

**CAL2-CDPH-TELECOM UNIT MS 1803**

**Moderator: Angelina Vargas  
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1:30 pm CT**

(Susan): ...sure, if there's ample opportunity to get in the healthcare provider questions today and given that we have limited time we want to focus on that. For those of you who are interested later, we're taping the call. We'll provide a link out to all of the organizations that receive the initial information and that way anybody who's not able to join us understanding busy schedules, holidays, all of those things that come into play, we'll be making that available in a taped call.

So with that I'm going to turn this over to Dr. Gil Chavez, our state epidemiologist and deputy director for our Centers for Infectious Diseases.  
Gil?

Gilbert Chavez: Thank you very much (Susan) and thank you good afternoon everyone. The 2014 Ebola Outbreak is the largest Ebola outbreak in the history of the world. In the first Ebola outbreak in West Africa despite ongoing public health measures the heartbreak continues to increase in size on a weekly basis with predictions showing numbers that are extremely worrisome.

We're fortunate that at present the risk of the Ebola infection in California is very low. The occurrence in not confirmed (unintelligible) cases of Ebola under investigation in California; however, the California Department of Public Health and local public health departments are monitoring the situation closely and taking the necessary actions to keep the public safe.

The CDC, the California Department of Public Health and the Emergency Medical Services Authority continue to prepare for the eventuality that an individual traveling from Guinea, Sierra Leone, Liberia, Nigeria or Senegal and arriving in California may be infected with the Ebola virus. There are two possible scenarios in which these may happen.

Number one, an individual may medically be evacuated from one of those nations and be returned to California or two, an individual may show up at an emergency room or a doctor's office asking for a medical evaluation for signs and symptoms compatible with Ebola virus disease. As the size of the Ebola outbreak in West Africa grows, so does the eventuality that we'll see reported cases in California. We must be prepared to handle this type of situation promptly and effectively.

According to the CDC, the Ebola planning and response requires readiness in aid, key public health preparedness and healthcare preparedness capabilities, including healthcare system preparedness -- that's all of you in the healthcare arena -- non-pharmaceutical interventions, public health laboratory testing, public health surveillance and epidemiology, emergency public information and warning, responder safety and health clearly bought on the public health on the clinical side as well as information sharing.

(Unintelligible) is very important and critical step in assuring that the California healthcare and public health communities highly think about

address the potential challenge of Ebola virus disease. We have identified four critical objectives for our time together this afternoon. The objectives of today's call are as follows.

First, to make sure that hospitals are aware of reliable national guidance documents, second, to hear the practical experience of the hospital that has either managed a suspect Ebola patient or conducted exercises to assess readiness to manage a patient, third, to give hospitals an opportunity to ask questions about Ebola preparedness and fourth, to encourage all hospitals in California to develop and test a plan for managing a suspect Ebola patient who presents to your facility.

I'm very grateful to all the speakers from the California Department of Public Health and I'm particularly grateful to our speakers from both Kaiser Permanente and the University of California San Francisco for their willingness to share their experiences with you all. I'd now like to turn the call to Dr. Janice Louie, one of our clinical infectious disease experts to get us started with an epidemiology update in our review of the guidelines for managing suspect patients. Dr. Louie?

Janice Louie: This is Janice Louie, thank you Gil. So as Gil mentioned this current outbreak is the largest Ebola outbreak in history. And as of today according to CDC the total number of cases was standing at 6263 with 2917 deaths with case mortality rate of 47%. You should recognize that these numbers may be a vast underestimate given the challenges of surveillance, case identification, clinical management and concentration in countries where the healthcare and public health infrastructure have been immensely challenged.

Now although the risk of an Ebola outbreak in the U.S. is very low, CDC, CDPH and local partners are taking precautions to prevent this from

happening. CDPH experts work to maintain their knowledge base and hold regular costs and policies related to available data with the CDC, local health jurisdictions, laboratories and other stakeholders.

CDPH subject matter experts review all guidance with (unintelligible) DC, and as in the purpose of this call we're to disseminate those documents to help address practical questions from hospitals and institutions. CDPH has a 24/7 clinician on call to support local health jurisdictions. We'll have questions or a meet consultation about how to manage that station. I'm now going to briefly review the basics about the Ebola and the recent guidance that was released by the CDC with special emphasis on case management, infection control and laboratory issues.

While (unintelligible) have attempted to accumulate as much information as possible to make these guide lines evidence based, it should be recognized that there's limited experience with Ebola in U.S. healthcare settings. So our job ahead is to take the CDC guidances and discuss and share ideas about how to incorporate them into current practices. We should keep in mind that each hospital is unique and will have its own logistical base and resource challenges.

The goal of this discussion is to learn what others are thinking and doing and to take those ideas back to your hospital for discussion about how they may apply to your institution.

So I'm going to start with basic facts about Ebola. These are all available on the CDC website. So as far as clinical recognition in general, patients with Ebola virus infection have abrupt onset of symptoms eight to ten days after exposure, the range of 2 to 21 days. Initial signs and symptoms are non-specific and may include fever, chills, myalgia, malaise, anorexia and

weakness, and some patients may develop the (diffuse) edematous (macupapular) rash by day five to seven usually involving the face, neck, trunk and arms.

Due to these non-specific symptoms particularly early in the course, Ebola virus infection can often be confused with other more common diseases such as malaria, typhoid fever, (meningococemia) and other bacterial infections. After that five days patients may develop gastrointestinal symptoms with severe watery diarrhea, nausea/vomiting and abdominal pain as well as other symptoms such as chest pain, shortness of breath, headache or confusion. They often have conjunctival injection and hiccups have been reported. Seizures may occur and cerebral edema has been reported.

Bleeding is not universally present but can non-assess later in the course of the petechiae ecchymosis, bruising or oozing from (unintelligible) sites and mucosal hemorrhage. Frank hemorrhage is less common and pregnant women may experience spontaneous miscarriage. Patients with the fatal disease usually develop more severe clinical signs typically between day 6 and 16.

Complications include multi organ failure and septic shock. Patients may have fever for several days if they're able to improve and typically they start improving around day 6 to 11. However, patients that survive can have a prolonged convalescence. So as far as transmission, this virus enters the patient in mucous membranes, breaks in the skin or parenterally.

It migrates from the original infection site to regional lymph nodes and subsequent to the liver, spleen and adrenal gland. This can manifest as liver damage and adrenal cortical necrosis. There's a release of a large amount of cytokine which can cause vascular leak and multi organ failure and shock. Typical last findings include leucopenia and almost universally, low platelet

counts are seen; there were elevated liver function enzyme test, proteinuria may be present and the coagulation time of the elevated consistence with the DIC.

There are no approved treatments and there are currently no vaccines available for Ebola virus infection and clinical management should focus on supportive care such as prevention of complications like (unintelligible), electrolyte abnormality, shock, hypoxia, hemorrhage, septic shock, multi-organ failure and DIC.

So I'm going to review the PUI case definition that was put together by CDC. Recognizing a case is a core strategy for ultimate containment and for this we need our healthcare providers to be on the lookout and to recognize signs and symptoms consistent with early Ebola virus infection. The CDC has listed a person under investigation or PUI definition as follows:

There are clinical criteria which includes fever greater than 38.6 degrees Celsius, additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain or unexplained hemorrhage. In addition the patient has to have an epidemiologic risk factor within the past 21 days before the onset of symptoms and that includes travel to one the countries that Gil mentioned, Guinea, Sierra Leone, Liberia, Nigeria, and Senegal as well as other risk factors like contact with blood or other body fluids or human remains of a patient known to have Ebola or direct handling of bats or non-human primates.

In many cases a detailed history of exposure isn't available and clinicians should aim on the conservative side and consider moving the patient to isolation and using appropriate PPE -- or personal protective equipment -- before containing assessment whenever they see a patient with these

symptoms and traveled to Africa in these countries in the last 21 days. They should certainly contact to Public Health as soon as they have any concerns for suspect Ebola.

I'm now going to briefly review the CDC guidance on infection control. In general standard contact and (unintelligible) precautions are recommended. The CDC asks that patients get placed in a single patient room containing a present bathroom with the door closed and that facilities maintain a log of all persons entering the room. All persons entering the room should wear at least gloves, gown that is fully resistant or impermeable, eye protection and a face mask with careful removal when leaving the room.

Additional PPE might be required in certain situations where there are copious amounts of blood, vomit or feces present in the environment and may include double gloving, disposable shoe covers or (lay) covering. The CDC often recommends use of dedicated medical equipment that's disposable if possible. It also states that laboratory testing should be limited to the minimum necessary for essential diagnostic evaluation medical care and if possible avoid aerosol-generated procedures such as bi-pap, bronchoscopy, sputum induction, intubation, extubation inspection of airways.

If these procedures are necessary, they should be ideally done in a private room usually in an airborne infection isolation room when feasible and healthcare worker should wear gloves, a gown, shoe covers, either a face shield that fully covers their front and sides of the face or goggles and respiratory protection that's at least as protective as NIA certified FIT tested a 95 mask or a papper. Healthcare worker should perform frequent hand hygiene before and after patient contact.

Finally I'm going to review and brief the laboratory findings. So one of the course strategies for laboratories and keeping lab workers safe is that risk assessment should be conducted by each lab director or by a city officer in the institution to determine the potential for sprays, slashes or aerosol generation during laboratory procedure.

