Harris County
Pandemic Influenza Partner Workshop

Summary Report

Workshop Sponsored by:
Harris County Public Health and Environmental Services (HCPHES)

Summary Report by:
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EXECUTIVE SUMMARY

On July 7 and 8, Harris County Public Health and Environmental Services (HCPHES) hosted a planning workshop to address mass care and mass casualties/mass fatalities during a severe influenza pandemic. The multi-sector planning workshop was designed to address strengths, gaps, and proposed solutions for preparing for a severe influenza pandemic or other large outbreak of a highly contagious, highly fatal respiratory disease.

Over 115 participants represented a wide-range of stakeholder groups including representatives from ambulatory service, hospital systems, traditional and non-traditional clinical surge, community services and volunteers, funeral and forensics, public health, public and private emergency management, and pre-hospital and fire.

Discussions during the two day workshop were based on a pandemic influenza scenario\(^1\) crafted by HCPHES and presented to the participants. The scenario provided details of an outbreak that is being seen across the nation and in other parts of the world, akin to the severe 1918 influenza pandemic. In addition to the scenario, expert presenters helped to frame the legal, ethical, and operational issues that Harris County may face during a pandemic.

Led by small group facilitators, meeting participants used the pandemic influenza scenario to explore the current landscape of Harris County and its stakeholder’s preparedness for a pandemic. Current roles, responsibilities, strengths, and assets of the agencies and organizations were discussed. Additionally, participants identified gaps in providing mass care and managing mass fatalities based upon the pandemic influenza scenario. Finally, sector groups provided solutions and systems that would need to be in place address the identified gaps.

At the conclusion of the workshop, HCPHES leaders and meeting participants agreed on a set of first steps which include: convene a Mass Care/Mass Fatality Steering Committee, develop a legislative agenda to address the legal and regulatory barriers raised by the participants, begin public information and education efforts, and tell the story of this meeting’s outcomes to others inside their organizations and to their constituents.

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\(^1\) See Appendix A for the complete scenario.
\(^2\) A full list of workshop participants can be found in Appendix B.
SUMMARY

OVERVIEW AND PURPOSE
On July 7 and 8, Harris County Public Health and Environmental Services (HCPHES) hosted a planning workshop to address mass care and mass casualties/mass fatalities during a severe influenza pandemic. The multi-sector planning workshop was designed to answer the following questions in case of a severe influenza pandemic or other large outbreak of a highly contagious, highly fatal respiratory disease:

- How do we handle mass care/mass fatalities in Harris County?
- What crisis standards of care do we establish for when it is no longer possible to provide the usual level of care?
- How and where do we set up an alternate care system when our healthcare system exceeds its capacity?
- What legal and ethical standards apply? What are the community values that guide our decision making?
- How do we support community resilience and population mental health during and after the crisis?

METHODS

Attendance
Over 115 participants represented the following sectors during the two-day workshop: ambulatory service, hospital systems, traditional and non-traditional clinical surge, community services and volunteers, funeral and forensics, public health, public and private emergency management, and pre-hospital and fire.

Participants were recruited from a list of stakeholders sent to the Keystone Center by HCPHES staff. This list of 149 people was broken down into sectors that could have interest in the outcome, were able to contribute to the plan or had knowledge and experience with the subject matter. A primary group of stakeholders were contacted directly by phone and email by HCPHES staff and asked to respond to an RSVP survey. Keystone staff made contact with these same participants by phone and emailed the same RSVP link.

Although more than 80 non-HCPHES participants attended the meeting, not all sectors were fully represented. Specifically the dental, medical information technology, and business communities were underrepresented and not all hospitals were represented. We found that invited participants sometimes circulated the invitation within their organization; in some of these cases no one took responsibility for attending the meeting. Other contacts cited a lack of staff resources or staff time and scheduling conflicts for keeping them from participating. Some were willing to participate for part of the workshop but declined to commit to the full 2 ½ days. Others were on summer vacation due to the proximity to the 4th of July holiday and others were not given enough lead time. The lists of participants and sectors are available in the Appendix ___.

Pandemic Scenario

Discussions during the two day workshop were based on a pandemic influenza scenario crafted by HCPHES and presented to the participants. The scenario provided details of an outbreak that is being seen across the nation and in other parts of the world, akin to the severe 1918 influenza pandemic. Occurring over a 12 to 18 month timeframe, the illness is expected to take place in 2-3 waves with approximately 30% of the population of Harris County becoming ill and over 26,000 fatalities. In the scenario, a disaster declaration has been declared due to the overwhelming conditions in the county including overrun hospitals, a run on pharmacies, crowd control issues, crowded morgues, overtaxed volunteer, spiritual, and religious groups, and an extreme shortage of healthcare personnel and supplies.

