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METHODS FOR MODERN EDUCATION & TRAINING

ON EMERGENCY MANAGEMENT & CONTINUITY IN HEALTHCARE – FOUNDATIONS AND CONCEPTS

Institute for Homeland Security

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Author's Biography

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Upon honorable discharge from the military, Bryce served as an emergency management and business continuity consultant to internation corporations and governmental agencies. During this time, he oversaw hundreds of hours of unmanned/uncrewed aviation support to large international incidents, served on incident management teams for multi-national corporations, and advised critical infrastructure sectors on all-hazards preparedness, response, and continuity.

Bryce is a Certified Emergency Manager (CEM) through the International Association of Emergency Managers and a Certified Business Continuity Professional (CBCP) through Disaster Recovery Institute International. He holds a Bachelors from Benedictine College, Masters from The George Washington University, and certificate from FEMA's EMI National Emergency Management Advanced Academy (NEMAA).

Affiliations and Disclosure Statements

The author is affiliated with The University of Texas System, International Association of Emergency Managers, Disaster Recovery Institute International, Association of Continuity Professionals, and Sam Houston State University – Institute for Homeland Security.

There are no conflicts of interest to declare for this research.

All data and references are available to the public through open-source methods.

Abstract

As organizations deal with the increasing relevance of resiliency efforts it can be difficult to effectively educate employees and customers on how they play a vital role in those efforts. Traditional emergency management and business continuity frameworks may be focused on governmental agencies, include outdated concepts or references, and lack any specific guidance to enhance the use of emerging technologies while simultaneously adapting to the threats and limitations posed by these very tools.

Building a culture that is adaptable and prepared is a difficult task. The struggle of creating agile education that adapts to different learning styles, budget-conscious management, and limited resources to keep informed of constantly changing technology ecosystems creates difficulties for organizations, especially in healthcare, to create a culture of resilience.

This two-part paper series will look to understand organizational learning and offer informative information on how to leverage existing and emerging technologies at any level in the pursuit of resilience at all levels of the organization.

Part one of this paper series will focus on the foundations and concepts around adult learning. Specifically, education and training frameworks found in emergency management, adult professional development, and clinical simulations will be reviewed. The paper will further explore articles, surveys, and literature studies on professional development, employee sentiment toward mandatory training, regulatory standards, and interprofessional education in healthcare.

The paper identifies that employees across multiple sectors view education and training in safety topics, which are defined beyond traditional OSHA-type hazards to include all-hazards, as important but also needing revision for the modern workplace. The paper also identifies the trends in healthcare education that signify a shift in clinical educator thinking to expand education programs across disciplines to enhance new and existing staff professional development.

Upon review, this author hopes that practitioners in healthcare emergency preparedness will better understand the similarities in training/exercise frameworks while also grasping concepts in adult learning theories widely used in clinical education development. It is thought that if practitioners adapt traditional emergency preparedness concepts into the language and frameworks familiar to clinical staff, they may have more success engaging healthcare professionals at all levels through interprofessional education.

Introduction & Overview

Organizations grapple with the concept of professionally developing their employees to further enhance both the individual's skills, but also, the overall organizational culture. Sometimes these concepts are born strictly out of need to meet a regulatory requirement; other times they are born from leadership initiatives or other organizational changes. Regardless, how to best train new and existing staff on critical priority topics is a challenge with shifting methodologies and rapidly changing capabilities.

A recent article in Forbes opined that "adult learning" is a vital part of gaining employee investment in an organization – with the added benefit of retention – and the importance of

skilling, or “re-skill[ing]” employees in the continuously evolving technological and threat landscape. (Hall, 2023)

For the purposes of this paper, the term emergency manager may relate to actual emergency managers, crisis managers, business continuity professionals, safety & security personnel, and other practitioners charged with training, educating, and exercising all-hazards preparedness programs across organizations. It is also important to note that the term education will be used to describe more passive instruction on concepts (i.e. policies, plans, and organizational requirements), while training and/or exercise will relate more directly to hands-on or active learning on specific tasks (i.e. fire safety or evacuation training).

