COCA Call: Preparing for Large-Scale Surge Incidents: Alternate Care Systems and Crisis Standards of Care.

Date/Time: September 2, 2010 (2:00 PM- 3:00 PM ET)

Speakers:

- Dr. Deborah Levy, Chief Healthcare Preparedness Activity, DHQP and Assistant Director Healthcare Preparedness and Program Integration, OPHPR, CDC
- Kerry Kernen, Emergency Preparedness Administrator, Summit County Health District
- Dr. Umair Shah, Deputy Director, Harris County Public Health and Environmental Services

Coordinator: Welcome and thank you for standing by. At this time all participants are in a listen only mode.

During the question and answer session please press star 1. Make sure your phone is unmuted and you must record your first and last name for introduction.

Today's conference is being recorded. If you have any objections you may disconnect at this time.

I would now like to turn today's meeting over to Loretta Jackson-Brown. Thank you. You may begin.

Loretta Jackson-Brown: Thank you (Carolyn). Good afternoon. I'm Loretta Jackson-Brown. And I'm representing the Clinician Outreach and Communication Activity, COCA, with the Emergency Communication System at the Centers for Disease Control and Prevention.

I am delighted to welcome you to today's COCA conference call, Preparing for Large-Scale Surge Incidents: Alternate Care Systems and Crisis Standards of Care.

We are pleased to have with us today Deborah Levy, Chief Healthcare Preparedness Activity and Assistant Director at Centers for Disease Control and Prevention; Kerry Kernen, Emergency Preparedness Administrator, Summit County Health District; and Dr. Umair Shah, Deputy Director, Harris County Public Health and Environmental Services here to discuss the concept of alternate care systems and crisis standards of care.

During today's call you will hear the presenters referring to slides in their PowerPoint presentation. The PowerPoint slide set is available from our COCA web site at emergency.cdc.gov/coca. Click on Conference Calls; the slide set can be found under the call-in number and call pass code.

The objectives for today's call are that participants will be able to explain the importance of developing an alternate care system versus identifying alternate care sites and describe the process that Summit County went through to identify options for an alternate care system. Identify key elements that should be included in developing crisis standards of care for crisis disaster situations and describe what a crisis standard of care means and how such a standard of care may be implemented in crisis scenarios.

Following the presentation you will have an opportunity to ask our presenters questions. Dialing star 1 will put you into the queue for questions.

In compliance with Continuing Education requirements all presenters must disclose any financial or other relationship with the manufacturers of

commercial products, suppliers of commercial services or commercial supporters as well as any use of an unlabeled product or product under investigational use.

This presentation will not include the discussion of the unlabeled use of a product or products under investigational use.

CDC, our planners and our presenters wish to disclose that they have no financial interest or other relationship with the manufacturers of commercial products, suppliers of commercial services or commercial supporters. There is no commercial support for this presentation.

Our first presenter, Dr. Deborah Levy, is a Captain with the U.S. Public Health Services and the Chief of the Healthcare Preparedness Activity in the Division of Healthcare Quality Promotion as well as the Assistant Director for Healthcare Preparedness and Program Integration in the Office of Public Health Preparedness and Response at the Centers for Disease Control and Prevention.

Her primary interest since 2003 has been all hazard healthcare preparedness and emergency response including pandemic influenza, bioterrorism agents, and natural disasters. Her focus is on working with communities to assist them with integrating planning of healthcare, public health and emergency management sectors to improve response to surges of patients during large-scale incidents.

Our second presenter, Ms. Kerry Kernen, is the Emergency Preparedness Administrator, Summit County Health District, Stow, Ohio. A registered nurse for 28 years Ms. Kernen has worked in the public health arena since

1999. Since 2006 she has worked in public health preparedness with a focus on pandemic influenza planning as well as all hazards planning.

In the fall of 2007 Summit County Health District along with the Emergency Management Agency and Hospital Coordinators partnered with CDC to identify a process to develop an alternate care system at the local level to meet the challenges of a medical surge situation.

Ms. Kernen was a key community partner engaged in the development of Summit County's Alternate Care System.

Our last presenter this afternoon is Dr. Umair Shah who has been the Deputy Director of Harris County Public Health and Environmental Services, Houston, Texas since 2004. Dr. Shah's interests include global and refugee health issues, health equity work and emergency response activities. His global experience also includes previous work at the World Health Organization.

He's a current member of the National Association of County and City Health Officials, National Health Equity Coalition and currently chairs their Global Health Work Group.

Dr. Shah has served on the National Consensus Panel on Emergency Preparedness and Cultural Diversity sponsored by the U.S. Department of Health and Human Services as well as the Institute of Medicine's Committee on Establishing Crisis Standards of Care for Use in Disaster Situations.

He's an adjunct faculty member at the University of Texas School of Public Health and remains on the Emergency Department staff at the VA Medical Center in Houston. He is Board Certified in Internal Medicine.

If you are following along on the slides you should be on Slide 8. Again the PowerPoint slide set is available from our COCA web site at emergency.cdc.gov/coca.

At this time please welcome our first speaker, Dr. Levy.

Dr. Deborah Levy: Thank you Loretta. And good morning or good afternoon to all of you depending on your location. I am going to talk to you about alternate care systems to prepare for large-scale surge incidents.

My presentation will cover community approaches to healthcare delivery. And I will also discuss workshops that we have conducted to enhance partnerships and develop strategies for dealing with a surge in patients during large-scale incidents. I will then close with the lessons that we have learned through these workshops and through discussions with community partners.

If you look at your picture there is an image of delivery of care as CDC sees it when we approach communities to work on surge issues. We think about the multiple components within the healthcare sector where contact with individuals in the community could occur. This would start with home health as well as any kind of a long term care or assisted living, sort of the pre-hospital environment, and also includes call centers such as 911 and other information and referral centers, emergency medical services, private providers, community clinics as well as of course hospitals through the Emergency Room and other hospital facilities and sites that may be stood up,

plus other types of community clinics including dialysis centers and elective surgical sites.

And I'd like you to keep this picture in mind as I go through my presentation because our focus really is in integrating all of these pieces especially when one is dealing with surge.

