control in the final standard. As outlined in NNU’s April 2022 and August 2021 comments to OSHA, the final standard should require employers to make improvements to ventilation systems to reduce the risk of SARS-CoV-2 aerosol transmission in both patient care and non-patient care areas. Employers could improve ventilation systems to reduce the risk of Covid-19 transmission by increasing outdoor air proportion and filtration level for recirculated air or by placing and maintaining portable high efficiency particulate air (HEPA) filter units. With respect to portable HEPA filter units, one study found that portable HEPA filtration units effectively removed aerosol particles in a single bed hospital room in 20 minutes.² Another study found that use of two portable HEPA filter units in a single patient room could clear 99 percent of aerosol particles within 5.5 minutes.³ As part of engineering controls within a final standard, NNU supports the inclusion of requirements that employers improve ventilation systems and use portable HEPA filter units.

Importantly, for all ventilation and air filtration engineering controls implemented by an employer to meet requirements under a final standard, OSHA must also require that employers maintain, inspect, and monitor for exhaust or recirculation filter loading and leakage ventilation and air filtration engineering controls at least annually, whenever filters are changed, and more often if necessary to maintain effectiveness.

Additionally, while NNU strongly recommends that OSHA require employers to implement engineering controls in a final standard, OSHA must not allow employers to use “emerging” technologies that have yet to be proven safe or effective at reducing SARS-CoV-2 occupational hazards—such as ionization devices and ultraviolet irradiation technologies—to meet engineering control requirements under the final standard. New technologies lack long-term evidence of safety for health care workers and patients and lack long-term evidence showing their effectiveness at reducing airborne transmission of SARS-CoV-2. Because other ventilation, air filtration, and additional engineering controls are known to be safe and effective at reducing the occupational hazard of aerosol disease transmission, OSHA should not reference ionization devices, ultraviolet irradiation technologies, or other emerging technologies, in its final standard as control measures for Covid-19 occupational hazards.

Moreover, some emerging technologies, specifically ionization devices, have been demonstrated to be potentially harmful, resulting in additional occupational hazards. A standard that allows employers to implement experimental technologies for hazard control that potentially may harm workers and patients would compound upon the devaluation of nurse and other health care worker health and safety that has caused high levels of moral distress and injury in the health care workforce. OSHA must not permit health care employers to deploy experimental

² Lee, J.H. et al. “Effectiveness of portable air filtration on reducing indoor aerosol transmission: preclinical observational trials.” *J Hosp Infect* Vol. 199:163-69 (Sept. 2021). <https://doi.org/10.1016/j.jhin.2021.09.012> (Accessed May 19, 2022).

³ Buising, K. et al. “Use of portable air cleaners to reduce aerosol transmission on a hospital coronavirus disease 2019 (COVID-19) ward.” *Infect Control & Hosp Epid* (Jun. 2021). <https://doi.org/10.1017/ice.2021.284> (Accessed May 19, 2022).

engineering controls, which have not been shown to be safe for workers or patients nor have been shown to be effective at reducing exposure to Covid-19; this is particularly true when safe and effective hazard controls exist.

Below NNU describes some of the current research and limitations on the evidentiary base for ultraviolet irradiation technologies and ionization devices.

- a. *Emerging ultraviolet irradiation technologies lack evidence of safety and effectiveness as an air cleaning engineering control for Covid-19 hazards.*

Because there currently is a lack of evidence that ultraviolet irradiation technology is safe and effective at cleaning the air of SARS-CoV-2, OSHA should not permit health care employers to use ultraviolet irradiation technology to meet air filtration, ventilation, or other engineering control requirements under the final standard.

Since the emergence of the Covid-19 pandemic, several “emerging” air cleaning technologies have been heavily marketed to inactivate or kill SARS-CoV-2 aerosol particles.⁴ For example, krypton-chloride (KrCl) excimer lamps (also known as far-UVC or far-UV light) with a primary emission wavelength of 222 nm have been suggested to disinfect SARS-CoV-2. Eadie et al. found, “Far-UVC is likely to be more effective against common airborne viruses, including SARS-CoV-2, than bacteria and should thus be an effective and ‘hands-off’ technology to reduce airborne disease transmission.”⁵ However, this study was conducted in a room-sized chamber,⁶ which limits the applicability of their results to real-life conditions. Researchers also used *Staphylococcus aureus* bacteria as a test organism,⁷ not SARS-CoV-2 virus, which provides insufficient evidence to establish the effectiveness of this technology.

While some studies evaluated the efficacy of 222-nm UVC irradiation against SARS-CoV-2, these studies were either conducted under laboratory conditions or on contaminated surfaces, which limits the applicability of results to real-life conditions and provides insufficient evidence of efficacy and safety.⁸ In fact, one of the studies concluded, “Further evaluation of the

⁴ See U.S. Centers for Disease Control and Prevention. “Ventilation in Buildings, Summary of Recent Changes.” U.S. Centers for Disease Control and Prevention. (Last updated June 2, 2021). <https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html#emergingtech> (Accessed May 19, 2022).

⁵ Eadie, E. et al. “Far-UVC (222 nm) efficiently inactivates an airborne pathogen in a room-sized chamber.” *Sci Reports* 12(4373) (Mar. 23, 2022). <https://www.nature.com/articles/s41598-022-08462-z> (Accessed May 19, 2022).

⁶ *Ibid.*

⁷ *Ibid.*

⁸ See, e.g.: Kitagawa, H. et al. “Effectiveness of 222-nm ultraviolet light on disinfecting SARS-CoV-2 surface contamination.” *Amer J Infect Control* 49(3): 299-301 (Sept. 2020). <https://doi.org/10.1016/j.ajic.2020.08.022> (Accessed May 19, 2022).

Su, W. et al. “Clinical application of 222 nm wavelength ultraviolet C irradiation on SARS CoV-2 contaminated environments.” *J Microbio Immun Infect* 55(1): 166-69 (Feb. 2022). <https://doi.org/10.1016/j.jmii.2021.12.005> (studying UVC irradiation effectiveness on contaminated surfaces in laboratory conditions) (Accessed May 19, 2022).

safety and efficacy of 222-nm UVC irradiation in reducing the contamination of real-world surfaces and the potential transmission of SARS-CoV-2 is needed.”⁹ Studies that have evaluated the safety of far-UVC in occupied indoor spaces also provide insufficient evidence to ensure the safety of such technologies because these studies exposed a 3-dimensional model of human skin¹⁰ and hairless mice,¹¹ which may not be reflective of actual human skin and do not provide evidence on delayed health effects such as cancer.

Indeed, both the Centers for Disease Control and Infection (CDC) and the Food and Drug Administration (FDA) have stated the following regarding far-UVC technologies:

- The FDA stated in February 2011, “Currently there is limited published data about the wavelength, dose, and duration of UVC radiation required to inactivate the SARS-CoV-2 virus [...] the long-term safety data is lacking.”¹²
- The CDC stated in June 2021, “Questions remain about the mechanisms of killing microorganisms and overall safety. Far-UV might prove to be effective at disinfecting air and surfaces, without some of the safety precautions required for standard UVGI.”¹³

Conversely, upper-room ultraviolet germicidal irradiation (also known as UVGI) has been used in health care settings for control of tuberculosis, if installed properly.¹⁴ However, oxidation of volatile organic compounds in the air by UVGI may generate fine particulate matter (PM_{2.5}),¹⁵

⁹ Kitagawa, H. et al. (2022), *supra*, note 8.

¹⁰ Welch, D. et al. “Wavelength-dependent DNA Photodamage in a 3-D human Skin Model over the Far-UVC and Germicidal UVC Wavelength Ranges from 215 to 255 nm.” *Photochem Photobio* (Feb. 2022). <https://doi.org/10.1111/php.13602> (Accessed May 19, 2022).

¹¹ Welch, D. et al. “No evidence of induced skin cancer or other skin abnormalities after long term (66 week) chronic exposure to 222-nm far-UVC radiation.” *bioRxiv* (Mar. 18, 2022). <https://doi.org/10.1101/2022.03.16.484636> (Accessed May 19, 2022).

¹² U.S. Food and Drug Administration. “UV Lights and Lamps: Ultraviolet-C Radiation, Disinfection, and Coronavirus.” U.S. Food and Drug Administration (Last updated Feb. 1, 2021). <https://www.fda.gov/medical-devices/coronavirus-covid-19-and-medical-devices/uv-lights-and-lamps-ultraviolet-c-radiation-disinfection-and-coronavirus> (Accessed May 19, 2022).

¹³ U.S. Centers for Disease Control and Prevention. “Ventilation in Buildings.” U.S. Centers for Disease Control and Prevention (Last updated Jun. 2, 2021). <https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html> (Accessed May 19, 2022).

¹⁴ National Institute for Occupational Safety and Health. Division of Applied Research and Technology, “Environmental Control for Tuberculosis: Basic Upper-Room Ultraviolet Germicidal Irradiation Guidelines for Healthcare Settings.” U.S. Department of Health and Human Services. DHHS (NIOSH) Publication Number 2009-105 (Mar. 2009). <https://www.cdc.gov/niosh/docs/2009-105/> (Accessed May 19, 2022).

¹⁵ Choi, E. et al. “Formation of Secondary Organic Aerosols by Germicidal Ultraviolet Light.” *Environments* 6(2): 17 (Jan. 2019). <https://doi.org/10.3390/environments6020017> (Accessed May 19, 2022).

Collins, D. & Farmer, D. “Unintended Consequences of Air Cleaning Chemistry.” *Environ Sci & Technol* Vol. 55(8): 12172-79 (2021). <https://doi.org/10.1021/acs.est.1c02582> (Accessed May 20, 2022).

which can penetrate into the lungs and bloodstream.¹⁶ Some UV lamps can also generate ozone, which is a known airway irritant.¹⁷

Again, NNU strongly urges OSHA to require the use of engineering controls as part of a multilayered approach, based on the available scientific evidence and the precautionary principle, and, as such, given the lack of sufficient evidence of the safety and effectiveness of ultraviolet irradiation systems, OSHA must not consider the use of ultraviolet irradiation technology to meet the hazard control requirements of the final standard. If employers use ultraviolet irradiation systems in health care settings, employers must be required to maintain, inspect, and control such systems in accordance with the manufacturer’s instructions. In addition, any issues or problems that employers identify with ultraviolet irradiation systems should be corrected by the employer as soon as possible.

b. Ionizer devices are unsafe and ineffective at particulate filtration and OSHA should prohibit them under the final standard.

NNU urges OSHA to prohibit the use of unproven and unsafe ionization devices in hospitals and other health care settings. Because ionizer devices are unsafe and ineffective at particulate filtration, OSHA must not permit employers to use ionizer devices to meet the engineering control requirements or any other hazard control requirements of a final standard on Covid-19.

Ionizers (also known as needlepoint bipolar ionization devices) is an “merging” air cleaning technology that has been heavily marketed to inactivate or kill SARS-CoV-2 aerosol particles. Independent, scientifically rigorous, peer-reviewed studies do not currently exist on this emerging technology, only manufacturers’ claims. Ionizers release highly reactive ions into the air through the ventilation system, which can react with volatile organic compounds (VOCs) and other pollutants to form harmful ultrafine particles and chemical byproducts that health care workers and patients can inhale.¹⁸ A recent study found an increase in oxygenated VOCs (e.g.,

¹⁶ U.S. Environmental Protection Agency. “Particulate Matter (PM) Pollution, Particulate Matter (PM) Basics.” U.S. Environmental Protection Agency. <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics> (Accessed May 19, 2022).

¹⁷ U.S. Food and Drug Administration (Feb. 2021), *supra*, note 12.

Claus, H. “Ozone Generation by Ultraviolet Lamps.” *Photochem Photobio* (Feb. 2021). <https://doi.org/10.1111/php.13391> (Accessed May 19, 2022).

¹⁸ U.S. Environmental Protection Agency. “Indoor Air Quality (IAQ), What are ionizers and other ozone generating air cleaners?” U.S. Environmental Protection Agency. <https://www.epa.gov/indoor-air-quality-iaq/what-are-ionizers-and-other-ozone-generating-air-cleaners> (Accessed May 20, 2022).

Zeng, Y. et al. “Evaluating a commercially available in-duct bipolar ionization device for pollutant removal and potential byproduct formation.” *Building & Environ* Vol. 195: 107750 (May 2021). <https://doi.org/10.1016/j.buildenv.2021.107750> (Accessed May 20, 2022).

Collins and Farmer (2021), *supra*, note 15.

acetone, ethanol, and toluene), substances commonly found in paint, paint strippers, and pesticides.¹⁹ Researchers also found that the ionizer does not significantly impact particulate matter concentrations, rendering it ineffective at removing virus from the air.²⁰ Exposure to VOCs has been linked to eye and respiratory tract irritation, headaches, loss of coordination, and damage to the liver, kidney, and central nervous system.²¹ OSHA must make clear in a final standard that unproven, “emerging” air cleaning technologies, such as ionizers, are prohibited in hospitals and other health care settings.

III. NNU urges OSHA to require precautionary screening and testing of all patients and visitors entering health care facilities.

As outlined in NNU’s April 2022 and August 2021 comments and April 27, 2022, testimony to OSHA, workplace protections in health care settings, including precautionary Covid testing and screening, remain vital to protect patient and health care worker health and safety. Identification and isolation of all SARS-CoV-2 infections among patients, visitors, and staff is paramount to preventing transmission within health care facilities. To ensure that health care employers effectively identify and isolate all SARS-CoV-2 infections among patients, visitors, and staff, OSHA must include in the final standard, among multiple measures of infection and exposure control of Covid-19, robust precautionary testing and screening requirements of all patients and visitors entering health care facilities.

The following research provide additional scientific evidence on precautionary screening and testing which effectively controlled occupation and hospital-acquired Covid-19 infections.

Baker, M. et al. “Rapid Control of Hospital-Based Severe Acute Respiratory Syndrome Coronavirus 2 Omicron Clusters Through Daily Testing and Universal Use of N95 Respirators.” Clinical Infect Diseases (Feb. 2022). <https://doi.org/10.1093/cid/ciac113> (Accessed May 20, 2022).

- Baker et al. (Feb. 2022) is attached to these post-hearing comments as Attachment 2.
- This report describes two nosocomial SARS-CoV-2 Omicron clusters at Brigham and Women’s Hospital that were effectively controlled after instituting multiple measures. Of

The Lancet COVID-19 Commission, Task Force on Safe Work, Safe School, and Safe Travel. “Designing infectious disease resilience into school buildings through improvements to ventilation and air cleaning.” The Lancet COVID-19 Commission (Apr. 2021). Available at <https://covid19commission.org/commission-publications> (Accessed May 20, 2022).