So CDC recommends following standards compliant with the OSHA blood-borne pathogen standard and that for a specimen collection, any person who's collecting blood or any specimen should wear gloves, gown, full face shield and goggles and mask and for laboratory staff, any person testing specimens with suspected Ebola should wear gloves, gown, full shield or goggles and mask to cover all of nose and mouth as well as an added precaution of certified glass tube (unintelligible) by safety cabinet or Plexiglas slash PCE to protect skin and mucous membranes.

So finally I want to address that if you do have a suspect case testing can be done at the Center for Disease control laboratory or at certain public health laboratories. Ebola virus is detected in blood only after the onset of symptoms usually when there's fever. It may take up to three days after symptoms appear for the virus to be detected by TCR. A minimum volume of 4 cc's of whole blood can be used to submit specimens for testing, usually collected in the purple top tube, preserved with EDTA.

Specimens can be stored and transferred at 2 to 8 degrees. They're usually ship category A and category A shipping requires specialized trained personnel (unintelligible) to identify what resources are needed to send specimens to category A including shipping materials, closure counts and appropriate DOT training. PHLs or public health labs with a wealth of information and are available to help. I'm going to stop there -- thanks for your time -- and I'm going to refer back I think to Carol.

(Carol Frazier): Okay, thank you. Good afternoon everyone, this is (Dr. Carol Frazier). And I'm going to start off by giving you a query that we did with our local public health partners. We did a couple weeks ago. We went them a list of questions and we asked them to reach out to many of you to ask a number of questions.

In particular we asked whether there were any hospitals in their jurisdiction that'd consider receiving suspect Ebola patients. We also inquired whether hospitals had expressed particular concern and what they were. In essence this call is a follow up to many of the concerns that were raised. I want to thank all of the hospitals that worked with their counties as well as the counties that did response to the survey. In all there were 36 counties that responded to this survey.

There were 17 counties told us that at least one hospital in their jurisdiction would or could potentially accept suspect Ebola patients. However there were a number of important questions and concerns that were raised about from this survey from hospitals. Additionally our emergency preparedness office received a number of questions through their system after they announced we were going to have this call.

We collectively reviewed these questions and comments and we're hoping with this call today we'll address many of these. I'll acknowledge we don't necessarily have answers to many of these but this is an ongoing issue and evolving. It's a lot of resources being into that. One of the major questions that came out was there were a lot of questions about the safety about patient transport, that just from one healthcare facility to another.

As you may know, the CDC has issued interim guidance for EMS systems. And because this is such a complex issue and needs really another group of

partners from our EMS department, we won't be addressing those concerns on this call but in the next few weeks we'll be working with our partners from EMS as well as our hospitals.

So despite the images that many of you have seen on TV of healthcare workers and (unintelligible) and patients in high containment facilities such as Emory and Nebraska, we do believe that there's hospitals in California that can safely care for Ebola patients. However this will only be achieved with very careful planning and preparation.

Today as you've heard we'll discuss the experience of Kaiser Permanente who recently cared for a patient who had traveled to West Africa. Additionally we'll also hear perspectives from the University of California San Francisco or UCSF which is a tertiary care center. We're going to hear about a drill they conducted in their emergency room.

The main purpose from our point of view with these two clinical facilities on the phone is for you to hear about their experience and also to get you to start thinking about what your preparedness is in your facility. We're going to start first with Kaiser Permanente and I'd like to introduce Dr. (Charu Bahuguna) who's an infectious disease physician and also chair of the Kaiser Regional Infection Control Committee. She's going to give us an overview of the experience, valuable lessons learned. (Charu), thank you for being here today.

(Charu Bahuguna): Thank you (Carol), thank you to the CDPH for the invitation to share our experience caring for a suspect Ebola patient here at our Kaiser northern California facility. Before I start I wanted to introduce two of my colleagues who are the phone as well, (Skip Givington), who's the Vice President of Operations for Kaiser Foundation Health Plan and Hospital, and Steven

Parodi, who's the director of hospital operations for Kaiser Permanente Northern California.

(Carol Frazier): Thank you and we really appreciate you all being here. So (Charu), before we actually go into the experience that you had with your suspect Ebola patient, can you give us a very quick overview of the disaster preparedness plan that Kaiser had in place prior to this case?

(Charu Bahuguna): Absolutely. So in late July and early August prior to the presentation of the suspect Ebola case to the south Sacramento KP facility and in response to the Ebola outbreak in West Africa, the KP national clinical worker had been meeting regularly to develop a toolkit to be used in the event that a suspect Ebola case presented to one of our hospitals. The KP national clinical worker is in our regional group with representation from all KP regions so essentially representation from northern California, southern California, the northwest, Colorado and the Mid-Atlantic states.

The toolkit that we developed was finalized and distributed on Friday, August 15. It included an informational document for frontline providers on the epidemiology, clinical signs and symptoms and transmission of Ebola virus. Instructions for frontline staff on the use of PPE and other safe practices were also included.

And then as separate more comprehensive document intended for use by infectious disease physicians and infection preventionists were also developed and distributed to a more limited audience. This more detailed toolkit included case definitions and context definitions, information on specimen packaging and shipping, chain of custody in traffic logging documents and information on other febrile illnesses prevalent in West Africa.

(Carol Frazier): Thank you. So I think we're going to finally get to the heart of the matter. So I think everyone on the phone is aware that Kaiser recently had a patient who returned from West Africa with a febrile illness. There are of course a number of HIPAA reasons that you won't be giving us many specifics but can you just give us a quick overview about that patient's presentation to Kaiser?

(Charu Bahuguna): Yes. So for some background the south Sacramento Kaiser Facility is a 217 bed hospital and it's a level 2 trauma center. It's part of a larger network of 21 northern California KP hospitals. On the evening of Monday, August 18 patient with recent travel to West Africa presented to the south Sacramento emergency room with a fever. The emergency room staff quickly confirmed the patient's travel history and then rapidly isolated the patient and soon thereafter infectious disease was called to assess the situation.

(Carol Frazier): So (Charu) can you tell us about what happened over the next few hours and all the different issues Kaiser had to deal with?

(Charu Bahuguna): So initially the patient was assessed by the emergency room providers, the admitting physician and the ID physician and all three physicians felt that patient was very clinically stable. The patient remained in the ER for several hours. And then after several hours, the patient was transferred to an airborne isolation room on the general medical floor. The rationale for the transfer to the airborne isolation room was to minimize patient transfers should an aerosol generating procedure be needed in the future.

Additionally the airborne isolation room anteroom served as a saving area for PPE donning and offing. Enhanced PPE was provided to the staff and space and correct use was monitored. Staff and trained exit from the patient room was also monitored and logged. The patient receives one on one nursing and

all equipment used for the care of the patient remained in the patient's room until test results were known.

Enhanced security was onsite to assist with privacy and traffic flow and the adjacent hospital rooms were left empty to assist with traffic control, the patient toileted in the room. Blood was drawn for Ebola virus testing and sent to the CDC with the assistance of the Sacramento County Public Health Department and the CDPH. The patient as I said earlier was very clinically stable and remained isolated and under the same level of care until results were available from the CDC on Thursday, August 21.

(Carol Frazier): Thank you. And (Charu) you touched on some of this but there are several laboratory issues that need to be followed for a suspect Ebola patient and they're quite different than routine procedures followed in the labs. Do you want to add anything about how Kaiser dealt with some of those issues?

(Charu Bahuguna): Sure. So there are I think two components to the laboratory question. The first is acquisition of an Ebola virus sample and the second is related to other testing capabilities. So blood for the Ebola virus sample was drawn by a hospital phlebotomist who was wearing appropriate PPE. The sample was packaged and sent to the CDC as I said with the assistance of the Sacramento County Public Health Department and the CDPH.

I should note that this sample was sent directly to the CDC which is an alternation from how we typically send samples for public health testing in order to streamline the process. As Janice alluded to earlier, we'd advise that laboratories reach out to their respective county health department to ensure proper protocol for shipping of Ebola virus samples to the CDC are in place. And so this includes like having a (unintelligible) courier account and access to a category 4 shipper.

In terms of other testing capabilities - so a comprehensive assessment of lab capabilities including particular point of care testing capabilities is really essential for planning I think. So this includes a list of devices, cartridges and competent users for that point of care device. For KP northern California, the ISTAT device is our preferred point of care testing device. Our regional laboratory maintains a list of devices and cartridges at each facility and each local facility maintains a list of competent users which tend to be ER nurses, ICU nurses and anesthesiologists.

We are currently at KP in the process of ramping up our point of care testing capabilities as we learned that not all facilities have all ISTAT cartridges purchase invalidated. In particular we noticed a lot of our facilities didn't have point of care testing available for coagulation parameters and for liver function testing.

(Carol Frazier): Okay, thanks. That was a great overview. So in prior conversations you mentioned that activation of Kaiser's command center was a key part of the response of the situation. Can you give us just a little bit more information about that?

(Charu Bahuguna): Yes. So the command center activation was a major take home point from our experience. And we had a command center activated at both the local hospital level and also the regional level. So many elements of care as you know have to be carefully coordinated when evaluating a patient for Ebola virus. And so after engagement of senior administrative leadership and also senior physician leadership was really critical.

