NETEC COVID-19 Webinar Series:
Supply Management and Inventory Control During COVID-19 – Part Two
Welcome

Sharon Vanairsdale, DNP, APRN, ACNS-BC, NP-C, CEN, FAEN, FAAN
Welcome: Sharon Vanairsdale, DNP, APRN, ACNS-BC, NP-C, CEN, FAEN, FAAN

Supply Management and Inventory Control During COVID-19: Emory Healthcare: Kari Love, MS, RN, CIC, FAPIC, Program Director Infection Prevention

Supply Management and Inventory Control During COVID-19: Nebraska Medicine / University of Nebraska Medical Center: Brian Spencer, AIA, Director Facilities & Clinical Space Planning

NETEC Resources: Sharon Vanairsdale, DNP, APRN, ACNS-BC, NP-C, CEN, FAEN, FAAN

Questions and Answers with NETEC
National Emerging Special Pathogens
Training and Education Center

Mission Statement
To increase the capability of the United States public health and health care systems to safely and effectively manage individuals with suspected and confirmed special pathogens

For more information
Please visit us at www.netec.org
or email us at info@netec.org
**NETEC Overview**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Education</th>
<th>Technical Assistance</th>
<th>Research Network</th>
</tr>
</thead>
</table>
| Empower hospitals to gauge their readiness using **Self-Assessment** | Provide self-paced education through **Online Trainings** | **Onsite & Remote Guidance** | **Online Repository**
| Measure facility and healthcare worker readiness using **Metrics** | Deliver didactic and hands-on simulation training via **In-Person Courses** | Compile **Online Repository** of tools and resources | Built for rapid implementation of clinical research protocols
| Provide direct feedback to hospitals via **On-Site Assessment** | COVID-19 focused **Webinars** | Develop customizable **Exercise Templates** based on the HSEEP model | **Develop Policies, Procedures and Data Capture Tools** to facilitate research

**Cross-Cutting, Supportive Activities**

- **Research Network**
  - COVID-19 focused **Webinars**
  - **Online Repository**
    - Developed for rapid implementation of clinical research protocols
  - **Research Network**
    - Create infrastructure for a **Specimen Biorepository**
Supply Management and Inventory Control During COVID-19:
Emory Healthcare

Kari Love, MS, RN, CIC, FAPIC
Program Director Infection Prevention
Supply Management and Inventory Control
During COVID-19

PPE and Donated Supplies

Articulate creative ways in managing reusable and disposable supplies and how to approach the need for substitution amid the pandemic crisis.

Describe vetting processes for supplies received including how to manage donations while maintaining safety and infection control measures.
The First Needs

Hand Sanitizer was one of the first items we felt like we had to scramble to procure

Worked with medical students to create hand sanitizer in the chemistry lab

• Used WHO recipe

Seriously considered using sheet protectors for face shields as demonstrated by Sharon Vanairsdale
Developed disinfection protocol for the CAPR lens as part of the doffing process so that it could be reused by a HCW.
Partnered with Georgia Tech (GT) to develop multiple prototypes

---

**Disposable**

- Disinfected and reused until the headband disintegrated

---

**Reusable**

- Headband and shield dedicated to each HCW – shields can be replaced if damaged
PPE Tailored to Fit

- Reusable face shields created by Georgia Tech had input from three different health systems

- Feedback from Emory - difficult to hear and the shield was too long

- The other two health systems did not want to re-design the shield

- Created a pattern with feedback from front line staff members – it can be trimmed to fit
Isolation Gowns

- Purchased material made of 40 GSM polypropylene
- Local companies took material, used an isolation gown pattern and made gowns
- Since the material was not rated as AAMI Level 2 etc., we did some of our own testing with diet coke, water and other fluids to determine fluid resistance
<table>
<thead>
<tr>
<th>Cloth isolation gowns</th>
<th>Disposable surgical gowns</th>
<th>Coveralls</th>
</tr>
</thead>
</table>
| • Having cloth isolation gowns laundered  
  • Good for 100 wash cycles | • Laundered 3x and the gowns were still intact | • Not optimal but were able to use them at the testing centers  
  • Staff wore PAPRs and coveralls for 4 hour shifts in the drive-up testing clinic |
Donation Center

- Amazing community response
- Found a building on campus where donations could be received
  - Overwhelmed the dock and the supply warehouse
- Took a full-time team just to manage donations
  - VP of Performance Improvement utilized management engineers to categorize, organize and distribute
- Developed and posted criteria for items that we could accept
- Also assisted with pulling supplies out of the emergency management pods
Reprocessing N95 Respirators and PAPR Hoods

- UV disinfection of N95s

- Bioquell – PAPR hoods
  - Achieved > 6 log kill INSIDE the hood

- Once EUA received – N95s reprocessed in sterile processing
Supply Management and Inventory Control During COVID-19

Ready to Swab

- Gowns sewn by Mohawk Flooring
- Face shields produced by TSG
NIOSH-Approved Particulate Filtering Facepiece Respirators


This site provides a listing of NIOSH-approved particulate filtering facepiece respirators. This type of air-purifying respirator protects by filtering particles out of the air the user is breathing. There are seven classes of filters for NIOSH-approved filtering facepiece respirators available at this time. Ninety-five percent is the minimal level of filtration that will be approved by NIOSH. The N, R, and P designations refer to the filter's oil resistance as described below.

