Coordinating Public Health and Emergency Management with Juvare's WebEOC and EMResource

Executive Summary

Response to a wide-ranging public safety crises requires meticulous coordination and communication to be effective. The COVID-19 pandemic proved that if managed correctly, healthcare facilities and local emergency management departments can work together to mobilize resources and ensure their efforts complement, rather than conflict with, each other.

Coordination demands clear and frequent communication, access to real-time data, and resource sharing, all of which COVID-19 put to the test. So how do state and local emergency management directors coordinate activities with public health officials to ensure the most impactful response possible? Juvare recently posed this question in a panel discussion with healthcare and public health professionals around the country.

PARTICIPANTS:

- **Max Wippich**, Juvare Director of Client Services

- **Aaron Thompson**, emergency management specialist, Chatham County (GA) Emergency Management Agency

- **Nathan Bubenzer**, emergency preparedness safety manager, UnityPoint Health-Meriter (WI)

- **Marcos Coria,** technology manager, Maricopa County (AZ) Department of Emergency Management

- **Lori Upton**, director of preparedness, Southeast Texas Regional Advisory Council
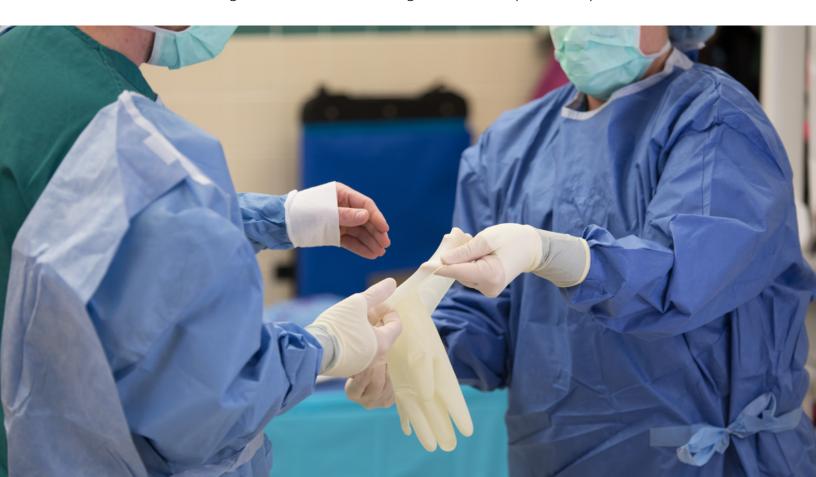
PROBLEM

COVID-19 highlighted the importance of coordinating the activities of emergency management agencies and local public health organizations. Such an unprecedented event not only taxed available resources, but also limited the ability of responders to interface with each other. As the pandemic forced emergency management teams into performing additional duties, they required integrated technologies to keep all stakeholders informed of policies, guidelines, and treatments.

Some officials, like Marcos Coria, technology manager for the Maricopa County (AZ) Department of Emergency Management needed to create a unified command center with local health agencies and facilities. But with COVID-mandated social distancing, housing public health leaders and other partners in an emergency management department's headquarters was not always possible. That created several challenges:

- Could adequate space be found?

- If not, which essential personnel would work onsite?

- How would those working remotely stay connected?

- What technology can be harnessed to make it happen?

Others, like the Southeast Texas Regional Advisory Council, sought a reliable way to secure, distribute, and track personal protective equipment (PPE). It was a tall order for Director of Preparedness Lori Upton, whose agency was charged with apportioning millions of pieces of PPE every week from its warehouse and a converted medical countermeasures POD (point of distribution) to 1,300 regional agencies. At the same time, the advisory council continued to collect hospital data, manage load balancing among healthcare facilities, integrate assistance from a federal medical team, and negotiate contracts with nursing facilities to accept overflow patients.

SOLUTION

Many of these coordination efforts employed Juvare's suite of emergency response solutions to coordinate activities, communicate with stakeholders, and ensure all partners operate from the same common operational picture to ensure complete situational awareness.

The Chatham County (GA) Emergency Management Agency linked Microsoft Teams with Juvare WebEOC to facilitate information sharing and maintain operational continuity. WebEOC enabled the agency to keep tabs on what first responders, public health facilities, and federal and state experts were doing. Aaron Thompson, Chatham County's emergency management specialist, said COVID-19 forced him to accelerate programs he already intended to implement.

"When I took over, the ultimate goal was, over several years, to build out status boards and other WebEOC capabilities to keep track of the healthcare and first responding agencies. The plan was to have these in place to deal with hurricanes, our most common large-scale threat," he said. "When COVID hit, we had to take what I had planned to accomplish over a few years and condense it into a few weeks to manage this new threat and keep track of the information we needed to obtain and use."

The platform was instrumental in submitting resource requests from law enforcement and front-line medical providers personnel to the state, which long-term care facilities were experiencing outbreaks, who were being tested by the National Guard, and other disparate data.

"We had all this information coming into us initially from physicians' log entries," Thompson said. "A lot of that was getting lost before we converted to WebEOC and were able to make the data actionable and ensure edits are kept up to date."