Our command center team had diverse membership including emergency room, environmental services, materials management, nursing, lab,

occupational health and media relation which allowed us to respond to issues quickly and in a centralized fashion. The command center remained open 24/7 for the duration of the patient stay and maintenance of an active bridge line allowed those who are not physically within the command center to call in and obtain a really immediate response to questions.

We did find that maintaining an accurate database was a primary and alternative means of contacting key command center personnel was important. Creating a command center checklist to track daily tasks and updates was also very helpful and we had a minimum of two briefing calls to provide update.

(Carol Frazier): Okay, great. You started the next area I wanted to ask you about and that's about communication. We think we all recognize a new time when we're dealing with something new or unusual communication is particularly important. I think that couldn't be more truer than Ebola. You touched on some of that but can you talk about how you dealt with the media as far as patient communication?

I imagine there was patients that were concerned about having a possible Ebola patient and then what about staff? Were they okay with taking care of somebody that potentially had Ebola?

(Charu Bahuguna): So I'll take one at a time. So I think media relations and then patient relations and then staff communication. So in terms of media relations, within the command center our media relations or media affairs team resided. We had both a local and a regional media affairs team which handled all press inquiries and all responses. The volume was very high of inquiries.

It was really important to establish a clear line of communication between media relations and public health officials to coordinate press briefings and

also very important for media relations to engage with security in order to ensure the patient's privacy was protected.

In terms of patient relations, addressing member concerns proactively was another learning point for us. So we did receive inquiries about whether the south Sacramento facility was closed, if it was faced to come for appointment and as you suggested, if patients seen in the ER the night the patient were admitted were at risk, we responded quickly in real time by providing talking points to our clinic and also to our call center, which for KP is the centralized area where a lot of numbers call in for advice, appointments, things like that.

Media affairs developed an informational memo for distribution for both members and staff that outlined the low risk nature of the hospitalized patient. We underscored that there were no confirmed cases of Ebola virus in California and that the risk of spread of Ebola virus in California was low. Education about modes of transmission was provided.

We also in response to this case developed several algorithms for future patient presentation. And so a workflow was provided to this call center that I mentioned instructing immediate contact of local infectious disease positions if a patient with the consistent travel and clinical history called in with provisions for backup on-call ID position as well should the primary ID physician for any facility be unavailable.

And then in addition to calling the call center for advice or appointments, patients can just call their provider directly or email their providers directly. The providers were provided with a document as well instructing them also to call infectious disease in the event of symptomatic returning travel made contact so that appropriate notification (unintelligible) could take place prior to patient arrival at the medical center.

We also developed a protocol for patients who walked into the ambulatory setting without calling in, emailing in ahead of time and had symptoms compatible with Ebola virus. In the third component of the communications question I think a staff communication. And so we again we learned that early staff communication was very important and that having education done prior to an event is better certainly than having it done in the moment.

Manager talking points with FAQs were developed in real time and staff were assured that we were following and strictly enforcing isolation precaution. In addition to staff education at the local facility -- the Sacramento facility -- we set up several conference calls for the infectious disease positions at other KP facilities to make sure that they were up to date that - what was going on.

And then the final comment I'll make about staff communication is that we - all staff were reminded about the KP privacy policy and we took some special staff instruments of implementing some privacy protocols for the patient's electronic health chart.

(Carol Frazier): Okay, great, thank you so much. You've covered a lot of the issues that I'd like to deal with. Is there anything else that I haven't asked that you'd like to cover?

(Charu Bahuguna): So I think just - I'll make a couple more brief points if we have a few more minutes. So the first I'll just mention as environmental services so environmental services was engaged to clean the patient's ER room. The room was cleaned for CDC recommendations. And as I think probably everyone knows, we really learned the importance of staff education regarding transmission but also again we're reminded of the importance of doing just in

time PPE training including observations of PPE donning and doffing by infection control staff.

The second thing I'll mention is a little bit more about PPE in general. So as Janice reviewed earlier the CDC's recommendations are that all persons entering the room should wear at least clothes, a fluid and permeable gown, eye protection or a face shield and a face mask and that additional PPE might be required in certain situations where for example there's copious blood and that may come in the form of double gloves, disposable covers or shoes or leg coverings.

So our patient as I said was quite stable, to not have vomiting, diarrhea or bleeding. However there was an abundance of caution and with input from our healthcare workers we did elect to shoe and leg coverings universally. Our staff also asked to use chemo gloves which are longer than traditional gloves as an additional measure for protection and we did do this order to accommodate the need of the staff to feel safe.

As the CDC recommends, we posted a monitor with infection control training outside the door of the patient's room to ensure proper donning and doffing as new staff are unfamiliar with these enhanced PPE measures. We did realize that the enhanced PPE can be encumbering. However the staff repeatedly told us they felt very safe and very comfortable and so as a result we didn't modify our PPE protocol during the hospital stay.

And then the last thing I'll say just I think because UCSF will be speaking next is just to underscore the importance of performing a disaster drill. So I think no matter how well versed one is in the theoretical care of a suspect Ebola patient and no matter how many documents that are written and disseminated warming disaster simulation is really key to identifying

(unintelligible) troubleshooting operational issues. And so I'll stop there unless we do have some more questions.

(Carol Frazier): Thank you (unintelligible) for that excellent overview. So there probably is questions from those on the phone but I'm going to ask that those get held until we finish the very end but (unintelligible) will be on the line. So now we're going to hear from some of our colleagues at the University of California San Diego. And while UCSF hasn't had a real suspect case they have had a drill recently to test their preparedness.

On the line today with us is Amy Nichols, who is director of the hospital epidemiology and infection control as well as Dr. Catherine Liu who's an infectious physician at UCSF and Dr. Steve Miller who's the director of the clinical microbiology laboratory. Good afternoon Amy, Catherine and Steve and thank you so much for joining this call.

Amy I'm going to start with you. Can you start this discussion by reviewing the drill that was done at UCSF and can you tell us how it was similar or different from the experience that (unintelligible) just told us about. In particular what was the patient's scenario and really what was the purpose of the drill and some of your lessons learned?

Amy Nichols: Sure. Thank you very much for asking us to be on this call and to share our experience. The scenario we developed was actually at the request of the emergency department. They wanted to ensure that they had the right kind and type and were able to use the PPE and the tools we had for cleaning patients as they came in.

So we planned on just a one hour drill just to test that very focus setting of the emergency department from triage through rooming. And there are a number

of parallels with (unintelligible) description of their experience with a case or a rule out case. All of the staff in the emergency department knew this was happening and our clinical partners around the institution also knew this was going to happen and when it was going to happen.

So this wasn't a - we really wanted to test rather than to blindside anyone. So we ended up with one of my staff being a patient and presenting with a history of traveling to one of the West African countries and having a fever and she was - it took a while even with them knowing what was going to happen to get her to triage. She actually was never masked which was a failure of our strategy.

She was placed in the identified room which was at the only negative pressure true AIIR room in the emergency department and fortunately that room has a dedicated bathroom. But the empty room of that ED room is where supplies are stored or other places so it took a while to get that room cleared out so that it could actually be used as an empty room.

Fortunately all of the preparations they had done with PPE were in place and the staff were able to dawn correctly. Another one of my staff became the monitor because she was present and that was a learning experience for us to make sure that the emergency department could staff a suspect case as one on one and also have somebody they could dedicate as a monitor or watching PPE dawning and offing until someone else could arrive. That someone would be someone from our environmental health and safety emergency response team who have done - trained in monitoring, dawning and offing.

The next thing that turned out to be an issue was making sure we could get people signed in and signed out in such a way that we could identify the healthcare workers who would then be monitored by occupational health

afterwards for signs and symptoms in case we had horizontal transmission. Our security is working on a badge in, badge out type system but that wasn't ready. So we've had a pencil and paper sign in, sign out and I can tell you that reading handwritten signatures is very difficult in a healthcare environment as we all know.

So that was what happened during that drill. And we found a number of things that were lessons learned for us in our debrief. The first one - and I'm glad that (unintelligible) really underscored the role of communication. Communicating from the drill, from the time the person entered until the time I was notified was about 15 minutes and that seemed to me to be pretty long.

The staff actually asked for a - two things, job cards for the personnel carrying for a suspect or confirmed case at our likely points of entry which would be the emergency department at a couple of clinics and they wanted - they actually in the emergency department developed a checklist to serve as a reference in guiding communication, lab assessment acquisition and preparation and PPE procurement and environmental controls necessary to protect other patients and the staff members.

We found that the (AME) at level 4 down that we had put into place to take into - for PPE for healthcare workers are tied at five and that the healthcare workers contaminated their hands as they were offing their PPE. And the recommendation from the emergency response team was to dawn a pair of gloves first before putting on everything else and then as they're offing they can off in the correct procedure of gloves, then gown then mask, eye protection and then taking that first pair of gloves that's next to the skin. And we felt that that was a much better protection for the healthcare worker and then of course hand cleaning.

The emergency department now maintains easily accessible manual finding sheets. And what we discussed is that that anteroom will continue to be a storage place for ID pulls for example because those can be quickly removed in the case of a patient needing that room. The last thing was in that room there had been quaff privacy curtain and we changed those to a vinyl curtain that could be much more easily cleaned. That was the drill, the response of the drill.

