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Dr. Tedros Adhanom Ghebreyesus, Director-General
World Health Organization
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Dear Dr. Tedros:

More than eight months into the Covid-19 pandemic, nurses and other health care workers are still being exposed, infected, and dying. In September, the World Health Organization (WHO) reported that 14% of Covid-19 cases worldwide are health care workers, and in some countries, it is as high as 35%.¹ Thousands of health care workers have died from Covid-19 around the world.² Global Nurses United (GNU), an international federation that unites nurse and health care worker unions in 29 nations around the world, urgently demands that WHO immediately strengthen its Covid-19 guidance to protect nurses and other health care workers, and the public.

Nurses and other health care workers in many countries *still* do not have the personal protective equipment (PPE) and basic safety precautions that they need to care for their patients safely. Since January, WHO has neglected the precautionary principle—the idea that we should not wait for proof of harm before taking action to protect health—and has refused to recognize the amassing scientific evidence that SARS-CoV-2 is spread through airborne/aerosol transmission. WHO’s weak guidance has left nurses, health care workers, and patients unprotected, exposed, and infected.

WHO was formed to promote the health of all people but has failed to do everything in its power to uphold that mission during this pandemic.³ In particular, WHO has failed to meet its moral and ethical obligation, as stated in WHO’s values charter, to be “guided by the best available science, evidence and technical expertise.”⁴

WHO, to uphold its mission, must immediately strengthen its guidance on personal protective equipment and other workplace safety measures for health care workers.

¹ World Health Organization, “Keep health workers safe to keep patients safe: WHO,” Sept 17, 2020, <https://www.who.int/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who>.

² Amnesty International, “Global: Amnesty analysis reveals over 7,000 health workers have died from COVID-19,” Sept 3, 2020, <https://www.amnesty.org/en/latest/news/2020/09/amnesty-analysis-7000-health-workers-have-died-from-covid19/>.

³ World Health Organization, “About WHO,” <https://www.who.int/about> (Accessed Oct 20, 2020).

⁴ World Health Organization, “WHO values charter,” https://www.who.int/docs/default-source/documents/values-charter-en.pdf?Status=Temp&sfvrsn=4ed75cec_12 (Accessed Oct 20, 2020).

WHO Must Fully Recognize Updated Scientific Evidence on SARS-CoV-2 Transmission

WHO's infection control guidance for health care settings has been and continues to be based on an outdated model of infectious disease transmission. In the July 9 update to WHO's scientific brief on SARS-CoV-2 transmission, WHO retrenches in the outdated categorical distinction between droplet (large respiratory particles greater than 5 microns in diameter) and airborne/aerosol (small respiratory particles five microns or less in diameter) transmission.⁵ This paradigm was first established in the 1930's and has not been substantially updated since.⁶

Recent research confirms that when a person breathes, talks, coughs, or sneezes, they produce a multiphase turbulent gas cloud (or plume) of warm air containing respiratory droplets ranging in size from less than five microns to greater than five microns in diameter.⁷ This plume and its aerosols can be transported by ambient air up to 26 feet. Recent studies have detected viable, infectious SARS-CoV-2 in aerosols less than five microns in diameter, collected beyond six feet to as much as 16 feet away from patients hospitalized with Covid-19.⁸ Studies of various Covid-19 outbreaks have also ruled out droplet transmission, providing further evidence for airborne/aerosol transmission.⁹

GNU calls upon WHO to immediately and fully recognize that airborne/aerosol transmission is a significant mode of transmission for SARS-CoV-2 and to update other guidance accordingly, including guidance on health care infection control and PPE. It is well established in the scientific literature that SARS-CoV-2 is spread via respiratory aerosols and that respiratory protection is a necessary element of PPE for nurses and other health care workers providing care to confirmed and possible Covid-19 patients.¹⁰

⁵ World Health Organization, "Scientific brief: Transmission of SARS-CoV-2: implications for infection prevention precautions," July 9, 2020, <https://www.who.int/publications/i/item/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>.