UnityPoint Health-Meriter in Madison, WI, meanwhile, used WebEOC and Juvare's EMResource to overcome stresses from increased demands on beds and staffing common to every hospital in the time of COVID-19. Internal and external communication was critical, noted Nathan Bubenzer, emergency preparedness safety manager for the nonprofit teaching hospital. WebEOC delivered reliable, secure, real-time communication and data sharing with your team, as well as key partners and stakeholders. The software answered the questions that troubled Bubenzer in the early days of the COVID-19 outbreak:

- How do we get everyone around the table when the table is in a virtual setting?

- Is everyone who should be connected working from the same data?

- How can we establish a centralized communications and data clearinghouse to ensure guideline changes, new mandates, and healthcare best practices reach all stakeholders?

RESULTS

Thompson said that because Chatham County and its partner agencies at the state level and around Savannah were using WebOEC they were able to seamlessly view, share, and update the area's healthcare picture, facilitating the establishment of common operations planning, goal setting, and programing. A single platform for sharing census information, COVID-19 case trends, hotspots, hospital bed availability, PPE supplies, and resource requests was instrumental in maintaining order and efficiency.

WebEOC's features accommodated Thompson's need to expedite data collection and mobilization, as well.

"We built out nine different status boards in a matter of several weeks," Thompson said. "WebEOC provided the platform for centralizing storage and visibility of all that data, which solidified our relationships with hospitals, first responders, and long-term care facilities, making it possible to communicate freely and coordinate our efforts and data analysis."

Visualizing data was key for the Southeast Texas Regional Advisory Council as well. Upton and her team got a jump on data collection by quickly initiating influenza-like illness (ILI) surveys. Their quick action established a baseline for later comparison as COVID-19 infiltrated the region. The data proved invaluable for judging how prevalent the virus would become – but only if the healthcare and emergency management agencies could harness it. Upton soon decided that entering the ILI data into spreadsheets was not optimal for analysis. Her team integrated PowerBI with Juvare's EMResource to obtain a 360-degree view of response operations and a granular picture of all healthcare assets in the vicinity of Houston and El Paso.

"Migrating all that recent historical ILI and hospital data from EMResource into meaningful graphs allowed us to compare our COVID-19 census to our general census to give us up-to-date reports on both ICU and general bed occupancy," Upton said. "Thanks to EMResource, we could extrapolate that census and ILI trend data to the 25 counties that we serve."

That expanded resource-level view empowered Upton to manage patient load, shuffle PPE supplies, and anticipate which counties were at risk of larger outbreaks.

EMResource's data management functionality enabled Maricopa County Emergency Management to keep track of critical PPE throughout the supply chain. By automating data uploads into the program and linking with EMSupply, Coria could customize notifications to update him when supply levels triggered reorder points, replenishments arrived, or problems arose.

"We built out a PPE database in EMResource," he said, "because it presented the best tool available for limiting access and privileges, managing document version histories, displaying the current situation, and creating scenarios to ensure adequate stockpiles of masks, gowns, gloves, and other materials."

He said the key was to observe workflows and "real-world" applications to understand what tools front-line workers needed to perform their jobs more efficiently.

"Don't assume what your partners want from a status board are the best features and method for creating one," he said. "We resisted the temptation to build something "cool." Our people needed something functional and that could show what goes on from week to week. EMResource does that."

Those capabilities translate to the hospital perspective, Bubenzer said, giving facilities the tools to understand what is happening both within the individual hospital and in the outside environment. He used EMResource to share information on bed availability and supply levels to coordinate admissions and transfers to mitigate stresses and disruption.

Next Steps

The COVID-19 "trial by fire" has prepared emergency management professionals and healthcare facilities for the next major public safety challenges, both with COVID-19 and beyond. The pandemic has spurred agencies to streamline internal operations, develop plans to overcome workflow disruptions and establish stronger lines of communications with sister agencies.

Maricopa County, for instance, will benefit from smoother continuity in terms of the emphasis on technology, Coria said. He noted that while the county has long used WebEOC, the drive to build out its capabilities has waxed and waned with each new administration. Institutional knowledge enabled the Department of Emergency Management to leverage WebEOC for its COVID-19 response, but "we're still playing catch-up to some degree," Coria said. He noted that a more consistent focus on the platform's functionality will ensure the agency stays ahead of future developments rather than merely extinguishing a series of brushfires as they arise.

Indeed, preparation before a crisis is a theme among our panelists. Upton looks forward to COVID-19's demise so she can coordinate training exercises among partners. This will help identify each agency's strengths and resources and create a greater understanding of what each can accomplish, she said. Multi-agency exercises fortify coalition-building, making it easier to ask for help, work faster, establish protocols, and compare notes on what data needs to be collected and presented to make coordinated, optimal decisions.

Thompson observed that the pandemic highlighted what is possible in terms of communication and coordination. The crisis forced public health facilities and emergency management agencies to devise new ways of doing business. The innovative processes, mobilization of technology, coordination of office, field, and remote workers will streamline future responses to disease outbreaks, mass casualty events, and other safety issues, he noted. Emergency managers and hospital administrators built WebEOC status boards quickly, and they proved their effectiveness. Now, with the end of COVID-19 in sight, the boards can be refined and customized.

> "It's not just a case of innovating for this one situation," Thompson said. "The process will continue, which will make coordination and the tools we have available make our next response more effective."

About Juvare

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