Crawford, T., Fritz, P. & Wainman, T. “Changes in IAQ caused by corona discharge air cleaner.” *ASHRAE J* 60(12): 64-67 (Dec. 2018). <https://www.proquest.com/docview/2313376671> (Accessed May 20, 2022).

¹⁹ Zeng, Y. et al. (2021), *supra*, note 18.

²⁰ *Ibid.*

²¹ U.S. Environmental Protection Agency. “Indoor Air Quality (IAQ), Volatile Organic Compounds’ Impact on Indoor Air Quality.” U.S. Environmental Protection Agency. https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality#Health_Effects (Accessed May 20, 2022).

the 45 nosocomial Omicron cases, 22 received care from health care workers with undiagnosed SARS-CoV-2, five were roomed with patients with undiagnosed SARS-CoV-2, and one had a visitor with undiagnosed SARS-CoV-2. No potential source was identified for the remaining 17 patients.

- Multiple measures successfully implemented at Brigham and Women's Hospital included the following:
 - Daily PCR testing of all uninfected patients in cluster units
 - Daily screening of patients and testing for those who have new symptoms
 - Exposed health care workers were immediately notified and encouraged to get tested for SARS-CoV-2
 - Universal use of N95 respirators, eye protection, gloves, and gown for all patient care regardless of SARS-CoV-2 status
 - Visitors were required to wear masks, gowns, gloves, and eye protection
 - Patient rooms were limited to one patient whenever possible

Meijer, S. et al. "Unraveling a Nosocomial Outbreak of COVID-19: The Role of Whole-Genome Sequence Analysis." Open Forum Infect Diseases 8(10): ofab210 (Mar. 2021). <https://doi.org/10.1093/ofid/ofab120> (Accessed May 20, 2022).

- This study describes a large nosocomial outbreak investigation using whole-genome sequencing, which determined that the source of the outbreak was a patient who had tested negative for SARS-CoV-2 upon admission and then developed mild symptoms two days later.
- This study underlines the importance of precautionary screening and testing, instead of relying on testing or symptom-based screening alone.

MacCannell, T. et al. "Genomic epidemiology and transmission dynamics of SARS-CoV-2 in congregate healthcare facilities in Santa Clara County, California." Clinical Infect Diseases Vol. 74(5): 829-35 (Jul. 2021). <https://doi.org/10.1093/cid/ciab553> (Accessed May 20, 2022).

- This study describes mapping of viral transmissions of SARS-CoV-2 in long-term care facilities in a county in California. The authors employed weekly testing of staff and residents in addition to whole-genome sequencing to trace transmission in outbreaks.
- The authors concluded that, "We detected a pattern of rapid and sustained transmission after a single introduction of SARS-CoV-2 in six large long-term care facility outbreaks, with staff playing a key role in transmission within and between facilities. Infection control, testing, and occupational policies to reduce exposure and transmission risk for staff are essential components to keeping facility residents safe."

Escobar, D. et al. "Mitigation of a Coronavirus Disease 2019 Outbreak in a Nursing Home Through Serial Testing of Residents and Staff." Clinical Infect Diseases Vol. 72(9): e394-e396 (Jul. 2021). <https://doi.org/10.1093/cid/ciaa1021> (Accessed May 20, 2022).

- This study describes a Covid-19 outbreak in a nursing home that was rapidly and effectively contained after employing multiple measures including:
 - Testing residents for SARS-CoV-2 every 3 to 5 days to capture as many early asymptomatic cases as possible
 - Implementing universal screening
 - Cohorting patients based on their SARS-CoV-2 status
 - Cohorting the staff to work on specific units
 - Establishing a dedicated Covid-19 unit
 - Implementing universal masking for all residents and staff
 - Issuing a no-visitor policy
- The authors concluded that, "The cornerstone of the highlighted interventions was serial testing of all residents and employees, regardless of symptomatology."

IV. NNU supports a requirement that employers designate a Covid-19 exposure control program administrator.

NNU urges OSHA to require employers to designate a program administrator who will be responsible for the establishment, implementation, and maintenance of effective written infection control procedures to control the risk of transmission of SARS-CoV-2. The final standard should require that the program administrator has the authority to perform this function and be knowledgeable in workplace and infection control principles as they apply specifically to the facility, service, or operation. The administrator should have authority to ensure the employer's compliance with all aspects of the final Covid-19 standard. When the administrator is not on site, OSHA should require that the employer designate a person with full authority to act on the administrator's behalf.

V. NNU urges OSHA to require employers to develop and implement effective housekeeping and environmental cleaning and disinfection protocols and plans for all work areas.

While aerosol transmission is the significant and predominant mode for SARS-CoV-2, OSHA must also address the potential for contact transmission in a final OSHA standard on Covid-19. Studies have shown that SARS-CoV-2 can survive for long periods of time, up to

several weeks, on a variety of common surfaces (e.g., glass and stainless steel).²² Ribaric et al., found widespread SARS-CoV-2 contamination in the air and on surfaces in both patient and non-patient areas of hospitals, with air outlets and hospital floors as the most frequently and heavily contaminated surfaces.²³ Viable SARS-CoV-2 has also been found in saliva, urine, and stool samples from Covid patients up to 11 – 15 days of the clinical course.²⁴ Viral loads in urine, saliva and stool samples were nearly equal to or higher than those in naso/oropharyngeal swabs.²⁵

OSHA should also address in the final standard fecal-oral transmission given that toilet flushes aerosolize waste particles, including infectious pathogens such as SARS-CoV-2, if present.²⁶ For example, the emission of aerosol particles into a bathroom as a result of a single 6-liter toilet flush can be the equivalent of a person talking loudly in that room for over six and a half minutes.²⁷ In addition, recent data from the University of Hong Kong found that the SARS-CoV-2 Omicron variant is more stable than its ancestral strain on smooth and porous surfaces.²⁸ Thus, effective housekeeping and environmental cleaning and disinfection must apply to all work areas, including facilities, common areas, public areas, equipment and vehicles. OSHA should also require the cleaning and disinfection of all potentially exposed work areas and common and public spaces following the identification of a suspected or confirmed Covid-19 case in the final Covid-19 standard.

VI. Additional Example OSHA Complaint and Response.

As NNU described in our April 22, 2022, comments to OSHA on the Covid-19 Health Care Standard,²⁹ health and safety complaints filed by NNU member nurses and related responses show a pattern of employers failing to provide workers with critical protections against Covid-19 exposure and infection. Moreover, these examples of Covid-19-related health and safety complaints to OSHA demonstrate the inadequacy of the General Duty Clause of the Occupational Safety and Health Act of 1970 and other existing OSHA standards and regulations

²² See, e.g.: Riddell, S. et al. “The effect of temperature on persistence of SARS-CoV-2 on common surfaces.” *Virology J* 17(145) (Oct. 2020). <https://doi.org/10.1186/s12985-020-01418-7> (Accessed May 20, 2022).

Kasloff, S. et al. “Stability of SARS-CoV-2 on critical personal protective equipment.” *Sci Reports* 11(984) (Jan. 2021). <https://www.nature.com/articles/s41598-020-80098-3> (Accessed May 20, 2022).

²³ Ribaric, N. et al. “Hidden hazards of SARS-CoV-2 transmission in hospitals: A systematic review.” *Indoor Air* Vol. 32(1): e12968 (Dec. 2021). <https://doi.org/10.1111/ina.12968> (Accessed May 20, 2022).

²⁴ Jeong, H. et al. “Viable SARS-CoV-2 in various specimens from COVID-19 patients.” *Clinical Microbio Infect* Vol. 23(11): P1520-24 (Jul. 2020). <https://doi.org/10.1016/j.cmi.2020.07.020> (Accessed May 20, 2022).

²⁵ *Ibid.*

²⁶ Qian, Q. et al. “Direct Evidence of Active SARS-CoV-2 Replication in the Intestine.” *Clinical Infect Diseases* Vol. 73(3): 361-66 (Jul. 2020). <https://doi.org/10.1093/cid/ciaa925> (Accessed May 20, 2022).

²⁷ Gormley, M. et al. “Aerosol and bioaerosol particle size and dynamics from defective sanitary plumbing systems.” *Indoor Air* Vol. 31(5): 1427-40 (Feb. 2021). <https://doi.org/10.1111/ina.12797> (Accessed May 20, 2022).

²⁸ Chin, A. et al. “Increased stability of SARS-CoV-2 Omicron variant over ancestral strain.” *Emerg Infect Diseases* 28(7) (May 2022). <https://pubmed.ncbi.nlm.nih.gov/35550234/> (Accessed May 20, 2022).

²⁹ “Comments from National Nurses United,” April 22, 2022, Comment ID: OSHA-2020-0004-2108.

to protect workers from the occupational hazards from Covid-19. This pattern has continued since OSHA held its Covid-19 health care rulemaking hearing. NNU attaches to these post—hearing comments, as Attachment 1, an additional example of OSHA identifying a workplace hazard from Covid-19 but declining to issue a complaint in the absence of a permanent standard or enforcement of the Covid-19 Health Care Emergency Temporary Standard. Additional information about this example OSHA complaint on Covid-19 and response is included in Table 2.

Table 2. Summary of Additional Complaint to OSHA and Response (Complaint Response Attached in Attachment 1)

Facility	Dates	Complaint	Response	Document Description
Menorah Medical Center (Overland Park, KS) Att. 1	March 21, 2022 (Inspection date) May 4, 2022 (OSHA response date)	Hazards: Visitors not actively screened for Covid-19 symptoms (only signs posted reminding visitors to attest to exposures and to wear masks and to observe social distancing); workers caring for patients and interacting with staff without face coverings although required under facility policy; meal trays of Covid-19 positive patient(s) left on nurse’s station without protections for workers.	OSHA recognized employee’s exposure hazards but determined that “it is not appropriate” to invoke the general duty clause or other OSHA standard or regulation and, therefore, did not issue a citation for the hazards identified.	Responses from OSHA to complaint. Demonstrates the limitations of the general duty clause and existing OSHA standards to correct identified occupational hazards from Covid-19.

VII. Conclusion.

As Covid-19 continues to present a significant risk to nurses and other health care workers, NNU once again urges OSHA to promptly issue a strong, comprehensive final standard on Covid-19 for health care settings which includes a multiple-measures approach to protecting such workers from occupational exposure and infection from Covid-19. NNU appreciates the opportunity to provide supplementary post-hearing comments to OSHA on “Occupational Exposure to COVID-19 in Healthcare Settings” 86 Fed. Reg. 16,426 (March 23, 2022) (Docket No. OSHA-2020-0004).

Sincerely,



Michelle Grisat
 National Director of Health and Regulatory Policy
 National Nurses United

List of Appendices & Attachments

- Appendix A:** NNU Registered Nurse Survey #1 (January 30, 2020, to May 4, 2020), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix B:** NNU Registered Nurse Survey #2 (April 8, 2020, to July 17, 2020), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix C:** NNU Registered Nurse Survey #3 (July 7, 2020, to October 18, 2020), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix D:** NNU Registered Nurse Survey #4 (October 14, 2020, to December 11, 2020), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix E:** NNU Registered Nurse Survey #5 (February 2, 2021, to April 7, 2021), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix F:** NNU Registered Nurse Survey #6 (June 1, 2021, to July 26, 2021), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Appendix G:** NNU Registered Nurse Survey #6 (February 3, 2022, to March 20, 2022), Summary Data, Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings
- Attachment 1:** Health care worker complaints to OSHA and responses, Menorah Medical Center (Overland Park, KS)
- Attachment 2:** Baker, M. et al. "Rapid Control of Hospital-Based Severe Acute Respiratory Syndrome Coronavirus 2 Omicron Clusters Through Daily Testing and Universal Use of N95 Respirators." *Clinical Infect Diseases* (Feb. 2022).

Appendix A

NNU REGISTERED NURSE SURVEY #1

JANUARY 30, 2020, TO MAY 4, 2020

Summary Data:

**Responses of
Registered Nurses and Advanced Practice Registered Nurses
Currently Working in Hospital Settings**

Survey #1, Q1 : Has your employer provided information to you regarding the novel coronavirus and how to recognize and respond to possible cases?			
	Frequency	Percent	Valid Percent
Yes	3036	56.2	56.2
No	2085	38.6	38.6
I don't know	284	5.3	5.3
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q3 : Has your employer instituted travel/exposure history screening for all patients with fever and/or respiratory symptoms?			
	Frequency	Percent	Valid Percent
Yes	3733	69.1	69.1
No	1047	19.4	19.4
I don't know	625	11.6	11.6
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q2 : Does your employer have airborne infection isolation rooms ("negative pressure rooms") available on your unit?			
	Frequency	Percent	Valid Percent
Yes	4264	78.9	78.9
No	1046	19.4	19.4
I don't know	95	1.8	1.8
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q4 : Is there a plan to isolate a patient with possible novel coronavirus infection?			
	Frequency	Percent	Valid Percent
Yes	410	7.6	78.9
No	318	5.9	19.4
I don't know	318	5.9	1.8
Missing	4359	80.6	--
Total	1046	100.0	100.0

Survey #1, Q5 : When in use, who is responsible for checking daily that the isolation rooms are under negative pressure? (Select all that apply)		
	Frequency	Percent
Registered Nurses	1294	23.9
Other Clinical Staff	227	4.2
Security	55	1.0
Housekeeping	89	1.6
Engineering	1626	30.1
Safety	187	3.5
Other	252	4.7
I don't know	1677	31.0
Total	5405	100.0

Survey #1, Q6 : Do you have access to sufficient personal protective equipment (PPE) for airborne precautions on your unit? - Gloves			
	Frequency	Percent	Valid Percent
Yes, I have access on my unit.	5005	92.6	92.6
Sort of, I have to go somewhere else in the facility to get it.	258	4.8	4.8
No, I don't have any access.	113	2.1	2.1
I don't know	29	0.5	0.5
Missing	0	0.0	--
Total	5405	100.0	100.0

Survey #1, Q7 : Do you have access to sufficient personal protective equipment (PPE) for airborne precautions on your unit? - Gowns			
	Frequency	Percent	Valid Percent
Yes, I have access on my unit.	4570	84.6	84.6
Sort of, I have to go somewhere else in the facility to get it.	639	11.8	11.8
No, I don't have any access.	152	2.8	2.8
I don't know	43	0.8	0.8
Missing	1	< 0.0	--
Total	5405	100.0	100.0