(Carol Frazier): Okay, thank you. That was great Amy. I'm going to come back to you but I want to go to Steve who's the director of the clinical lab. Steve, laboratory issues are probably some of the most challenging as we think about Ebola. Could you outline this drill as it related to your laboratory preparedness and I realize in talking to you there's been both some short-term planning as well as long-term plan. We'd like to share about those and (unintelligible) mentioned point of care testing but can you give us a little bit more information and in particular are they going to be able to provide all the results that we're going to need to manage these cases?

Steve Miller: Okay. Sure (Carol) and I'm glad I could be on the call. I just wanted to for the listeners to emphasize the utility of this drill and identifying what worked well, what didn't work well and where we need to improve. And I think it's an ongoing process as you mentioned and I think every facility doing this assessment will find areas where they really need to change and modify their practices to be able to properly provide the services and the care needed.

So I'll start with the first thing which is the notification of the hospital and laboratory staff. And we use the system that we've developed for disasters and also for - we use it for emergency inspections or surprise inspections in order to notify all of the appropriate staff. So we ensured that all of our lab directors and supervisors that were - that needed to be notified immediately when the

station arrived that they were on that list and so that was a convenient way to do that.

Now for the purposes of this drill, the only assessment -- it's actually a mock specimen that was taken from this mock patient -- was actually the assessment that'd be sent to the CDC for Ebola testing. And so I'm going to talk about that portion first and then afterwards we can discuss and I'll talk more about the general lab testing and support for the patient care.

So in terms of the actual specimen going to CDC for testing of Ebola in a suspect patient, the way that we've determined we want to draw those specimens is not have phlebotomy but have nursing who is already caring for the patient be the patient contact person. We want to limit the number of people going in and going out of that patient room however as much as possible.

And so the nursing staff would draw the specimen and that was done in this case with a mock specimen. And then that specimen needs to be appropriately contained during the trip to the lab. And so the recommendations are to put this in double bag and also we discovered that this should also be placed in a hard sided container and we learned that we don't have those readily available for the clinical staff to put a specimen in.

And so we used pathology containers and so we need to have those available for pick up and also to disinfect them. Some of the recommendations coming out from ASM recommend -- which is the American Society of Microbiology -- recommend wiping the external specimen and the external hard container with a 10% bleach solution which isn't readily available in clinical rooms.

And so we determined that using a standard hospital disinfectant wipe to wipe the external surface of the hard package that - the container that the specimen would be put in would be appropriate for this infection and destroying of a (unintelligible) virus such as Ebola. So that portion we definitely had some learning to do. And then once that specimen is carried to the lab that niche should be hand carried and not gone through a nomadic tube system or a dumbwaiter. We have to receive that specimen.

And so the person receiving that specimen should be wearing gloves and transfer that immediately into a bio safety cabinet for the laboratory staff who are working with us to actually handle it. Now that happened for us fine but when we - our main microbiology lab is actually offsite from the hospital. And this leads to an additional complication which is that normally these specimens are sent via a courier and there's a team courier but also a stat courier system that we can use.

And we decided to use the stat courier system. However, there isn't much guidance in terms of what sort of either additional containment, if any, should be done or additional notification to those couriers about the nature of the specimen. And so for this mock specimen it was sent by the routine couriers or stat courier. However we since determined we'd actually prefer for our staff who are trained to package and ship this specimen to the CDC to actually go over to the hospital and package it there rather than sending the specimen down to the offsite lab which is normally the case.

So I think there's a slight change in protocol that will reduce the risk of some handling error and most of the laboratory risk I should say is really due to errors and accidents that may happen in specimen handling. Now if we handled specimens through universal precaution those are predominantly safe and this has been emphasized I think by the CDC and in more recent

communications that standard practices should be safe for handling Ebola virus and similar to other Ebola viruses.

The concern with Ebola of course is the severity of the disease and the fact that there's no treatment. And I think there's the addition of barrier precaution and the primary reason for that is to avoid the potential for exposure in the case of a handling accident, for example, a splash or a tube breakage or the like. And so when - I think that's a general approach that the audience may appreciate.

So our handling of this once we - and we ended up transferring it to our bio safety cabinet in the offsite - our offsite lab. Then our staff, our supervisor who's trained in category A shipments ended up donning the appropriate PPE and handling that specimen and packaging with the bio safety cabinet for shipment. We actually didn't ship it to the CDC but we did discuss the mechanism for shipment with the CDC. And I'd recommend that laboratories will do this prior to a patient showing up because they will actually recommend how to ship and will give you the based on their assessment of the risk of the patient what category that shipment should be made.

And I'd also recommend that labs work with their public health partners to identify appropriate shipping and the - my understanding is that public health will also help and assist for facilities that may not have appropriately trained personnel in doing that shipping. And so that was mostly the extent of the actual physical test or the drill that was done. But it did also bring up a number of issues that we've been developing our approach in terms of laboratory testing in general and what support we'd be able to give to the clinical staff caring for this patient.

And so some of the general principles that we're adopting is that the testing should be done as limited as is required for clinical care so the number of specimens should be relatively low and any testing that can be done near to the patient would be preferred.

And so we're adopting a policy and we're honestly not quite there yet but we're moving towards the policy of offering predominantly point of care testing on that patient. And so that'd involve the use of point of care testing, instruments and in our case we have ISTAT allowing for electrolytes, blood gases, glucose, hematocrit. We also have another instrument that does hemoglobin and a coag instrument that gives CTINR results. However we don't have point of care instruments that'll allow for liver function testing or platelets at this time.

And so if a patient showed up and there was a need for this testing that'd be a discussion that we'd have at the time to decide whether this testing is truly needed and would we be able to provide this. our goal in this to essentially keep these specimens out of the main lab as much as possible, rely predominantly on point of care testing although if there's a requirement for testing that can't be done that way, it needs to be done in the lab, then we'll have somebody monitor that specimen, wear appropriate PPE and work within the bio safety cabinets whenever possible.

We're trying to avoid putting these samples from these suspect patients on automated lines and that's our goal. And you mentioned the longer term pathway that we're developing and I think what we envision as our primary solution for testing is to use more small or point of care instruments and put them in a bio safety cabinet located at the hospital so transport is minimized and offering testing within that controlled bio safety cabinet environment by laboratory staff wearing appropriate PPE.

So this would let us - enable us to provide a minimal testing needed for the patient care without having to necessarily train all the nursing staff on use of these additional point of care instruments or small instruments that they're not typically using. So that's our general approach and of course I think you have some additional questions.

(Carol Frazier): So that was a great overview. One of my concerns is patients are returning from Africa with a febrile illness. It's important to consider other geologies. As far as things like malaria or blood cultures or typhoid serology, is the plan to wait until you get the Ebola results back because I don't think there's very many points of - the blood cultures for instance. Is that off the table or how will you handle that?

Steve Miller: Yes. So we have plans to prepare malaria smears within the bio safety cabinet and the ASM guidance has some additional detail as far as preparation of malaria smears and how to fix them to inactivate virus, and there's a 30 minute methanol fixation time will inactivate the Ebola and other (unintelligible) viruses.

There's some discussion about an addition of a 95 degree heat block slides but that's controversial because there's some thought that that's unnecessary and would change the morphology making it more difficult to read the malaria smear and I think there's good evidence that the methanol fixation step is adequate.

So I think for malaria we do have that. We've been considering bringing in the point of care malaria rapid test although we don't have that available currently and for platelet count and CBC, one of the options that we have considered and might think about using in the appropriate patient would be to

do an estimate of platelet count and white cell count off of a blood smear that's been fixed with methanol for 30 minutes for inactivation.

And so that's one of the things we've thought about rather than putting it onto an instrument and worrying about potential decontamination of that instrument. It's only an estimate that may be good enough for clinical care and I should also emphasize that the samples, those slides, even though they've been decontaminated with the fixation or inactivated with the fixation, would also be handled with gloves and appropriate PPE. So I think that would cover at least the basics for now.

Now blood cultures in a patient who was acutely septic I think we have plastic blood culture bottles available. Not every facility would have those available and I think we'd need to discuss with the clinician the real use of blood cultures. I think there's a good argument to be made for taking those.

Not only will they guide the patient's care beyond antibiotic therapy but they can also give an alternate etiology for their illness prior to the Ebola testing coming back. And the CDC guidance has stated, the majority of patients who present with regional exposure and suspect Ebola cases are expected to actually rule out and not have Ebola but to have an alternative etiology and so getting that diagnosis quicker may be useful.

In terms of serology testing I think that's going to be difficult and I doubt that we're going to be able to offer serology for example for typhoid fever. Cultures I think is a more feasible option for that but another thing that we've been discussing and we don't really have an answer yet would be whether we'd store blood from these patients for additional - send out testing and routine testing once the Ebola has been ruled out by the CDC.

And I think as we develop our protocol that may be something that we can provide in the interest of patient care although we really haven't developed that protocol fully yet. That's a little bit different from what we typically do. But I think that really, you know, every lab director and facility should be really evaluating their exposure risk and determine what exactly will decide to do if these come now.

I'd say we are doing additional precautions beyond what's required or what's recommended by the CDC. And in some ways I think the fact that these first patients were cared for at Emory and in facilities that have the ability to care for these (BSL) 4 level pathogens. And I think they use this as an exercise in their facilities but obviously we can't replicate that, those sort of procedures in those facilities here in other hospital settings and so we really need to assess what the exposure risks are.