Gap Assessment

A 2023 study titled “The State of Employee Safety in 2023”, facilitated by a large mass emergency notifications company based out of Texas, sought input on organizational safety topics from over two thousand (2000) full-time employees across multiple sectors. Strikingly, seventy-five percent (75%) of respondents said that employers’ safety efforts have not been very effective with sixtyfour percent (64%) noting that “their employers are not making an active effort to improve training.” (Alert Media, 2024)

While this paper is not specifically focused on safety in its traditional sense, such as occupational health or ergonomics, the study points to many risks associated as being more emergency management or continuity focused, as scenarios employees are most concerned about including public health emergencies, technology failures, workplace violence, and severe weather.

Correlating to this paper’s thesis, large percentages of respondents indicated that improved training, education, and communication are expected of their employers moving forward (Alert Media, 2024):

- Improve communication about safety plans and policies – 35%
- Provide more or better safety training, drills, and rehearsals – 30%
- Provide regular, brief safety talks to supplement training – 27%

This author has similarly observed a deficit in the quality, relevancy, and effectiveness of emergency management and continuity training across multiple critical sectors, including healthcare, especially when education and training applies more directly to front-line staff rather than dedicated Incident Management Teams (IMT) or Incident Command System (ICS) members. More specifically, the education and training materials are rigid, often copied directly from governmental sources, and not tailored to the industry or intended audience.

Adding to this deficit are the circumstances surrounding hospital staff, specifically those in clinical positions, that already have a high volume of continuing education requirements to complete annually to maintain clinical licenses, residency, faculty, and other requirements. Even those working in non-clinical provider roles at hospitals face growing requirements from leadership development, HR-mandated courses on organizational-specific administrative policies.

There is no doubt that the aforementioned trainings are vitally important to maintaining clinical standards of care and administrative responsibilities of the organization. However, where does that leave an emergency management and continuity practitioner space to provide employees the types of education and training in safety and emergencies that the study highlighted?

No matter what foundations one might use to develop training or educational materials, if it does not speak to the intended audience then the facilitator may face stagnant or diminishing results. HSEEP, and other foundations that will be reviewed in this paper, do provide for engaging the stakeholders with an intent on building effective programs. The practitioner has a responsibility to ensure the engagement isn't simply for checking a box but to truly develop effective education & training.

Topic Discussion

Checking the Box

Many industries, especially those considered part of critical functions or infrastructure, have both regulatory and accreditation standards. These regulations and standards, as applied to the emergency management and continuity fields, help guide leadership and practitioners towards a common set of requirements to prepare for all-hazards events and are often reactive to lessons learned from previous events.

It must be noted that this section in no way is arguing against regulations and standards, rather it seeks to highlight how they can be met but only partially, if at all, effective in building organizational knowledge and skills. It has been observed by this author that many organizations inside, and outside, of healthcare focus a great deal on meeting the standards rather than on the actual effectiveness of the programs developed to 'check the box'.

In healthcare, hospitals have a few different regulatory and accreditation entities they may follow, including The Joint Commission (TJC) and Centers for Medicare & Medicaid Services (CMS). CMS serves as the federal agency charged with providing healthcare coverage through their namesake programs, and ensuring those hospitals receiving their funds are compliant with their regulatory frameworks – including emergency preparedness. TJC acts as an independent healthcare accreditation program seeking to bring higher quality healthcare to the American public.

CMS regulations related to this topic are found in 42 CFR § 482.15(d) Condition of participation: Emergency preparedness. Some of the key elements of this rule include:

1. Development and maintenance of an emergency preparedness training & testing program;
2. Provide initial emergency preparedness training on policies and procedures to all new and existing staff;
3. Provide emergency preparedness training every 2 years;
4. Maintain documentation of training and demonstrated staff knowledge of emergency procedures, and;
5. Conduct exercises to test the emergency plan at least twice or year.