Survey #1, Q8 : Do you have access to sufficient personal protective equipment (PPE) for airborne precautions on your unit? - Coveralls			
	Frequency	Percent	Valid Percent
Yes, I have access on my unit.	1150	21.3	21.3
Sort of, I have to go somewhere else in the facility to get it.	759	14.0	14.0
No, I don't have any access.	2600	48.1	48.1
I don't know	896	16.6	16.6
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q9 : Do you have access to sufficient personal protective equipment (PPE) for airborne precautions on your unit? – N95 respirator			
	Frequency	Percent	Valid Percent
Yes, I have access on my unit.	2718	50.3	50.3
Sort of, I have to go somewhere else in the facility to get it.	1396	25.8	25.8
No, I don't have any access.	1131	20.9	20.9
I don't know	160	3.0	3.0
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q10 : Do you have access to sufficient personal protective equipment (PPE) for airborne precautions on your unit? – PAPR (Powered air purifying respirator)			
	Frequency	Percent	Valid Percent
Yes, I have access on my unit.	1494	27.6	27.6
Sort of, I have to go somewhere else in the facility to get it.	1228	22.7	22.7
No, I don't have any access.	1866	34.5	34.5
I don't know	817	15.1	15.1
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q11 : Does your employer have sufficient PPE stock on hand to protect staff if there is a rapid surge in patients with possible coronavirus infections?			
	Frequency	Percent	Valid Percent
Yes	1098	20.3	20.3
No	2318	42.9	42.9
I don't know	1989	36.8	36.8
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q12 : Have you been trained on safely donning and doffing (putting on and taking off) PPE in the previous year?			
	Frequency	Percent	Valid Percent
Yes	3596	66.5	66.5
No	1721	31.8	31.8
I don't know	88	1.6	1.6
Missing	--	--	--
Total	5405	100.0	100.0

Survey #1, Q13 : Have you been fit tested for a respirator within the previous year?			
	Frequency	Percent	Valid Percent
Yes	4107	76.0	76.0
No	1265	23.4	23.4
I don't know	33	.6	.6
Missing	0	0.0	--
Total	5405	100.0	100.0

Survey #1, Q15 : Does your employer have a policy to address employees with suspected or known exposure to the novel coronavirus?			
	Frequency	Percent	Valid Percent
Yes	1391	25.7	25.7
No	1804	33.4	33.4
I don't know	2210	40.9	40.9
Missing	0	0.0	--
Total	5405	100.0	100.0

Survey #1, Q14 : Does your employer have an overflow plan to place additional, trained staff to enable safe care provision to patients on isolation for possible novel coronavirus?			
	Frequency	Percent	Valid Percent
Yes	856	15.8	15.8
No	2208	40.9	40.9
I don't know	2341	43.3	43.3
Missing	0	0.0	--
Total	5405	100.0	100.0

Survey #1, Q16 : Has your employer implemented informational campaigns or other secondary screening isolation to ask patients with symptoms and travel/exposure history to call ahead to the hospital/clinic before coming in?			
	Frequency	Percent	Valid Percent
Yes	1616	29.9	29.9
No	1895	35.1	35.1
I don't know	1894	35.0	35.0
Missing	0	0.0	--
Total	5405	100.0	100.0

Survey #1, Q17 : How many isolation rooms are available on your unit?			
	Frequency	Percent	Valid Percent
0	168	3.1	3.9
1	1320	24.4	31.0
2	1539	28.5	36.1
3	292	5.4	6.9
4	416	7.7	9.8
5	98	1.8	2.3
6	101	1.9	2.4
7	36	.7	.8
8	58	1.1	1.4
9	23	.4	.5
10	211	3.9	5.0
Missing	1143	21.1	--
Total	5405	100.0	100.0

Appendix B

NNU REGISTERED NURSE SURVEY #2

APRIL 8, 2020, TO JULY 17, 2020

Summary Data:

**Responses of
Registered Nurses and Advanced Practice Registered Nurses
Currently Working in Hospital Settings**

Survey #2, Q1 : Have you had any of the following experiences with testing for COVID-19? (Select all that apply)		
	Frequency	Percent
Tested positive	386	2.4
Tested negative	1924	11.8
Waiting on test results	400	2.5
Refused a test	243	1.5
No testing	10367	63.5
I do not know	257	1.6
Total	16326	100.0

Survey #2, Q2 : In the last 14 days, at my facility there have been: (Select all that apply)		
	Frequency	Percent
Confirmed cases of COVID-19	11541	70.7
Suspected cases of COVID-19	6662	40.8
No cases of COVID-19	401	2.5
I do not know	652	4.0
Total	16326	100.0

Survey #2, Q3 : Have health care workers in your facility been quarantined due to exposure to a patient with <u>suspected</u> or <u>confirmed</u> COVID-19 since March 1, 2020?			
	Frequency	Percent	Valid Percent
Yes	7126	43.6	54.3
No	2437	14.9	18.6
I don't know	3514	21.5	26.8
Not applicable	50	0.3	0.4
Missing	3199	19.6	--
Total	16326	100.0	100.0

Survey #2, Q4 : Are quarantined workers being paid?			
	Frequency	Percent	Valid Percent
Yes, without using sick leave, vacation days, or paid time off	1829	11.2	26.5
Yes, but they must use sick leave, vacation days, or paid time off	2211	13.5	32.1
No	207	1.3	3.0
I do not know	2042	12.5	29.6
Other (please specify)	606	3.7	8.8
Missing	9431	57.8	--
Total	16326	100.0	100.0

Survey #2, Q5 : Did your employer place asymptomatic staff who were exposed to a <u>confirmed</u> COVID-19 patient without appropriate PPE on 14-day quarantine?			
	Frequency	Percent	Valid Percent
Yes	2178	13.3	16.6
No	5392	33.0	41.1
I do not know	5050	30.9	38.5
Not applicable	488	3.0	3.7
Missing	3218	19.7	--
Total	16326	100.0	100.0

Survey #2, Q6 : Did your employer place asymptomatic staff who were exposed to a <u>suspected</u> COVID-19 patient without appropriate PPE on 14-day quarantine OR were quarantined until COVID-19 was ruled out?			
	Frequency	Percent	Valid Percent
Yes	2020	12.4	15.4
No	5539	33.9	42.3
I do not know	5075	31.1	38.7
Not applicable	466	2.9	3.6
Missing	3226	19.8	--
Total	16326	100.0	100.0

Survey #2, Q7 : In the last 14 days, did you provide direct care or otherwise physically interact with a patient with any of the following: (Select all that apply)		
	Frequency	Percent
Confirmed case of COVID-19	6178	37.8
Suspected case of COVID-19	6934	42.5
I have not treated any patients confirmed or suspected of having COVID-19	3082	18.9
I do not know	977	6.0
Total	16326	100.0

Survey #2, Q8 : What type of respiratory protection did you have while physically interacting with a <u>suspected</u> COVID-19 patient? (Select all that apply)				
	Frequency	Percent	of RNs who cared for <u>suspected</u> case in Q7	
			Frequency	Percent
Homemade or cloth mask	373	2.3	169	3.9
Surgical mask only	2223	13.6	1030	24.0
N95 respirator with appropriate fit testing	3043	18.6	1613	37.5
N95 respirator without appropriate fit testing	859	5.3	527	12.3
N95 respirator (non-medical grade) with appropriate fit testing	169	1.0	99	2.3
N95 respirator (non-medical grade) without appropriate fit testing	289	1.8	169	3.9
PAPR (Powered air purifying respirator)	642	3.9	355	8.3
Other (answer below)	419	2.6	193	4.5
None	41	0.3	15	0.4
Total	16326	100.0	4301	100.0

Survey #2, Q9 : What type of respiratory protection did you have while physically interacting with a <u>confirmed</u> COVID-19 patient? (Select all that apply)				
	Frequency	Percent	of RNs who cared for <u>confirmed</u> case in Q7	
			Frequency	Percent
Homemade or cloth mask	278	1.7	278	4.5
Surgical mask only	1148	7.0	1148	18.6
N95 respirator with appropriate fit testing	2573	15.8	2573	41.7
N95 respirator without appropriate fit testing	784	4.8	784	12.7
N95 respirator (non-medical grade) with appropriate fit testing	142	0.9	142	2.3
N95 respirator (non-medical grade) without appropriate fit testing	233	1.4	233	3.8
PAPR (Powered air purifying respirator)	647	4.0	647	10.8
Other (answer below)	396	2.4	396	6.4
None	11	0.1	11	0.2
Total	16326	100.0	6178	100.0

Survey #2, Q10 : Was your respirator or mask provided by your employer?			
	Frequency	Percent	Valid Percent
Yes	5534	33.9	93.5
No	299	1.8	5.1
I do not know	20	0.1	0.3
Not applicable	67	0.4	1.1
Missing	10406	63.7	--
Total	16326	100.0	100.0

Survey #2, Q11a : When working with <u>confirmed</u> cases of COVID-19, was your respirator expired?			
	Frequency	Percent	Valid Percent
Yes	372	2.3	9.2
No	1615	9.9	39.9
I do not know	1789	11.0	44.2
Not applicable	271	1.7	6.7
Missing	12279	75.2	--
Total	16326	100.0	100.0

Survey #2, Q11b : When working with <u>suspected</u> cases of COVID-19, was your respirator expired?			
	Frequency	Percent	Valid Percent
Yes	501	3.1	8.7
No	2141	13.1	37.1
I do not know	2433	14.9	42.2
Not applicable	692	4.2	12.0
Missing	10559	64.7	--
Total	16326	100.0	100.0

Survey #2, Q12a : When working with <u>confirmed</u> cases of COVID-19, did you have to reuse a disposable respirator or mask?			
	Frequency	Percent	Valid Percent
Yes, decontaminated	1192	7.3	29.4
Yes, not decontaminated	2218	13.6	54.7
No	507	3.1	12.5
I do not know	61	0.4	1.5
Not applicable	74	0.5	1.8
Missing	12274	75.2	--
Total	16326	100.0	100.0

Survey #2, Q12b : When working with <u>suspected</u> cases of COVID-19, did you have to reuse a disposable respirator or mask?			
	Frequency	Percent	Valid Percent
Yes, decontaminated	1422	8.7	25.5
Yes, not decontaminated	3044	18.6	54.6
No	785	4.8	14.1
I do not know	105	0.6	1.9
Not applicable	222	1.4	4.0
Missing	10748	65.8	--
Total	16326	100.0	100.0

Survey #2, Q13a : Working with <u>confirmed</u> cases of COVID-19, what other types of personal protective equipment (PPE) did you use? (Select all that apply)				
	Frequency	Percent	of RNs who cared for <u>confirmed</u> case in Q7	
			Frequency	Percent
Gloves	3981	24.4	3934	64.5
Gown	3868	23.7	3824	62.7
Coverall	259	1.6	255	4.2
Goggles / Face shield	3582	21.9	3544	58.1
Booties	1381	8.5	1366	22.4
Head covering (including hooded coverall)	2283	14.0	2251	36.9
None	23	0.1	23	0.4
Total	16326	100.0	6099	100.0

Survey #2, Q13b : Working with <u>suspected</u> cases of COVID-19, what other types of personal protective equipment (PPE) did you use? (Select all that apply)				
	Frequency	Percent	of RNs who cared for <u>suspected</u> case in Q7	
			Frequency	Percent
Gloves	3901	23.9	3,425	50.1
Gown	3545	21.7	3,107	45.4
Coverall	183	1.1	141	2.1
Goggles / Face shield	3195	19.6	2,788	40.8
Booties	1048	6.4	905	13.2
Head covering (including hooded coverall)	1749	10.7	1,515	22.2
None	51	0.3	37	0.6
Total	16326	100.0	6838	100.0

Survey #2, Q14a : Please answer the following regarding shifts you have worked in the last 14 days: "I had to reuse supplies that are made to be used only once."			
	Frequency	Percent	Valid Percent
Yes	5121	31.4	86.4
No	700	4.3	11.8
I do not know	53	0.3	0.9
Not applicable	51	0.3	0.9
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14c : Please answer the following regarding shifts you have worked in the last 14 days: "I was provided clean scrubs at the beginning of my shift."			
	Frequency	Percent	Valid Percent
Yes	2650	16.2	44.7
No	3009	18.4	50.8
I do not know	22	0.1	0.4
Not applicable	244	1.5	4.1
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14b : Please answer the following regarding shifts you have worked in the last 14 days: "I had exposed skin or clothing."			
	Frequency	Percent	Valid Percent
Yes	4236	25.9	71.5
No	1457	8.9	24.6
I do not know	163	1.0	2.8
Not applicable	69	0.4	1.2
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14d : Please answer the following regarding shifts you have worked in the last 14 days: "I left my scrubs in the workplace for my employer to launder."			
	Frequency	Percent	Valid Percent
Yes	2153	13.2	36.3
No	3383	20.7	57.1
I do not know	12	0.1	0.2
Not applicable	377	2.3	6.4
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14e : Please answer the following regarding shifts you have worked in the last 14 days: "I had a separate room to don and doff PPE."			
	Frequency	Percent	Valid Percent
Yes	1057	6.5	17.8
No	4717	28.9	79.6
I do not know	15	0.1	0.3
Not applicable	136	0.8	2.3
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14g : Please answer the following regarding shifts you have worked in the last 14 days: "I was required to work mandatory overtime"			
	Frequency	Percent	Valid Percent
Yes	373	2.3	6.3
No	5395	33.0	91.1
I do not know	27	0.2	0.5
Not applicable	130	0.8	2.2
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14f : Please answer the following regarding shifts you have worked in the last 14 days: "I had a buddy to ensure I donned and doffed PPE correctly."			
	Frequency	Percent	Valid Percent
Yes	1225	7.5	20.7
No	4526	27.7	76.4
I do not know	22	0.1	0.4
Not applicable	152	0.9	2.6
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14h : Please answer the following regarding shifts you have worked in the last 14 days. "I was exposed to a confirmed COVID-19 patient without appropriate PPE and worked within 14 days after I was exposed"			
	Frequency	Percent	Valid Percent
Yes	1623	9.9	27.4
No	2841	17.4	47.9
I do not know	1186	7.3	20.0
Not applicable	275	1.7	4.6
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q14i : Please answer the following regarding shifts you have worked in the last 14 days. “I was exposed to a suspected COVID-19 patient without appropriate PPE and worked within 14 days after I was exposed”			
	Frequency	Percent	Valid Percent
Yes	2590	15.9	43.7
No	2244	13.7	37.9
I do not know	900	5.5	15.2
Not applicable	191	1.2	3.2
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15a : Please answer the following regarding shifts you have worked in the last 14 days. “I had all the personal protective equipment (PPE) I needed to feel safe”			
	Frequency	Percent	Valid Percent
Strongly agree	863	5.3	14.6
Somewhat agree	1914	11.7	32.3
Neither agree nor disagree	340	2.1	5.7
Somewhat disagree	1048	6.4	17.7
Strongly disagree	1746	10.7	29.5
I do not know/ Not applicable	14	0.1	0.2
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15b : Please answer the following regarding shifts you have worked in the last 14 days. “I received reasonable meal and rest breaks.”			
	Frequency	Percent	Valid Percent
Strongly agree	1870	11.5	31.6
Somewhat agree	1634	10.0	27.6
Neither agree nor disagree	499	1.1	8.4
Somewhat disagree	807	4.9	13.6
Strongly disagree	1086	6.7	18.3
I do not know/ Not applicable	29	0.2	0.5
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15c : Please answer the following regarding shifts you have worked in the last 14 days. “I had a reasonable workload”			
	Frequency	Percent	Valid Percent
Strongly agree	1721	10.5	29.0
Somewhat agree	1881	11.5	31.7
Neither agree nor disagree	556	3.4	9.4
Somewhat disagree	825	5.1	13.9
Strongly disagree	925	5.7	15.6
I do not know/ Not applicable	17	0.1	0.3
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15d : Please answer the following regarding shifts you have worked in the last 14 days. “I received appropriate education and training on donning and doffing PPE.”			
	Frequency	Percent	Valid Percent
Strongly agree	1967	12.0	33.2
Somewhat agree	1917	11.7	32.4
Neither agree nor disagree	552	3.4	9.3
Somewhat disagree	803	4.9	13.6
Strongly disagree	671	4.1	11.3
I do not know/ Not applicable	15	0.1	0.3
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15f : Please answer the following regarding shifts you have worked in the last 14 days. “I was notified that there was a suspected/confirmed COVID-19 case in or near my work area.”			
	Frequency	Percent	Valid Percent
Strongly agree	2276	13.9	38.4
Somewhat agree	1355	8.3	22.9
Neither agree nor disagree	472	2.9	8.0
Somewhat disagree	563	3.4	9.5
Strongly disagree	1109	6.8	18.7
I do not know/ Not applicable	150	0.9	2.5
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q15e : Please answer the following regarding shifts you have worked in the last 14 days. “I received appropriate education and training on protocols for caring for a suspected/confirmed COVID-19 patient.”			
	Frequency	Percent	Valid Percent
Strongly agree	1093	6.7	18.4
Somewhat agree	1765	10.8	29.8
Neither agree nor disagree	730	4.5	12.3
Somewhat disagree	1077	6.6	18.2
Strongly disagree	1239	7.6	20.9
I do not know/ Not applicable	21	0.1	0.4
Missing	10401	63.7	--
Total	16326	100.0	100.0