Let me talk a little bit about the community workshops for healthcare delivery that CDC has conducted. And a lot of the focus over the past few years has been on an influenza pandemic because with the advent of H5N1 there was some concern that we would be faced with a severe situation.

The workshops are to develop coordinated strategies for delivering healthcare to those in the community during these large-scale surge incidents.

CDC actually conducts two types of workshops, one on developing a model of healthcare delivery at the community level which includes all those components that were shown in the previous slide with the picture.

Then we take the concept of alternate care system and drill it further down in some of our workshops.

With our workshops on alternate care system, we look at determining strategies for standing up such a system in the community. I will say more about a system versus a site in a few minutes.

But again think about the diagram and how during surge each component in that diagram could be changing what it does. It could involve a decrease in

services, a change in services, a change in protocols or procedures being followed.

The workshops that we have conducted thus far have included one with Summit County, Ohio. And Kerry Kernen, our next presenter, will go into more detail about what we did in that workshop and how the community moved forward.

We recently conducted a second Alternate Care System Workshop with Oregon Hospital Preparedness Region 2.

And at the beginning of next year we will be working with Maricopa County, Arizona.

So why do we call it a system as opposed to just thinking about alternate care sites?

I know early on when this concept was being pushed forward there was a lot of discussion about having to identify sites and the words commonly used were alternate care site. However it really is a system.

First of all, you have to determine what kind of care is being altered. Again if you think of those different components in that diagram their care can be changed, adjusted at every one of those sites. And anything that happens at one - in one of those components will affect the other parts of the healthcare delivery sector.

So if a primary care provider is changing how he or she is delivering care that may affect what happens in the Emergency Department, that may affect

what's happening at the hospital facility, it could affect all the various components in that sector.

So again one has to first think about what care is being changed in some way.

The second point of course is yes, depending on what issues of care one is looking at one would have to identify potential sites where one would deliver such care.

The third point is that one has to determine what resources are needed depending on the services that are being provided and depending on the location where those services are being provided.

So when you think about resources this would involve staffing, equipment, and supplies. And all of those would need to be thought through and adjusted depending on what kind of care is being provided.

The next point that one has to consider is that as you think through how you're going to apply this and think through the whole system, an implementation plan has to be developed.

And when you develop that plan you really have to think about integrating with your primary sector and all your supporting sectors. So if something is being changed at the Emergency Department level or in the hospital that information actually needs to be communicated to the other components in the community that are delivering care because they may actually have to adjust that care and the communication that goes along with it as well.

And you also have to think about supporting sectors within that community including public health and emergency management.

The next point you have to think about is once you actually have thought through what your system is going to involve that you need to take into consideration legal and regulatory issues.

And we hear a lot about those issues in a very general way. But yours at the state level, your - the response that you're going to get is going to be not specific enough unless you can actually think about what you're changing, how you're adjusting your system and then actually ask specific questions related to that so that you can get a legal or regulatory response that is actually relevant to your specific situation.

And the third thing that you need to do is you need to think through the triggers that would activate such a system. And keep in mind that it's usually best not to have triggers that are extremely rigid such as like one number because situations can be fluid such as we saw with the H1N1 pandemic that happened the past year. It did not occur the way we thought it would. It was less severe than we thought.

So when you have parameters and triggers that are too rigid sometimes that can lead to problems. So think of it more as having a framework that you can easily adjust.

When you think about workshop participants or when we thought about it and when you think about developing your system, I have listed on your slide the sectors that need to be involved to develop the most effective system possible. On the left side you will see a list of the components that form the healthcare

delivery sector that I had pointed out in previous slides starting with 911 and other call centers all the way through EMS, Emergency Departments, your hospital administrators as they determine a lot of what happens in those facilities, etcetera.

And on the right side you have the other sectors that are critically important as you develop your strategy including public health, emergency management, your local government, mortuary services, on down through that column. So again we recommend that all these component sectors are brought to the table when you start discussing how you're going to set up an alternate care system.

As we work through these workshops what we have done is talk to communities about the strategies that they would like to consider for implementing such an alternate care system. And some of these strategies actually vary by the scenario.

So although we worked on influenza pandemic with both Summit County and Oregon, we actually in Oregon considered a pandemic influenza as well as a severe earthquake scenario. And we did see that the strategies being considered had some points in common and some that were different.

As you think through those strategies and what we've done - what we would do is discuss the advantages as well as the disadvantages of each one of those strategies. And then walk through the available resources to implement these strategies as well as those that would have to be developed or acquired.

And then through discussion with all the participants we'd select the strategies that the community thought would be most appropriate for them again with the understanding that an implementation plan would be needed for each one.

So if we've considered six and the community wants all six, well that actually means that an implementation plan has to be developed for each one of those. So keep that in mind as you think through the different strategies.

So finally closing out let's talk for a few minutes about the lessons that we've learned as we've conducted these workshops and had discussions with our communities.

What we've seen is most of the time these various sectors that I listed previously did not know of each other's plans and/or ended up making incorrect assumptions about those plans.

So a lot of times through discussions points would be made and one sector would say to the other I didn't know that you had such a plan or I didn't know you had this annex to such a plan or I assumed you were going to do a certain thing only to have that sector say no, that's not how we would handle it.

So keep in mind that it's really important that communication occur and that you share the plans that you already have in place.

In addition hospital leadership had not grasped the complexity of the issues and the need to integrate their planning with the community. Hospitals are very busy, see a lot of patients and tend to be extremely focused on the needs of the facility itself or possibly maybe sometimes with the other hospitals in the community. But usually don't fully appreciate the impact they have on all the other moving parts within that community that are delivering care.

Third, local government was not aware of the types of issues it would have to deal with. When you start implementing an alternate care system there are complex issues that come up and it is best to prep your local government that you might be bringing those types of issues for them to make some decisions on.

Fourth, the role of public health in healthcare delivery was not always clear to themselves and to the other sectors. So in different communities public health sometimes does provide care and at other times it's more focused on providing laboratory services and epidemiologic surveillance. So again depending on the Public Health Department the role should be clearly discussed and worked through with the healthcare sector.

What we finally found was that most effective communities actually included public health, healthcare and emergency management in their planning because the emergency management sector is one that responds daily to all sorts of incidents, small ones, slightly larger ones. They're really strong in terms of logistics, coordination and general management.