2 A full list of workshop participants can be found in Appendix B.
3 See Appendix C for a complete list of participating sectors.
4 See Appendix A for the complete scenario.
Mass Care and Fatality Presentations

In addition to the scenario, expert presenters helped to frame the legal, ethical, and operational issues that Harris County may face during a pandemic. HCPHES recruited nationally known leaders in the disaster preparedness and response community to provide expert insight on issues meeting participants would need to consider during the workshop. These subject matter experts provided information to address theoretical and operational considerations for pandemic planning which included:

- Mass Disasters and Crisis Standards of Care Planning
- Alternate Care System Planning
- Palliative Care Considerations
- Legal Issues in Public Health Emergencies
- Ethics in Public Health Disasters
- The role of the Medical Examiner and Legal Issues
- Operationalizing Mass Fatality Plans
- Mass Fatality Planning Considerations
- Disaster Mental Health Planning
- Community Psychology in Mass Fatalities

The presentations followed this sequence:

Plenary #1: Continuum of Mass Care - (Umair A. Shah – moderator)
- Mass Disasters & Crisis Standards of Care Planning – Umair A. Shah
- Alternate Care System Planning Perspective – Alisa Diggs
- Palliative Care Considerations – Marianne Matzo

Plenary #2: Legal & Ethical Issues in Mass Care - (Herminia Palacio – moderator)
- Legal Issues in Public Health Emergencies – James Hodge
- Ethics in Public Health Disasters – Tia Powell

Plenary #3: Management of Mass Fatalities - (Umair A. Shah – moderator)
- Mass Fatality Planning Considerations – Arbie Goings
- Mass Fatality Operational Perspective – Chris Boyer
- Medical Examiner & Legal Issues – Glen Van Slyke

Plenary #4 – Achieving Community Resilience - (Rita Obey - moderator)
- Disaster Mental Health Planning – Merritt Schreiber
- Community Psychology in Mass Fatalities – Lisa LaDue

Sector and Cross-Sector Discussions

Led by small group facilitators, meeting participants were asked to use the scenario and presentation topics to explore the current landscape of Harris County and its stakeholder’s preparedness for a pandemic. Participants were assigned to sector groups based on the role their agency or organization would play in a pandemic. The following sector groups were used for discussion: ambulatory service, hospital systems, traditional and non-traditional clinical surge, community services and volunteers, funeral and forensics, public health, public and private emergency management, and pre-hospital and fire. The sector groups first focused on identifying current roles, responsibilities, strengths, and assets of the agencies and organizations in their sector groups. Next, based

See Appendix D for a complete list of presenters and presentations.
on the influenza scenario provided, participants identified current gaps in Harris County in providing mass care and managing mass fatalities for a sustained period of time. Finally, sector groups provided solutions that would address the identified gaps.

Following the completion of the sector group discussions, cross-sector breakout groups were created by assigning a member of each of sector groups to a group, ensuring balanced representation in each cross-sector group. The cross-sectors groups were charged with evaluating the following:

- How do sectors come together in mass care/mass fatality scenario?
- Identify the strengths across sectors in mass care/mass fatality planning.
- What are the cross-sector issues/challenges/gaps/weaknesses in mass care and mass fatality planning?
- In what ways might agencies and organizations work across sectors to fill the gaps?
- Deliberate strategies for overcoming mass care and fatality gaps.

As a final component to the workshop, groups were asked to identify and build the system Harris County will need to put in place to be prepared for an influenza pandemic. Using the strengths, gaps, and solutions previously discussed, participants were asked to determine what the system would look like, who should be engaged, and how long would it take to develop the system.

**MASS CARE**

Sector groups addressed each individual agency’s roles and responsibilities in a mass care scenario which included a discussion of the agency’s current mass care plans. In that discussion, each sector identified the strengths and assets the individual agencies within each sector provide. Sector groups also identified current gaps in providing mass care during a pandemic.

**Roles, Responsibilities, and Strengths**

Each sector identified the roles, responsibilities, and strengths their sector currently has in the provision of mass care during a pandemic. Participants identified the following roles and capabilities:

- Serve as a trusted resource for accurate, clear, and consistent information that is tailored to specific communities and vulnerable populations regarding prevention efforts and mass care plans before, during, and after a pandemic.
- Provide frontline and in-hospital care, including mental health services, to the population in both permanent and temporary facilities.
- Recruit, train, and mobilize non-traditional workforce and volunteers to assist in the provision of care.
- Utilize physical infrastructure, technology, and healthcare networks to provide and coordinate care.
- Monitor and report to public health officials infection rates.
- Develop, coordinate, and implement public health guidelines or policies by working with officials and healthcare networks to provide education and mass care.
- Work with private sector to avoid “red tape” in a time of crisis to provide necessary goods and services.

**Gaps**

Overall, sector groups identified key gaps in providing mass care during a pandemic. Though sectors groups recognized Harris County’s previous experience in providing mass care during a hurricane or other disaster, groups stated in general public preparedness plans have been reactive. Sectors believe preparing the public for what to expect in a pandemic for what to will be a beneficial part of a mass care plan.

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6 Refer to Appendix E for a complete list of gaps in providing mass care during a pandemic.
Groups also recognized Harris County’s experience in providing mass care has not taken place over a sustained period and groups are accustomed to performing an intense amount of work for a short period of time. An identified gap was the inexperience and lack of systems to provide mass care at a high level for an extended duration. This gap also includes identifying and maintaining adequate workforce that often includes individuals with specialized training. Sectors also identified the unequal distribution of resources as a gap to providing mass care during a pandemic. These resources were identified as being ambulatory services, acute care facilities, trained personnel, and financial resources.

Sector groups pointed to the lack of flexibility in current standard operating procedures, laws, and regulations as a large gap in providing mass care in a pandemic. Participants noted an increase in healthcare providers would be necessary, yet, current policies limit those that can be engaged and mobilized, even in a disaster. Additionally, participants stated the current standard procedures which require numerous responders to be dispatched to a scene, regardless of the severity of the situation, could monopolize resources during a pandemic including emergency vehicles and personnel. Participants stated alternative standard operating procedures tailored to each region and community is needed to provide mass care during a pandemic.

