Incident Command System: The Time to Prepare Is Now

Use of Incident Command Concepts and the COVID-19 Pandemic

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The idea of crisis resource management in anesthesiology is well-established for emergency management of individual patients. Among medical specialties, anesthesiology has certainly been a leader in the use of simulation training to bring those concepts into procedural areas when a crisis occurs for individual patients (*Int Anesthesiol Clin* 2020;58:2-6). However, there is less protocol established for the management of an emergent situation that affects an entire system of procedural areas, the hospital, and the health system – especially when the timeline is not hours, but days, weeks, and months of an extended calamity. What happened at our institution, like some others, was an expansion of our incident command center process.

Our office of emergency management (OEM) and hospital incident command system (HICS) is an ever-ready small group that has guided us through EMR shut-downs, power outages, and imaging failures plus intermittent simulations for active shooters or environmental disasters – unsurprisingly, an earthquake is the usual scenario in California. They are rarely called upon and set up and take down a command center with a set of checklists and roles and responsibilities clearly defined. Before we became our present, virtual selves, leaders in their respective roles would don bright-colored vests when entering a room, with large block letters ironed on for easy visibility. The rules were clear and the format well-established.

Stanford Clinical Assistant Professor Praveen Kalra, MD (left), and Resident Alexandra Klein, MD (right), work with PPE trainer Dane Marin from Performance Medical Group to learn how to correctly don PPE back in 2020.

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It's all about decisions

In March 2020, when COVID-19 became a front-line problem in California and in our county of Santa Clara, we at first relied upon our usual system. However, as we know now, and what could have been predicted, this is not a sustainable system for more than a few days at most. The experience here, at Stanford Medicine, was that we had our established governance for mid- and long-term tactical and strategic planning. However, we did not have a governance system that was meant to make day-to-day decisions for the entire hospital, including the nuances for different areas, and certainly not a single point for decisions for a system of three separate hospitals all with their own independent system plus a medical school. One key point is that much of crisis management and incident command is about how we make decisions and how those decisions are disseminated and implemented. In reflection, this was the struggle during the pandemic. One interesting pre-existing structure that was, by luck, a part of our system concerned a single shared service for supply chain. Since personal protective equipment (PPE) became such a primary focus of the response to the COVID-19 pandemic, having a single team in this position helped the implementation of whatever pronouncements came from the group of leaders ultimately responsible.

Health equity as a byproduct of governance

To tie together the Stanford Health Care adult hospital, Stanford Children's Hospital, and the Stanford ValleyCare community hospital, a governing body called the Clinical Oversight Resource Team (CORT) was formed. This team was led by the three chief medical officers representing the three hospitals within the system. All other new or previously existing committees reported to this leadership structure, and all decisions and information were disseminated from this team. Representation from a huge number of stakeholder groups attended these CORT meetings. The meetings were and are run with a standard report out of data followed by endorsement from the group. Even though the process may have slowed down the course of implementation, it ensured consistency among all areas, which added an element of safety. The goal was that no matter where at Stanford anyone worked, the same guidelines, policies, and procedures applied. This included access to resources and standards of care set for our patients. Not all areas would have the same resources, i.e., access to N95 masks, which were in short supply in the beginning. Places where COVID-positive patients were cared for and areas where procedures involved aerosol production were prioritized for N95 masks and PAPR

