Ventilator Use and Allocation: Key Considerations and Examples

March 23, 2020 (Updated as of 10 a.m. ET)

OVERVIEW

Mechanical ventilation is a life-saving measure for people experiencing respiratory distress from trauma or severe respiratory conditions and diseases affecting lung function. Hospitals, acute care settings, and other skilled nursing facilities maintain an inventory of ventilators, however, the demand for these resources is likely to increase due to the COVID-19 response. When hospital surge capacity is reached, state public health officials may be asked to provide guidance or enact emergency standards of care to provide direction to hospitals and health care providers.

STATE, FEDERAL, AND INTERNATIONAL POLICY

Many states and institutions have started recommending or implementing crisis standards of care (CSC) that direct the allocation and use of ventilators.

- The **Minnesota** Department of Health's Crisis Standards of Care Framework: Ethical Guidance asserts that "decisions about allocation of resources should be monitored to ensure that they are made in as principled and effective way as possible, and changes made as needed." For example, reevaluating the allocation or reallocation of resources to individuals. "Individuals who initially were deprioritized for access to resources may become prioritized. Individuals who were granted access to resources—for example, a trial on a mechanical ventilator—may not be responding well to that resource, and if it is needed by others, it may be withdrawn and reallocated to someone at higher priority."
    - "Distribution decisions should also take into account availability of infrastructure and trained staff to support use of specialized resources such as ventilators."
- The **New York** State Department of Health's Ventilator Allocation Guidelines advise for critical decisions that balance the obligation to save lives with the ethical decisions for duty to be good stewards of resources.
- The **Michigan** Department of Community Health Guidelines for Ethical Allocation of Scarce Medical Resources and Services During Public Health Emergencies indicate that hospitals prioritize workers performing "essential social functions" (e.g. healthcare workers, public safety, and personnel key to critical infrastructure), to receive scarce resources, such as medical equipment like ventilators.
- The **Indiana** State Department of Health's 2014 guidance to allocate ventilators during a pandemic influenza, details exclusion criteria, and other considerations.
- The **Food & Drug Administration (FDA)** issued guidance to provide a policy to expand the availability of ventilators during as a response to COVID-19.

KEY CONSIDERATIONS

- Establish a task force to take on ventilation in disaster response issues, including:
  - Develop and distribute a ventilator rationing decision tree for clinicians (see an example in Utah's Crisis Standards of Care, page seventeen).
  - Develop and distribute guidance on using alternate ventilation systems.
- Develop and distribute a statewide plan of ventilator use and distribution that balances effectiveness, efficiency, and equity.
  - Develop and communicate state/regional consensus recommendations on triaging access to live-saving resources (ventilators, blood products, specific medications) and reallocate as required to meet demand.
- Determine acceptable bridging therapies (bag-valve ventilation, anesthesia machines, etc.), and develop and communicate a statewide plan on when and how to implement them.
- Develop comprehensive, vetted plans for mass casualty incidents involving large numbers of critically ill patients.
- Establish and maintain ongoing, statewide, systematic reporting of ventilators and their utilization rates.
- Consider alternative methods of respiratory supports.

KEY RESOURCES

- CMS, Ventilator Supply Mitigation Strategies: Letter to Health Care Providers, March 22, 2020.
- Strategies to Inform Allocation of Stockpiled Ventilators to Healthcare Facilities During a Pandemic, *Health Security,* March 19, 2020
- ASPR TRACIE Technical Assistance Request - Crisis Standards of Care (CSC) for COVID-19, HHS ASPR, the Technical Resources, Assistance Center, and Information Exchange (March 17, 2020)
- The COVID-19 Risk Communication Package For Healthcare Facilities, World Health Organization (March 10, 2020)
- Ventilator Stockpiling and Availability in the US, Center for Health Security; Johns Hopkins School of Public Health (Feb. 14, 2020)
- Care of the Critically Ill and Injured During Pandemics and Disasters, CHEST C*onsensus Statement*, Christian, M., et. al., on behalf of the Task Force for Mass Critical Care (2014)
- *Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report*, Institute of Medicine (2009)
  - Page 33 includes an example of applying the ethics framework to ventilator allocation.
- Ethical Considerations for Decision Making Regarding Allocation of Mechanical Ventilators during a Severe Influenza Pandemic or Other Public Health Emergency, Centers for Disease Control and Prevention
- Alternatives to invasive mechanical ventilation, RT Magazine (Feb. 7, 2007)

For questions, feedback, or additional information, please email preparedness@astho.org.