TJC standard Emergency Management (EM) 15.01.01: Education & Training is the relevant standard related to this paper's topic. TJC emergency management accreditation standards include specific elements of performance (EP) outlining unique requirements. Within this standard, the following EPs are contained:

1. Requires a written education and training program in emergency management that is based on the hospital's prioritized risks, as identified by the hazard vulnerability analysis;
2. Requires initial education and training in emergency management to all new and existing staff physicians and other licensed practitioners;
3. Requires ongoing education and training to all staff that is consistent with their roles and responsibilities, and;
4. Requires the incident command staff to participate in education and training specific to their duties and responsibilities.

Note: TJC standards also parallel CMS rules on conducting exercises twice per year and are found in a separate TJC standard.

As mentioned at the start of this section, there is always the danger that organizations may only check the box on the standards and rules. For some organizations, this may be due to resource and personnel limitations, but on the other side of the spectrum, it could be out of ignorance or even worse blatant disregard for the importance of such standards.

While not a focus of this paper, CMS and TJC both acknowledged the importance of leadership involvement and oversight of emergency preparedness programs. As all the various functions of a healthcare organization battle for funding, resources, and operational or strategic importance, it should be the responsibility of those charged with emergency preparedness to find ways to both meet the standards while also enhancing the overall organizational resilience through effective training and education programs.

A section of this paper will review adult learning theories and concepts, and how clinical practitioners have adapted them to their educational needs. In relation to building leadership engagement and value add to emergency preparedness programs, it is this authors theory that adapting existing clinical education strategies to emergency preparedness will enhance both the deliverables and the outcomes for these programs.

Employee Perception of Mandatory Training

In a previous section of this paper focused, a referenced survey highlighted employee perceptions of safety education and trends. One of the highlights was that a quarter of the respondents sought more frequent engagement on safety and emergency preparedness topics in between the standardized annual or biennial trainings typically found in organizations, including healthcare. Yet, the perception of training, especially that deemed mandatory, is alarming.

It is probably not a far stretch to say that those reading this paper and who have been required to complete some form of mandatory training may have felt underwhelmed, frustrated, and even considered leaving an organization due to ineffective educational programs. A 2014 study noted that the effectiveness of mandatory training, especially computer-based modules, in large healthcare organizations led to employee resentment "about their lack of control, lack of interest, perception of irrelevancy to their specific workplace context, and workplace time pressures." (Peterson & McCleery, 2014)

One of the elements of the 2014 study that stood out is the irrelevancy to their workplace context and workplace time pressures. Training that is not adapted to the specifics of a workplace or work type may prevent a learner from being able to associate learning objectives with their roles and responsibilities in a situation. For example, if your fire response or evacuation training attempts to cover a broad audience, such as business occupancies or outpatient areas only, rather than being focused on the facility or functional specifics, such as inpatient areas or operating rooms, then your learning audience may disregard the training entirely.

TJC and CMS both articulate the importance of emergency preparedness personnel utilizing regional, community, and facility-based risk or hazard-vulnerability assessments (HVAs) in developing plans and education. For hospital systems or those with off-site clinics, understanding the types of operations, patient populations, unique facility considerations, and employee perceptions is vital to developing engaging training and educational products.

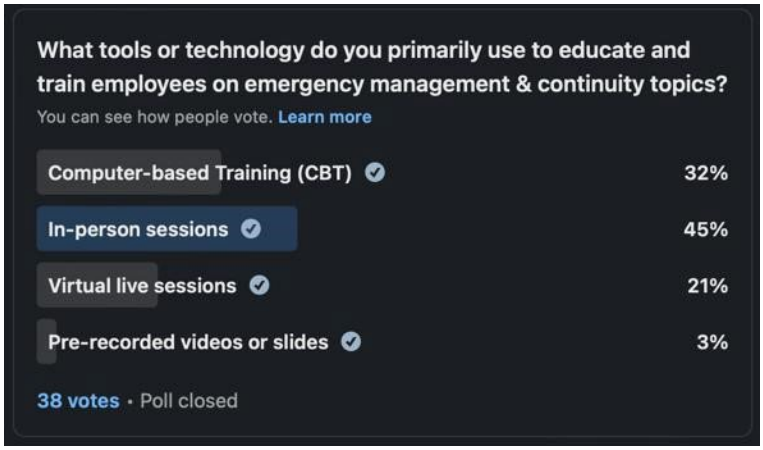
The other element of the 2014 study that stands out is the issue of workplace time pressures. Employee burnout, especially in clinical environments, is a real issue – especially in the postpandemic healthcare world. Pre-pandemic surveys cited by TJC found that over 15% of nurses reported feelings of burn-out with a majority citing their facility as "either slightly ineffective or highly ineffective at helping staff address burnout." (TJC, 2019)

