TRANSCRIPT OF PROCEEDINGS

IN THE MATTER OF:)
)
JOINT ADVISORY COMMITTEE ON)
COMMUNICATIONS CAPABILITIES OF)
EMERGENCY MEDICAL AND PUBLIC)
HEALTH CARE FACILITIES)
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FEDERAL COMMUNICATIONS COMMISSION

IN THE MATTER OF:)
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JOINT ADVISORY COMMITTEE ON)
COMMUNICATIONS CAPABILITIES)
OF EMERGENCY MEDICAL AND)
PUBLIC HEALTH CARE)
FACILITIES)
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Conference Room A, 10th Floor
AT&T Offices, Inc.
1120 Twentieth Street, N.W.
Washington, D.C.

Tuesday,
December 18, 2007

The committee met, pursuant to the notice, at 10:00 a.m.

BEFORE: JIM BUGEL
Chairman

MEMBERS PRESENT:

LISA M. FOWLKES,
Federal Communications Commission

JAMES A. TURNER,
Verizon

ROMAN KALUTA,
JPS Communications

MICHAEL J. ACKERMAN, Ph.D.,
Assistant Director, High Performance Computing and Communications National Library of Medicine, National Institute of Health

JOHN F. ADAMS, JR.,
NCS Spectrum Manager/Senior Principal Systems Engineer, Raytheon Company

MEMBERS PRESENT: (Cont'd)

CURT BASHFORD,
Vice President, General Devices

JIM CORRY,
Vice President, Government Solutions, Mobile Satellite Ventures, L.P.

STEVEN J. DELAHOUSEY,
National Vice President of Emergency Preparedness, Emergency Medical Services Corporation

ERIC K. GRIFFIN,
Director, Lee County, North Carolina, Office of Emergency Management

LISA KAPLOWITZ, M.D.,
Deputy Commissioner for Preparedness and Response, Virginia Department of Health

JONATHAN D. LINKOUS,
Executive Director, American Telemedicine Association

KEVIN MCGINNIS,
Program Advisor/Communications Technology Liaison, National Association of State EMS Officials

MIKE ROSKIND,
Acting Director, Office of Emergency Communications, Office of Cybersecurity and Communications, National Protection and Programs Directorate, U.S. Department of Homeland Security

KAREN SEXTON,
Vice President and Chief Executive Office for Hospitals and Clinics, The University of Texas Medical Branch

CARL VANCOTT,
Communications Specialist, North Carolina Office of Emergency Medical Services

CHRISTOPHER WUERKER, M.D.
Medical Director, MedSTAR Transport, Washington Hospital Center

MEMBERS PRESENT: (Cont'd)

JOHN WILGIS,
Director, Emergency Management Services, Florida Hospital Association

VIA TELEPHONE:

RICH LIEKWEG
DR. NESBITT
TERRY EBBERT
JOHN NAGEL
TED O'BRIEN
VIRGINIA PRESSLER
DREW DAWSON

P R O C E E D I N G S

(10:00 a.m.)

CHAIRMAN BUGEL: Good morning, ladies and gentlemen. Welcome to the third meeting of the Joint Advisory Committee on Communications Capabilities of Emergency Medical and Public Health Care Facilities. Welcome to the AT&T Washington, D.C. offices.

For those of you who have not found it yet, there is some food and beverage outside. The restrooms are out the door to the left, and then to the right. A couple of housekeeping issues. For those of you on the phone, please mute your phone when you are not addressing the committee. We would greatly appreciate that.

Also, for those committee members that are present and at the table, if you could move the microphones towards you so that the court reporter can pick up the audio when you are speaking, that would be great. It looks down there that Dr. Kaplowitz and Jonathan are going to have to share microphones. So we will go from there.

I have one statement to read prior to the meeting. I have been asked to note at the outset of our session that the FCC Auction 73, the 700 megahertz auction, quiet period is now in effect. During the

quiet period auction applicants are required to avoid discussions of bids, bidding strategy, and post-auction market structure, with other auction participants.

Our agenda will avoid these topics. While we encourage participation through questions, please be understanding and avoid asking questions or raising issues about these topics.

Also, please respect your colleagues' judgment if they determine that they are unable to attend or participate in certain sessions or discussions due to the anti-collusion rule.

We will take the role. We go to the phone first, and go to the bridge. Mr. Liekweg.

MR. LIEKWEG: Here.

CHAIRMAN BUGEL: Dr. Nesbitt.

MR. NESBITT: Here.

CHAIRMAN BUGEL: Colonel Ebbert.

MR. EBBERT: Here.

CHAIRMAN BUGEL: Mr. Nagel.

(No response.)

CHAIRMAN BUGEL: Mr. O'Brien.

MR. O'BRIEN: Here.

CHAIRMAN BUGEL: Dr. Pressler.

MR. PRESSLER: Here. I'm here.

CHAIRMAN BUGEL: Mr. Dawson.

MR. DAWSON: Here.

CHAIRMAN BUGEL: Mr. McGinnis.

MR. MCGINNIS: Present.

CHAIRMAN BUGEL: Mr. Delahousey.

MR. DELAHOUSEY: Present.

CHAIRMAN BUGEL: Dr. Kaplowitz.

DR. KAPLOWITZ: Here.

CHAIRMAN BUGEL: Mr. Linkous.

MR. LINKOUS: Here.

CHAIRMAN BUGEL: Mr. Roskind.

MR. ROSKIND: Present.

CHAIRMAN BUGEL: Dr. Sexton.

DR. SEXTON: Here.

CHAIRMAN BUGEL: Mr. Traficant.

(No response.)

CHAIRMAN BUGEL: Mr. Griffin.

MR. GRIFFIN: Here.

CHAIRMAN BUGEL: Mr. VanCott

MR. VANCOTT: Here.

CHAIRMAN BUGEL: Mr. Adams.

MR. ADAMS: Here.

CHAIRMAN BUGEL: Mr. Corry.

MR. CORRY: Here.

CHAIRMAN BUGEL: Mr. Ackerman.

(No response.)

CHAIRMAN BUGEL: Mr. Bashford.

MR. BASHFORD: Here.

CHAIRMAN BUGEL: Mr. Wilgis.

MR. WILGIS: Here.

CHAIRMAN BUGEL: Dr. Wuerker.

DR. WUERKER: Here.

CHAIRMAN BUGEL: Okay. Lisa, do you have anything from the FCC?

MS. FOWLKES: Not really, other than to once again thank all of you for your dedication, and contributions, and your time and energy to this, and thank you for making it out to this meeting so close to the holidays.

CHAIRMAN BUGEL: And the NTIA representative? Thank you for attending. I, too -- I, along with the vice chairs and chairs of the working groups, NTIA and the FCC would like to again thank you for your time and dedication, and hard work.

There has been a tremendous amount of work done in the last several weeks. I have not been able to participate in all the working group conference calls. I have participated or monitored several of them.

Certainly I have had the opportunity to

review the bodies of work that have been created by the working groups, the drafts, and I want to compliment the working group members on the deliberation and thoroughness of their work.

There are some things that I am generally hearing. We have now seen how modern IP communication technologies have transformed almost every other sector. But the benefits have yet to be fully reached across this sector.

Instead, there are a number of significant communications challenges that reach across the health communications chain, which leave us ill-prepared to take advantage of in the future.

For example, the 35 year old EMS network is fragmented, outdated, fragile, when it is most needed in some cases. Generally, limited only to basic voice communications.

These networks are poorly equipped to converge voice and data to ensure the seamless flow of critical information among multi-jurisdictional and multi-discipline emergency responders, command scenes, agencies, and government officials.

It means that EMS responders on site and during transport can't share real time vital signs, video, patient data, or other information across the

emergency response communications chain.

911 public safety answering points are also utilizing outdated communications technologies that limit their ability to integrate life-saving data from caller to caller. For example, to share the data with the EMS providers, or to withstand a disaster itself, things that we have seen before.

Another example. In our health care system, adoption of available technology and integrated and interoperable communications is an exception rather than the norm.

It creates woeful inefficiencies and bureaucracy, delaying the benefits and cost savings that come from IT modernization, showing adoption of electronic medical records, and e-prescribing technologies, and increasing potential for medical mistakes, which are all exasperated in a disaster situation.

Further, telemedicine technologies are often under-utilized to expand capacity for emergency response, and because these various communications networks and data systems aren't integrated, it leaves us ill-prepared to detect and avoid emergency public health emergencies.

For example, our inability to link 911 EMS

in emergent threat networks undermines the ability to detect, warn, and respond to outbreaks. Taken together the United States is still years away from having emergency communications systems that can uniformly share information across geographic or organization boundaries using common network technologies, protocols, and applications in order to take advantage of the advanced capabilities that modern communication networks can deliver.

To ensure seamless interoperability within and across systems, to future proof the system to enable health care IT savings, boost telemedicine possibilities, and enable more disaster proof communications capabilities, policymakers must accelerate ongoing efforts to transition these systems into modern IP based communications technologies, creating a network of networks that utilizes common networks, common protocols, national standards, and interagency cooperation.

By utilizing managed IP networks, emergency communication systems can take advantage of voice data convergence, enable greater mobility, share information more easily, improve redundancy and resiliency, maximize the efficiency of packet routing, ensure better surge capacity and traffic

prioritization, enable backwards compatibility with legacy systems, increase the ability to use off-the-shelf technologies, and help future proof the communications transition.

But enabling the vision of the next generation network of networks isn't just about investment and managed IP communications technologies. It requires a broader vision, thoughtful planning, better integration, more regional coordination, better training, available standards, improved Federal, State, and local interagency coordination, greater investments, and faster transition to IP based communications networks.

The working groups have covered a tremendous amount of territory in a short period of time, and again I thank you very much for doing that, but I do see common threads.

Today what I would like to do is we are going to have two presentations in the beginning of the meeting; one from Verizon and one from Raytheon. And then we are going to have a second part of our meeting, which will be an overview of the findings, of the draft findings, preliminary findings, of the working groups.

And I think we are going to find some areas

where all three working groups have deliberated and raised issues. I think we are going to find some areas where we may have not gone into as thoroughly as we need to be.

But I would like to welcome or I would like to have a very active discussion about the findings, and then we can see exactly where we want to go with our final report.

As you recall, there are actually four working groups. We have the three working groups; technology integration, emergency medical, and public health. We also have the fourth working group, which is the project management group.

Everyone has completed phase two, and that examination that was conducted during phase two. Now we are entering our next phase, and that is taking the three working group reports, and consolidating, and starting to draft them into a consolidated overall report that will be the basis for our report to Congress.

And I will explain more of that as we go on today. So with that, I would like to ask if there are any comments or questions from the committee?

(No response.)

CHAIRMAN BUGEL: With that, I would like to

turn the floor over to James Turner with Verizon, who is going to provide a briefing on advanced health care capabilities and communications solutions.

MR. TURNER: Good morning. I am James Turner from Verizon's information technology organization. Thank you for inviting us here today to discuss opportunities on how to improve emergency health care.

Verizon is a major employer. We have about 240,000 active employees, and we are ensuring a family, a Verizon family of over 900,000 throughout the country, at a cost of slightly more than 3-1/2 billion dollars per year.

We share your concerns. Emergency care is one of the most critical and time sensitive care opportunities in the health care system to support our Verizon family. Did I mention that I am from IT?

(Laughter.)

MR. TURNER: I would like to discuss four things with you today, and then make some closing comments; the challenges facing emergency health care today, a vision for the future, conceptualizing an integrated health care network, and practical applications of technology to health care.

Today's health care industry is faced with

numerous challenges around the sharing of information. Not only are communications systems used in health care inadequate, but the culture itself does not foster free exchange of information across silos.

Access to patient information is vital in an area where every second can mean life or death. There is a need for real time information between patients, first responders, and care centers.

IT spending in health care is lagging behind many other industries. The financial sector is a prime example of an industry that has used information technology to transform itself.

Banking customers can use any ATM throughout the country and throughout the world to access their accounts. They can pay bills, transfer funds on-line, check statements on-line. The old paper statement that we looked forward to each month has now been replaced with an e-statement in an e-mail.

