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Statewide Public Health Hazard Vulnerability Analysis

Final Report

December 22, 2015

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Preface

A statewide public health hazards vulnerability (PH HVA) analysis is a process for identifying the State's highest vulnerabilities to natural and man-made hazards and the direct and indirect effects these may have on the health of the population. The process relies on historical information, current trending, data and the opinion of subject matter, and preparedness and response experts. The ratings are acknowledged to be subjective based upon current assumptions. The risks associated with each hazard are analyzed within the context of Maine's current level of preparedness. The top-rated hazards identified are those to which the population is currently thought to be most vulnerable. The PH HVA results are foundational to the work of public health emergency preparedness planning. High-risk hazards provide the context for further development of the 15 Public Health Emergency Preparedness Capabilities through planning, mitigation, preparedness training exercise activities relative to response and recovery.

The following is a report on the process and results of the second PH HVA, which was completed on October 29, 2015.

The Kaiser instrument, used to conduct HVAs in hospital settings, was modified in 2012 to reflect public health hazards. Scoring guidelines were also developed to include consideration of scoring public health issues. The instrument has been further modified since the first State PH HVA of May 2012 based on participant feedback at that time and current thinking.

About the Meeting

The purpose of the October 29, 2015 meeting was to complete the Statewide Public Health Hazard Vulnerability Analysis (PHHVA) to determine areas of vulnerability relative to potential, and likely hazards that threaten the people of Maine.

Attendees

One hundred and four persons were invited to participate in the PH HVA representing public health and other areas of expertise. Fifty six attendees participated in the PH HVA. Forty eight of the invited participants did not attend the event due to scheduling conflicts. Of the 56 participants at the PH HVA, 36 were public health subject matter experts (SMEs) and 20 were non-public health SMEs. All areas of discussion were represented.

Welcome

William Jenkins, Director of Public Health Emergency Preparedness at the Maine Center for Disease Control and Prevention (CDC), welcomed the group.

Agenda and Ground Rules

The facilitator led participant introductions, reviewed the planned agenda (see Appendix A) and introduced the group to the following ground rules to ensure an effective discussion:

- **Balance depth of discussion and time management** – let’s say what needs to be said, but remember that we need to move through all the charts
- **Experts lead** – anyone who feels that a particular topic is “their field” please self-identify and lead with comments
- **Strive for consensus** – we’re hoping that we can all get to “yes” - but 80 percent agreement is okay, and we will vote if we have to
- **Listen to and respect different views** – a lot of voices in the room; we want to hear from everyone
- **Participate actively**
- **Maintain statewide focus**
- **Neutral facilitation and report** –The facilitator and meeting recorder are here to support the process so you can focus on content; we don’t have opinions on the topics being discussed
- **Flexible agenda** – we’ll take the time we need but finish by 2:30pm

About this Public Health HVA

Many of the attendees had previously participated in an HVA and were, therefore, familiar with the Kaiser instrument and the HVA process. However, it was acknowledged that many other attendees had never participated in an HVA. An overview of the HVA process and HVA instrument was provided by the PHEP preparedness planner to ensure that all attendees were adequately prepared to participate in the process.

Statewide Public Health Hazard Vulnerability Analysis

Jane Coolidge PhD, RN
October 2015



HVA - the What

- A Hazards Vulnerability Analysis (HVA) is a process whereby **stakeholders** from a common organization or jurisdiction, and subject matter experts (**SMEs**) come together to reach consensus on identifying the hazards to which the population within that common organization/jurisdiction is currently most vulnerable.

HVA - the Who

Who does HVAs?

Emergency Preparedness staff at:

- Various organizations, facilities within organizations
- Jurisdictions: Regional HCCs, County EMAs (THIRA), state PH,...
- The differences:
 - The unit of analysis
 - The hazards (organization, facility, jurisdiction)
 - The degree of preparedness for those hazards for that unit of analysis

HVA – the Why

The HVA is a foundational emergency preparedness document.

PHEP Capability 1, Community Preparedness

Function 1. Determine risks to the health of the jurisdiction

- Those hazards identified as high risk are used to inform/guide the emergency preparedness work for that jurisdiction to include mitigation initiatives, and preparedness, response and recovery planning activities.
- The process requires honesty about current capability and limitations; **the results will identify current preparedness gaps and guide the work moving forward.**

15 PH Emergency Preparedness Capabilities

- **Community Preparedness**
- **Community Recovery**
- **Emergency Operations Coordination**
- **Emergency Public Information and Warning**
- **Information Sharing**
- **Medical Surge**
- **Mass Care**
- **Fatality Management**
- **Non Pharmaceutical Interventions**
- **Medical Counter-measures**
- **Medical Materiel Management**
- **PH Laboratory Testing**
- **PH Surveillance and Epidemiology**
- **Responder Safety and Health**
- **Volunteer Management**

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PH HVA and PH Capabilities

- The results of the PH HVA, the high risk hazards, informs the public health emergency preparedness staff regarding the **context for PH capability development** through planning, training and exercising.
- The PH HVA indicates the scenarios to be used for training and exercising the PH capabilities.
- The HVA is repeated periodically:
 - to remain current with changing hazards or emerging threats
 - to identify new gaps in preparedness
 - to reflect preparedness progress completed

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PH HVA

This is a statewide PH HVA

- PH is inclusive of public health, medical care and mental/behavioral health
- There is a PH component to most/if not all emergencies/disasters
- PH will consider:
 - the public health impact of the hazards e.g., food spoilage, water contamination, mold, sanitation, mass care issues, infectious disease, medical surge, scarce medical resources (supplies, equipment and personnel), interruption of health care and mental health services, mass fatalities, psychological stress
 - the level of PH preparedness and the ability to respond to each hazard based on current plans, training, and exercises
- External partners will speak to their level of preparedness to respond

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HVA

- The HVA process relies on:
 - historical information
 - current trends
 - other available data
 - the opinion of subject matter experts, and preparedness and response experts
- The ratings are acknowledged to be subjective; based on assumptions

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HVA

Four categories of Hazards under consideration include:

- **Natural events:** weather, pandemic
- **Technological events:** power outage, cyber attack
- **Human events:** mass casualty, bombing
- **Hazardous events:** hazardous material exposure

PH HVA

- Using a **modified Kaiser HVA template**
 - originally created for hospitals
 - modified for public health use
- Template is formula driven
 - Risk = Probability x Severity (Magnitude – Mitigation)**

**HAZARD AND VULNERABILITY ASSESSMENT TOOL
NATURALLY OCCURRING EVENTS**



| EVENT | SEVERITY = (MAGNITUDE - MITIGATION) | | | | | | | RISK |
|-----------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|------------------|
| | 1. PROBABILITY | 2. HUMAN IMPACT | 3. PROPERTY IMPACT | 4. COMMUNITY IMPACT | 5. STATE PREPAREDNESS | 6. ME CDC/PH INTERNAL RESPONSE | 7. EXTERNAL RESPONSE | |
| | Likelihood this will occur | Possibility of death or injury | Physical losses and damages | Interruption of services | Preplanning | Time, effectiveness, resources | Community/Mutual Aid staff and supplies | Relative threat* |
| SCORE | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 - 100% |
| Hurricane | | | | | | | | 0% |
| Tornado | | | | | | | | 0% |
| Severe Thunderstorm | | | | | | | | 0% |
| Heavy Snow, Blizzard | | | | | | | | 0% |
| Ice Storm | | | | | | | | 0% |
| Earthquake | | | | | | | | 0% |
| Tsunami | | | | | | | | 0% |
| Extreme Heat | | | | | | | | 0% |
| Drought | | | | | | | | 0% |
| Flood | | | | | | | | 0% |
| Wild Fire | | | | | | | | 0% |
| Landslide | | | | | | | | 0% |
| Dam Inundation | | | | | | | | 0% |
| Infectious Disease Outbreak | | | | | | | | 0% |
| Zoonotic Disease Outbreak | | | | | | | | 0% |
| AVERAGE SCORE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0% |

*Threat increases with percentage.

RISK = PROBABILITY x SEVERITY
0.00 x 0.00 = 0.00

HVA Scoring

- Probability
 - will look to the SMEs for an estimate of probability
 - will the SME will estimate the severity of the hazard e.g., level 3 hurricane
- Severity (Magnitude – Mitigation)
 - Magnitude or impact scores; high = 3, low = 1
 - Mitigation or preparedness and response scores; high = 1, low = 3
- Each hazard risk score is relative risk (0-100%) (the percentages in that column are not additive; they are independent of each other)
- Refer to the **Scoring Guidelines** as needed during the HVA process

PH HVA

- A high risk score indicates a hazard that is likely to occur and for which we are not adequately or fully prepared, examples:
 - A high probability event, high impact, very prepared = lower relative risk score: hurricane
 - A low probability event, with high impact, not prepared; higher relative risk score: tsunami
- The PH mitigation estimate may vary from that of our partners.
 - Our partners may feel they are prepared for a hazard, but PH may not feel they are adequately prepared to respond to a particular hazard which will raise the relative risk score for that hazard. (PH HVA)

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Questions?