Survey #2, Q16 : I had to perform the following job functions normally done by employees in other job classifications during shifts I worked in the last 14 days: (Select all that apply)		
	Frequency	Percent
Dietary	2610	16.0
Environmental Services	3036	18.6
Housekeeping	3479	21.3
Respiratory Therapy	1830	11.2
Security	717	4.4
Safety	1452	8.9
Engineering	372	2.3
Other clinical staff (please specify)	1947	11.9
Other non-clinical staff (please specify)	653	4.0
I did not have to perform other job functions that I normally do not perform	3360	20.6
Total	16326	100.0

Survey #2, Q17a : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "The number of visitors was restricted appropriately"			
	Frequency	Percent	Valid Percent
Strongly agree	7296	44.7	80.9
Somewhat agree	1143	7.0	12.7
Neither agree nor disagree	79	0.5	.9
Somewhat disagree	188	1.2	2.1
Strongly disagree	180	1.1	2.0
I do not know/ Not applicable	136	0.8	1.5
Missing	7304	44.7	--
Total	16326	100.0	100.0

Survey #2, Q17b : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "Visitors were screened for COVID-19 symptoms upon arrival."			
	Frequency	Percent	Valid Percent
Strongly agree	4215	25.8	48.4
Somewhat agree	1389	8.5	15.9
Neither agree nor disagree	362	2.2	4.2
Somewhat disagree	273	1.7	3.1
Strongly disagree	382	2.3	4.4
I do not know/ Not applicable	2095	12.8	24.0
Missing	7610	46.6	--
Total	16326	100.0	100.0

Survey #2, Q17c : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "Staff were screened for COVID-19 symptoms upon arrival."

	Frequency	Percent	Valid Percent
Strongly agree	4206	25.8	47.4
Somewhat agree	2102	12.9	23.7
Neither agree nor disagree	341	2.1	3.8
Somewhat disagree	566	3.5	6.4
Strongly disagree	1454	8.9	16.4
I do not know/ Not applicable	204	1.2	2.3
Missing	7453	45.7	--
Total	16326	100.0	100.0

Survey #2, Q17d : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "Screening protocols were in place to promptly identify and isolate patients with suspected/confirmed COVID-19 infections prior to arrival or at the first point of contact."

	Frequency	Percent	Valid Percent
Strongly agree	3326	20.4	37.5
Somewhat agree	2616	16.0	29.5
Neither agree nor disagree	616	3.8	6.9
Somewhat disagree	864	5.3	9.7
Strongly disagree	711	4.4	8.0
I do not know/ Not applicable	739	4.5	8.3
Missing	7454	45.7	--
Total	16326	100.0	100.0

Survey #2, Q17e : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "All patients with respiratory symptoms wore surgical masks."

	Frequency	Percent	Valid Percent
Strongly agree	3330	20.4	37.5
Somewhat agree	1892	11.6	21.3
Neither agree nor disagree	611	3.7	6.9
Somewhat disagree	967	5.9	10.9
Strongly disagree	1229	7.5	13.8
I do not know/ Not applicable	854	5.2	9.6
Missing	7443	45.6	--
Total	16326	100.0	100.0

Survey #2, Q17f : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "There were dedicated routes of entry for source control of the patient."

	Frequency	Percent	Valid Percent
Strongly agree	4107	25.2	46.3
Somewhat agree	1774	10.9	20.0
Neither agree nor disagree	593	3.6	6.7
Somewhat disagree	567	3.5	6.4
Strongly disagree	760	4.7	8.6
I do not know/ Not applicable	1064	6.5	12.0
Missing	7461	45.7	--
Total	16326	100.0	100.0

Survey #2, Q17g : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "There were dedicated <u>transport routes</u> for source control of the patient."			
	Frequency	Percent	Valid Percent
Strongly agree	2471	15.1	27.9
Somewhat agree	1630	10.0	18.4
Neither agree nor disagree	844	5.2	9.5
Somewhat disagree	942	5.8	10.6
Strongly disagree	1293	7.9	14.6
I do not know/ Not applicable	1675	10.3	18.9
Missing	7471	45.8	--
Total	16326	100.0	100.0

Survey #2, Q17h : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "There were waiting areas for suspected/confirmed COVID-19 patients and visitors with respiratory symptoms that were separate from other patients and visitors to prevent exposures."			
	Frequency	Percent	Valid Percent
Strongly agree	2072	12.7	23.3
Somewhat agree	1278	7.8	14.4
Neither agree nor disagree	755	4.6	8.5
Somewhat disagree	591	3.6	6.7
Strongly disagree	950	5.8	10.7
I do not know/ Not applicable	3228	19.8	36.4
Missing	7452	45.6	--
Total	16326	100.0	100.0

Survey #2, Q17i : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "All patients with confirmed COVID-19 were placed immediately in an airborne infection isolation room."			
	Frequency	Percent	Valid Percent
Strongly agree	2271	13.9	25.6
Somewhat agree	1189	7.3	13.4
Neither agree nor disagree	468	2.9	5.3
Somewhat disagree	859	5.3	9.7
Strongly disagree	2380	14.6	26.9
I do not know/ Not applicable	1695	10.4	19.1
Missing	7464	45.7	--
Total	16326	100.0	100.0

Survey #2, Q18a : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "All patients with suspected COVID-19 were placed immediately in an airborne infection isolation room."			
	Frequency	Percent	Valid Percent
Strongly agree	1764	10.8	20.0
Somewhat agree	1281	7.8	14.5
Neither agree nor disagree	514	3.1	5.8
Somewhat disagree	1015	6.2	11.5
Strongly disagree	2749	16.8	31.2
I do not know/ Not applicable	1495	9.2	17.0
Missing	7508	46.0	--
Total	16326	100.0	100.0

Survey #2, Q18b : Please answer the following regarding your workplace during shifts you have worked in your last 14 days: "All airborne infection isolation rooms were maintained at negative pressure."			
	Frequency	Percent	Valid Percent
Strongly agree	2333	14.3	26.5
Somewhat agree	1204	7.4	13.7
Neither agree nor disagree	551	3.4	6.3
Somewhat disagree	764	4.7	8.7
Strongly disagree	2134	13.1	24.2
I do not know/ Not applicable	1825	11.2	20.7
Missing	7515	46.0	--
Total	16326	100.0	100.0

Appendix C

NNU REGISTERED NURSE SURVEY #3

JULY 7, 2020, TO OCTOBER 18, 2020

Summary Data:

**Responses of
Registered Nurses and Advanced Practice Registered Nurses
Currently Working in Hospital Settings**

Survey #3, Q1 : Do you work on a unit where COVID-19 patients or PUIs might be placed?			
	Frequency	Percent	Valid Percent
Yes	6509	55.1	80.2
No	1461	12.4	18.0
Missing	3692	31.3	--
Total	11805	100.0	100.0

Survey #3, Q2 : What PPE does your hospital use for COVID-19 patients? Check all that apply.		
	Frequency	Percent
N95 respirators	7277	61.6
PAPRs	3539	30.0
Elastomeric respirators	219	1.9
Other kinds of respirators	486	4.1
Face shield	6930	58.7
Surgical mask	5977	50.6
Cloth face covering	672	5.7
Goggles	5009	42.4
Isolation gowns	7202	19.2
Coveralls	507	4.3
Head covering	4010	34.0
Shoe covering	3656	31.0
Gloves	7154	60.6
Other (please specify)	348	2.9
I do not know	191	1.6
Total	11805	100.0

Survey #3, Q3 : Does your employer expect you to reuse single-use PPE? Select all that apply.		
	Frequency	Percent
Yes, I have to reuse single-use N95 respirators.	6031	51.1
Yes, I have to reuse single-use surgical masks.	4190	35.5
Yes, I have to reuse disposable isolation gowns.	1358	11.5
Yes, I have to reuse disposable coveralls.	188	1.6
Yes, I have to reuse single-use face shields.	4069	34.5
Yes, I have to reuse single-use PAPR parts such as hoods or capes.	1593	13.5
Yes, I have to reuse other single-use PPE. (please specify)	433	3.7
No, I do not reuse any single-use PPE	1022	8.7
I do not know	235	2.0
Total	11805	100.0

Survey #3, Q3a: Valid responses of those responding to Q3		
	Frequency	Percent
Respondent selected "Yes, I have to reuse" to at least one type of single-use PPE	6964	85.84
Only selected "I do not know"	186	2.29
Only selected "No, I do not reuse any single-use PPE"	963	11.87
Total Valid Responses	8113	100.0

Survey #3, Q4 : How does your employer tell you to store your PPE between uses? Check all that apply.		
	Frequency	Percent
In a brown paper bag	5498	46.6
In a plastic bag	919	7.8
In a plastic food container	536	4.5
Hanging on a hook in the hallway	1084	9.2
Sitting on a table	433	3.7
Other, please specify	505	4.3
I have received no instruction from my employer on how to store PPE between uses.	657	5.6
I do not know	99	0.8
Total	11805	100.0

Survey #3, Q5 : Do you feel safe using a decontaminated N95?			
	Frequency	Percent	Valid Percent
Yes	670	5.7	16.5
No	2769	23.5	68.2
I do not know	621	5.3	15.3
Missing	7515	46.0	--
Total	11805	100.0	100.0

Survey #3, Q6 : Has your employer implemented a decontamination program to "clean" single-use PPE between uses?			
	Frequency	Percent	Valid Percent
Yes	4233	35.9	53.7
No	2312	19.6	29.3
I do not know	1335	11.3	16.9
Missing	3925	33.2	--
Total	11805	100.0	100.0

Survey #3, Q7 : Did your employer notify you of the risks associated with using decontaminated PPE?			
	Frequency	Percent	Valid Percent
Yes	457	3.9	11.3
No	3177	26.9	78.3
I do not know	426	3.6	10.5
Missing	7745	65.6	--
Total	11805	100.0	100.0

Survey #3, Q8 : What decontamination program has your employer implemented?		
	Frequency	Percent
Battelle	268	2.3
STERRAD	106	0.9
STERIS	67	0.6
UV	887	7.5
Autoclave	313	2.7
Medline	46	0.4
Other, please specify	342	2.9
I do not know	2369	20.1
Total	11805	100.0

Survey #3, Q9 : Does your facility have a dedicated COVID-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes	5905	50.0	78.1
No	1361	11.5	18.0
I do not know	295	2.5	3.9
Missing	4244	36.0	--
Total	11805	100.0	100.0

Survey #3, Q10 : Did your facility ever have a dedicated COVID-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes, but they closed it	477	4.0	36.0
No, they never had a dedicated COVID-19 unit	690	5.8	52.1
I do not know	157	1.3	11.9
Missing	10481	88.8	--
Total	11805	100.0	100.0

Survey #3, Q11 : At your facility, are COVID-19 patients placed in negative pressure rooms?			
	Frequency	Percent	Valid Percent
Always	1460	12.4	19.8
Often	1103	9.3	15.0
Sometimes	1782	15.1	24.2
Rarely	785	6.6	10.7
Inconsistently	815	6.9	11.1
Never	433	3.7	5.9
We do not have negative pressure rooms in our facility.	192	1.6	2.6
I do not know	720	6.1	9.8
Not applicable	76	00.6	1.0
Missing	4439	37.6	--
Total	11805	100.0	100.0

Survey #3, Q12 : At your facility, is every patient screened for COVID-19?			
	Frequency	Percent	Valid Percent
Yes	3391	28.7	46.0
No	3344	28.3	45.4
I do not know	625	5.3	8.5
Not applicable	6	0.1	0.1
Missing	4439	37.6	--
Total	11805	100.0	100.0

Survey #3, Q13 : Have you had to float to/been reassigned to a clinical care area in response to the COVID-19 pandemic where you are expected to care for patients that require new skills or competencies?			
	Frequency	Percent	Valid Percent
Yes	2161	18.3	29.3
No	4634	39.3	62.9
Not applicable	571	4.8	7.8
Missing	4439	37.6	--
Total	11805	100.0	100.0

