Global Pandemics are Extinction-level Events and Should not be Coordinated Solely through National or Jurisdictional Emergency Management

By Michael Prasad

Abstract

Emergency Management, whether conceived as a management system or an operational unit of government, should not be in the 'business' of managing global pandemics. While pandemics are certainly biological incidents - and smaller pandemics are included as part of Emergency Management's Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) plans and protocols - the aspects of a global pandemic extend beyond the capabilities of both the field of Emergency Management and its practice as a whole. Government's command decisions to act during a global pandemic, may start out aligned with the standard Emergency Management/ Disaster Phase Cycle mission actions of Preparedness/Protection/Prevention, Response, Recovery, and Mitigation, but as the pandemic progesses, those command decisions quickly become reprioritized away from the doctrinal standards and practices of emergency management.

Suggested Citation

Introduction

This article will make the case that global pandemics should not be in the planning, organization, equipping, training, and exercising responsibilities solely for emergency management entities – they need to be managed through a whole-of-government/whole-community approach using other management techniques. Some of the lessons learned from COVID-19 should include a strategic paradigm shift away from the "tyranny of precedent"[1] which dictates that all disasters must be resolved through emergency management practices and principles. This article's premises include the following.

- Emergency management practice is jurisdictionally bound and generally follows a 'bottom-up' approach, with resources for unmet needs coming from a higher level.
- The size and scope of the management system for any disaster response and recovery efforts are limited. At some point, the response efforts must become a whole-of-government approach, and therefore change management systems, because whole governments operate under a political management system instead of the ad-hoc temporary structure of an emergency management system.
- Emergency management applies a straight-line approach to disasters, in a cyclical pattern. Even if there is an overlap between adjacent disaster cycle phases, they generally occur in order.
- Emergency management follows a unity of effort model; everyone in the response and recovery Incident Command System (ICS) is working towards the same goals and the same end-state.

• Emergency management - through any ICS in any country - is organized differently than steady-state political-oriented governmental day-to-day operations. COVID-19, like any worldwide impacting incident, turned those systems upside-down. The ICS organizational branches of Command, Intelligence, Finance/Administration, Logistics, Operations, and Planning for every level of government were significantly impeded during COVID-19.

Global Pandemics are Bigger than Anyone's Breadbox

These exponential "super-spreading events"[2] should not be considered a 'normal' escalation from an endemic biological incident within a single country (i.e., ratcheted upward from a lesser level CBRNE incident), nor one where a pandemic expands beyond a single nation's borders. One of the main constructs of emergency management is that it is designed to be jurisdictionally limited within a single nation. Emergency management is defensive and supports the homeland . While aid and advice can be provided from one nation to another, the incident is still managed within a single country or component subjurisdictions. Governmental missions which are predominately offensive, such as interventions, interdictions, interruptions, and isolations, are single-entity missions generally to be delegated to law enforcement entities (including Public Health Officers) domestically and the nation's military and national defense agencies, internationally. In many countries, including the United States, military and national defense agencies were utilized domestically as part of these offensive missions.[3]