So pulling public health, healthcare and emergency management together in planning for an alternative care system is critical. And we often get asked who should lead that team?

And it really doesn't matter. It depends on the personalities in the group and whoever wants to lead it. It's usually the person who should lead it and planning for an alternate care system is a long term endeavor and so a lot of times it might be good just even to rotate the lead.

So with that I'd like to thank you for your attention and I will end up answering any questions that you may have at the end of the session. Thank you very much.

Loretta Jackson-Brown: Thank you Dr. Levy. Please welcome our next presenter, Kerry Kernen.

Kerry Kernen: Thanks Loretta. I'm going to expand a little bit more on what Dr. Levy has already kind of set the framework for but to give you a sense of where we are here in Summit County, Ohio we're up in the northwest corner. And there's a picture on the slide. We're probably about an hour south of Lake Erie.

And the next slide kind of gives you some demographics of Summit County. We have a little over a half million residents here in Summit County. We currently have three Health Departments, the Summit County Health District, Akron City which covers the City of Akron, Barberton Health District which covers the City of Barberton, and then our Health District manages the rest of the county as far as public health needs.

The hospital system here in Summit County is made up of three hospital systems. Akron General Medical Center is a Level 1 Trauma Center. We have a pediatric facility, Akron Children's Hospital which is a Level 2 Trauma Center, and then Summa Health Systems which is also a Level 1 Trauma Center.

And I'm going to talk a little bit about how we got started on this alternate care system project. It was a partnership with CDC and ORISE which is the Oakridge Institute for Science and Education. And we actually submitted an

application in the fall of 2007 where, while focused on pandemic influenza, we prioritized planning needs that we were finding to be quite challenging.

And thinking back I think some of our priorities were communication, vulnerable populations, the need to really engage a lot of our community partners and working with and trying to develop this alternate care site component was really, we found to be, quite challenging.

We did have a fairly and still continue to do, have a very strong relationship with our EMA, our hospital partners and our Health Departments because we do have a hospital association that represents a four county region here in Ohio. And they had actually gone through a process within four counties. I want to - I'm not sure how many hospital systems, probably maybe 15 that they actually developed a Pandemic Influenza Plan that was a regional plan that they then took out and developed individually within their individual hospital systems.

So on Slide 20 we, from the public health component, had been given deliverables through our, used to be called the PHI Grant, Public Health Infrastructure Grant, that we did need to go back and try to identify what Dr. Levy has termed as alternate care sites which we did here in Summit County.

We picked a site and we kind of identified some resources that we thought might need to be in there. I think what we struggled with a lot was what was that level of care going to look like and how we were going to get the resources, especially the staff and the manpower, to come in and provide that care not really knowing what was going to be managed by the hospital and what we needed to look at as far as that site.

So in working with the CDC and ORISE we really started to develop this whole systematic approach that we felt it really needed to be more robust and we certainly needed to engage a lot more partners in the process rather than it just be public health and hospital driven.

So the Planning Team really started with EMA, public health and hospitals with public health being the lead and we took a look at our current Pandemic Influenza Plans as well as our All Hazards Plans to figure out what the best place was to start as we kind of worked on this project.

As far as where we started here in our county we did and I wanted to make sure that we got buy-in from at least our key planning partners. We have a team that meets monthly called the Domestic Preparedness Steering Committee where many disciplines sit around the table: fire, EMS, law enforcement, schools, Red Cross. And I made sure that we got buy-in from that collective body initially because I knew we were going to run into a lot of challenges as we went through this process.

At the same time I was working pretty closely with CDC and ORISE to really figure out what this whole systematic approach was going to look like. I did a pretty extensive lit review to see what else had been looked at or proposed across the nation.

And we started to develop various options that we were going to kind of begin to present as options that we could begin to adopt.

Simultaneously we also in working with EMA felt we had to take a strong look at what resources we really had within our county. So we started to develop profiles of various disciplines.

And on Slide 22 you'll see all the profiles that we developed which meant we met individually with each of these disciplines and really did a fairly deep analysis and assessment of their current Pan Flu Plans. We took a look at their Continuity of Operations Plan. We assessed services that they provided especially many of the social service agencies that we had never really reached out to.

We asked them about their current staffing, what their supplies were like and what they anticipated would be the potential impact of a pandemic influenza.

And if public health came out with recommendations for social distancing or PPE what were the realities with those recommendations as it related to their day-to-day operations?

And we also asked them about their feasibility and the options of just in time training if a large percentage of their staff were out.

So it really strengthened our perception of what our community looked like before we really began to see what our options were going to be as it related to this alternate care system.

On Slide 23 this kind of outlines the timeline of the process that we went through. I think the biggest component that we had to consider that led to the success of this process was that we needed to make sure we had buy-in from as much of the community as we could so that this really wasn't just public health or EMA or hospitals led. We made sure we had chiefs from the fire, law enforcement, fire, EMS.

We had school superintendents. We had CEOs, COOs and CFOs from the hospital systems and we had Executive Directors from many of the social service agencies, Red Cross. We had long term care facilities, home healthcare. Every sector that we could think of we made sure that we had those high level decision makers come to this Planning Workshop that we carried out so that whatever decisions came from this workshop were actually ones that everybody had buy-in and were part of the decision making process.

We had to identify a place to hold this workshop. We were going to do it for about two and a half days and we here in Summit County at least, were much more successful if we can get these key decision makers away from the county.

So CDC supported us in our efforts to have this workshop outside of the Ohio. Actually went to Chautauqua, New York.

Kind of simultaneously we were developing the invitations. We were developing the profiles for the opportunity to present to all the workshop participants. And part of the profiles that we developed, we also wanted to make sure that we identified assumptions as Dr. Levy mentioned, some of the assumptions that other disciplines were making not only about themselves but maybe the role of public health, the role of hospitals, the role of our state public health agencies.

So in the process we're also developing the alternate care system options, putting the agenda together and then CDC and ORISE helped tremendously with the facilitation tools as it related to the outcomes of the workshop.

So Slide 24 is really the outline of the options that we developed. And I'm going to go into a little bit more detail. We actually took eight options to the workshop. And I'm going to go into them one-by-one here.