And many of the financial institutions allow their customers to aggregate portfolios from other providers on their portal and provide access to a multitude of capabilities.

As a result, customers are more informed, and better utilize banking services. The banking example is a good framework for technological

advancement in the health care field.

Such access and flow of key patient information is expected. We expect it in the health care sector as it is in the banking sector, so patients can receive the right care, at the right time, at the right place.

The current state of emergency care provides highly fragmented information that is not readily available when needed. Coordination between emergency care organizations are mostly silos and unable to share effectively key patient and event information.

This can lead to unnecessary medical complications and extended hospital stays, as well as foster a non-collaborative environment across providers. Our primary concern is the fact that emergency caregivers are ill-prepared to handle a major disaster.

In the future, we must create an environment where first responders, biometry monitoring devices, and medical personnel, can freely share information from anywhere, anytime.

The network providing this interconnectivity will be persistent, easy to access, and provide the bandwidth necessary to support media rich health care applications.

The reach of this network will extend into both urban and rural areas, allowing access to medical specialization and consultation that was not previously available.

The time is right to implement such a network due to the unique convergence of the stars, the network technologies, with the devised software and intuitive interfaces that were not available before. The result of the internet boom, our society has evolved into a culture of information consumers, providers, and creators.

We are familiar and comfortable with the vast amounts of information available and expected in all areas of our lives. This expectation of the availability of information extends into all areas of health care; emergency are, in-care, remote care, intensive care.

The internet laid the groundwork for transaction automation. We were thrilled by being able to quickly do the transactions that before had been done in the mail. The next generation of internet builds upon this to add rich media applications, like high definition video, audio, and imagery.

Internet Protocol Version 6, Ipv6, enables

any device to access the network and take advantage of these direct accessible applications, making it available anywhere at any time.

Health information exchanges, a fairly new term, and not an old concept, but new to health care, enables interconnectivity of applications and allows medical information to flow across the network to anyone who needs it on the device of their choice.

Smart help applications can be developed to push necessary during an urgent or emergency situation. It can help alleviate a stressful, emotion filled condition, by providing relevant information directly to the person in need, as well as provide location based services for first responders.

The health care network requires a four-tier architecture. Each of the tiers builds upon one another. The network provides the bandwidth and the connectivity to enable next generation devices, which are directly accessible, addressable, on the network at megabyte speeds.

Remember when you had a cell phone and you could make and receive a call on it? That was a great device. And then that device became something else. It could take pictures.

And then that camera was soon able to record

video plays and play music. The devices are more now of a personal assistant. Now imagine a digital companion that can help you during an emergency. That device has now developed the intelligence to help you in an emergency situation.

These devices themselves have evolved to include multi-function capabilities; voice, data, and video. The applications running on these devices are becoming much more intelligent, and the interfaces that support the applications on the devices are more intuitive, more personalized to the user, and no longer platform dependent.

Convergence and innovation are critical aspects for the future of health care. Currently the internet is limited in the number of devices that can directly be addressed and addressed.

Internet 2.0, with Ipv6, enables direct device addressability. Think of it as moving from four digits to six digit dialing, and the expansion of capabilities and addressability.

Devices connect to Internet 2.0 at megabyte speeds, which enable persistence, they are always present, always on the network. This awareness allows for instantaneous access to information critical for emergency health care.

Let's walk through a hypothetical example. My friend, Andy, was going to visit a mutual friend who wasn't feeling well. On his way, Andy hits the guard rail and runs off the road. Notice Andy hanging over the cliff there in his car.

Lorette comes upon the accident within a few moments of it happening. Lorette is a good samaritan, observes the driver is unconscious and bleeding. She presses the emergency button on her device and is instantly connected to an emergency response center.

She explains the accident and activates the high definition camera on her device. The center is able to see Andy and dispatches an emergency response unit. The EMTs connect with Lorette on her device, and walk her through some initial first aid and help assess the event before they arrive, including enough information to determine Andy's identity while they are en route.

The EMTs access Andy's key patient information. They can see what medications he is on, any medical conditions, and also access his emergency contact information. They are better prepared, better informed, when they arrive at the scene.

They pull Andy from the car, which teeters on the edge, and it falls over the hill. During

transport the local emergency room physicians are able to monitor the EKG and other devices, real time, and observe Andy by high definition video in the ambulance.

The EMTs verify Andy's identity, and he is preauthorized first responders and medical personnel full access to his medical information during an emergency event. The emergency physician observes Andy's vital signs, and determines that Andy is most likely suffering from internal bleeding.

The surgical unit and surgeon on-call are notified to be prepared and are granted access to Andy's medical information. Andy arrives at the ER and is immediately taken to surgery.

The surgical team is prepared. They, too, have been monitoring Andy in the ambulance and are aware from his medical record that Andy is taking some blood thinners and other medications that could cause complications during surgery.

The ability to share real time information on the event and access the medical file and enable a successful surgery. Andy spent a day in the intensive care unit, where he was monitored 24-7 by an intensivist that was at a remote facility, who monitored multiple intensive care units.

Andy had left the hospital after a couple of days and watch out, he is driving again. This example is merely a glimpse into the possibilities of the future of health care.

The health care sector can learn from other industries, and apply best practices to emergency care and more broadly to all of health care. The communication industry has experience in building and operating state of the art networks, deploying a technology infrastructure of central offices and data centers, and supporting multiple devices on a platform.

The financial services and banking sectors have mastered transaction processing and secure access. Our future health care system will enable media rich applications which allow patients, first responders, and caregivers to easily share information and achieve better outcomes. It is all about saving lives and improving outcomes.

Thank you for your time today. Are there any questions or points that you would like to discuss further?

CHAIRMAN BUGEL: Yes. Thank you, Mr. Turner. I have got two questions before I open it up to the committee members. When you refer to the

Internet 2.0, could you define that a little bit, and did Al Gore invent that, too?

(Laughter.)

MR. TURNER: No, I think he invented everything and holds all patents. Internet 2.0 is currently deployed to major educational institutions to provide gigabyte speed between them to build a very high speed backbone as the next generation of the internet.

Now what this will allow is megabyte connectivity to the network, rather than kilobyte, which we have today. If you think back about how excited we were -- well, when I was young, and I got my 300 baud modem, I was really excited about being able to connect, but I watch those little dots each time.

That does not work in health care. What works in health care is the promise of Internet 2.0, which will provide hundred-megabyte connectivity from the device into the network, and the network will be able to support it.

CHAIRMAN BUGEL: And relative to the policy, the transitional policy recommendations that you would ponder in order to facilitate this, what suggestions would you have for the group relative to that? I

mean, your example is not dissimilar to other things that we have seen, and that the working groups have explored.

Certainly the people in this room are on the front lines of things, dealing in some cases with the very advanced applications that are out there, and in some cases dealing with some of the more fundamental ones that have been isolated or remain static for years.

But one of the things that I am seeing, and I am sure others are seeing, in the work that is being done by the working groups that there are these opportunities, but there is -- it is just a little bit beyond the current state. How do we bridge to the next stage?

MR. TURNER: Well, I believe it will take a collaborative effort. The first thing that we must do to build it is to have the network, the network that everyone can plug into, and operate at the right speed, and have accessible devices at the right time and the right place.

So I do believe it is, first, to build that network, get the devices connected, and then enable the applications on top so that it is an open system for people. Many times we develop great things, great

things in closed systems.

Those closed systems block access to vital information. So as we open up those applications and put them on a network that is widely accessible, I think that would be key.

CHAIRMAN BUGEL: Well, yes, that's obvious. Obviously one of the issues that not only this group, but all other groups that have been working on this issue. You know, we do have silos that have been built over the years.

And those silos are based on technology sometimes. They are based on political boundaries, and they are based on funding. They are based on a lot of things. So, any questions from any members of the committee on the phone? Mr. Griffin.

MR. GRIFFIN: I was just wondering. Do you have any suggestions on how we overcome some of the silos regarding the private sector and concerns over market share, and management such as that, such as dealing with all this knowledge based that are involved with these, the pharmacies, the health care institutions and everything, and more of them may be for profit, and they don't want to disclose certain patient information.

Basically, their financial information,

which could be insinuated through patient records. How do we get them on board for something like this?

MR. TURNER: Well, I think what we are seeing is a move towards consumerism. Consumers are going to be the drivers or need to be the drivers. If you look at really who benefits from most of the work that is being done in the health care space, the person who will benefit the most by everything working well together is the patient.

And the patient probably has the least voice in the system right now. But that is gathering steam. Patients are now starting to demand more of their local doctors.

They demand more of the pharmacies that they use. They will go to, they will switch, to those that are providing the services that they now demand to be electronic. So, I think that consumerism is going to be as strong a driver to push things along.

CHAIRMAN BUGEL: Mr. Delahousey.

CHAIRMAN BUGEL: I'm sorry.

MR. TURNER: There is also another strong basic concern. Companies are educating their employees to be more involved, to understand what is going on, and those collectively become very strong voices.

If you have a few hundred-thousand consumers who are now saying, hey, I see someone over here who is getting this type of electronic access, and you are not providing it because you think that is an advantage to you. Your advantage is keeping me as a customer. So you need to free that up. So the consumers and consumer coalitions can have very strong voices.

CHAIRMAN BUGEL: Mr. Delahousey.

MR. DELAHOUSEY: Yes, Steve Delahousey with EMSC. The solutions or the scenarios in your presentation were based on the premise that you had a functioning infrastructure, and the technology that you were talking about, if it doesn't exist, it probably will.

I am concerned about our ability to communicate during times of disasters. This advisory panel was formed as a result of the recommendations of the 9/11 Commission. We had communication failures there.

It appears that perhaps a partially functioning infrastructure, but because of congestion, and other problems, EMS was unable to communicate effectively during that disaster.

We saw it again in Hurricane Katrina, and

contrary to popular belief, the communications infrastructure was not destroyed in all of South Louisiana and South Mississippi, and many times it was the inability of the vendors, your own people, to gain access to their equipment so that they could repair it and get it to function.

And while all of these technologies would be good, you made a comment that we were excited about the day that we were able to use cell phones. Today, if we have a catastrophic event, like another 9/11 or a Katrina, I am just concerned about our ability to use cell phones.

Forget about the rest of the technology. What can we do to ensure that we are going to have wireless communications in the event of a disaster. Do you have any suggestions?

MR. TURNER: I don't. I would have to think about that and get back to you.

CHAIRMAN BUGEL: Dr. Kaplowitz.

DR. KAPLOWITZ: I just wanted to raise a few points about consumerism, because it isn't the same in health care. At the moment the consumers themselves aren't the major payers, and that involves working with business and with payers, including the Federal government, who may be the largest payer at this point

through Medicare and Medicaid.

And this becomes a big issue, because we talk about consumerism and health care, but quite frankly people often don't have choices, and they don't have choices in terms of systems that you are talking about.

So I think a lot is going to fall on pressure from payers, per se. So I want to bring that up as an issue because it really makes health care very different from other businesses.

And I have heard an analogy in terms of banking. For health care, there is no Federal Reserve of health care. In banking, you have some glue that pulls all the banking industry together, and I just have struggled with this because how do you pull together health care to work in a common way when you are talking about information technology and sharing of information.

Believe me that I don't have any easy answers on this, but I think some of these issues are going to be much more difficult to overcome obviously than the technology, per se.

So again, I struggle with this in health care. Now what is going to be that unifying force that says, okay, you know, we are all going to do

this. Is it going to be through the joint commission? Where are we heading on this in terms of linking together for communication purposes.

And again I don't think the barrier is going to be the technology. I think that there are going to be many, many policy barriers to this, including the mishmash of how we pay for health care at all different levels.

MR. TURNER: I agree with you that there are lots of examples where closed systems have made it work very well, very well. One example in the government, Veterans.

DR. KAPLOWITZ: Veterans Affairs works very nicely, but quite frankly, they are a single payer system.

MR. TURNER: right.