The other thing we're doing is -- and I think this is another activity that the audience would be good to go through -- is to with the clinicians will be taking care of these patients, particularly infectious disease and critical care, what exactly are the tests that they expect to be able to need and how can we provide those best? As I mentioned our general principle is to try to provide these as close to the patient as possible either at point of care testing or within a bio safety cabinet located at the main hospital.

(Carol Frazier): Well thanks Steve. That was a great review. I'm done with my questions for you but please hang on the line because I have a feeling at the end there'll be more questions about lab testing.

So Amy I'm going to come back to you. One of the issues that's come up in facilities that have handled real Ebola patients such as Emory and Nebraska, we're showing that there's an enormous amount of weight generated from

patients. And I think even in the Kaiser patients there was probably quite a bit just in the two or three days while they waited for that lab test. So Amy what plans does UCSF have in place to be able to address the weight issue?

Amy Nichols: Thanks (Carol) for that question. This has been an evolving answer. So I'm going to answer it as we have it right now and there are a couple of things that remain unanswered and perhaps some of the audience will be able to enlighten me on some of these remaining questions.

So the facilities that we have onsite to manage ways, we do have an onsite waste autoclave and we'd use that to sterilize everything that came from the patient's room. In our inpatient setting we plan to locate suspects or confirmed Ebola patients only in the ICUs regardless of their severity of illness, much like we've heard from Kaiser because - and we'll put them in airborne isolation as well because we want to be able to take care of them no matter whether they decompensate or remain rather stable.

Unfortunately our ICUs - our patient rooms in our ICUs do not have dedicated bathrooms so all excrement would also have to be collected in autoclave along with all other waste, linen, sharps and so forth. Then what happens to that stuff after it's autoclaved, well maybe I should say how will the waste be handled from the point of generation to the loading dock autoclave, which is where autoclave is located.

So from the patient room or from the ambulance all of those bags would be transported in regulated waste bags -- the red bags -- enclosed and locked DOT approved totes to the autoclave. The EDS staff have been trained and I really get from Kaiser Sacramento's experience that just in time training has to occur as well. They'll follow the CDC recommendations for waste handling.

We are thinking because those rooms don't have dedicated bathrooms. This is one of those questions that haven't been answered yet. We're thinking that we'd use bedpans and urinals rather than a bedside commode because the bedpans and urinals can be discarded with the content into a red bag, transported treated. And if we did decide to use a bedside commode we'd probably discard that.

So let's just continue this line of thinking of what happens to the waste even after it's autoclaved. So the nonsharp waste will be compacted and because it's been autoclaved it'd be transported by our waste hauler per normal to a landfill and the autoclaved sharps waste in their containers, will be autoclaved here onsite, retrieved by our waste hauler and then transported to Fresno where it'll undergo re-sterilization and then into their landfill.

And all of these processes has been discussed with and agreed upon with our waste haulers. So that's a very important conversation for your institutions to have with your contracted waste haulers. All of the textiles, lines, privacy curtains -- if they're textile privacy curtains -- any non-plastic covered mattresses, pillows, will be destroyed as if they are regulated medical waste. We may have vinyl privacy curtains in those rooms which can be cleaned effectively and that's the waste story from beginning to end.

(Carol Frazier): Thank you Amy. I'll just interject that we were on a call with CDC yesterday and they mentioned that they're working very closely with the Department of Transportation to look at some of these waste issues because it's become such a burdensome issue at the facilities that have taken care of these patients so more to come on that issue.

So Catherine we haven't gotten to you. So Catherine Liu, who's the infectious disease physician at UCSF, is now going to answer a couple questions. So Catherine it sounds like most of this drill was described by Amy centered around the ER, Steve nicely covered lot of the laboratory aspects but what are other aspects you'd feel would be important for hospitals to consider if they're conducting a similar drill?

Catherine Liu: Thank you (Carol) for inviting us to be here on the call today. It's actually been really informative hear about the Kaiser experience we hope that's helpful to hear us share our experience thus far as well. One important aspect that we didn't include in our drill was (unintelligible) of our local and as well as the state public health department, both of whom are critical partners in our communications should we encounter a case. And in retrospect I think it would've been great to have drilled this with our local and state health department from start to finish.

Additionally I think that it would've been - it'd be great to consider drilling all aspects of patient care so starting from patient arrival via ambulance versus a personal car from the ER transfer to the Intensive Care Unit. We've decided here at UCSF that all suspect cases would go to our ICUs. A specimen transfer from patient room to the lab, I think that's another important area that'd be important to drill as well as transfer autoclaving and pick up of medical waste.

We have discussed this possibility of drilling these various processes. I think such a drill would probably take an entire day of effort as well as coordination with all of our different partners, the ambulance companies, the waste companies, couriers, etcetera. And I think at this time we don't have quite the resources to dedicate to full day drill but may consider drilling some of these processes separately.

(Carol Frazier): Okay great, thanks Catherine. So Catherine I'm probably going to ask you on the toughest questions at best so far. As you know there's a lot of concern in the public about Ebola and the introduction of this virus in the U.S. so a two prong question. Is there a willingness to accept an Ebola patient at UCSF among your staff and if the patient were to present in your ER today as UCSF prepared?

Catherine Liu: So UCSF is willing to accept Ebola patients that present to our hospital. And regarding transfer patients this is a discussion point that we've had with our medical center administration. Our preference at this time in discussion with our administration is to limit transfers primarily to smaller hospitals within our Cashmen area that have limited capacity. Obviously any transfers will need to be coordinated closely with public health to ensure that the appropriate steps are taken to transport such patients safely to our facility.

With regards to our preparedness if a patient were to present to the emergency room today, I think from an infection control standpoint we are prepared to handle a patient. I think that our greatest challenge right now remains diagnostic testing of suspect cases and I think you heard from Steve earlier some of the challenges. Reliance on point of care testing does limit our ability to medically manage any suspect cases due to the inability to obtain routine laboratory values we typically rely on to guide our patient care.

And Steve had mentioned our point of care testing that we have currently available as not able to provide information regarding white blood cell count, liver function test and platelet count. And so I think they are going to be limitations in terms of diagnostic information we're going to be able to have on our patients. And so this is an area that we are continuing to work very closely with the lab on and in fact have a meeting scheduled with our critical

care partners as well as the lab next week to discuss diagnostic testing so that we can ensure that we can care for our patients in the most optimal way.

So I think - I guess to answer your question we're prepared I think from an infection control standpoint but from a medical diagnostic testing standpoint there's still work that needs to be done.

(Carol Frazier): Thank you Catherine. So (Charu) I'm going to come back to you. Do you want to comment or have any questions specifically for the folks at UCSF having heard their presentation or if any of your other partners at Kaiser?

(Charu Bahuguna): Sure, thanks (Carol). So thank you for that presentation especially the details I think about the laboratory testing issues which I think are issues that we're all grappling with to some degree. I'd go with what Steve said about testing for malaria and doing blood smears and trying to the ASM guidance with regard to those types of testing.

We also at this point don't have the point of care malaria testing available although we've looked into it. I don't know if Steve or (Skip) has other comments or questions for our UCSF colleagues.

(Skip Givington): This is (Skip). No other than I'd underscore the waste issue because - and we need help at all levels of government to help sort that out because it does pile up. And if we don't have the ability to autoclave our haulers won't remove the waste. We really need dealt with stat.

(Carol Frazier): Thanks (Skip). That was actually one of the number of comments that we got back on that survey. And like I said we did hear yesterday on the call from CDC that they're actively addressing that issue. As soon as we know anything we'll be letting everybody know.

Steve Parodi: There's only one other comment -- this is Steve Parodi -- that I'd make that I think that's really important for any hospital, would be that you have some prior communication with the local public health department that you have a process in place or when you do obtain that specimen that you send to CDC that there's a transport process for your team that's already in place so that you're not having to do that in real time.

(Carol Frazier): Thank you, any other comments from either UCSF folks or Kaiser folks before we move on to the agenda? Again I want you all to stay there because we're going to have a Q&A at the end. So we're going to go on to the next item in the agenda and really talking about tools for evaluating hospital preparedness.

We started this meeting by saying that we heard back from many health departments and there were many hospitals that had expressed a willingness to care for Ebola patients but there were a number of questions and challenges not surprisingly.

On today's call you've heard the experience of two major centers and some of the challenges they face. We hope today's discussion has given you some ideas on how you might handle these challenges. So whether you're one of those hospitals that either anticipate taking cases like UCSF or Kaiser or if you're one that thinks that they're going to transfer the patient out, every single hospital needs to have a plan.

In some cases the plan may be destabilize the patient and then transfer the patient to another facility. There may be some hospitals that are willing to hospitalize suspect patients if they present to the hospital but aren't willing to accept transportation. And then finally we're hopeful that there's hospitals

that'll be willing to accept transfer patients from other hospitals in California and in essence become one of our Ebola centers.

So we strongly encourage all hospitals to ensure that they have a plan for a possible Ebola patient and more importantly than having that plan to test out your plan. To assist you with this we've developed an Ebola drill and this includes a scenario of not surprisingly of several patients who recently returned from West Africa.