The first option is the at home independent care. And the philosophy behind this option was what measures or processes could we develop to enable, allow, empower individuals to really stay at home with education, information and a link to resources as much as possible.

So we're in the process and have started the project of developing actually a pretty extensive call center at the time of an emergency here in the county.

The second option is taking a look at patients in isolation and ward quarantine and what those alternatives might look like compared to home care.

And I call it my motel/hotel option because it's really taking a look at those individuals who would be very challenged to provide care for themselves at home.

And it takes a look at those individuals as part of those special needs populations that are not linked to family, support services, a faith-based organization but are really quite isolated that would need some kind of supportive care, making sure they're taking their medications, eating and drinking, staying hydrated, checking for fevers, but this would be outside of their home where I could actually bring in staff and support and supplies into another environment.

We actually contacted a number of the hotels. And they're actually somewhat receptive. The biggest barrier for them is the financial reimbursement component.

The extended ambulatory care is working with outpatient surgery centers making the assumption that many of these outpatient surgery centers would actually be unable to continue with some of those outpatient surgery centers with patients selecting not to maybe come in and have their routine colonoscopy.

So with the facility, the staff, the beds, and the supplies we could potentially send patients there for hydration, bronchodilators, medications, observations for a period of time until they get stable and then to send them back home.

The care for the recovery non-influenza patient is really linking with our long term care facilities understanding that on a day-to-day basis they tend to send lots of patients into the hospital system with health concerns. And taking a look at that environment and what can we do to help them support themselves so that they can keep those patients longer but also to look at that facility as potentially a step down unit from those patients from the hospital that aren't quite ready to go home.

The next option is a limited support of care for the non-critical patients so that's the neighborhood Emergency Health Center component. We've actually identified four sites within our county where it's almost like a triage that's totally away from the hospital system but they could get there for care for triage, for bronchodilators, medications, could be some hydration therapy depending on the capabilities of the healthcare professional staff.

But then the whole point of these are to really decrease the number of individuals that are going to the hospital so really the most critical of patients are being seen in the hospital campuses.

The next one is the primary triage and rapid patient screening concept and that's all of our hospitals have actually implemented this where they've developed surge plans within their hospital systems so that they actually could begin to take more patients in through the Emergency Department. And all three of our hospitals actually used their plans during H1N1.

The next one is an overflow hospital providing a full range of care and that's basically looking at the feasibility of another site within your community that could be stood up.

And we've done this here in Summit County. We have looked at a couple of facilities that could potentially - we could stand them up and kind of be termed the flu hospital. We would have lab. We would have to have labs and radiology and nursing support services there. But we wouldn't be doing surgeries or delivering babies. That type of thing.

And then the last option was the mobile hospital where we'd actually purchase a unit that would be on wheels and it could actually be transported throughout the county.

Slide 25 kind of identifies all the stakeholder support that we had at the workshops. So you can see we really tried to make sure that we had as many disciplines as we could be represented.

And I think that is what has lent to the success of our project here. It is - the workshop agenda kind of touches on what the process was that we went through when we pulled everybody together.

What took the longest and was probably the most extensive as far as participants was once they were kind of given the background with the profiles, the assumptions, the status of a pandemic influenza situation, they went into facilitated discussions where they looked at every option and identified pros and cons of each option. Knowing the assumptions and just kind of putting everything out there. Here would be the challenges and here would be the successes.

And at the very end of the workshop we came back as a larger group and kind of decided what options we were going to actually take back to Summit County for further development.

And I actually thought we might come back with two or three but the final decision was that the only option they threw out was the mobile hospital. Because the key decision makers really wanted to be able to say I want a toolbox of options and based on the concern or the implications of the situation to our residents within Summit County, resources available, they wanted to be able to pull out, you know, various options and figure out which one might be most productive depending on the situation and it may be active for a week or two. It may be active much longer.

So we were actually taking seven of those options back, aside from the mobile hospital. That was the only one they decided that wasn't worth pursuing. We're actually in the process of developing those seven options.

Some of the key consistent concerns that came up throughout every single option were what we came back and actually identified and created subcommittees to work on.

Triage was huge. How are we going to get, you know, the patient from point A to point B? If they start at the hospital but they're, you know, really not sick enough to be at the hospital but they really can't go home, yet how do we get them to the motel or to the outpatient surgery center? Linking that with dispatch and EMS has been very challenging.

Legal was another challenge that was consistent throughout and so we have brought legal together. We do have legal representation from our State Health Department as well as our State EMA. And we have legal representations from all three hospital systems that are actually working through some of those issues.

Transportation linked to the triage component is another pretty large challenge that we're dealing with. The whole concept of the special needs population has integrated a lot of uniqueness in various components of the planning. We also are taking a look at the facilities identifying what needs to be in place before they can actually be identified as an appropriate and a sustainable facility.

And then because health and hospitals is such an integral part interwoven throughout each of these options we do have a subcommittee that's unique just to health and hospitals.

I did create a workbook with my partners here in Summit County in conjunction with CDC and ORISE to really identify the entire process that we

went through from the fall of 2007 up until when H1N1 started because then we put everything on hold which is available on our web site.

And I kind of put lessons learned under every single step things that we really learned as we went through the process.

So we're in the process now of really (and that) comes from the subcommittees. We're looking at developing - we're a community that has annexes within our Summit County EOP. And then looking at those annexes, appendixes and these standard operating guidelines that we'll need to develop. Once those are developed then we're looking at the training and the exercise plan.

So we've come a long way but we really - we find that we still have a lot of work that needs to be done. But this kind of identifies the process that we've gone through in Summit County.

And that concludes my portion of the presentation.

Loretta Jackson-Brown: Thank you Kerry. Please welcome our final presenter this afternoon, Dr. Shah.

Dr. Umair Shah: Good afternoon. Thank you, Loretta.

I would like to just join Dr. Levy and Kerry in really articulating the importance of the alternate care system concept and it's a great segway into what I'm going to be speaking about this afternoon which is establishing steps in crisis standards of care for use in disasters.

As Loretta had mentioned I'm the Deputy Director at Harris County Public Health and Environmental Services, the county health department located in Houston, Texas.

I was also a member of the Institute of Medicine Committee that worked towards establishing these crisis standards of care guidance and really brought a local perspective, a local public health perspective to the proceedings.

