

Managing Response to Emerging Infectious Diseases: Past, Present, Future



Live Sessions Final Report

January 2017

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

1. Introduction	4
2. Live Session Overview	5
Live Session Program	6
3. Panel Q&A	8
4. Workshop Session Summary.....	10
Workshop Instructions.....	10
5. Workshop Session Findings	11
Communication (39 mentions).....	12
Funding (10 mentions)	12
Partnerships and Buy-in (21 mentions)	13
Planning (17 mentions).....	14
Resource management (18 mentions)	15
Responder/Staff Safety (9 mentions).....	16
Training (16 mentions)	16
6. Conclusion	18
Appendix A. References.....	19
Appendix B. EID Lives Sessions Workshop Participant Feedback.....	21
Live Session 1 Feedback – September 13, 2016	21
Live Session 2 Feedback – September 20, 2016	25
Live Session 3 Feedback – September 30, 2016	26
Appendix C. About the DelValle Institute for Emergency Preparedness	29

Table of Tables

Table 1 – Participants By MDPH Region	5
Table 2 – Participants By Discipline	5

Table of Figures

Figure 1 - Training Series Structure.....	4
Figure 2 - Organizations Participating in EID Live Sessions	6
Figure 3 - Live Sessions Program Agenda.....	7
Figure 4 - Mentions Received for Each Challenge Area in Workshop Feedback Forms	11

1. Introduction

Managing the response to an emerging infectious disease outbreak is challenging for many reasons. The need to act quickly must be balanced with collaboration across disciplines, constrained resources, and a need to solve the unknowns about the nature of a novel disease. The cross-disciplinary educational series *Managing Response to Emerging Infectious Diseases: Past, Present, Future*, focused on planning for and responding to emerging and re-emerging infectious disease threats, with the overarching goal of raising awareness of roles across disciplines.

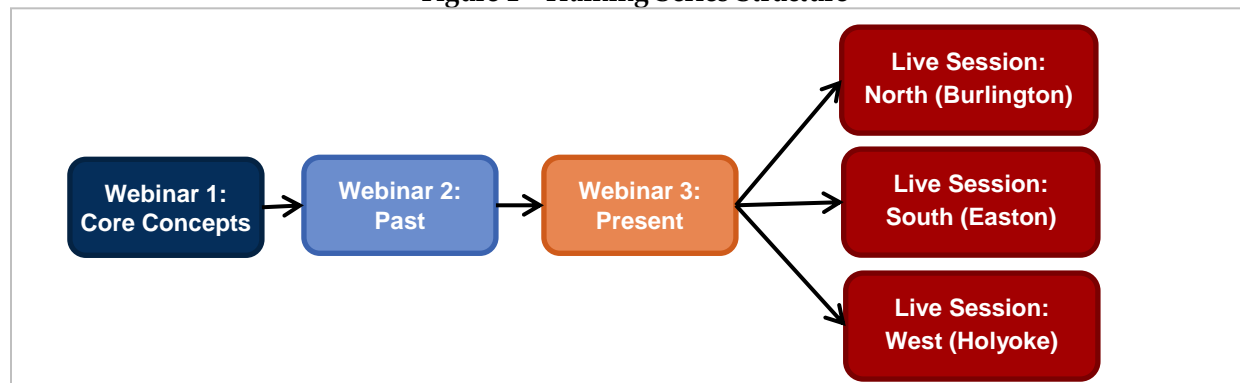
The target audience for this training series included the five core public health and healthcare disciplines (community health centers, emergency medical services, long term care facilities, hospitals, and public health). The series was delivered from July through September, 2016 and consisted of three webinars, followed by the in-person Live Session. The Live Session was held three times in the following Massachusetts locations: Grand View Farm (Burlington), Stonehill College (Easton), and Baystate Medical Center (Holyoke). See diagram below for a visual of the program structure. This report details feedback from participants and panelist presenters from all three Live Sessions, captured during the Panelist Q & A session and the series wrap-up Workshop.

Speakers throughout the series addressed a set of six challenges common to the core disciplines. These challenges were identified through a review of academic literature and interviews of practitioners across the Commonwealth. The six challenges were:

1. Planning
2. Incident management
3. Patient movement
4. Public information
5. Staff/responder health and safety
6. Resource management

In addition, the challenge of interagency coordination was addressed as a cross-cutting theme.

Figure 1 - Training Series Structure



Webinars 1, 2 and 3 were recorded and are available for public viewing. To access these webinars, follow the link to the EID Training Series course page here: <https://delvalle.bphc.org/eid>

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

2. Live Session Overview

The Live Session *Looking to the Future* was the culminating event of the *Managing Response to Emerging Infectious Disease Training Series*. The Live Session built upon concepts learned and discussed from the preceding webinars related to the past and present of EID response, to answer the question, “What steps can we take to improve our future responses?”

Presenters and panelists were invited from HMCC regions throughout the Commonwealth and represented each of the core public health and healthcare disciplines. Presentations addressed the unique roles these accomplished individuals have played in EID response and key challenges they have faced. The training concluded with a group discussion regarding participants’ primary concerns about our collective preparedness for an EID outbreak and potential actions to address those concerns.



Presenter John Murray (Baystate Health), Live Session 3 in Holyoke, MA

Participants of this training included representatives of the five core public health and healthcare disciplines (community health centers, emergency medical services, long term care facilities, hospitals, and public health). A total of 58 participants attended Session 1, 34 attended Session 2, and 29 attended Session 3. The tables below show the participants broken down by discipline and MDPH HMCC region.