In the United States, the definition of what is an emergency, or a disaster, is very fluid. The Federal Emergency Management Agency (FEMA) has an incident typing system, where five is the lowest in terms of resources required and one is the highest, as shown in Figure 1:
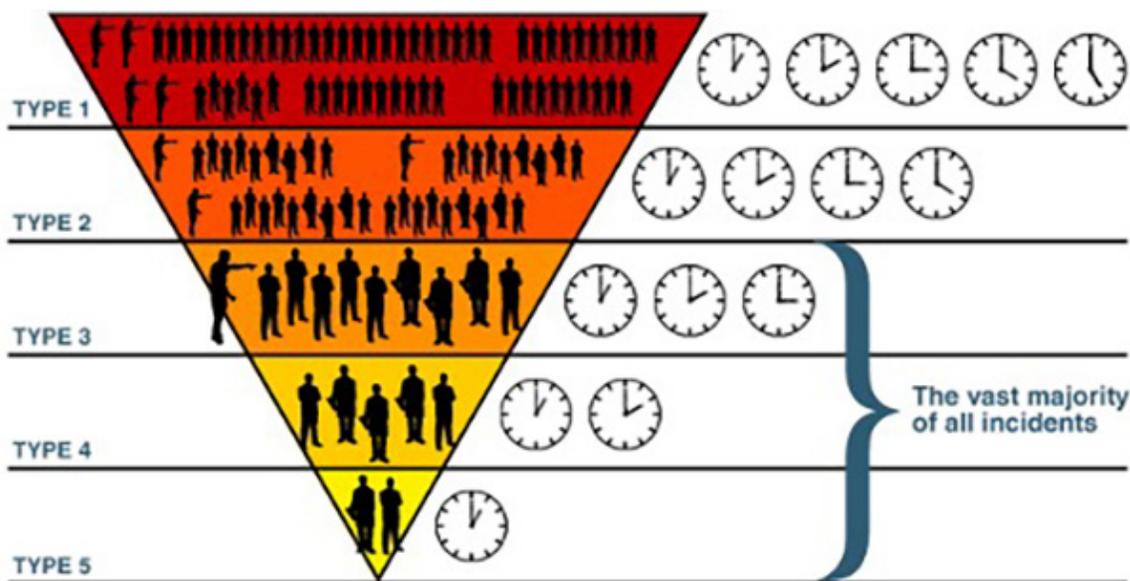

Figure 1 – *FEMA Incident Types*
Credit: FEMA - https://emilms.fema.gov/IS2200/groups/162.html

Emergency management has as one of its standards to "ratchet up and down" the resource support needed, based on the incident type. For example, when a Type 4 incident is still scaling up – meaning not yet under control or expanding – additional resources should be requested as if the incident could grow to a Type 3. While COVID-19 may have started in the United States as a small outbreak in Washington state on January 20, 2020, it expanded exponentially across the entire country in a matter of weeks. And at the same time, the virus spread worldwide.[4] The size and scope moved the incident typing off the scale[5]; there were no additional resources available anywhere, nor was there proper planning in place for this level of incident. There are hazards and threats for which emergency management cannot plan, organize, equip, train, and exercise because they are too complex. One way to quantify them is to describe them as Type 0 – Extinction Level Events.[6]

When the phrase 'Extinction-Level Event'[7] is mentioned, thoughts turn towards world-changing events – such as asteroid strikes, nuclear war, and even climate change/global warming. None of those tragedies have their response and recovery missions coordinated through their national emergency management process. There is a cap to the maximum of maximums of the capabilities and capacities for national and jurisdictional emergency management agencies and departments – as well as the concepts of the Incident Command System within the field of emergency management itself. When a disaster expands[8] beyond the capability of the internal sub-jurisdictions within a nation, that jurisdiction usually requests assistance upward, all the way to the national level for support. When the nation itself needs support beyond its own capabilities, it can choose to reach out to partner nations, intergovernmental organizations, or non-governmental organizations for additional support (i.e., NATO, the United Nations, the Red Cross/Red Crescent National Societies across the globe, etc.). When all the nations are impacted at the same time by the same incident - and there is no one unimpacted left to help – that constitutes a worldwide catastrophe. Can any such incident be managed within a single nation's borders? Maybe, but not by or through emergency management, since the decisions about all aspects of the disaster phase cycle missions of Preparedness/Prevention/Protection, Response, Recovery, and Mitigation are a matter of national security and economic development.[9]

