



American Medical Women's Association
The Vision and Voice of Women in Medicine since 1915

May 12, 2022

The Honorable Xavier Becerra
Secretary, Department of Health and Human Services
200 Independence Avenue, SW
Washington, DC 20201

Rochelle P. Walensky, MD, MPH
Director, Centers for Disease Control and Prevention
1600 Clifton Road
Atlanta, GA 30329

John Howard, MD, MPH, JD, LLM, MBA
Director, National Institute for Occupational Safety and Health
395 E St., SW, Suite 9200
Washington, DC 20201

Dear Secretary Becerra, Dr. Walensky, and Dr. Howard,

The American Medical Women's Association appreciates the leadership of the U.S. Department of Health and Human Services, the Centers for Disease Control and Prevention, and the National Institute for Occupational Safety and Health in addressing COVID-19 pandemic needs, including the provision of N95 masks for the public.

We also commend the Mask Innovation Challenge: Building Tomorrow's Mask and the goal of innovation in mask design to fit the diverse needs of the U.S. population. We believe that a key component of this innovation must also acknowledge basic sex differences in Personal Protective Equipment (PPE) fit. There are increasing reports of inadequate mask fit by women across different professions in healthcare, construction, and service which can lead to increased mortality and morbidity in women.

We applaud the fact that NIH policies have been inclusive of sex and gender differences, and we especially appreciate the extraordinary work to support sex and gender healthcare through federal agencies such as the Office of Research on Women's Health (ORWH), the FDA Office of Women's Health (OWH), and the HHS Office on Women's Health (OWH).

We are writing to advocate for mask innovation efforts that address sex differences to equitably protect the entire US population.

Background and History

A growing body of data points to a history of ill-fitting equipment for women, despite their integration into most workplace sectors. This problem likely stems from historical context where the needs of women have often been overlooked in male-dominated fields such as construction.^{1,2} Inadequate protection from goggles, boots, gloves, and masks can expose bodies to significant hazards that could otherwise be prevented with properly fitting equipment. Ill-fitting equipment can also have a psychological impact on workers when they feel unprotected, leaving them more at risk of injury.³

The Defense Advisory Committee on Women in the Services (DACOWITS) has acknowledged the negative impact that ill-fitting equipment can have on their service members. *“Poorly fitting equipment is a leading cause of injury in Service members. Given that most traditional PPE was designed to fit men, women are the most likely to suffer from injuries as a result of incorrectly fitting gear. The improvements made in recent years to both the fit and load-bearing capacity of PPE has helped to reduce the risk of musculoskeletal and overuse injuries...The Committee believes that ensuring access to properly fitting PPE and gear for training and deployment will assist in the gender integration process as well as improve overall combat effectiveness.”*⁴

The COVID-19 pandemic has highlighted the inadequate fit of masks for women. While ill-fitting masks for women is not a new issue, the normalization of mask wearing during the pandemic has brought this issue to the forefront. Although the Occupational Health and Safety Administration (OSHA) mandates that workers who are required to wear N95 masks for respiratory protection be fit-tested, fit testing is not consistently implemented in all healthcare settings.⁵

A study on qualitative fit testing for N95 respirators found statistically significant differences in men (95.1%) versus women (85.4%) for a successful fit of a first choice respirator.⁶ A review of studies related to respiratory fit also found lower pass rates among females and ethnic minorities.⁵ Preliminary data about general face masks also points to inadequate fit for women due to perimeter leakage.⁷ Other studies have highlighted the fact that ill-fitting PPE contributes to decreased perceptions of safety in the workplace. A study of healthcare workers during the pandemic found that only 30.5% of women felt safe all of the time while carrying out their roles as compared to 53.3% of men.³

Advocates from around the world, including those from leading medical associations, are calling for change.^{8,9,10,11,12,13,14} In 2021, the American Medical Association (AMA) addressed a resolution that stated, “Face masks are typically designed to fit European males without facial hair, impacting the fit for others outside of this profile. It has been found that N95 masks fit about 90% of men, but only 85% of women.” In response, the AMA House of Delegates directed the AMA “to encourage the diversification of personal protective equipment design to better fit all body types, cultural expressions and practices among healthcare personnel.”^{15,16}

In January 2022, a Women in Global Health report, *Fit for Women? Safe and Decent PPE for Women and Care Workers* highlighted the fact that ill-fitting PPE and PPE access are persistent equity issues, despite attempts by women health and care workers (HCWs) to propose change. They called on employers, governments, World Health Organization (WHO), and PPE producers

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to address this issue, stating, “Women health and care workers need a new social contract based on equality, safety and dignity and that will be the foundation for strong health systems and global health security. The failure to protect women HCWs is a moral failure.”¹⁷

Given that women comprise nearly 80% of all healthcare workers, the impact of these issues is not insignificant.¹⁸ N95 masks are now also being used in the public sector.

We appreciate the efforts that NIOSH has taken to help ensure that anthropometric data used for PPE fit testing is more representative of the current population with data that is inclusive of both men and women.^{19,20} We hope that as technology evolves, there will be continued efforts to ensure that the data used is inclusive of sex and gender differences and diverse facial structures.

Thanks to the efforts of this administration, we finally have a handle on this pandemic. Now is the time to focus on quality, fit, and comfort of PPE, so our country can be better prepared for future COVID-19 variants or other communicable diseases. **We urge NIOSH to create strategies that improve PPE fit for women, who now comprise an overwhelming majority of the healthcare workforce.** PPE designs that take into account sex and gender differences will increase workforce efficiency, trust in institutions, and employee well-being. Most importantly, for the COVID-19 pandemic, it will allow healthcare workers to more adequately care for the U.S. population. These are issues that can help guide future research, funding, and regulatory approval. We are happy to work with your agency in any capacity to help achieve this goal.

Respectfully,



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