What I'm going to be doing this afternoon is starting with the global perspective on disasters and then from there moving into the Institute of Medicine Report and then finally going to what communities and providers can be doing based on the guidance that the Institute of Medicine has put forth.

So I guess the first question is where is Harris County?

And so this map of Texas, we're in the southeast corner of Texas, southeast region. And we are the county health department within which the City of Houston resides. We are the third most populous county in the country and Houston is the fourth most populous city within the United States as well.

I think it's important on the next slide for us to really have an operational definition of a disaster. So for the purposes of this presentation a disaster is any large-scale event or occurrence that overwhelms a system's ability to respond.

There are examples of disasters both real and potential and from really moving down this list of hurricanes to pandemics to earthquakes, acts of intent, mass casualty incidents and certainly a number of other types of

disasters, we in public health take an all hazards approach meaning that our job is to protect our communities from the various vulnerabilities that these disasters may bring.

In the Institute of Medicine Report, our committee categorized disasters into both catastrophic events and pervasive events.

And I just want to pause and say that there are a number of ways of categorizing disasters. And so this was really one way of categorizing disasters.

With respect to catastrophic events, these are those events that are with sudden onset, with little or no notice, and examples would be acts of intent, earthquakes, hurricanes etcetera.

In addition pervasive events would be those with slow onset with a gradual progression. And examples would be floods, wildfires, pandemics. It's also important to note that there is definitely overlap at times between a catastrophic event and a pervasive event and so these are not mutually exclusive categories.

The next set of slides demonstrate some of the pictures that are associated and some of the graphics, the visual side of what catastrophic and pervasive events may bring.

And so the first on the catastrophic side on the top left, this is some of the damage caused by Hurricane Ike between Galveston and Houston. And certainly underscores the type of destruction that a hurricane can bring.

Of course on the bottom left here this is a picture of the Indonesian Tsunami and the aftermath of the Indonesian Tsunami. And certainly that also had a tremendous amount of impact with 230,000 lives that were lost.

On the right here you have two pictures that are, one is from the Kashmir area of Northern Pakistan and the top right which as you can see a mountain that was essentially sloughed off and the villages below that were destroyed as well as the picture that we remember from the palace in Port-au-Prince that was a destruction that we certainly saw with the earthquake in Haiti.

The middle picture is 9/11. And certainly represents acts of terrorism.

Pervasive events would be wildfires. In the top left on the next slide as well as in the bottom right a flood situation such as what's occurring currently in Pakistan with 20 million people that are impacted.

And I just make a note here that although the morbidity & mortality is not that high in sometimes pervasive events like a flood situation, it may sneak up on you.

And so the thoughts are that 20 million persons may have been impacted with the current flood situation more so than the Indonesian Tsunami and the Kashmir and Haiti earthquake combined, and yet we may not think about these as using up resources which they certainly can. Certainly pandemics such as highly infectious influenza, H5N1, but specifically what we just went through in public health and in healthcare was H1N1. And that certainly can use up a number of resources and tax our system tremendously.

So speaking of pandemics on the next slide really reminds us that back in 2005 the federal government released the Federal Pandemic Influenza Plan which offered recommendations for alternate standards of care for use of resources in a resource scarce environment such as vaccines, antivirals, ventilators, etcetera.

And so recommendations were presented in this plan. And many entities created Pandemic Flu Planning Committees to guide resource use in crisis such as at the federal level, the state level, the local level.

The next slide is an example of a local Pandemic Flu Committee. This was our Houston/Harris County Committee on Medical Standards of Care for Pandemic Influenza and Highly Infectious Respiratory Diseases which convened in 2006 and came up with recommendations for our community.

But some observations that led to the Institute of Medicine getting involved in establishing a committee was that in crisis planning there is a recognition that setting up protocols in advance of a disaster not at the time of the crisis is absolutely critical. That while many entities had already begun the deliberation process; unfortunately many had not. And that there were common elements that could be used across jurisdictions in developing crisis standards of care.

The next slide is the guidance for establishing crisis standards of care for use in disaster situations. So the committee was established in 2009 - late 2009 - by the Department of Health and Human Services. The next slide shows the committee timeline. And as you can see it's a very compacted timeline that really started in August and then segued to a committee meeting and workshop in early September all within three weeks and then three weeks

after that the public release of the guidance which was a very compacted timeframe.

So what are crisis standards of care?

The crisis standards of care are a substantial change in usual healthcare operations and the level of care it's possible to deliver which is made necessary by the types of disasters that I had referred to earlier.

So we're talking about moving from what we are currently doing to a resource scarce environment.

On the next slide the question would come up well when would you adopt crisis standards of care?

And the answer would be that when contingency plans do not accommodate what the system requires for practitioners and others alike and that when we face severe shortages of either equipment, supplies, pharmaceuticals, personnel, we have overwhelming demand for services or lack of suitable resources, we would really be moving towards the - moving along the continuum - from our current conventional capacity to contingency capacity where it may be, let's say it's a busy Saturday night in the Emergency Room and we know that this is going to happen maybe for a couple of days and then our resources might be impacted for some period of time.

But we know eventually, the next day will come and that the resources might then be available versus a crisis standard of care where the situation is such that we actually know that the situation will continue to be critical with respect to resources.

The next chart shows sample strategies to address resource shortages. And you'll see in the blue here that there are a number of strategies that might be used from substitution, conservation, adaptation, etcetera.

And this was actually taken from John Hick, one of our colleagues on the Institute of Medicine Committee.

And so really what I would just remind us as providers that from a conventional capacity moving along the continuum of contingency to crisis capacity, one example that could be looked at would be in the case of oxygen.

In a conventional current normal scenario, you may be looking at oxygen being used for patients whenever their oxygen saturation drops below 95%.

In a contingency capacity, the oxygen - now you have more resource constraints -and so the oxygen would be used for those with oxygen saturation under 90%.

In a crisis situation where the resources are even more constrained, oxygen would only be used for those in respiratory failure.

And that continuum is the absolute critical piece of why standards of care in crises may change.

The next slide shows another table that really highlights that the change in standards of care moves along as the resources get constrained as one practices outside one's experience, and that the focus of care as you'll note in

the crisis capacity now starts to shift from patients to a population-based focus.

