



HOSPITAL INCIDENT COMMAND AND SCALABILITY IN A PANDEMIC: Notes from the Field



Hospitals across the country have been managing COVID-19 patient surge for several months. To facilitate the response, many have activated hospital incident command, adjusting as necessary to match patient census. ASPR TRACIE met with the following subject matter experts to learn more about their experience with hospital incident command (listed alphabetically):

- Angelo Belfiore (AB), Mount Sinai Health System, Assistant Director, Emergency Management Planning (NYC)
- Don Boyce (DB), Vice President, Emergency Management, The Mount Sinai Health System (NYC)
- Craig DeAtley (CD), PA-C, Director of the Institute for Public Health Emergency Readiness at MedStar Washington Hospital Center (MD, VA, and DC)
- Dr. Mark Jarrett (MJ), Senior Vice President and Chief Quality Officer, Deputy Chief Medical Officer, Northwell Health (NY)
- Mitch Saruwatari (MS), Director, Emergency Management, Kaiser Permanente (CA)
- Dr. Al Villacara (AV), Mount Sinai Health System, Assistant Director, Emergency Management Education & Training (NYC)

1. How did virtual operations / social distancing change your HICS operations and approach?

■ AB/AV

The Mount Sinai Health System's EOC and Hospital Command Center IMT activated at their respective physical locations at the start of March 2020. Over the course of several weeks, the EOC and IMTs were able to address major system-wide and hospital-specific issues, coordinate the start of alternate care site (ACS) operations, establish battle rhythms, etc. Social distancing was implemented to the extent possible at physical locations. As the COVID-19 numbers escalated over the course of March, the transition was made to remote/virtual operations. EOC and IMT members felt that remote/virtual operations worked well since by the time the transition was made, our response was already very established through the physical activations.

■ DB

Virtual operations and social distancing were two of the many critical components that were being identified, discussed, and introduced to critical operational/crisis plan development early on. It became increasingly significant early in the response ultimately requiring immediate attention despite the ongoing evolution of the overall command structure from a "traditional" Emergency Operations Center (EOC) to one run more by a unified command structure (a number of "firsts" for the Mount Sinai Health System [MSHS]).

As we worked to establish upwards of 14 individual work groups within the command structure (in response to the significant and dire need for fast-paced analysis and decision making), we took over a floor in the corporate headquarters building and set up rooms for each workgroup. These large conference-type rooms were outfitted with adequate space to afford proper social distancing and staff complied with temperature, travel history, symptom inquiry, and mandatory mask and handwashing protocols.

There was great appreciation that the operational footprint, as it was being built/performed, was still potentially exposing to employees. That said, the need for rapid mobilization and collaboration at the onset of the surge, coupled with the lack of plans to go to a fully virtual platform, required us to move to a safer (remote) operation. We were identifying, learning, assessing, and exploring solutions to problems concurrently with the pandemic. While planning for remote operations, the concerns with COVID-19 exposure became preeminent, necessitating instant implementation of virtual operations. This expedited the decision to execute on the draft plans in development for this response. In so doing, information technology (IT) staff were immediately required to increase the communications and VPN capabilities of the system while also enhancing the same infrastructure for telehealth and technology uses for COVID-19 provider and patients and their families.

The MSHS EOC and site-level incident management team (IMT) operations for each of the eight hospitals in the system (including ambulatory sites and operations) were fully underway in response to the COVID-19 crisis. During this period, all components were evolving to meet the scope of the disaster that now included the need and directive for a virtual component to come on-line immediately. This was just one of many things that emergency management, hospital IT, and support services/operations staff were accommodating and building on the fly. In this new environment—and between virtual operations and social distancing—the number of coordination calls increased significantly. This frustrated many operations and clinical staff, as participation

in these calls became somewhat detrimental to good form and efficacy and presented even more challenges to be resolved over time.