As practitioners, we must be cognizant that building training and educational programs that contribute to feelings of burnout and resentment are counter-productive to instilling employee resiliency. More studies to update post-pandemic healthcare burnout rates are likely to come, but it is not a far stretch to think those numbers have only trended higher.

State of Organizational Learning

It is difficult for a practitioner in any field to not be aware of emerging technological trends that will likely impact all aspects of organizational operations, including education and training, if they haven't already. One emerging technology seems to dominate many conversations at conferences and leadership meetings: Artificial Intelligence (AI). AI will be addressed in Part 2 of this paper series; however, it is brought up in this paper because it conjures both excitement and fear in practitioners and organizational leadership alike. It also underscores the discussions surrounding how the current and future state of organizational teaching, learning, and training will adapt to changing skills and perceptions surrounding technology.

As part of the research for this paper, the author took an unscientific poll on the professional social media platform LinkedIn. Specifically, the poll asked EM/BC practitioners what tools they use to train employees:



AUTHOR'S ELABORATION: LINKEDIN POLL 1

Upon first look, the results were not specifically remarkable - the largest individual percentage of training being in-person sessions. However, when computer-based training (CBT) is paired with virtual-live sessions they account for over fifty percent (50%). As highlighted earlier, CBT may be viewed negatively as it may not be facility or functionally tailored. Yet, the inclusion of virtual live sessions adds a potentially more tailored approach to online training. This is likely a by-product of pandemic workplace transformation. While virtual learning is now accepted, this paper does not address whether it will remain perceived as an effective tool, or how its effectiveness may compare to other learning methods.

When reviewing the polling data, two gaps emerge:

1) Is the preferred training method sustainable from a resource, maintenance, and cost perspective, and;

2) Is the preferred training method actually effective?

For hospitals with large enterprise resources, networks, and finances, building and sustaining training programs may be more likely than smaller entities such as rural access hospitals. Building facility-adapted preparedness training resources, especially for those in-person or virtual-live sessions, and evaluating the effectiveness of that training requires dedicated personnel, time, and money.

A 2023 article in Beckers Hospital Review cited that some hospitals have tried to offset nursing education costs by embedding it into employee contracts – essentially passing it back to the employee by listing it as part of their compensation. (Carbajal, 2023)

Another article from a 2021 report by a trade publication puts the average annual expenditures for employee training at over $1000 per learner. (Lakewood Media, 2021) That may not seem like a lot, yet with increasing operating costs and unsteady revenue, healthcare leaders may choose to find ways to slash those dollars through outsourcing or finding the minimum required level of training to check the box.

These articles underscore how the thin margins and associated business decisions, regardless of their ethical or legal standing, may impact an EM/BC practitioner's ability to build and sustain training programs, especially as a non-revenue generating department. Thus, a practitioner may struggle to simply meet requirements, let alone exceed the standards to achieve a high level of effectiveness.

Lastly, but possibly the most important aspect of training and education programs, is how to gauge the effectiveness of said programs. This aspect has challenged EM/BC practitioners across industries. How does one utilize metrics to demonstrate the value-add, revenue protected, patients' outcomes, and brand/reputation impacts mitigated through effective training and education programs?

In order to meet CMS and TJC requirements, hospitals need to track the initial and annual/biennial training of their workforce, as well as some demonstration of employee understanding of those procedures. Due to considerations addressed earlier, the actual program requirements and documentation are largely dependent on the organization and can vary greatly across different hospitals. It is important as practitioners that we identify additional way to demonstrate the effectiveness, or ineffectiveness, of our programs across the organization.