Table 1 - Participants By MDPH Region

MDPH HMCC Region	# Participants
1	18
2	7
3	18
4A	10
4B	5
4C	42
5	17
Total	117

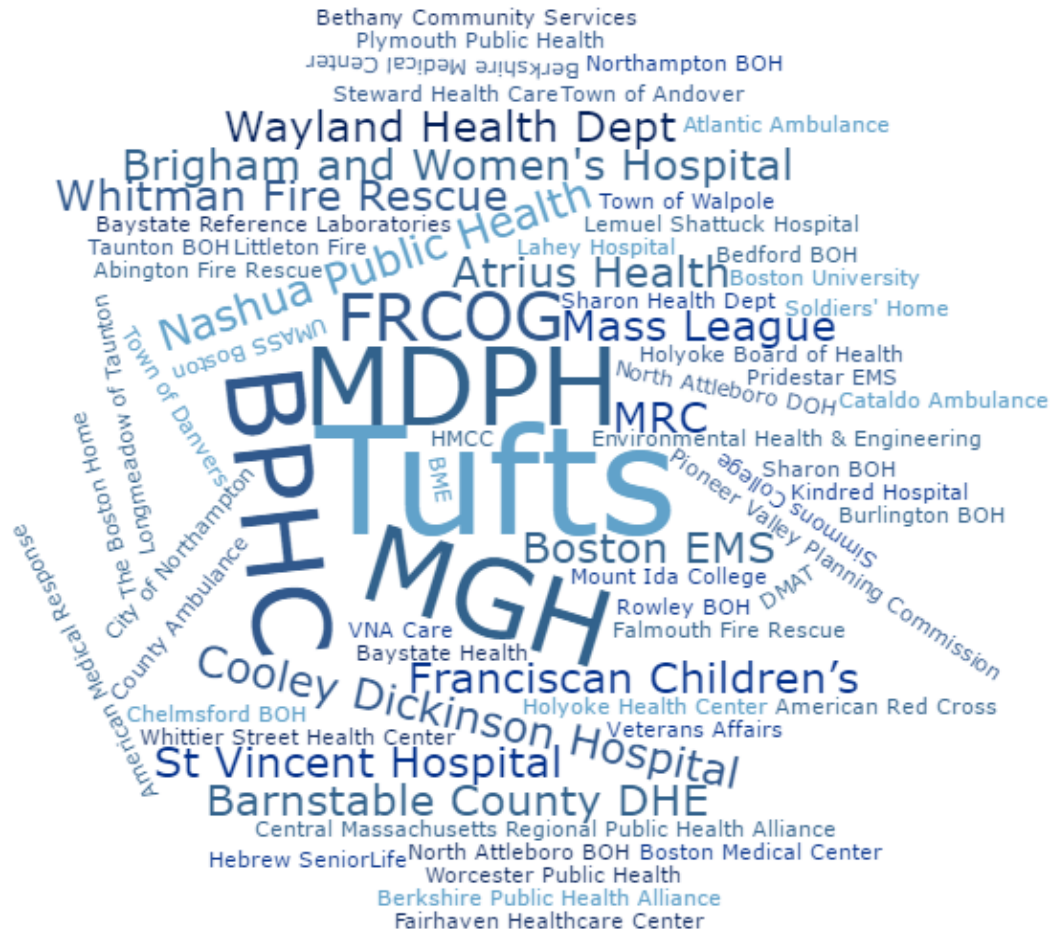
Table 2 - Participants By Discipline

Discipline	Total Attendees
Community Health	9
EMS/Fire	12
Hospitals	30
Long-Term Care	5
Public Health	44
Emergency Management	1
Other	17
Total	117

Managing Response to Emerging Infectious Diseases: Live Session Final Report

Participating organizations included public and private sector groups spanning a wide range of health, medical, and emergency management services from all 6 regional Health and Medical Coordinating Coalitions (HMCCs) in the Commonwealth. The word cloud below names the participating organizations, as reported by participants upon their registration for the program, and illustrates the number of attendees from each organization with the size of the organization's name.

Figure 2 - Organizations Participating in EID Live Sessions



Live Session Program

The Live Session program agenda was the same for each session, with guest presenters varying by session and representing the HMCC regions corresponding to each location. This approach allowed participants in each session to share experiences and address concerns most relevant to the regional level.

All Live Session presentations were recorded and are available for public viewing. To access individual presentations, follow the link to the EID Training Series video page [here](#).

Managing Response to Emerging Infectious Diseases: Live Session Final Report

Figure 3 - Live Sessions Program Agenda

10:00am Welcome and Opening Remarks

- Session 1: **Mary Clark**, JD, MPH, Massachusetts Department of Public Health
Session 2: **Kerin Milesky**, Massachusetts Department of Public Health
Session 3: **Roberta Crawford**, MPA, MEP, Massachusetts Department of Public Health
All Sessions: **Mea Allen**, Boston Public Health Commission

10:15am Distinguished Speaker Lecture

- Session 1: *The Future of Response to Emerging Infectious Diseases*, **Dr. Paul Biddinger**, MD, FACEP
Session 2: *Planning for Emerging and Re-Emerging Infectious Diseases*, **Dr. Erica Shenoy**, MD, PhD
Session 3: *Emerging and Re-emerging Infectious Diseases: Murphy is an Optimist*, **John Murray**, CHMM, CSP, CIH, Baystate Health

10:45am Responding Together as a Healthcare System

- Mea Allen**, Boston Public Health Commission

11:15am Panelist Presentations

Session 1:

- *Partners in communication: Unifying our message during the Ebola outbreak*, Stacey Kokaram, MPH, Boston Public Health Commission
- *Staff Health and Safety Issues in the care of a Pediatric Patient with Suspected Ebola*, Dr. Shira Doron, MD, FIDSA, Tufts Medical Center
- *Ebola Preparedness Communication Plan*, Bernadette Thomas, APRN, DNP, MPH, Lynn Community Health Center
- *Big Bad Bugs: Handling Infectious Disease Patients in the Pre-Hospital Environment*, Deputy Superintendent Susan Schiller, NRP, Boston EMS
- *H1N1 Response in the Nursing Home*, Sakhonh Kheumun, Hebrew SeniorLife

Session 2:

- *A Multi-Disciplined Approach for Planning Emerging Infectious Diseases*, **Sean O'Brien**, Deputy Director, Barnstable County Department of Health and Environment
- *EMS Response to Managing High Risk Infectious Patients*, **David Faunce**, EMT-P, Southeastern MA EMS Council
- *Emerging Infectious Disease Response: Hospital Perspective*, **Sheila Wallace**, BSN, BA, MA, CHPA, CHC, Steward Health Care
- *How Large Ambulatory Care Practices Can Contribute to EID Responses*, **Linda Foote**, PhD, Atrius Health

Session 3:

- *A Local Public Health Perspective to Managing Public Information*, **Colleen Bolen**, MPH, Worcester Division of Public Health
- *The EMS Challenge Transporting the High Risk Infectious Patients*, **Brian Andrews**, EMT-P, County Ambulance
- *Hospital Role in Integrated Planning and Response*, **Lucy Britton**, BS, RN, Berkshire Medical Center
- *Public Information Challenges for Community Health Centers*, **Carrie Matusko**, RN, Holyoke Health Center

12:15pm Lunch

12:45pm Panelist Q&A

1:35pm Group Discussion: The Future Begins Now

3:20pm Closing Remarks

Managing Response to Emerging Infectious Diseases: Live Session Final Report

3. Panel Q&A

Each live session included regional presenters comprised of emergency managers and practitioners from the five core disciplines (community health centers, emergency medical services, hospitals, long-term care, and public health). Presenters were asked to provide a 10-minute presentation, drawing from their own experience in responding to emerging infectious diseases. Following the presentations, presenters answered questions from the audience in a Q&A panel format. Below is a list questions asked during the 3 Panel Q&A sessions. All responses to the Panel Q&A questions were recorded and are available for public viewing (see inset).