And so you start asking questions about greatest good for the greatest number.

The next graph shows conventional and contingency and crisis as you move along the continuum, as resources become less available.

So finally the crisis standards of care - really our Institute of Medicine Committee established, well came up with recommendations that established, what are the kinds of things that communities should really be looking at?

And I highlight some of these in red as part of the six recommendations which were number one, developing consistent state protocols; and number two, seeking community and provider engagement; number three, adhering to ethical norms; number four, necessary legal protections that would need to be put in place; number five, ensuring consistency in implementation; and number six, ensuring consistency across jurisdictions.

The planning considerations as you take what's written in the Institute of Medicine Report and apply it to what would happen at a local level would really be planners looking at things such as indicators, triggers, setting up Clinical Care Committees, setting up triage protocols, looking at the development of decision tools and resource use guidance, establishing what are the legal issues that need to be addressed and certainly the needs of vulnerable populations and medical special needs would be critical.

So the next slide I would ask us to think about is taking a step back and reflecting on what issues, what lessons recent events have taught us. For

example, what have we learned from H1N1 and what would we do differently if this were an H5N1 scenario instead?

How would we deliver care differently if this were Port-au-Prince and that Port-au-Prince was actually an earthquake that impacted one of our most populous cities here in the United States?

That we would need to review the current plans in place and really ask ourselves how well do our plans reflect what's necessary for large-scale response activities.

And so the next slide really highlights the fact that either way I would recommend that planners and providers review the Institute of Medicine Report. For those states and locales that have completed deliberations - and I would actually make the point that I don't think any of us have completed deliberations since this is a continual process -to review the report to see what are the gaps in our current plans and how to enhance and improve on our planning.

For those that have not completed such deliberations to review the report to see what types of elements are necessary to incorporate in our future planning.

The next slide highlights partnerships. Partnerships are absolutely critical. As we say, the name of the game is a partnership.

So state and local partners would work together to develop crisis standards of care and then those local partners would work with community partners within their community to develop further on those protocols that are needed on the crisis standards of care.

The future considerations unfortunately are that disasters will continue to occur.

And the question we have to ask is when implementing crisis standards of care - when they become necessary - will our communities be ready to make this transition effectively.

The future thoughts are that there are no shortage of events unfortunately. And so on the top right you have the wildfires. You have evacuations, in this case both to and from our community. This was exemplified both by Hurricane Katrina where we had evacuees coming into Houston/Harris County as well as Hurricane Rita where we had our residents who were trying to evacuate outside and leave Houston/Harris County.

And certainly pictures of flooding, Tropical Storm Allison for us and Hurricane Ike on the bottom left here that really underscore the importance of what flooding type of events and what kinds of events can actually from a pervasive standpoint be critical for this kind of planning.

Also what's exemplified here is the - in the bottom central picture here - is the destruction in Haiti and certainly the earthquake zones here in the U.S. So what I would say is that it can happen here.

The next to last slide just shows the Institute of Medicine Committee that I was very fortunate to be a part of - a talented, passionate and extremely dedicated group of colleagues who in just a short period of time were able to come up with an incredible amount of work in the Institute of Medicine's guidance.

And what I would close with is saying that the Institute of Medicine Report web site is indicated here. And I would really request and recommend that any that are on this call to really go to that web site and to download this report and take a look at it.

And certainly our web site at our Harris County Public Health and Environmental Services, www.hcphes.org, is also listed here for further information about our department and our public health preparedness planning.

And so with that I'm going to turn it back over to Loretta. Thank you very much.

Loretta Jackson-Brown: Thank you Dr. Levy, Ms. Kerry Kernen, and Dr. Shah for providing our COCA audience with such a wealth of information.

We will now open up the lines for the question and answer session.

Coordinator: Thank you. We will now begin the question and answer session. If you'd like to ask a question, please press star 1. Make sure your phone is unmuted and you must record your first and last name slowly and clearly for introduction. To withdraw your request you may press star 2. Once again if you have a question or a comment, please press star 1 at this time; one moment, while we wait for questions.

This question or comment comes from (Rick Skinner). Your line is open.

(Rick) please go ahead. Please check your mute feature. Your line is open.

(Rick Skinner): Yes, can you hear me now?

Coordinator: Yes.

(Rick Skinner): Okay, fine. I found the presentation very enlightening and informative.

I'm a geographic information system's professional.

And as I look at this I see lots of opportunities for GIS technology to enable the ACS strategy, development and operation that Dr. Levy discussed as well as mapping the distribution of resources, resource inventories, as a workshop facilitation tool and understanding the ACS options that Kerry Kernen discussed.

Is GIS being used in this process and if so how?

Kerry Kernen: And this is Kerry Kernen. I'll speak to that and I'll be quite honest, not yet. We do have a GIS representative at the county level that's connected with our Emergency Management Agency, sits in on some of our planning meetings.

But I think because we haven't gotten to that point I think right now he's just grasping what we're trying to achieve but I think that will be an integral part of our plans as we move forward.

(Rick Skinner): Okay, thank you.

Coordinator: Thank you. Our next question or comment comes from Dr. (Faye Brussler). Your line is open.

Dr. (Faye Brussler): Hi. Thank you very much. I'm actually speaking to my past experience at a local level and wanted to add to Ms. Kernen's very fine presentation.

On Slide 22 which is where you listed the various profiles I wanted to suggest the possible addition of three more groups of professionals for those profiles.

And those would be dentists, psychologists as well as veterinarians. Back during the Small Pox Vaccination Campaign dentists were looking for ways to help and at one point there was actually a possible shortage of the needles which would have required some additional sterilization.

So they have equipment in their offices which may be valuable in circumstances where other access is limited. Additionally both dental and psychology offices the staffs are trained in HIPAA and patient confidentiality issues and could possibly be utilized in other ways.

And lastly veterinarians not only can help with pet health but they do utilize some of the same medications as for people so medications and antibiotics could possibly be sourced from veterinarians if there's a need.

I appreciated your talk very much. Thank you.

Kerry Kernen: Thank you. And I think you bring up a great point. The opportunities that I've had to present on what we've tried to start here in Summit County, one of the consistent questions that I get are where are we going to get all these resources?