Some metrics that may be able to be developed include:

1) Reporting and response times for facility maintenance issues;
2) Activation times for incident command escalations;
3) Hours spent on downtime or alternate operational procedures, and;
4) Number of clinical operational impacts (i.e. canceled appointments, canceled or rescheduled procedures, and day-over-day revenue).

Again, to develop those metrics and correlate them to your programs it can be costly, require buy-in from other departments such as HR, finance, and facilities, and must be evaluated on a regular basis. These challenges may be aided by some of the technology and workflows that will be discussed in part 2 of this paper series.

Theory to Practice

This section will review general theory, clinical education theory, and emergency management training foundations to highlight how these concepts are congruent with each other. This comparison may aid those charged with the development of such emergency training and educational resources in clinical environments.

How best to engage these employees may be heavily dependent on the organizational structure and skill sets of employees. However, significant research has been done over the last decade on the concepts of adult learning theories, otherwise known as andragogy. This includes research on clinical education that can be correlated directly to the foundations and concepts typically learned by emergency management and continuity practitioners.

Homeland Security Exercise Evaluation Program (HSEEP)

The Homeland Security Exercise Evaluation Program (HSEEP) is taught to many emergency management professionals as a standard for exercise development. This author has heard many practitioners espouse that their exercises are "HSEEP-compliant" or that HSEEP is the only way to run an exercise. FEMA's own 2020 handbook provides that HSEEP is "*set of fundamentals principles for exercise programs, as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning.*" *(FEMA HSEEP, 2020)*
EM practitioners may focus on "fundamentals" as the key word in the HSEEP handbook, yet, further reading in the document outlines how HSEEP is actually "flexible, scalable, adaptable, and for use across the whole community and all mission areas."

With that definition in mind, HSEEP can be used to create a guiding foundation for emergency management professionals, but it is not a set of hardened rules one must follow line by line. As

this section will expand upon, HSEEP is not unlike the educational and training foundations found in other disciplines and does not conflict with other concepts for developing exercises, training, and adult educational materials. Rather, as will be demonstrated, practitioners can adapt the HSEEP concepts to other disciplines, specifically healthcare, to ensure alignment with existing concepts in the stakeholders' fields.

HSEEP builds a continuous improvement framework around the POETEE model:

- Plan
- Organize
- Equip
- Train
- Exercise
- Evaluate

As will be demonstrated through a review of other frameworks, the POETEE model is not significantly different from how other educators, especially in practitioner-focused adult learning, develop their programs.

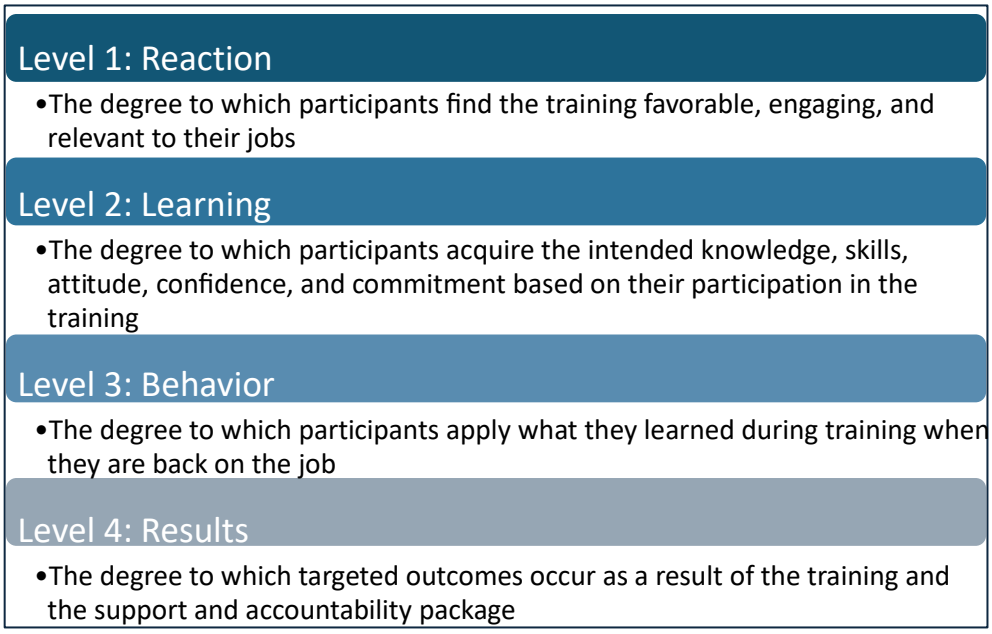
FEMA's Emergency Management Institute (EMI) has made changes to HSEEP that begin to demonstrate that the field has grown beyond the local, state, or federal governmental agencies and is now applicable to a wide variety of organizations. The latest 2020 revisions to the HSEEP acknowledged that the previous language spoke too directly to those in an "elected or appointed" position, focused on governmental EM practitioners, and replaced those terms with "senior leaders". However, even that term may still skew the stakeholder engagement plans of practitioners who should view a broader stakeholder group, one that might even include frontline staff, in which the training and education may need to be more targeted to specific functions or areas. (Riecker, 2020)

