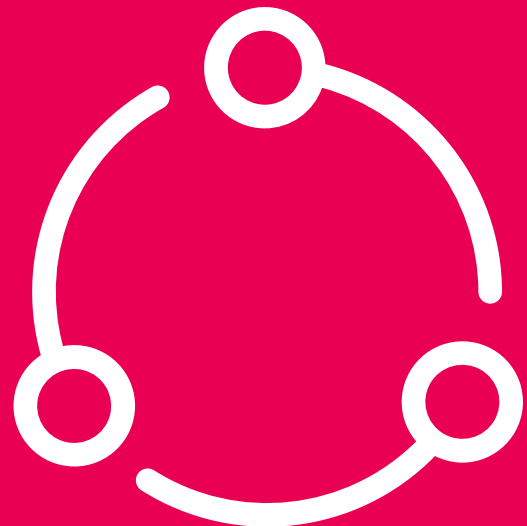


Integrating Best Practice into Virtual Emergency Operations



Emergency operations – physical or virtual?

Emergency Operations Centers (EOCs) are activated when a major incident takes place. During these events, large conference rooms – outfitted with furniture, telephone, and internet access – are traditionally used as EOCs and primary team meeting locations.

But when the incident itself involves the airborne transmission of illness, the type of emergency operations center becomes an issue of its own. Indeed, COVID would force many physical EOCs to go virtual¹.

Like in the business world, the benefits of such virtual operations are easy to see. Virtual EOCs save money on the physical infrastructure needed to run EOCs. That includes meals that don't need to be catered.

Virtual EOCs also save on administrative costs. They lessen the burden of access control and security screening of personnel into a brick-and-mortar facility with security checkpoints. Similarly, they reduce the need for parking.

What's more, staff members don't need to travel into the facility, potentially avoiding travel concerns related to security access, traffic, debris, and/or severe weather. The enhanced efficiency can improve staff role assignments to physical locations.

Challenges to virtual emergency operations

Of course, virtual operations aren't without their challenges – no less in the public safety world than in the business world.

For one, virtual operations require stable access to electrical power source and internet to support operations. Long-term physical isolation, as we are learning, also impacts employee morale. Lack of face-to-face interaction with partners can often limit the ability to pick up on social and subtle body language cues.

More to the point, though, public safety agencies who went virtual often found their emergency management platforms to be ineffective for such a large-scale, complex disasters.

Meeting the needs of remote users, in particular, wasn't easy. What's worse, many of the technology challenges to EOCs operating in the virtual environment persist. The full list includes:



Lack of responsive design. Formerly, software platforms only had to deliver a mobile-friendly experience – one that works for mobile users out in the field. That's no longer the case.

Mobile-friendly, designed with desktop users in mind, is not actually optimized to mobile users.

As the public safety sector has learned, the less user-friendly any aspect of the VEOC platform is the more time, effort, and money the organization spends on training and administrative overhead to get mobile users up to speed.



Poor usability. Of course, responsive design only covers one aspect of the usability challenge confronting EOCs in the virtual environment.

Too many practitioners still complain that their platforms lack basic usability. They feel stiff, even painful.

Again, the research suggests that it's not a specific feature set but great user experience that drives software adoption. Conversely, poor user experience lowers adoption.

Where there is adoption, it's unwilling: use is grudging, users less willing to engage. And that's when you get users coming up with more effortful workarounds – enter Shadow IT.

Relatedly, new users are also cycling into emergency operations during incidents, many who have never been involved in an emergency response before. These users interact with the VEOC platform; and poor user experience makes training them that much harder.



Security and accessibility risks. Poor usability and the resulting rise of shadow IT also present security risks for VEOCs.

State and non-state backed actors are keen to access the information stored in these platforms; nor are those actors adverse to impeding the operations themselves through nefarious actions.

Workarounds, like restricting permissions, tend to exacerbate usability and information-sharing challenges.

