HEALTHIER WORKPLACES | A HEALTHIER WORLD

July 19, 2023

Mandy Cohen, MD
Director
Centers for Disease Control and Prevention

Updates to CDC's "2007 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" Must be Based on the Full Body of Scientific Evidence and Protect Healthcare Workers from SARS CoV-2 and Other Infectious Pathogens

Dear Director Cohen:

AIHA, the association for scientists and professionals committed to preserving and ensuring occupational and environmental health and safety (OEHS) is requesting that the CDC intervene to ensure that the Healthcare Infection Control Practices Advisory Committee (HICPAC) base its recommendations for updating the "2007 CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" on the full body of scientific evidence, especially on the topics of aerosol transmission of infectious pathogens and respiratory protection of healthcare personnel.

We support the efforts of HICPAC to update the 2007 CDC Guidelines, however, it is critical that the guidelines reflect the lessons learned from the COVID-19 pandemic and the knowledge gained about the transmission of respiratory pathogens. The most recent HICPAC meeting of June 8-9, 2023 included a presentation of draft recommendations that conflict with CDC's internal and extramural research, scientific briefings[i] [ii] [iii] [iv], and publicly available guidance documents. A commentary supported by 239 scientists was published In November of 2020, "It Is Time to Address Airborne Transmission of Coronavirus Disease 2019 (COVID-19)."[v]

HICPAC's draft recommends categories of "air" and "touch" as the sole modes of transmission for healthcare related infections. This approach underestimates the importance of inhalation of respiratory pathogens and could lead to severe consequences for healthcare workers and vulnerable patients and clients.

A joint consensus statement signed by 15 public health organizations detailed the basic science regarding inhalation of infectious aerosols:[vi]

> "People generate aerosols while breathing, talking, singing, coughing, and sneezing in a wide range of particle sizes (0.1 to > 100 μm). Some of the larger-sized particles will rapidly settle while some will rapidly evaporate to smaller droplet nuclei. Particles less than 10 μm will take minutes and hours to settle, during which time they can be distributed throughout a space by diffusion and air currents."

The amount of time specific respiratory pathogens remain viable in air is variable depending on numerous factors including both patient and pathogen characteristics. However, numerous case studies have documented transmission both near and far from an infectious source.

People are capable of inhaling particles over the entire particle size range of aerosols, with larger particles more likely to deposit in the upper respiratory system and smaller particles having a greater probability of penetrating and depositing in the lower respiratory system, including smaller airways and airspaces (bronchioles and alveoli).

At the June HICPAC meeting, the workgroup presented its findings on modes of transmission; effectiveness of respiratory protection, masks, gowns, gloves, and eye protection; and "Draft Transmission-Based Precautions to Prevent Transmission by Air and Touch". They concluded that for routine air precautions for viruses like seasonal influenza and SARS CoV-2, healthcare personnel should use a surgical mask, rather than OSHA compliant respiratory protection. HICPAC's review of the literature incorrectly determined that surgical masks are just as effective as respirators. Surgical masks have up to 50% inward and outward leakage.[vii] While surgical masks can reduce expiratory aerosols from the wearer to some degree, they do not provide adequate respiratory protection due to their poor filtration and poor facial fit.[viii] The National Institute for Occupational Safety and Health (NIOSH) has addressed the superior protection provided by a properly sized and fit tested respirator as have numerous academic publications. [ix] [x] [xi] [xii] [xiii] Furthermore, respirator use must be accompanied by a written comprehensive respiratory protection program administered by an experienced industrial hygienist, including a provision for adequate training in the use and misuse of the respirator and respirator limitations.

The draft recommendations for protection against pathogens transmitted through the air are grossly deficient and will not protect healthcare workers from aerosol transmission and inhalation of respiratory pathogens. They will put healthcare workers and patients at risk of contracting COVID-19 and other more serious respiratory diseases, particularly those individuals at high risk of developing serious illness due to age and co-morbidities. A novel pathogen, with no vaccine available, will more likely become established throughout a population when healthcare facilities fail to properly prevent the spread from patients to workers and among other patients and workers. Preventing, as feasible, the spread of novel pathogens where the mode of transmission is unknown should require the use of an OSHA compliant fit tested respirator until aerosol transmission can be ruled out. Allowing a novel pathogen to spread throughout the population will increase the likelihood of antigenic mutation and drift, which can result in greater virulence and transmissibility.

Studies regarding aerosol transmission of H1N1, seasonal influenza, SARS and SARS-CoV-2 have revealed the importance of aerosol transmission of respiratory pathogens. HICPAC's proposed recommendations fail to include core control measures for airborne/aerosol pathogens such as ventilation, UV disinfection, and HEPA filtration.

We urgently ask CDC and HICPAC to open the process for the development of these new guidelines to include other experts with critical knowledge on modes of transmission and control measures and other interested parties and to review the full body of scientific evidence available in order to develop updated guidelines that protect healthcare workers and patients from exposure to infectious pathogens.

We are very concerned that the Committee's process will result in flawed and dangerous guidelines for infection control in healthcare settings.

The Federal Advisory Committee Act (FACA) governs the operation of Federal advisory committees and emphasizes public involvement through open meetings and reporting. The HICPAC workgroup developing the revised guidelines is comprised almost exclusively of infectious disease professionals from large healthcare institutions; it does not include experts in aerosol transmission, respiratory protection or ventilation or representatives of healthcare workers. HICPAC should bring in subject matter experts whose practice and research are the focus of HICPAC's update. The process has not been transparent. The HICPAC workgroup's materials, research, and evaluation documents have not been made publicly available.