Disasters are usually straightforward and straight–lined

Another emergency management construct is that disaster phase cycles usually need to occur linearly, and successively, even if they overlap. Most large-scale incidents look something like this, as shown in Figure 2:
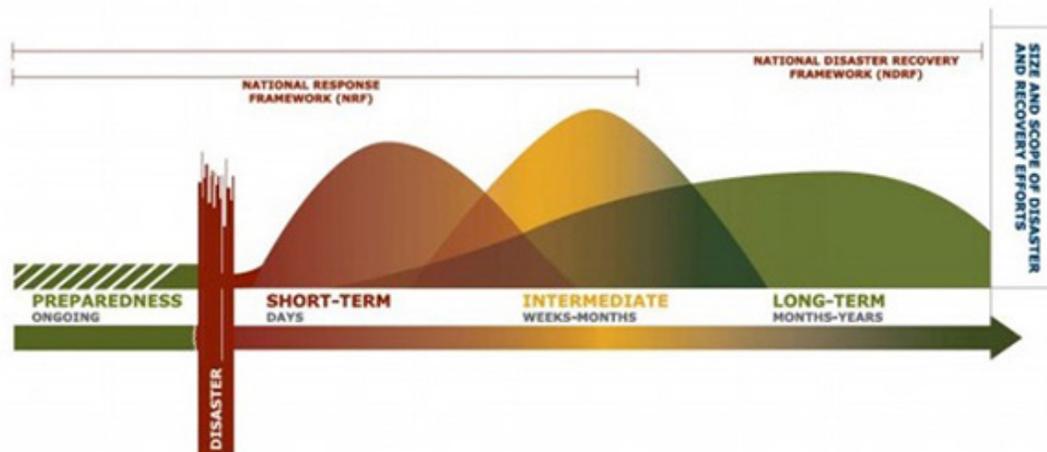
Figure 2 - FEMA's National Disaster Response and Recovery Frameworks
Credit: FEMA - https://www.fema.gov/sites/default/files/2020-06/national_disaster_recovery_framework_2nd.pdf

Emergency management can comprehend and work in this model, allocating staff and resources into distinct roles (phases), and collaborating with whole-community partners along the way. This same structure works for the smallest and most localized incidents through the vast majority of the largest domestic disasters possible – even for complex coordinated attacks and concurrent disasters such as civil unrest after a hurricane, or during a contested national election. As long as there are additional resources that can be allocated and assigned to response and recovery missions,and there is a common set of strategic and operational objective priorities of life safety, incident stabilization, and then asset/property protection, emergency management's use of unified command and control can work effectively.

Emergency managers can also understand that their steady-state work may be applied to any part or multiple parts of the disaster phase cycle. This is the concept of Disaster Readiness or Disaster Resiliency. See Figure 2 for a graphic representation of Disaster Readiness or Resiliency. While they are preparing for a hurricane, emergency management can apply mitigation efforts to help in economic recovery. These are funding sources and results from a single action or steady-state project. This works in 'blue sky'[10] mode. On the other hand, in 'gray sky'[11] mode, emergency managers revert to the linear model. Politicians focus on other priorities. While the continuity of national primary mission essential functions[12] is a general strategic priority, a nation's security and economic growth have always overridden the doctrinal standards and practices for which emergency management is designed to follow and almost always found in this order: life safety, incident stabilization, and then asset/property protection. Goals of national security and/ or economic growth do not always follow those doctrinal standards. More to the point, when the political management system overtakes the emergency management system of operations, disasters become more negatively impactful to those who are socially vulnerable and disenfranchised.[13]

Figure 3 - Phases of Incidents, Emergencies, and Disasters

Credit: Barton Dunant – www. BartonDunant.com. Used with permission.

When protective measures for life safety are not implemented consistently and clearly, or there are objections by the public or governmental/political leaders to prioritize asset/ property protection above incident stabilization and life safety, emergency management can no longer be the doctrinal model to use. When there is not a common unified incident command system where branches and sections (local and state/tribal/territorial governments through home rule or autonomous sovereignty) do not follow and adhere to the "Planning P" process, emergency management will fail. When situational awareness and intelligence are not shared collaboratively between groups, when economic pressures supersede life safety concerns, and when logistics supply-chain systems are unsupported for a national disaster or wartime efforts, emergency management will fail.