■ CD

We must remember that at the beginning of this pandemic, social distancing was not required or recommended. At first, we met as we traditionally did: face-to-face and in the hospital command center. As time went on, we moved away from the command center to a larger conference room where we could implement social distancing. We also found that keeping the command center open 24 hours a day was not necessary and switched to 12-14 hours a day where an IMT was active. Within the first month, we had set up twice-daily, standardized, in-person situational briefings that involved all IMT members. During these briefings, we: 1) got situational updates on pre-identified response activities 2) confirmed everyone knew their roles and assignments; 3) set the objectives for the day; and 4) identified what needed to be addressed and by whom between briefings. The entire IMT (i.e., all hospital incident command positions) participated in these briefings. The planning section chief took notes on the updates presented and issues discussed as well as collected data such as house census; number of COVID positive patients, ICU patients, and patients on ventilators; and city and corporate data. These notes were attached to our weekly incident action plans (IAPs).

■ MJ

In early February, we called a mini-meeting to discuss the situation; our larger group—comprised of 90 people—met in early March using Incident Command. During the first week, we met in person, in the EOC; this allowed us to break into smaller, specialized groups, then report out to the larger group. Unfortunately, because of community spread, on March 12, we had two of our senior clinical leaders, who had been in the larger room and the breakout rooms, present with COVID-19. The next day, we switched to virtual meetings, and we have been meeting virtually since. Luckily, no one else got ill at that point.

We used Microsoft Teams, but calls with 90 people (while informative) were not conducive to healthy discussion. We shortened those and held them twice a day (once in the morning, another in the evening). This allowed participants to split into smaller groups (e.g., clinical, procurement), have their calls during the day, and one person from each group reported out to the larger group during the evening call. As the disease spread rapidly through New York, this is all this group did, other than respond to emergencies. Developing metrics and dashboards was key; everyone could visualize patient census and trends by location twice a day. This allowed for more focused agendas and shorter calls.

■ MS

Our healthcare organization (HCO) consists of a network of command centers including hospitals, outpatient facilities and administrative units. In some cases, a physical presence was needed but for most, a virtual approach using Microsoft Teams worked very well. We also activated administrative/non-clinical command centers as well as traditional command centers. Action planning was essential to these units since the HICS positions did not seamlessly align with the organization's functions. By bringing in leaders from all parts of the organization such as clinical, communications, human resources, supply chain, facilities, security, legal and others, we were able to align our response and cascade information horizontally, vertically, and diagonally.

2. What did you learn from the extended operations of COVID-19 relative to command staff?

■ AB/AV

Extended operations reinforced that additional personnel are required to augment EOC and IMT command staff. Our response was incredibly fast-moving with long hours throughout the week/weekends over several months. Incredibly challenging to sustain this "chronic emergency management" with the mental, physical, and emotional impact on all team members. Additional personnel should be identified and trained across the system to allow for rotation of personnel within our incident command structure.

■ DB

We had heard, through collaboration calls we were having with Top Academic Medical Center Emergency Management Consortium members, that there was a concern for command staff burn out due to prolonged operational activation. This was in the weeks that the MSHS Emergency

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It is also very important to incorporate rest, rehab, and mental health support into your staffing plan during an event like this that has no clear end time. We used our “Care for the Caregiver” program early on to help staff manage stress. Staff from our departments of psychiatry and spiritual care regularly rounded the floors, checking in with employees. One of the other most important things we did (and continue to do) was have senior leaders, including emergency management staff round the units—to talk, to observe, to reassure, to thank everyone—during the week and on weekends. We also sent letters to the families of our associates to express our appreciation, to update them, and to recognize the contributions they must make to enable their loved ones to work long shifts at the hospital.

-- Craig DeAtley

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Management group, with only select departments, were gearing up for a potential response to COVID-19. Since then and to this day, the command staff and EOC/IMT operations continue, though the pace is clearly different than it was at the height of the COVID-19 impact in NYC. Cumulative stress on leadership because of this type of event is also a concern, but that will take time to observe and investigate. Our system has held many outreach meetings and learning sessions to introduce learning and support programs to deal with the aftermath of this response.

We evolved from activation through creation and implementation of an EOC managed through a Unified Command Structure. We established and convened more than 20 Emergency Support Functional (ESF) areas and greater than 14 work groups for policy implementation and then took it virtual. In retrospect, the virtual activation and evolution has largely allowed the key leaders within the organization who had struggled with being at the EOC versus in their operational role to perform both tasks more efficiently, with enhanced impact, and for longer periods of time. This is a topic that c/should be discussed at greater length during after-action assessments.