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Of note: Several changes were made to the HVA instrument that was used based on participant feedback from the first PH HVA of May 12, 2012 and to also reflect recent emerging hazards. In response to this feedback, the PH HVA instrument and scoring guidelines were sent out in advance to allow the participants the opportunity to become familiar with them.

PH HVA Results

The following tables reflect all of the hazards that are recognized to be potential threats in Maine. The hazards with the higher percentage rating (greater than 40 percent) are the hazards that are more likely to occur and to which the populations is currently most vulnerable. These higher percentage hazards require additional public health mitigation, preparedness, response and recovery planning and will serve to inform the direction of the Maine CDC emergency preparedness planning activities.

Naturally Occurring Events

| | | |
|-----|------------------------------------|-----|
| 1. | Pandemic/Epidemic Disease Outbreak | 72% |
| 2. | Extreme Heat | 61% |
| 3. | Zoonotic Disease Outbreak | 61% |
| 4. | Tornado | 50% |
| 5. | Earthquake | 50% |
| 6. | Flood | 50% |
| 7. | Drought | 48% |
| 8. | Hurricane | 44% |
| 9. | Severe Thunderstorm | 39% |
| 10. | Heavy Snow/Blizzard | 39% |
| 11. | Ice Storm | 33% |
| 12. | Landslide | 26% |
| 13. | Dam Inundation | 22% |
| 14. | Tsunami | 17% |
| 15. | Wild Fire | 17% |

Technological Events

| | | |
|----|---------------------------------|-----|
| 1. | Cyber Attack | 83% |
| 2. | Major Communications Disruption | 72% |
| 3. | Major Power Outage | 67% |
| 4. | Fuel Shortage | 67% |
| 5. | Information Systems Failure | 67% |
| 6. | Supply Disruption/Shortage | 61% |
| 7. | Food Contamination | 50% |
| 8. | Major Transportation Disruption | 33% |
| 9. | Water Supply Contamination | 15% |

Human Related Events

| | | |
|----|-------------------------------|-----|
| 1. | Drug Related Epidemic * | 78% |
| 2. | Mass Casualty Incident | 61% |
| 3. | Large Public Events | 44% |
| 4. | Significant Bombing/Explosion | 28% |
| 5. | Mass Fatality Situation | 24% |
| 6. | Significant Civil Disturbance | 15% |

*Although it was recognized by meeting participants that opioid addiction is a very serious public health issue, heroin addiction is not considered within the scope of emergency/disaster preparedness and response. There are programs at DHHS that are currently working closely and intensely on opioid addiction in conjunction with law enforcement, the Governor and the State legislature. However, if the Governor declares a public health emergency in relation to opioid addiction, Maine CDC will activate all appropriate public health capabilities and mobilize available resources to support that response.

Hazardous Material Events

| | | |
|----|---------------------------------------|-----|
| 1. | Major Hazmat Incident | 67% |
| 2. | Major Chemical Exposure/Terrorism | 30% |
| 3. | Biological Terrorism | 28% |
| 4. | Nuclear Detonation | 28% |
| 5. | Major Radiological Exposure/Terrorism | 26% |

A record of the four completed hazards tables and discussion points from the PH HVA meeting are available in Appendix D.

Unresolved Issues

There were no unresolved issues to discuss.

Review of Assessed Risks

The facilitator briefly reviewed the events on each table that received the highest risk percentages. It was explained that the table formulas will be updated to incorporate new or deleted categories, and that corrected versions will be included in the meeting report. The group made the following comments in reviewing the assessed risks:

- With extreme temperatures, we are prepared.
- Winter storms and vehicle accidents may not be rated high enough. We may need to adjust the numbers.
- Flood, earthquake, tornado are all ranked the same, but a flood is more substantial.
- A very specific definition for each hazard would be very helpful.

There was a strong request to have these events defined.

Summary, Lesson learned, and Next Steps

Summary

On October 29, 2015 the Maine CDC conducted Maine's second Statewide Public Health Hazards Vulnerability Analysis using an all-hazards approach. Fifty six public health and non-public health subject matter experts participated in the event. The wealth of expertise in the room allowed for a rich and knowledgeable exchange of information. This was clearly a strength of the event.

The purpose of the Public Health Hazard and Vulnerability Analysis was to determine areas of vulnerability relative to potential but likely hazards that threaten the public health of the people of the State of Maine.

A modified Kaiser was used for the PH HVA.

Lesson Learned

Several participants requested a more detailed definition of the disaster events prior to scoring. Maine CDC will take this feedback into account in preparation of the next PH HVA.

Next steps

The list of high-risk vulnerabilities created in the categories of Naturally Occurring Events, Technological Events, Human Related Events and Hazardous Material Events will inform the Maine CDC as it completes public health emergency mitigation, preparedness, response and recovery planning over the next one to three years. Subject matter experts who participated in the process will be enlisted as partners to participate in future preparedness planning.

The hazards vulnerability list will be reviewed annually. A full State public health HVA will be conducted every three to five years to update planning and preparedness priorities.

Appendix A: Planned Agenda

Statewide Public Health Hazard Vulnerability Analysis

Agenda

October 29, 2015

Central Maine Commerce Center, Augusta

Purpose

The purpose of the meeting is to complete the Statewide Public Health Hazard Vulnerability Analysis to determine areas of vulnerability relative to potential but likely hazards that threaten citizens of Maine.

Agenda

- 8:30 **Arrival and Registration**
- 9:00 **Welcome**
William Jenkins, Director of Public Health Emergency Preparedness, will begin the meeting with welcoming remarks.
- 9:10 **About the Meeting**
Facilitator, Leigh Tillman, will review the agenda and the ground rules for the meeting.
- 9:20 **About this Public Health HVA**
Jane Coolidge, Public Health Emergency Preparedness Planner, will provide background and explain the process for completing the HVA template. There will be time for questions.
- 9:35 **Naturally Occurring Events**
We will discuss and fill in the template.
- 10:30 **Break**
- 10:45 **Technological Events**
We will discuss and fill in the template.
- 11:40 **Human Related Events**
We will begin to discuss and fill in the template.

- 12:00 **Lunch**
- 12:30 **Human Related Events (Continued)**
 We will continue to discuss and fill in the template.
- 1:00 **Hazardous Materials Events**
 We will discuss and fill in the template.
- 1:50 **Unresolved Issues**
 We will revisit any issues that we didn't have time to address earlier
 in the meeting.
- 2:05 **Review Assessed Risk**
 We will take a moment to review the risk assigned for each
 Disaster event.
- 2:20 **Closing Comments**
 We will conclude the meeting with final remarks by William Jenkins.
- 2:30 **Adjourn**

Appendix B: PH HVA Scoring Guidelines

The following PH HVA Scoring Guidelines were provided as a handout to the group.

PH HVA Scoring Guidelines

| |
|-----------------------------------------------------------------------------------------------------------------|
| 1. Issues to consider for probability - likelihood that this will occur include, but are not limited to: |
| Known risk Historical data Predicted occurrence Available statistics |

Scoring: Probability / Likelihood of Event

0 = None. A disaster event is not likely to occur.

1 = Low / Rare. A disaster event occurs less often than once every 30 years (e.g. once every 50 years).

2 = Moderate / Occasional. A disaster event occurs less often than once every 5 years, but more often than once every 30 years (e.g., once every 12 years)

3 = High / Frequent. A disaster event occurs more often than once every 5 years (e.g., once every 2 years).

| |
|---------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Issues to consider for human impact - possibility of death, illness or injury include, but are not limited to: |
| Potential need for mental health interventions; crisis counseling Potential for citizen injury or illness Potential for citizen death |

Scoring: Impact on Humans: death, illness, injury, mental health

0 = No Impact. No impact means that there is little or no likelihood of this hazard affecting the state population or, if it occurs, there would be a minimal effect; awareness, but no local mental health implications.

1 = Low Impact. Limited impact means that a disaster occurrence generally involves a serious threat to a moderate number of people in the state; there may be a few deaths, illness and/or injuries; most persons not personally directly affected, limited number of persons with traumatic reaction.

2 = Moderate Impact. Substantial impact means that a disaster occurrence affects a significant number of people, and may involve some loss of life, illness, and injuries; significant number of people with traumatic reaction.

3 = High Impact. Major impact means a disaster occurrence affects a widespread area of the state or a concentrated area with severe effects; it may result in a large number of sick, deaths, and/or injuries; large number of persons directly affected and experiencing significant traumatic reaction.