When a global pandemic - or any disaster that consumes an entire nation by itself - is framed along the disaster phase cycles, it is not defined as two-dimensionally linear, but rather as three-dimensionally spiral, as shown in Figure 4.
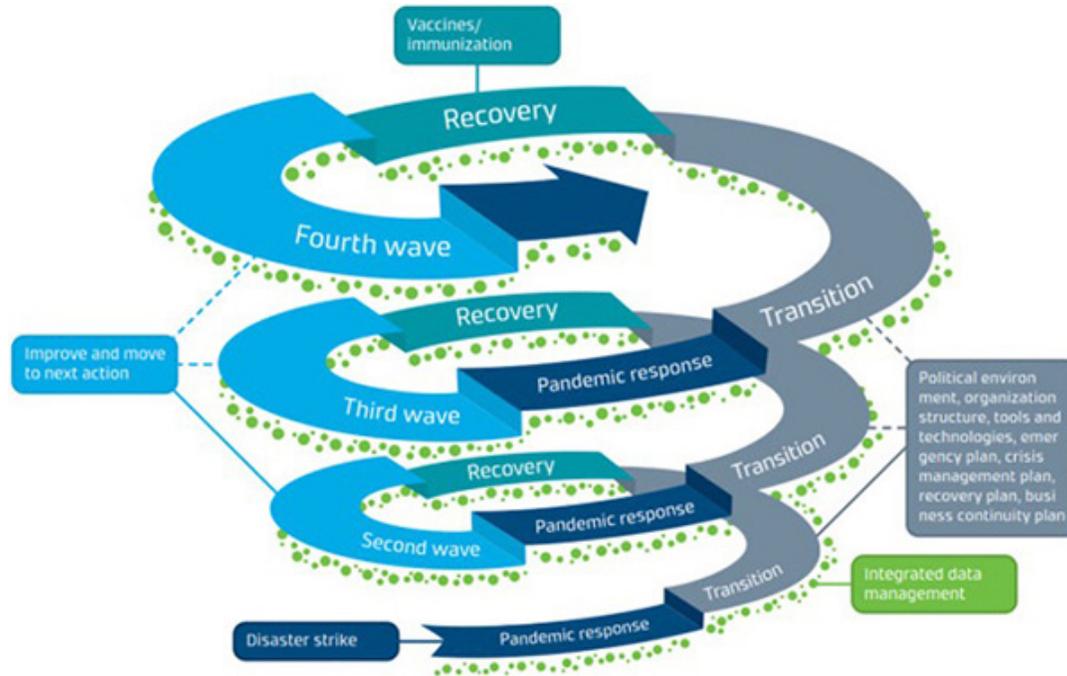
Figure 4 – Fakhruddin, et al. – graphic from 'Are we there yet?
The transition from response to recovery for the COVID-19 pandemic'
Note: https://doi.org/https://doi.org/10.1016/j.pdisas.2020.100102 Creative Commons BY-NC-ND 4.0

Fakhruddin et al. correctly identified that in a pandemic both local, state, and national jurisdictions can be in response, recovery, mitigation, and preparedness/prevention/protection at the same time. A municipality may be recovering from one variant, while at the same time responding to the next one. U.S. states saw policy changes – including reversals of social distancing rules, PPE usage, etc. – based on new variants[14], which came at a faster pace than the normal linear process emergency management expects for the disaster phase cycle. COVID-19 was like experiencing back-to-back-to-back tornadoes in the same town. Without a complete paradigm shift to a different model of resource management – including governmental operations staffing – to aid the public through concurrent waves of divergent activities, a community cannot survive a pandemic by using its traditional emergency management model of support.

All for one, and one for all

Finally, emergency management has as a foundational principle, the use of an incident management system in a "unity of effort" approach. Whether it is a single command, unified command, or even area command on larger geographic incidents, the structure remains the same. Whether it is the ICS from the National Incident Management System (NIMS), the standardized emergency management system used in California, or any other system, the aspects of coordination, cooperation, collaboration, and communication are hallmarks of being properly executed. Another foundational principle is the ability to continuously source and supply a sustained incident Response and Recovery – without interference from any

governmental or non-governmental levels or entities. It is impossible to achieve both of these principles in a national-level pandemic.

An abbreviated high-level analysis of the emergency management-inspired Response and Recovery federal missions for COVID-19 in the United States further validates the premise that global pandemics should not be conducted by national or jurisdictional emergency management entities. Below, I will detail the disconnects during this worldwide pandemic via any incident management system's major branches of command, intelligence[15], finance/administration, logistics, operations, and planning.