VEOCs also tend to be more dependent on public infrastructure. Without redundancy, that dependency increases accessibility risk. Even severe weather events have the potential to compromise local infrastructure for extended periods, limiting remote operations without reliable backups.



Poor configurability. Another frustration with deploying emergency management software is the lengthy implementation cycle. It's not unheard of for cycles to take upwards of a year before users can deploy in the virtual environment – those systems already come with hefty price tags and overburden IT.

Not to mention, developers of those platforms often take a “take it or leave it” approach to their products, not allowing customers to make necessary customizations to tailor the platform to their unique needs.

VEOC best practices to consider

Despite the clear challenges, models of best practice exist to improve the quality of VEOC deployments.

FEMAⁱⁱ, for instance, has published a set of VEOC best practices. They include establishing activation, operation, and deactivation criteria, as well as processes and procedures with all virtual EOC partners and participants.

The full list consists of the following:

- Define clear roles and responsibilities as part of an activated VEOC
- Conduct partner training and exercising in all relevant virtual EOC operations
- Ensure the requisite technology is available to support internet connectivity (web-based functions), voice and video conferencing, real-time status monitoring, alerts/notifications, and telecommunications, mobile/radio communications
- Monitor, track, report, and maintain other documentation on event status, personnel tracking, staging, deployment, and tracking of resources
- Incorporate lessons learned in ongoing comprehensive virtual EOC planning and coordination

Only the right VEOC platform can help implement the best practices listed above, facilitating a fully virtual or hybrid experience. However, few have tackled what capabilities to consider. And so, we recommend the following capabilities to implement a hybrid EOC experience:



Ensures responsive design. Such an experience responds intuitively to the screen size of the device being used. With responsive design, the layout of the site just scales from smaller screens (on mobiles, tablets, and small laptops) to standard desktop screens, and even to the larger, widescreen monitors popular in physical EOCs.

The value of this approach is it gives organizations the flexibility and usability that ensures mobile users log all their activities, updates, and decisions in the field. Which, in turn, saves valuable hours when it comes to reconstructing events for an after-action review and increases the likelihood of government reimbursement during the recovery.



Improves usability. What else improves user experience? One of the biggest drivers of improved user experience is frontend workflows that support key emergency response tasks, keeping staff focused on the response instead of the paperwork. Relevant workflows for hybrid EOCs include:

- Escalating emergency warning to incidents, and tracking those incidents through their entire lifecycle
- Automatically alerting situationally appropriate stakeholders through helpful message templates
- Creating Incident Action Plans (IAPs)
- Requesting and tracking resources as well as assigning tasks
- Capturing relevant information through forms tailored to specific roles
- Mapping incidents, resources, assets, critical infrastructure, etc. to gain a bird's-eye view of a situation
- Assessing Community Lifelines to ensure stability of lifesaving public services



Fits your needs not the other way around. Easy-to-use, drag-and-drop capabilities of no-code hybrid EOC platforms enables organizations to make mid-incident configurations, quickly creating new data models for any kind of information desired, by just dragging and dropping fields into a new object.

That same “designer” feature-set allows agencies to create forms to present the new data in a friendly way for users. From there, workflow builders tie everything together – helping organizations plan out new business processes for what should happen when different trigger events occur, then using automation to accelerate the response.

Nor is the benefit, here, just agility and the ability for organizations to better adapt and respond to changes. Low and no-code development also make software development itself as much as 10 times fasterⁱⁱⁱ.

What's more, no-code hybrid EOCs come with easy-to-implement APIs and connectors, to integrate with third-party tools that organizations already use.

Users, therefore, enjoy a frictionless experience through multiple touchpoints. And organizations don't suffer through time-consuming deployments.



Secure. The rising number of cyberattacks on public and private-sector targets means organizations should carefully consider the data security and integrity credentials of their hybrid EOC and emergency management platform vendors, even if they're already doing due diligence.

Here, ISO 27001 certification and Information Security Registered Assessors Program-auditing are good markers of a secure solution.