Panel Q&A, Live Session 2 in Easton, MA



Panel Q&A, Live Session 3 in Holyoke, MA

List of Questions from All Sessions

- During an EID response, what tips can you share regarding making sure that the correct information to the correct people?
- When it comes to infectious diseases, if someone has a religious, cultural or personal belief causing them to refuse care, are there best practices for ensuring that they are not a threat to the public?
- During previous EID outbreaks such as Ebola and Zika, how do we follow what may be differing guidance between local, state, and federal partners?
- When encountering a suspected EID patient who refuses to wear a mask, perhaps for cultural reasons, what do you do to enforce the use of masks or ensure safety?
- Response to an EID outbreak can cause fear and confusion among the general public and also the healthcare workforce. How have you dealt with loss of trust and credibility among your own staff and responders?
- What issues did you find you were able to address regarding staff sharing and managing staffing needs during an EID outbreak?
- How does your staff training now compare to the level of EID training you maintained during the Ebola outbreak?
- We fall into a pattern of putting resources and attention into EIDs of the moment, then forgetting about them to focus on other emergencies until the next EID emerges. How do we break this cycle to maintain our preparedness to EIDs?

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

- Who are some unusual players you have found important to include as partners in an EID response?
- How do you make sure that you are able to learn about new guidance or a changing situation during an EID response so that you can rapidly update your plans and procedures?
- What is something you've seen done right, in your agency or region, with respect to EID response?
- With healthcare organizations understaffed due to downsizing and part-time or volunteer staff on local boards of health, how do we make time for training, drills, and preparedness planning?
- Some response roles, such as contact tracing, span multiple disciplines. How do we map out these key roles and responsibilities so that we can increase our capacity by cross-covering various response functions?
- With the upcoming flu season, have there been any changes to guidance or suggestions to do anything differently?
- What other responses or outbreaks have you examined to learn how to improve your EID preparedness?
- What can we do now, at the discipline or regional level, to improve our response to future EIDs?

All responses to the Panel Q&A questions were recorded and are available for public viewing. To access responses, follow the link to the EID Training Series video page [here](#).

4. Workshop Session Summary

Each Live Session concluded with a culminating workshop activity that allowed participants and presenters to synthesize their learning from the training series and share their experiences with the goal of building our collective preparedness to emerging infectious diseases in the future.

Workshop participants were directed to explore the following questions:

1. Given all that we have discussed today, what are your primary concerns about our collective preparedness for an EID outbreak?
2. What actions can you, your organization, or your response partners take to address these concerns? In other words, what solutions do you propose for your primary concerns?



Workshop Report Out, Live Session 1 in Burlington, MA



Workshop Discussion, Live Session 2 in Easton, MA

Workshop Instructions

To promote a variety of discussions, the workshop format allowed participants to sit with multiple groups to explore the same questions with different sets of people. Participants were asked to begin with a group of at least 5 per table. All groups had 20-25 minutes to explore the 2 questions. Participants were then asked to move to their second group for another round of discussion. In this second round, participants were assigned to tables to ensure a variety of healthcare disciplines were represented within each group. In the final round, participants were given the additional instruction of selecting three concerns and corresponding actions to highlight by reporting out to the full group of session participants.

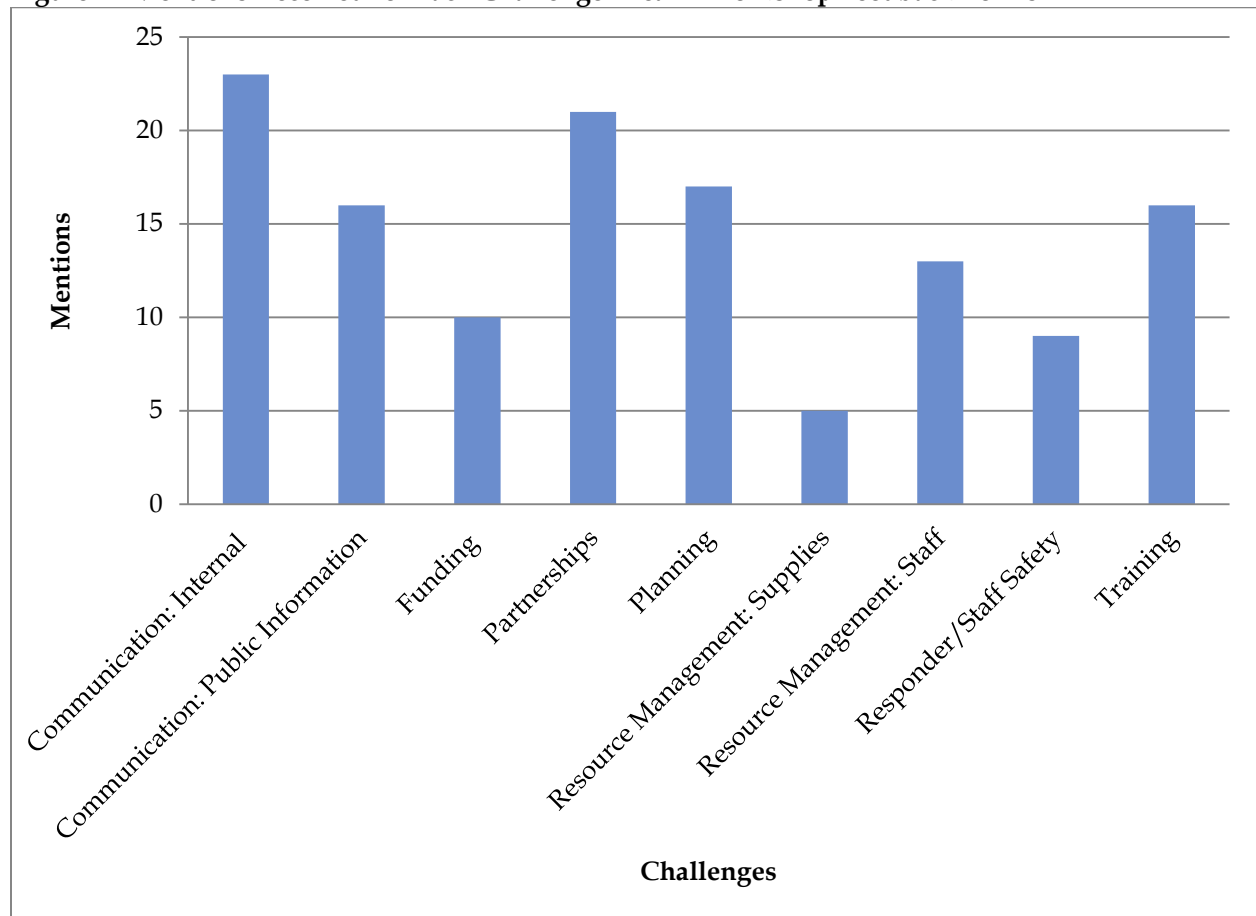
The workshop concluded with a plenary discussion, allowing participants to connect the overall themes or questions voiced in the smaller groups to broader themes and recommendations to take back to their own practice. Following the report out, participants were asked to leave additional thoughts on feedback forms (at least 1 form per group was collected).