DR. KAPLOWITZ: And they have the ability to shift resources where they feel it is most valuable, and it is no accident that they had an electronic medical record linked again to quality.

And unfortunately, however you think of it, the rest of health care out there, outside of the VA, and outside of the Department of Defense, it is going to be an issue.

MR. TURNER: Well, I do agree that the VA is

a very good example of a well working closed system. When you start to open it up to other people to use, it doesn't work quite as well.

So the issue of what is the glue that puts people together, it is the concern and the elevation of health care, the attention to health care in the country that may actually bring more momentum to driving to solutions.

I wouldn't discount the consumer too much. An educated consumer wants the best care. They want to understand options, and can be a driving force with payers and others as you start to bring them together.

DR. KAPLOWITZ: I agree to a degree, but when you have the consumers who are still very much hooked on what is coming out of their pocketbook, and not even grasping the cost of health care because they are not paying most of it, and most people in this country don't have a clue what their health insurance is actually costing.

MR. TURNER: Absolutely.

DR. KAPLOWITZ: So I still, you know, over and over, being in health care myself, I still see people in health care choosing solely on the basis of what their premium is going to be per month, as opposed to thinking of any of this other stuff, like

which health systems they might be hooked up with, which to me is actually more important than perhaps your individual physician when you are talking about this.

MR. TURNER: Absolutely.

DR. KAPLOWITZ: So there is my skepticism out there.

CHAIRMAN BUGEL: Any other questions for Mr. Turner? Yes.

MR. GRIFFIN: I have got one more question for you, and I should have asked this before, but I just thought I would ask you. Well, how do you feel we can deal with these whole proprietary natures of these networks, and making sure that the information is being shared easily and completely accessible?

MR. TURNER: Well, I am hopeful that people will want to participate in the information exchanges, and at least at some level to get even the basic patient information assembled, and I believe that will be a good start.

MR. GRIFFIN: Who should be the driver for that, the government, or the private sector, or both?

MR. TURNER: I think it is a partnership. I am seeing the ROIs become more health exchanges, more State participation in them, and then there is Inhand,

which is looking at connectivity of the State HIAs.

There appears to be some momentum. I don't know where it is going to go, but it is moving what I think is in the right direction.

CHAIRMAN BUGEL: Thank you very much, Mr. Turner, and I do agree with your closing comment regarding a partnership. I do share Mr. Griffin's and Dr. Kaplowitz's concern about how you move it. As my grandfather used to say, if you want to starve a dog to death, assign two people to feed it.

(Laughter.)

CHAIRMAN BUGEL: And unfortunately that maybe where we are at in a lot of cases, and I have really learned a lot through this process, and the ownership and partnership issue actually creates sometimes the starving of the dog.

I just want to take a second and maybe tap on Dr. Kaplowitz or you, Mr. Turner, or somebody else. The VA has been held up as that shining example, and several times I have seen that reference. Could you just spend a minute explaining why that is the shining example in a closed system, albeit in a closed system? Could you enlighten us a little bit more? Thirty seconds.

DR. KAPLOWITZ: Well, okay. From my

knowledge of the VA system, it actually had undergone an incredible transformation that started in the mid-to-late 1990s, when King Kaiser came on board and made the decision to transform the entire system, linking the use of electronic records to quality.

And this was picked up by John Perlin, who really set the tone of linking these. So the leadership helped enormously King Kaiser. I never worked -- well, I did work in a VA Hospital, but in the system, per se, I have to think that the people at the top made the decision to make this happen, and had enough control over the resources in the system.

It is a closed system, in terms of financing, and somehow the decision could be made, and was made at the very top. Leadership here was absolutely key. So a combination of leadership and a system where they could take resources to do that, to develop the electronic record, and then to take the steps to link it to quality measures, and to set up regionalization of their system as well, which I am sure was key.

So again this is the big picture, because I haven't worked within the system except as a physician. But that has been my overall impression, that the decision was made in the 1990s to really move

strongly in this direction, and access to a certain budget.

They are required to work within a certain budget annually, and the decision could be made in terms of how to allocate the funds, both overall and individual institutions.

CHAIRMAN BUGEL: Dr. Ackerman.

DR. ACKERMAN: You know, to answer that, there is not only the management of the 1990s, but the electronic medical records of the VA goes back to the early 1970s. So the condition of the electronic medical record, there were many false starts about the electronic medical record.

It did not happen the first time, but with management's forward thinking, doing it over, and over, and over again, by the 1990s, they really understood what they were up against, and the management scheme made it happen.

But I also need to reinforce the closed system nature, and that is that a meeting, I said to one of my VA buddies, okay, I couldn't get over to the VA Hospital because I was either lazy or there was snow on the ground, and so I took my prescription over to CVS to get it filled.

How are you going to get that record into

the system. The answer is that I hope that you mentioned it to the doctor when you came that you filled it, because there is no way that they can get the record from CVS into the VA system. It is a closed system.

MR. TURNER: If I may add?

CHAIRMAN BUGEL: Sure.

MR. TURNER: I think another advantage is that it is a nationwide system. If a patient moves from California to Washington, D.C., their records are accessible, and they have continuation of care.

So it is that singleness, and they do have breadth and reach. The system that was deployed in the 1990s was actually a development in the collaboration of the doctors, the nursing staff, administration, and patient.

They got everyone involved with it and got tremendous buy-in, and they cut their costs significantly. So they had the ROI.

CHAIRMAN BUGEL: Okay. All right. Well, thank you again, Mr. Turner.

MR. TURNER: Thank you.

CHAIRMAN BUGEL: I will now turn to Mr. Kaluta, with Raytheon, to brief us on LMR/IP overview.

MR. KALUTA: Well, I, too, would like to

thank you all for providing us an opportunity to give you some overview about IP and LMR integration or convergence. Your opening comments, Mr. Chairman, were right on point.

And I think you will see throughout my presentation some of the common threads between public safety and what they have been dealing with as well, and hopefully we will have a very good discussion regarding some of these things.

MR. CORRY: If you could speak up just a little bit, Mr. Kaluta.

MR. KALUTA: Certainly.

MR. CORRY: We can't hear you down here. I am an old guy and I haven't gotten to the point of hearing aids yet.

MR. KALUTA: That's because you are retired Secret Service.

(Laughter.)

MR. KALUTA: I happen to be a retired police lieutenant, and so I know these things.

MR. CORRY: We tried to stay with the locals as long as they could.

(Laughter.)

MR. KALUTA: A little disclaimer. We go back a long way, and regardless of what is being said,

we are friends.

CHAIRMAN BUGEL: So far these things have been pretty cordial.

(Laughter.)

MR. KALUTA: And just briefly so that you do know who it is that is speaking in front of you, I was a police lieutenant and spent 25 years in Alexandria, Virginia.

Most importantly, the last four years of my career, I worked with the NIJ/AGILE Program for outreach and communications interoperability, and I was the program director here in the Metropolitan D.C. area for the interoperability test bed, and the subsequent one of the interoperability solutions that was put into place here in the greater Metropolitan D.C. area.

And as far as our company, and when we talk about voice interoperability, we were well known as a voice interoperability company, and that is no longer the case anymore.

We must recognize the convergence of IP, the convergence of voice data and video, the collaborative working together of different companies that can bring technologies together both on the data side, and on the voice side, to allow these parent systems to work

together.

On the radio side, we do that, and we have done that for many, many years. One of the things about technology which holds true with what you are looking at here, your IT and data integration as well, all the technology in the world is not going to solve anyone's problems.

If you look down to the lower part of this slide, it is the policy and procedures, and actually going out and working together, and the establishment of governances, that are going to allow these things to happen.

In the earlier discussion, and I will go just a little away from my presentation, but if we look where different municipalities have moved forward and provided good communications interoperability and data exchange, and in the public safety community, which I am mostly aware of, mobile data computer, sharing of criminal records, all of those things that also have controls over them and laws that regulate how they can be distributed.

It is because they have a strong either council or governments, or regional planning commissions, and I see traveling throughout the United States in my role as the director of interoperability

solutions more and more collaboration between the public side, the private side, the military, and all of these people starting to participate in these groups.

There has been very much success gained from that type of participation. We have a complete technology sweep, not unlike many other technology sweeps that are out there.

But no one from Raytheon is going to stand in front of any group and say we have the answer. We have one of the answers, and we think that we have a very, very good one because we are trying to manipulate our technologies to work within established standards, work with Legacy systems, and bring parent systems together.

Mostly on the top, and what I will refer to as our interconnection capabilities, are our audio switches, which I will refer to by them acronyms, ACU-M, ACU-2000 IP, ACU-1000, and ACU-T, all of which have been network capable for many, many years.

Network capable, but proprietary by the way that we did voice and radio over IP. Now we do share about a 70 percent of the installed base of the communications interoperability equipment, both in the public and private sector throughout the Continental

United States.

Proprietary isn't always bad, because our systems talk to each other, and there is other vendors that have licensed our technology to do that, but the 2000 IP, which is one thing you will see referenced also through this presentation, is incorporating a new standard, and I will talk about that in a couple of slides, which is very important both on the communications side and on the data side.

These certainly are not news to you. I had them down more for me just to speak. These are very, very good goals to have, and very, very strong things that need to be identified, and as you said in your opening remarks, you have seen this in your working groups of having so many stove pipes or just similar systems, or lack of cooperation between entities to work together.

I had the formidable task of being the project manager for the communications test bed with the Department of Justice in the Washington, D.C. area. Now if we can get the multitude of public safety agencies from multiple disciplines, and emergency management, and two State, and one Federal agency, with the District of Columbia -- and they covered Maryland, Virginia, and D.C. -- all to work

together and come to the table, anything can be done.

I think everybody can agree on that. Likewise, there has been a Federal initiative over several years here in the Metropolitan D.C. area known as the Kaplan project. It is an IT integration on an open platform to bring in dissimilar communication -- excuse me, mobile data systems, and record systems from Virginia, Maryland, and D.C., a very, very big undertaking, because all of us have State regulations on how those records can be shared.

And that's done and that is operational right here in the Metropolitan D.C. area, and it is a very good example of how that can be achieved. I am sure that this document here is not uncommon to everybody in the room either.

This is the Interoperability Continuum, and as I said, we were focused more on the voice side. The new chart is coming out very soon. The only change to it is in technology.

They have actually put a line down the middle and added data interoperability there, because it is becoming more and more important, and just how important that issue is, and a lot of the different configurations of disparate data systems, or just like this parent radio systems, and we need some standards

to be able to integrate those.

Now I got to attend the Critical Incident Preparedness Conference in California a couple of weeks ago put on by the Justice Department, and I saw a very good representation about this, and they said that left and right is not right or wrong.

This is a continuum, and the fact is that if we look at the technology, and you have somebody there that just wants to share radios on the voice side, that may be all they need to do and never have to get over to the right side.

From my law enforcement background, I like to compare it to the use of force continuum. A lot of people say that we have to be over on the right side for everything. That's where we have to be.

Well, on the right side of the use of force continuum is what? Deadly force. On the left side, what is it? It is presence. If presence will take care of it, and working together, or sharing a radio, or allowing someone to access a database system, that might be all that is needed outside of the large shared networks.

Certainly good goals to work towards, and use it as a focal point of a goal, but also understanding that there are viable solutions in

between as well. There was a comment earlier, and I had the unfortunate experience right before I retired, but about 45 seconds after the plane hit The Pentagon, I drove across the 14th Street Bridge from the D.C. side, and we were over here to have a meeting, and we talk about cell phones going down, and infrastructure going down, and systems becoming overloaded.

What is going to happen when we have a Katrina, a 9/11, major floods, and we lose that infrastructure? But when we bring our technologies in, we bring them in in many different formats, such as here in the D.C. area, there is fixed sites that can instantly link radio systems together.

There are transportable mobile assets that can go out on the street and bring broadband capability for back haul. A case in point. In St. Bernard Parish, Duluth County, Georgia, went down there to assist with their mobile command vehicle.

They came back and had some work done at our shop, and then went back down to help out. But while they were visiting us, they said we could text message all day long with our folks back in Georgia, but we couldn't talk to him, because we didn't have a phone, and we didn't have a radio.