Select a type of respirator to see all approved models:

- N95 - Filters at least 95% of airborne particles. Not resistant to oil.
- N99 - Filters at least 99% of airborne particles. Not resistant to oil.
- P95 - Filters at least 95% of airborne particles. Somewhat resistant to oil.
- P100 - Filters at least 99.97% of airborne particles. Not resistant to oil.
- S95 - A N95-approved N95 respirator that has also been cleared by the Food and Drug Administration (FDA) as a surgical mask.
Optimizing Supply of PPE and Other Equipment during Shortages

Personal protective equipment (PPE) is used every day by healthcare personnel (HCP) to protect themselves, patients, and others when providing care. PPE helps protect HCP from many hazards encountered in healthcare facilities.

The greatly increased need for PPE caused by the COVID-19 pandemic has caused PPE shortages, posing a tremendous challenge to the U.S. healthcare system. Healthcare facilities are having difficulty accessing the needed PPE and are having to identify alternate ways to provide patient care.

Surge capacity refers to the ability to manage a sudden, increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of PPE during the COVID-19 response. To help healthcare facilities plan and optimize the use of PPE in response to COVID-19, CDC has developed a Personal Protective Equipment (PPE) Burn Rate Calculator. Three general strategies have been used to describe surge capacity and can be used to prioritize measures to conserve PPE supplies along the continuum of care.

- **Conventional capacity**: measures consisting of engineering, administrative, and PPE controls that should already be implemented in general infection prevention and control plans in healthcare settings.

- **Contingency capacity**: measures that may be used temporarily during periods of anticipated PPE shortages. Contingency capacity strategies should only be implemented after considering and implementing conventional capacity strategies. While current supplies may meet the facility’s current anticipated utilization rate, there may be uncertainty.

Supply Management and Inventory Control During COVID-19:

Nebraska Medicine
University of Nebraska Medical Center

Brian Spencer, AIA
Director Facilities & Clinical Space Planning
Decision Making: Quick/Slow

- Decision making in an organization under extreme stress often resorts to one of two models:
  - Very quick and not always knowledge based
  - Very slow and very safe

- HICS exists, in part, to help combat moving to these extremes

- Our job as we continue to manage the pandemic is to help bring balance

- Launch more than one balloon!
Germicidal wipes burn rate was up, we were on allocation, shipments were delayed, and it appeared we would run out in the short term and have long term sustainability issues.

The team quickly launched several balloons:

- Infection Control team toured to understand burn very deeply
- Supply chain worked to see what WAS available in the market – even parts (tubs)
- Pharmacy and Sterile Processing began testing ‘home rolled’ solutions
- Deployed home roll solutions to low burn and low risk areas to test.
Vetting

**Phase 1**
Emergency issues and shortages

**Phase 2**
This is going to last a while and we need to capture good ideas and innovation

**Phase 3**
This is REALLY going to last a while and we need to have a framework for increasingly complex shortages
As we worked through Phase 1 it became clear we needed a team.

- Grabbed a very small group – IC, ID, Safety, Legal, CIO, Logistics
- Common inbox for all ideas
- Met almost daily in the beginning and have settled to bi-weekly
### Vetting Process: Hand Sanitizer Example

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Emergency deploy portable hand sinks at entries, pull product from office areas, send people home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 2</td>
<td>Work with existing vendors and local alternate folks (distillers, college pharmacy department) to get something coming</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Worked with vendors to stabilize and refill existing bags. Develop stands to deploy more broadly for increased hand sanitation based on available materials, bags, dispensers, etc</td>
</tr>
</tbody>
</table>
## Vetting Process: Intubation Boxes Example

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Emergency shortage of masks and other PPE, put out word in institution looking for safer way to intubate for aerosol producing procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 2</td>
<td>Work with ‘weekend warriors’ to get samples made and into test rotation. Develop accepted standard and have small batch made</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Working with legal and innovation groups on IP rights and bringing to larger market</td>
</tr>
</tbody>
</table>
NETEC Resources

Sharon Vanairsdale, DNP, APRN, ACNS-BC, NP-C, CEN, FAEN, FAAN
NETEC will continue to build resources, develop online education, and deliver technical training to meet the needs of our partners.

**Ask for help!**

- Send questions to info@netec.org - they will be answered by NETEC SMEs
- Submit a Technical Assistance request at NETEC.org
Questions and Answers
# Contact

**NETEC eLearning Center**
- courses.netec.org

**NETEC Skill videos**
- youtube.com/thenetec

## Join the Conversation!

- [Facebook](https://www.facebook.com/theNETEC)
- [Twitter](https://twitter.com/theNETEC)
- [Instagram](https://www.instagram.com/the_NETEC)
- [LinkedIn](https://www.linkedin.com/company/netec)

Use hashtag: #NETEC

## Website
- netec.org

## Repository
- repository.netecweb.org

## Email
- info@netec.org