Survey #3, Q14 : Have you ever been tested for COVID-19?			
	Frequency	Percent	Valid Percent
Yes	2609	22.1	36.1
No	4509	38.2	62.5
I do not know	102	0.9	1.4
Missing	4585	38.8	--
Total	11805	100.0	100.0

Survey #3, Q15 : Does your employer make testing available to nurses who may have been exposed to COVID-19 at work?			
	Frequency	Percent	Valid Percent
Yes	4116	34.9	57.0
No	1840	15.6	25.5
I do not know	1264	10.7	17.5
Missing	4585	38.8	--
Total	11805	100.0	100.0

Survey #3, Q16 : Does your employer openly communicate with nurses about infections that happen among staff?			
	Frequency	Percent	Valid Percent
Yes	1734	14.7	24.0
No	4839	41.0	67.0
I do not know	647	5.5	9.0
Missing	4585	38.8	--
Total	11805	100.0	100.0

Survey #3, Q17 : Does your employer have a plan in place to respond safely to a surge in COVID-19 patients?			
	Frequency	Percent	Valid Percent
Yes	3140	26.6	46.9
No	1114	9.4	16.6
I do not know	2441	20.7	36.5
Missing	5110	43.3	--
Total	11805	100.0	100.0

Survey #3, Q18 : How has working during the COVID-19 pandemic affected you? (Check all that apply)		
	Frequency	Percent
I am afraid that I will catch COVID-19.	3995	33.8
I am afraid that I will infect a family member with COVID-19.	4775	40.4
I am having more difficulty sleeping than I did before the pandemic.	2721	23.0
I feel stressed more often than I did before the pandemic.	4587	38.9
I feel anxious more often than I did before the pandemic.	4152	35.2
I feel sad or depressed more often than I did before the pandemic.	3166	26.8
Other (please specify)	943	8.0
Not applicable	340	2.9
Total	11805	100.0

Appendix D

NNU REGISTERED NURSE SURVEY #4

OCTOBER 14, 2020, TO DECEMBER 11, 2020

Summary Data:

**Responses of
Registered Nurses and Advanced Practice Registered Nurses
Currently Working in Hospital Settings**

Survey #4, Q1: Have you ever been tested for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	3113	42.1	50.3
No	3039	41.1	49.1
Do not know	34	0.5	0.5
Missing	1211	16.4	--
Total	7397	100.0	100.0

Survey #4, Q2: Have you ever been denied a test for Covid-19 by your employer?			
	Frequency	Percent	Valid Percent
My employer has denied me a Covid-19 test.	534	7.2	8.6
My employer has not denied me a Covid-19 test.	1762	23.8	28.5
I have not requested a Covid-19 test from my employer.	3763	50.9	60.8
Do not know	127	1.7	2.1
Missing	1211	16.4	--
Total	7397	100.0	100.0

Survey #4, Q3: Does your employer make testing readily available to nurses who may have been exposed to Covid-19 at work?			
	Frequency	Percent	Valid Percent
Any staff who asks for testing has access.	1218	16.5	19.7
It is dependent upon a strict definition of exposure.	604	8.2	9.8
It is dependent on whether the staff is symptomatic.	810	11.0	13.1
It is dependent on both a strict definition of exposure AND presence of symptoms.	1289	17.4	20.8
No, testing is not made readily available to nurses by my employer.	772	10.4	12.5
Do not know	1338	18.1	21.6
Other (please specify)	155	2.1	2.5
Missing	1211	16.4	--
Total	7397	100.0	100.0

Survey #4, Q4: Does your employer inform nurses of exposures in a timely fashion?			
	Frequency	Percent	Valid Percent
Yes	2214	29.9	35.8
No	2483	33.6	40.1
Do not know	1489	20.1	24.1
Missing	1211	16.4	--
Total	7397	100.0	100.0

Survey #4, Q7: Does your facility have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes	4450	60.2	73.2
No	1371	18.5	22.5
Do not know	260	3.5	4.3
Missing	1316	17.8	--
Total	7397	100.0	100.0

Survey #4, Q5: Does your employer openly communicate with nurses about infections that happen among staff?			
	Frequency	Percent	Valid Percent
Yes	1547	20.9	25.0
No	3861	52.2	62.4
Do not know	778	10.5	12.6
Missing	1211	16.4	--
Total	7397	100.0	100.0

Survey #4, Q8: Did your facility ever have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes, but they closed it.	568	7.7	45.4
No, they never had a dedicated COVID-19 unit.	558	7.5	44.6
Do not know	126	1.7	10.1
Missing	6145	83.1	--
Total	7397	100.0	100.0

Survey #4, Q6: At your facility, is every patient screened for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	3023	40.9	49.8
No	2635	35.6	43.4
Do not know	415	5.6	6.8
Missing	1324	17.9	--
Total	7397	100.0	100.0

Survey #4, Q9 : What PPE does your hospital use for Covid-19 patients? Check all that apply.		
	Frequency	Percent
N95 respirators	4844	65.5
PAPRs	3029	40.9
Elastomeric respirators	182	2.5
Other kinds of respirators	359	4.9
Face shields	4731	64.0
Surgical mask	3740	50.6
Cloth face covering	291	3.9
Goggles	3570	48.3
Isolation gowns	4867	65.8
Coveralls	357	4.8
Head coverings	2461	33.3
Shoe coverings	2295	31.0
Gloves	4773	64.5
Do not know	212	2.9
Other (please specify)	221	3.0
Total	7397	100.0

Survey #4, Q10 : What PPE does your hospital use for patients who might have Covid-19 but who have not been tested or whose test results are not yet completed? Check all that apply.		
	Frequency	Percent
N95 respirators	3213	43.4
PAPRs	1494	20.2
Elastomeric respirators	92	1.2
Other kinds of respirators	196	2.6
Face shields	3655	49.4
Surgical mask	3712	50.2
Cloth face covering	205	2.8
Goggles	2579	34.9
Isolation gowns	3336	45.1
Coveralls	149	2.0
Head coverings	1476	20.0
Shoe coverings	1286	17.4
Gloves	3634	49.1
Do not know	364	4.9
Other (please specify)	202	2.7
Total	7397	100.0

Survey #4, Q11 : What PPE does your hospital use for patients who have had a positive Covid-19 test but who are asymptomatic? Check all that apply.		
	Frequency	Percent
N95 respirators	3590	48.5
PAPRs	1865	25.2
Elastomeric respirators	113	1.5
Other kinds of respirators	254	3.4
Face shields	3619	48.9
Surgical mask	3136	42.4
Cloth face covering	204	2.8
Goggles	2566	34.7
Isolation gowns	3574	48.3
Coveralls	218	2.9
Head coverings	1668	22.5
Shoe coverings	1478	20.0
Gloves	3569	48.2
Do not know	711	9.6
Other (please specify)	210	2.8
Total	7397	100.0

Survey #4, Q12 : Does your employer expect you to reuse single-use PPE? Select all that apply.		
	Frequency	Percent
Yes, I have to reuse single-use N95 respirators.	3844	52.0
Yes, I have to reuse single-use surgical masks.	2505	33.9
Yes, I have to reuse disposable isolation gowns.	679	9.2
Yes, I have to reuse disposable coveralls.	82	1.1
Yes, I have to reuse single-use face shields.	2617	35.4
Yes, I have to reuse single-use PAPR parts such as hoods or capes.	1182	16.0
Yes, I have to reuse other single-use PPE. (please specify)	354	4.8
No, I do not reuse any single-use PPE	868	11.7
I do not know	182	2.5
Total	7397	100.0

Survey #4, Q12a : Valid responses of those responding to Q12		
	Frequency	Percent
Respondent selected "Yes, I have to reuse" to at least one type of single-use PPE	4439	82.02
Only selected "I do not know"	158	2.9
Only selected "No, I do not reuse any single-use PPE"	815	15.06
Total Valid Responses	5412	100.00

Survey #4, Q13: Has your employer implemented a decontamination program to "clean" single-use PPE between uses?			
	Frequency	Percent	Valid Percent
Yes	2743	37.1	50.7
No	1607	21.7	29.7
Do not know	1062	14.4	19.6
Missing	1985	26.8	--
Total	7397	100.0	100.0

Survey #4, Q14: Do you feel safe using a decontaminated N95?			
	Frequency	Percent	Valid Percent
Yes	417	5.6	15.4
No	1923	26.0	70.8
Do not know	376	5.1	13.8
Missing	4681	63.3	--
Total	7397	100.0	100.0

Survey #4, Q15: Did your employer notify you of the risks associated with using decontaminated PPE?			
	Frequency	Percent	Valid Percent
Yes	330	4.5	12.2
No	2026	27.4	74.6
Do not know	360	4.9	13.3
Missing	4681	63.3	--
Total	7397	100.0	100.0

Survey #4, Q16 : Has your employer made any preparations to respond to a possible surge in influenza and Covid-19 patients? Check all that apply.		
	Frequency	Percent
Increased PPE stock in preparation	1059	14.3
Educating staff on recognizing respiratory infections and steps to take to distinguish between influenza and Covid-19	875	11.8
Establishing plans for outdoor triage for patients with respiratory symptoms	620	8.4
Screening all patients before admission for respiratory symptoms	1993	26.9
Implementing universal PPE use in the Emergency Department where patients may be infectious but have not yet been tested	1200	16.2
Preparing surge capacity and planning	1310	17.7
Other (please specify)	158	2.1
Do not know	1888	25.5
Total	7397	100.0

Survey #4, Q17 : Has your employer implemented any of these measures recently? Check all that apply.		
	Frequency	Percent
Limiting the use of N95 respirators	1419	19.2
Limiting the use of other PPE	1064	14.4
Mandating employees to get vaccinated for seasonal influenza	3458	46.7
Encouraging employees to participate in Covid-19 vaccine trials	161	2.2
No, my employer has not implemented any of these measures.	647	8.7
Do not know	522	7.1
Total	7397	100.0

Survey #4, Q18: Does your employer have sick day policies that allow you to stay home when sick with influenza-like or Covid-like symptoms?			
	Frequency	Percent	Valid Percent
Yes, I am always able to stay home when I have symptoms.	2596	35.1	51.6
Sort of, I am sometimes able to stay home when I have symptoms.	1009	13.6	20.1
No, I am not able to stay home when I have symptoms without penalties.	753	10.2	15.0
Not sure	673	9.1	13.4
Missing	2366	32.0	--
Total	7397	100.0	100.0

Survey #4, Q19: Have you had to float to/been reassigned to a clinical care area in response to the Covid-19 pandemic where you are expected to care for patients that require new skills or competencies?			
	Frequency	Percent	Valid Percent
Yes	1361	18.4	31.1
No	3011	40.7	68.9
Missing	3025	40.9	--
Total	7397	100.0	100.0

Survey #4, Q20 : Have you experienced an increase in workplace violence incidents recently?			
	Frequency	Percent	Valid Percent
Significant increase	399	5.4	8.1
Small increase	921	12.5	18.8
No increase	2511	33.9	51.2
Small decrease	25	0.3	0.5
Significant decrease	30	0.4	0.6
Do not know	1022	13.8	20.8
Missing	2489	33.6	--
Total	7397	100.0	100.0

Survey #4, Q21 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will catch Covid-19."			
	Frequency	Percent	Valid Percent
Yes	3380	45.7	71.3
No	1251	16.9	26.4
Do not know	107	1.4	2.3
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q22 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will infect a family member with Covid-19."			
	Frequency	Percent	Valid Percent
Yes	3802	51.4	80.2
No	867	11.7	18.3
Do not know	69	0.9	1.5
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q23 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am having more difficulty sleeping than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	2415	32.6	51.0
No	2182	29.5	46.1
Do not know	141	1.9	3.0
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q24 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel stressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	3756	50.8	79.3
No	942	12.7	19.9
Do not know	40	0.5	0.8
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q25 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel anxious more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	3486	47.1	73.6
No	1191	16.1	25.1
Do not know	61	0.8	1.3
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q27 : Do you think your employer is providing you a safe workplace?			
	Frequency	Percent	Valid Percent
Yes	1949	26.3	41.1
No	2063	27.9	43.5
Do not know	726	9.8	15.3
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q26 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel sad or depressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	2939	39.7	62.0
No	1698	23.0	35.8
Do not know	101	1.4	2.1
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q28 : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Lack of optimal PPE"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	1489	20.1	31.4
2	1064	14.4	22.5
3	847	11.5	17.9
4	789	10.7	16.7
5 (Lowest concern)	549	7.4	11.6
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q29 : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Inadequate staffing"

	Frequency	Percent	Valid Percent
1 (Highest concern)	1944	26.3	41.0
2	1502	20.3	31.7
3	693	9.4	14.6
4	453	6.1	9.6
5 (Lowest concern)	146	2.0	3.1
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q31 : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Insufficient education and training"

	Frequency	Percent	Valid Percent
1 (Highest concern)	287	3.9	6.1
2	576	7.8	12.2
3	1052	14.2	22.2
4	1617	21.9	34.1
5 (Lowest concern)	1206	16.3	25.5
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q30 : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Insufficient breaks"

	Frequency	Percent	Valid Percent
1 (Highest concern)	243	3.3	5.1
2	718	9.7	15.2
3	1133	15.3	23.9
4	1060	14.3	22.4
5 (Lowest concern)	1584	21.4	33.4
Missing	2659	35.9	--
Total	7397	100.0	100.0

Survey #4, Q32 : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Lack of support from management"

	Frequency	Percent	Valid Percent
1 (Highest concern)	775	10.5	16.4
2	878	11.9	18.5
3	1013	13.7	21.4
4	819	11.1	17.3
5 (Lowest concern)	1253	16.9	26.4
Missing	2659	35.9	--
Total	7397	100.0	100.0

Appendix E

NNU REGISTERED NURSE SURVEY #5

FEBRUARY 2, 2021, TO APRIL 7, 2021

Summary Data:

Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings

Survey #5, Q1 : Have you ever been tested for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	3329	59.2	69.0
No	1483	26.4	30.7
Do not know	16	0.3	0.3
Missing	792	14.1	--
Total	5620	100.0	100.0

Survey #5, Q2 : Have you ever been denied a test for Covid-19 by your employer?			
	Frequency	Percent	Valid Percent
My employer has denied me a Covid-19 test.	504	9.0	10.4
My employer has not denied me a Covid-19 test.	2011	35.8	41.7
I have not requested a Covid-19 test from my employer.	2222	39.5	46.0
Do not know	91	1.6	1.9
Missing	792	14.1	--
Total	5620	100.0	100.0