I said, well, if you took your technology,

your bridging system technology, your radio system is there, and put that on your network, then you could back haul voice communications back to Georgia, which is what they did, and many other agencies did as well.

So they used IP and satellite to provide that activity. As we move down further, of course, tactical units. I think that one of the common threads that I see, or hear about, at all of the different conferences or presentations that I go to from the public safety side -- and I am sure that the same holds true for the medical side -- is if we lose infrastructure, we still have to have that point to point communications. That's important. That is absolute.

So we don't want to rely solely on the network, solely on a piece of software, and sometimes it might just be my radio to your radio so we can talk, or a push to talk phone from an ambulance to a hospital, to be able to talk.

During Hurricane Charlie, we used the satellite system to access a phone system in Raleigh to make phone calls for them because they had no phone service. So that's where we are talking about the convergence of IP and land mobile radio.

The deployments, and I have some examples of

some that are being used in the medical profession in some upcoming slides, but they can be large wide area systems, but you also have to have redundancy like you had mentioned earlier. And what happens if that infrastructure fails, and how do we replace it?

Going down to the quality portions on this slide, one of the things that most supports redundancy is a disputed design. If a computer fails do you lose everything? You shouldn't. There should be some kind of backup, some kind of redundancy for that.

Our system's technologies for land mobile radio is if the network fails, you may lose that portion of it, but you don't lose the point to point communications of any disparate system that has been linked together. We feel that is very, very important.

It does need to be scalable and it does need to be able to be configured out in the field, so when changing situations occur that you have the capability to deal with those changing situations.

On the public safety side, on the private side, and in the military, the convergence of IP, land mobile radio, data systems, voice data video, it is happening. Unfortunately, it is happening and sometimes it is proprietary.

Again, it is a stove pipe, and I am sure the same holds true for your clientele that you are trying to come up with a solution for. In the land mobile radio field, voice over IP integration of IP and voice over IP, the National Institute for Standards and Technologies set up a working group about a year ago.

I have to applaud them, because I was involved with many when I was with the Justice program before I left the police department. They have maintained focus on what it is that they wanted to achieve.

They brought industry, and they brought public safety, and private sector people in to the table to develop a standard. They have about got that standard finalized, being session initiated protocol, and that is an important thing that I want to bring up to you here today.

In the telephony and network world , SIP has been around for a long time, and it is an accepted standard. For public safety, most of the systems that are being utilized, either dispatch consoles, radio systems, are all proprietary.

Now a standard will be formalized to allow these systems to work together seamlessly using an open standard. So I am not limited by the technology

that I buy. Hopefully it is backwards compatible so older systems can be upgraded, and then dissimilar systems can be working together.

SIP is what is used to set up and break down a call or a network connection within these large network systems; PBXs, information, management type systems. This allows the seamless integration of the voice side by land mobile radio into these networks.

We will be participating in another industry, what they call a plug fest, to bring this stuff all to a table, and hook it up and see if this standard actually works. The second one is going to be conducted after the first of the year.

Certainly we do have a low cost standard. Most of the things that I have here are just placeholders for you to refer to later on. I have mentioned most of them. But we believe that we bring a very economical solution, and I think what is most important to this committee is the fact that throughout the private sector, military, and public safety, there is a great deal of Raytheon's technology in place today.

It is all backwards compatible to be SIP capable with our new technologies, and many, many people, our customers, are utilizing this, not only

for the public safety, but to reach out to their private partners, emergency management, and so on.

Just as an example, if you think about it, everybody knows how to use a telephone. We hope everybody knows how to use a telephone. Mostly like when I get on an airplane, they tell me how to buckle the seat belt, and we can of assume that people know how to buckle their seat belt.

Well, in the telephony world, when you start looking at these larger VOIP phone systems, the new ones, and they are embracing this new standard of SIP, you can have a PBX server out there, but you also have rules and authorizations to allow users to talk to each other, just as you do on the network side, and the data part of the line on what can be shared or what can be transferred.

In this case, using that same technology, regardless of being vendor neutral on the radio and on the network side, as long as the standard exists, we can integrate those technologies together, and are integrating those technologies together.

I have a couple of slides that just show you a few of the hospital associations throughout the United States that have embraced our technologies to meet their needs, and again that is one of the focuses

of our company.

We don't come in and just say, here, this is what you need. We like to come in like all good companies and say what do you need to accomplish. That is the overall question, okay?

And in these cases, they had multiple sites throughout a region, over a large area that they needed to be able to connect their voice systems together, and they utilized their existing LAN and WIN infrastructure to put this equipment on to allow that to happen.

And the second example there, they had rapid response trailers. So they wanted to do that more in a tactical and a mobile type environment, but they utilized satellite network conductivity to be able to do that.

We will move out to a few more. Two examples. For the University of Kansas, and for Blue Cross/Blue Shield as well, large health care facilities, dissimilar radio systems, dissimilar communications systems, and they wanted to bring those together so they could establish voice communications.

But like I said earlier, and I will probably repeat it again before I am done, the technology alone does not have that happen by itself. Rules, policies,

and procedures, testing, and exercising the different technologies is what is most important.

Likewise, with the air ambulance services, if you go to the next slide, one of our first examples when we introduced our SIP technologies was in Canada. They had a complete SIP PBX system. They had a radio dispatch system. They wanted the two to be merged together.

They didn't have the capability to do that, and so we brought our technologies to them, and now they have both radio and their voice communications capabilities here at the STARS Center.

Certainly I need to put in a quote for my company. It is nice working for Raytheon. It's nice working for Raytheon. I joined it when it was known as JPS Communications, but the mission statement of Raytheon is "Customer Success is Our Mission."

That's an easy company to transfer out of public safety and work for on the private side, because their total intent is the customers success. One of the reasons that I am here speaking to you today is just mostly to make you aware of these technologies, and certainly there are other technologies out there.

Due diligence needs to be done to look at

all of these different technologies, but to know that there are some viable solutions to address both your voice side and now the integration portion of it as Raytheon is an integrator, mostly on the DoD military side, but now moving over into the private sector and the public sector as well.

Certainly not an all-inclusive list, but as you can see from some of the names here, and of course the ones that I put at the top is the Metropolitan Interoperability Radio System. That is the one that is housed right here for fixed sites throughout the Metropolitan D.C. area that allow seamless communications.

Those of you that are from here locally know that currently Prince Georges County is on UHF-T Band. Well, how do they talk to the 800 users in the Northern Virginia area, or the Washington, D.C. Fire Department?

They can do that seamlessly, firefighter to firefighter or EMT to EMT, over this system that is in place, because those two radio systems do not talk together, and that is one of the systems that we provide.

Prince George's County, and the Maryland State Police likewise have a statewide radio system

based on this technology running over a microwave network. Actually, it is a microwave network that was mostly stood up by the medical community and State medical association in the State of Maryland, that they borrowed bandwidth from to be able to do that.

And likewise you can refer to many more of them there. You see we have there a rather long list of users, and certainly if recommendations are needed, or site visits are needed by any of your working committees, or your group, we can make those available to you.

Again, I thank you for giving me a few minutes to go over in this presentation with you. Are there any questions?

CHAIRMAN BUGEL: Thank you, Mr. Kaluta. Any questions from the committee members on the bridge?

(No response.)

CHAIRMAN BUGEL: Questions from committee members present? Mr. Delahousey.

MR. DELAHOUSEY: Steve Delahousey. Briefly tell me the difference between the ACU-1000 and 2000?

MR. KALUTA: Yes. The ACU-1000 was our flagship product to connect disparate radio systems. We do provide a radio over IP, voice over IP capability, with that solution that has five different

vocoders can be structured to the bandwidth that is available.

But it is proprietary. It is one ACU talking to another ACU, or an ACUM, or an ACUT, or the thin client that we have that allows a PC to do both receive and push to talk.

Now like I said earlier, there are some companies that have licensed that API, that ability to talk, and some different console companies and things, but it is proprietary.

The ACU-2000 does everything that the 1000 does, but it brings in the SIP protocol. So now there is a module there -- there is actually two different modules there -- that allow the seamless integration of voice from dissimilar systems using SIP.

One example that I can give you -- we did here a press release here not too long ago -- the Cisco IPICS system, in Danville, Virginia, the test bed that they set up there through the Justice Department.

They wanted to link to the North Carolina State Highway Patrol System, but with the ACU, they had to use a four-wire audio interface, and then go through a router.

But the ACU-2000, using SIP, the software

solution of IPICS seamlessly talks through an open standard to the 2000 IP that the Highway Patrol has, because their system is a wide area network, with now 18 different sites throughout the State of North Carolina.

And how they have an integration of the two, totally different companies, using an open standard to connect those two systems together, and it is completely backwards compatible.

CHAIRMAN BUGEL: I guess I am going to ask you the same question that I asked our previous presenter, and certainly you have -- you, and Raytheon, and the community is well presented, with Mr. Adams being on our technology integration group, but what policy recommendations would you have to help facilitate the continued deployment/acquisition by communities that need this technology? What would you recommend?

MR. KALUTA: Having lived it as the program manager in the D.C. area, and now one of my primary duties is to do outreach throughout the United States to help agencies bring together this kind of technology, I think first and foremost it has to have support from the top, but it has to be a bottom up solution.

We experienced a few agencies in a couple of the different areas where we have integrated this technology, where someone said I am not going to play. Fancy that. I am not going to play. No, I don't want to have anything to do with this.

Rather than wasting our time with that person or trying to force that person, the other people that wanted to come together and build a system that they could have communications interoperability, they did.

I think their reluctance was more that they were unsure of the technology. They didn't realize what the benefits would be. Once they saw that it worked, they were knocking at the door and wanted to get on that committee, and wanted to be a part of that.

One of the presentations that I got to see other than doing a lot of work in Texas was when Judge Kimbrough was heading up the Department of Homeland Security there in the great State of Texas, and a big map comes up on the power point, and he says, you know, I wish I was the Homeland Security Director for Delaware or Rhode Island, because he took the whole Eastern United States and plopped it right in the

middle of Texas, and they had a lot of room to spare all around it.

And then what he did was he took circles, and he drew those around every one of the regional council of governments throughout the State of Texas. They all overlapped. They all had their own needs, but they also knew what their neighbors' needs were.

And he said this is how we have to address the ability for us to work together in the State of Texas. Wichita Falls doesn't need to go to Corpus Christi to hand them a radio to do communications interoperability.

However, staging equipment and working through those regional programs, much like the Metropolitan Washington Area Council of Governments, I sat on numerous committees here, and having that end-user subcommittee structure to bring in, and I think in ways health care as well, into those different organizations, could be paramount towards your goal.

CHAIRMAN BUGEL: The committee has examined a lot of this history, and we continue to wrestle through the policy short of having happened what Colonel Ebbert is dealing with, of having yours completely destroyed, which gives you a lot of incentive to do it another way, to kind of merge that,

too, with this big consolidation.

One of the interesting things that we are seeing is that these regional interests are developing themselves. I mean, there is communities of regional interests -- the National Capital Area, Ohio, West Virginia, Pennsylvania.

I mean, there are a number of these regional multi-State, multi-jurisdictional organizations, that are congealing around themselves out of necessity. So that is actually a very interesting thing to watch.

MR. KALUTA: I will mention one other thing. Having gone through the grant processes in my early days as a fiscal officer before I got even involved with communications and communications interoperability, the best grant submission got the support.

One of the changes that occurred a few years ago, as far as Federal funding for this type of technology, is that you have to buy into a regional approach, and if that is not presented, and if that money that is providing this capability to the end-users -- and how that would apply to the health care industry, I am not sure.

But that certainly was a motivator to get people more to come to the table and work it out, and

then secondly, the additional assistance that the Federal government brought out to help localities come up with their tactical interoperability communications plan, the NIMS program, and to get that training out.

And so not only did they say you have to get together and work together, well, it is going to help you to be able to do that.

CHAIRMAN BUGEL: Right.

MR. KALUTA: And that helped a great deal as well.