Command

Federal-level emergency management entities were never in the position to lead and coordinate all external incident command system branches, especially across every state and territory at the same time. Their role has always been to provide federal resources in support[16] of states and territories. The governors of states (and leaders of sovereign tribal nations, as well as leaders of U.S. territories) are the designated commanders-in-chief for their respective jurisdictions. During a national disaster, this model does not fit with a traditional unified command structure found in emergency management. There is no domestic disaster equivalent of the U.S. military's Pentagon, nor a Chairman of the Joint Chiefs of Staff.[17] Since the U.S. portion of a global pandemic is predominately a public health response, the newly elevated Administration for Strategic Preparedness Response or the presidentially appointed U.S. Surgeon General[18] - as the nation's chief medical officer and leader of the nationwide uniformed public health officers - might be someone to be considered to lead a unified command structure for a global pandemic public health response. The challenge though, is that both of those entities and functionalities are currently not a national command one, only an advisory one. Like FEMA, the U.S. Public Health Service commissioned officers can only support the states' efforts. The United States has never been a nation that orders its constituents to give up their freedom of choice when it comes to individual healthcare. These ethical and legal conflicts belong to the highest levels of government – and should not be delegated to be actioned and/or solved by and through emergency management.

Intelligence

There was a constant need for Emergency Management Intelligence (EMINT)[19], both from *external and internal threats* and hazards to any nation. External threats included new variants of COVID-19, a different pandemic virus spread, the possibility of add-on attacks from foreign actors who viewed a country's defense capabilities as weakened, severe weather incidents, etc. Internal threats included pandemic Response and Recovery mission resource shortfalls, concurrent domestic violent extremism, annual election results integrity concerns, overall economic pressures, etc. When many U.S. states were allowed to limit the information – and intelligence – they shared upward to the federal government as to the demographics and locations of COVID-19 positives mortality and morbidity, this significantly hindered one of the national-level concepts of planning (situational awareness and disaster assessment). When

any nation does not adequately consider socially vulnerable populations – including those of impacted people within the Sovereign Tribal Nations within the United States and citizens of other countries – it does not follow one of the newer (and historically missing or deficient) elements of: Diversity, Equity, and Inclusion. Knowing where and how COVID-19 was impacting all of our divergent populations, is key to resource management and metrics analysis.
There is currently no established standing role for EMINT in emergency management, only the possibility that Intelligence/Investigation[20] – more terrorism and law enforcement-centric – can be applied to the Incident Command System, as warranted. While FEMA is a unit of the U.S. Department of Homeland Security (DHS), it appears to not have its own Intelligence functionality[21], and rather curates the efforts of other units for terrorism/homeland security domestic incidents, when requested. The U.S. Coast Guard, another unit of DHS, has a clearer understanding of the role of Intelligence[22] in the Incident Command System, but a future national pandemic would probably not be managed by them. The U.S. Federal Government already has a robust collection of intelligence gathering, analysis, and dissemination groups known as the Intelligence Community, managed through the presidentially appointed Director of National Intelligence.[23] A new organizational construct[24] – outside of emergency management – to manage the U.S. portion of a global pandemic must include a direct report to the unified command for emergency management intelligence.

Finance/Administration

One positive aspect of the COVID-19 pandemic in the United States has been the almost unanimous endorsement of U.S. Federal Government financial support to the states for pandemic-related activities. Following the model of presidentially declared disasters, the government routed federal resources – and funding – through the Stafford Act. While FEMA is certainly the nation's expert on disaster funding and administration, the global aspect of this pandemic quickly expanded beyond the capabilities established through the Stafford Act. New Congressional legislation was required for new funding streams, and new administrative protocols and procedures for the states were established. For example, disaster unemployment insurance is a standard tool in the toolbox of FEMA and the U.S. Department of Labor for helping the states during declared disasters. COVID-19 required an exponential upgrade to this on a national scale, to include additional funding to COVID-19 impacted individuals, which was well beyond the capabilities of FEMA to administer. State-level Labor Departments quickly became overwhelmed[25], and the incident became economically destabilized throughout 2020 and 2021. The White House – in both administrations - created and managed pandemic Response and Recovery missions for economic health[26], which may have conflicted with public health. Again, deprioritizing life safety can be a nation's goal, but it is not aligned with the doctrine and practices of emergency management.