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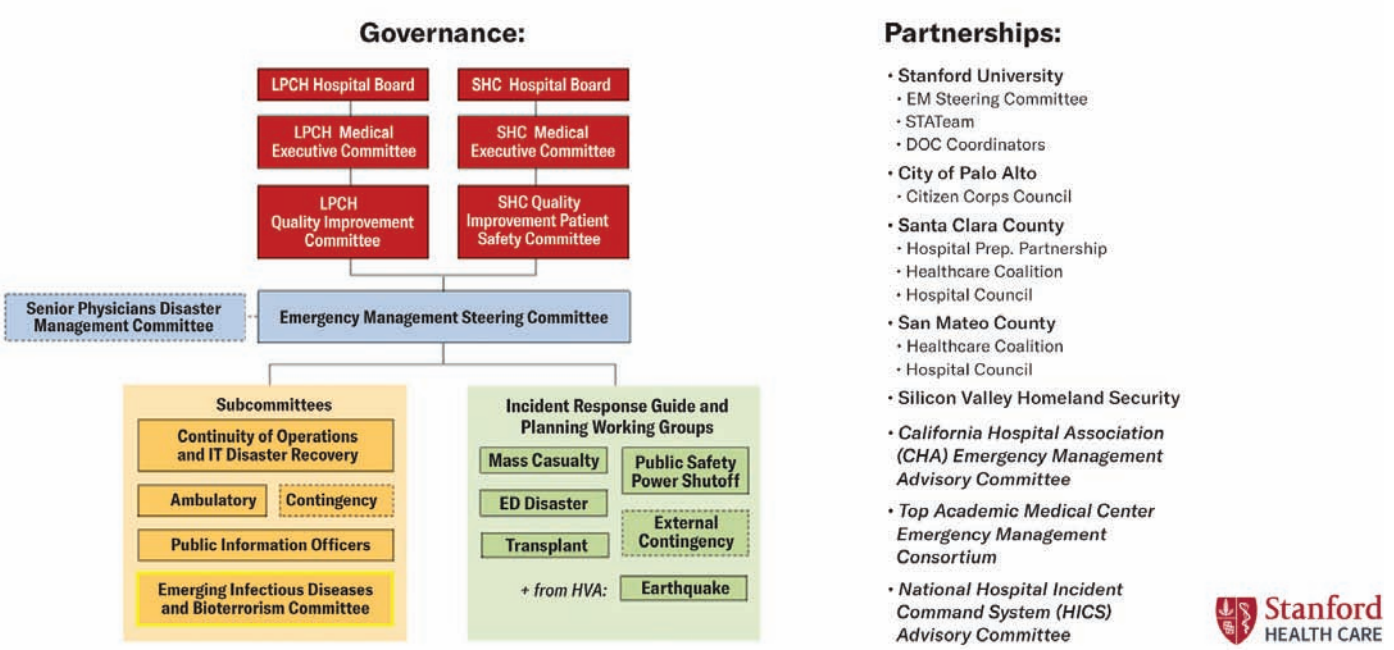
Figure 1: Office of Emergency Management: Team, Governance, and Partnerships



Use of Incident Command Concepts

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equipment and supplies (*Anesth Analg* 2020;131:e202-e204). This was not equal, but equitable in the intent. We triaged on a system-wide scale, and these limited supplies were closely controlled and monitored. The second rationed resource was the allocation of testing for both patients and health care workers. Again, tests were not equally distributed among all areas but equitably applied based upon risk of exposure to a COVID-positive patient. In some instances, the guiding principles of equity worked and in others they came under intense scrutiny, as with the distribution of the first vaccines to health care workers. Subgroups were formed with content experts for each area of focus, with our infection prevention and control team and laboratory leadership always having representation. Another lesson embedded here is that a crisis might bring a group or specialty into the spotlight who may have previously been relatively quiescent.

A safe community: leveraging content expertise/existing systems

CORT was the final pathway for work products from different subgroups. A PPE committee, vaccination committee, COVID testing committee, and vaccination committee were all formed at various times. These teams put together specifics based upon best evidence and tried to integrate that into the boundaries placed by the California Department of Public Health, the CDC, and state/county government (*NEJM Catalyst* 2021;2). We even formed a committee called "TUCR," the Task Force on the Utilization of Resources, the purpose of which was to receive and vet questions that had no other home. One principle became very clear: Everyone (patients and health care workers) had their own idea of the definition of "safety." And now, in retrospect, it is easy to see two priorities surface:

1. Testing
2. Access to PPE

These remain priorities today even with the implementation of a vaccination requirement for health care workers and with a high percentage of patient vaccinations. Figure 3 represents structures in place (new and old) that relate to our "Interventional Platform" Perioperative and Interventional Services.

Creating additional bandwidth

The physicians and staff whose full-time job was infection control became an integral part of the fabric of our response. Support for this small department was prioritized, and they responded by working to a level that they likely had not previously experienced. We needed to also sustain our teams directly in caring for COVID-positive patients, as did all health care systems. Infection control rose to the challenge presented by the pandemic and was able to utilize the resources provided by the system to meet the needs of the system.

