

ASPR TRACIE Technical Assistance Request

Request Receipt Date (by ASPR TRACIE): October 25, 2021

Response Date: October 26, 2021

Type of TA Request: Complex

Request:

The ASPR TRACIE Team received a request for information on triggers that hospitals can use to initiate contingency and/or crisis standards of care (CSC) for an oxygen scarce situation. The requestor added that the scarce oxygen situation is due to inability of the oxygen supplier to deliver and resupply oxygen to meet the demand.

Response:

The ASPR TRACIE Team reviewed existing resources, including those in our [Crisis Standards of Care Topic Collection](#) (not specific to COVID-19) and our [COVID-19 Crisis Standards of Care Resources](#) page. We also reached out to members of our Subject Matter Expert (SME) Cadre for feedback. Section I of this document includes comments from SMEs and section II provides relevant resources that may be helpful to this request.

I. ASPR TRACIE SME Cadre Member Comments

Please note: These are direct quotes or paraphrased comments from emails and other correspondence provided by ASPR TRACIE SME Cadre members in response to this specific request. They do not necessarily express the views of ASPR or ASPR TRACIE.

SME Cadre Members:

- In addition to triggers, we must also review indicators such as the following:
 1. Oxygen production: Is the local/ regional production adequate to meet needs/ in excess of needs?
 2. Oxygen delivery: Is adequate transportation available to deliver the oxygen (e.g., trucks, intact roadways)?
 3. Facility primary oxygen system: Is it adequately secured? Is there a plan to address frozen vaporizers with spray/ fog hoses if needed? What is the capacity at current use rates?
 4. Facility secondary oxygen system: How long can it sustain operations at usual consumption rates? Conservation rates? What is the back-up (delivery of liquid dewars, swapping out H tanks, etc.) and the timeline (i.e., should evacuation be considered)?
 5. Consumption rate: What is the relative rate and is there a need to reduce due to non-sustainable consumption rate (increased rate of use that outstrips supply, inability to deliver needed oxygen due to pressure drops in system, or inability to obtain oxygen delivery in a timely manner)?

- A “trigger” event in any one of these domains is a change that directly impacts safe operations and requires changes to usual procedures to adapt to the situation. Conservation measure implementation across a facility or facilities is the most likely adaptation, although other strategies are possible such as suspension of state regulations regarding work hours for trucking, diversion of production of industrial to medical oxygen on the supplier side, and recruiting of additional delivery trucks from other regions.
- For each indicator there may be many causes of a “trigger” event. However, the strategies and tactics should be relatively common for each indicator domain. Common triggers may be listed for each but are always examples and do not exclude other impacts on each indicator.

II. Select Resources

ASPR TRACIE. (2018). [Considerations for Oxygen Therapy in Disasters](#).

This ASPR TRACIE fact sheet provides information on the types of oxygen therapy and the types of oxygen supplies generally available. It also provides information on the typical sizes and length of use of various oxygen storage methods. **NOTE:** In particular, please review Appendix A: Minnesota Strategies for Scarce Resource Situations – Oxygen.

Devereaux, A. Backer, H., Salami, A., et al. (2021). [Oxygen and Ventilator Logistics During California's COVID-19 Surge: When Oxygen Becomes a Scarce Resource](#). Disaster Medicine and Public Health Preparedness. 1-7. doi: 10.1017/dmp.2021.267.

The authors explain the disaster response by the State of California to mitigate the emergency demands for oxygen delivery resources during the COVID-19 pandemic. A list of issues identified during the pandemic related to oxygen and ventilator supply is provided, along with a logistical framework for obtaining and managing oxygen and ventilator equipment.

Toner, E. (2021). [Potential Solutions to the COVID-19 Oxygen Crisis in the United States](#).

This memoranda highlights findings from a virtual meeting held in January 2021 with frontline clinicians and public health officials from across the U.S. who discussed how they were meeting challenges associated with oxygen and supply shortages.