⁶ For more information see: National Nurses United, "Droplet vs. Airborne: How is SARS-CoV-2 transmitted?" https://act.nationalnursesunited.org/page/-/files/graphics/0720_COVID19_aerosolTransmission.pdf

⁷ Bourouiba, L., *Turbulent Gas Clouds and Respiratory Pathogen Emissions: Potential Implications for Reducing Transmission of COVID-19*. JAMA, 2020. **323**(18): p. 1837-1838.

⁸ Lednicky, J.A., et al., Viable SARS-CoV-2 in the air of a hospital room with COVID-19 patients. medRxiv, 2020: p. 2020.08.03.20167395.

Santarpia, J.L., et al., The Infectious Nature of Patient-Generated SARS-CoV-2 Aerosol. medRxiv, 2020: p. 2020.07.13.20041632.

⁹ Guenther, T., et al., *Investigation of a superspreading event preceding the largest meat processing plant-related SARS-Coronavirus 2 outbreak in Germany*. SSRN, 2020.

Lu J, G.J., Li K, et al., COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China. *Emerging Infectious Diseases*, 2020. 26(7).

Miller, S.L., et al., Transmission of SARS-CoV-2 by inhalation of respiratory aerosol in the Skagit Valley Chorale superspreading event. *Indoor Air*, Sept 26, 2020.

¹⁰ Bahl, P., et al., "Airborne or Droplet Precautions for Health Workers Treating Coronavirus Disease 2019?," *The Journal of Infectious Diseases*, April 16, 2020.

Lednicky, J.A., et al., "Viable SARS-CoV-2 in the air of a hospital room with COVID-19 patients," *International Journal of Infectious Diseases*, Nov 1, 2020, 100: 476-82.

Personal Protective Equipment and Other Workplace Safety Measures

In January, nearly two months prior to WHO's official declaration of a pandemic, GNU member unions called upon WHO to strengthen guidance on infection prevention and control, including that airborne precautions be implemented when health care workers care for suspected or confirmed Covid-19 patients.¹¹ Implementation of such precautions would have saved an untold number of lives.

Instead, WHO's guidance on PPE and infection control ignored the precautionary principle, remains unprotective, and continues to endanger nurses, health care workers, and their patients. GNU urges WHO to address the following issues:

- Strengthen recommendations on PPE for health care workers caring for Covid-19 patients in all guidance. The optimal PPE for Covid-19 includes a NIOSH-certified (or equivalent) powered air-purifying respirator (PAPR), coveralls that incorporate head and shoe coverings and meet standards for viral impermeability, and medical grade gloves. The absolute minimum level of PPE for Covid-19 includes a single-use, NIOSH-certified (or equivalent) N95 filtering facepiece respirator ("N95 respirator"), eye protection (face shield or goggles), a fluid-impermeable or resistant isolation gown, and medical grade gloves. As stated above, it is well established in the scientific literature that SARS-CoV-2 is spread via respiratory aerosols and that respiratory protection is a necessary element of PPE for nurses and other health care workers providing care to or interacting with confirmed and possible Covid-19 patients.¹² Extensive environmental contamination has been documented in health care environments where Covid-19 patients are cared for, including on uncovered hair, skin, and shoes of health care workers.¹³ This is a novel virus but there are clear indications that it can survive in the environment for long periods of time under certain conditions.¹⁴ Optimal PPE includes full coverage of skin, hair, and clothing, and WHO must update their guidance accordingly.

¹¹ Global Nurses United members, "To Dr. Tedros Adhanom Ghebreyesus," January 30, 2020, <https://act.nationalnursesunited.org/page/-/files/graphics/LetterWHO1-30-20FINAL2.pdf>.

¹² See note 10.

¹³ Feldman, O., et al., Exposure to a Surrogate Measure of Contamination From Simulated Patients by Emergency Department Personnel Wearing Personal Protective Equipment. *JAMA*, 2020. 323(20): p. 2091-2093.

Guo Z, W.Z., Zhang S, et al., Aerosol and Surface Distribution of Severe Acute Respiratory Syndrome Coronavirus 2 in Hospital Wards, Wuhan, China. *Emerging Infectious Diseases*, 2020. 26(7).

