

Personal Protective Technology Program PPOP

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Personal Protective Technology (PPT) Program advances the application and knowledge of PPT to keep workers safe. PPT includes personal protective equipment (PPE) such as respirators, protective clothing, gloves, eye, fall and hearing protection, hard hats, and also includes sensors to detect hazardous substances, and fit testing equipment. The PPT Program includes the NIOSH respirator approval program, PPT research, evaluations, and interventions to support the NIOSH strategic goals.

What do we do?

- Certify that new respirators meet minimum performance and respiratory protection standards before they enter the market.
- Conduct site and product audits to ensure respirators continue to meet standards after approval.
- Develop and implement science-based national recommendations for respirators and other PPE.
- Develop new methods to test effectiveness of PPE for workers, including workers engaged in infectious disease research and control activities.
- Create guidance and tools to help employers and workers use PPT as effectively and economically as possible.
- Develop and evaluate innovative PPE designs and test methods to improve comfort, fit and usability.

What have we accomplished?

- Completed over 800 respirator approval decisions and 700 quality assurance audits in 2020.
- Completed the [evaluation](#) of nearly 4,000 stockpiled respirators and 800+ stockpiled gowns. This evaluation was used by the Strategic National Stockpile to support its [release of select respirators](#) and surgical gowns that were beyond manufacturer-designated shelf life during the COVID-19 response.
- Evaluated filtration performance of more than 6,500 respirators during the COVID-19 response resulting in 500 reports informing the use of respirators that were 1) conforming to international standards, 2) [beyond shelf life](#), or 3) decontaminated.
- Informed the use of filtering facepiece respirators with exhalation valves for source control.
- Provided the scientific basis for the development of ASTM F3352 isolation gown standard.
- Enhanced ASTM standards for liquid and viral penetration with improved test apparatus design and measurement and handling of test agents.
- Developed a new testing procedure to quantify the fluid leakage through the glove and protective clothing interface.
- Developed and demonstrated an early proto-type application to extract PPE inventory data from US hospitals.

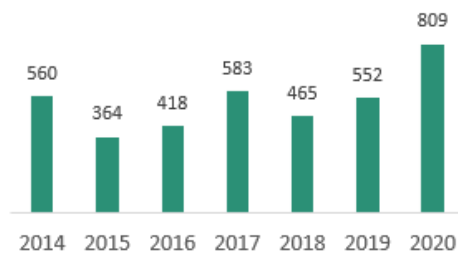
What's next?

- Complete 400 respirator approval decisions and 250 quality assurance audits in 2021.
- Complete ISO 17025 accreditation for NIOSH's air-purifying respirator (APR) and self-contained breathing apparatus (SCBA) labs.
- Complete the development of the Illicit Drug Module for PPE INFO, and identify emerging illicit drug hazards to inform PPE research gaps and updates to guidance.
- Design validation protocol for the ASTM Respirator Fit Capability standard.
- Update the 2015 Hospital Respiratory Protection Program Toolkit.
- Complete anthropometry data collection of 970 law enforcement officers in 12 regions to inform PPE design.
- Publish results from the elastomeric respirator studies with three healthcare facilities.
- Collaborate with external partners in developing and evaluating new materials for use in PPE.
- Provide scientific information to enhance the ASTM F2407 surgical gown standard.
- Facilitate ASTM adoption of the NIOSH-developed testing procedure for fluid leakage through glove and protective clothing interface.

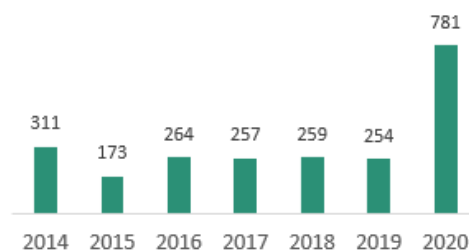
At-A-Glance

The PPT Program is a world leader in protecting workers through PPT research, standards development, respirator conformity assessment, public outreach and information dissemination. This snapshot shows recent accomplishments and upcoming work.

Number of respirator approval decisions

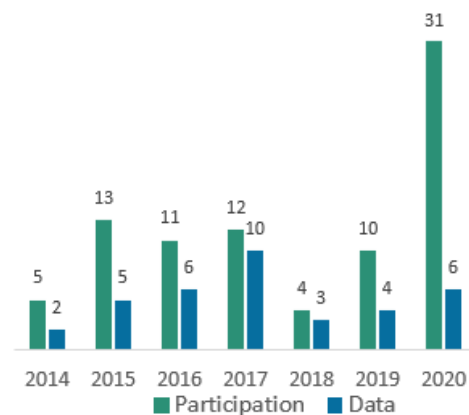


Number of respirator quality assurance audits



Number of respirator quality assurance audits

Number of consensus standards developed using PPT Program participation & data in standards development organizations



Source for all data: NIOSH Program Records



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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