5. Workshop Session Findings

The following data comes from the feedback forms collected from the culminating workshop session. 50 forms in total were collected over three (3) sessions.

In the summary below, “mentions” refer to the amount individual responses recorded relating to a particular topic. Concerns about EID response raised by participants were combined into general response challenge areas, which aligned roughly with the six (6) challenge areas used in the presentations. The figure below illustrates the number of mentions per challenge area.

Figure 4 - Mentions Received for Each Challenge Area in Workshop Feedback Forms



Communication was by far the challenge area of most concern, with a total of 39 mentions in the feedback forms, with 23 mentions specific to internal and interagency communication and 16 mentions specific to public information and warning. The following is a summary of concerns identified and solutions proposed for each by participants in the feedback forms. See Appendix B for a complete list of feedback form responses from Live Sessions 1, 2, and 3.

Communication (39 mentions)

Internal and interagency communication (23 mentions)

Concerns identified:

- Social and mainstream media
- Fear and panic among staff
- Misinformation and poor dissemination to important players, lack of standardized processes for communication
- Insufficient access to state and federal information

Proposed actions:

- Include media training and delegated teams with specific roles
- Hold drills to increase knowledge and skills and address fears
- Create communication flow plan
- Face-to-face communications in addition to written communications
- Participate in interdisciplinary meetings on a regular basis
- Circulate HMCC contact list to understand roles and build trust
- Build partnerships to ensure our government partners understand why they are important and advocate for resources and collaboration

Public information (16 mentions)

Concerns identified:

- Miscommunication or absence of communication
- Concern of “white noise” with public communication and we continue to see more EIDs when the public ignore information
- Media - How/when to share information with media
- Process - what can be said and by whom, how is it conducted

Proposed actions:

- Use prepared statements
- Be proactive rather than remain silent
- Provide clear and confirmed messages
- Manage fear, focus on emotionally charged subjects
- Educate the public

Funding (10 mentions)

Concerns identified:

- Securing funding for emergency preparedness kits
- Lack of funding
- Shifting budgets and shifting priorities
- Finance: purchasing supplies for one disaster, but supplies are never used. Crisis purchasing vs. reality purchasing
- Sustainability with funding

Managing Response to Emerging Infectious Diseases: Live Session Final Report

- How to spend money given crises purchasing vs. education
- Funding standardizations
- Funding connected to motivation and sustainability
- Collective discipline participation – diversity of funding

Proposed actions:

- Have funds available provided by DPH for gear, gadgets, and exercises/drills
- Upper management buy-in, needs assessment, vendors
- Using the funding that will come (be adaptable)
- Realistic quantities, real-time needs, purchase for spreading potential
- Purchase realistic quantities, Develop an algorithm to help determine quantities

Partnerships and Buy-in (21 mentions)

Concerns identified:

- Involving more “players,” specifically off shift people
- Lack of understanding of Local Public Health – what it can offer to the other partners
- Primary care is so important to both surveillance and surge, in addition to follow-up care post-illness but are often not included as critical partners in response and recovery
- Knowing who the players are and how to communicate with them
- Recognizing what the disciplines bring to the table
- Interagency education, planning, and protocol
- Bureaucratic barriers
- Motivation between events/EID outbreaks, Ebb and flow of “disease of concern”
- Lack of motivation/interest in preparedness
- Lack of pre-event collaboration
- Reactive, not proactive, Lack of motivation-tied to funding, between incidents

Proposed actions:

- Identify other partners
- Continue to invite primary care to engagement
- Form interdisciplinary teams
- Add college university health centers
- Provide interdisciplinary opportunities for communication and planning between fire, police, schools, hospital, EMS
- Build “All Hazards” plans that will include infection control rather than focus on disease du jour
- Ask for more guidance or even a mandate from the state (**new CMS rule-EP), Expand partnerships, Fund local projects that address preparedness, Seek opportunities to leverage funding for more than one purpose
- We are beginning this here today, Two way information flow from and to local HMCC to learn of each discipline, leading to capability/role lists, Attempt to bring in new faces

Managing Response to Emerging Infectious Diseases: Live Session Final Report

- Attend another event, Commitment of administration
- List capabilities of disciplines, Integrate, Information flow up and down, Expand discipline representation, Bring in the folks who are actually doing the work
- Interagency collaboration through HMCC's
- Leadership commitment to maintain readiness between events
- Continue bi-monthly meetings, sending out trainings available by DVI
- Go beyond recommended guidelines to be more proactive, new CMS regulation may help

Planning (17 mentions)

Concerns identified:

- Whether or not we are actually prepared for a crisis or if the preparedness plan is lacking
- Limited staffing internally and the ability to cross-train staff to be on a response team when you have limited funding
- Ability of region to handle the surge of patients with limited training, staff and resources
- Have plans in place but have not drilled/exercised enough (or at all)
- Creating realistic COOP for organization and community that genuinely engages stakeholders
- Lack of clearly defined roles --who is point person?
- Students/staff that travel may not have considerations for disease transmission
- Flu and norovirus are biggest issues in LTC especially because of staff impact
- Information overload
- Ability to recognize early signs and symptoms of an EID and how quickly this information can be communicated to all disciplines
- Same resources not available to all disciplines – Boston, Cape Cod, Private Agency, Nursing Home