¹⁴ Chin, A.W.H., et al, Stability of SARS-CoV-2 in different environmental conditions. *The Lancet Microbe*, 2020. 1(1).

Kasloff, S.B., et al., Stability of SARS-CoV-2 on Critical Personal Protective Equipment. *medRxiv*, 2020: p. 2020.06.11.20128884.

Santarpia, J.L., et al., Aerosol and surface contamination of SARS-CoV-2 observed in quarantine and isolation care. *Scientific Reports*, 2020. 10(1): p. 12732.

van Doremalen, N., et al., Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. *New England Journal of Medicine*, 2020. 382(16): p. 1564-1567.

- Strike all recommendations that state that health care workers do not need to wear PPE if they stay at least one meter (three feet) from Covid-19 patients. As previously stated, it is well established that SARS-CoV-2 is transmitted by respiratory aerosols and that those aerosols can travel more than one meter (three feet).¹⁵
- Strike all recommendations that health care employers should consider limiting PPE use “only if in direct close contact with the patient or when touching the environment.”¹⁶ This recommendation does not reflect the reality of providing health care; nurses and health care workers must be prepared to respond to the patient’s needs every time they enter a patient’s room. It is unconscionable to enter the room of a patient on infectious disease precautions without full PPE on. This recommendation from WHO could result in dangerous delays in care if a patient needs emergent care and nurses and health care workers must leave the room to don PPE before providing that care. Further, we reassert that this virus is spread through airborne/aerosol transmission and thus PPE is important whenever entering a patient’s room.
- Strike all recommendations that employers reserve N95 and other respirators for aerosol generating procedures only. Patients infected with SARS-CoV-2 emit extremely high viral loads when breathing, speaking, coughing, and sneezing.¹⁷ Respiratory protection is necessary to protect nurses and other health care workers whenever they are providing care to a patient with confirmed or suspected Covid-19.
- Strike any recommendation that health care facilities “decontaminate” and reuse N95 respirators and other single-use PPE.¹⁸ Decontamination of N95 respirators and other single-use PPE is an unproven and potentially dangerous practice. Global Nurses United affiliate, National Nurses United, evaluated the available scientific literature on decontamination methods and found that no method has been fully evaluated as safe and effective.¹⁹ In fact, several methods appear to damage N95 respirators and/or present a chemical hazard to wearers of the “decontaminated” N95 respirators.

¹⁵ See notes 7 and 8 and Morawska, L. and D.K. Milton, It Is Time to Address Airborne Transmission of Coronavirus Disease 2019 (COVID-19). *Clinical Infectious Diseases*, 2020. Prather, K.A., C.C. Wang, and R.T. Schooley, Reducing transmission of SARS-CoV-2. *Science*, 2020. 368(6498): p. 1422-1424.

¹⁶ World Health Organization, “Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages,” April 6, 2020, [https://www.who.int/publications/i/item/rational-use-of-personal-protective-equipment-for-coronavirus-disease-\(covid-19\)-and-considerations-during-severe-shortages](https://www.who.int/publications/i/item/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages).

¹⁷ Wölfel, R., et al., “Virological assessment of hospitalized patients with COVID-2019,” *Nature*, April 1, 2020, <https://www.nature.com/articles/s41586-020-2196-x>.

¹⁸ World Health Organization, “Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages.”

¹⁹ National Nurses United, “N95 Respirator Decontamination Methods Unproven and Unsafe: An Updated Review of the Scientific Literature,” August 2020, https://act.nationalnursesunited.org/page/-/files/graphics/0720_COVID19_Decontamination_WhitePaper.pdf.

- Reusable, more protective respirators—including PAPRs and elastomeric respirators— should be implemented if single-use N95 respirators are not available in sufficient numbers. This is an especially important consideration as the pandemic has no end in sight. WHO should make clear in their guidance that this is the best alternative if N95 respirators are not available in sufficient numbers.