Though the use of the National Incident Management System (NIMS) has been adopted and previously employed by Harris County, a lack of working knowledge of this system by all sectors, including the private sector, was highlighted as a gap in providing mass care. According to meeting participants, communication between the public and private sector during a pandemic needs to include education and integration of all sectors in NIMS for Harris County. Along with educating the public and private sector on the use of NIMS, a common communication plan or process is needed that uses traditional and new media/technology to communicate information accurately and timely with the public.

MASS FATALITIES

Sector groups identified each individual agency’s current plan for a mass fatality crisis, highlighting their roles and responsibilities. While discussing roles, sector groups identified the strengths and assets their agency possesses to assist in handling mass fatalities due to a pandemic. Each sector group also identified current gaps in addressing mass fatalities during a pandemic.

Roles, Responsibilities, and Strengths

Each sector identified the roles, responsibilities, and strengths their sector currently has in dealing with mass fatalities. Participants identified the following overarching capabilities possessed by their sector.

- Serve as a trusted resource for accurate, clear, consistent information that is tailored to specific communities and vulnerable populations regarding proper hygiene and sanitation, storage, and interment of the deceased.
- Deliver mental health services and grief counseling to responders, care providers, and families of the deceased.
- Provide systems for identification, documentation, and monitoring the deceased through permanent interment.
- Develop and operate temporary storage locations for the deceased.
- Make available, to the extent possible, transportation of the deceased to temporary and permanent interment.

Gaps
Within their own sector groups, participants identified multiple gaps in addressing an ongoing, large number of fatalities during a pandemic. Participants identified workforce and volunteer capacity, current standard procedures and protocols, infrastructure and physical capacity, and addressing mental health needs as gaps in managing mass fatalities in Harris County.

Sector groups identified a large gap in dealing with the expected influx of mass fatalities during a pandemic to include volunteer fatigue and shortages due to illness or death. Many organizations and agencies depend on the support of volunteers during a crisis; sectors voiced concern over the ability to maintain critical operations and support services without volunteers.

Sector groups identified multiple procedural and protocol gaps that create obstacles to providing adequate response to the expected mass fatalities due to the pandemic. Current policies, regulations, and laws limit the professionals who can certify death. It is expected that these approved professionals will be overwhelmed due to the number of fatalities and unable to meet the demand. Participants identified the need for additional professionals to be able to certify death during a severe pandemic with mass fatalities, which would require a change in current protocols. Additionally, sectors noted the limitations current procedures and protocols place on the transportation of the deceased. The large number of fatalities across the county will necessitate the transportation of the deceased to temporary and/or permanent interment sites, current procedures place limitations on who and when this transportation can provided.

Sector representatives also identified gaps in the current infrastructure to temporarily store the deceased. The lack of proper facilities will place heavy burdens on the current hospital and county morgues. Additional alternative capacity will need to be developed in order to accommodate the increase fatalities.

Multiple sectors identified the need to address mental health issues and provide counseling services and training prior to, during, and after the pandemic. Groups recognized, especially in the emergency response community, seeking mental health services can be viewed negatively. Participants agreed the current system does not include training and counseling services for traditional and non-traditional responders that will be faced with death and dying for an extended period of time. Additionally, sectors such as healthcare providers and health systems often have a small number of staff that handle grieving and death services, it is expected current capacity will not be able to meet the need.

**SOLUTIONS FOR ADDRESSING MASS CARE AND FATALITIES**

To formulate solutions to fill the gaps in providing mass care and managing mass fatalities during a pandemic, sector and cross-sector groups discussed solutions that address gaps in pandemic planning, education and training, governing procedures and protocols, internal and external communication strategies, workforce and volunteer capacity, and resource and infrastructure development for both mass care and mass fatalities.

**Pandemic Planning**

According to meeting participants, advanced planning for a severe pandemic is crucial to mass care and handling mass fatalities. Each sector identified critical planning components that would be necessary to fill in order to provide mass care during a pandemic influenza and manage mass fatalities.

- Engage multi-agency and stakeholder groups in the development of pre-, during, and post-pandemic plans; create a workgroup that meets regularly to review and refine the pandemic preparedness plan.

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7 Refer to Appendix F for a complete list of gaps in managing mass fatalities during a pandemic.
• Ensure planning process is properly funded by providing training and grant writing services to agencies and community organizations.
• Determine and catalogue current care and fatality surge capacity which includes workforce, facilities, infrastructure, and resources.
• Consult companies with current disaster plans that account for large concentrations of people (cruise ships, oil rigs, etc.) for guidance.
• Work alongside public works and waste management companies to develop a plan for service continuation. Ensure these agencies and companies recognize their importance by engaging them early and often in planning and response.
• Establish and build relationships with local and on-line media outlets to call upon later to assist with the dissemination of information.
• Encourage public and private employers to survey staff to identify possible capacity issues; create a telework plan to increase social distancing during a pandemic.
• Expand upon 211’s current data collection system to identify individuals who depend on home health services or in-home caregivers.
• Educate and incorporate the private sector on Harris County’s use of NIMS planning and implementation.
• Coordinate contingency plans with private businesses (electricity, water, oil, gas, etc.) to ensure sustainable service plans; educate the public on these plans.
• Seek and incorporate guidance from faith and spiritual leaders in the development of temporary interment practices, transportation and storage of the deceased, and grief counseling.

**Education and Training**

Education and training of the public at large, responders, and healthcare community is necessary to address gaps identified in providing mass care and managing the predicted increase in fatalities due to the pandemic. Meeting participants developed education and training solutions to address some of these gaps.