Survey #5, Q3 : Have you ever been denied a test for Covid-19 by your employer?			
	Frequency	Percent	Valid Percent
Any staff who asks for testing has access.	1425	25.4	29.5
It is dependent upon a strict definition of exposure.	490	8.7	10.1
It is dependent on whether the staff is symptomatic.	649	11.5	13.4
It is dependent on both a strict definition of exposure AND presence of symptoms.	834	14.8	17.3
No, testing is not made readily available to nurses by my employer.	576	10.2	11.9
Do not know	718	12.8	14.9
Other (please specify)	136	2.4	2.8
Missing	792	14.1	--
Total	5620	100.0	100.0

Survey #5, Q4 : Does your employer inform nurses of exposures in a timely fashion?			
	Frequency	Percent	Valid Percent
Yes	1725	30.7	35.7
No	2232	39.7	46.2
Do not know	871	15.5	18.0
Missing	792	14.1	--
Total	5620	100.0	100.0

Survey #5, Q7 : Do you work on a unit where patients with known or suspected Covid-19 might be placed?			
	Frequency	Percent	Valid Percent
Yes	3832	68.2	80.5
No	882	15.7	18.5
Do not know	47	0.8	1.0
Missing	859	15.3	--
Total	5620	100.0	100.0

Survey #5, Q5 : Does your employer openly communicate with nurses about infections that happen among staff?			
	Frequency	Percent	Valid Percent
Yes	1218	21.7	25.2
No	3174	56.5	65.7
Do not know	436	7.8	9.0
Missing	792	14.1	--
Total	5620	100.0	100.0

Survey #5, Q8 : Does your facility have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes	3616	64.3	76.0
No	1021	18.2	21.4
Do not know	124	2.2	2.6
Missing	859	15.3	--
Total	5620	100.0	100.0

Survey #5, Q6 : At your facility, is every patient screened for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	2835	50.4	59.6
No	1583	28.2	33.3
Do not know	336	6.0	7.1
Missing	866	15.4	--
Total	5620	100.0	100.0

Survey #5, Q9 : Did your facility ever have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes, but they closed it.	396	7.0	41.9
No, they never had a dedicated COVID-19 unit.	434	7.7	46.0
Do not know	114	2.0	12.1
Missing	4676	83.2	--
Total	5620	100.0	100.0

Survey #5, Q10 : What PPE does your hospital use for Covid-19 patients? Check all that apply.		
	Frequency	Percent
N95 respirators	4069	72.4
PAPRs	2419	43.0
Elastomeric respirators	266	4.7
Other kinds of respirators	403	7.2
Face shields	3910	69.6
Surgical mask	3295	58.6
Cloth face covering	185	3.3
Goggles	3037	54.0
Isolation gowns	4043	71.9
Coveralls	260	4.6
Head coverings	2184	38.9
Shoe coverings	2051	36.5
Gloves	4009	71.3
Do not know	102	1.8

Survey #5, Q11 : What PPE does your hospital use for patients <u>who might have Covid-19 but who have not been tested or whose test results are not yet completed?</u> Check all that apply.		
	Frequency	Percent
N95 respirators	2743	48.8
PAPRs	1299	23.1
Elastomeric respirators	171	3.0
Other kinds of respirators	246	4.4
Face shields	2994	53.3
Surgical mask	3216	57.2
Cloth face covering	151	2.7
Goggles	2204	39.2
Isolation gowns	2732	48.6
Coveralls	124	2.2
Head coverings	1314	23.4
Shoe coverings	1145	20.4
Gloves	2895	51.5
Do not know	235	4.2

Survey #5, Q12 : What PPE does your hospital use for patients who have had a positive Covid-19 test but who are asymptomatic? Check all that apply.		
	Frequency	Percent
N95 respirators	3027	53.9
PAPRs	1545	27.5
Elastomeric respirators	193	3.4
Other kinds of respirators	275	4.9
Face shields	3035	54.0
Surgical mask	2903	51.7
Cloth face covering	175	3.1
Goggles	2251	40.1
Isolation gowns	2993	53.3
Coveralls	152	2.7
Head coverings	1452	25.8
Shoe coverings	1300	23.1
Gloves	2974	52.9
Do not know	354	6.3

Survey #5, Q13 : Does your employer expect you to reuse single-use PPE? Select all that apply.		
	Frequency	Percent
Yes, I have to reuse single-use N95 respirators.	3036	54.0
Yes, I have to reuse single-use surgical masks.	1861	33.1
Yes, I have to reuse disposable isolation gowns.	502	8.9
Yes, I have to reuse disposable coveralls.	71	1.3
Yes, I have to reuse single-use face shields.	2020	35.9
Yes, I have to reuse single-use PAPR parts such as hoods or capes.	858	15.3
Yes, I have to reuse other single-use PPE. (please specify)	249	4.4
No, I do not reuse any single-use PPE	848	15.1
I do not know	112	2.0

Survey #5, Q14 : Does your employer have sick day policies that allow you to stay home when sick with influenza-like or Covid-like symptoms?			
	Frequency	Percent	Valid Percent
Yes, I am always able to stay home when I have symptoms	2222	39.5	51.8
Sort of, I am sometimes able to stay home when I have symptoms	996	17.7	23.2
No, I am not able to stay home when I have symptoms without penalties	605	10.8	14.1
Not sure	468	8.3	10.9
Missing	1329	23.6	--
Total	5620	100.0	100.0

Survey #5, Q15 : If you wanted a Covid vaccine, were you able to get one?			
	Frequency	Percent	Valid Percent
Yes, I wanted a Covid vaccine and was able to get one.	3503	62.3	96.1
No, I wanted a Covid vaccine and have not been able to get one.	144	2.6	3.9
Missing	1973	35.1	--
Total	5620	100.0	100.0

Survey #5, Q16 : What PPE is provided to staff who administer Covid vaccines? Select all that apply.		
	Frequency	Valid Percent
N95 respirators	1079	19.2
PAPRs	201	3.6
Elastomeric respirators	48	0.9
Other kinds of respirators	62	1.1
Face shield	1749	31.1
Surgical mask	2448	43.6
Cloth face covering	91	1.6
Goggles	1092	19.4
Isolation gown	686	12.2
Coveralls	48	0.9
Head covering	353	6.3
Shoe covering	309	5.5
Gloves	2287	40.7
Do not know	1315	23.4

Survey #5, Q17 : Has your employer implemented any of these measures recently?		
	Frequency	Valid Percent
Limiting the use of N95 respirators	1316	23.4
Limiting the use of other PPE	953	17.0
Mandating employees to get vaccinated for seasonal influenza	1315	23.4
Team nursing	776	13.8
None of these	1557	27.7

Survey #5, Q18 : Have you had to float to/been reassigned to a clinical care area in response to the Covid-19 pandemic where you are expected to care for patients that require new skills or competencies?			
	Frequency	Percent	Valid Percent
Yes	1409	25.1	38.5
No	2250	40.0	61.5
Missing	1961	34.9	--
Total	5620	100.0	100.0

Survey #5, Q20 : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will catch Covid-19."			
	Frequency	Percent	Valid Percent
Yes	2532	45.1	64.9
No	1262	22.5	32.4
Do not know	107	1.9	2.7
Missing	1719	30.6	--
Total	5620	100.0	100.0

Survey #5, Q19 : Have you experienced an increase in workplace violence incidents recently?			
	Frequency	Percent	Valid Percent
Significant increase	385	6.9	9.5
Small increase	842	15.0	20.8
No increase	1939	34.5	47.9
Small decrease	36	0.6	0.9
Significant decrease	19	0.3	0.5
Do not know	828	14.7	20.4
Missing	1571	28.0	--
Total	5620	100.0	100.0

Survey #5, Q21a : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will infect a family member with Covid-19."			
	Frequency	Percent	Valid Percent
Yes	3122	55.6	80.0
No	734	13.1	18.8
Do not know	45	0.8	1.2
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21b : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I am having more difficulty sleeping than I did before the pandemic."**

	Frequency	Percent	Valid Percent
Yes	2337	41.6	59.9
No	1473	26.2	37.8
Do not know	91	1.6	2.3
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21e : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I feel sad or depressed more often than I did before the pandemic."**

	Frequency	Percent	Valid Percent
Yes	2714	48.3	69.6
No	1117	19.9	28.6
Do not know	70	1.2	1.8
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21c : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I feel stressed more often than I did before the pandemic."**

	Frequency	Percent	Valid Percent
Yes	3281	58.4	84.1
No	596	10.6	15.3
Do not know	24	0.4	0.6
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21f : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I have thought about leaving nursing."**

	Frequency	Percent	Valid Percent
Yes	2189	39.0	56.1
No	1584	28.2	40.6
Do not know	128	2.3	3.3
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21d : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I feel anxious more often than I did before the pandemic."**

	Frequency	Percent	Valid Percent
Yes	3056	54.4	78.3
No	811	14.4	20.8
Do not know	34	0.6	0.9
Missing	1719	30.6	--
Total	5620	100.0	100.0

**Survey #5, Q21g : Have you experienced any of the following impacts of the Covid-19 pandemic?
"I know coworker(s) who have left nursing."**

	Frequency	Percent	Valid Percent
Yes	2382	42.4	61.1
No	1256	22.3	32.2
Do not know	263	4.7	6.7
Missing	1719	30.6	--
Total	5620	100.0	100.0

Survey #5, Q22 : Do you think your employer is providing you a safe workplace?			
	Frequency	Percent	Valid Percent
Yes	1729	30.8	44.3
No	1615	28.7	41.4
Do not know	557	9.9	14.3
Missing	1719	30.6	--
Total	2637	100.0	100.0

Survey #5, Q23a : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Lack of optimal PPE"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	656	11.7	17.7
2	664	11.8	18.0
3	726	12.9	19.6
4	795	14.1	21.5
5 (Lowest concern)	857	15.2	23.2
Missing	1922	34.2	--
Total	5620	100.0	100.0

Survey #5, Q23b : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Inadequate staffing"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	1862	33.1	50.4
2	994	17.7	26.9
3	497	8.8	13.4
4	270	4.8	7.3
5 (Lowest concern)	75	1.3	2.0
Missing	1922	34.2	--
Total	5620	100.0	100.0

Survey #5, Q23c : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Insufficient breaks"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	207	3.7	5.6
2	786	14.0	21.3
3	982	17.5	26.6
4	876	15.6	23.7
5 (Lowest concern)	847	15.1	22.9
Missing	1922	34.2	--
Total	5620	100.0	100.0

Survey #5, Q23d : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Insufficient education and training"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	243	4.3	6.6
2	451	8.0	12.2
3	693	12.3	18.7
4	1186	21.1	32.1
5 (Lowest concern)	1125	20.0	30.4
Missing	1922	34.2	--
Total	5620	100.0	100.0
Survey #5, Q23e : What is are your top safety concerns at work right now? Please rank the following in order from most concerning to least. (Drag and drop items to reorder) "Lack of support from management"			
	Frequency	Percent	Valid Percent
1 (Highest concern)	730	13.0	19.7
2	803	14.3	21.7
3	800	14.2	21.6
4	571	10.2	15.4
5 (Lowest concern)	794	14.1	21.5
Missing	1922	34.2	--
Total	5620	100.0	100.0

Appendix F

NNU REGISTERED NURSE SURVEY #6

JUNE 1, 2021, TO JULY 26, 2021

Summary Data:

Responses of Registered Nurses and Advanced Practice Registered Nurses Currently Working in Hospital Settings

Survey #6, Q1 : Have you ever been tested for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	1742	66.1	75.6
No	544	20.6	23.6
Do not know	18	0.7	0.8
Missing	333	12.6	--
Total	2637	100.0	100.0

Survey #6, Q2 : Does your employer make testing readily available to nurses at work?			
	Frequency	Percent	Valid Percent
Any staff who asks for testing has access.	1078	40.9	46.8
Access to testing is limited at my facility.	482	18.3	20.9
Testing is not available at my facility.	184	7.0	8.0
Do not know	345	13.1	15.0
Other (please specify)	215	8.2	9.3
Missing	333	12.6	--
Total	2637	100.0	100.0

Survey #6, Q3 : How does your employer limit access to testing?			
	Frequency	Percent	Valid Percent
Only staff who are symptomatic can get tested.	279	10.6	60.5
Staff who are vaccinated are not tested.	17	0.6	3.7
Testing is not available at a convenient time and/or place.	74	2.8	16.1
Other (please specify)	91	3.5	19.7
Missing	2176	82.5	--
Total	2637	100.0	100.0

Survey #6, Q4 : Does your employer inform nurses of exposures to Covid-19 in a timely fashion?			
	Frequency	Percent	Valid Percent
All nurses are informed of exposures in a timely fashion.	610	23.1	27.1
Nurses are informed of exposures, but not in a timely fashion.	603	22.9	26.7
Only unvaccinated nurses are informed of exposures.	5	0.2	0.2
Only vaccinated nurses are informed of exposures.	2	0.1	0.1
Nurses are not informed of exposures.	545	20.7	24.2
Do not know	319	12.1	14.1
Other (please specify)	171	6.5	7.6
Missing	382	14.5	--
Total	2637	100.0	100.0

Survey #6, Q5 : At your facility, is every patient screened for Covid-19 signs and symptoms?			
	Frequency	Percent	Valid Percent
Yes	1737	65.9	79
No	342	13.0	16
Do not know	126	4.8	6
Missing	432	16.4	--
Total	2637	100.0	100.0

Survey #6, Q8 : At your facility, is every visitor screened for Covid-19 signs and symptoms?			
	Frequency	Percent	Valid Percent
Yes	1390	52.7	65.9
No	470	17.8	22.3
Do not know	248	9.4	11.8
Missing	529	20.1	--
Total	2637	100.0	100.0

Survey #6, Q6 : At your facility, is every patient tested for Covid-19 before or upon arrival at the facility?			
	Frequency	Percent	Valid Percent
Yes	864	32.8	39
No	1135	43.0	52
Do not know	197	7.5	9
Missing	441	16.7	--
Total	2637	100.0	100.0

Survey #6, Q9 : Does your facility have visitor restrictions in place?			
	Frequency	Percent	Valid Percent
My facility does not allow any visitors.	60	2.3	2.7
My facility restricts visitors and only allows visitors in certain limited situations.	417	15.8	18.9
My facility restricts visitors and only allows a certain number of visitors per patient.	1386	52.6	62.7
My facility only allows visitors who have been vaccinated for Covid-19.	8	0.3	0.4
My facility does not restrict visitors.	206	7.8	9.3
Don't know	25	0.9	1.1
Other (please specify)	107	4.1	4.8
Missing	428	16.2	--
Total	2637	100.0	100.0