Innovations to improve emergency operations

What sort of solution, then, captures all those capabilities, enabling organizations to deploy in the virtual and hybrid environments seamlessly? Only a truly digital EOC can provide organizations all the information and tools needed to manage any incident, big or small, effectively through its entire lifecycle of mitigation, preparedness, response, and recovery.

But there's more. Another lesson learned from COVID is that communities of best practice, be they intergovernmental organizations, government agencies, or non-for-profit associations, will update their best-practice guidance quickly.

Platforms must therefore give users updated access to those best practices. For, not only is that capability important for responding to fast-moving emergencies, like the pandemic, but building disaster resilience going forward.

The technology innovation to seek is a software platform that operationalizes best practices in digital form. Such a platform gives practitioners logging into the EOC (physical, virtual, or hybrid) a clear understanding of what's going on and what's need to complete a role. Staff members also have the tools needed to undertake their role immediately.

Such a platform also supports a variety of EOC structures, whether best-practice Incident Command System (ICS) or Australasian Inter-Service Incident Management System (AIIMS), departments operating in the context of normal relationships, or customized structures that don't follow ICS or AIIMS at all.

What's more, the solution also keeps everyone involved in incident management, from managers to untrained field staff, following the same plans, communicating on the same platform, and viewing the same operating picture.

Capabilities to consider, here, include:



Manage all emergency information, communications, plans, and tasks. The platform should run exercises or respond to incidents including hurricanes/cyclones, floods, fires, earthquakes, hazmat spills, cyberattacks, epidemics, riots, terrorism, transport accidents, and dozens more.

Need to stand up your EOCs – be they at the local, regional, state, or national level? The solution should help there, too, wrapping up multiple related local incidents into a single regional one and providing interfaces fully tailored to the role and level of the user.

What's more, the solution should go beyond emergency management. That way organizations get more bang for their buck, with solutions that work together in the same environment to manage worker safety, oversee facility security, and/or plan for business continuity.



Establish incident management teams and manage emergency resources. The solution should also create flexible resource assignment structures that can be filled and activated when needed.

The platform should make it easy for staff to quickly request or confirm shifts from their mobile devices and work in a digital “room” of the EOC, with dashboards and collaboration spaces provided for emergency teams such as command, operations, planning, and logistics.

It should also be easy to set up a dashboard with just the tools a team needs. From generators to fire engines to sandbags, managers should be able to represent and track any type of asset in the system, using drag-and-drop designer tools.



Gather intelligence and maintain situational awareness in every scenario. Need to create a common operating picture via field personnel updates, GIS feeds, data import, email, and social media? Who doesn't.

The solution should help, there, too, displaying that COP via comprehensive dashboards and incorporating additional tools from across the internet at any time.

As an incident progresses, teams should be able to track the latest Community Lifeline status or any other key metrics.

Not just that: but also keep an eye on critical infrastructure with dedicated tools such as crowded place and impact assessments; support mitigation activities with risk matrices and critical infrastructure protection tools; and identify at-risk areas and facilities both before and during incidents.



Visualize locations of incidents, people, and assets. The solution should always keep track of assets, by incorporating Esri ArcGIS, WMS, KML, GeoJSON, or other sources to view asset locations in the context of weather threats and critical infrastructure.

The solution should also help teams quickly find the closest available resources by tracking resource and incident locations. Virtually any system object should be geospatially tagged.



Command, coordinate, and collaborate with teams. Teams need to communicate with staff and volunteers anywhere, whether they use a web browser or iOS and Android apps.

The solution should help. Every dashboard on desktop should automatically resize for mobile devices, making all the same tools available on the go.

That's not all. The solution should also help clarify the appropriate duties, education, training, license currency, and equipment for each role using templates, as well as activate plans with role responsibilities for different ICS positions, action plans for different roles for each stage of the planning “P”, pandemic response plans, and more.

The solution should also facilitate designing your own plans.