• Provide “just in time” training to professionals and volunteers similar to that provided participants in the Harris County Community Emergency Response Team (CERT) program.
• Develop training and education for professional and volunteer providers that may be expected to perform tasks they have never done before. Training should be created by appropriate experts and agencies and should include, but is not limited to, psychiatric first aid/mental health training, symptom recognition and patient triage, basic first aid, and other training to assist in the provision of mass care.
• Create a toolkit for public dissemination that covers, but is not limited to, who to call when an individual dies at home, proper temporary storage of the deceased at home, transportation options for removing the deceased from the home, as well as grief counseling and funeral services. Input should be sought from the Texas Funeral Directors Association, HCPHES, the Centers for Disease Control and Prevention, and the medical examiner’s office.

**Governing Procedures and Protocols**

Participants recognized during a severe pandemic certain standard procedures and protocols may need to be suspended and new processes developed in order to deliver mass care and handle mass fatalities. According to meeting participants, current laws, regulations, and policies provide significant barriers to suspending and adopting new procedures during a pandemic. Participants felt that addressing the current inflexibility of standard procedures and protocols will reduce the burden on healthcare providers and responders. The participants recommended the state legislature examine and amend current laws relating to:

- Liability protections for professionals, volunteers, and non-traditional care providers;
• Healthcare provider licensing reciprocity;
• Care provider scope of work;
• Emergency dispatch requirements;
• Certification of death;
• Transportation of the deceased; and
• Temporary and permanent storage of the deceased.

Internal and External Communication Strategies

Meeting participants identified the need for consistent, clear, and timely information to responders, volunteers, and the public at large. The following solutions were developed to fill the communication gaps with responders, healthcare providers, and Harris County residents.

• Develop an interagency and stakeholder communication plan in order to be prepared for a pandemic response. The plan should include a strategy for tailoring messages to every age group and demographic through numerous means of communication. The messages should provide the public with consistent messages.

• Create a centralized, consistent message to be delivered to the community at large by public information officers, community and volunteer organization leaders, faith and spiritual leaders, and other trusted individuals in the community.

• Utilize technology to disseminate information including reverse 911, social media outlets, and cell phone applications.

• Leverage pre-established relationships with local and on-line media outlets to provide education and updates to the community through pre-recorded and real-time messages.

• Develop a public awareness campaign that informs the public how to be prepared for a severe pandemic. Messaging used should be akin to that utilized to educate the public about hurricane preparedness. The campaign should include information on, but not limited to, proper 911 uses in a disaster, influenza hygiene, symptom recognition, tips for staying healthy, and guidance on providing care to the ill.

Workforce and Volunteer Capacity

To address the expected shortage in healthcare providers and critical social services workforce, participants identified multiple solutions to fill the gap in providing mass care during a pandemic. Additionally, in the case of a severe pandemic, mass fatalities are expected to overwhelm current funeral services and the medical examiner’s office. Meeting participants identified individuals and groups that can bolster the current capacity to provide mass care and the management mass fatalities.

• Engage, train, and mobilize students, currently practicing, and retired care providers including, but not limited to, non-traditional providers such as dentists, chiropractors, physical therapist, and veterinarians to fill the gap.

• Create a master list or database of professional and volunteer healthcare and mental health service providers to ensure the accurate accounting of workforce and volunteer capacity during a pandemic. HCPHES should create and manage the master list to guarantee individuals do not get “double counted.”

• Provide training to non-healthcare workers to help with patient triage both over the phone and in-person. Allowing non-healthcare workers to perform this task will alleviate the burden on healthcare professionals and volunteers.

• Identify, train, and activate individuals to operate call centers that will provide guidance to families of the deceased.

• Train and utilize public health employees, other county staff, and private sector companies with access to fleet vehicles to provide transportation of the deceased.
Resources and Infrastructure Development

During a severe pandemic resources and infrastructure will be strained, participants identified the following solutions to providing mass care during pandemic and alternative means to handling a large, sustained surge of fatalities.

- Engage the private sector prior to, during, and after the pandemic to assist in the provision of mass care and fatality management. Memorandums of understanding (MOU) with private sector companies including those that provide supplies, transportation, technology support, and other critical supplies and services should be created before a crisis.
- Remove weight limits on vehicles in order to increase their carrying capacity of supplies, materials, and equipment.
- Work with HCPHES, mental health professionals, grief counselors, and leaders of faith organizations to develop phone and on-line counseling hotlines and chat rooms. The provision of “virtual counseling” will assist in decreasing exposure to the virus.
- Create an on-line and phone registry of the ill and deceased. The registry should be developed and managed by Harris County agencies in order to gauge the impact of the pandemic on the community.
- Utilize electronic medical records and claims data provided by third-party insurers to assist in tracking the prevalence of the outbreak.
- Establish temporary morgues and determine means for expanding current morgues in pre-determined facilities such as hospitals. Work with the medical examiner’s office to develop guidelines for the establishment and expansion of morgues.
- Identify locations for the distribution of body bags akin to vaccination pods. Distribution should include all materials needed, explicit written and visual instructions for preparation of the deceased, mental health and grief counseling resources, and directions for transportation of the deceased to designated facilities.
- Develop pre-determined staging areas across the county for the collection of the deceased. These central locations and collection points should be easily recognizable. The staging area will serve as a triage location and be staffed by multiple agencies and the medical examiner’s office.
- Develop procedures for temporary interment, including a process for identification of the deceased and storage. Once developed, the temporary interment plan should be clearly communicated to the public using broad means and designated spokespersons.
- Create a public directory of funeral homes and crematories across the state to be disseminated to the public during a pandemic.