Survey #6, Q7 : At your facility, is every patient screened for recent exposure history to Covid-19?			
	Frequency	Percent	Valid Percent
Yes	1626	61.7	74
No	284	10.8	13
Do not know	294	11.1	13
Missing	433	16.4	--
Total	2637	100.0	100.0

Survey #6, Q10 : At your facility, is every visitor tested for Covid-19 before or upon arrival at the facility?			
	Frequency	Percent	Valid Percent
Yes	107	4.1	5.1
No	1824	69.2	86.9
Do not know	168	6.4	8.0
Missing	538	20.4	--
Total	2637	100.0	100.0

Survey #6, Q11 : At your facility, is every visitor screened for recent exposure history to Covid-19?			
	Frequency	Percent	Valid Percent
Yes	1015	38.5	48.2
No	703	26.7	33.4
Do not know	388	14.7	18.4
Missing	531	20.1	--
Total	2637	100.0	100.0

Survey #6, Q12 : Do you work on a unit where patients with known or suspected Covid-19 might be placed?			
	Frequency	Percent	Valid Percent
Yes	1674	63.5	78.0
No	456	17.3	21.2
Do not know	16	0.6	0.7
Missing	491	18.6	--
Total	2637	100.0	100.0

Survey #6, Q13 : Does your facility have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes	1305	49.5	60.8
No	738	28.0	34.4
Do not know	103	3.9	4.8
Missing	491	18.6	--
Total	2637	100.0	100.0

Survey #6, Q14 : Did your facility ever have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes, but they closed it	424	16.1	60.1
No, they never had a dedicated Covid-19 unit.	238	9.0	33.7
Do not know	44	1.7	6.2
Missing	1931	73.2	--
Total	2637	100.0	100.0

Survey #6, Q15 : Does your hospital use any of these types of PPE for Covid-19 patients? Check all that apply.		
	Frequency	Percent
N95 respirators	1798	68.2
PAPRs	1286	48.8
Elastomeric respirators	175	6.6
Surgical masks/medical masks	1659	62.9
Do not know	44	1.7
Survey #6, Q16 : Does your hospital use any of these types of PPE for patients who might have Covid-19 but who have not been tested or whose test results are not yet completed? Check all that apply.		
	Frequency	Percent
N95 respirators	1049	39.8
PAPRs	614	23.3
Elastomeric respirators	101	3.8
Surgical masks/medical masks	1641	62.2
Do not know	140	5.3

Survey #6, Q17 : Does your employer provide respiratory protection (e.g., N95 respirator, PAPR, or elastomeric respirator) for EVERY encounter with a Covid-positive patient? Note that surgical masks are NOT respirators.			
	Frequency	Percent	Valid Percent
I wear a respirator for every encounter with a Covid-positive patient.	1234	46.8	60.8
I wear a respirator only during aerosol-generating procedures on a Covid-positive patient and a surgical mask during routine patient care.	296	11.2	14.6
I wear a respirator only during aerosol-generating procedures on a Covid-positive patient and no mask during routine patient care.	26	1.0	1.3
I wear a surgical mask during patient care of Covid-positive patients.	111	4.2	5.5
I do not wear a respirator or surgical mask during routine patient care of Covid-positive patients.	10	0.4	0.5
Do not know	126	4.8	6.2
Other (please specify)	227	8.6	11.2
Missing	607	23.0	--
Total	2637	100.0	100.0

Survey #6, Q18 : Does your employer expect you to reuse single-use PPE? Select all that apply.		
	Frequency	Percent
Yes, I have to reuse single-use N95 respirators.	1187	45.0
Yes, I have to reuse single-use surgical masks.	732	27.8
Yes, I have to reuse disposable isolation gowns.	135	5.1
Yes, I have to reuse disposable coveralls.	40	1.5
Yes, I have to reuse single-use face shields.	763	28.9
Yes, I have to reuse single-use PAPR parts such as hoods or capes.	364	13.8
Yes, I have to reuse other single-use PPE. (please specify)	158	6.0
No, I do not reuse any single-use PPE	567	21.5
I do not know	58	2.2

Survey #6, Q18a: Valid responses of those responding to Q18		
	Frequency	Valid Percent
Respondent selected "Yes, I have to reuse" to at least one type of single-use PPE	1438	70.8
Only selected "I do not know"	541	26.7
"Only selected "No, I do not reuse any single-use PPE"	51	2.5
Total Valid Responses	2030	100.0

Survey #6, Q19 : Has your employer implemented any of these measures recently?		
	Frequency	Percent
Limiting the use of N95 respirators	523	19.8
Limiting the use of other PPE	376	14.3
Mandating employees to get vaccinated for seasonal influenza	558	21.2
Mandating employees to get vaccinated for Covid-19	136	5.2
Do not know	239	9.1

Survey #6, Q20 : Have you had to float to/been reassigned to a clinical care area post-Covid-19 pandemic surge where you are expected to care for patients that require new skills or competencies?			
	Frequency	Percent	Valid Percent
Yes	469	17.8	26.2
No	1323	50.2	73.8
Missing	845	32.0	--
Total	2637	100.0	100.0

Survey #6, Q21 : Has your facility introduced new models of nursing, e.g., team nursing, during the pandemic surge and continued to use those models of nursing post the surge?			
	Frequency	Percent	Valid Percent
Yes	264	10.0	13.5
No	1163	44.1	59.5
Not sure	429	16.3	22.0
Other (please specify)	98	3.7	5.0
Missing	683	25.9	--
Total	2637	100.0	100.0

Survey #6, Q22 : Is your facility using excessive overtime to staff units?			
	Frequency	Percent	Valid Percent
Yes	964	36.6	49.3
No	457	17.3	23.4
Not sure	435	16.5	22.3
Other (please specify)	98	3.7	5.0
Missing	683	25.9	--
Total	2637	100.0	100.0

Survey #6, Q23 : Have you experienced an increase in workplace violence incidents recently?			
	Frequency	Percent	Valid Percent
Significant increase	327	12.4	16.7
Small increase	479	18.2	24.5
No increase	682	25.9	34.9
Small decrease	9	0.3	0.5
Significant decrease	4	0.2	0.2
Do not know	453	17.2	23.2
Missing	683	25.9	--
Total	2637	100.0	100.0

Survey #6, Q24a : Have you experienced any of the following symptoms after recovery from Covid-19? Select all that apply.		
	Frequency	Percent
Tiredness or fatigue	363	13.8
Joint or muscle pain	226	8.6
Headaches or migraines	204	7.7
Chest pain	61	2.3
Heart palpitations	103	3.9
Memory or concentration difficulties	214	8.1
Difficulty breathing or shortness of breath	144	5.5
Symptoms that get worse after physical or mental activities	127	4.8
Other (please specify)	123	4.7

Survey #6, Q24b : Approximately, how long have your post-Covid symptoms lasted?			
	Frequency	Percent	Valid Percent
0-3 months after recovery	116	4.4	24.2
3-6 months after recovery	72	2.7	15.0
6-9 months after recovery	90	3.4	18.8
9-12 months after recovery	55	2.1	11.5
More than 12 months after recovery	59	2.2	12.3
Not sure	48	1.8	10.0
Other (please specify)	40	1.5	8.3
Missing	2157	81.8	--
Total	2637	100.0	100.0

Survey #6, Q24c: Approximately, how long have your post-Covid symptoms lasted?			
	Frequency	Percent	Valid Percent
I took less than one month off work.	224	8.5	46.7
I took 1-2 months off work.	53	2.0	11.0
I took 3-4 months off work.	10	0.4	2.1
I took 5-6 months off work.	3	0.1	0.6
I took more than 6 months off work.	1	0.0	0.2
I am not yet back to work.	6	0.2	1.3
Not sure	36	1.4	7.5
Other (please specify)	147	5.6	30.6
Missing	2157	81.8	--
Total	2637	100.0	100.0

Survey #6, Q24d : Have you requested reasonable workplace accommodations while experiencing post-Covid symptoms, such as remote work, flexible hours, or part-time work?			
	Frequency	Percent	Valid Percent
Yes, and my request was granted.	18	0.7	7.2
Yes, but my request was denied.	11	0.4	4.4
No, I have not made such a request.	190	7.2	76.3
Not sure	2	0.1	0.8
Other (please specify)	28	1.1	11.2
Missing	2388	90.6	--
Total	2637	100.0	100.0

Q25a : Have you experienced any of the following Survey #6, impacts of the Covid-19 pandemic? "I am afraid that I will catch Covid-19."			
	Frequency	Percent	Valid Percent
Yes	1104	41.9	58.3
No	728	27.6	38.4
Do not know	63	2.4	3.3
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25b : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will infect a family member with Covid-19."			
	Frequency	Percent	Valid Percent
Yes	1335	50.6	70.4
No	529	20.1	27.9
Do not know	31	1.2	1.6
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25d : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel stressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1411	53.5	74.5
No	453	17.2	23.9
Do not know	31	1.2	1.6
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25c : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am having more difficulty sleeping than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	926	35.1	48.9
No	904	34.3	47.7
Do not know	65	2.5	3.4
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25e : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel anxious more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1330	50.4	70.2
No	532	20.2	28.1
Do not know	33	1.3	1.7
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25f : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel sad or depressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1101	41.8	58.1
No	730	27.7	38.5
Do not know	64	2.4	3.4
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25h : Have you experienced any of the following impacts of the Covid-19 pandemic? "I have sought treatment for a mental health condition related to caring for patients during the pandemic."			
	Frequency	Percent	Valid Percent
Yes	324	12.3	17.1
No	1545	58.6	81.5
Do not know	26	1.0	1.4
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25g : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel traumatized by my experiences caring for patients during the pandemic."			
	Frequency	Percent	Valid Percent
Yes	891	33.8	891
No	904	34.3	904
Do not know	100	3.8	100
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25i : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am seeking or have gotten a different job."			
	Frequency	Percent	Valid Percent
Yes	564	21.4	29.8
No	1273	48.3	67.2
Do not know	58	2.2	3.1
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25j : Have you experienced any of the following impacts of the Covid-19 pandemic? "I have thought about leaving nursing."			
	Frequency	Percent	Valid Percent
Yes	952	36.1	50.2
No	899	34.1	47.4
Do not know	44	1.7	2.3
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q31 : Do you think your employer is providing you a safe workplace?			
	Frequency	Percent	Valid Percent
Yes	765	29.0	40.4
No	886	33.6	46.8
Do not know	244	9.3	12.9
Missing	742	28.1	--
Total	2637	100.0	100.0

Survey #6, Q25k : Have you experienced any of the following impacts of the Covid-19 pandemic? "I know coworker(s) who have left nursing."			
	Frequency	Percent	Valid Percent
Yes	1228	46.6	64.8
No	558	21.2	29.4
Do not know	109	4.1	5.8
Missing	742	28.1	--
Total	2637	100.0	100.0

Appendix G

NNU REGISTERED NURSE SURVEY #7

FEBRUARY 3, 2022, TO MARCH 20, 2022

Summary Data:

**Responses of
Registered Nurses and Advanced Practice Registered Nurses
Currently Working in Hospital Settings**

Survey #7, Q1 : Have you ever been tested for Covid-19?			
	Frequency	Percent	Valid Percent
Yes	2222	86.3	86.6
No	345	13.4	13.4
Missing	8	0.3	--
Total	2575	100.0	100.0

Survey #7, Q2 : Access to testing at my facility has _____ since the beginning of the pandemic. (Select One)			
	Frequency	Percent	Valid Percent
Improved	997	38.7	39.1
Stayed the same	685	26.6	26.9
Declined	451	17.5	17.7
Not sure	327	12.7	12.8
Other (please specify)	89	3.5	3.5
Missing	26	1.0	--
Total	2575	100.0	100.0

Survey #7, Q3 : Access to testing at my facility has _____ in the past month. (Select One)			
	Frequency	Percent	Valid Percent
Improved	381	14.8	15.0
Stayed the same	1254	48.7	49.3
Declined	468	18.2	18.4
Not sure	390	15.1	15.3
Other (please specify)	53	2.1	2.1
Missing	29	1.1	--
Total	2575	100.0	100.0

Survey #7, Q4 : Does your employer inform nurses of exposures to Covid-19 in a timely fashion?			
	Frequency	Percent	Valid Percent
All nurses are informed of exposures in a timely fashion.	618	24.0	24.1
Nurses are informed of exposures, but not in a timely fashion.	742	28.8	29.0
Only unvaccinated nurses are informed of exposures.	11	0.4	0.4
Only vaccinated nurses are informed of exposures.	1	0.0	0.0
Nurses are not informed of exposures.	662	25.7	25.8
Do not know	277	10.8	10.8
Other (please specify)	251	9.7	9.8
Missing	13	0.5	--
Total	2575	100.0	100.0

Survey #7, Q5a : At your facility, are <u>patients</u> screened for Covid signs and symptoms?			
	Frequency	Percent	Valid Percent
Always	1974	76.7	78.4
Sometimes	434	16.9	17.2
Rarely	34	1.3	1.4
Never	22	0.9	0.9
Don't know	53	2.1	2.1
Missing	58	2.3	--
Total	2575	100.0	100.0

Survey #7, Q5b : At your facility, are <u>visitors</u> screened for Covid signs and symptoms?			
	Frequency	Percent	Valid Percent
Always	1123	43.6	48.6
Sometimes	498	19.3	21.5
Rarely	135	5.2	5.8
Never	303	11.8	13.1
Don't know	253	9.8	10.9
Missing	263	10.2	--
Total	2575	100.0	100.0

Survey #7, Q6a : At your facility, are <u>patients</u> tested for Covid?			
	Frequency	Percent	Valid Percent
Always	1296	50.3	51.8
Sometimes	1059	41.1	42.3
Rarely	60	2.3	2.4
Never	23	0.9	0.9
Don't know	65	2.5	2.6
Missing	72	2.8	--
Total	2575	100.0	100.0

Survey #7, Q6b: At your facility, are <u>visitors</u> tested for Covid?			
	Frequency	Percent	Valid Percent
Always	147	5.7	6.5
Sometimes	310	12.0	13.6
Rarely	187	7.3	8.2
Never	1242	48.2	54.5
Don't know	393	15.3	17.2
Missing	296	11.5	--
Total	2575	100.0	100.0