This drill is going to incorporate all the details checklist for Ebola preparedness the CDC put out. We also included some of the lessons learned that we've been hearing from our Kaiser and UCSF colleagues and we hope to be able to share that drill with you I think as soon as this fall is over so that you can be looking for that.

I want to acknowledge that there's a lot of issues that we're facing that are not fully resolved but we know that CDC and others are taking active steps to address these issues. And as I mentioned the CDC is actively working on the DOT issue and medical waste. We also acknowledge that during these type of drills we propose takes a lot of time and energy. And for some facilities the likelihood of having a Ebola suspect patient is very low.

However these types of drills can be extremely helpful for your readiness for a number of different scenarios, for rapid triage and isolation of patients and effective use of PPE are important. In particular I just want to point out just in the last two decades alone we've seen so many different infectious disease with significant risk for nosocomial transmission such as SARS, MURS, drug resistant TB, measles and now of course Ebola.

And one final point I want to make before we go to our Q&A. I think every single person has said it but I'm going to say it again. We really encourage hospitals to communicate with our local health department and when you think about this drill and we also - if there are hospitals on the line that think they're willing to accept Ebola patients please let your local health department know that because we're going to need to moving forward identify centers in the state that are willing and able to take such patients.

We're going to end that portion and we're going to go on to the Q&A portion of this call. Operator can you - are there any questions in the queue or (unintelligible)?

Coordinator: We'll now begin the question and answer session. If you'd like to answer a question over the phone please press Star 1. Please un-mute your phone and record your name clearly when prompted. To withdraw your request you may press Star 2, one moment please while we wait for questions.

(Carol Frazier): Operator while we wait can I just mention one other thing? So I just want to mention I'm here in Richmond. I have a number of subject matter experts in the room with me. I'm not going to introduce everybody so the questions I'll either direct back to our - one of our Kaiser or UCSF colleagues or I'll ask one of the folks in the room to answer the question.

Coordinator: Our first question over the phone comes from (Warner Hudson). Sir your line is open.

(Warner Hudson): Hi, thanks for taking my question. I'm an occupational health medical rep from UCLA. Our question is revolving around students and staff who may be returning and volunteering - after volunteering in the Ebola countries of interest what sort of protocols are in place.

We're not sure how porous the CDC exit interview process is. And the second part of that of course is what sort of host exposure protocols have people developed for staff who are potentially exposed in the process of caring for the patients?

(Carol Frazier): I'm going to have Dr. Janice Louie answer that. First question, there's CDC guidance on it but Janice can you give him a little bit of detail on that?

Janice Louie: Yes. So first I would work in coordination with your local health department because they're two very different questions. So students who are coming back from countries where there's active Ebola transmission, I believe the latest guidances are to self-monitor for symptoms but there's no need for quarantine.

As far as healthcare workers they're a little bit more stringent and we've actually had circumstances where we have known of healthcare workers who were overseas in countries with Ebola who we've had local health departments interview over the phone the international line to assess whether they had exposure to patients without proper PPE. And so that's a key question to ask. There's a full questionnaire that CDC actually has that you can go through with healthcare workers who are overseas in those countries.

If there's been some exposure to Ebola patients without appropriate PPE sometimes those healthcare workers are actually put on the no-fly list. And so there's a rather complicated algorithm to address those types of situations. So I'd contact your local health department and work it out with them the best way to proceed when you know you have either travelers from visiting countries in areas of concern or healthcare workers returning after caring for

patients in those countries. I'm going to ask (Dr. Erin Epstein) who is with our hospital healthcare associated program to see if she wants to add anything.

(Erin Epstein): I believe you were also asking about the process for dealing with a healthcare worker in your facility who might have unprotected exposure to a patient with suspected or confirmed Ebola. And we just point that CDC infection control guidance steps have recommendations for this. Persons with such exposure would stop working immediately, wash the affected skin surfaces with soap and water and use irrigation with copious amount of water or eye wash to address the mucous membranes.

And I'd just add in that that as part of the planning process for all facilities that sinks and eye wash solution should be made available in the anteroom or other areas that is designated for PPE donning and removal that's use to determine in your facility and in this procedure they reviewed with healthcare personnel when you're doing other PPE procedures with them.

And then of course host exposure contact of occupational health or supervisors for assessment including management for other appropriate pathogens, including HIV, would be appropriate along with the clinical evaluations performed in the emergency department. There are additionally guidances regarding the 21 day post exposure symptom surveillance to be done employee health and this would be monitoring for fever and other symptoms.

So the CDC guidance recommends those persons be medically evaluated and monitored with fever monitoring twice daily and that hospitals again in advance should develop policies to carry this out and ensure twice daily contact with the exposed personnel with regard to symptoms as well as to document fever checks. And CDC doesn't specify how this contact should be

conducted but would just need to be determined in advance and put into policy at healthcare facilities.

We've also seen that there are questions regarding whether or not healthcare workers can continue to work post exposure if they are asymptomatic or whether work restrictions would be recommended in regard to the types of patients they care for. And again CDC guidance recommends asymptomatic exposed healthcare providers may continue to work while receiving twice daily fever checks for this. The policy would again need to be determined on a healthcare facility specific basis and also in discussion with state and local health departments.

So this is another piece of the planning. There really isn't any rationale for work restrictions based on the patients that the worker is caring for immune status. Really it's all persons are potentially susceptible and I'll end with that.

(Carol Frazier): Thank you (Erin) and Janice for that. I'm going to ask our hospital colleagues if you have -- there's clearly a lot of CDC guidance on that -- if you guys done anything different or have anything to add to what (Erin) and Janice had talked about. (Charu)?

(Charu Bahuguna): Sure (Carol). So I would add two things. The first is that occupational medicine would be I think an important presence in the command center if a suspect case were being evaluated in a medical center. And the second would be that the pre-emptive or preparatory development of I think a script for employee health to ensure that consistent messaging is happening, education for employees who may be exposed, a way that's a clearly delineated way to contact employees individually who may have been exposed.

And then agreement on this threshold that one's going to consider a fever or other symptoms in which the employee would then take care, having an algorithm of all of those details for exposed patients with the importance to do as part of the preparatory work.

(Carol Frazier): Great, thanks. Catherine or Amy, do you want to add anything from UC's perspective?

Catherine Liu: This is Catherine. I can comment a little bit in regard to the question surrounding what to do with returning healthcare workers from an effected region as we've actually dealt with that recently. We did have a healthcare worker who was in an Ebola affected region and was working not directly with patients but was involved in conducting infection control training in some of the Ebola treatment centers in Sierra Leone.

We worked very closely with our local public health department, San Francisco Department of Public Health to do a phone interview with this healthcare worker to ascertain for - to determine whether or not he had any exposure as well as with the CDC and CDPH to determine whether or not there were any exposures of concern.

So I think it's really critical in such cases where you do have a healthcare worker to work closely with the health department to assess exposure risk. When the person did return we had occupational health monitor him for any exposures or any signs or symptoms over a 21 day period and this was also coordinated with our public health department to - did some monitoring over the weekend hours.

(Carol Frazier): Thank you Catherine. So I think we've addressed that question. Operator is there another question in the queue?

Coordinator: Yes. Our next question comes from (Mike Lancaster). Sir your line is open.

(Mike Lancaster): Hello, this is (Mike Lancaster), San Diego Public Health. We're just interested to know what was the ultimate diagnosis on the patient at Kaiser.

(Carol Frazier): I'm guessing we can't give that for HIPAA reasons. (Unintelligible)?

(Charu Bahuguna): Hi (Carol), this is (Charu) and that's correct. We're not disclosing that information.

(Mike Lancaster): Okay.

(Carol Frazier): Sorry (Mike).

(Mike Lancaster): That's fine, thanks. We were just interested to know what it might - what sort of symptomology might be causing you to look at Ebola other than travel.

(Carol Frazier): Next question?

Coordinator: Our next question comes from (unintelligible). Ma'am your line is open.

Woman: Hello, yes. I heard concerns with EMS transporting patients. Is that accurate and will they transport suspects or confirmed cases if need be?

(Carol Frazier): That's a great question. As I mentioned at the beginning of the call there's guidance. There's an interim guidance at CDC for using EMS but we do realize that operationalizing guidance is not always as simple as it might seem on paper. So we're planning on follow up meetings with EMS to sort a lot of these issues out so it's very important but we didn't want to address that on

this call today because it's so complicated and we need a whole group of different partners.

Woman: Thank you.

Coordinator: Our next question comes from (Ms. Novak). Ma'am your line is open.

Woman: Hi Susan.

Susan Novak: Susan Novak, Director of Microbiology at Kaiser in southern California. I thought the UCSF folks did a nice job of describing some of what they're trying to do in their institution. This question is for Steve. You had mentioned that you're really trying to work within the parameters of operating testing from a point of care perspective but then I got the sense that there's still ongoing discussion about some of the testing.

This is what we've been grappling with in southern California. We've been trying to avoid putting specimens on an automated line. Is that your stance or are you still in discussion with your physicians in your institution to determine where you're going to go with that because it was a little bit unclear toward the end there.

Steve Miller: Sure, thanks Susan. You know, I think we're still in discussion because we need to get a clear idea from the clinicians about - and particularly ICU in terms of what tests they really require in order to take care of patients. Honestly it's going to be a bit difficult. You can come up with your general list but there's always going to be an individual patient that may require an additional test and that isn't on your list.