BUILDING THE SYSTEM

Incorporating the previously identified strengths, gaps, and solutions, participants discussed ways that the individual elements aimed at addressing mass care and mass fatalities can be woven into a system of response to a severe pandemic. The system begins with alternative standards of care encompassing pre-hospital care, ambulatory care, hospital care, and dealing with deaths and impacts concept of operations, scope of practice and dispatch operations. The system extends to alternative care systems for the ill and the dead and gives rise to changes in logistics (transport and temporary internment), resource use and the role of dispatch and call centers. To change both standards of care and care systems, regulatory and legislative change may be necessary. Communication – from in-the-moment tactical messages to public information, social marketing and social media will have to convey messages about the change in standards of care and care systems. Providers and responders will have to use technology to share information and help fill gaps. Finally, partners from business, the service sector, faith-based organizations, law, emergency response and healthcare will have to work together to plan for the response and to respond when the pandemic strikes.
The final small-group discussion focused on these parts of the system and the system itself. The groups identified the need for a multi-agency and stakeholder committee that will continue to plan for a pandemic. Members of the committee might include, but should not be limited to, representatives from HCPHES, the medical examiner’s office, private businesses, faith-based organizations, law enforcement, fire, EMS, and healthcare providers. The purpose of this committee will be to continue to build the system related to mass care and fatalities: crisis standards of care, alternative care sites, legal and regulatory barriers, and communication and education strategies. Additionally, when developing a system for Harris County, some groups developed specific recommendations\(^8\) on the gaps to address, the step to take, the entities that should take responsibility, and the timeline for action.

**NEXT STEPS FOR HARRIS COUNTY AND AGENCY PARTNERS**

At the conclusion of the two-day workshop, HCPHES leaders and meeting participants agreed on the following first steps to address gaps and implement solutions for the provision of mass care and management of mass fatalities during a pandemic.

1. Convene Mass Care/Mass Fatality Steering Committee by September 1, 2011. This charge will be lead and coordinated by Herminia Palacio, MD, MPH, Health Authority for Harris County and Executive Director, Harris County Public Health and Environmental Services; David E. Persse, MD, EMT-P, FACEP, Director, City of Houston Emergency Medical Services; and Luis A. Sanchez, M.D., Chief Medical Examiner, Office of the Medical Examiner, Harris County, Texas. The Steering Committee will consist of two subcommittees – the Mass Care Subcommittee and the Mass Fatality Subcommittee.

2. To address the legal and regulatory barriers raised by the workshop participants, a legislative agenda will be created to address interim charges, disaster declaration, and disaster authority by Herminia Palacio, MD, MPH, Health Authority for Harris County and Executive Director, Harris County Public Health and Environmental Services and Marva Gay, Managing Attorney, Public Law, Office of the Harris County Attorney.

3. Public information and education efforts will be spearheaded by Francisco Sanchez, Liaison, Harris County Homeland Security and Emergency Management and Rita Obey, Director, Office of Public Health Information. These efforts will include the development and engagement of a multidisciplinary team, the creation and implementation of a joint information center, tailored messaging from each agency/organization, and a comprehensive communication strategy.

4. All participants will carry the messages of this meeting back to their organizations and constituents so that others might be prepared to help in the case of mass surge and mass casualty in a severe pandemic and will be prepared to support the plans and strategies that flow from this meeting.

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\(^8\) For specific recommendations provided by the groups please see Appendix G.
Appendix A

Partner Workshop: Breakout Sessions Planning Scenario

It is winter and tens of thousands of people in Harris County have been going to doctor’s offices, clinics, and emergency rooms with high fevers, sore throats and cough. Similar outbreaks are being seen across the nation and in other parts of the world. The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) have isolated a completely new influenza virus and have declared this to be a flu pandemic.

The severity of disease and the high number of deaths is similar to the severe 1918 pandemic, therefore we estimate that over the next 12 to 18 months Harris County will experience 2-3 “waves” of illness during which:

- 30% of the population (over 1.2 million people) may become ill;
- 15% of the population (over 600,000 people) may seek outpatient care;
- 0.3 to 3% of the population (12,277 to 122,774 people) may require hospitalization;
- 0.04 to 0.5% of the population (1,637 to 20,462 people) may require intensive care;
- 0.02 to 0.25% of the population (818 to 10,231 people) may require mechanical ventilation; and,
- 0.07 to 0.64% (2,864 to 26,191 people) of the population may die.

We are just in week 3 of the first wave of illness with the situation getting more serious every passing day – a disaster declaration has been made for Harris County due to the overwhelming conditions:

- Thousands of people are requiring hospitalization, and hundreds of have already died;
- Ambulatory healthcare settings are overrun with overwhelming number of sick patients;
- All area hospitals – already taxed due to heightened conditions in the winter and taking care of other “routine” conditions such as those with heart attacks, strokes, other infections, car accidents, etc. - are now on “divert” status – their ERs are being slammed and patients are being placed anywhere and everywhere throughout the hospital a spot can be found (including non-patient areas such as cafeterias, hallways, etc.);
- Hospital administrators have begun to consult with their general counsel (attorneys) & medical ethics boards because they do not have enough ventilator beds for all the patients who might benefit from ICU care;
- EMS dispatch is having trouble keeping up with calls, EMS response times continue to climb due to increased demand, and EMS responders are either not able to get to all those who are requesting their services or arriving to let people know there is nowhere to take them;
- There has been a run on area pharmacies for antivirals and for over-the-counter remedies;
- There have been an increased number of requests to law enforcement agencies due to crowd control issues and altercations in hospitals, pharmacies, points of dispensing (POD) clinics, etc.;
- Families are calling funeral services and mortuary services for assistance with picking up their loved ones from crowded hospital morgues and for guidance in making arrangements for family members who have died at home;
- Hospitals are having trouble with storing bodies of those who have died due to the back-up of bodies piling up in their temporary cold-storage facilities;
- Volunteer agencies have been flooded by the overwhelming need for their services and now persons are being turned away;
- Religious leaders of all faiths are being taxed by the need to provide spiritual counseling in this time of crisis as well as to conduct religious ceremonies for the deceased;
- Community anxiety is mounting due to both the “worried well” but also due to the scores of those sick or dying – this has translated into exacerbation of underlying mental health conditions and increased need for behavioral health services, calls to call centers, and population-based mental health response;
Business leaders are trying to respond to requests from government entities and health systems for logistical assistance with setting up and supporting alternate care sites. And they have been doing this while trying to maintain continuity of operations due to the number of their own workers who are ill;

Health care workers are being called by a number of different entities to respond since they wear multiple different “hats” and are on a number of different “on-call” lists at the same time;

Veterinarians, dentists, and other healthcare workers are being asked to serve as volunteers to provide “surge” as clinicians in alternate care sites being set-up; and,

Due to the shortage of personnel and supplies, crisis standards of care are being activated across healthcare sites across the system – there is simply not enough to go around for everyone requiring the care they are seeking.

Your agency and the sector within which your agency resides is responding as part of the community’s overall “system” response – keeping the above in mind, your task is to work within your sectors and then across sectors to identify key issues critical to the Harris County community-wide response to this severe pandemic scenario.
Appendix B

Participant List

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Mercedes Leal  
Harris County Attorney’s Office

Johnie Leonard  
The Methodist Hospital

Frank Levy  
Houston Department of Health and Human Services

Karen Love  
Harris County Healthcare Alliance

Diana Martinez  
Harris County Public Health and Environmental Services

Jesus Martinez  
Houston Community College

Aurelio Matamoros  
MD Anderson Cancer Center

Vickie Maywald  
Catastrophic Medical Operations Center / Regional Hospital Preparedness Council

Ed McDaniel  
Harris County Public Health and Environmental Services

Alan McMahan  
Harris County Hospital District (Ask Your Nurse)

Mardie Menke  
Community Emergency Response Team

Howard Miller  
Bunkerhill Village Fire Department

Mike Montgomery  
Harris County Fire Marshal’s Office

Thomas Munoz  
Houston Fire Department

Sharon Nalls  
City of Houston Office of Emergency Management

Ira Nemeth  
Baylor College of Medicine
Carollyn Oddo  
Harris County Hospital District

David Patterson  
Texas Funeral Directors Association

David Persse  
Houston Department of Health and Human Services

Carolyn Oddo  
Harris County Public Health and Environmental Services

Susan Rollo  
Texas Department of State Health Services Region 5/6 South

Francisco Sanchez  
Harris County Office of Emergency Management

Larry Satterwhite  
Houston Police Department

Jennifer Posten  
Interfaith Ministries

Michael Schaffer  
Harris County Public Health and Environmental Services

Steve Schnee  
Mental Health and Mental Retardation Authority of Harris County

Ellen Seaton  
Harris County Community Services Department

Rocaille Roberts  
Harris County Public Health and Environmental Services

Danny Shine  
Michael E. DeBakey VA Medical Center
Lunetta Sims
Harris County Gateway to Care
Medial Reserve Corps

Mark Sloan
Harris County Office
of Emergency Management

Issac Smith
Prairie View College

Mario Soares
The Methodist Hospital

Jennifer Solis
Texas Department of State Health Services
Region 6/5 South

Lon Squyres
Galena Park Fire

Michael Staley
Harris County Hospital District

Eric Stricklin
BayStar Emergency Medical Services

Ed Tucker
Texas Medical Center

Pattie Dale Tye
Humana

Glen Van Slyke
Harris County Attorney’s Office

Nathan Vessey
Harris County Public Health and
Environmental Services

Dawn Wang
Houston Northwest Medical Center

Arlo Weltge
American Medical Response Ambulance

Robb White
Tomball Regional Medical Center

Jason Wiersema
Harris County Institute of Forensic Sciences

Terry Wilkerson
St. Luke’s Episcopal Hospital

Steven Williams
Houston Department of Health and
Human Services
Michael Wong  
Harris County Sheriff’s Office

Jerald Zarin  
Blue Cross/Blue Shield of Texas, Inc.