Survey #7, Q7a : At your facility, are <u>patients</u> screened for recent exposure history to known Covid case?			
	Frequency	Percent	Valid Percent
Always	1416	55.0	56.8
Sometimes	573	22.3	23.0
Rarely	133	5.2	5.3
Never	90	3.5	3.6
Don't know	280	10.9	11.2
Missing	83	3.2	--
Total	2575	100.0	100.0

Survey #7, Q7b : At your facility, are <u>visitors</u> screened for recent exposure history to known Covid case?			
	Frequency	Percent	Valid Percent
Always	538	20.9	23.8
Sometimes	353	13.7	15.6
Rarely	192	7.5	8.5
Never	563	21.9	24.9
Don't know	614	23.8	27.2
Missing	315	12.2	--
Total	2575	100.0	100.0

Survey #7, Q8 : My employer's Covid-19 screening protocols have _____ since the beginning of the pandemic.			
	Frequency	Percent	Valid Percent
Improved	762	29.6	30.1
Stayed the same	811	31.5	32.0
Declined	697	27.1	27.5
Not sure	207	8.0	8.2
Other (please specify)	58	2.3	2.3
Missing	40	1.6	--
Total	2575	100.0	100.0

Survey #7, Q9 : My employer's Covid-19 screening protocols have _____ in the past month.			
	Frequency	Percent	Valid Percent
Improved	229	8.9	9.1
Stayed the same	1468	57.0	58.1
Declined	601	23.3	23.8
Not sure	212	8.2	8.4
Other (please specify)	16	0.6	0.6
Missing	49	1.9	--
Total	2575	100.0	100.0

Survey #7, Q10 : Does your facility have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes	1347	52.3	52.5
No	1087	42.2	42.4
Do not know	131	5.1	5.1
Missing	10	0.4	--
Total	2575	100.0	100.0

Survey #7, Q11 : Did your facility ever have a dedicated Covid-19 unit or area?			
	Frequency	Percent	Valid Percent
Yes, but they closed it.	566	22.0	51.5
No, they never had a dedicated Covid-19 unit.	464	18.0	42.3
Do not know	68	2.6	6.2
Missing	1477	57.4	--
Total	2575	100.0	100.0

Survey #7, Q12a : Do you have access to personal protective equipment (PPE) for airborne precautions on your unit?			
Gloves			
	Frequency	Percent	Valid Percent
I have access to sufficient PPE supply on my unit.	2160	83.9	84.1
I have access on my unit, but supply is not always sufficient.	356	13.8	13.9
I have to go somewhere else in the facility to get more PPE.	45	1.7	1.8
I don't have any access to PPE.	3	0.1	0.1
Not sure.	3	0.1	0.1
Missing	8	0.3	--
Total	2575	100.0	100.0

Survey #7, Q12b : Do you have access to personal protective equipment (PPE) for airborne precautions on your unit? Gowns			
	Frequency	Percent	Valid Percent
I have access to sufficient PPE supply on my unit.	1829	71.0	71.8
I have access on my unit, but supply is not always sufficient.	598	23.2	23.5
I have to go somewhere else in the facility to get more PPE.	91	3.5	3.6
I don't have any access to PPE.	16	0.6	0.6
Not sure.	12	0.5	0.5
Missing	29	1.1	--
Total	2575	100.0	100.0

Survey #7, Q12c : Do you have access to personal protective equipment (PPE) for airborne precautions on your unit? Coveralls			
	Frequency	Percent	Valid Percent
I have access to sufficient PPE supply on my unit.	817	31.7	32.7
I have access on my unit, but supply is not always sufficient.	262	10.2	10.5
I have to go somewhere else in the facility to get more PPE.	194	7.5	7.8
I don't have any access to PPE.	625	24.3	25.1
Not sure.	597	23.2	23.9
Missing	80	3.1	--
Total	2575	100.0	100.0

Survey #7, Q12d : Do you have access to personal protective equipment (PPE) for airborne precautions on your unit? N95 respirator or other kind of respirator (e.g., powered air purifying respirator) Note: surgical masks are NOT respirators			
	Frequency	Percent	Valid Percent
I have access to sufficient PPE supply on my unit.	1602	62.2	62.7
I have access on my unit, but supply is not always sufficient.	678	26.3	26.5
I have to go somewhere else in the facility to get more PPE.	173	6.7	6.8
I don't have any access to PPE.	64	2.5	2.5
Not sure.	38	1.5	1.5
Missing	20	0.8	--
Total	2575	100.0	100.0

Survey #7, Q12e : Do you have access to personal protective equipment (PPE) for airborne precautions on your unit? Goggles			
	Frequency	Percent	Valid Percent
I have access to sufficient PPE supply on my unit.	1444	56.1	57.5
I have access on my unit, but supply is not always sufficient.	638	24.8	25.4
I have to go somewhere else in the facility to get more PPE.	176	6.8	7.0
I don't have any access to PPE.	171	6.6	6.8
Not sure.	82	3.2	3.3
Missing	64	2.5	--
Total	2575	100.0	100.0

Survey #7, Q13 : Access to PPE on my unit has ____ since the beginning of the pandemic.			
	Frequency	Percent	Valid Percent
Improved	1571	61.0	61.9
Stayed the same	686	26.6	27.0
Declined	177	6.9	7.0
Not sure	80	3.1	3.2
Other (please specify)	24	0.9	0.9
Missing	37	1.4	--
Total	2575	100.0	100.0

Survey #7, Q14 : Access to PPE on my unit has ____ in the past month.			
	Frequency	Percent	Valid Percent
Improved	418	16.2	16.5
Stayed the same	1784	69.3	70.5
Declined	255	9.9	10.1
Not sure	62	2.4	2.5
Other (please specify)	11	0.4	0.4
Missing	45	1.7	--
Total	2575	100.0	100.0

Survey #7, Q 15 : Does your employer provide respiratory protection (e.g., N95 respirator, PAPR, or elastomeric respirator) for EVERY encounter with a Covid-positive patient? Note that surgical masks are NOT respirators.			
	Frequency	Percent	Valid Percent
I wear a respirator for every encounter with a Covid-positive patient.	1830	71.1	71.8
I wear a respirator only during aerosol-generating procedures on a Covid-positive patient and a surgical mask during routine patient care.	295	11.5	11.6
I wear a respirator only during aerosol-generating procedures on a Covid-positive patient and no mask during routine patient care.	27	1.0	1.1
I wear a surgical mask during patient care of Covid-positive patients.	123	4.8	4.8
I do not wear a respirator or surgical mask during routine patient care of Covid-positive patients.	16	0.6	0.6
Do not know	45	1.7	1.8
Other (please specify)	214	8.3	8.4
Missing	25	1.0	--
Total	2575	100.0	100.0

Survey #7, Q16 : Does your facility use the same Covid-19 PPE and isolation protocols for patients who could have Covid-19 but who have not yet been tested or whose test results are not yet processed for Covid-positive patients?			
	Frequency	Percent	Valid Percent
Always	1091	42.4	42.7
Sometimes	831	32.3	32.5
Rarely	225	8.7	8.8
Never	132	5.1	5.2
Not sure	212	8.2	8.3
Other (please specify)	64	2.5	2.5
Missing	20	0.8	--
Total	2575	100.0	100.0

Survey #7, Q17 : Does your employer expect you to reuse single-use PPE? Select all that apply.		
	Frequency	Percent
Yes, I have to reuse single-use N95 respirators.	1250	48.5
Yes, I have to reuse single-use surgical masks.	640	24.9
Yes, I have to reuse disposable isolation gowns	98	3.8
Yes, I have to reuse disposable coveralls.	37	1.4
Yes, I have to reuse single-use face shields.	748	29.0
Yes, I have to reuse single-use powered air-purifying respirator (PAPR) parts such as hoods or capes.	388	15.1
No, I do not reuse any single-use PPE	956	37.1
I do not know	61	2.4
Yes, I have to reuse other single-use PPE.	134	5.2
Total	2575	100.0

Survey #7, Q17a: Valid responses of those responding to Q17		
	Frequency	Valid Percent
Respondent selected "Yes, I have to reuse" to at least one type of single-use PPE	1587	62.0
Only selected "I do not know"	54	2.1
"Only selected "No, I do not reuse any single-use PPE"	920	35.9
Total Valid Responses	2561	100.0

Survey #7, Q18 : Does your employer have an overflow plan to place additional, trained staff to enable safe care provision to patients on isolation for possible novel coronavirus?			
	Frequency	Percent	Valid Percent
Yes	623	24.2	24.3
No	990	38.4	38.6
Don't know	950	36.9	37.1
Missing	12	.5	--
Total	2575	100.0	100.0

Survey #7, Q19 : Does your employer have sufficient PPE stock on hand to protect staff from a rapid surge in patients with possible coronavirus infections?			
	Frequency	Percent	Valid Percent
Yes	827	32.1	32.3
No	331	12.9	12.9
Don't know	1405	54.6	54.8
Missing	12	.5	--
Total	2575	100.0	100.0

Survey #7, Q20 : My employer's preparedness for a Covid-19 surge has _____ since the beginning of the pandemic.			
	Frequency	Percent	Valid Percent
Improved	1198	46.5	47.2
Stayed the same	714	27.7	28.1
Declined	380	14.8	15.0
Not sure	221	8.6	8.7
Other (please specify)	25	1.0	1.0
Missing	37	1.4	--
Total	2575	100.0	100.0

Survey #7, Q21 : My employer's preparedness for a Covid-19 surge has _____ in the past month.			
	Frequency	Percent	Valid Percent
Improved	327	12.7	13.0
Stayed the same	1503	58.4	59.8
Declined	425	16.5	16.9
Not sure	251	9.7	10.0
Other (please specify)	8	0.3	0.3
Missing	61	2.4	--
Total	2575	100.0	100.0

Survey #7, Q22 : Have you had to float to/been reassigned to a clinical care area where you are expected to care for patients that require new skills or competencies?			
	Frequency	Percent	Valid Percent
Yes	681	26.4	26.5
No	1602	62.2	62.3
Not applicable	287	11.1	11.2
Missing	5	0.2	--
Total	2575	100.0	100.0

Survey #7, Q23 : Has your facility introduced new models of nursing, e.g., team nursing, or other "crisis staffing standards" in the past month?			
	Frequency	Percent	Valid Percent
Yes	337	13.1	17.9
No	1100	42.7	58.4
Not sure	352	13.7	18.7
Other (please specify)	95	3.7	5.0
Missing	691	26.8	--
Total	2575	100.0	100.0

Survey #7, Q24 : Is your facility using excessive overtime to staff units?			
	Frequency	Percent	Valid Percent
Yes	1218	47.3	64.5
No	258	10.0	13.7
Not sure	319	12.4	16.9
Other (please specify)	92	3.6	4.9
Missing	688	26.7	--
Total	2575	100.0	100.0

Survey #7, Q25 : Have you experienced an increase in workplace violence incidents recently?			
	Frequency	Percent	Valid Percent
Significant increase	481	18.7	18.7
Small increase	751	29.2	29.2
No increase	852	33.1	33.2
Small decrease	10	0.4	0.4
Significant decrease	5	0.2	0.2
Do not know	469	18.2	18.3
Missing	7	0.3	--
Total	2575	100.0	100.0

Survey #7, Q26a : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will catch Covid-19."			
	Frequency	Percent	Valid Percent
Yes	1719	66.8	67.2
No	797	31.0	31.1
Do not know	43	1.7	1.7
Missing	16	0.6	--
Total	2575	100.0	100.0

Survey #7, Q26c : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am having more difficulty sleeping than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1504	58.4	58.8
No	994	38.6	38.8
Do not know	61	2.4	2.4
Missing	16	0.6	--
Total	2575	100.0	100.0

Survey #7, Q26b : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am afraid that I will infect a family member with Covid-19."			
	Frequency	Percent	Valid Percent
Yes	1921	74.6	75.1
No	611	23.7	23.9
Do not know	26	1.0	1.0
Missing	17	0.7	--
Total	2575	100.0	100.0

Survey #7, Q26d : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel stressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	2149	83.5	83.9
No	392	15.2	15.3
Do not know	20	0.8	0.8
Missing	14	0.5	--
Total	2575	100.0	100.0

Survey #7, Q26e : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel anxious more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1987	77.2	77.7
No	544	21.1	21.3
Do not know	25	1.0	1.0
Missing	19	0.7	--
Total	2575	100.0	100.0

Survey #7, Q26g : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel traumatized by my experiences caring for patients during the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1443	56.0	56.4
No	985	38.3	38.5
Do not know	132	5.1	5.2
Missing	15	0.6	--
Total	2575	100.0	100.0

Survey #7, Q26f : Have you experienced any of the following impacts of the Covid-19 pandemic? "I feel sad or depressed more often than I did before the pandemic."			
	Frequency	Percent	Valid Percent
Yes	1770	68.7	69.1
No	730	28.3	28.5
Do not know	61	2.4	2.4
Missing	14	0.5	--
Total	2575	100.0	100.0

Survey #7, Q26h : Have you experienced any of the following impacts of the Covid-19 pandemic? "I have sought treatment for a mental health condition related to caring for patients during the pandemic."			
	Frequency	Percent	Valid Percent
Yes	592	23.0	23.2
No	1943	75.5	76.0
Do not know	21	0.8	0.8
Missing	19	0.7	--
Total	2575	100.0	100.0

Survey #7, Q26i : Have you experienced any of the following impacts of the Covid-19 pandemic? "I am seeking or have gotten a different job."			
	Frequency	Percent	Valid Percent
Yes	981	38.1	38.4
No	1478	57.4	57.8
Do not know	97	3.8	3.8
Missing	19	0.7	--
Total	2575	100.0	100.0

Survey #7, Q26k : Have you experienced any of the following impacts of the Covid-19 pandemic? "I know coworker(s) who have left nursing."			
	Frequency	Percent	Valid Percent
Yes	2092	81.2	81.8
No	388	15.1	15.2
Do not know	78	3.0	3.0
Missing	17	0.7	--
Total	2575	100.0	100.0

Survey #7, Q26j : Have you experienced any of the following impacts of the Covid-19 pandemic? "I have thought about leaving nursing."			
	Frequency	Percent	Valid Percent
Yes	1627	63.2	63.7
No	873	33.9	34.2
Do not know	56	2.2	2.2
Missing	19	0.7	--
Total	2575	100.0	100.0

Survey #7, Q27 : Do you think your employer is providing you a safe workplace?			
	Frequency	Percent	Valid Percent
Yes	910	35.3	35.6
No	1340	52.0	52.4
Do not know	306	11.9	12.0
Missing	19	0.7	--
Total	2575	100.0	100.0