3. Issues to consider for **property/infrastructure impact- physical losses or damages** include, but are not limited to:

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Extent/type of infrastructure damage loss:</p> <ul style="list-style-type: none"> Public utilities infrastructure: <ul style="list-style-type: none"> Water treatment facilities Power generation/ distribution Transportation: rOffice of Child and Family Services, bridges, airports,... Communications systems; Information systems Property damage or loss: homes, schools, churches, public buildings, businesses, HC facilities | <p>Consider:</p> <ul style="list-style-type: none"> Time/cost to replace Time/cost to set up temporary replacement Time/cost to repair Time/cost to recover |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Scoring: Impact on Property/Infrastructure- physical losses or damage

- 0 = No Impact.** No impact means there is little or no likelihood of this hazard affecting the state or, if it occurs, damage to public and private property would be minimal.
- 1 = Low/Limited Impact.** Low/limited impact means that a disaster occurrence generally involves only light damage to public or private property. Local resources would be adequate to repair or replace the damaged property.
- 2 = Moderate/Substantial Impact.** Substantial impact means that a disaster occurrence results in moderate damage over a widespread or concentrated area. Damage to public and private property may exceed local resources to repair or replace.
- 3 = High/Major Impact.** High/major impact means that a disaster occurrence results in heavy damage to public and private property over a widespread area or a concentrated area with severe effects. The magnitude of the disaster may result in a Government Declaration of a Major Disaster or Emergency.

| 4. Issues to consider for community impact- interruption of services include, but are not limited to: | |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Business | General business interruption: food, medicine, gasoline, banking, retail, etc..... Employees unable to report to work Customers unable to reach services Interruption of critical supplies Interruption of distribution of products |
| Community | Social services interrupted Schools closed, churches closed |
| Healthcare | Interruption: Public health, medical & MH services Interruption of EMS Hospital surge: ED, trauma, ORs, isolation, negative pressure rooms Scarce resources: medicine, supplies, equipment, personnel, space |
| Public Health | Consider effect on vulnerable populations: elderly, disabled, non-English speaking, poor,... Population requires shelter in place Population requires displacement / evacuation Population requires mass decontamination Population requires vaccination or medical countermeasures Population requires quarantine / isolation Public utility services interrupted: power, water, sewer, gas Public health laboratory capacity overtaxed by demands for testing Food service establishments effected; possible food contamination Fatality management need exceeds capacity of infrastructure |

Consider:
 Time/cost to restore
 Time/cost to set up temporary replacement
 Time/cost to replenish, replace
 Time/cost to recover, resume

Scoring: Impact on Community; Interruption of services, functions and business

- 0 = No Impact.** No impact means little or no likelihood of this hazard affecting the state or, if it occurs, there would be minimal effect on community functions, services and businesses.
- 1 = Low Impact.** Low/limited impact means that a disaster occurrence generally involves only light interruption in services, functions and business. Local resources would be adequate to resume services, functions, and business.
- 2 = Moderate Impact.** Substantial impact means that a disaster occurrence results in a moderate and lengthened interruption of services, functions or business over a widespread or concentrated area; may involve minor population displacement and/or small scale temporary shelters. Services interruption may exceed local resources to restore.
- 3 = High Impact.** High/major impact means that a disaster occurrence results in full and long term disruption of services, functions, and business over a widespread area of the state or a concentrated area with severe effects; may involve massive evacuation and/or shelter operations, or long term housing. The magnitude of the disaster may result in a Government Declaration of a Major Disaster or Emergency.

5. Issues to consider for State preparedness - pre-planning include, but are not limited to:

- Status of current plans
- Responder training status and competency
- Readiness of current systems
- Availability of back-up systems
- Current MOUs in place

Other preparedness issues to consider for **Plan - integration** include, but not limited to:

- Local, regional and state coordinated / collaborative planning
- Knowledge of others' response plans
- Joint exercises

Scoring: State Preparedness - pre-planning

0 = N/A

1 = High Plans in place, responders trained, plans coordinated and shared with partners; plans tested/exercised in collaboration with partners; resources available; MOUs in place; back-up in place; plans revised and reviewed annually

2 = Moderate Plans in development; Plans in place, responders not trained, plans not tested; some MOUs in place

3 = Low or none Minimal to no planning has taken place

6. Issues to consider for Internal (ME CDC/PH) Response / Resources- time, effectiveness, resources include, but are not limited to:

- Types of supplies on hand/ will they meet the need?
- Volume of supplies on hand/ will they meet the need?
- Staff availability
- Staff training status
- Internal coordination/cooperation
- Internal resources' ability to withstand disasters/survivability
- Systems readiness
- Availability of internal back-up systems
- Local public health infrastructure: integration, preparedness

Consider:

- Time to marshal a response
- Scope of response capability
- Historical response success

Scoring: ME CDC/PH Internal Response

0 = N/A

1 = High PH infrastructure prepared/systems ready; staff trained, plans in place, plans tested and revised, MOUs in place; resources (staff, supplies, equipment) available; back-up systems available

2 = Moderate Plans in development; plans in place; responders not trained; plans not tested; some MOUs in place; not fully resourced

3 = Low or none Minimal to no planning has taken place

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7. Issues to consider for External Response / Resources - whole community / mutual aid staff and supplies include, but are not limited to: | |
| <ul style="list-style-type: none"> Types of agreements with community partners Coordination with healthcare facilities Coordination with local, county and other state agencies Coordination agreements with other states Coordination with the feds Local and county resources State resources MOUs in place Historical response | <p>Consider:</p> <ul style="list-style-type: none"> Time to marshal a response Scope of response capability Historical response success |

Scoring: External (Partners) Response

0 = N/A

1 = High

External partners plans in place and communicated; plans reflect coordination across levels; stakeholders trained, plans tested / exercised collaboratively; plans revised and reviewed annually, MOUs in place; resources available at various levels

2 = Moderate

Plans in development; plans in place but responders not trained, plan not tested; some MOUs in place; coordination and collaboration not fully implemented; resources partially available

3 = Low or none

Minimal to no planning has taken place

Appendix C: FEMA Definitions

The following FEMA Definitions were referenced during the meeting's discussions.

METHODOLOGY

Analysis of each hazard is based on four criteria: history, vulnerability, maximum threat and probability. The following is a definition of each of these factors, as well as a description of how they are to be used to evaluate each hazard.

HISTORY

The history of the number of occurrences of disaster is important in hazard analysis. If a certain kind of disaster occurred in the past, a sufficient number of hazardous conditions were present to cause the catastrophe. Unless these conditions have been eliminated or substantially reduced, a similar disaster may recur.

History must be used with caution. If there is no record of a specific incident having occurred in an area, it does not necessarily mean that there is no hazard or disaster potential. Also, the whole technical/social framework changes rapidly and new hazards may be created without these changes being recorded in the relevant history of a community. Conversely, a high history may not indicate a high probability if mitigation procedures have been implemented.

If a particular hazard has not occurred or has occurred once during the past 100 years, the rating would be **LOW**.

If a hazard occurred 2 to 3 times in the last 100 years it is to be awarded a **MEDIUM** rating.

If the hazard occurred four times or more in the last 100 years, it would be awarded a **HIGH** rating.

VULNERABILITY

Vulnerability allows for the measurement of the percentage of the population that might be killed, injured or displaced and all property that might be damaged or destroyed due to a particular hazard. To describe vulnerability, the number of people and the amount of property in jeopardy must be determined, thus providing information that is useful in establishing what is and what is not vulnerable.

Each area has its own special "mix of factors" that must be analyzed in terms of vulnerability. History may be helpful in this determination.

If less than 1% of the population was or is expected to be killed, injured or displaced; AND less than 1% of the property was or is expected to be damaged or destroyed by a particular hazard, than a **LOW** vulnerability rating should be assigned to the hazard.

VULNERABILITY (CONTINUED)

If 1% to 10% of the population was or is expected to be affected (killed, injured, or displaced) OR 1% to 10% of the property was or is expected to be damaged or destroyed than a **MEDIUM** vulnerability rating is to be assigned to the hazard.

Finally, if more than 10% of the population was or is expected to be affected OR more than 10% of the property was or is expected to be damaged or destroyed, than a **HIGH** vulnerability rating should be assigned.

MAXIMUM THREAT

Maximum threat is the rating for the "worst case" scenario for a hazard. To determine maximum threat, the worst event possible and the greatest impact of a hazard will be considered. Knowledge of the impact of a hazard's maximum threat upon the area raises awareness of the extreme preparedness needs for the protection of life and property. Maximum threat impact is expressed in the terms of human casualties and property loss. In addition, secondary consequences are estimated whenever possible.

If less than 5% of the population or property is expected to be affected, then a **LOW** maximum threat rating is assigned.

If 5% to 25% of the population or property is expected to be affected, then a **MEDIUM** maximum threat rating is assigned.

Finally, if over 25% of the population or property is expected to be affected, then a **HIGH** maximum threat rating is assigned.

PROBABILITY

Probability is the likelihood that an event will occur. It can be expressed as the number of chances per year that an event of a specific intensity or greater will occur.