Logistics

At the start of the pandemic in the U.S., there were immediate shortages of critical supplies and equipment, both for the public and for responders. The development and distribution of vaccines was a whole-community mission – even triggering the National Defense Production Act

– and involved private corporations in both the pharmaceutical industry, as well as the supply-chain management industry. Automotive manufacturers switched production[27] to ventilators. Federal agencies not normally associated with disasters, such as the U.S. Post Office[28], were utilized for the logistical distribution of supplies and information. In many U.S. states – especially in the first few months of the COVID-19 pandemic – there were logistics supply and staffing shortages, and some were competing with each other[29] for resources. There are no current U.S. legal constructs to manage the deconfliction of these resource requests at a single command point, which is something that the Logistics branch within emergency management's ICS typically performs on large-scale incidents.

Staffing is a key part of logistics. The long duration of a national pandemic, along with an inability to refresh staff (i.e., having enough qualified staff to demobilize, decompress, and then remobilize) are both more war-like than disaster-like. While there are aspects of declared disasters that extend beyond short-term Recovery into longer-term Recovery and Mitigation[30] - such as Public Assistance work – they tend to devolve away from emergency management into routine day-to-day work. The significant concern about Post-Traumatic Stress Disorder amongst healthcare professionals, caused by COVID-19 work[31] is a workforce safety issue akin to what the U.S. Veterans Affairs department sees in returning military forces. FEMA has engaged the U.S. Department of Justice's assistance in establishing post-traumatic stress disorder counseling programs, starting with the Oklahoma Bombing in 1995. The current programs[32] from the Substance Abuse and Mental Health Services Administration provide counseling for as long as needed by disaster victims, but they have also become overwhelmed by simultaneous requests from all the states and territories. Emergency management is still not fully engaged in comprehensive care for the mental health and wellness of its workforce especially as needed by responders, including healthcare workers in health disasters.[33]

Operations

Varying levels of collaboration and adherence to public health and other directives occurred within the United States, as well as in other countries. This was true for both response/recovery entities themselves, and the public. In the U.S., attempts at applying a homogeneous set of Response missions to all the states and territories were met with the same resistance to other Federalism aspects[34], protected by the 10th Amendment. Acceptance of non-pharmaceutical interventions (NPIs) and then pharmaceutical interventions were contentious at best and life-threatening at worst. Governmental response organizations at the state and local levels were not prepared for the continuity of government needed to support a long-term sustained response effort. If this were a multi-state wildland fire, instead of a pandemic, there probably would not be resistance by any governmental entity for any aspect of federal operational support, and the mutual-aid aspects[35] from state to state would prevail, as the resources available from non-impacted states are already consistently trained, typed, and credentialed. That is not the case with any pandemic: All the states are *not* participating in healthcare mutual aid compacts[36] and the nature of a national (or global) pandemic means there are no resources available from non-impacted jurisdictions. These disconnects require a different national management system, other than the current model of emergency management.

Planning

While there were existing U.S. national pandemic plans established before the COVID-19 pandemic, in most parts of the country they were not followed.[37] So many activities of government (NPIs, vaccinations, boosters, mask usage, social distancing, business shutdowns, travel restrictions, etc.) seemed to be unplanned and haphazard in their implementation. The governmental instructions – and reaction to a lack of sufficiently distributed supply – for mask/respirator usage[38] by both healthcare workers and the public is a prime example. A timely release of supplies from the strategic national stockpile and use of the Defense Production Act[39] must be reviewed and revised, utilizing a war-faring model – as they were designed for – and not an emergency management one.

What was heard time and again from governmental political leadership was that COVID-19 decisions were made "out of an abundance of caution" as if restrictions and countermeasures were not planned as part of any pandemic threat.[40] Those decisions usually signal that governments are either not following their existing emergency management plans or they have no plans to execute. The quote usually attributed to Benjamin Franklin[41] of 'If you are failing to plan, you are planning to fail' is always appropriate to emergency management in any scenario (please recall Franklin founded the first fire department in the United States). Emergency management – when performed successfully - strictly follows a planning process.