CHAIRMAN BUGEL: And I think that the expert agencies, the FCC, and the NTIA, and now Mr. Roskind's ground over at the NCS, with the Emergency Office of Communications, is changing -- has changes and is continuing to improve the qualifications and requirements for grant money relative to standards and common operating protocol geographically, and not a beauty contest for grant awarding.

MR. KALUTA: Absolutely.

CHAIRMAN BUGEL: Mike, were you going to say something?

MR. ROSKIND: Yes. Lieutenant Kaluta, I want to thank you for your service to the City of Alexandria, and your continued service. Being from a State and local background with the Seattle Police

Department, and Deputy County Sheriff, I can appreciate a lot of the things that you were discussing.

I appreciate that you brought up the SAFECOM continuum, which is now an officer merged communication program, and in fact, Kevin McGinnis, who sits on the panel, is actually the vice chair of the SAFECOM executive committee.

One of the things is trying to cross boundaries and talk in ways that people understand how to communicate, and to try and break down barriers. I think that is the nature of emergency communication.

I know that you used the analogy of the use of force continuum, and being a former police officer and deputy sheriff, I can tell you that I have gone through that continuum, and trying to make the analogy of the use of force to SAFECOM I thought was impressive.

But some of the people in the room may not have used that continuum before, and so it is sort of crossing the boundaries. I thought maybe we could talk to the Secret Service later and explain to him what that meant.

(Laughter.)

MR. KALUTA: It means you don't burn

yourself with a cup of coffee doesn't it?

MR. ROSKIND: But in any case, one of the things that everybody is discussing here that you bring up is, is that there is no common interface in any of this between hospitals and the emergency sector, and there is no common structure to at any level on how to communicate.

And I think when you look at the big picture, which is hopefully what the Joint Advisory Committee is doing, is developing recommendations on how to possibly develop strategies for creating some layer -- and this is what Dr. Kaplowitz was getting after, some common way of communicating in the voice data world and structuring that. Thank you.

CHAIRMAN BUGEL: Mr. Corry?

MR. CORRY: I would just like to emphasize a couple of things that Mr. Kaluta mentioned, and bring it down to very basic terms for the folks in the room who may not be telecom practitioners, or who may not have practical field or street experience in police, fire, EMS.

And that is that -- and Roman and I have talked about this for years, and that is that there really are no technical barriers to interoperability. And part of what we are talking about is

interoperability among ambulances, and interoperability between the ambulances and the hospital, and interoperability of an ambulance that is doing mutual aid from another county coming into another county's hospital network.

Interoperability is very important, but the real barriers to interoperability are egos and control issues, and I think the classic example, or one of the classic examples that I like to use is that I know for a fact of a Federal law enforcement agency that went out and spent a considerable amount of money to buy some of Mr. Kaluta's equipment, and placed it in a county that I will just say is in the northern midwest, and that was three years ago.

That equipment is still sitting in a box today because the 17 agencies in that county are still arguing over whose facility that box is going to be placed in, and who is going to have control over pushing the buttons that tie the different radio systems together when it is needed within that county. And it is just my addition to what you had to say.

CHAIRMAN BUGEL: Well, this committee is not going to examine that issue, number one. I wish you would have said 10 weeks ago that there is no problems. We could have figured out what the final

report was.

No, I clearly understand that, and those are the governance issues, and we have had this discussion many times relative to solutions. There is a resistance to accept publicly pushed or Federally pushed down solutions.

The solution has to be provided, or solutions, or combinations of solutions, or methodology for those solutions, as is happening in the National Capital Region, that it doesn't make sense not to participate. It is irresponsible. It is derelict not to participate.

And in the example that you just cited, that is where local officials are not representing the population well. That is an issue that needs to be dealt with, but those are the -- that is the push that I see evolving, is that the programs are saying take advantage of this, as opposed to you need to do it this way, and you need to do it by then, or you won't get anything.

And that is what has created the bulkhead and the silos, and so I think we have another opportunity to fix that at a national level. Dr. Kaplowitz.

DR. KAPLOWITZ: Just to add to that, because

I am representing public health, public health is often the link because we are public, and so much of what we have done, at least in Virginia, is serve as that link public service, law enforcement, but again it is in the public end, and health care that is on the private end, just something simple as representation in the EOC, during an emergency, developing that kind of link with public health being kind of the link between the two worlds in a sense, has put us in an interesting spot.

But I can't emphasize enough that that issue as well, having the public sector in general, whether it is law enforcement, or fire programs, or whatever, accept where health care sits.

And coming from a private business background, and not having a history of involvement even in EOCs, for example, and so just to bring that point in, and to emphasize that public health has served now as the link, at least over the past five to six years.

MR. KALUTA: Absolutely, and I know that we are running out of time, but one of the other common threads that is not uncommon in the health care, and I might put Mr. VanCott a little bit on the spot here, but in North Carolina, the EMS service down there, the

disparate radio systems, one of the things that we see on the public safety side, and the private side, and the military side, is people have investments in systems that are operational.

Now they may not be interoperable, but they are operational, and usually they cost thousands or hundreds-of-thousands, if not even millions of dollars, and they have a life cycle of perhaps 10, or 15, or sometimes 20 years.

And to ask someone just to get rid of that to go to this is not always the best solution. Likewise when the ambulances on the system that we have down there in North Carolina need to go from one zone to the other, we have a way for those systems to talk to each other.

That is another concern, and sometimes that might be what is causing some of that political difference or ego, because, you know, the chief of police doesn't want to go the city manager and say I want to scrap my $4 million radio system that we just bought five years ago.

So there needs to be migration passed to allow those systems to work together, and there is a multitude of ways to do that.

CHAIRMAN BUGEL: Mr. Griffin.

MR. GRIFFIN: Eric Griffin, of Lee County Office of Emergency Management. I wanted to kind of see if we could get Mike involved in this, and go back to your presentation regarding the National Institute of Standards and Technologies, the Office of Law Enforcement Standards.

I just want to get a little bit of information regarding that process. There seems to be a lot of discussion and a lot of focus groups that are dealing with some of our or what I have seen as some of the common issues that this group is dealing with.

Is there anything that has been discussed through the National Institute of Standards and Technology that would apply to this group and the knowledge base that we would need to draw from?

MR. ROSKIND: A couple of quick things. One is that the Office of Emergency Communications doesn't have standards with me sitting on the panel. That was left behind with the Office of Science and Technology, and they are to coordinate with the National Institute of Standards and Technology.

Additionally, the Department of Justice still has some Legacy data standard programs that they are working on, and so there are a few different groups that are working on data standards.

Additionally, I believe APCO, when you talk about P-25s, you are actually talking about an APCO project P-25.

And so the Association of Public Safety Communication Officials International is a group that helps create standards that I think are accepted. Do you have any other comments on that?

MR. MCGINNIS: There are definitely standards and efforts that are all over the board right now, especially when you start talking about patient records and emergency health records, because their activities -- and more strongly DHHS, and the Office of the National Coordinator, and in that area, but it is bleeding over now into DHS.

And one example that Mike just said, the Office of Interoperability and Compatibility, the National Management Program does standards for data communications, and one of the ones that we are working on by deference from that DHHS group is patient tracking.

So we have established a set of standards for all of the various products and applications that have been developed. So they are kind of overloaded, but you are right.

MR. GRIFFIN: Is there any good -- I guess

maybe Power Point slides, or framework, or just something on paper saying who is responsible for what, and a good comprehensive stakeholder list, for all of this?

MR. ROSKIND: That might be something that we could prepare for the chairman and see what he thinks of it. I think we are running out of time on this, and that would be the difficulty.

CHAIRMAN BUGEL: Actually, I'll reverse my order of comments. The first one will be factual and the second one will be editorial. I also had the honor and privilege to chair the NSTAC, which is the President's National Security Telecommunications Advisory Committee, to report on emergency communications interoperability.

That report, which is a base document that all the working groups have, actually goes into NIST and the -- it actually is probably the most current snapshot of -- and I don't mean this sarcastically, but the seven people in the Federal government that are responsible for interoperability.

And Mr. Roskind's group, the Office of Emergency Communications newly established Statutory Office, that is supposed to consolidate all of this effort. And so this is a long studied bowl of

spaghetti that is getting poured out.

We can actually annex that, and I will send you a copy, but basically it gives you a snapshot of what it looks like, and the different people over the last -- really about 10 years that have been charged with interoperability. Isn't that about right, about 10 years? And Mr. McGinnis swims in these waters all the time.

MR. MCGINNIS: No comment on the other occupants of the waters.

CHAIRMAN BUGEL: Yes. So, anyway, now to the editorial issue. The editorial issue is the White House asked the NSTAC could you help us understand why interoperability is so hard to achieve in emergency communications.

And it was interesting to point out that it is because you have seven people responsible for it, or you have eight people responsible for it.

MR. CORRY: You have eight people responsible for it.

CHAIRMAN BUGEL: Exactly.

MR. ROSKIND: Can I make one quick comment?

CHAIRMAN BUGEL: Sure.

MR. ROSKIND: We talked to the Senate

Homeland Security Committee, and the House staff on this, and one of the reasons that they turned to us for emergency conditions was for us to develop overarching policy that would help defragment some of the overlapping responsibilities, because the FCC has some, and NTIA clearly has some, FEMA clearly has responsibility, and the National Communications System has responsibility.

And they actually created the office to try to develop -- and the reason that I am sitting here on this committee is to try to listen to the concerns in the health care community, and to make sure that the health care community is integrated as we go forward with the plan.

And also to identify underlying gaps and commonalities. So that is hopefully that your report will be able to leverage into the national emergency communication plan, which is the way forward, and to help ensure consensus within this community, and there are a number of communities involved.

This is one of the communities that has a common underlying communication interoperability requirements with other communities of interest. They include law enforcement, and they include fire, and they include medical, hazardous materials, and public

utilities. Public works and public utilities.

They are all interrelated and you are one slice of it, and trying to think of it as a stove pipe and ask how we can communicate here as a community of interest, and how the community of interest can bridge those gaps, except that in a disaster the communities, your communities, the physical populations of Washington, D.C. and the City of Woodenville, are properly cared for and given the service that they need.

CHAIRMAN BUGEL: Let me also add that Mike brings up a very good point. The FCC and NTIA have a tremendous amount of responsibility, statutory responsibility, in terms of jurisdiction, over military, civilian, and licensees. So there is a tremendous interplay that goes on there. Mr. Bashford.

MR. BASHFORD: Yes, just a quick comment, and more for the roundtable layer, but one of the points is that when we think interoperability, we are thinking public safety in general. This community more on the medical side, between EMS and hospital.

Just keep in mind the scope of interoperability goes beyond voice data. There was a slide earlier, and we have seen it in other

presentations, and we talk about moving information to and from the hospital in a data format, and not in a voice format.

EKGs, and not to pick on them, but if the picture that we have shown, and I know that company, and they play in a proprietary sandbox, and you can't just take their data out of their device and send it to the hospital.

And it is not uncommon in this health care device industry. So just keep in mind when we talk about interoperability and we are talking field to hospital and vice-versa that it is more than just voice. We have got to open up those channels for data as well.

CHAIRMAN BUGEL: The other point that I wanted to make, and Dr. Kaplowitz brought this up, is gain a seat at the table. I think what we have learned as a community, as a nation, is when health care suffers damage to the point of not being able to function in an area because of an event, it is not that there is a whole host of immediate replaceable supply just sitting there and somebody is saying, god, what shelf is that on. It is not the case.

It requires basically when you look at these critical infrastructure tiers, they repair themselves.

Now to the breath and depth that they draw upon other resources inside the sector, that becomes a logistical issue and a coordination issue.

But the reality is that the emergency planners and everybody else, the communications specialists, need to know of these parties and how they are affected by the crisis.

So there is many things that I have seen, especially in the post-Katrina years, is where was the backup. Where was the backup. Where was the backup. Well, you know, there is not a backup internet. I know it firsthand. There is not a backup medical community.