Proposed actions:

- Conduct needs assessment for communities
- Lobby/advocate for increased funding for preparedness
- Improve clarity of roles/responsibilities
- Continue to build networks with partners, Continuously research best practices and drill to review EOPs and plans/procedures
- Get all the players at a table and discuss the “what if” scenarios
- Train with an external facilitator operating with a common set of standards and expectations
- Make sure own roles are set up, ensure buy-in from upper level management for proactive response with EID response/supplies
- “All Hazard” planning focus
- Having plans in place, review regularly and train on those plans regularly

Managing Response to Emerging Infectious Diseases: Live Session Final Report

- Advocate for money to support efforts in an efficient way
- Mass notifications internally and to various list serves, Assist with response and planning efforts, Active participation with HMCC and local, state, federal partners
- Communicate with each other, other agencies
- Bring home care into mix – how to be prepared

Resource management (18 mentions)

Staff Management (13 mentions)

Concerns identified:

- Inadequate staffing resources during a major outbreak
- Exposure when staff and/or their families become ill
- Continuity if key staff are quarantined
- Staff for surge capacity
- Flu and norovirus are biggest issues in long-term care especially because of staff impact

Proposed actions:

- Have clear plans, consider additional refinement of existing protocols
- Continue education for nurses and staff on handling existing infectious diseases
- Do not operate in silos – have multi-discipline/jurisdiction meetings, trainings
- Reach out to community resources and set up that lifeline prior to an outbreak
- Mutual aid agreements
- Plans/procedures to pull in students (nursing, medical, pharm, EMS) during surge event. Work with unions and legal to get buy-in, outline scope of care for students and required oversight (proctor)
- Telehealth

Equipment and supply management (5 mentions)

Concerns identified:

- Access to [state and federal] supplies and information
- Sustainment of equipment/knowledge of proper PPE use, efficacy of PPE in storage

Proposed actions:

- Ensure our federal and government partners understand why they are important and advocate for resources and collaboration
- Training and resources – implementing
- Guidance from state and federal governments
- Train personnel
- Test and replace equipment, ensure right equipment is stockpiled
- Learn from the past

Managing Response to Emerging Infectious Diseases: Live Session Final Report



Workshop Report Out, Live Session 1 in
Burlington, MA



Workshop Report Out, Live Session 2 in
Easton, MA

Responder/Staff Safety (9 mentions)

Concerns identified:

- Phone triage, PPE and communicable disease precautions table does not reach the end-user at all sites. The information is communicated to nurse leaders and supervisors/managers.
- Fear and panic among staff
- Appropriate communication of protective measures
- Risk of workplace violence
- Education, standard precautions for Long term care: norovirus/flu
- Reactive not proactive on use of PPE
- Point of care tests in patient room, samples not sent to labs for fear of contamination, How to do lab work on suspect patients

Proposed actions:

- In-person presentations of phone triage, PPE, and communicable disease precautions at all sites
- Recurrent drilling to decrease lack of knowledge as well as decrease fear
- Information to staff needs to be on all levels: clear, timely, concise, consistent messages
- Annual fit testing for hospital staff
- Need to adopt PPE willingly

Training (16 mentions)

Concerns identified:

- Lack of training available
- Availability to attend trainings; increase staffing level to allow people to attend training
- Sustainability of training
- Multiagency communications and training information – who should lead the training with regard to EMS and communication with other involved parties

Managing Response to Emerging Infectious Diseases: Live Session Final Report

- No drills occur, only conceptual practice
- All hazards plan training needed for Community Health/ Ambulatory care
- Culture of being in charge/ invincible is a barrier to training
- PPE training for hospitals
- How do we determine what is adequate training, as with PPE – what is enough training?
- Limited knowledge of isolation and quarantine requirements for those outside public health

Proposed actions:

- Obtain training support from senior leadership
- Work with our own agencies to get management buy-in and conduct mandatory training (paid) to ensure all staff is educated in roles and responsibilities
- Need to let content expert lead trainings
- Medical simulations, Guidance from state and/or federal that provides “cover” for local decision makers
- Create sustainable training for PPE – identify core personnel to keep trained during non-emergencies
- Use medical simulation centers for PPE training, keeping equipment in good condition, batteries charged; Use small group of employees and refresh minimally quarterly
- Medical simulations, Guidance from state and/or federal that provides “cover” for local decision makers
- Physically visit and do trainings (commit to trainings)
- Collaborate on planning/ training during normal operations, share training/ exercise opportunities across regions/ state borders; Include frontline staff and senior management
- Bring drills to all disciplines, including outside organizations

6. Conclusion

The live sessions, combined with the preceding webinars, proved to be an effective forum for new and experienced practitioners to discuss shared challenges and explore proposed solutions. Review of the live session participant evaluations echoed the intended benefit of coalition collaboration. When asked to describe the most valuable part of the training, 12 of the 32 respondents cited networking and/or interacting with other agencies and disciplines. As one respondent described, “Interaction between the disciplines was extremely useful. We were able to bounce expectations off each other to find a common ground.” Another respondent explained, “I am [from] public health and I had EMS at my table. They had a different focus and concern, but with many overlaps.”

The workshop findings may be used to direct preparedness activities at the state, coalition, and agency level, and to inform future training and exercises.

Appendix A. References

Academy of Medical-Surgical Nurses (AMSN). (n.d.). Evidence-based practice. *Practice Resources*. Retrieved from <https://www.amsn.org/practice-resources/evidence-based-practice>

Ahmed, A. (2014, September 30). First Ebola case diagnosed in US; fears others may have been exposed. Al Jazeera America. Retrieved from <http://america.aljazeera.com/articles/2014/9/30/officials-confirmfirstebolacasediagnosedinus.html>

Chevalier, M.S., Chung, W., Jessica Smith, Weil, L.M., Hughes, S. M. Hughes, Joyner, S.N., Hall, E., Srinath, D., Ritch, J., Thathiah, P., Threadgill, H., Cervantes, D., & Lakey, D.L. (2014). Ebola Virus Disease Cluster in the United States – Dallas County, Texas, 2014. *Morbidity and Mortality Weekly Report (MMWR)*, 63(46). Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6346a11.htm>