It is acknowledged that there are similarities when considering the history and probability criteria. However, because of the recent development of a number of hazards (such as nuclear reactor incidents and hazardous materials accidents) and the amount of historical information about them, two distinct criteria are used in this hazard analysis approach. The rationale behind this distinction is that the probability rating for newly developing hazards would be decreased by combining probability and history criteria since there is a lack of historical occurrence. In the same way, this methodology recognizes the importance of the historical criteria for those disaster level hazards that have been confronted and have occurred with a relatively high degree of frequency.

PROBABILITY (CONTINUED)

If it is *unlikely that an event will occur (less than 1 occurrence in 100 years)*, a **LOW** probability rating would be assigned.

If it is *possible that a hazard will occur 2 to 10 times in 100 years*, a **MEDIUM** probability rating is assigned.

Finally, if it is *likely that an event will occur (11 or more occurrences in 100 years)*, a **HIGH** probability rating would be assigned.

SCORING SYSTEM

The following scoring system permits the ranking of hazards. It provides a means for identifying those hazards that should be addressed in emergency management plans.

In the scoring system, each of the four criteria is assigned a severity rating. The three ratings and their respective numerical scores are:

| | |
|--------|-----------|
| Low | 1 point |
| Medium | 5 points |
| High | 10 points |

Since some criteria are judged to be more important than others, a weighting factor is established to "balance out" the total scoring. The following weights are used:

| | | | |
|---------------|---|---------------|----|
| History | 2 | Maximum Treat | 10 |
| Vulnerability | 5 | Probability | 7 |

A composite score for each hazard is arrived at by multiplying the score value assigned to each criterion by its weight and then adding the four totals. For example:

| | | | |
|---------------|--------|-----------------------------------|------------|
| Hazard: "X" | | | |
| History | High | 10 points x 2 weighting factor = | 20 points |
| Vulnerability | Medium | 5 points x 5 weighting factor = | 25 points |
| Maximum Treat | High | 10 points x 10 weighting factor = | 100 points |
| Probability | Medium | 5 points x 7 weighting factor = | 35 points |

Total Score for "Hazard X" = 180 points

For planning purposes, a threshold score of 100 points distinguishes the significant hazards (100+ points) from lower priority hazards (less than 100 points).

Appendix D: HVA Table Results and Comments

HVA: Naturally Occurring Events

Table of Results

| HAZARD AND VULNERABILITY ASSESSMENT TOOL NATURALLY OCCURRING EVENTS | | | | | | | |  <small>Paul E. LaPage, Governor Mary C. Mayhew, Commissioner</small> |
|------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EVENT | 1. PROBABILITY | SEVERITY = (MAGNITUDE - MITIGATION) | | | | | RISK | |
| | Likelihood this will occur | 2. HUMAN IMPACT Possibility of death or injury | 3. PROPERTY IMPACT Physical losses and damages | 4. COMMUNITY IMPACT Interruption of services | 5. STATE PREPARED-NESS Preplanning | 6. ME CDC/PH INTERNAL RESPONSE Time, effectiveness, resources | 7. EXTERNAL RESPONSE Community/ Mutual Aid staff and supplies | Relative threat* |
| SCORE | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 - 100% |
| Pan/Epidemic Disease Outbreak | 3 | 3 | 1 | 3 | 2 | 2 | 2 | 72% |
| Extreme Heat | 3 | 2 | 0 | 2 | 2 | 2 | 3 | 61% |
| Zoonotic Disease Outbreak | 3 | 3 | 0 | 2 | 2 | 2 | 2 | 61% |
| Tornado | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 50% |
| Earthquake | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 50% |
| Flood | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 50% |
| Drought | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 48% |
| Hurricane | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 44% |
| Severe Thunderstorm | 3 | 1 | 1 | 1 | 1 | 2 | 1 | 39% |
| Heavy Snow, Blizzard | 3 | 1 | 1 | 2 | 1 | 1 | 1 | 39% |
| Ice Storm | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 33% |
| Landslide | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 26% |
| Dam Inundation | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 22% |
| Tsunami | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 17% |
| Wild Fire | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 17% |
| AVERAGE SCORE | 2.33 | 1.67 | 1.20 | 1.73 | 1.60 | 1.87 | 1.73 | 42% |
| *Threat increases with percentage. | | | | | | | | |
| RISK = PROBABILITY * SEVERITY | | | | | | | | |
| 0.42 0.78 0.54 | | | | | | | | |

Comments

Hurricane

- The Warning Coordination Meteorologist with the National Weather Service in Gray, Maine, explained some characteristics of hurricanes:
 - Strength
 - Sustained winds of 74MPH are prevalent as opposed to lesser winds

- associated with the remnants of a tropical storm.
 - Various strengths will create varying impacts.
 - Maine mostly sees Category 1 hurricanes, though stronger hurricanes are possible, but not likely.
 - Frequency, proximity, and probability
 - Hurricane Bob came close in 1991.
 - Prior to that, a hurricane had not come close to Maine since the 1950's.
 - A borderline hurricane between a Category 1 and a 2 happens every 30 years.
 - We are impacted by at least one per year but have other bigger concerns than that. We're due for a 1 since it's been 30 years.
 - We have to look at statewide probability.
 - Flooding
 - Our coastline is most vulnerable to flooding and not always the highly populated areas.
 - Flooding is more of a coastal issue than a statewide one.
 - Questions for meteorologist
 - What about a storm with 70MPH? It still has significant impact and will do quite a bit of damage. I'm not sure it makes sense to be so restricted?
 - Reply:
 - Gusts of hurricane force will bring a lot of damage. Most is on immediate coastline.
 - Hurricane wind speeds are determined by wind speed within that storm.
 - A borderline 1 or 2 still makes sense every 30 years.
 - Hurricanes Irene and Sandy were close to us and they were devastating to nearby states.
 - Reply:
 - Flooding was the main issue in those hurricanes.
 - Wind wasn't as much of a problem in those hurricanes.
 - Even with Irene, that went right up through Vermont. Think about the flooding factor. There's no coast in Vermont. It's still a pretty high factor.
 - Is there a reason why Maine is often spared from hurricanes?
 - Reply:
 - Wind shear
 - Colder water - 85 degrees or higher energize hurricanes
 - Nova Scotia sticks out - storms tend to move northeastward. The Cape and Massachusetts take the brunt.
 - How many hurricanes have occurred in Maine in the past 100 years?
 - Reply
 - Maybe 4 in the past 100 years
 - FEMA (Federal Emergency Management Agency) document refers to happening 2 to 10 times in 100 years

- Probability
 - Let's score this as moderate given the discussion with the expert.
- Human, property and community impact
 - Let's leave it as is for hurricanes.
- State preparedness
 - Plans are in place and responders are trained.
 - We've recently updated our plans.
 - There's no chance to exercise our training since we don't often have the chance to practice.
 - We should leave scoring as is. We don't have enough response experience to say people are very well suited to respond. The infrequency of hurricanes doesn't allow responders to practice.
 - It's difficult for a department to commit all of its people-power to exercise.
 - We should keep preparedness at the same level.
 - Part of preparedness is mitigation with building codes. Not every town or everyone builds hurricane-proof; it depends on the individuals involved.
 - We can't go to a higher level of preparedness until towns uniformly have strong building codes.
 - This can be compared to an ice storm but in hurricanes, we have better conditions in which to make repairs after the event.
- Internal response
 - Currently it is scored as moderate.
 - We are well prepared. To wit:
 - Internal and external communication has improved immensely. We can get even more warning out to people.
 - We have a good relationship with the National Weather Service.
 - At a county level, they are exercising on a regular basis for hurricanes.
- External response
 - Let's not get ahead of ourselves in terms of how prepared we are for a hurricane.
 - Some responders are not trained so we may not really be capable of saying we could put down a "2" here.

Tornado

- Probability
 - Tornadoes may have low probability for the entire state. They are localized and don't impact the region as a state. We see one or two tornadoes in the region per year. They occur mostly in wooded areas.
- Preparedness
 - We are equipped to deal with the effects of a tornado, as they are similar to other major storm events.
 - Preparedness is a relative term, depending on the region of the country.
 - In tornado-prone areas of the United States, school children and the general populace are well prepared and well educated about the hazards

- of tornados; they know what to do in the event of a tornado.
 - In Maine, that's not the case.
 - We need to look at all hazard planning. Many of those principles associated with tornadoes apply to multiple hazards.
 - We need to make education general enough for the public and not be too specialized.
 - We want to make sure that we are preventing injury or death from tornadoes and not just consider ourselves well prepared if we know how to clean up after the event.
- Human, property and community impact
 - The statewide effect of tornadoes is limited; they are very localized.

Severe Thunderstorm

- Human, property and community impact
 - Property impact is higher than human impact.