There are resources that can be drawn upon in other areas, but there is no backup, and that is something that is an observation between the way some of the policymakers have viewed this. Well, we will just put a backup out there. It will be like a spare tire.

In some cases it is not economically feasible to do it that way. So, any other questions or comments?

(No response.)

CHAIRMAN BUGEL: Okay. Thank you very much, Mr. Kaluta.

MR. KALUTA: Thank you.

CHAIRMAN BUGEL: We appreciate it, and thank you, Mr. Adams. We appreciate it. I think what I would like to do now is I would like to take a 10 minute break if possible. I have 11:35, and so 11:45 if that is all right.

I was feeling telepathic pressure as the Chair here. So if we could be back at 11:45, I would greatly appreciate it. thank you.

(Whereupon, a short recess was taken.)

CHAIRMAN BUGEL: All right. I would like to reconvene the meeting. As I said earlier, basically what I think we need to do right now is to have a discussion that revolves around the activities of the working groups, and some of their preliminary findings, and then to have some discussion about that.

We are in now the -- I guess the best way to put it is the consolidated report beginning drafting stages. I think from the working group's perspective, we have done the examination, and we have chiseled out, roughed out, some of the findings.

I think in many cases we have roughed out many, many findings, and I think we are in a position where we have enough material, insight, and direction from the working groups to start putting together a draft of the report.

And that is why this session right here is critical to help us prioritize that, and to help identify both the -- maybe the prioritization of some of the findings, the focus of the working groups, and try to eliminate if possible some of the duplication and redundancy that was natural in the process.

We knew that was going to happen from the get-go, and we knew that these topics were not mutually exclusive, and one of the reasons that we are here is to bring them all together.

So, those common threads and common areas of focus are very important in both identifying that and in analyzing them. So I would like to start out with Mr. McGinnis, and the Emergency Medical Working Group. Kevin.

MR. MCGINNIS: Thank you, Mr. Chairman.

CHAIRMAN BUGEL: Are you fine or do you need assistance?

MR. MCGINNIS: So far so good. I haven't hit it yet, but I have confidence that it is going to work. This ground is in our charge again to our working group. So much for my well based confidence. There we go.

And just to sort of repeat the sort of overall structure that we have been heading to as a

joint advisory committee for this report, and what we have been focusing on in our work group.

And I just want to take this opportunity to thank my vice chair, Mr. VanCott, and the other members who are here and on the phone for their hard work over the last few weeks, has been truly the incredible shrinking, and then expanding, and then shrinking, and then expanding document.

And I am going to focus today simply on the last section, which are essentially the recommendations of how we get there, because the other sections have been as I said expanding, and shrinking, and changing.

And one of the things that I would kind of like to encourage us as we talk about consolidation here is that perhaps I think we have all focused a lot on where the deficiencies are, and where the problems lay, and therefore have developed some recommendations as a result.

We may indeed want to approach consolidation by looking as we have had to do just to sort the forest and the trees at the recommendations, and see what commonalities there are, and come up with a set of recommendations for the overall committee, and then reverse and engineer back to the problems as we

actually write the document and get back to the where we are now section.

We had somewhere in the neighborhood of 22 recommendations that we boiled down to four overall with some sub-pieces, and they involve the establishment of a Federal function, coordinating function, with an advisory function, changes in Federal Communications' grant guidance, the development of model State legislation, and an overall one that I am sure is common in all three work groups, which is additional funding.

The first area, and again I mentioned this in our last report, we strongly sense the need for better coordination on the Federal level. We talked about the seven or eight agencies that are involved in interoperability.

And while I know that this is D.C. and I was told specifically that when we mentioned this, and the need to as Eric had suggested to define the responsibilities of all parties at the Federal level, I was told, well, don't be ridiculous. This is D.C. You know, those types of things tend to be smoke 'n' mirrors and change, and vested interests as they are, whether they are in the executive or the legislative branches, cause these things to be very fluid.

However, we still feel that there is a need for ongoing discussion among those with interoperability interests in the Federal government that there ought to be connected to that process an ongoing advisory group of folks from the State and local arenas, from public safety, emergency medical, hospitals, public health, and others, who are there on an ongoing funded basis so they can actually get to meetings to advise the Feds.

And a partnership created out of that to move policy forward. That group ought to be coordinated perhaps by OEC or OIC within DHS. That group actually develops system and component standards, like I mentioned the disaster management program that OIC is doing for patient tracking as a data communications standard.

But those types of things really need to be coordinated and move forward so we don't have multiple efforts for developing standards going on in a variety of settings within the Federal government.

That there be good strong central guidance, Federal to State, and State to local, and up and down. And then performance measures established for determining where we are in the cause of creating interoperability and communications operability, and

that this entity somehow tracks national progress in those areas. Excuse me one second.

MR. MCGINNIS: Sure. If we could go back. Is that technically possible?

CHAIRMAN BUGEL: The third bullet, well funded State and local advisory committees. Explain that a little deeper.

MR. MCGINNIS: Sure. That is actually easy. There are groups like this that are done on an ad hoc basis. There are other groups, like the executive committee in SAFECOM, or the practitioner steering group in the disaster management program, that bring practitioners to the table, representatives of State and local government, and public safety disciplines, and health disciplines, and medical disciplines, to provide guidance as Federal programs go forward.

The funding piece of it is sometimes they are able to pay for a firefighter to come to the table from Akron, Ohio. Sometimes they are not. The FCC typically does not or is not oriented that way.

And it really needs to happen. The funding needs to be there because people that represent associations in the public safety or medical and health realm are not necessarily well funded to be able to come and participate that way. So simply from

a reimbursement of travel perspective, those efforts need to be funded.

CHAIRMAN BUGEL: That's what I thought. In looking at the materials that is what I thought you meant. I thought that was referenced there.

MR. MCGINNIS: Yes. Changes in Federal grant guidance. I think it was mentioned before the need to get us to the tables, and that Federal grant guidance really needs to be specific, and we have seen some issues with the most recent or one of the most recent programs, the public safety interoperability communications grant programs, in which it is a number of folks' observations that EMSs, hospitals, public health, are not getting to those tables and participating in the planning processes adequately.

And so we would like to see grant guidance be very specific across the board, and perhaps mediated by that interagency committee that would form or be created out of existing pieces, to underscore that across the agencies that have grant programs for communications.

And that grant guidance assures mechanisms within statewide communications interoperability plans, and other mechanisms that assure that ongoing EMS, public health, hospital participation.

And finally that grant guidance in the communications, public safety, and health, and medical communications areas, require operational testing of equipment and exercising of equipment, spelled correctly, however.

We felt that it is very important that the statewide communications interoperability plans that are being developed are good. However, there is a need within the emergency medical world itself to have its own active participation and plans, and that a way of accomplishing this would be to develop some model State legislation that requires an emergency services communication plan that is well linked to public health, while linked within the hospital world as EMS generally is.

And that it be coordinated with that statewide communications interoperability plan, and that there be EMS, health, and public health, and other representatives on any statewide interoperability executive committee, or whatever the master interoperability committee is in the State.

That the model statewide communications, EMS communications legislation, encourage prioritized development. That is to say deal with that 35 year old infrastructure first. Get it fixed, and get voice

operating reliably, redundantly, and from hardened systems infrastructure.

That there be a basic approach for system planning and coordination that is not ad hoc as it is almost every place in the country right now in repairing those old systems.

That is, going from a 1970s VHF or UHF system into an 800 trunk system in bits and pieces throughout a state on an ad hoc basis, or adopting cellular technology on an ad hoc basis. It should be planned.

That routine daily communications among facilities are happening and so that they are not something that just happened in a major incident, and then not being a cop, and being a firefighter and a paramedic, I am not sure that I know the deadly force continuum, but I do understand the interoperability continuum, and this is the current one just to prove that in SAFECOM, which includes a data track in the technology channel, which is the middle channel.

And also emphasizing some discussion that was had before this morning that four out of the five channels have nothing to do with technology. They are governance, and they are standard operating procedures. They are the people interaction pieces

that you have got to put in place beyond the technology part.

But overall clearly our goal is to move our health and medical systems to the right on this to the degree that we can. Lastly, the funding or our funding priority.

We would like to see an ongoing effort to assess emergency medical and health data or technologies, diagnostic and treatment, and to match them to the resource, the communications resource implications that they have.

For instance, the use of bandwidth, and the cost of establishing them, and just as an aside, our association, State EMS Officials, and the Association of EMS Physicians, and the National Public Safety Telecommunications Council, last week held an initial workshop to do just that, to look at if we start using portable CTs, or portable ultrasound in the back of our ambulances, what kind of communications implications will that have in the future.

What do we need to start reserving by way of bandwidth. What are the IP implications. Can we use IP for that, for those types of things. But we really need to have an ongoing process of that because frankly EMS and medical, I think, are potentially some

of the greatest public safety bandwidth users.

That there be funding for rural and frontier EMS communications and telemedicine systems to support what we call community paramedicine, which is kind of a mix of using EMS resources to provide other than emergency medical care in communities where there are gaps in health care provision.

We would like again to see the ambulance services and other EMS agencies be eligible for universal service program funds. We added that EMS personnel should be defined as public safety personnel under the Stafford Act for a number of reasons.

And one of our large recommendations, and it may not be done well by the brief bullet that is here, is that as was pointed out, there aren't a lot of backups for the medical community.

I mean, our community hospitals, and our large medical centers, are usually well occupied bed-wise, and well used, and well subscribed, in terms of outpatient services.

And so when you take a facility down for whatever reason, simply sending those patients to another facility doesn't work, because those facilities are already busy. Well, as a part of the challenge to hospitals, we are very aware that the

cost of uncompensated care in their trauma units, and in their emergency departments, is a big issue.

It is one of the things that keeps hospitals unable to simply expand or to have a lot of unused capacity. And one of the pieces that is not well paid for or supported by the Centers for Medicaid and Medicare Services, and other payers, is advanced communications and information technology, replacement or establishment within a hospital.

So we are asking that Congress provide funding through CMS, the Centers for Medicaid and Medicare Services, to be sure that within the scope of uncompensated emergency care, and the hospitals role in oversight of the emergency medical services systems that specifically advance, communications and information technology systems are supported or added to the equation for reimbursement, as well as for perhaps one time program funding, programmatic funding, and not just reimbursement based funding.

Where we are headed. We need to have consensus on these recommendations. We have had multi-teleconference calls and reviews of these recommendations as recently as last Friday, and over the weekend, and as I said, our intention would be to see how this conversation goes, and we will go back to

our group with a scheduled call for Thursday.

And we will at that point review the recommendations and the process of reverse engineering based on those recommendations and that's it.

CHAIRMAN BUGEL: All right. Thank you. Could you go back to the previous slide. And at the risk of not being able to be in three places at one time relative to the working groups, bullet point four, EMS under the Stafford Act.

Could you flush that out a little bit more. Why is that germane to this in terms of I look at EMS and public safety personnel as local and state, and not under Federal jurisdiction.

I am afraid that I am going to have to ask for help from the group, because that is not one of the ones that I was shepherding personally.

MR. ROSKIND: This is a problem also in the telecommunications sector and not titling on --

CHAIRMAN BUGEL: Well, that is the only reason why I know about the Stafford Act, because it is a problem.

MR. ROSKIND: Well, the Stafford Act is what allows Federal authorities to support a State during a disaster, and the original act has been modified a few times.

And it is a common problem is that creates reimbursement issues and also FEMA had some security boundary problems associated with getting logistical support to reconstitute the communications structure because persons responding from Verizon and AT&T were not permitted into the disaster area because of their titling.

And when I was in APCO's homeland security committee, we put a position paper out, and one of their recommendations likewise was to revisit what constituted an emergency worker.

And there is some specific definitions and authorities that are given that need to be probably revisited.

MR. LINKOUS: I believe these are recommendations and you were on the Katrina panel, and that came out of the Katrina panel as well.

MR. DELAHOUSEY: Steve Delahousey. If I could elaborate on that. If you today pull up the Stafford Act and do a word search for EMS, you won't get any hits for emergency medical services. You will get no hits. And for ambulances, you will get no hits.