Centers for Disease Control and Prevention. Remembering SARS: A Deadly Puzzle and the Efforts to Solve It. About CDC 24-7. Retrieved from <https://www.cdc.gov/about/history/sars/feature.htm>

Centers for Disease Control and Prevention. Perspectives in Disease Prevention and Health Promotion Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus, and Other Bloodborne Pathogens in Health-Care Settings. (1988, June). CDC Prevention Guidelines Database (Archive). Retrieved from <https://wonder.cdc.gov/wonder/prevguid/p0000255/p0000255.asp>

Centers for Disease Control and Prevention. Updated Preparedness and Response Framework for Influenza Pandemics. (2014, September 29). *Morbidity and Mortality Weekly Report (MMWR)*, 63(RR06);1-9. Retrieved from <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6306a1.htm>

Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), & Division of Healthcare Quality Promotion (DHQP). (2011, November). Basic infection control and prevention plan for outpatient oncology settings. *Healthcare-associated infections (HAIs)*. Retrieved from <http://www.cdc.gov/HAI/settings/outpatient/basic-infection-control-prevention-plan-2011/transmission-based-precautions.html>

Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), & Office of the Director (OD). (2014, May). EID journal background and goals. *Emerging Infectious Diseases*. Retrieved from <http://wwwnc.cdc.gov/eid/page/background-goals>

Koenig, K.L., & Schultz, C.H. (2014). The 2014 Ebola virus outbreak and other emerging infectious diseases. Retrieved from <https://www.acep.org/uploadedfiles/acep/practiceresources/issuesbycategory/publichealth/the%202014%20ebola%20virus%20outbreak.pdf>

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

National Institute for Occupational Safety and Health Education and Information Division. (2016, July). Hierarchy of controls. *The National Institute for Occupational Safety and Health (NIOSH)*. Retrieved from <http://www.cdc.gov/niosh/topics/hierarchy/>

Office of Public Health Scientific Services; Center for Surveillance, Epidemiology, and Laboratory Services, & Division of Scientific Education and Professional Development. (2012, May). Lesson 1: introduction to epidemiology. *Principles of epidemiology in public health practice, third edition*. Retrieved from <http://www.cdc.gov/ophss/csels/dsepd/SS1978/Lesson1/Section10.html>

Texas Department of State Health Services. Combined Incident Action Plan #10: 2014 October Ebola. (2014). Retrieved from <http://www.astho.org/Programs/Infectious-Disease/Ebola/Documents/Combined-Incident-Action-Plan--10/>

Digital News Desk. (2014, September 29) Patient One: Dallas Ebola Victim Identified. CCW3. Retrieved from <http://cw33.com/2014/09/29/health-alert-north-texas-patient-tested-for-ebola/>

The World Café(2008). Café to Go: A Quick Reference Guide for Putting Conversations to Work. Retrieved from <http://www.theworldcafe.com/pdfs/cafetogo.pdf>

United States Department of Labor. (2007). Pandemic influenza preparedness and response guidance for healthcare workers and healthcare employers. *Occupational Safety and Health Administration*. Retrieved from <https://www.osha.gov/Publications/3328-05-2007-English.html>

United States Department of Labor. (n.d.). Healthcare wide hazards: (lack of) universal precautions. *Occupational Safety and Health Administration*. Retrieved from <https://www.osha.gov/SLTC/etools/hospital/hazards/univprec/univ.html>

United States General Accounting Office. 2000. West Nile Virus Outbreak. Lessons for Public Health Preparedness. Retrieved from <http://www.gao.gov/assets/230/229648.pdf>

Appendix B. EID Lives Sessions Workshop Participant Feedback

The tables below detail all responses recorded on feedback forms completed by participants at the end of the workshop. *Note: numbers following statements refer to the form from which they were extracted.*

Live Session 1 Feedback – September 13, 2016

Concerns Identified	Actions Proposed
Communication inter-hospital/ interagency (1)	Drills with all branches/training levels/ educational backgrounds <ul style="list-style-type: none"> including media training and delegated teams with specific roles
Resource and staff management (1)	Technology development Cultural competency
Getting drill trainings to lower levels of NSQ(?) and other disciplines (2)	Brining drills to all disciplines including outside
[Infection Control Team member] Phone triage, PPE and communicable disease precautions table does not reach the end-user at all sites. The information is communicated to nurse leaders and supervisors/managers. (3)	In-person presentations of phone triage, PPE, and communicable disease precautions at all sites
Miscommunication, lack of communication (4) Involving more “players” specifically off shift people (4)	Prepared statements-not staying silent Require more involvement
Handling surge, staff management, education (4) Communication both within [my] facility as well as with other organizations (5)	Reaching out ahead of time, network now to different entities Accurate, coordinated, consistent and recurrent communications Face-to-face communications in addition to written communications
Staffing during a major outbreak/exposure when staff and/or their families become ill (5) Fear and panic among staff (5)	Recurrent drilling to decrease lack of knowledge as well as decrease fear
Inappropriate/inadequate use of PPE (5)	Drilling for full proper use of pt(?) symptom identification and proper use of PPE
Management of misinformation (it appears quickly on Facebook, Twitter...) (5) Staffing/resources (6)	Have clear plans, continuing education for nurses and staff on handling existing infectious diseases
Staff for surge capacity (7)	Not operating in silos – multi-discipline/jurisdiction meetings, trainings
Educating/information for public, managing fear (7)	Educate and supply information to Church groups, schools, etc.

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

Whether or not we are actually prepared for a crisis or if the preparedness plan is lacking (8)	Needs assessment for communities Funding, lobby/advocate for increased funding for preparedness Clarity of roles/responsibilities
Ability of region to handle the surge of patients with limited training staff and resources (9)	Get all the players at a table and discuss the "what if" scenarios
Limited staffing internally and the ability to cross train staff to be on a response team when you have limited funding (9)	Continue to build networks with partners Continuously research best practices and drill to review EOPs and plans/procedures
Concern of "white noise" with public communication and we continue to see more EIDs when the public ignore information because we continue to push so much information, whether accurate or inaccurate (9)	
Lack of understanding of Local Public Health- what is can offer to the other partners (10)	Try to identify other partners
Knowledge of isolation and quarantine requirements for those outside public health (10)	Communication!
Resource management for staff (11)	Reaching out to community resources and setting up that lifeline prior to an outbreak
Communication (11)	Getting the correct communication out not to create a panic yet be informative
Staffing in an emergency/EID situation. Continuity if key staff are quarantined (12)	Creating policies
Social and mainstream media affecting [our] ability to control any given situation (13)	Staff must know what their role is during an EID outbreak
Staffing capacity (14)	Additional refinement of existing protocols
Lack of coordinated planning regionally (14)	Interagency training and planning collaborations
Fit testing capabilities (14)	
Communication and public information (14)	Developing communication channels Media advisory groups with major information sources to coordinated information sharing and dissemination to providers and public
Inadequate staffing resources (15)	Mutual aid agreements (non local) Plans/procedures to pull in students (nursing, medical, pharm, EMS) during surge event. Work with unions and legal to get buy-in, outline scope of care for students and required oversight (proctor)
Training - availability, staffing level to allow people to attend training (15)	Collaborate on planning/training during normal operations, share training/exercise opportunities across regions/state borders Include frontline staff and senior management