Additionally, we needed organizational attention to continued support and resources for a response to power outages, supply chain disruptions, and technology disruptions, including cybersecurity events, to ensure that we acknowledged the additional stresses that the people and the organization were under during these times and to create space and conversation for our teams to be seen and heard. ■

Figure 2: Hospital Incident Command System (HICS) + CORT

- Dedicated coordination meetings commenced 1/22/20
- EIDB Subcommittee membership expanded to form the Operational Planning Group
- PPE Conservation Workgroup was developed with Supply Chain
- 1/29/20 EIDB chairs proposed activation of "COST" (later known as CORT) to address clinical and operational issues across the health system
- 3/18/20 Hospital Command Center (HCC) activated
- 5/8/20 HCC demobilized

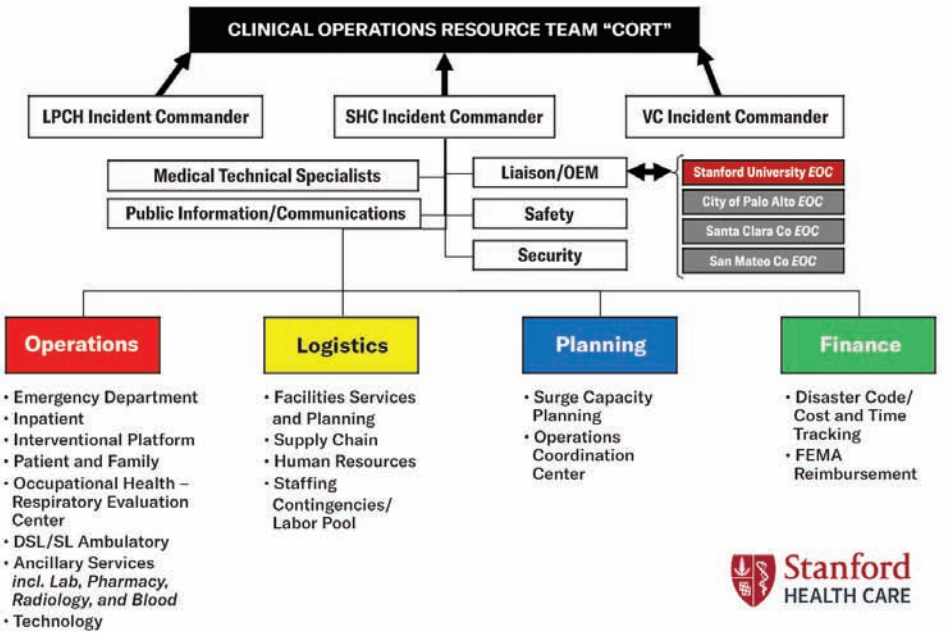

Figure 3: Interventional Platform COVID Governance

If You Can't Take the Heat

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emergency situations and adept at making quick treatment decisions, we possess the knowledge and skills necessary to lead in a crisis situation. We are also the critical interface between our partners in nursing and surgery, uniquely able to understand the strengths and weaknesses of our teams and the system overall.

Our current operative model is geared toward optimizing system resources. Our anesthesiology coordinators must offer scheduling flexibility for surgeon convenience but be available to answer any emergency case that presents to the OR. This routine model for OR "stretch" can be quickly over-burdened. Imagine you are coordinating the OR schedule when a mass casualty event occurs. In facing the crisis, you must not only manage the cases within your ORs, but you must determine which resources you have and will need to successfully manage the crisis you are facing. If you take this a step further, imagine the event happens at a time when you have minimal staffing, such as on evenings, weekends, or holidays. How many emergent surgical patients would it take to overwhelm your immediate staffing resources? How will you mobilize, organize, direct, and communicate during these critical situations? ICS is the answer.

ICS is the gold standard used by all emergency medical service, law enforcement, and fire agencies in the US as mandated by FEMA to receive federal funding (asamonitor.pub/34GTrxL). CMS requires all hospitals to develop an emergency plan that is coordinated with those agencies (asamonitor.pub/3gPJReg). However, current plans are limited in their scope to pre-hospital and emergency room management. OR management of these incidents is often only briefly mentioned. This provides a unique opportunity to expand our scope of practice as anesthesiologists and learn from the experts in emergency preparedness. ICS can optimize OR efficiency and resource utility during a mass casualty event and be easily integrated into the systems currently in place. It is time for anesthesiologists to embrace the battle-proven incident management system developed by the U.S. Forest Service and take our rightful place as leaders in mass casualty event management.

This is part one of a two-part series. Part two (page 26) is titled "How Will You Respond to the Next Emergency?" ■

Disclosure: *Dr. Watt is Vice President of the Board of Directors of the Malignant Hyperthermia Association of the United States.*