And so what we're trying to do is develop our general protocol to say to work with our clinical services and say we need the minimal test list that we think will allow us to give sufficient patient care in these cases. Once we determine that our plan is to look for small analyzers. They could be point of care but they could also be highly complex analyzers that we can place in a bio safety cabinet and have those tests be done by the laboratory staff.

And so that right now is our thinking but we're not there yet. And so I think we have a similar idea in terms of attempting to keep these specimens out of the main lab, in chemistry and hematology. Blood banking is another issue.

These patients may require transfusions and our plan at the moment is to provide for the emergency release units that O negative red cells and the like that don't require any cross matching but I think things will potentially evolve with individual patients. What if the patient develops platelet refractoriness or comes in - you can come up with all sorts of scenarios where the testing really would guide the clinical therapy.

And so I think we're going to have to have some mechanism of dealing with that on a case basis but I think our general goal is to keep the testing as close to the patient as possible with these point of care bio safety cabinets. But I think it's going to be maybe different at different facilities and some facilities feel more comfortable putting these specimens on automated lines, the CDC guidance. It certainly doesn't rule that out. They simply state that those have to include the use of PPE along with appropriate barrier precautions which could Plexiglas shield.

It doesn't require bio safety cabinet and we're leaning away from that because we think that that's going to potentially open these to being in the main lab where the staff aren't as comfortable working with these specimens as the

staff in the microbiology lab are where we're used to working with highly infectious material but you're right. This is an ongoing discussion and I don't think that we've achieved the optimal solution and I think we're really going to have to work on that.

(Carol Frazier): Thank you Steve. Before actually the operator I have a question. Susan Fanelli, are you still on?

Susan Fanelli: Yes I am.

(Carol Frazier): Okay. We're strongly encouraging that hospitals do this Ebola drill. Can you tell us or tell them if that's going to count toward their emergency preparedness? Can you address that for us or for them?

Susan Fanelli: Certainly. We have a November exercise coming up and I think it'd be a fair test of many of the objectives in our statewide exercise coming up in November. I think it's a good opportunity to do that. They certainly have other requirements to do testing. Certainly the funding the healthcare coalitions have can be used to support this kind of testing and it can count towards any of the capabilities where they test objectives towards those capabilities. So I encourage it, I think it can be done as part of the statewide medical health exercise.

(Carol Frazier): Great, thank you Susan for that, back to the operator. Are there additional questions?

Coordinator: Yes. Our next question comes from (Claudia Jonah). Ma'am your line is open.

(Claudia Jonah): Hello. I am in part of planning to be able to efficiently order samples from the laboratory if they should be requested and I'm coming up against a roadblock

of availability of the training classes that you have to have to be able to ship these kinds of samples. Also the ones I'm seeing are multiple days.

Could there be any assistance with either telling us what the level of training or maybe getting some requests available because I don't want to have a situation where we have a couple people who are trained and they're expired and the shippers won't take them if they're not a certified person that's done that packaging. That's going to be a real big problem.

(Carol Frazier): Right, yes I agree. Thank you (Claudia). That's a wonderful question. I'll just say a couple things and then I'm going to pass the microphone to Dr. (Shaw) who's the chief of the virus lab. But I do want to say to the hospitals make sure you've reached out to your local public health lab because they are often trained and they - in some cases they can come and they might be able to ship - package and ship for you.

At a minimum you should have a conversation, what's your local public health lab to see what kind of expertise they have and what their availability and willingness is. I'll say just working with the local labs for years, they're generally very willing and I'm guessing a lot of them would come in and help package and ship. Dr. (Shaw) from the virus lab is going to specifically talk about getting that trained for the (unintelligible) training. Dr. (Shaw)?

Dr. (Shaw): Yes. For the package and shipping (unintelligible) actually regarding to the division for the two, actually you ought to call public health laboratory. They should be very aware of the (unintelligible) program. Usually for the people who have never received training, we suggest have a (face) - the first training should be the (face) training. There are a couple of resources nationwide that could be (unintelligible), for example APHL (cab) or even (unintelligible) link.

So you can talk with your local public health department to get the resources. For the refresh training, that means if your staff have received the first then you can go online to receive the refresh training. Go to the CDC and then go to the six (unintelligible) to refresh training. It will bump out. That's when you can do that on your site. And then after your training and after you enter all the questions you can send out the certificate.

(Carol Frazier): (Claudia), does that answer your question? Operator can you get (Dr. Jonah) back on?

(Claudia Jonah): Are you able to hear me?

(Carol Frazier): Yes.

(Claudia Jonah): Okay. That's a start but what we're finding is depending on the length of time that your certification has been expired and they want you to do the whole thing over and some other stuff. So maybe offline or maybe you can just send something out to us because I need everybody trained because I don't want something held up if the request comes in when that one person or two people aren't here.

So that could be a real sticky point where you need to get a sample sent off yet there's a lot of people that we need to get trained, that they're ready to go if this is going to be needed for us. I'm with the public health department so there may be folks looking to us to do that. Right now I need to get people trained.

(Carol Frazier): And even though it seems like a trivial point it's extremely important. So we'll follow up and (unintelligible) should get back to the whole group with more information on this.

(Claudia Jonah): Thank you.

(Carol Frazier): Okay, thank you (Claudia), operator, next question.

Coordinator: Our next question comes from Sasha Madison. Ma'am your line is open.

Sasha Madison: This is Sasha from Stanford Healthcare. We also used the sani-pack and so we traced that route for our regular medical waste. However we used a different system for pharmaceutical waste and I was wondering if anyone could comment on whether that can also be utilized, that system for pharmaceutical because that's usually waste that has to get burned and is sent out of state.

(Carol Frazier): Thank you Sasha for that question. I'm going to take that back to you Steve and I'm going to come back to Kaiser and see if they have an answer but Amy can you answer that?

Amy Nichols: Sasha, hello.

Sasha Madison: Hello.

Amy Nichols: It's very good to hear your voice. So some key waste is one that we haven't answered yet. We know that it can go - it can be autoclaved but the handling after autoclave is something that we haven't been able to answer yet.

Sasha Madison: Great, thank you. That's kind of where we're at so good to know. When we get an answer we'll let you know.

(Carol Frazier): Okay.

Sasha Madison: Thank you.

(Carol Frazier): The folks from Kaiser, do you have anything to add to that?

(Charu Bahuguna): (Carol) it's (Charu) and no I'd say we're in the same place as well.

(Carol Frazier): Okay, great, operator additional questions?

Coordinator: We actually have Charity Thoman. Ma'am your line is open.

(Carol Frazier): Hello Charity.

Charity Thoman: Hello this is Charity Thoman. I'm the health officer for Santa Barbara County. And I just wanted to say first that our county has already decided we're going to use Ebola for a disaster preparedness drill in November which is great because we're planning with our partners and we're also including the Santa Barbara airport in that exercise as well.

My first question is would Kaiser be willing to share with us the checklist they mentioned they had for their emergency room physicians. Would be willing to share that with the group so we can take a look at it? And then I have two more questions. You want me to save those until the first one is answered?

(Carol Frazier): (Charu) do you want to answer that?

(Charu Bahuguna): Sure. So we do have quite a bit of documentation that our clinical worker has put together. I'd refer to (Skip) and Steve to talk about dissemination of those documents.

(Skip Givington): Sure this is (Skip). The specific question was the ER template or - I lost that.

Charity Thoman: Yes. It was about sharing the ER template.

(Skip Givington): Sure, we'll be glad - that's not a problem.

(Carol Frazier): Okay. If I get a hold of it -- this is (Carol) -- we can then disseminate out to the county.

(Skip Givington): Sounds good.

(Carol Frazier): Thank you, okay. Charity you had a couple more questions?

Charity Thoman: Yes. My other questions revolve around the point of care testing. If we're designating hospitals as official Ebola suspect treatment centers, will there be any funding available for those hospitals to purchase point of care testing? And if they don't have that will there be funding available for them to purchase the bio safety cabinets if they don't have that?

(Carol Frazier): Hello, this is (Carol). Susan, do you mind trying to answer that question since I don't get to write the checks around here?

Susan Fanelli: I'm not sure that there's a way to reimburse that through the grants because each PP money isn't meant for response. It's meant for preparedness but I'd have to get that information. But as you know the dollars aren't that robust in

terms of what healthcare facility would get. It's a good question for CDC.  
We'll follow up with them.

(Carol Frazier): Okay, great. We'll put that on our to-do list. Thank you very much Susan.  
Charity, did you have one more question or that was it?

Charity Thoman: No, that was it.

(Carol Frazier): Okay thank you. Operator?

Coordinator: Our next question comes from Lynn Gardner. Ma'am your line is open.

(Lynn Gardner): Thank you very much and thank you for putting this on. It's been very helpful.  
I'm a registered nurse and the EMS program manager for (unintelligible) Fire  
Department. I'm wondering what is public helpful in establishing quarantine.

(Carol Frazier): I'm going to ask Dr. James Watt to handle that question.