Woodchipper, you will. They are a reimbursable entity if there is a disaster, but

ambulance services are not, and it is probably because the Act was written so long ago, and the term rescue was used in there, and broadly in those days EMS was considered part of rescue, and as we have seen it evolve since 1974, and that is not the case anymore.

And it is not -- I don't think it is necessarily the fault if you will of anybody at the Federal level. We had the previous Secretary of Homeland Security provide clarification that EMS is clearly an eligible entity.

And the current Secretary has provided that. The stumbling block seems to be at the State level when you have the State Homeland Security grant funds that are awarded to the State, because traditionally EMS was not considered at the same level as law enforcement and fire service.

There seems to be a lack of availability of funding for EMS at that level, and it just appears that it is not going to be resolved no matter how many directives and memoranda that we receive from DHS, and until the Stafford Act is amended to include that, it just doesn't seem that there is going to be much of a resolution there.

CHAIRMAN BUGEL: Okay.

MR. ROSKIND: If you want, I can ask our

attorney to take a look at it.

CHAIRMAN BUGEL: Oh, no, no, no, no, no.

(Laughter.)

CHAIRMAN BUGEL: Attorneys are something that I am not short on right now.

(Laughter.)

MR. ROSKIND: They will offer their opinions though.

CHAIRMAN BUGEL: I have a relative deep history inside the Stafford Act that goes back to the first 24 hours relative to Katrina, and I understand your concern with the Stafford Act. Was a modification of the Stafford Act part of the Katrina panel recommendations?

MR. DELAHOUSEY: Yes.

CHAIRMAN BUGEL: It was?

MR. DELAHOUSEY: There is some specific language that has been recommended to the House Homeland Security Committee, very simple language that probably can resolve the problem once and for all.

CHAIRMAN BUGEL: And we weren't involved in the prior modification, which was kind of a half-a-look. Mr. Griffin.

MR. GRIFFIN: Was this not ever brought up as being reimbursable under public assistance under

Category D?

MR. DELAHOUSEY: Yes, it was, and if you are a public ambulance service, or a fire department ambulance service, or a third service, it is not a problem. If you are a driver ambulance service under contract with a city or county, which many, many are, you are not eligible unless you go through the county, or you go through the State, and many times the county or the State is reluctant to do that.

MR. GRIFFIN: And that is because it would be for profit?

MR. DELAHOUSEY: That's correct.

MR. GRIFFIN: Right.

CHAIRMAN BUGEL: That's the whole issue here, which goes back to a constitutional issue, which I will leave that where it sits. Okay. That helps me understand it a little bit more, a lot more actually. Now I probably will have to say this two more additional times, but I will say it once, and that is that -- and first of all, thank you, Kevin, and thank you to the working group members for all your work.

We are going to -- and as you have come to consensus, we are going to have to come to a group consensus, and we are going to have to as I said that there are going to be overlaps, and so recommendations

will cross over into areas.

There will be things that each group recommends that would be common. There will be supporting elements, but I don't envision us coming forth with a final report that has -- let's just say 12 or 15 core findings, and we will probably boil that down even to a group of -- well, let's just use three, or four, or five, and we will be supporting these elements behind.

The points that you are making here obviously will be incorporated into the document as you have done in your group. I just want to take this as an opportunity as everybody has kind of tunneled into their working group in their specific area, now we need to broaden our vision and how do these recommendations work with the goals and findings of public health, technology integration, and that is just kind of a conceptual comment that I wanted to make. Any other comments or questions?

MR. ADAMS: Well, I think conceptually that whenever you are looking at it, even in the working group, and as you know, because the charter is sort of telling us what we need to be looking for, and so in the working group, you always have to keep in mind the charter when you are coming up with these assessments

and stuff.

CHAIRMAN BUGEL: yes.

MR. ADAMS: And this is sort of the way that we should be looking at it.

CHAIRMAN BUGEL: Well, if you look at the charter -- I mean, basically what Congress was looking for, and so how do we go forward, and that is really what they are looking at.

How do we go forward, and how do we bridge, and how do we -- what are the exact words they used? I don't even remember the exact words that they used, but how do we move forward is really it. Okay. Mr. Linkous.

MR. LINKOUS: Thank you, Mr. Chairman, and thank you, Kevin, because we do have some overlap and I am very grateful for that.

CHAIRMAN BUGEL: So you are asking yourself why did you do all this hard work if Kevin has already covered it?

MR. LINKOUS: One of many questions. First of all, I do want to thank the members of the Public Health Group who have done a tremendous job putting a lot of time and effort into it, and Lisa Kaplowitz was particularly my vice chair, although I would like to refer to her as co-chair.

And there has been just a lot of work done behind the scenes, not only in providing information and going back and forth to other folks within each of the areas, but doing a lot of wordsmithing.

So we do have a report that is pretty close to a consensus report I think out of the group. It has been referred to by the Chair as a War and Peace document. I don't think it is quite that long, and since then I have edited out all references to the Russian revolution. So it is not quite that bad.

(Laughter.)

MR. LINKOUS: We did find though in the report --

CHAIRMAN BUGEL: It does prove that you read my e-mails.

(Laughter.)

MR. LINKOUS: We have found in the report a lot of the same types of discussions that we have had this morning, and I think all the other groups are doing it. There is a lot of tremendous work that is out there already, and I think we need to recognize that as a base.

There is a lot of communications systems, and there is a lot of innovations, but a lot of them are in the silo. So it is not surprising that our

recommendations tend to reflect the need for breaking out and providing some uniformity, or regional sharing of information as we move ahead.

And so that is really kind of a key to some of the things that we have been talking about in terms of telecommunications systems, or the various applications, not only sharing them geographically across political boundaries, but sharing them between agencies, and it could be between health care agencies within a community, or certainly between health care, EMS, police and fire.

Because we find that those structures are the isolation between public health and medicine, and EMS and public safety, is still very strong, and needs to be addressed rather rapidly.

We have a series of eight recommendations, of which we put really four down as kind of priorities, and so I am going to focus on that as Kevin did, rather than some of the findings early on.

And I will go through some of these, although I will start out by saying that there is some duplication, and maybe there is some areas where it may not be quite as duplicative, but it is close enough so that we can probably do a lot of work so that when the committee, and when you, Mr. Chairman,

you go through your folks and writing through a lot of the next draft of this, there is going to be some easy parts, I hope, of combining some of this.

Certainly the first recommendation we have is on standards and protocols, and not that surprising of the need to work in the area of interoperability when we talk about protocols, but really we are talking about the Federal government playing a central role.

Not to say that private standards efforts and protocol efforts haven't worked and haven't been an important component of it, but the Federal government needs to play a leading role, looking at existing telecommunications systems, including related software, peripheral and other associated systems, because making an overall system work with each other does not mean the same as having all the peripheral devices.

You could have a video conferencing system, and Eric pointed this out, but you have a video conferencing system that might work next to each other, but it won't necessarily have patient data that is encrypted, and the encryption will work back and forth, or it may not have a stethoscope that will be interoperable with another device that happens to work

with the system.

There is a lot of those nuances that are really critical as we move toward interoperability, and what all that means, and another recommendation is that not only should the Federal government be involved in helping to set the standards, but that Federal funding in the future needs to be tied to those standards, so that anyone receiving Federal funds would have an automatic requirement that those standards be met.

And, of course, that there would be funding that would be needed so that those agencies could meet those standards. Not necessarily getting to the point of saying that it is one system, or a series of different systems.

We are recognizing that there is a number of ways to achieve interoperability, and it has been talked about already here, and I think that is still open for discussion with the group, but I think a very important area.

Another recommendation is Federal and State interagency coordination. Once again, not surprising that we are going down the same road, but particularly looking at the need to establish a Federal coordinating body that brings together the leadership

of all the relevant funding programs.

And here we are talking about programs that fund things like the hospital preparedness grants, the help alert networks, emergency response systems, and even telemedicine, and to bring together in some kind of coordinating body that is not just meeting, but is actually empowered to develop pathways, shared priorities, and program designs, to actually change the programs, and not just meet and share information.

So the body itself, if they are going to meet, has to meet and has to be empowered to actually make change so that we do have a coordinated system. Occasionally it may take some congressional changes in some of the programs, but quite often what it needs is really administrative work within the Federal agencies to make a lot of these programs work together.

CHAIRMAN BUGEL: So just for a moment. So basically you are proposing a committee that has some form of delegated authority, or under the jurisdiction of the FCC. NTIA has directed authority under statute. Not an independent --

MR. LINKOUS: Not an independent, but a Federal coordinating body that is not a -- it is a multi-agency, or cross-agency body, made up of officials within the agencies that meet together.

CHAIRMAN BUGEL: Okay.

MR. LINKOUS: But have themselves empowered from each of the programs to develop draft changes and bring those changes or recommendations back to the agencies to be enacted.

CHAIRMAN BUGEL: Okay.

MR. LINKOUS: The next recommendation deals with help information technology, and that although we are now talking about an application that fits into an emergency communications system, we have found that it has been so integral to developing a coordinated response, particularly in times of disaster, which is where we are focusing, is much as on a day to day, just as an emergency situation, and that you really need electronic medical records kept updated and in time, together with a system to share that information.

There has been a lot of work in the Nation over the last few years to look at electronic medical records. I think the progress to date has been a little frustrating by all involved, including the leaders of it.

And one of our recommendations is to take a step back, look at the initial steps that can be taken to achieve some form of at least a very minimal set of

patient data and corresponding protocols for sharing that data.

We may not be able to get to the point of having a uniform electronic medical record in this system like we talked about the VA system, because we don't have a unified health care system that has a one payer system.

We have a multiplicity of programs, of agencies, of applications, and certainly software programs, and there is a huge difference in terms of how those are being applied, and who actually has something in place.

So we are looking for some kind of a minimal set of information that is needed for sharing in a disaster or emergency situation, and have that identified, and how an individual institution develops that.

And how that integrates into their own individual health care system, or their electronic system, is up to them, but that you have a certain common parameter, and that those agencies be empowered to have that and that the Federal government has a role to play to identify a minimal set of uniform data, and require that that data be maintained in an electronic format by all health care institutions

receiving Federal funds.

And that that data be shared with the appropriate officials during a declared disaster so that we don't have the situation that has occurred to us time and time again in all sorts of situations.

And our committee has talked about anything from Hurricane Katrina to the fires in California, to the earthquakes, and to many other disasters along the way, where we have repeated the same problems.

So we are looking at that as at least an interim step, and certainly we would also support the tracking, the patient tracking, resource management, and patient identification systems. That is already under way.

The work that Kevin had referred to, in terms of patient tracking systems, but that those systems, when they are being deployed, be developed in a way that shares the information in a unified way, involving the hospitals, the public health agencies, other health care institutions, along with EMS, and public safety, and that it be a system that is not done.

DR. KAPLOWITZ: And the medical examiner.

MR. LINKOUS: And the medical examiner. Very good. Thank you very much. As well as nursing

homes, which is another group that was brought up. I think there is a real important -- and when we talk about patient tracking and identification, I think the widespread deployment and use of that information has really been critical, and pointed out by many members of the community.

CHAIRMAN BUGEL: So to go back just one step. Relative to this common thread, instead of having -- and what you are saying, and I think what I am hearing from both you and Kevin, is not a broad ribbon, but a thin ribbon so that people can glom onto that one common ribbon that is lacing its way through all this stuff, instead of -- well, I don't know. Is that placed wrong?

MR. LINKOUS: Is the ribbon referring to the dataset?

CHAIRMAN BUGEL: Yes.

MR. LINKOUS: Okay.

CHAIRMAN BUGEL: Yes.

MR. LINKOUS: Sure. Sure.

CHAIRMAN BUGEL: You will take that?

MR. LINKOUS: Yes, that's good. I like that.

CHAIRMAN BUGEL: Okay.

MR. LINKOUS: The ribbon approach?

CHAIRMAN BUGEL: Well, it is common. Mike and I have talked about it, and Kevin and I have talked about it, and you talked about it, and basically instead of saying that it has got to be like this, and it can only be like this, which guarantees no participation.