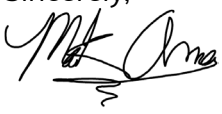
To ensure that future HICPAC recommendations are both effective and science-based, we urge CDC and HICPAC to add members to HICPAC who are experts in occupational exposure reduction, such as industrial hygienists. Furthermore, we recommend adding AIHA to the roster of HICPAC's Liaison Representatives.

As an organization charged with protecting workers and the communities in which they live, AIHA strongly recommends that the CDC immediately act to ensure HICPAC's recommendations are evidenced-based and that HICPAC include key stakeholders including industrial hygienists with expertise in aerosol transmission of infectious pathogens, respiratory protection for healthcare workers, and use of ventilation and other control measures.

Conclusion and Next Steps

If you have any questions about AIHA's feedback, please contact me at mames@aiha.org or (703) 846-0730. Thank you for your time and consideration.

Sincerely,



Mark Ames
Director, Government Relations
AIHA

CC:
Xavier Becerra, Secretary of the Department of Health
Admiral Rachel L. Levin, Assistant Secretary for Health
Senator Bernie Sanders, Committee on Health, Education, Labor, and Pensions (Chairman)
Senator Bill Cassidy, Committee on Health, Education, Labor, and Pensions (Ranking Member)
Representative Cathy McMorris Rodgers, Committee on Energy & Commerce (Chair)
Representative Frank Pallone, Committee on Energy & Commerce (Ranking Member)
Representative Virginia Foxx, Committee on Education & the Workforce (Chairwoman)
Representative Robert C. "Bobby" Scott, Committee on Education & the Workforce (Ranking Member)

Background on AIHA

AIHA is the association for scientists and professionals committed to preserving and ensuring occupational and environmental health and safety in the workplace and community. Founded in 1939, we support our members with our expertise, networks, comprehensive education programs, and other products and services that help them maintain the highest professional and competency standards. More than half of AIHA's nearly 8,500 members are Certified Industrial Hygienists, and many hold other professional designations. AIHA serves as a resource for those employed across the public and private sectors as well as to the communities in which they work. For more information, please visit www.aiha.org.

---

[i] CDC Scientific Brief: SARS-CoV-2 Transmission Updated May 7, 2021 https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html

[ii] Jones, Rachael M., & Brosseau, Lisa M. (2015). Aerosol transmission of infectious disease. Journal of Occupational and Environmental Medicine, 57(5):501-508. https://journals.lww.com/joem/Abstract/2015/05000/Aerosol_Transmission_of_Infectious_Disease.4.aspx

[iii] Chia C. Wang et al. , Airborne transmission of respiratory viruses. Science 373, eabd9149(2021).DOI:10.1126/science.abd9149

[iv] Lindsley WG, Blachere FM, Davis KA, Pearce TA, Fisher MA, Khakoo R, Davis SM, Rogers ME, Thewlis RE, Posada JA, Redrow JB, Celik IB, Chen BT, Beezhold DH. Distribution of airborne influenza virus and respiratory syncytial virus in an urgent care medical clinic. Clin Infect Dis. 2010 Mar 1;50(5):693-8. doi: 10.1086/650457. PMID: 20100093

[v] Morawska, Lidia, & Milton, Donald K. (2020). It is time to address airborne transmission of coronavirus disease 2019 (COVID-19). Clinical Infectious Diseases, 71(9):2311–2313. https://doi.org/10.1093/cid/ciaa939

[vi] AIHA Joint Consensus statement on aerosol transmission of SARS CoV-2 https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/Fact-Sheets/Joint-Consensus-Statement-on-Addressing-the-Aerosol-Transmission-of-SARS-CoV-2-Fact-Sheet.pdf

[vii] COMMENTARY: What can masks do? Part 1: The science behind COVID-19 protection https://www.cidrap.umn.edu/covid-19/commentary-what-can-masks-do-part-1-science-behind-covid-19-protection

[viii] Tara Oberg, and Lisa Brosseau. Surgical mask filter and fit performance. Am J infect Control. May 2008;36(4):276-282.

[ix] Healthcare Respiratory Protection Resources https://www.cdc.gov/niosh/npptl/hospresptoolkit/default.html

[x] COMMENTARY: Wear a respirator, not a cloth or surgical mask, to protect against respiratory viruses https://www.cidrap.umn.edu/covid-19/commentary-wear-respirator-not-cloth-or-surgical-mask-protect-against-respiratory-viruses

[xi] Steven W. Lenhart, Teresa Seitz, Douglas Trout, and Nancy Bollinger. Issues Affecting Respirator Selection for Workers Exposed to Infectious Aerosols: Emphasis on Healthcare Settings. Applied Biosafety.Mar 2004.20-36.http://doi.org/10.1177/153567600400900104}

[xii] NIOSH infographic, Understanding the Difference between Surgical Mask vs. N95 https://www.cdc.gov/niosh/npptl/pdfs/UnderstandDifferenceInfographic-508.pdf

[xiii] Preparedness through Daily Practice: The Myths of Respiratory Protection in Healthcare pdf icon [PDF – 487 KB] NIOSH / CDC https://www.cdc.gov/niosh/docs/wp-solutions/2016-109/pdfs/2016-109.pdf?id=10.26616/NIOSHPUB2016109