■ CD

Every two weeks, the IMT completed a written survey where we asked them to list what was going well and identify areas for improvement. We codified all responses into a summary document for that time period. The emergency preparedness work group (All Hazards Committee) collected the same information from “the house wide perspective” in July, towards the end of Phase I of our response. Four weeks ago, we realized we had come to the end of an acute response and settled into a sustained response. We conducted one final survey with multiple groups, and we are reviewing that data and preparing a preliminary after-action report. One of the most important things about this survey is the fact that we started it early; we have always waited until the end of a response to collect this type of data. Now we can incorporate our lessons in near real time. We also learned that this situation is affecting all staff at all levels, including leadership. Acknowledging this during our town hall meetings has been helpful; we also give formal “shout outs” to individuals or groups for going above and beyond.

■ MJ

We realized that we all needed at least one, if not two, layers of backup. Just as we got past the beginning of the peak, we were finally able to give people a day off. Having some depth also allowed staff to have their backups sit in on calls for them, allowing staff to participate in other topic-specific meetings as needed. Once we passed the peak, we lowered the number of meetings and made them more specific in content. More recently (in May), we added meetings on recovery and resurgence planning. Now we are focusing on creating negative pressure rooms, maintaining ambulatory care and urgent and elective surgeries, encouraging patients to seek medical care, and ensuring we have enough ventilators and other supplies as fall approaches. We are now able to use our data to assess and plan for our supply needs in a resurgence and for a 90-day period (our state requirement).

■ MS

Additional training was needed to expand the pool of command staff members. Having a broader rotation provided needed rest and additional focus on regular duties among responders.

3. What did you learn about your use of incident action plans?

■ AB/AV

The Mount Sinai Health System implemented a variety of operational documents to facilitate response. Specifically, the Health System Biological Threat and Pandemic Surge guide helped to provide standardized system-level guidance and support for development of facility-specific operational plans. Additionally, MSHS facilities completed a tremendous amount of work on developing and implementing surge plans to accommodate the anticipated patient surge.

■ DB

The system relied on a number of documents and plans that were in existence as well as documents and planning tools that were developed real-time due to the requirements of the consequences we were seeing across the system and at specific sites individually. These were not necessarily traditional IAPs as the unique nature and extreme impact required additional planning and operational objectives. One of the most significant initiatives introduced at the early onset of the COVID-19 response was a work group for crisis standards of care. We identified a key group of clinicians and operational leaders focused on strategizing on this important component, introducing

them to Dr. John Hick and Dr. Dan Hanfling, who provided a crash course on how best to think through the most critical areas and concerns specific to this undertaking.

■ CD

Early into the response we switched from a daily to a weekly HICS Quick Start IAP form to which we attached all the daily situational briefing reports. Our IAP contained response objectives that we have modified slightly now to account for settling into sustained response and recovery. You can't determine how successful your response to an emergency really is without first setting benchmarks to meet.

■ MJ

We are very used to using the incident command system; we used it on 9/11 and during Superstorm Sandy. It's part of our DNA and made it 100 times easier to keep all the moving parts aligned.

■ MS

It has always been a core component of our planning and training efforts. Over the past several years, we've seen a steady increase in events impacting our organization and continue to use action planning as a method for improving response alignment.

4. If you are part of a system, how did your facility integrate with incident management at the system level?

■ AB/AV

The system EOC worked to coordinate centralized PPE procurement/distribution, establish alternate care locations to relieve overloaded facilities, and disseminate consistent guidance for application across the eight network hospitals via Command Center IMTs. As part of the established battle rhythm, there was regular communication between the EOC and IMTs with information flowing in both directions. The system EOC also has approximately 20 Essential Support Functions (ESFs) that represent both operational and clinical system-level leadership. These ESFs are then further organized into about 10 EOC workgroups that are tasked with design, development, and implementation of system-wide guidance, plans, policies, and procedures.