James Watt: That's a great question. Local public health authorities do have the authority  
to establish quarantine when necessary but as far as I know there haven't been  
any recommendations for quarantine of persons who may have been exposed  
to the Ebola virus. The CDC does have guidance out for local public health  
departments about how to monitor people who may have been exposed and  
that includes as we've heard earlier follow up with patients for 21 days  
following exposure for possible symptoms of Ebola.

And local public health departments may also do some additional things like  
helping patients develop plans for what to do should they develop symptoms.  
So that would really be in the daily work of local health departments to deal

with depending on the specific conditions. But at present there aren't recommendations for quarantine associated with exposed persons.

(Carol Frazier): Thank you James. Operator is there another question in the queue?

Coordinator: We actually have (Dr. Alex Dumeister). Sir your line is open.

(Alex Dumeister): Thank you very much. I'm (Alex Dumeister) in human sanitization California.

(Carol Frazier): Can you speak up please Dr. Alex? Can you speak up? We can barely hear you.

(Alex Dumeister): Okay. (Unintelligible) what the hassles that dealt with this issue did about patients with (unintelligible) and the urination, are the patients able to use the toilet? Will there be some concerns the virus being spread by stool out the sewer?

(Carol Frazier): Okay. I think we can (unintelligible) that in a number of different ways. (Erin) was going to give us a quick overview of what CDC says and then I do know that Kaiser did have to deal with it so I'm going to come back to (Charu) and ask her to just comment on that. But (Erin) can you go ahead and give us a quick overview of the formal recommendation from CDC on this particular issue as far as waste?

(Erin Epstein): Sure. So the CDC's interim guidance for environmental infection control does address the issue of whether or not a space for Ebola patients do use the toilet in the case we have sanitary doers giving maybe (unintelligible) disposal of patient waste but we recognize that there are situations such as in ICU where a private bathroom isn't available and/or maybe patients might be so critically ill that their of course unable to use the toilet.

In those situations looking at other guidances from other organizations the issue of disposal of urine and feces is - could be addressed by using a dedicated commode and/or a disposable bedpan and the contents -- urine or feces -- can be solidified using a high absorbency gel and then be decontaminated prior to being disposed of as medically regulated waste. And I believe that UCSF described protocol they were using for that - they were planning to use for that.

(Carol Frazier): Thanks (Erin). (Charu), do you want to add anything as far as the experience?

(Charu Bahuguna): Sure. So as I mentioned our patient was quite stable and was permitted in the regular toilet. We didn't have to face the challenge and situation of having a patient who needed a full catheter or didn't have control over body fluid. And so our patient was able to toilet in the regular toilet. I don't have anything more to add to that though.

(Carol Frazier): Okay, thank you. And Amy did you - you covered some of it. Did you want to add anything else?

Amy Nichols: I don't think I have anything to add.

(Carol Frazier): Okay, thank you. Operator is there another question in the queue?

Coordinator: Next we have Anthony Bair. Sir your line is open.

Anthony Bair: Good afternoon everybody. First of all thank you very much for putting this call together, very informative. I'm the assistant clinical director for Kaiser San Diego Emergency Services. My question, just because I've been getting a lot of different answers to this particular question I figure I have the experts

here. I want to ask once a specimen has arrived, what is the timeframe that an expected result can be anticipated now?

(Carol Frazier): Do you mean once CDC receives that specimen?

Anthony Bair: Yes once the CDC - has arrived.

(Carol Frazier): It's usually on the order of one to two days. They do sometimes say one to three days but our experience was in the suspect patient in Kaiser they turned it around very quickly. So they recognize that there's - everyone is holding their breath with these cases and so they've been very responsive and doing this very quickly. The biggest challenge is actually getting it there but the once they have it they turn it around very quick.

Anthony Bair: Thank you very much.

Coordinator: Our next question comes from Edgar Solis. Sir your line is open.

Edgar Solis: Hello, this is Edgar. I'm calling from LAC + USC Medical Center in Los Angeles County. I want to ask how's the transfer root established when the patient was transported from the ER to the ICU and the second is how is the transport equipment -- the gurney or the wheelchair -- processed or cleaned or handled?

(Carol Frazier): Okay, that's a great question. (Charu) can you give us a little bit more information about the patient transfer from the emergency room to the bed or to the room, possible room?

(Charu Bahuguna): Absolutely. So the patient remained in the emergency room for several hours primarily to allow us to make sure that we had all our ducks in a row to

transport the patient properly to the general medical floor. Security was engaged to clear the route. The patient was transported by transporters wearing PPE and was masked and covered with a clean -I believe it was a fluid permeable type of cover.

After the patient got to the regular medical floor, the ED room where the patient had previously resided as well as the gurney were cleaned according to the CDC recommendations for cleaning.

(Carol Frazier): Thank you (Charu).

(Charu Bahuguna): I don't know if that answers the question or if there's more specific details.

Edgar Holis: Yes, no that's fine. Thank you.

(Carol Frazier): Great. Operator I think we have time for one more question.

Coordinator: Next we have (Cindy Rojas). Ma'am your line is open.

(Cindy Rojas): Thank you, this is (Cindy Rojas) from Moreno Valley Medical Center. I actually had the pleasure of talking with one of the IPs at Emory and yes indeed, one of the issues they were dealing with was the patient had massive diarrhea, was losing eight to ten liters of diarrhea a day and what they did was exactly as you described. They solidified the stool and put it into a red bag, goose necked it, wiped the outside with bleach, put it another red bag, wiped the outside with bleach and then that was autoclaved.

(Carol Frazier): Thank you for that comment.

(Cindy Rojas): You're welcome.

(Carol Frazier): Operator I think we have time for one more question.

Coordinator: We have (Janice Polis). Ma'am your line is open.

(Janice Polis): Hello. This is all great stuff for hospital based care and community care but do you have any tips for primary care, if someone was to present to the office with these things what might occur and what you might recommend?

(Carol Frazier): I'm going to ask (Erin) to take that call. (Erin), go ahead.

(Erin Epstein): Sure. The basic infection control and PPE principles I think would apply and also the issue of planning would apply. It sounded Kaiser also had developed plans for what to do if a person were presenting in the ambulatory setting into clinic. And of course hopefully persons might notify the clinic prior to presenting about their symptoms but if not clinics should be prepared to have PPE on hand and have the room identified, spatially separate from other clinic rooms -- hopefully there might be a not a full clinic on that particular day -- then a plan in place to rapidly transport that person to the emergency department where the remainder of plans can be implemented.

Janice Louie Yes, this is Janice. I agree with (Erin). There are no guidelines in place for assessing and managing an Ebola suspect patient as an outpatient but that station, if you feel they meet the minimum criteria -- and you can check with your local health department -- they should be sent to an emergency room with forewarning to the ER and hopefully appropriate PPE will have been used and then decontamination of the area can be done. But there'd be no recommendation if that patient (unintelligible) would send them home and do

home treatment or home monitoring. These patients will have to be hospitalized for now.

(Carol Frazier): And just to finish up just asking our colleagues at Kaiser and UCSF if they have thought about this in particular as far as the outpatient setting. (Charu)?

(Charu Bahuguna): Sure. So yes we - in response to this case we did develop some guidance for outpatient primary care physicians in particular, essentially an algorithm for what to do if a patient presents and spontaneously volunteers, a consistent travel and clinical history and many of the things that have been mentioned. So immediate masking of the patient, placing them in a private room, immediate notification of one's manager and then from there immediate notification of infectious diseases and then we - as the ID and for IP staff triage from there.

I can tell you locally at my Kaiser San Jose facility we've been working to put together talking points for outpatient clinic managers and then also very large tote of PPE kits with PPEs that could be used in the ambulatory setting along with pictures of how to put it on and take it off since that's quite unfamiliar to a lot of outpatient providers and then maintaining a centralized list of who's in charge of the PPE bucket and where they're located in each of our seven outpatient buildings. So that's what we've done here.

(Carol Frazier): Any comments from UCSF as far as consideration of these kinds of patients in the outpatient setting?

(Amy Nichols): Yes, hello (Carol). This is (Amy) and I'll take that. We did have a - for a very brief time a suspect who had come in from West Africa, turned out not from one of the five countries but it took a while for us to know that and the clinic where he presented did things absolutely perfectly.

They masked him, they masked everybody in the waiting room. They masked themselves, got him into a room immediately then called me and I called public health who know of this person. He had actually gone through his primary care physician to the travel clinic and then came here. And we agreed that he didn't meet the criteria -- a poor suspect -- and but its own little drill in the ambulatory setting.

What we had set up beginning in early August was a website on the infection control website on our infection control website with videos of how to put on and take of PPE, our checklist of who to call when and what the recommended actions are. And all of that's on the Internet if people who are interested wanted to Google UCSF infection control. You'll see that it's the first thing that comes up. A link to the Ebola prep site is the first thing that comes up.

(Carol Frazier): Thank you (Amy). I'm going to go ahead and wrap up this call. I want to thank everyone for your participation today, particularly from our colleagues at Kaiser and UCSF as well as for EPO for setting this up. We'll get a number of documents out to you. We just discussed this Ebola drill that we've developed so that'll go out to everyone today I think via EPO.

Also we'll follow up on a number of documents for work with Kaiser on trying to get that document that they developed and we'll share that with you when we get it. We'll work on getting information to follow up on the training, for shipping and then we'll also send out the link to the infection control at UCSF and I think that's about it. Thank you all very much for your participation today.

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

END