Produce reports and briefings and communicate alerts, notifications, and updates. Need to prepare custom sitreps, briefings, objectives, incident action plans, or use built-in Incident Command System forms? The platform should help, with automatic population of fields with default or calculated values to reduce error and save time.

The solution should also facilitate communicating incident information (or anything else) via email, SMS, voice message, push notifications to a mobile device, or within the app itself. Included should be response links like “I need help” or “Everything's ok” that workflows will follow up on.

The platform should enable you to produce better after-action reviews and disaster grant requests, ensuring that emergency response records aren't spread across a multitude of independent products.

Finally, COVID was a game changer when it came to emergency operations. Organizations had to pivot when in-person meeting wasn't possible. Digitalization trends facilitated some of this virtual transition but not nearly enough.

Today, too many challenges still stand in the way to deploying in virtual or hybrid emergency environments; and too many solutions complicate more than they enable.

Certain next-gen software solutions, however, apply these lessons learned from the COVID experience to every aspect of emergency and disaster management. Designed by best practice, these easily configurable, digital EOCs give all customers the requisite critical event management functionality to keep the whole team following the same plans, communicating on the same platform, and viewing the same operating picture – from any place or device

Sources

- i. Emily Hamer, *Wisconsin State Journal: Madison running virtual emergency operations for first time ever during COVID-19 pandemic crisis.* Available https://madison.com/wsj/news/local/govt-and-politics/madison-running-virtual-emergency-operations-for-first-time-ever-during-covid-19-pandemic-crisis/article_200d8e17-8d33-583c-b588-5ee18363f3cd.html.
- ii. Federal Emergency Management Agency, *FEMA Fact Sheet: Emergency Operations Center (EOC) References and Resources Tool.* Available at https://www.fema.gov/sites/default/files/documents/fema_eoc-references-resources-tool_factsheet.pdf.
- iii. Forsyth Alexander, *Outsystems: Top 5 Benefits of Low-Code.* Available at <https://www.outsystems.com/blog/posts/benefits-of-low-code-platforms/>.



Like what you read? Follow Noggin on social media



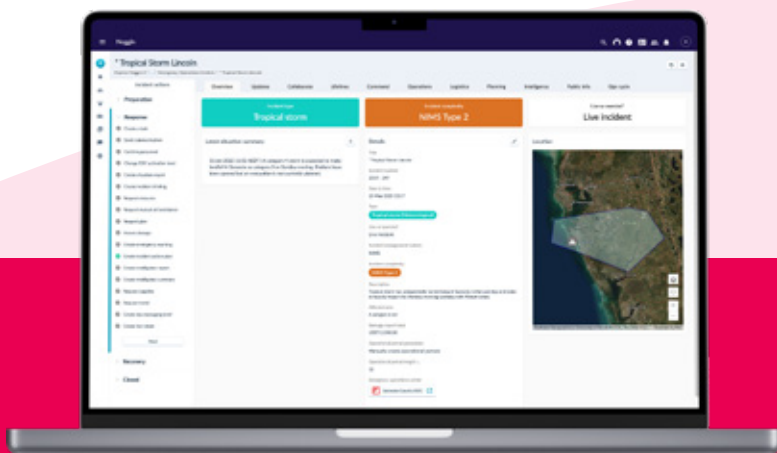
@teamnoggin



facebook.com/teamnoggin



linkedin.com/company/noggin-it



noggin for Emergency

Meet the next-generation tool for corporate crisis and business continuity management teams to collaborate, plan, track their response, and share information. Built on the Noggin Core platform, Noggin Emergency gives response teams and decision makers the tools to know what's happening, collaborate quickly and effectively, make better decisions, and enact the right plans to take action when it counts the most.

The Noggin Emergency solution pack is backed by the Noggin Library with hundreds of plans and best-practice workflows, out of the box, and installed in minutes.

To learn more,
visit: www.noggin.io
or contact: sales@noggin.io