■ DB

I can answer this question from the other direction – our system is comprised of eight hospitals and over 350 ambulatory care service lines – plus a number of headquarter and off-site locations. Each of the hospitals as well as the ambulatory interests have existing IMTs and the system had recently (shortly before the COVID-19 outbreak) moved from an IMT concept to an EOC framework. This was done in large part through previous identification that the system needed to align more as policy, strategy, and system capability vision and engagement leaving the sites to run their operations based on system guidance and support. In large part, the system EOC conducted multiple daily coordination calls with the sites' IMTs. The system also took lead on supply chain management, policy guidance on PPE, visitor policy, etc. It was imperative that the system needed to align as a system to function as one entity seamlessly – disallowing one facility to break and do what they thought was best, etc.

The overarching theme in the operation was that the EOC was uniquely evolved in the early days of operation from one led by an incident commander to a Unified Command Group (UCG) structure comprising the system's chief operations officer, chief medical officer and deputy, chief clinical officer, and the vice president for emergency management for the system – all representing the same system but bringing very specific areas of focus. Once alignment was accomplished within the UCG – policy was quickly built and implemented through the IMTs across the system. It became highly efficient over time.

■ CD

MedStar Health also had corporate briefings (which have taken place between once a week to twice a day, depending on patient census and need) and members of the hospital IMT participated in those. Those who participated shared the information with the rest of hospital IMT as appropriate. The challenge—and I'm sure this is the case with many—is balancing the leadership and decision-making roles between corporate IMT and their hospital counterparts. Avoiding unneeded leadership redundancy, lack of clarity in decision-making, and miscommunication is essential. Also noteworthy, in past, more "traditional" emergencies, which had a clear beginning, middle, and end, corporate

In all my years, this is the hardest thing I've ever done professionally, without a doubt. This has been the most wearing time—even when I was home on quarantine, I worked more than I did when in the office. Of all the issues we dealt with, the hardest challenge that we as a field need to worry about is staffing, especially when the entire country is dealing with the same challenges at the same time. We also need to keep this in mind when setting up ACS—we learned that keeping those nearby or even within the hospital is easier in terms of moving staff and equipment.

--Mark Jarrett

didn't often have this level of operational input and that resulted in some start up and enduring responses that quickly became ironed out with efficient and effective communication.

■ MJ

Northwell breaks our facilities throughout the NY Metro area into three regions (east, west, and central) and regional leadership is responsible for communicating with individual facilities and collecting information on their needs, then communicating with our IC. This helped with load balancing. For example, during the peak in the spring, we often transferred 20 patients a day from a smaller community hospital in Queens to other hospitals in the system (but possibly in a different region). There was a total of 900 patients load balanced throughout the NY event, with over 20,000 admitted COVID-19 patients at Northwell sites. Since we knew what our system and facility levels were, we were able to move patients throughout the day to avoid overcrowding any one hospital. We also moved ventilators around the regions based on need.

■ MS

Each Kaiser Permanente facility is aligned with a geographic command center. In turn, these align with an organizational command center. Information is vetted and combined to develop a national response strategy.

5. What would you keep / change about your incident management during the planning / early response phase?

■ AB/AV

We would keep EOC and IMT activations at physical locations at the beginning of the response (we saw a benefit in personnel being physically together early on to lay foundation of response). We would consider activating EOC and IMTs slightly earlier to get our response established sooner. We would also leverage non-traditional external sources to gather additional, timely information to inform our decision-making.

■ DB

Based on the quick onslaught of very sick patients and the rapid response required to accommodate this need – the incident management structure worked. The IMTs across the system were well practiced and most importantly, properly empowered – this must stay for continued success. We will also be keeping the EOC concept that allows the key leaders comprising the 20+ ESFs to carry out their assigned jobs and responsibilities during a response while collaborating with peers and counterparts within the EOC environment—taking them away from the ICS structured requirements and expectations of IAPs and such—and allow and facilitate their actions in concert with other leaders in response to the immediate and projected needs. Though hindsight compels the thought of earlier activation, the reality of the known threats, interest of leadership in stopping everything to focus on a potential issue forces the conclusion that in the future – earlier engagement will be a good thing when possible and indicated. On the heels of this type of disaster, many would agree and interest may actually change. Locking those changes into place so they exist years down the road will be the real challenge.