Heavy Snow/Blizzard

- Probability
 - High probability
- Human impact
 - We do have two types of human impact when we have high snow.
 - Dry events. Blockages of air vents lead to higher deaths during a high snow winter due to carbon monoxide poisoning.
 - We also may see more deaths and injuries when people shovel who shouldn't be. There could be higher rate of incidents during a severe winter.
 - The numbers offset each other year round in a way you would not expect. The offset is in the summer/winter.
 - Leave human impact score low. We see more hazards from incidents with reclining chairs and rooftop injuries.
- Property impact
 - A lot of snow and ice causes build up on roofs and could lead to ice jams and the associated damage.
 - Personal property damages are often burst pipes that are covered by personal insurance.
 - On a statewide level, that doesn't fit the definition.
 - Look at cost of plowing and the impact on the community and the property; transportation.
 - Every town kept plowing even when they ran out of money.

A vote was held on whether to score a one or a two for property impact, with one being chosen.

- Community impact
 - Moderate
 - We could change this score since interruption of service is significant during a major snowstorm.
 - That's why it's moderate, not low.
 - It would be helpful to indicate length of time of the interruption.

Ice Storm

- Probability
 - This should be scored as moderate.
 - Major ice storms happen every five to 30 years.
- Human impact
 - Falls and hypothermia impact people.
- No changes to this section required.

Earthquake

- Probability
 - Maine is one of the most earthquake-prone states in the Northeast although they are very minor. We have several to a dozen per year. The ones we notice happen about once a year.
 - We don't have major earthquakes.
 - We could qualify this category by changing it to a "damaging earthquake".
 - It's contextual. Are you going to qualify the event? If you do, you have to have it for all of them.
 - If you look at the end result, we'll consider how we will use these scores at the end. It impacts the weighted sum. Anything that gets a 3 gets a really high risk.
 - A damaging earthquake would get a different ranking than an earthquake.
 - The last big earthquake was in 1904 or 1905.
 - We should be clear about what we're defining. Otherwise nothing else is legitimate.
 - From an emergency response standpoint, we often talk about how we train based on low frequency/high risk vs. high frequency/low risk. With this in mind, we are not prepared for a big earthquake. We don't have the ability to do search and rescue in the event of a big earthquake. Leave it as is. Prepare for the worst.
- Impact
 - Leave it at zero for all human, property and community impact.
 - I would be more comfortable with one instead of zero. Acknowledge the balance between frequency and impact. Maybe we should be talking about a damaging earthquake.
 - Don't put zeros for anything unless it's absolutely impossible.
 - I think the impact is minimal.

A vote was held on whether to score zero or one. Results were nearly evenly split, with one narrowly being selected.

- Preparedness
 - Moderate.
 - We're not prepared for a big earthquake.
 - Do we have plans at CDC for an earthquake?
 - Reply:
 - CDC doesn't have an earthquake plan. We do have capabilities that would kick in in the event of an earthquake.
- For all these events, we really have to define what we're talking about.
 - We need to define what these events are and how they play out on a regional or statewide level.
 - Some are self-explanatory.
- Use standard definitions where you know percentages reflect values.
 - Qualifying these events is a slippery slope.
- We want to continue in the broad range.
 - Next time around, consider more precise definitions and use those as a basis for discussion.

Tsunami

- Probability
 - No probability because of coastal shelf and Georges Bank, which would prevent a tsunami.
 - A smaller tsunami could result, similar to 2008.

Extreme Heat

- Definition: a heat index of 95 degrees Fahrenheit
 - Research shows excess deaths occur at 95 degrees. The approach we've taken so far makes it a three.
 - We're adding a qualifier: extreme heat vs. heat. Leave it as a two.
 - We've qualified this one and not the others.
 - We need a definition.
 - Heat warning: excessive heat warning. Findings show that more people show up in emergency rooms because it's hot and that people are more active when it's hot.
 - Definition of a heat wave: the number of times of extreme heat in the past three years.
 - 75 to 90 degrees shows a 7 percent increase in mortality.
 - "Severe temperatures" could be a category since schools close in extreme heat or extreme cold.

- Human, property and community impact
 - Food spoilage is negligible. Don't see buildings damaged.
 - No other property damage.
 - What about crops? That's property damage that occurs in extreme heat.
 - Physical losses or damages related to heat are minimal.
 - Look at evacuation, sheltering in place, public service utility interrupted, and higher consumption of power.
 - Schools have to close when there's extreme heat; they have no ability to cool the building. We've seen that in late spring or September.
- Question about the public health effect on vulnerable populations - frail, elderly, and disabled, especially around power outages: we wonder about an interruption of access to services and its impact on that population in the event of extreme heat?
 - Reply:
 - We plan for extreme heat.
 - People are still vulnerable. Elderly are sometimes living alone and are subject to heat stress. We have to open cooling centers.
 - For a heat event, there's a huge potential impact on community.
- Preparedness
 - We have developed a lot more headway on communication and we've made progress since the last time we did this.
- External response
 - We have some plans in place but not enough.
- As we move into hotter summers, one of trends we need to look at is that less energy is being available. Demand for energy is going up. We are losing access to power plants in Vermont and Massachusetts. The demand on remaining power plants is increasing. We are losing ability to access electricity and may have more brownouts.

Drought

- Definition
 - Crops are not included. Farms and farm business should be covered under community impact. Farm impact should go under community.
- Human, property and community impact
 - This should be low for property and high for community because of farms.
 - Property includes agricultural assets.
 - Business is under both property and community.

Flood

- High probability.

Wildfire

- Probability

- Low probability.
- Wildfires don't happen that frequently in a way that impacts the whole state.
- If it does happen, it affects a lot of people for a long time.
- During the Canadian wildfires, call volume went through the roof because of the impact on air quality. It has a low probability but a significant impact when it does happen.
- Human, property and community impact
 - When considering the human impact of a wildfire, we're talking about death and injury.
 - Air quality affects the elderly population.
 - Hospitals would be inundated with a wildfire and that affects the whole community.
- We should stay with the criteria we have been using and populate the template based on the same process we're using for every category.

Landslide

- Definition and probability
 - We have had landslides in Midcoast because of the marine glacial clay.
 - We need a geologist's input.
 - A landslide is like earthquakes. We have a number of them. They are usually occurring in areas with low population: Midcoast, Downeast.
 - Look at landslides like earthquakes.
 - We live in a state that is not prone to landslides. It's not on our radar.
 - It has to be considered as significant.
 - It should be more than a "low" since it happens more than once every 30 years.
- Human, property and community impact
 - How does it affect drinking water?
 - In 2008 Bethel water district's water source was eliminated. It impacted the whole community. They never lost access to water from somewhere, but they could have.
 - We know what to do if that happens again.
 - A landslide will be localized and thus have limited impact statewide.
- Preparedness and response
 - What would CDC's role be?
 - Response required would be negligible.

Dam Inundation

- Probability
 - Dams likely to be impacted are not in high population areas.
 - We are fortunate that it hasn't happened in Maine.
 - If there were an inundation from the dam closest to Bangor, it would take 36 hours for the water to reach Bangor.

- If the Seabright Dam near Camden were inundated, it would take only seven minutes for the flood to reach downtown.
- Human, property and community impact
 - We do have a couple of dams (for example, the dam north of Millinocket) that would create a widespread impact. Flooding would cross three county lines. The potential is there.
 - With regard to human impact, there are a lot of communities that rely on the fish in the water controlled by the dam. We may see some community impact.
 - Impact would be significant if dam inundation were to occur. This is a much more significant event if it were to occur.
 - Question: What about ice damming that causes flooding?
 - Reply:
 - That would come under flooding.
- Preparedness
 - If we have advance warning, we can evacuate, but if we have a sudden breach we don't have response for that.
 - We have regular inspections and they are subject to federal regulatory guidelines.
 - Most dams have inundation plans. We have a state plan in place that assigns regulatory staff to each dam.
- Additional comments
 - How many of you know if you're in a flood plain near a dam? Are you aware of whether your facility is in range of a dam?
 - Our whole CDC operation would be compromised in the case of a flood associated with a dam.
 - We may not be as prepared as we think if we don't know what the hazard is. All dams have inundation maps done.

Infectious Disease Outbreak – renamed “Pandemic/Epidemic” Disease Outbreak

- Probability
 - “Pandemic” or “Major Infectious Disease Outbreak”?
 - I like “Pandemic” or “Epidemic” better.
 - I recommend going back to Pandemic/Epidemic.
 - Make another category: “Emerging Infectious Disease”
 - If you're including all infectious disease, you have a higher probability.

Zoonotic Disease Outbreak

- Definition: A disease that is transmissible from animals to humans
 - If this were to occur it would be an epidemic.
 - This is a new category.
 - Viruses are highly capable of mutating and have the potential to be transmissible from animals to humans.

- It's often a cultural phenomenon where people live more closely with their animals.
- The current Avian Influenza outbreak in America has yet to be termed zoonotic but it could be.
- It's more than influenza.
- We have to throw in Ebola into this conversation and we are not prepared at that level.
- Human, property and community impact
 - The effects on people are clear.
 - In terms of property, millions of chickens have been eliminated because of Avian Influenza but we don't have that kind of industry in Maine.

