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Implement Critical Care Surge Strategies Now To Save Lives

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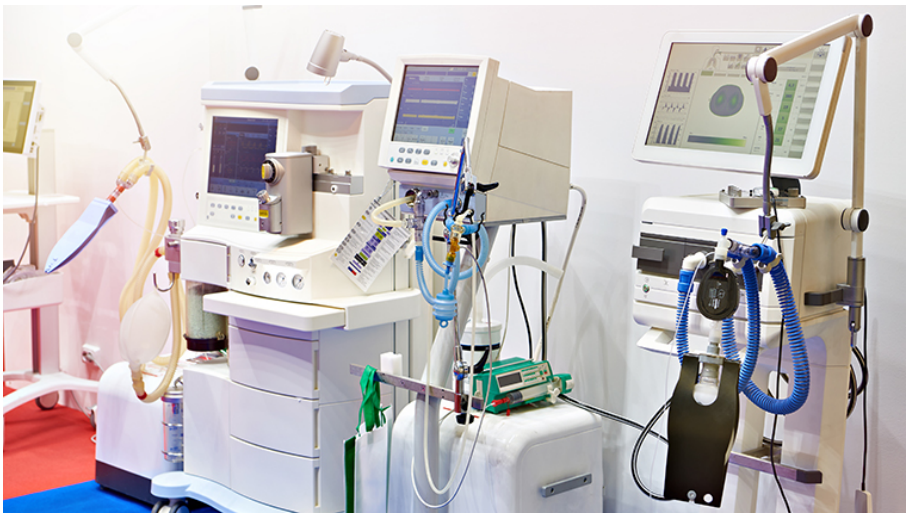

As we brace for a surge in demand for critical care for Covid-19 patients, hospital readiness is more critical now than ever before. Facing a potentially overwhelming increase in the number of critically ill patients seeking

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care, hospitals may need to make fundamental changes in the way they allocate space, staff, and stuff—changes that may have been unthinkable only a few weeks ago.

Let's begin with space. Hospitals across the country have cancelled elective surgeries and repurposed operating rooms and post-anesthesia care units to serve as intensive care unit (ICU) spaces. In addition, in some communities, health care leaders are weighing the possibility of opening shuttered hospitals and, where possible, using available ICU beds in Veterans Affairs hospitals.

But beds are of little value if not accompanied by qualified staff. Patients on ventilators require management by respiratory therapists who are trained in manipulating the machines to optimize a patient's respiratory status, and by critical care physicians who work closely with ICU nurses to make key decisions around medical management. Many hospitals are trying to expand the number of available clinicians by recruiting recently retired physicians and nurses, as well as medical and nursing students in the later years of their training. However, few if any hospitals will be able to recruit their way out of a staffing crisis.

Hospitals could also seek to repurpose staff from other parts of their operations. Hospitalist physicians, for instance, could help manage ICU patients under the supervision of ICU physicians, further increasing critical care physician capacity. Many hospitals are also reconsidering patient-to-provider ratios. In ICUs, one or two patients, at most, are generally assigned to each nurse. This number could be expanded to three or four.

Critical care, however, requires specialized equipment.

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Some hospitals are looking to import ventilators from overseas, create regional networks to share existing ventilators among hospitals, and use one ventilator for multiple patients. Such care also requires adequate personal protective equipment (PPE) supplies; if these supplies are not available, that will contribute to disease transmission to health care providers and work absenteeism due to fear of contracting illness or need for self-quarantine. Hospitals have turned to limiting use of PPEs in their facilities despite the potential risk to providers, as well as use of cloth surgical masks, ultraviolet sterilization of used masks, and relying on community donations or purchase of N95 masks from construction supply vendors.

But many of these actions run up against barriers that hospitals alone cannot fix. For instance, lack of regulatory processes around the production and sale of PPEs has led to price gouging, creating a cost barrier to acquiring needed PPEs. In addition, the national shortage of both critical care nurses and respiratory therapists that existed even before the Covid-19 outbreak further challenges critical care staff surge capacity.

In the midst of this crisis, there are a number of actions that urgently need to be taken.

Regionalize Critical Care Capacity Creation

Regional health care coalitions—multidisciplinary entities that help coordinate regional resources in advance of disasters and public health emergencies—could play a critical role in engaging key community stakeholders to identify and implement critical care surge strategies.

Individual health systems and states should leverage existing coalitions and response systems to help coordinate regional critical care surge responses. An example at the federal level is the recent $100 million investment in the National Special Pathogen System, which will allow 10 regional treatment centers, previously used in the Ebola response, to treat Covid-19 patients. This system also includes the National Emerging Special Pathogens Training and Education Center, which will assess and facilitate readiness of health care facilities and provide real-time technical assistance.