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

Communications – what is shared with whom and how? How/when to share information with media, consistent communication by various organizations, managing misinformation (15)	
Planning- plans in place but not drilled/exercised enough (or at all) (15)	
Poor dissemination of pertinent information to the need to immediately know people (16)	Stream line communication channel, not have a phone tree of more than 10 (15 max) people. Too overwhelming
Primary care is so important to both surveillance and surge, in addition to follow-up care post-illness but are often not included as critical partners in response and recovery (17)	Continue to invite primary care to engagement
Scarce resource allocation (17)	Leverage collaboration and resources (and funding)
Access to supplies and information (17)	Ensure our federal and government partners understand why they are important and advocate for resources and collaboration
Staffing and materials (18)	Training and exercises, also considering staff who are not clinical i.e. security staff
Operationalizing emergency plans → activation, everyone knowing roles within the plan (18)	
Isolation of individual agencies (18)	Strong discipline-specific committees/groups for training, best practices
Central communication (18)	Coordination through HMCC structure → centralized regional communication
Clear, concise communication (19)	Communication
Resources/staffing (19)	Training and resources-implementing and sustaining
Dissemination of information, management of bad information(20)	Communication flow plan
Sustainability of training (20)	
Knowing who the players are and how to communicate with them (20)	Interdisciplinary team
How to package the information so it's appealing to staff and patients (20)	One source for information
Institution does not support annual fit testing (21)	Obtain support from senior leadership
Media and relations with outside resources (22)	Building a strong relationship so information can be shared
Multiagency communications and training information-who should lead the training with regard to EMS and communication with other	Working with our own agencies to get management buy-in and conduct mandatory training (paid) to ensure all staff

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

involved parties (23)	is educated in roles and responsibilities
Securing funding for emergency preparedness kits (24)	Have funds available provided by DPH for gear, gadgets, and exercises/drills
Providing clear confirmed emergency messaging (24)	
Unifying our centers for attending ongoing trainings in readiness (24)	Continue bi-monthly meetings, sending out trainings available by DVI
Short coming our resources: personnel and financing, cross training (25)	Needs assessment to include all Resources-personnel and supplies - financing funding Communications
Lack of communication (26)	
Stabbing (26)	
Creating realistic COOP for organization and community that genuinely engages stakeholders (27)	External facilitator operating with a common set of standards and expectations
Lack of funding (28)	Upper management buy-in, needs assessment, vendors
No drills, only conceptual practice (28)	
Standard for communication (28)	Participation with interdisciplinary meetings
Lack of training (28)	Physically visit and do trainings
Lack of clearly defined roles -who is point person?(28)	Make sure own roles are set up, ensure buy-in from upper level management for proactive response with EID response/supplies
Concern with public and managing their fears, how do we educate and calm their fears? (28)	
Early identification of disease (29)	
Appropriate communication of protective measures (29)	Needs to be on all levels: clear, timely, concise, consistent messages
Annual fit testing for hospital staff (30)	
Managing public information and what we are up against-who says what and when? (30)	

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

Live Session 2 Feedback – September 20, 2016

Concerns Identified	Actions Proposed
Communication improvement (1)	Meet with disciplines/community resources on a monthly basis
Education (disease, staff, public) (1)	<ul style="list-style-type: none"> • Improve risk communication plan • Fact sheet for public distribution
Recognizing what the disciplines bring to the table (1)	Meet with disciplines to review ICS
Ebb and flow of “disease of concern” (2-2) <ul style="list-style-type: none"> • Shifting budgets and shifting priorities (2-2) • Reactive not proactive (2-2) • Culture of being in charge/invincible (2-2) 	<ul style="list-style-type: none"> • Build “All Hazards” plans that will include infection control rather than focus on disease du jour (2-2) • Using the funding that will come (2-2) • Need to adopt PPE willingly (2-2) • Need to let content expert lead trainings (2-2)
Concerns for points of limited resources: young, poor (2)	Teach and share information, include infection control in “All Hazards” plans
Our focus turns to emotionally charged subjects (2)	Need good fact sheets to be as prepared as possible
No proper channels to communicate (2)	HMCC contact list to understand roles and build trust
Include missing stakeholders (2)	Add college university health center
Long term care: norovirus/flu (3)	Education, standard precautions
Hospitals: Ebola, SARS, international (3)	Social media: bad when it creates fear, good to get information out
EMT: Ebola, SARS, Zika, international (3)	Communication, train
Community Health/ Ambulatory care (3)	All hazards plan trainings
Public health (3)	WebEOC (DPH, MEMA), Maven
Make debriefing more informal (4)	Interagency debriefing
Education via interdisciplinary cooperation (4)	Train together
Interdisciplinary communication (5)	Whatsapp iPad or iPhone application and correct point of contact
Informal debriefing (5)	Open lines of communication
Interagency education and planning and protocol (5)	Provide interdisciplinary opportunities for communication and planning between fire, police, schools, hospital, EMS
Students/staff that travel don’t have considerations for disease transmission (6)	“All Hazard” planning focus
Flu and norovirus are biggest issues in LTC especially because of staff impact (6)	
Antivax movement (6)	
Information overload (6)	Having plans in place, review regularly and train on those plans regularly
Bureaucratic barriers (6)	

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

Bug-borne illness – public education on the issue (6)	Programs need flexibility
Lack of control of staff that stand up in emergencies (6)	Inclusion of disciplines
<ul style="list-style-type: none"> • Global community – the unknown • Visas for summer/seasonal help (6) 	Advocacy for money to support efforts in an efficient way
Ability to recognize early signs and symptoms of an EID and how quickly this information can be communicated to all disciplines (7)	<ul style="list-style-type: none"> • Mass notifications internally and to various list servers • Assist with response and planning efforts • Active participation with HMCC and local, state, federal partners
Same resources not available to all disciplines-Boston, Cape Cod, Private Agency, Nursing Home (8)	Communicate with each other, other agencies

