

Stockpiling Reusable Respirators to Protect the American Worker

A cost-effective strategy to safeguard the economy and strengthen national security

Respiratory protection is one of the most important lines of defense against airborne biological threats and a good respirator is effective against all respiratory pathogens. Respirators are normally easy to obtain, but health emergencies, whether natural, deliberate, or accidental, can lead to serious shortages and skyrocketing prices. Stockpiling reusable respirators and bolstering domestic manufacturing now, before an emergency, is a cost-effective way to ensure reliable access when it matters most, reduce dependence on foreign supply chains, and support national and economic security.



The Nation is Unprepared for an Airborne Threat

Airborne threats can spread quickly and widely creating serious risks, especially when developing pathogen-specific countermeasures can take time. A biological threat could rapidly impact critical infrastructure operations and businesses, costing millions of lives and billions of dollars.

Respiratory personal protective equipment (PPE) provides critical first-line defense across a broad range of pathogens. In 2020, the U.S. could not meet the sudden surge in PPE demand because stockpiles were insufficient, domestic manufacturing was limited, and the country relied heavily on imports from China and other countries. Despite lessons learned, the Strategic National Stockpile still lacks sufficient PPE and domestic commercial production remains 10 times below what would be needed to protect critical workers in the first 100 days of a health emergency.

Stockpiled Reusable Respirators are an Essential National Security Asset

Reusable respirators, namely elastomeric half-mask respirators (EHMRs), can be re-used many times while maintaining protection; they are easy to procure, store, deploy, and use, which makes them a practical tool for stockpiling to protect workers against biological threats. Research shows that strategic stockpiling is the most effective way to prevent shortages while manufacturing capacity ramps up.¹ Stockpiling ensures that critical infrastructure workers in essential sectors such as emergency services, energy, and the food supply chain can continue operating.

✓ Indispensable protection

Reusable respirators have a soft, flexible facepiece that maintains a strong seal on the user's face. Reusable respirators are at least as protective as disposable N95 respirators, and have the option of more effective filters that can additionally protect against vapor threats. Reusables often fit better,² are more comfortable,³ and are often preferred by users in a variety of settings over single use options.⁴ Participants in the National Academies "Personal Protective Equipment for Influenza A (H5N1) in High-Risk Farm Settings" workshop called reusables a "good investment" for farms willing to invest.⁵

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<https://centerforhealthsecurity.org/sites/default/files/2024-07/2024-07-reusable-respirators.pdf>

2. Pompeii L, Rios J, Kraft CS, et al. Health care workers' comfort ratings for elastomeric half-mask respirators versus N95 filtering facepiece respirators during the COVID-19 pandemic. *Workplace Health Saf.* 2024;72(7):261-272. doi:10.1177/21650799241238755

3. Maleczek M, Toemboel F, Van Erp M, Thalhammer F, Rössler B. Reusable respirators as personal protective equipment in clinical practice: user experience in times of a pandemic. *Wien Klin Wochenschr.* 2022;134(13-14):522-528. doi:10.1007/s00508-022-02022-1

4. Hines SE, Brown C, Oliver M, et al. User acceptance of reusable respirators in health care. *Am J Infect Control.* 2019;47(6):648-655. doi:10.1016/j.ajic.2018.11.021

5. National Academies of Sciences, Engineering, and Medicine. Personal Protective Equipment for Influenza A(H5N1) in High-Risk Farm Settings: Proceedings of a Workshop. Washington, DC: The National Academies Press; 2026. doi:10.17226/29364

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✓ Less expensive than disposables over time

Disposables get expensive fast. Even with targeted, selective allocation and re-use, millions of users will need a new disposable respirator daily. Most disposables have a shelf life of 5 years, creating high recurring costs to maintain readiness. Reusable respirators are a cost-effective option as they can last up to 20 years when properly stored and can be cleaned and re-used repeatedly, with each replacing hundreds of disposable respirators.

75%

Less expensive to stock reusables in a centralized stockpile over 20 years than disposables

98.5%

Less storage space required by reusables compared to an equivalent number of disposables

10-20 years

Shelf life of reusables compared to just 5 years for disposables

✓ There when you need them

Domestic respirator manufacturers and related supply chains cannot meet a large spike in demand due to material shortages, production bottlenecks, labor needs, and lead times on specialized equipment. Meeting a demand surge could take up to five months and leave dangerous gaps when protection is needed the most. Stockpiling avoids these risks by ensuring supply chain problems don't translate into shortages during an emergency.

✓ Manufactured in America

American companies small and large stand ready to produce more reusable respirators, which have a limited commercial market in part because they can be used for many years before replacement. Supporting domestic manufacturers through consistent purchase agreements is the backbone of a strong stockpiling strategy. Between July and September 2020 alone, the US imported 1.6 billion N95 respirators from China.⁶ Reinforcing the U.S. industrial base will reduce dependence on foreign imports, keep critical operations running during emergencies, and position the United States as a global manufacturing leader when the next emergency strikes.

About Blueprint Biosecurity

Blueprint Biosecurity is a nonprofit dedicated to strengthening society's ability to prepare for and respond to pandemics. We advance practical, pathogen-agnostic solutions through targeted research, strategic grantmaking, and evidence-based policy guidance that protect critical workers and reinforce systems essential to pandemic preparedness and response.