HVA: Technological Events

Table of Results

| HAZARD AND VULNERABILITY ASSESSMENT TOOL | | | | | | | |  <small>Maine Center for Disease Control and Prevention An Office of the Department of Health and Human Services Paul R. LaPage, Governor Mary C. Mayhew, Commissioner</small> |
|-------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TECHNOLOGIC EVENTS | | | | | | | | |
| EVENT | 1. PROBABILITY <i>Likelihood this will occur</i> | SEVERITY = (MAGNITUDE - MITIGATION) | | | | | 7. EXTERNAL RESPONSE <i>Community/ Mutual Aid staff and supplies</i> | RISK <i>Relative threat*</i> |
| | | 2. HUMAN IMPACT <i>Possibility of death or injury</i> | 3. PROPERTY IMPACT <i>Physical losses and damages</i> | 4. COMMUNITY IMPACT <i>Interruption of services</i> | 5. STATE PREPAREDNESS <i>Preplanning</i> | 6. ME CDC/PH INTERNAL RESPONSE <i>Time, effectiveness, resources</i> | | |
| SCORE | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = High 2 = Moderate 3 = Lower | 0 = N/A 1 = High 2 = Moderate 3 = Lower | 0 = N/A 1 = High 2 = Moderate 3 = Lower | 0 - 100% |
| Cyber Attack | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 83% |
| Major Communications Disruption | 3 | 2 | 1 | 3 | 2 | 2 | 3 | 72% |
| Major Power Outage | 3 | 2 | 2 | 3 | 1 | 2 | 2 | 67% |
| Fuel Shortage | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 67% |
| Information Systems Failure | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 67% |
| Supply Disruption / Shortage | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 61% |
| Food Contamination | 3 | 2 | 1 | 2 | 1 | 1 | 2 | 50% |
| Major Transportation Disruption | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 33% |
| Water Supply Contamination | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 15% |
| AVERAGE SCORE | 2.67 | 2.00 | 1.44 | 2.44 | 1.56 | 1.78 | 2.00 | 55% |
| <i>*Threat increases with percentage.</i> | | RISK = PROBABILITY * SEVERITY | | | | | | |
| | | 0.55 | 0.89 | 0.62 | | | | |

Comments

Major Power Outage

- Definition: Significant statewide power outage
 - Volume and duration must be considered
- Probability
 - High probability.
- Human, property and community impact
 - There would be moderate impact on people on a statewide, year-round basis.
 - In the winter, it's high.

- Property impact is scored low right now; it should be moved to moderate; especially during the winter
- Community impact could be increased due to how much more is happening and more often.
- This is contextual and depends where and when it happens.
- We could feel the effects for weeks if it's a major outage.
- We have facilities that end up shutting down.
- The 2014 Ice Storm knocked out power for a lot of places for a week or more; there was a lot of impact.
 - Once it hit more than 35,000 people, it attracted attention.
- Preparedness and response
 - We've had backup energy available in the past that has prevented brownouts but have lost access to reactors and energy. We haven't replaced those and are facing an energy shortage. Interesting questions lie ahead unless we figure out how to bolster our infrastructure.
 - Last night's storm left over 17,000 without power in Maine.
 - Question: who are our CDC first responders?
 - Reply:
 - For major outages, inspectors will coordinate and figure out food safety issues.
 - Honestly, we're struggling to connect with people. I am hesitant to give this a one.

Fuel Shortage

1. Definition and probability
 - a. Propane shortages are twice as frequent as they were 10 years ago.
 - b. People are increasingly reliant on natural gas.
 - c. Keep in mind pellets and all types of fuel when considering shortages.
 - d. Probability is high.
2. Property impact
 - a. Most people have alternate fuel sources.
 - b. Remember the impact on pipes without enough fuel to heat a property.
- Preparedness and response
 - We do have an energy plan in place to try to address issues in a fuel shortage.
 - From public health standpoint, we don't do much to prepare for fuel shortages.
 - From a CDC perspective, we have a low level of preparedness.
 - Most shelters we use are schools. For vulnerable populations, including the young and the elderly, you'll see an influx of people into emergency rooms because they will have no power. And how are you going to manage resources?
 - A Red Cross Shelter has to have a generator and must have access to heat to be deemed a shelter.
 - A study of 56 regional Red Cross shelters shows how many outlets are available and can be run by generators. There are some gaps. Overall, we

- are in fairly good shape.
- We're not in the fuel delivery business as a public health agency. We'd be working with hospitals. We report outages and problems to the state and they can respond. We have the capacity to help analyze the data but the CDC won't be delivering fuel.
- Question: What is our role? Is it to mitigate the event? Are we able to do what we're supposed to do?
 - Reply:
 - We're prepared to pass info on to the Maine Emergency Management Agency (MEMA) but we are not prepared to take action ourselves on a fuel shortage.

Major Transportation Disruption

- Definition and probability
 - Probability is low, though in the winter there's a higher probability.
 - A transportation disruption is not like a snowstorm. We have many alternative trucking methods and transportation routes.
 - Question: what are you considering a major disruption? Are bridges a factor?
 - Reply:
 - Routine, scheduled bridge maintenance is challenging since it's hard to find skilled labor.
- Human, property and community impact
 - If we're looking at a major transportation disruption, we must consider the human and community impact since trucking will be impacted and supplies may be scarce.

Food Contamination

- Definition and probability
 - Question: Are we talking about food contamination of food coming into Maine from an external source or food grown or produced in Maine?
 - Reply: Both.
 - Keep in mind product recalls. Food contamination happens frequently.
- Human, property and community impact
 - The impact would be big and needs to be scored as such.

Major Communications Disruption

- Impact
 - If we lose phone systems the impact is high for the general public.

Information Systems Failure

- Definition
 - Include hospitals and medical care facilities when considering this category.
 - All records and data are stored electronically.
 - All hospitals are supposed to have backup systems in place.
 - Duration of systems failure is a factor.
 - Backup systems work well enough for a short duration.
 - Increased injury and mortality come with longer durations with medication and documentation and tracking systems.
 - Part of the thinking about this category is that you need to take into account the different kinds of systems in use.
 - If state-hosted or state-developed systems crash, recovery from that is pretty high.
 - We have database protection and restoration measures in place.
 - It's hard to place a number on that, since there are so many kinds of systems in place.
- Human, property and community impact
 - An entire region can be affected, as patients would have to go further.
 - This could have far reaching impact.
 - Information systems failure is more significant than a major communications disruption.
 - None of us are prepared for a major IT failure; everything runs off IT now.

Supply Disruption or Shortage

- Definition
 - This takes into account public health systems, supplies and equipment.
- Preparedness
 - CDC is doing a great job and we are well prepared.
 - It's the in-between events (like Tamiflu shortage) that put us in a tighter spot.
 - We're better prepared for severe shortages.
 - With Ebola, for example, we had a shortage of protective suits. The economy can't support what we need.
 - That was a specific incident. We didn't have an Ebola case in Maine; if we had, we would have had access to those stockpiles.
 - Some shortages have different effects.
 - The SNS coordinator is subject matter expert; let's go with what he says.
 - SNS coordinator's response:
 - A severe supply chain shortage would activate a national mechanism to access a national stockpile.

Major Infrastructure Damage

- Definition
 - It could be anything from an internet system to railroad disruption to electronic grid failure.
- Let's skip this one since so much of this is covered in other categories.

Cyber Attack

- Definition and probability
 - If we had the chance to put a 4, we would.
 - It will happen.
 - We had two major cyber attacks on state systems in the past year.
 - When you talk about cyber attacks, you almost need to expand the definition of injury.
 - Stolen information can have significant financial impact.
- Human, property and community impact
 - Human impact is much higher.
 - Stealing an identity is serious.
 - Increase it for human, property and community impact.
 - High human, property and community impact.
 - Now that they can hack into IV pumps and monitoring systems, it has obvious implications for health and wellbeing.
- Preparedness and response
 - Different kinds of systems are better situated than others.
 - Individuals are not as well prepared as others.
 - Things have improved since the last time.
 - We're planning but I'm not sure we're ready.
 - Is the planning to prevent an attack or to help people recover from it?

Water Supply Contamination

- No changes or discussion.