HSEEP is an important foundation for the EM/BC fields. However, it has been observed by this author that too often practitioners are unable or unwilling to adapt the framework, language, or governmental aspects of HSEEP to their specific organizations. It is the hope that by reviewing other education and training frameworks in this section, EM/BC practitioners may find ways to adapt to more familiar models already being used by their intended audience and gain more traction with stakeholders at all levels.

The Kirkpatrick Model and Interprofessional Education (IPE)

This first section will focus on concepts and models that healthcare providers use when developing educational models. One learning and development model referenced in many documents reviewed for this paper, including most clinical education literature, is The Kirkpatrick

Model. This model includes four levels correlating to the degree of an outcome a learner achieves:



Author's adaptation of The Kirkpatrick Model ©2024 Kirkpatrick Partners, LLC.

The Kirkpatrick Model highlights the reasons that practitioners need to understand their learning audience, adapt training, and identify ways to assess the outcomes of the training towards the desired objectives.

Clinical educators have adapted this model, especially as it relates to interprofessional education (IPE). IPE, as defined by the American Association of Colleges of Nursing, is "when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes". [AACN, n.d.]

IPE is a framework in which clinical education is starting to build enhanced models of learning. It is also a framework into which EM/BC practitioners in healthcare should understand and integrate. As noted by the definition, the professions are not listed as merely clinical providers or nurses, but rather those professions that enable better outcomes in healthcare.

One organization leading the IPE adaptation is the Interprofessional Education Collaborative (IPEC). In their 2023 *Core Competencies for Interprofessional Collaborative Practice: Version 3,* IPEC outlines four core competencies:

- Values & Ethics
- Roles & Responsibilities

- Communication
- Teams & Teamwork

IPEC's Core Competencies align with many of the desired outcomes of CMS, TJC, and HSEEP objectives. Those familiar with CMS and TJC will know that roles & responsibilities are part of the required elements of performance for emergency management standards. Communications are another aspect that crosses domains.

It may be beneficial for healthcare EM/BC practitioners to understand the framework clinical professionals are using to adapt their own training and education so that one can correlate how different functional areas can collaborate to meet requirements while improving overall healthcare outcomes.

International Nursing Association for Clinical Simulation and Learning (INACSL)

One of this author's reasons for writing this paper series was due to an interaction with an organization's clinical simulation lab during a period in which the organization was also evaluating emergency preparedness training revisions. The simulation lab demonstrated technologies being used to create clinically focused micro-learning sessions, interactive virtual models, and physical patient simulation drills. All of those are potential options for an EM/BC practitioner to use to enhance training and education through methods already familiar to clinical professionals with technology already on the premises.