WHO Guidance Recommending Symptom-Based Patient Screening Misses Infections and Puts Nurses, Health Care Workers, and Other Patients at Risk

WHO’s infection prevention and control guidance recommends screening of patients and visitors solely based on symptoms.²⁰ In the scientific brief on SARS-CoV-2 transmission, WHO acknowledges the role that asymptomatic and pre-symptomatic cases play in transmission of this virus but does little to remedy this issue in their guidance.²¹ Several studies have documented the infectivity of both symptomatic and asymptomatic/pre-symptomatic cases and it appears that asymptomatic/pre-symptomatic individuals can transmit the virus as efficiently as those with symptoms.²² The U.S. Centers for Disease Control and Prevention’s “current best estimate” of “transmission occurring prior to symptom onset” is 50% of infections.²³

All patients should be presumed potentially Covid-19 positive until confidently ruled out or confirmed. All patients should be screened for SARS-CoV-2 infection before or immediately upon arrival at a health care facility. Patient screening cannot be limited to symptoms and must include testing using a reliable diagnostic test, clinical manifestations, and exposure history. In addition, WHO’s current recommendations on mask use by patients and visitors are based on the presence of respiratory symptoms, which ignores the risks of transmission from asymptomatic and pre-symptomatic cases. WHO should update their infection control and other applicable guidance to fully and protectively address the risks of transmission from asymptomatic and pre-symptomatic cases.

WHO Guidance Must be Based on the Precautionary Principle and Scientific Evidence

SARS-CoV-2 is a novel virus. While scientific knowledge is growing, there are still many unanswered questions. In these situations, when scientific evidence is incomplete, the precautionary principle must govern decisions about protections. Starting with the highest level of protections saves lives; we can remove layers as we go if scientific evidence so indicates. But if, as the WHO has done with Covid-19, guidance starts with a lower level of protections, nurses, health care workers, patients, and our communities are put at risk.

²⁰ World Health Organization, “Infection prevention and control during health care when coronavirus disease (COVID-19) is suspected or confirmed,” June 29, 2020, <https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC-2020.4>.

²¹ World Health Organization, “Scientific brief: Transmission of SARS-CoV-2: implications for infection prevention precautions.”

²² He X, Eric HY, Wu P, et al. Temporal dynamics in viral shedding and transmissibility of COVID-19. *Nature Medicine*. April 15, 2020. <https://doi.org/10.1038/s41591-020-0869-5>.

Lee, Kim, & Lee, “Clinical Course and Molecular Viral Shedding Among Asymptomatic and Symptomatic Patients With SARS-CoV-2 Infection in a Community Treatment Center in the Republic of Korea,” *JAMA Internal Medicine*, Aug 6, 2020, <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2769235>.

²³ U.S. Centers for Disease Control and Prevention, “COVID-19 Pandemic Planning Scenarios,” Updated September 10, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html>.

Scientific research has confirmed that the highest level of protections are needed for SARS-CoV-2: airborne precautions for health care workers, stringent protections to identify and isolate infectious asymptomatic and pre-symptomatic cases, and more. Continued denial of this growing scientific evidence will only endanger the lives of more nurses, health care workers, and patients. WHO must immediately strengthen their Covid-19 infection prevention and control guidance based on science and the precautionary principle to protect nurses, health care workers, patients, and our communities.

In Conclusion

We, the undersigned affiliated unions of Global Nurses United call upon you to strengthen WHO's Covid-19 guidance to protect the nurses and other health care workers who are at the heart of patient care and essential to the response to Covid-19. We encourage WHO to engage direct care nurses and health care workers and their unions in developing guidance on SARS-CoV-2 and Covid-19. If you have questions regarding this letter or would like to arrange a meeting, please contact Kenneth Zinn, coordinator of Global Nurses United, at +1-202-297-4976 or at kzinn@nationalnursesunited.org. We look forward to your response.

Sincerely,

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Australia

Brett Holmes, General Secretary
New South Wales Nurses and Midwives' Association
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Shirley Marshal Díaz Morales, Presidenta
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Linda Silas, President
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Sindicato Nacional de Trabajadores de Enfermería
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cc: Ms. Elizabeth Iro, Chief Nursing Officer, WHO