

Comments for the NASEM Committee on Respiratory Protection for the Public and Workers without Respiratory Protection Programs at their Workplaces

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Nicole Vars McCullough, PhD, CIH

Technical and Regulatory Manager, 3M Personal Safety Division

This information was provided as a part of the US National Academies of Science, Engineering and Medicine **Committee on Respiratory Protection for the Public and Workers without Respiratory Protection Programs at their Workplaces** meeting on January 26, 2021

These comments were provided based on suggested topics from the committee.

These comments were accompanied by substantive and clarifying verbal comments and committee discussion based on the current knowledge and situation in January 2021.

For further information please contact

Nicole Vars McCullough

Nvars-mccoullough@mmm.com

1-651-260-1372

Hurdles

Regulatory

- No explicit, prescribed path for approvals for respirators for use outside of work
- Lack of clear, consistent selection and use regulations / guidance for the general public, and specifically children
- Lack of an accepted anthropometric grid for children determining face size parameters
- Determination of appropriate level of fit for use outside of work
- Respirator experts not always involved in respirator selection and use guidance

Awareness

- Public confusion about the role of face coverings/masks (source control) and respiratory protection
- Lack of understanding of the role a seal to the face plays in providing respiratory protection (current focus is on filtration)

Technology/Research and Development

- Physiological, anthropometric, and ethnographic data not widely available for children and vulnerable populations (e.g., elderly, asthmatics)
- Access / methods to test children / vulnerable populations

Economic

- Incredible spikes and valleys of demand make supply challenging
- Lack of understanding of cost of manufacturing equipment / inventory / SKUs
- Vast number of uncontrolled imports currently available with respirator claims and no evidence of performance
- Lack of robust stockpile for workers and the public



3M™ Particulate Respirator 8670F,
For Use by the General Public in Public
Health Medical Emergencies 240/cs
Catalog Number 8670F, 3M ID T00170071486107,
UPC 50051135891686



Innovation Opportunities

- Designs that fit children
- Designs that are more intuitive for donning
- Novel head suspensions (e.g., earloops, neckloops) that are comfortable and can pass a fit test (occupational use) or evaluation (non-occupational use) on a population and / or individual
- Evaluations of fit that are more intuitive / affordable / simpler
- Greater availability of fit evaluation methods for the general public and small businesses
- Digital tools to assist in respirator selection, donning, fit assessment, use, doffing, and storage
- Respirators that accommodate beard stubble

Recommendations on Regulatory Framework

- Utilize the existing 42 CFR 84 respirator performance standards for N95 filtering facepiece respirators for all populations
 - Develop standardized user instruction format, including limitations and warnings for use outside of work (e.g., general public, children)
 - Create a face size grid(s) for children younger than 16
 - Incorporate an evaluation of fit for respirator use outside of work
 - Explicitly designate the National Personal Protective Technology Laboratory's (NPPTL) as the approver for all respirators regardless of where they are used (and address selection and use separately)
- Selection and Use guidance developed specifically for general public & children
 - Teams include those with expertise in respiratory protection as well as the target populations
 - Evaluation of the appropriate level of exposure reduction / fit factor / fit evaluations for use outside of work
 - Wildfires, ash, smoke, biological particles, DIY, etc.

Summary Recommendations

1. Implement an explicit, prescribed regulatory framework for respirator use outside of work
 - i. General public, children, and vulnerable populations
 - ii. Performance standards
 - iii. Selection and use guidance
2. Further education and understanding of the role of fit as a key parameter for respiratory protection
3. Develop and publish accepted, available, and robust physiological, anthropometric, and ethnographic data for children, vulnerable populations (e.g., elderly, asthmatics) and other potential user groups
4. Institute stockpiling programs that consider general public use during natural disasters, emergencies, and outbreaks
5. Adopt accepted strategies to allow flexibility between occupational and public use of certain models
6. Control unregulated imports making respiratory protection claims without evidence of performance, certification or authenticity

Thank You