Live Session 3 Feedback – September 30, 2016

Concerns Identified	Actions Proposed
PPE training and hospitals (1)	<ul style="list-style-type: none"> • Medical simulations • Guidance from state and/or federal that provides “cover” for local decision makers • Sustainable training and PPE • Identify core personnel to keep trained during non-emergencies
Lack of motivation /interest in preparedness (1)	<ul style="list-style-type: none"> • Asking for more guidance or even a mandate from the state (**new CMS rule-EP) • Expand partnerships • Fund local projects that address preparedness • Seek opportunities to leverage funding for more than one purpose
Pre-event collaboration (1)	<ul style="list-style-type: none"> • We are beginning this here today • Two way information flow from and to local HMCC to learn of each discipline, leading to capability/role lists • Attempt to bring in new faces
Sustainment of equipment/knowledge of proper PPE use -PPE in storage (2)	<ul style="list-style-type: none"> • Guidance from state/feds • Train personnel • Turn over equipment • Ensure right equipment is stockpiled • Learn from the past
<ul style="list-style-type: none"> • Reactive, not proactive 	<ul style="list-style-type: none"> • Another event

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

<ul style="list-style-type: none"> Lack of motivation-tied to funding, between incidents (2) 	<ul style="list-style-type: none"> Commitment of administration
<p>Collaboration pre-event inclusive of other disciplines (2)</p>	<ul style="list-style-type: none"> Listing capabilities of disciplines Integrate Information flow up and down Expand discipline representation Bring in the folks who are actually doing the work
<p>Lack of participation or what is the minimum participation? Position-specific? (3)</p>	
<p>Communication and miscommunication (3)</p>	<ul style="list-style-type: none"> Identify a reliable source of information Collaborating with local state agencies
<p>Finance: purchasing for one disaster, but never being used. Crisis purchasing vs. reality purchasing (3)</p>	<ul style="list-style-type: none"> Realistic quantities Real-time needs Purchase for spreading potential
<p>Lack of collaboration (4)</p>	
<p>Motivation between events/EID outbreak (4)</p>	
<p>Sustainability with funding (4)</p>	
<p>Reactive culture as opposed to a proactive culture-particularly hospitals (4)</p>	
<p>How to spend money given crises purchasing vs. education (5)</p>	Realistic quantity
<p>Communication-collaboration (lack thereof) (5)</p>	Deem reliable sources
<p>Adequate training (6)</p>	<ul style="list-style-type: none"> Continuation of review/drills prepare-respond-react
<p>What is adequate training? (7)</p>	Train
<p>Altered standards of care (7)</p>	
<p>Communication (7)</p>	<ul style="list-style-type: none"> Partnerships Ask for guidance from state and fed gov't Commitment from administration
<p>Checklist necessary (7)</p>	
<p>Communication (8)</p>	
<p>PPE - what is enough training (8)</p>	
<p>Ethical dilemmas (8)</p>	
<p>Collaboration between agencies (9)</p>	HMCC's
<p>Motivation between events (9)</p>	Level out needs and create flow sheet for training
<p>Funding standardizations (9)</p>	On-time purchasing decisions
<p>How much PPE training is enough? (10)</p>	<ul style="list-style-type: none"> Use medical simulation centers for PPE training Keeping equipment in good condition, batteries charged

Managing Response to Emerging Infectious Diseases:
Live Session Final Report

<ul style="list-style-type: none"> Point of care tests in patient room, samples not sent to labs for fear of contamination How to do lab work on suspect patients (10) 	<ul style="list-style-type: none"> Use small group of employees and refresh minimally quarterly Test in room or set up satellite labs Lab/biosafety professionals know a lot about PPE for bio hazards
Frequent false Ebola, responders forget everything out of Ebola fear (10)	Use checklists and exercises
Lack of motivation in between events-people are reactive, not proactive (10)	Leadership commitment to maintain emergency management planning, training, etc. Connect to compliance requirements eg Joint Commission
Need more communication (10)	Create spreadsheet of organization names and capabilities of various organizations that frequent DPH, HMCC and other meetings
Communication: “without communication there is chaos” (11)	Networking, emails, shared exercises/ drills, emergency communications list
Plan for yourself- assume that someone is coming to help (11)	Bring home care into mix-how to be prepared
Bare bones staffing-then staff get sick too (11)	telehealth
Getting senior leadership buy-in ; reactive, not proactive (11)	Sensible regulations-not just recommended guidelines, new CMS regulation may help
Sustainability after crises (11)	
Collaboration , lack thereof (12)	
Motivation between incidents (12)	
Funding connected to motivation and sustainability (12)	
Collective discipline participation - diversity (12)	
Crisis purchasing versus reality purchasing (12)	<ul style="list-style-type: none"> Purchase realistic quantities Develop an algorithm to help determine quantities

Appendix C. About the DelValle Institute for Emergency Preparedness

The DelValle Institute for Emergency Preparedness is the Education & Training branch of the Boston Public Health Commission's Office of Public Health Preparedness. The DelValle Institute was founded in 2003 and named in honor of Manuel Del Valle, Jr. Manuel was a firefighter with Engine 5 for the New York City Fire Department (FDNY), who was killed while responding to the September 11th terrorist attack on the World Trade Center. Manuel was the stepson of Dr. Peter Moyer, former Medical Director for Boston's public safety agencies: Police, Fire, and EMS.



Through grant funding and partnerships, the DelValle Institute is able to work towards accomplishing our mission of enhancing community, public health, and healthcare system resilience in order to prepare for, respond to, and recover from emergencies that impact health and access to healthcare.



The DelValle Institute links the latest research and guidance with best practices in the field to deliver high-quality, skills-based preparedness and response education for healthcare and public health practitioners and their public safety partners. Our diverse, qualified team of educators provides interactive, actionable, all-hazards education focused on reducing the public health and safety consequences of emergencies and disasters.

We work closely with the following partners on various aspects of our program delivery:

- Boston EMS
- Boston Healthcare Preparedness Coalition
- Boston Mayor's Office of Emergency Management
- Conference of Boston Teaching Hospitals
- Local Public Health Institute
- Massachusetts Department of Public Health

