Effect of Stockpiling Conditions on PPE Performance–FY17–(939088J)

Objective

- Develop and execute a sampling strategy to inform factors that influence respirator and surgical gown protections throughout their stockpiled lifecycle

- Develop recommendations for shelf life, storage practices, and point-of-use conformity assessment.

Applicable standards

- NIOSH
- FDA

Key Partners

- Strategic National Stockpile
- FDA
- CDC ICU, CDC NCEZID
- HHS/ASPR
- Various state, county, city, hospital stockpiles

Stakeholders

- ISEA

Project Scope

- Develop a sampling protocol that may be applied to any size hospital, city, county, state, or federal PPE stockpile
- 3,750 N95 respirators (FFRs and elastomeric half facepiece respirators with N95 filters) and 1,890 Level 3 and 4 surgical gowns will be tested and evaluated from three stockpile facilities with environmental conditions and storage times representative of U.S. stockpiles.
- Data will be analyzed and interpreted to determine performance of N95 respirators and surgical gowns under common U.S. stockpile conditions over time and factors that contribute to PPE degradation over time.

Milestones

- FY 17 Q2-Q3: 1) Developed Stockpile Partnership comprised of federal agencies and federal, state, county, city, and hospital stockpiles; 2) Held Stockpile Partnership Meeting for partners to review project Sampling and Analysis Plan
- FY17 Q4: Obtain and begin testing 4 models of N95 respirators from Facility 1

Updated: 27 April 2017

Outputs

- Stockpile Best Practices Guide
- Technical Reports to individual collaborating stockpile facilities
- Peer-reviewed journal publications and conference proceedings

Outcomes

Results from this work will inform the affect stockpile storage conditions (e.g., temperature, humidity, storage time) have on stockpiled N95 respirators and Level 3/Level 4 surgical gowns. Results will be used to develop a Stockpiled Best Practices Guide, which will included performance of certain types of respirators and gowns, storage recommendations, and recommendations on a robust sampling/testing approach for stockpiles facilities to improve confidence that stockpiled PPE remains protective in their specific conditions.