■ CD

While the decision would vary by site, both the hospital and corporate staff should reconsider setting up formal command centers to manage a pandemic and flex their composition and operational periods to response needs. The decision on how to do it should be made early on, and account for the effect on staff utilization over a long period of time. It's also important to have a comprehensive surge plan beforehand and then modify it as time goes on. The plan must smartly address what a staffed surge bed means and ensure that all the necessary supplies for that additional patient bed are also available (e.g., PPE, ventilator, cleaning supplies). Another lesson we learned early on was that we were providing staff with too much information in too many emails. We received feedback indicating that they didn't have time to care for patients, perform the other aspects of their job, and read all our messages. By week #3, we sent one email daily with bulleted, highlighted, concise information.

■ MJ

Our ICS worked well. Having our smaller groups meet on Microsoft Teams also worked well; we brought subject matter experts in when necessary. One thing we are working on changing is communication. We are a very large system, with nearly 72,000 employees. Close to 45,000 are

front-line staff and the rest serve support roles. About 14,000 now work remotely. As information from CDC and state health departments changed so frequently, communicating with the nurses, the transporters, and the environmental workers, for example, was not as robust as it could have been. We are working on that now. We found we also needed to provide general information and relevant, focused information to different types of staff.

■ MS

We stood up our command centers early to get in front of issues. This proved to be essential for managing the extended response and unpredictable complications related to COVID-19. Use of MS Teams and virtual coordination is something we benefited from and will likely continue during future responses.

6. What would you keep / change about your incident management during a patient surge (if you have had one)?

■ AB/AV

We would once again rapidly increase our internal bed capacity across the system, and we would tap into external partnerships to support our ACS. One thing we are working on now is further developing internal/external options for ACS locations and capabilities. We would also consider consolidating certain services at specific locations within our system to allow for more efficient care across the network.

■ DB

Keep a Unified Command approach (when indicated) where executive leadership at the operations, administration, and medical/clinical levels are represented. The speed and efficiency of decisions was notable. Keep/enhance a robust virtual platform and further build out representation, as warranted, in both the EOC/UCG and ESF groups.

■ CD

Before the pandemic, the “worst-case scenario” I had hospital staff and leadership consider was being able to respond to 258 ballistically injured and/or trampled personnel arriving at one or more of our hospitals over a 90-minute time period. Now I have them imagine a situation where the number of patients coming a) pose a contamination risk to you, but you can’t wash it away like you could in a chemical situation, b) you have to work in PPE for the entire time you are with a patient, or an entire shift, and c) you have to worry about replacing or even reusing your PPE.

Like others, we changed our visitation policy. On one hand, we are promoting safety, but on the other hand, we are promoting patient isolation. We also put a new technology demand on ourselves to ensure patients could maintain communication with their loved ones; we ended up purchasing hundreds of iPads. This also required more internet connectivity and we had to bring our information technology team into the response. We also had to close our outpatient sites and added nearly 4,000 telehealth visits a day to a facility that barely had them prior to the pandemic.

■ MJ

We would have pushed harder for more data, more predictive analysis, and more unified dashboards a little sooner. We learned as we went, and we developed our own model, but we realized how truly important having these metrics was. Our IT department, medical informaticists, and data warehouse staff got together with clinical and operational staff to set up the dashboards. We really had to speak with one voice to ensure the most robust data going forward. At the beginning of the pandemic, we mandated that everyone seeing positive patients (or those under investigation) wear N95 masks; all other staff with patient contact were instructed to wear procedure masks (patients, too, as long as they could tolerate it). I think this kept a lot of our staff from getting sick from the beginning, before testing was available.

Close to 42,000 staff volunteered to have their antibodies tested to help us determine prevalence in our employees. We wanted to know if rates were higher in certain hospitals or based on where staff lived. In some communities, staff live in the same area as the hospital, but in others, staff live all over and take public transportation to work. We geo-mapped these variables to determine the impact of community versus workplace spread. If we see another surge, we will be able to look at that data again to help predict and assess trends and plan accordingly.

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In January, I met with our Chief Financial Officer (CFO) and we agreed to collect financial data to determine if and how the COVID response affected daily operations. Every Friday, the CFO sent out a form to every department chair, asking them to list costs/loss associated with changing operations (e.g., cancelling procedures, purchasing equipment, vendor, personnel costs). As a result, when the CARES Act was passed, we were quickly able to assemble needed data to submit for reimbursement.