Speakers

Chris Boyer  
Kenyon International

Lisa LaDue  
SNA International

Alisa Diggs  
Department of Public Health
Maricopa County

Marianne Matzo  
University of Oklahoma

Arbie Goings  
SNA International

Tia Powell  
Montefiore Medical Center

James Hodge  
Arizona State University

Steven Schreiber  
University of California - Irvine

Glen Van Slyke  
Harris County Attorney’s Office

HCPHES Workshop Leadership Team

Les Becker  
Harris County Public Health and Environmental Services

Rita Obey  
Harris County Public Health and Environmental Services

Mac McClendon  
Harris County Public Health and Environmental Services

Herminia Palacio  
Harris County Public Health and Environmental Services
Umair A. Shah  
Harris County Public Health and Environmental Services

The Keystone Center

Colleen Brilley  
The Keystone Center

Jody Erikson  
The Keystone Center

Facilitators

Diana Barfield

Charmaine Bissell

Julian Guilford

Audrie Lawton

Mike Hughes  
The Keystone Center

Niki Koszalka  
The Keystone Center

Matt Mulica  
The Keystone Center

V. Carl McNamee

Norman Seymore

Diane Taylor

Tonnie Walker
Appendix C

All Sectors Recruited for Participation

Public Health - Federal
Public Health - Local
Public Health - State
Behavioral Health Providers
Business/Private Interests
Clinical Professional Surge
Community/Social Services
Emergency Management
EMS/TRANSPORT
Fire
Greater Houston Partnership (GHP)
Homeless
Information Technology
Laboratory
Law Enforcement
Legal
Long-Term Care/Skilled-Care/VNAs/Assisted Living Centers/Hospice
Medical Society/Private Physicians
Mortuary/Forensics
Pharmacies/Pharmacists
Primary Care Clinics
Private Insurance/Payers
Public Safety
QUAD Agencies
Regional Collaboratives
Urgent Care Clinics
Veterinarians
Appendix D

Presenters and Presentation Topics

Plenary #1: Continuum of Mass Care - (Umair A. Shah – moderator)
- Mass Disasters & Crisis Standards of Care Planning – Umair A. Shah
- Alternate Care System Planning Perspective – Alisa Diggs
- Palliative Care Considerations – Marianne Matzo

Plenary #2: Legal & Ethical Issues in Mass Care - (Herminia Palacio – moderator)
- Legal Issues in Public Health Emergencies – James Hodge
- Ethics in Public Health Disasters – Tia Powell

Plenary #3: Management of Mass Fatalities - (Umair A. Shah – moderator)
- Mass Fatality Planning Considerations – Arbie Goings
- Mass Fatality Operational Perspective – Chris Boyer
- Medical Examiner & Legal Issues – Glen Van Slyke

Plenary # 4 – Achieving Community Resilience - (Rita Obey - moderator)
- Disaster Mental Health Planning – Merritt Schreiber
- Community Psychology in Mass Fatalities – Lisa LaDue

Chris Boyer
Kenyon International

Alisa Diggs
Department of Public Health
Maricopa County

Arbie Goings
SNA International

James Hodge
Arizona State University

Lisa LaDue
SNA International
Marianne Matzo  
University of Oklahoma

Tia Powell  
Montefiore Medical Center

Steven Schreiber  
University of California - Irvine

Glen Van Slyke  
Harris County Attorney Office
Appendix: E

GAPS IN MASS CARE

- 911 abuse and lack of education on when to use it
- Access to medical information, including medical records to understand what other health risks an individual might have
- Better education on the rules and laws governing treatment by healthcare providers from other areas
- Communicating issues regarding safety and availability of influenza vaccines
- Communication between hospital systems, medical community and community as a whole
- Continuity of operations
- Data management
- dealing with those individuals who lose caretakers due to pandemic
- Education to the public of who the Medical Reserve Corp is and what their role is during a crisis
- First responder vaccinations not provided to EMS.
- Identification of available resources and determining capacity (available beds, vaccines, supplies, staffing, etc.)
- Integration of health systems
- Need for a common communication plan or process that uses traditional and new media/technology to communicate information accurately and timely with the masses and as well with targeted populations within their respective communities
- Lack of information/information exchange.
- Lack of pandemic specific protocols for standards of care
- Lack of public preparedness before, during and after a crisis
- Need public awareness campaign to educate people on how to prepare and take care of themselves/family before, during and after a crisis
- Need to increase or coordinate public awareness campaign about public health preparedness and where the public can find resources and get trusted, updated information
- Mental health services responders and families
- Need to collect information on where someone would go in an emergency
- Need to establish a contingency plan for medications; those who take routine medications need to prepare by stockpiling
- Need to implement ‘Treat and Release’ protocol
- Non-traditional healthcare workers (veterinarians, public health nurses, public health caseworkers, etc.) need training on how to provide basic care
- Not having a plan in place in advance
- Permanent loss of skilled workers
- Public and private sectors not working as well together as could be
- Rationing of medication/vaccination
- Reimbursements for acute care and ambulatory services
• Lack of relationships within different levels of government and between private and public sector organizations
• Increase financial and workforce resources through grants
• Setting up alternative care facilities
• Decrease in the availability of workforce and volunteers
• Sustaining high levels of care and performance during on-going crisis
• Training of all public health workers on basic first aid
• Need disaster protocols for the treatment of the indigent to ensure they receive proper care
• Workforce fatigue and impact on their dependents
Appendix: F