HVA: Human Related Events

Table of Results

| HAZARD AND VULNERABILITY ASSESSMENT TOOL HUMAN RELATED EVENTS | | | | | | | |  Maine Center for Disease Control and Prevention An Office of the Department of Health and Human Services Paul R. LePage, Governor Mary C. Mayhew, Commissioner | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--|--|------|------|------|
| EVENT | 1. PROBABILITY <i>Likelihood this will occur</i> | SEVERITY = (MAGNITUDE - MITIGATION) | | | | | | RISK <i>Relative threat*</i> | | | | | | |
| | | 2. HUMAN IMPACT <i>Possibility of death or injury</i> | 3. PROPERTY IMPACT <i>Physical losses and damages</i> | 4. COMMUNITY IMPACT <i>Interruption of services</i> | 5. STATE PREPAREDNESS <i>Preplanning</i> | 6. ME CDC/PH INTERNAL RESPONSE <i>Time, effectiveness, resources</i> | 7. EXTERNAL RESPONSE <i>Community/Mutual Aid staff and supplies</i> | | | | | | | |
| SCORE | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 - 100% | | | | | | |
| Drug Related Epidemic | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 78% | | | | | | |
| Mass Casualty Incident | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 61% | | | | | | |
| Large Public Events | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 44% | | | | | | |
| Significant Bombing/Explosion | 1 | 3 | 3 | 3 | 2 | 2 | 2 | 28% | | | | | | |
| Mass Fatality Situation | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 24% | | | | | | |
| Significant Civil Disturbance | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 15% | | | | | | |
| AVERAGE | 2.00 | 2.17 | 2.00 | 2.33 | 1.67 | 1.67 | 1.67 | 43% | | | | | | |
| *Threat increases with percentage. | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td colspan="3">RISK = PROBABILITY * SEVERITY</td> </tr> <tr> <td>0.43</td> <td>0.67</td> <td>0.64</td> </tr> </table> | | | | | | | | | RISK = PROBABILITY * SEVERITY | | | 0.43 | 0.67 | 0.64 |
| RISK = PROBABILITY * SEVERITY | | | | | | | | | | | | | | |
| 0.43 | 0.67 | 0.64 | | | | | | | | | | | | |

Comments

Mass Casualty Incident

- Definition and probability
 - Any casualty that exceeds initial response capabilities.
 - It all depends on what you have for available resources.
 - Portland can handle more than Woolwich, for example, or Washington County, where they have fewer ambulances available.
 - Using these criteria, mass casualties occur on a fairly regular basis.
- Human, property and community impact
 - Most mass casualties don't have a significant statewide impact and are smaller events that are quite localized.

- The exception is Portland's airport:
 - 26 communities respond to a plane in distress at Portland's Jetport.
 - Every month there is at least one distress call.
 - School bus incident
 - This depends on how many people are aboard the bus.

Significant Civil Disturbance

- Definition and probability
 - Examples are protests becoming unruly; riots.
 - There is a higher potential because we have union strikes.
 - I consider that a potential for civil disturbance; there's a lot of unrest right now.
 - Historically, there has never been a big protest or huge labor disruption that caused injury.
- Preparedness
 - CDC is prepared for a significant civil disturbance.
 - In context, Maryland had significant turmoil because the CVS pharmacy chain shut down. What could we do to help people in that circumstance?
 - The State is prepared.

Large Public Events

- No changes.

Mass Fatality Situation

- Preparedness
 - The Maine CDC has stepped up in terms of preparedness.
 - There is a plan in place but there are some gaps that have yet to be addressed.
 - There's some work to be done with MEMA.

Drug Related Epidemic

- Definition
 - A new category was defined in order to respond to the rampant illegal drug use and production in Maine.
 - Meth labs impact homes; they become contaminated.
 - There have been 43 "shake and bake" facilities (labs) identified in Maine.
- Preparedness and response
 - There is a polarized discussion about treatment versus prevention.
 - We are not well prepared.

- We would have a moderate internal response.
 - We need more personnel.
- We're relatively prepared from an EMS standpoint.
- Further discussion
 - A drug problem doesn't always start with illegal drugs; issues can start with legal substances.
 - We must consider:
 - Drug-related crime
 - Drug abuse
 - Substance abuse
 - It's a widespread issue.
 - It has a huge impact on EMS.
 - Last month in Maine:
 - 45 EMS incidents with people requiring Naloxone for heroin overdose
 - 40 survived
 - It's a public health issue that's only getting worse.

There was a discussion about terminology. Some felt uncomfortable including drug abuse in human related events. Others insisted on creating this category and wondered if it would be better if we called it "drug-related epidemic" as a way to describe a major issue that requires massive attention. The best term the group determined: "drug epidemic."

Significant Bombing or Explosion

No changes or discussion.

HVA: Hazardous Materials Events

Table of Results

| HAZARD AND VULNERABILITY ASSESSMENT TOOL | | | | | | | |  |
|------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| EVENTS INVOLVING HAZARDOUS MATERIALS | | | | | | | | |
| EVENT | 1. PROBABILITY <i>Likelihood this will occur</i> | SEVERITY = (MAGNITUDE - MITIGATION) | | | | | 7. EXTERNAL RESPONSE <i>Community/ Mutual Aid staff and supplies</i> | RISK <i>Relative threat*</i> |
| | | 2. HUMAN IMPACT <i>Possibility of death or injury</i> | 3. PROPERTY IMPACT <i>Physical losses and damages</i> | 4. COMMUNITY IMPACT <i>Interruption of services</i> | 5. STATE PREPARED-NESS <i>Preplanning</i> | 6. ME CDC/PH INTERNAL RESPONSE <i>Time, effectiveness, resources</i> | | |
| SCORE | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = Low 2 = Moderate 3 = High | 0 = N/A 1 = High 2 = Moderate 3 = Low or | 0 = N/A 1 = High 2 = Moderate 3 = Low or | 0 = N/A 1 = High 2 = Moderate 3 = Low or none | 0 - 100% |
| Major Hazmat Incident | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 67% |
| Major Chemical Exposure/ Terrorism | 1 | 3 | 3 | 3 | 2 | 3 | 2 | 30% |
| Biological Terrorism | 1 | 3 | 3 | 3 | 2 | 2 | 2 | 28% |
| Nuclear Detonation | 1 | 3 | 3 | 3 | 1 | 3 | 2 | 28% |
| Major Radiological Exposure/Terrorism | 1 | 3 | 3 | 3 | 1 | 2 | 2 | 26% |
| AVERAGE | 1.40 | 2.80 | 2.80 | 2.80 | 1.60 | 2.40 | 2.00 | 37% |
| *Threat increases with percentage. | | | | | | | | |
| RISK = PROBABILITY * SEVERITY | | | | | | | | |
| 0.37 0.47 0.80 | | | | | | | | |

Comments

Major Hazmat Incident

- Definition and probability
 - A hazardous material is defined as any substance or material that could adversely affect the safety of the public, handlers or carriers during transportation.
 - One example: when an oil truck tips over.
 - In the State of Maine, we probably have 3500 Department of Environmental Protection responses. How many of those require a hazardous materials suit? Maybe 2 of them.

Major Chemical/Radiological/Biological Exposure - Caused by Terrorism

- Probability
 - Low
 - Yet keep in mind that the 9/11 terrorists came through our borders.

- Human, property and community impact
 - This kind of incident could have significant property damage in terms of cleanup.
- Preparedness and response
 - From the lab standpoint, it's low.
 - From a national standpoint, preparedness and response level is good.

Nuclear Detonation

- We don't have an active power plant anymore.

Appendix E: List of Attendees

Fifty-four attendees participated in the PH HVA.

Kenneth Albert, Maine CDC, Director
Sharon Arsenault, DHHS, Office of Child and Family Services, Program Manager
Christopher Call, DHHS, Office of Child and Family Services, Team Leader
Jeff Caulfield, Maine CDC, Field Epidemiologist
Stephen Combes, Maine CDC, Epidemiologist
Dr. Jane Coolidge, Maine CDC, PHEP, Emergency Preparedness Planner
Ann Farmer, Maine CDC, Infectious Disease Epidemiologist, Program Manager
Hugh Fennell, DHHS, Office of Child and Family Services, Regional Supervisor
Sara Flanagan, Maine CDC, Environmental Health, Drinking Water Program
Jessica Fogg, Maine CDC, PH District Liaison, Penquis
Cecelia French, Maine Primary Care Association, QI, Project Manager
Patrick Furey, Maine CDC, PHEP, Training and Exercise Coordinator
Robert Gardner, MEMA, Hazardous Materials
Julia Gillespie, Office of Medical Examiner, Death Investigator
Jennifer Gousse, Maine CDC, PHEP, Strategic Planning Assistant
Donna Guppy, Maine CDC, Maine CDC, Field Epidemiologist
Caity Hager, Portland Public Health, City Readiness Program Coordinator
Patty Hamilton, Bangor Public Health, Director
Adam Hartwig, Maine CDC, PH District Liaison, York
Marty Henson, Maine CDC, Director, Data, Research and Vital Statistics
Richard Higgins, DVEM, Maine Emergency Management Agency, Planning and Research
Jayson Hunt, Maine CDC, HIV Program Manager
Jay Hyland, Maine CDC, Environmental Health, Radiation Program Manger
William Jenkins, Maine CDC, Public Health Emergency Preparedness, Director
John Jensenius, National Weather Service, Warning Coordinator, Meteorologist
Maj. Brad Kelso, Maine National Guard, Medical Science Officer
Kathy Knight, Northeast Maine Healthcare Coalition, Director
Jonathan Leach, DHHS, Division of Licensing and Regulatory Services, Childcare Compliance
Joe Legee, Maine CDC, PHEP, Strategic National Stockpile Coordinator
Rebecca Lincoln, Maine CDC, Environmental Health, Toxicologist
Chris Lindsey, DHHS, Office of Child and Family, Team Leader
James Markiewicz, Maine CDC, Public Health Services, Director
Angie Marquis, DHHS, Office of Child and Family, Team Leader
Nick Matluck, Maine CDC, Health Environmental Testing Laboratory, Microbiologist Supervisor
Jared McCannell, Maine CDC, PHEP, Volunteer Coordinator
Dave Mealey, Maine Department of Transportation, Supervisor
Jamie Paul, Maine CDC, PH District Liaison, Western
Tonya Philbrick, Maine CDC, Immunization Program Manager
Kristie Ricker, Maine CDC, Tribal Health Liaison
Nate Riethmann, Maine CDC, PHEP, Emergency Communications Coordinator