When researching clinical simulation development, it was apparent that the framework was not unlike those we see in emergency management and continuity doctrine. The International Nursing Association for Clinical Simulation and Learning (INACSL) publishes Healthcare Simulation Standards of Best Practice to create a similar framework to what HSEEP provides. INACSL's framework includes (INACSL Standards Committee 2021):

- Professional Development (NEW)
- Prebriefing: Preparation and Briefing (NEW)
- Simulation Design
- Facilitation
- The Debriefing Process
- Operations
- Outcomes and Objectives
- Professional Integrity
- Sim-Enhanced IPE
- Evaluation of Learning and Performance
- Simulation Glossary

One may notice many similarities to the HSEEP framework for exercise development, especially when associating objective-based outcomes and a focus on debriefing and evaluation against those outcomes. An area where INACSL's 2021 standards acknowledged is important to building buy-in and interest of learners, and their leadership, is correlating their simulations to specific professional development outcomes. This particular item is one that EM/BC practitioners should take to heart and try to find ways to adapt their learning objectives to the professional development goals of the learners, teams, and leadership within their organization.

Other Education and Training Findings

A 2023 study on safety-related training articulated four best practices – also found in other publications – that are required for effective training materials: Accurate, credible, clear, and practical. The same study also identifies that educational materials must be developed with multiple learning methods in mind.

Previously, the word andragogy was used to describe adult learning theory. A 2019 study on adult education in healthcare professions ultimately found that many in instructional roles were "not essentially trained as educators". (Mukhalalati & Taylor, 2019) The study concluded that healthcare professional educators should consider rethinking the approach to practitioner educators and instructional strategies needed to enhance student learning.

That conclusion could very easily apply to the EM/BC practitioner. Even those who may have completed FEMA EMI courses on training to be certified to teach FEMA courses may not understand how to adapt materials and curricula to the intended audiences. Deficiencies in those areas may lead to employees developing a poor perception of the training, disregard or lack of interest in the training, and direct impacts on organizational preparedness for and performance during disrupting events.

Way Forward

Emergency managers, business continuity professionals, and others tasked with building individual and organizational resilience in healthcare face continual challenges to meet regulatory and accreditation standards while operating within constrained resources and budgets and identifying actual outcomes of their efforts.

This paper, the first of two parts, focuses on frameworks, concepts, and other foundations for which adult learning and education may be developed within healthcare. It is not lost on this author that these foundations and frameworks do not alone solve any issues regarding challenges EM/BC practitioners face. However, it is the hope that understanding how clinical providers frame their own educational sessions may aid one in developing more collaborative efforts by leaning on interprofessional education, clinical simulation practices, and the knowledge that employees

of many industries want more enhanced training in the very subjects us practitioners seek to educate them on.

The key takeaways from this paper include:

1) Educational frameworks across sectors involve many of the same elements, including objective-based training and evaluation;
2) Healthcare educators and researchers have acknowledged the importance of interprofessional education through the incorporation of professionals across multiple fields into training;
3) EM/BC practitioners should review clinical simulation frameworks, that are not unlike those found in emergency management, and assess how the frameworks and methods for conducting simulations can be used by EM/BC practitioners to create more effective training with specified professional development outcomes, and;
4) EM/BC practitioners must continue to identify ways to evaluate the effectiveness of training and education outcomes (i.e., Kirkpatrick) to further enhance and improve curricula and methods of delivery.

Part two of this paper series will cover more concrete methods for leveraging existing and emerging technologies and educational frameworks in a scalable, effective, and cost-conscious way. These include methods to create micro-learning sessions, podcasts, repeatable and interactive micro-exercises, leveraging virtual tools for larger exercises and training seminars, and enhancing standardized training sessions across multiple learning styles.

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The Institute for Homeland Security at Sam Houston State University is focused on building strategic partnerships between public and private organizations through education and applied research ventures in the critical infrastructure sectors of Transportation, Energy, Chemical, Healthcare, and Public Health.

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Allen, Bryce S. (2024) Methods for Modern Education & Training on Emergency Management & Continuity in Healthcare – Foundations and Concepts (Report No. IHS/CR-2024-1006). The Sam Houston State University Institute for Homeland Security.
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