Health systems, states, and the private sector can also work together to form novel coalitions. For example, the governors of New York, New Jersey, Connecticut, and Pennsylvania have formed a regional coalition to combat the spread of the virus by adopting public health and social distancing policies in lockstep. This region faces sharp increases in cases, doubling every three days at time of writing. They may be able to work together in coordination with health systems, as well as public- and private-sector leaders, to identify health care workers, ventilators, and other resources available in the region and redistribute to particular hotspots.

Indeed, the private sector, particularly tech companies, have an important role to play. The recent announcement of the formation of a COVID-19 Health Coalition, through which 17 health systems such as the Mayo Clinic and big tech companies such as Amazon and Epic will coordinate their response to the pandemic using data and analytics, should serve as a model and inspiration for regional efforts. Governor Andrew Cuomo of New York is in the process of building a tech-based Covid-19 "SWAT team" to include private companies, universities, nonprofits, and research labs to aid in the response.

Move Patient Care Outside Of Hospitals

States and health systems may need to erect mobile hospitals with ICU capability in anticipation of existing ICU care capacity being exhausted. In Washington, California, New York, and other states, plans are already underway to repurpose hotels, convention centers, and university dormitories to care for Covid-19 patients, complete with retrofitting of negative pressure capability. These spaces are primarily created to care for non-critical patients, to free up space in hospitals for critically ill patients. As Atlanta, Georgia, has learned, repurposing buildings with individual rooms for ICU care presents a special challenge due to the level of monitoring needed to provide intensive care to critically ill patients. For this reason, it may be advisable to repurpose open spaces for ICU-level care and repurpose spaces with individual rooms for lower acuity care, or for those who need to self-isolate.

ICU-level monitoring also means more staff will be needed. Governor Cuomo has implemented two strategies via executive order that have made 52,000 people available to join the state's surge health care workforce: a call for volunteers and adjustments to licensure. He has also requested that health insurers disclose the number of nurses, doctors, and other health professionals they employ so that the state can begin outreach efforts.

Improve Guidance From The Federal Government

The federal government could provide clear guidance regarding both resource allocation and crisis standards

of care for patients in need of critical care. First, the federal government has the unique ability to redirect the efforts of the private sector under the Defense Production Act, which was designed to ensure production of material necessary for national security. While the law has already been invoked to order General Motors to produce ventilators—a step the company was already undertaking—the federal government could begin partnering closely with the private sector to identify current and potential domestic producers of critical equipment, force prioritization of this equipment's production, and provide loans to expand production capacity.

Second, the federal government could play a critical role in allocation of resources, both from the national stockpile and from the private sector through the Defense Protection Act. The Federal Emergency Management Agency (FEMA) could adjust the way the stockpile is distributed. Allocation is currently based on population, causing a bottleneck in fulfilling requests from areas with skyrocketing cases. State officials from Washington suggest that requests to FEMA should be prioritized by need. Health systems need transparency about this process to improve morale among those at the front lines and to support health leaders in their decision making.

In regards to crisis standards of care, the National Academy of Medicine (NAM) notes that while hospitals routinely use principles of crisis standards of care C as needed to deal with seasonal outbreaks, lack of bed availability, and drug shortages, this pandemic will require a more intensive application. Earlier this month, NAM published a discussion paper providing guidance on how health systems and health care coalitions can

reallocate or avoid withholding potentially lifesaving resources as they navigate their Covid-19 response. While the CDC is continually updating interim guidance for health care professionals, which include strategies to optimize PPE, guidelines from the federal government could go further to endorse streamlined strategies to reduce uncertainty and practice variability.

In addition, discussion of medical rationing internationally and here in the US has been unavoidable due to the pandemic. Washington State has already released triage documents developed with state and health systems leaders, primarily to protect physicians who will be faced with heart-wrenching decisions as the number of critically ill surge. Other states and individual health systems could develop policies to support providers as they deal with the ramifications of inevitable supply shortages. Federal comment and collaboration with state and health system leaders may facilitate the most equitable, coherent, and consensus-driven strategies possible.

Implement Anti Price-Gouging Efforts

Policies to combat price gouging could help combat some of the challenges hospitals face in acquiring needed supplies; governors and state legislatures across the country are already acting in this area. This is especially important because some states or localities may have no prior protections in place for medical supply; for example, before March 20, Massachusetts regulated price gouging only for gasoline and other petroleum products.

Earlier this month New York, following Washington and California, moved to ban the raising of prices of

consumer medical items by more than 10 percent of their typical prices prior to the crisis; New York empowered its attorney general to seek penalties of up to $25,000 for violators. While these laws are primarily meant to protect consumers, they may still support health systems as they scramble to obtain PPE and other equipment outside of their typical supply chains, which are becoming increasingly unreliable; state and federal lawmakers should be ready to quickly enact and enforce legislation to address categories of price gauging that hospitals encounter. Additionally, states should consider using regional and within-state partnerships to create aligned purchasing strategies to reduce excessive price increases, as California Governor Gavin Newsom recently called for.

Coordinating actions across state and federal, public and private spheres, and implementing creative strategies now and in the coming weeks, could improve hospital readiness and, ultimately, save lives.

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