GAPS IN MASS FATALITIES

- Continuation of services long-term, especially during pandemic or mass fatalities
- Dealing with family members of the deceased
- Determine who certifies death
- Determine who has authority to authorize rules for dealing with fatalities
- Determine who remains with decedent until medical examiner, Funeral Home or police arrives
- Engagement of spiritual and religious leaders in the communication of what to do, when, and where
- Establish memorandums of understanding for supplies and support
- Establish obvious guidelines thru Emergency Dispatch to determine probable death versus cardiac arrest to ensure that only one unit sent, not several units to validate a death
- Free up ambulance to be used to transport ill, not validate death
- Handling the legal documents associated with the deceased
- Lack of coordination between mental health services/providers
- Lack of money to provide resources, services
- Lack of the use of alternative technology for triage evaluation to keep people away from hospitals that will keep fatalities down
- Limited morgue capacity
- Limited staffing
- Need a more expeditious process for certification of death
- Need guidelines for the temporary storage of bodies
- Need to develop communication/triage sites away from hospital for families so will not crowd hospitals.
- Need to ensure 211 and other public education and awareness resources have the most up to date information.
- Need to improve call center and data management system
- No pre-identified locations for the temporary interments
- Palliative care needs and guidelines
- Preparing staff for the emotional and mental health aspects of dealing with mass fatalities
- Providing adequate mental health services to responders and the families of the dead
- Religious and cultural rituals for proper burial of loved ones (autopsy, cremation)
- Shortage or lack of mental healthcare providers
- Social and cultural bias about mental healthcare services vs. faith leader or pastor
- Staff fatigue/ enough manpower to handle crisis or pandemic
- Storage of deceased in appropriate facilities; development of plan on how to transport the deceased
- Tracking system for the deceased
- Volunteer absenteeism/volunteer fatigue
## Appendix: G

### Identified Gaps and Specific Solutions

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of pre-event education.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Need to develop pervasive, comprehensive education using all node of available communication, including those that are community specific that will be disseminated to the community before a pandemic.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>HCPHES, Office of Emergency Management in consultation with qualified experts and stakeholders engaged in the Harris County community.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Begin dissemination as soon as possible.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of adequate call center response.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Develop a triage system for calls and response. Identify call center overflow capabilities such as 211.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>Office of Emergency Management, Consolidated Medical Operations Center, Houston Emergency Center, Regional Emergency and Hospital Preparedness Council, and state representatives.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Begin education and development of plan immediately.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of expanded legal authority to pronounce death during a pandemic and knowledge of information needs to be gathered for the death certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Determine proper individuals to expand certification ability to. Engage state legislation and draft legislation.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>State Medical Examiners Association, State representatives, Texas Hospital Association, State medical licensing boards, HCPHES, and local municipalities.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>September 2012 introduction of legislation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of guidance and training on the pronouncement of death for alternative healthcare providers.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Develop a toolbox of protocols to be used in a Mass Fatality Operations Center; develop technology that would allow alternative healthcare providers to officially and easily declare death; develop pick-up protocols and services for the deceased.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>Medical Examiner’s Office, HCPHES, and legal counsel.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Not identified.</td>
</tr>
<tr>
<td>Gap</td>
<td>Lack of plan to reallocate resources to maintain regional continuity of essential services and functions on a long-term basis.</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Develop task-force to further identify priorities, questions, and challenges.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>Mayor, elected officials, Commissioners, HCPHES, community and business leaders, faith leaders, and subject matter experts.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Identification of participants and invitation letter by September 1, 2011; plan deadline March 1, 2012.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of system for documentation and tracking of mass fatalities in a centralized database and nonexistence of data security</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Review current systems and technology available; determine inter-operability of current operation systems; train multiple individuals on database; and ensure adherence to Health Insurance Portability and Accountability Act of 1996 (HIPAA) privacy and security rules.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Commence planning September 1, 2011.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of public education on what to expect in a pandemic with mass fatalities.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Create a plan and corresponding script and materials to inform the public.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>Medical Examiner’s Office (lead on initiative), Joint Information Center, HCPHES, mental health officials, faith-based community leaders, and the Texas Funeral Directors Association.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>Plan and script developed by March 1, 2012.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Education to the public on 1) self-triage and symptom identification; 2) social distancing; 3) proper hygiene; and 4) vaccine availability.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action/Steps</strong></td>
<td>Create social media and phone applications; television and media alerts; pamphlets in various languages; and messaging for insurance groups and third-party payors to use.</td>
</tr>
<tr>
<td><strong>Individuals/Entities Responsible</strong></td>
<td>Not identified.</td>
</tr>
<tr>
<td><strong>Timeline for Action</strong></td>
<td>August 2011.</td>
</tr>
<tr>
<td>Gap</td>
<td>Identification of alternative care sites and scope of care.</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Action/Steps</td>
<td>Determine scope of practice at alternative care sites; determine appropriate public and private facilities for conversion into alternative care sites such as theatres, convention centers, vacant medical facilities, and sports venues.</td>
</tr>
<tr>
<td>Individuals/Entities Responsible</td>
<td>HCPHES</td>
</tr>
<tr>
<td>Timeline for Action</td>
<td>List of available facilities should be evaluated annually.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of processes for dealing with large influx of fatalities.</th>
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</thead>
<tbody>
<tr>
<td>Action/Steps</td>
<td>Develop body bag system that would mimic the water/ice/food system currently used during hurricanes. Create and distribute bags with specific instructions including: what’s next, how to notify proper authorities of the death, log what happened, information for mental health and grief services.</td>
</tr>
<tr>
<td>Individuals/Entities Responsible</td>
<td>Medical examiner’s office and HCPHES.</td>
</tr>
<tr>
<td>Timeline for Action</td>
<td>Not identified.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap</th>
<th>Lack of capacity to handle the increased number of calls for funeral services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action/Steps</td>
<td>Create a directory of funeral homes and crematories throughout the state for public dissemination.</td>
</tr>
<tr>
<td>Individuals/Entities Responsible</td>
<td>Texas Funeral Directors Association</td>
</tr>
<tr>
<td>Timeline for Action</td>
<td>October 2011</td>
</tr>
</tbody>
</table>