Conclusion

In emergency management, post-mortem analysis and review of actions taken during the incident response and recovery phases are incorporated into After-Action Reporting/Improvement Planning (AAR/IP) processes. Usually, this occurs in the mitigation phase, once the response phase is concluded and the interim and short-term recovery phase elements are concluded as well. This article took an AAR/IP approach to object specifically to any future singular use of emergency management systems, doctrine, and practice for global pandemics. Instead, global pandemics – like any other extinction-level events - should be managed through a whole-of-government/whole-community approach using other management techniques. As previously noted, AAR/IPs are usually conducted once the incident is 'declared' concluded. While the World Health Organization initially sounded the alarm for a public health emergency of international concern in January 2020, they have not said the COVID-19 pandemic is over, as of September 2022.[42] COVID-19 will most likely never go away completely, but rather become endemic.[43] As all emergency managers know, disasters do not occur in a vacuum. As noted previously, hurricanes occurred, civil unrest incidents transpired, and other disasters all happened while the nations of the world were experiencing this pandemic. In 2022 in the United States and elsewhere, measles reemerged as a CBRNE threat: especially as a hazard to children.[44]

Compare the initial phase of the COVID-19 pandemic (early 2020) to the U.S. Opioid Crisis at this same timeframe. Several federal agencies, including FEMA, as well as many states[45] have taken on a Preparedness/Prevention/Protection role, in passing along community preparedness/prevention material[46] regarding opioids from the Drug Enforcement Agency

(DEA). The opioid crisis, while not a pandemic, could be considered endemic, as the U.S. White House, many U.S. states, and other nations are now considering COVID-19. Like the Opioid Crisis, COVID-19 is now an unfortunate part of everyone's daily lives in some way or another: our 'New Normal'.

While an attempt to provide whole-of-government solutions to a nationwide crisis, the tools and techniques – the tradecraft - of FEMA and state/territorial emergency management entities, may not be the best for endemic, steady-state, or 'blue sky' incidents. COVID-19 will soon follow this same path as the Opioid Crisis – as well as the seasonal flu[47] – the future impacts will not be considered catastrophic disasters by the public. There is no longer an outrage factor[48] associated with COVID-19 or any other pandemic occurring today. Can any nation 'defeat' an 'enemy' such as addiction or a pandemic? These terms sound more like war than they do emergency management.

One recommendation for a replacement to the needed federal-level whole-of-government operational management grouping is to utilize the existing U.S. Federal Executive Boards[49], which are organized through the White House's Office of Personnel Management. This group, formed by a 1961 U.S. Presidential Directive[50] from the Kennedy Administration, *could be* the federal government equivalent of the National Voluntary Organizations Active in Disaster (NVOAD)[51] and provide better communication, collaboration, coordination, and cooperation amongst U.S. federal entities:

> Federal Executive Boards (FEBs) perform highly valuable functions. Specifically, they provide:
> • a forum for the exchange of information between Washington and the field about programs, management strategies, and administrative challenges;
> • a point of coordination for the development and operation of Federal programs having common characteristics;
> • a means of communication through which Washington can strengthen the field understanding and support of management initiatives and concerns; and
> • Federal representation and involvement within their communities.
>
> The FEBs implement these functions, under the direction of the Office of Personnel Management. Examples of their activities are:
> • the dissemination of information on Administration initiatives,
> • the sharing of technical knowledge and resources in procurement, human resources management, and information technology,
> • implementation of the local Combined Federal Campaign,
> • the pooling of resources to provide, as efficiently as possible, and at the least possible cost to the taxpayers, common services such as training courses, and alternative dispute resolution consortiums,
> • encouragement of employee initiatives and better performance through special recognition and other incentive programs, and
> • emergency operations, such as under hazardous weather conditions and natural and man-made disasters; responding to blood donation needs; and communicating related leave policies. (Federal Executive Boards, p. 1).[52]

Another recommendation has already commenced. Viewing national and global pandemics as a national concern requires a whole-of-government unified command and control, one made through a war-powers lens, which is a better approach than that of an emergency management view. Recently, the non-governmental Bipartisan Commission on Biodefense produced a report[53] on how the U.S. could put an end to pandemics within ten years. Their *Athena Agenda*[54] focuses more on Prevention and Protection, and while it had recommendations to identify better ways to support federal-level continuity of government during pandemics, it did not address the whole community leadership needed to support the needs of the public itself.

Finally, a more comprehensive AAR/IP document should be written and published, showing how to better respond and recover from the next global pandemic: one which involves both whole-community partnerships and whole-of-government collaboration, communication, coordination, and cooperation, rather than applying emergency management doctrine and practices.

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