Don Sheets, Department of Public Safety, EMS, Public Health Education
Lisa Sherman, Northeast Healthcare Coalition, Administrative Assistant
Lisa Silva, Maine CDC, Environmental Health, Health Inspection Program
Karen Simone, Maine Medical Center, Northeast Poison Control Center
Andy Smith, Maine CDC, Environmental Health, Toxicology Director
Paula Thomson, Maine CD, PH District Liaison, Central
Ray Vensel, DHHS, DAFS, Office of Information Technology, Manager
Kara Walker, Central Maine Healthcare Coalition, Director
Dr. Leslie Walleigh, Maine CDC, Environmental Health, Toxicology
Michele Walsh, Department of Agriculture, State Veterinarian
Paul Weiss, Southern Maine Healthcare Coalition, Director
Kathleen Wescott, Maine CDC, PHEP, Disaster Behavioral Health, Director
Cpt. Alex Wild, Maine Army National Guard, Medical Operations Officer
Sandra Yarmal, Maine CDC, Tribal Health Liaison

Leigh Tillman, Facilitator
Trace Salter, Recorder

Forty-eight invitees were unable to attend:

Nancy Beardsley, Maine CDC, Environmental Health, Director
Dr. Siiri Bennett, Maine CDC, State Epidemiologist
Sara Bly, Maine CDC, Field Epidemiologist
Trish Bosse, Maine CDC, Epidemiologist
Stacy Boucher, Maine CDC, PH District Liaison, Aroostook
Emily Brod, Disaster Behavioral Health, Board Member
Lt. Mark Brooks, Maine State Police
Jeff Brown, Maine Primary Care Association, Continuous Quality Improvement, Director
Maj. James Carroll, Maine Army National Guard
Patty Carson, Maine CDC, Field Epidemiologist
Art Cleaves, York County Emergency Management Agency, Director
Norm Cote, Southern Maine Health Center, Emergency Preparedness Coordinator
Debra Couture, MEMA, Senior Planner
Lisa DiFedele, Maine CDC, Field Epidemiologist
Sue Dowdy, Maine CDC, PHEP, Grants Manager
Dr. Mark Flomenbaum, State Chief Medical Examiner
Roberta Fogg, Maine CDC, Data, Research and Vital Statistics
Maj. Chris Grotton, Maine State Police
Kim Haggan, Maine CDC, Data, Research and Vital Statistics
Dwane Hubert, PHS, MEMA, Mitigation, Preparedness and Recovery Division, Director
Ted Hensley, Maine CDC, Public Health Nursing, Director
Lisa Hodgkins, Maine CDC, Women, Infants and Children, Program Manager
Don Hutchins, Maine Department of Transportation,
Casey Keckler-Yerkes, Homeland Security
Laurie Levine, American Red Cross, Sheltering

Dwight Littlefield, Maine CDC, Public Health Nursing
Deepankar Mailk, Maine CDC, Field Epidemiologist
John Martins, Maine CDC, Public Information Officer
Al May, Maine CDC, PH District Liaison, Downeast
Faith Mayer, MEMA, Planning and Research, Hazardous Materials
Carolyn Panerlo, Eastern Maine Health Service
Ken Pote, Maine CDC, Health Environmental Testing Laboratory, Director
Joanne Potvin, Androscoggin County EMA, Director
Jon Powers, Department of Public Safety, EMS, Data & Preparedness Coordinator
Christopher Pezzullo, Maine CDC, Chief Health Officer
Vicki Rea, Maine CDC, Field Epidemiologist
Amy Robbins, Maine CDC, Epidemiologist
Kathleen Rusley, MEMA, Planning and Research, Public Outreach Specialist
Lisa Sherman, Eastern Maine Health Service
Lisa Sockabasin, Maine CDC, Office of Health Equity, Director
Sgt. Carlton Small, Fusion Center
Joan Smyrski, Office of Substance Abuse and Mental health Services, Associate Director
Michael Swan, Division of Licensing and Regulatory Services, Health Facility Survey Mgr
Michelle Tanguay, Penobscot County EMA, Director
Teresa Trott, Maine CDC, Environmental Health, Drinking Water Program
Karen Turgeon, 2-1-1 Maine
Elissa Wynne, DHHS, Office of Child and Family Services,
Christine Zukas, Maine CDC, Deputy Director

Appendix F: Summary of Evaluations

Statewide Public Health Hazard Vulnerability Analysis

Compiled Evaluation Responses

Prepared by Leigh Tillman Facilitation

October 29, 2015, Central Maine Commerce Center, Augusta

1. What did you find successful about your group's meeting?

- Evaluation/revision of analysis was completed
- The facilitated discussion was very helpful. It was timely and completed the items.
- Jane's presentation setting the stage was on-point to get the group ready to work!
- Good participation, discussion, respectful disagreement
- Facilitator was friendly and well spoken
- Learning different aspects/views on certain issues; meeting personnel from different agencies; learning the number of issues/concerns
- Clarity on preparedness; how to apply to an OADS Disaster Preparedness
- Networking
- Having all experts in the room – some notable vacancies: PIO, PHN, WIC, health officer
- The meeting remained on time and the facilitator did a great job bringing people back to the task
- Focus on the group process, listening to and acknowledging different points of view and approaches
- Solicitation of feedback from the group
- Open conversation; facilitator kept us moving
- My first PH-HVA; very informative/interesting
- Good discussion!
- The facilitator did a great job keeping folks on task
- Amount of info covered

2. What could have been improved?

- Nothing at this time
- Define categories
- Definitions when words like “major,” “severe,” “significant” – or a decision not to use them at all
- Definitions of categories, more specific scenarios

- Keeping to the agenda. I know this is a tough group but we need to cut people off in order to accomplish the larger objective. Smaller, more focused group.
- Facilitation (unable to stay on time); lost attention in A.M. – needed to break; could have “gone to vote” more frequently; use and respect SME opinions
- Avoid lingering or going back over issues already completed/agreed/decided; allow subject matter experts definitive opportunity to be final say on assignment
- Definitions of the event
- Facilitation
- Microphone for all speakers; more specific definitions for each category, ex. earthquake >4.5
- Specifically call out subject matter experts first
- Better time management; too long at the start; rushed at the end
- Distributing the EMA information that may have made the scoring process even more clear
- Smaller group
- Not relying on 1 or 2 people in room for everything; cut down on unnecessary talking
- Timers on microphone hogging for some people
- More information upfront to ensure we are all speaking the same language
- Pace; definitions

3. How was facilitation helpful in your group’s meeting?

- Allowed for input from all stakeholders
- Essential. The neutral party got conversation going.
- Facilitation was excellent!! Keeping us on track, on task
- Others from the group started participating in facilitating members of the group
- Kept things moving forward; requested frequent input; allowed for discussion time
- Great
- Necessary to keep on track to accomplish PHHVA
- See question 1: “The meeting remained on time and the facilitator did a great job bringing people back to the task”
- It was helpful for the facilitator to remain focused on the numbers/task at hand and continually ask “Does that change the number?”
- Pacing – keeping the group task-focused and moving forward
- It kept us on task; neutral stance
- Definitely helped to keep people on topic
- Kept participants on point/topic
- We would still be on the first chart
- Move it along...good job!

4. Are there any comments, perspectives, or opinions about the process that you would like to share?

- None at this time
- This was very helpful
- Neutral facilitation is critical
- N/A
- Tighter, more closely defined terms/definitions; open “impact” areas to encompass wider categories; redefine “responses” to reflect broader categories
- Once decision is made, don’t reopen discussion; limit the amount of comments; need to have a timekeeper
- Might have been helpful to divide into groups with content experts and set categories then report out
- Great facilitator
- Overall very good
- No
- Leigh did great!

5. Is there any follow-up by the facilitator that you think would be helpful to your group?

- None at this time
- Great job. I would like to see the typed notes.
- Good job to the facilitator!
- No. Thanks.
- No
- No
- Just providing results
- No
- N/A