--Craig DeAtley

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■ MS

We prepared for potential surges early so we were only impacted at a few facilities. Having standardized plans with regional oversight helped to decompress surge-related issues.

7. What position served as your incident commander and would you change that going forward?

■ AB/AV

At the system level, the EOC was led by a UCG staffed by clinical and non-clinical personnel as Don listed earlier. The UCG was tasked with providing system-level guidance and decision-making related to both clinical and operational response actions. At the hospital level, the IMTs were led by either clinical or non-clinical leaders with experience serving as ICs. This structure was effective across the system and will not be changed moving forward.

■ DB

The Deputy Chief Medical Officer assumed the role of incident commander within the first days of the activation. Upon observation of the need for decision making, the scope of the incident, as well as the impact across the system, I introduced the description of a unified command structure. This was immediately implemented and deemed successful, largely because this response required the focus and attention of multiple leaders across the system, and more importantly, the combined voices of executive leadership from operations, emergency management, and medical and clinical groups. In future events, as for the approaching hurricane/tropical storm, we will once again default to having an incident commander represented by any of the positions that held a seat in the UCG. If the impact is sustained or causes significant compromise to the infrastructure of the system, we would consider using the unified command structure once again.

■ CD

For the first several months, we had two rotating ICs (a total of 16 administrators were on call). Shifts were in person and from 7:00 am to 7:00 pm and from 7:00 pm to 7:00 am. We purposely switched ICs every 24 hours because we wanted everyone to have the experience and we wanted to minimize staff fatigue. We currently have a 24-hour on-call incident commander, but they are only physically in the hospital from 7:00 am to 7:00 pm. The nursing supervisor assumes the incident commander role when they are not in hospital, until the commander can report in person. Thus, 24/7 coverage has proven important because during our COVID-19 response we have also had a fire that resulted in significant water damage; we had an oxygen valve left open, and that drained our oxygen supply; and we had a hazmat release incident.

■ MJ

The system's chief operating officer served as our incident commander, with support from the chief administrative officer. They've been with the system for a long time and have a good understanding of incident command and the operational challenges associated with patient surge. There was also a third back up for the IC.

■ MS

We didn't specifically engage an incident manager but provided support to each incident commander through the command staff. Each incident commander was briefed through verbal and written reports to ensure they had the latest information regarding action plan updates and issues.

8. How much did you use standard HICS job action sheets, documentation, and positions during COVID-19? Did you use any other processes that worked better?

■ AB/AV

The MSHS implemented standardized HICS protocols across all our sites. All of our hospital command centers were staffed by IMTs in order to direct and coordinate facility-level response actions and resource requests. Sites have also developed department-specific job action sheets that take into account key surge planning activities such as infrastructure, equipment, supplies, and personnel. These sheets can serve as resources in anticipation of a second wave of COVID-19 cases in NYC.

■ DB

As shared earlier – the system follows the spirit of the HICS structure to achieve the basic tenets of incident command. At the onset of the response all site command centers were managed by trained and vetted IMT members. The basic framework and ongoing training is premised on the HICs structure – but this event, as stated above, required immediate implementation of additional guidance documents and leadership from the system EOC. Emergency Operations, Biological Threat, and Pandemic Surge plans, along with supporting policies and procedures, were quickly adopted.

■ CD

Besides using the Quick Start IAP, the most important documents we used were our various response plans, rather than HICS forms and JAS. In addition to IC, our key IMT positions included: public information officer, liaison officer, medical technical specialist, all four section chiefs, medical care branch, ICU unit leader, infrastructure branch, IT/IS unit leader, and documentation unit leader. The staging area was renamed “Redeployment Unit” as some staff whose normal roles were not needed for an extended period of time were reassigned to bolster other areas where staff was needed.

■ MJ

As a system, many of us do incident command so often, that none of us really needed to review the job action sheets; newer staff probably reviewed them at first. Due to the novelty of this long-term pandemic, as part of our after-action process, we are considering how to edit/update some sheets to incorporate issues such as immunity law and crisis standards of care.

■ MS

These continue to work well at the facility level where the ICS and hospital positions align. For the other command centers, action planning including daily reporting helped guide response activities and resolve issues.