We are fortunate that we have a fairly strong medical reserve core unit. But I think you bring up a good point because we do have those dentists, psychologists and veterinarians in there. But what we haven't done yet is really identified the resources that could come within that medical reserve core unit. I mean we know that there's nurses, physicians and mental health social workers, that kind of a thing.

But I'm not sure we've really taken an in-depth look at what components of resources we could really tap into within that system.

So you bring up a good point. It's really kind of expanded my thinking as far as what we need to take - how we need to take that further so I appreciate that. Thank you.

Dr. (Faye Brussler): Excellent. Thank you.

Coordinator: Thank you. Our next question or comment comes from (Scott Comair). Your line is open.

(Scott Comair): Thank you. I have two questions. The first concerns trigger points. It seems to me that the triggers are going to occur not at a county level or even a state level but at the facility level so hospital A in our community may start triaging patients a bit differently or using resources a bit differently before hospital B does.

Or even physician A may decide that they're going to treat people on the first come, first serve basis but physician B decides to follow the guidelines and triage recommendations.

So how have you addressed those issues?

And the second question is in the development of your plans have you involved community groups or local citizens as they're going to be the people affected by these plans?

Thank you.

Kerry Kernen: And this is Kerry. Are you talking more about the alternative care system or Dr. Shah's crisis standards of care?

(Scott Comair): Well it would encompass both.

Kerry Kernen: And so Dr. Shah maybe I'll start.

Dr. Umair Shah: Sure.

Kerry Kernen: The one thing that we have done in Summit County that actually got tested during H1N1 as I mentioned was the Pandemic Influenza Plan that was developed on a regional basis within four counties so that they tried as much as possible. And I'll be honest that there may have been some deviation.

But I think for the most part the ED physicians and any decisions that were made within one hospital tried as much as possible to be consistent following that regional Pandemic Influenza Plan that was developed.

Now Dr. Levy mentioned that, you know, H1N1 wasn't near as serious as we had anticipated so they didn't get to the point that they were having to make decisions about elective surgeries or they didn't get to the point where

resources were so scarce that they were having to make some of those more difficult decisions.

But I think it was a good opportunity where they actually tested various components of that Pandemic Influenza Plan.

And, you know, it worked. They certainly have some - a lot of work to go back and tweak on that.

You do bring up a good point as far as the community engagement component. And we've not reached that point yet. But as we are working through our plans we are taking that whole community engagement component as a piece of that.

What I have found is that the social service agencies that have been involved, they've actually taken this concept back to their Case Managers who have actually shared that information with the families that they work with. So we do get some interesting feedback. Most of it has been positive.

But, you know, we really haven't gotten down to the details so as we do we may find that there's more concerns out there.

And Dr. Shah can speak to the crisis standards of care component as well.

Dr. Umair Shah: Thanks Kerry. And this is an excellent question. Actually one of the things that our committee looked at during our deliberation process and what's in the letter report is really looking at both the indicators and the triggers.

And you're absolutely correct that we have some of the clinical care triggers at the hospital/ the institutional facility level better worked out or better understood perhaps so that when an institution now all of a sudden says, "oh look, all hands on deck. We don't have enough resources", that they actually have that better delineated.

However, what the challenge is when that facility has some sort of resource shortage that they can also look at their regional partners and certainly that's what we do here in our community is really looking across the region to see what kinds of resources might be available.

The most critical piece of this is that crisis standards of care - and from our committee perspective - is really something that got - that would be bumped higher than that institutional level that when you looked at all the institutions that if they did not have all the resources across the region that they would then go through their chain of command and their channels to go ahead and actually get resources from other parts of the state.

And that if they also could not get resources from those channels or all the resources were now constrained or no longer available that that's when you would actually have crisis standards of care in a state. You would actually go ahead and if you will "flip that switch" and say now we're going to be operating under crisis standards of care.

So I would really ask you to look at our report because the triggers are listed. Where the challenge right now also is that we have some of those hospital and facility-based triggers and indicators better worked out but when we look at system triggers across the community especially in some of the public health aspects of when - what is the saturation of absenteeism in schools or how do

we look across some of the syndromic surveillance triggers that might be coming up - that's where we don't have that worked out as well.

As far as the community engagement piece, I also think that's an excellent question. The community engagement piece with respect to vulnerable populations and those populations that have medical special needs is really a key piece to the effectiveness of these crisis standards of care. Not when they're put in place but in advance of putting them in place, in the development phase.

And so I would really also highlight that our committee spent a lot of time deliberating about this and really came up with what we think are very good bits of information on how communities can look at that.

One local example that I would highlight is in the Seattle/King County area, the Seattle/King County Health Department and their community actually looked at public engagement, a public engagement project that their health department and their community partners have moved forward with. And so that is something that I would also point you to and that really is also something we here in Houston/Harris County are also moving forward with.

And so I just wanted to let you know that there are examples out there but really critical to this is to make sure that we understand how best to engage the partners who would then be involved in such an activity.

Coordinator: Does that conclude your question or comment?

(Scott Comair): Thank you.

Coordinator: Thank you. Our next question or comment comes from Dr. (Kamari). Your line is open.

Dr. (Kamari): Yes hello. That was a wonderful discussion and presentation. I would love for you guys to give it down here in the State of Florida.

We're dealing with this at the local level and at the state level too. And I'm in the process of working with our Metropolitan Medical Response System as well as several other committees to get some kind of altered standards of care down here in Florida where we experience quite a bit of things.

With your experience how do you guys envision using this data in garnering policy support, political support, not only at the local level but at the state level because we're having issues? All of us down here would love to do it, would love to enact this. But unless we have political support we're not going to get anything done.

Kerry Kernen: This is Kerry. And as I ponder your question, I haven't run into that challenge yet. And I wonder if it's because we actually had elected officials that were participants at our workshops.

So we had two or three mayors and we had representatives. We have a lot of townships and villages within our county. We have representatives from the townships and the villages as well.

And then when I came back I actually went and presented to all those three groups. So without going out to meet with them individually I feel we got fairly strong buy-in from those elected officials and that may be one reason why I haven't run into resistance.

And I don't know Dr. Shah if you've run into that with the crisis standards of care component or not.

Dr. Umair Shah: Well you know what I was going to actually - that's…first of all, thank you Kerry and that was a great question.

From the Institute of Medicine Committee perspective, when we talk about provider and community engagement one key component of that community is elected leadership and the political leadership. And so that's an absolutely essential piece of this.

Now I can give you the theory of how important that is and practically speaking I think every community really needs to establish those operational ways of working with elected leadership so that elected leadership are aware of the potential for a crisis in the case of crisis standards of care, that a crisis may occur at some point.

And really examples would be well, you know, H1N1 occurred and, you know, instead of saying well it was not as bad as it could have been and let's just go ahead and go back to our, you know, our respective offices and not deal with pandemics, but to really say but what would have happened if this was H5N1?

And really also that same scenario that when something does happen not just domestically but also globally, for example the tragedy in Haiti that we also think about well what would we do here in the community if something like that were to happen here and to really engage that elected leadership and that political process as part of that.

One other thing I would point out in our report, we actually had two examples of "no notice" events as well as the pervasive events. And the "no notice" event that we picked was actually an earthquake. And the pervasive event was a pandemic.

And so certainly our report was released in September of last year and I don't think any of us could have predicted that the earthquake in Haiti was just going to happen a few months later.

So a great question and I think that is really the challenge that we all are engaged in.

Dr. Deborah Levy: And this is Deborah Levy. If I might jump in also you may want to consider putting some talking points together and have that, go and speak with your elected officials and present to them some of the types of issues or questions that you would be actually posing them given certain scenarios and that they would actually have to respond to.

I think that's when they have their, ah-ha moments and realize that they really don't have an easy answer for some of these more complicated situations.

So if you can find a way to get that communication to them and get them thinking about it you'll get better buy-in.

Loretta Jackson-Brown: Operator we have time for one more question.

Coordinator: Okay. Our next question comes from (David Sherman). Your line is open.

(David Sherman): Yes, thank you for taking my question. This is an excellent conference call. I appreciate it.

This question is probably for Dr. Shah. You mentioned resource allocation and ethical considerations in a surge. With the proviso that resources will certainly be limited and therefore some will not be treated in a disaster and some may die as a result, there are ethical considerations and allocation arising in part from practical facts such as now if I had more time I could detail some of this.

But there are errors in triage that are created even under normal operations. There is one triage system that's being discussed I believe from Ontario that it turns out that something like the quarter of the people that were predicted to die retrospectively under that protocol actually lived.

There's difficulty in defining who is actually in the healthcare sector in terms of if you want to prioritize people that are in a healthcare sector.

And lastly there are difficulties in deciding how you're going to treat patients who are in the end of life stage when they would be using some of the same medicines that would be necessary for ventilator sedation.

What evidence that the IOM and/or the CDC have that shows the crisis standards of care will actually save more lives than the customary normal operations of what's often called first come, first serve?

Dr. Umair Shah: Well again thank you for that question. That's an excellent question. You know, what I would really say is that their ethical considerations really need to be paramount and need to be central to any of these deliberations.

And I think the most important aspect of this is really ensuring that ethical framework as part of any deliberation process that's put together; so I think that's absolutely key.

Some of the information that our committee looked at was really looking across different ethical frameworks that and I'm looking at the report right now and there are - we have multiple different ethicists and their - the framework that they had forged and, you know, really looking at those to come up with some deliberation type of protocol that would be important to what committees would be doing.

And so, you know, I really would say that ethics is central to this because you're right. I mean there are ways that you can look at this and say well, you know, great is good for the greatest number. That's what we should do or that's not what we should do and we should allocate resources in a different way.

What I think a lot of us really came to the conclusion is that what occurred, for example, during Hurricane Katrina, at least some of the reports that there were triage decisions that were being made in the middle of the night without advance planning towards well what would we have done in a crisis scenario that the ethical framework - and the deliberation process and the protocols that are set in advance - really moved forward to get us away from those individual practitioner preferences and thoughts about how we can actually do triage. And that they actually somehow formalized that process.

And so I would really highlight that; please look at the report and there are a number of different frameworks that we considered, that we have referenced

and certainly that information would be absolutely essential to any community that's going to be engaged in this work.

Dr. Deborah Levy: And from the CDC side we've approached this several different ways, again most of the time trying to minimize even having to go into crisis standards of care.

So we've actually worked with nine different grantees to think through the issue of figuring out what would be considered essential healthcare services.

So as you move more and more into surge which services can you start dropping out so that you can take care of the critically ill and minimize having to alter that care.

And the nine different grantees have been working through this. Ethical considerations have played a part in that as well. And there are a lot of tools that they're coming out with. We're not quite finished with that work but eventually those products will be - we'll have links on the CDC web site so that you can look at some of the work that they've done and thinking through these issues.

The other item that's currently in development is through CDC's Ethic Advisory Group they are working on is one specific area but they're looking at what would happen with a shortage of ventilators. And all the ethical principles that would go with that issue of potentially having to withhold or withdraw care.

And that document is in development. It's almost complete. And hopefully that will be getting out soon as well.

Dr. Umair Shah: The only other - this is Umair - the only other thing that I would add is that in Houston/Harris County as we were going through our pandemic flu deliberations we actually brought in the ethical viewpoint from an ethicist here in the community so that we could have that as the basis for the deliberation because that is an important component.

The other important component is certainly the legal aspects of this. And the report really highlights a number of legal considerations that should also be taken in, you know, as far as the planning process that a community may be engaged in.

Loretta Jackson-Brown: On behalf of COCA I would like to thank everyone for joining us today with a special thank you to our presenters, Dr. Levy, Ms. Kerry Kernen and Dr. Shah.

If you have additional questions for today's presenters please email us at coca@cdc.gov.

Put Dr. Levy, Kerry Kernen or Dr. Shah in the subject line of your email and we will ensure that your email is forwarded to them for a response. Again that email is coca@cdc.gov.

The recording of this call and the transcript will be posted to the COCA web site at emergency.cdc.gov/coca within the next few days.

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Thank you again for being a part of today's COCA conference call. Have a great day.

Coordinator: That concludes today's conference call. Thank you for your participation. You may disconnect at this time.

END