MR. LINKOUS: Yes.

CHAIRMAN BUGEL: Make it very thin and participation will vary, but at least there will be some common element.

MR. LINKOUS: I think we have set our goals and objectives far too broadly on this, and that we are looking to have some form of unified system that goes across the Nation, and we are not going to get there, and if we are going to get there, it is not going to be any time soon.

CHAIRMAN BUGEL: We won't put that on the tee-shirt.

MR. LINKOUS: Not even on a bumper sticker.

CHAIRMAN BUGEL: Okay. And going back to your second recommendation, and I am glad that our friends with NTIA and the FCC are here with us today, because here is a question that I have.

When you and Kevin say placing Federal funding attached to requirements and standards, we had

a recent experience in the last 12 months relative to the billion dollars of interoperability funds.

But basically Congress took that message and bucked it to NTIA, which basically presented the same problem, but just at a different level. Are you both recommending a more granular approach to the recommendations at a statutory level, or is that still up tom or is that still delegated to the expert agencies?

MR. LINKOUS: This is a report that is going to Congress ?

CHAIRMAN BUGEL: Right.

MR. LINKOUS: So I am assuming the recommendations that we are developing are directed at Congress for their action. Is that correct?

CHAIRMAN BUGEL: I absolutely agree, and I think that program is a good example, having been there as the matrix was developed by SAFECOM for the template for public interoperability communications plans, and very interesting to watch as we very specifically said in one part of that template that these agencies will be involved; police, fire, EMS, hospitals, et cetera, et cetera, et cetera.

And then to watch how that was applied in real in the directions that were given to me as a

grant reviewer, it was absent. So we need to be more granular at a higher level, yes, if we are going to see these parties represented adequately.

MR. ADAMS: I think also what you are saying is that you need to have or the policy statement shouldn't have the amount of flexibility that most of them have, that you can go so far to the right and so far to the left. It should be tightened up a little bit more.

So whenever you make the policy that it has got to stay within that bar or whatever.

MR. LINKOUS: And that leadership has got to come from the top.

MR. ADAMS: Yes. Yes, I see that.

CHAIRMAN BUGEL: Okay. Thank you very much. That is very good. Thank you very much. Any other questions or comments from the committee?

(No response.)

CHAIRMAN BUGEL: Anybody on the phone?

(No response.)

CHAIRMAN BUGEL: NTI or the FCC?

MR. LINKOUS: Yes, I would like to mention our fourth priority if I could before I wrap.

CHAIRMAN BUGEL: I already have four.

MR. LINKOUS: Well, the data is all within

three. It was a typical Washington slip, and you were very accurate in identifying that. That was good. Our fourth of the large priorities -- and I can share the other ones later on with folks -- is integrating telemedicine and other networks in the emergency communications.

And this deals really with two parts. One is -- and this is directed at the commission, this particular finding, that the commission programs should be accompanied by efforts to ensure coordination between the projects, including sharing our best practices and interoperability between systems, and the development of expertise in emergency and disaster response.

So it is a lot of recognition of what is going on, but really looking at that if it is not done right, we are still in danger of having parallel networks. So looking at how these systems work and how these systems interplay with other existing networks that are already out there, including the health alert networks, for example, or the emergency response networks.

So that is the high priorities. There were other recommendations dealing with network system design, using advanced telecommunications capabilities

within the Federal emergency response agencies, which have been referred to earlier, but really integrating advanced technology capabilities in certain things like the DMAT teams, the FEMA teams, CDC, et cetera.

The inclusion and coordination within telecommunications systems themselves, and finally expanding and integrating the existing threat communications systems, including the bio surveillance systems.

CHAIRMAN BUGEL: Dr. Kaplowitz, is there anything to add?

DR. KAPLOWITZ: Just to emphasize what has been said already about policy set at a high level, because I see what happens when the funds come to the States, and there is a lot of flexibility there, and I can tell you that EMS, public health, and health care, have definitely been in a sense almost out of the picture.

We have been included because we scream and yell, and scream and yell, but not recognized as a significant component of communications systems that are put in place. It really has to come from a high level.

When we have to talk about money, and sharing of funds, it can be very difficult if there

aren't some criteria set high up.

CHAIRMAN BUGEL: Yes, sir?

MR. ADAMS: In the past, whenever the Federal government has given money down to various programs and stuff, they go down to the State and say, State, I am not going to tell you how to do this. Here is the money.

You see, what the Federal government needs to do is they need to say, okay, these are the guidelines for which you use this money for, and tighten it up and make sure that it is used for that, and there should be some measures taken to measure that by before they get appropriated.

CHAIRMAN BUGEL: Again, without the benefit of the entire committee seeing each working group's reports, and not only the reports, but the substance, the background information.

And Mike, I am going to ask you, too, at the same time, do we feel we have enough? I know that we have enough volume, but specificity in terms of in order to have this money related to standards and requirements, are the user needs in the communities of interest well enough represented?

Have we identified the users' needs, the public health, and emergency medical?

MR. ROSKIND: Well, first of all, I really like some of the suggestions, and the part about the consolidating of the different grants. That is one of the things that we are working on within the Federal government to make sure that we have common agreement on grant guidance to maximize effect.

Developing matrixes in this area is a key issue for the Congress, and for the Secretary of Homeland Security, understanding what matrix might be created, and then trying to define meaningful matrixes, and not matrixes for the sake of matrixes, and that is the greater challenge.

In terms of identifying needs for the individual user community, some of the things that you are saying, especially with respect to the State communication interoperability plans, and its alignment with the National Emergency Communication plan, my hope is that because you have met, we will be able to incorporate and make sure that you are not lost in the mix of people who are fighting for the same set of communication capabilities.

And you actually are, and that was my point about the earlier statement that on the communication capabilities of medical are somewhat unique, but underlying it are varying cross-cutting across every

emergency activity, and making sure that we consider the specific needs of the emergency medical and health care community is I think critical to developing a meaningful plan.

And I think you are defining some of those needs to be real honest with you, and there will be opportunities to do two things. One is have the input into the plan, and I can guarantee you that, because we are writing it, and having it gain consensus.

Well, Kevin McGinnis is the vice chair of SAFECOM, which is a major player, or which will be a major player in the development and approval of the plan. And then over time the plan will get updated.

So the idea is that there will be a national emergency communication plan, and the State communication interoperability plans will align with the National Emergency Communication Plan.

And in defining how our funds are going to be spent, we develop grant guidance within the Office of Emergency Communication for the emergency interoperable grant program, and we put those into a set of grant requirements.

Now the idea of coordinating those grant requirements which FEMA is administering, which we write the guidance on with the other activities, and

creating an interagency consortium, is a very valid recommendation that I think would be well accepted across the different communities. What would you think, Kevin?

So the truth is that we are trying to refine processes, and we have had a billion dollars in grants this year, and it is arguable that there wasn't enough involvement, easily arguable with the emergency medical and health care community.

We are going to have a billion six potentially, assuming it all funds over the next couple of years, and again, if we are going to have an impact on those funds, along with the 700 million from the Department of Justice, along with the EMS, and the public, and the National Institutes of Health type of programs, I think the idea of consolidating makes a lot of sense.

MR. GRIFFIN: This is something that I just thought of, and so I am sorry that I have not shared this with you first, but one thing that I really want to emphasize, and I hope that we can consider this in our report, is making sure that we build in sustainability in whatever recommendations that we do.

We can't keep paying for these communication systems off grants. It is going to run out at some

point.

MR. ROSKIND: That was one of the considerations that SAFECOM made, and we actually have been talking about that, and in an additional way, your suggestion that it is embedded in the governance and SOPs already.

It is not just sustainability. It is sort of this business modeling behind it, a sustainable business model, which allows the communications to continue I think is critical.

CHAIRMAN BUGEL: Questions? Mr. Corry.

MR. CORRY: You know, the question that you originally asked about the individual requirements is something that I have been here stewing about for most of this meeting, because I am concerned that we are operating at such a high altitude that we may have lost sight of a day in the life of a back end of an ambulance, a day in the life of an emergency room, a day in the life of a health department trying to communicate with CDC.

And do we have to -- you know, there were three of us in the room that chuckled about the analogy of the use of force continuum. And Roman's analogy rang true for three of us in the room, but for the folks in the room who have never carried a gun for

a living, the analogy was completely lost.

And I am concerned, and I don't know how we write it, but somewhere in this final report to Congress surely we must relate the practical problems in the back end of that ambulance, and in the hospital, and in a health department, to tie these very high altitude recommendations to the end-users practical requirements.

And I think it started as I have sat here listening to the Verizon presentation on the car crash, and coming through there, and I sat there thinking wouldn't it be wonderful if that was the way it was to be in the back end of every ambulance in the United States.

But, oh, my god, we could go on for another 20 minutes on the barriers to that. Am I making any sense? Do you know what I am trying to say?

CHAIRMAN BUGEL: No, no, I was just going to jump on your comment. Go ahead.

MR. MCGINNIS: I think you made a good point. I think that there are folks around the table who do spend time in the back end of an ambulance, or in an emergency department, and have done that and continue to do that.

And I think or I know that I have a

different picture than what I saw on the screen as to what the back end of my ambulance is going to look like and what the communications are going to be.

My view may not be any more valid than that one. The problem is that all of those independent views of what the future of EMS communications might be can't be reflected in this report necessarily.

So we do have to come to a higher level, and I am feeling actually pretty comfortable with the types of things that we are talking about, and as reflecting and making my view of the future possible, just as well as the Verizon view of the future is possible, you know.

And I think that we do have to get to a higher level if we are going to have any impact on Congress. Now that having been said, I think you are absolutely right.

In the document, we have got to make sure that we keep a track of the paramedics experience, and the emergency room physician's experience to those high level observations or recommendations.

CHAIRMAN BUGEL: And that's the point that I would really like to make to the committee, and the chairs, and vice chairs right now, is that I don't think that we have the time to go through the catalog

and litany of all of the requirements, specific user requirements.

However, as we are consolidating the report and consolidating the recommendations, it is probably going to be that the project management group will come back to the committee members for more illustrative examples to draw down exactly all the way to that door, and so that is what I want to help prepare the committee for. Yes, Dr. Kaplowitz.

DR. KAPLOWITZ: Yes. We tried to build in even some concrete examples, and I think that would be essential when you are doing a report to Congress.

CHAIRMAN BUGEL: Right.

DR. KAPLOWITZ: For example, patient tracking, and what difference it would have made at Virginia Tech.

CHAIRMAN BUGEL: Yes.

DR. KAPLOWITZ: People can understand that when they are trying to track where their loved one is. It kind of clicks in their minds.

CHAIRMAN BUGEL: Right.

DR. KAPLOWITZ: And I do think it is very doable to set goals and some measures at a high level, and then have the details worked out more at the State and local level.

It has been done for a number of grant programs, and the one that I think has worked the best is the hospital preparedness program, which has evolved over the years, and as certain goals are met, they then move on to the next step.

And it is left really still to the States and localities to figure out how you are going to meet that goal of a certain medical server. You know, it really can be done, where you acknowledge that a lot of things will have to be worked out at the State and local level to make this work.

CHAIRMAN BUGEL: Right.

DR. KAPLOWITZ: But this is what the goal that we have ultimately.

CHAIRMAN BUGEL: This is the goal that we have, and this is the technology/policy recommendation/network of networks, IP based, and the common thread. You know, all of those laced into one, but to get that illustrative example is to get that very crystallized to your point.

DR. KAPLOWITZ: Yes. You are required to have a system in place where you know where somebody is from the time that they are picked up from where the Minnesota bridge collapses, to where they are, such as to the medical examiner in a hospital.

MR. CORRY: Well, this goes back to the original comments that I made in our first meeting, where what is the definition of a network, and our mandate is to come up with communications requirements.

And once again, sitting in my seat, I guess I am sitting here thinking about what it has been like in the back end of an ambulance when I had people yelling at me, and the hospital wants to know would you come up on the air, and they want to know what the condition of the patient is, and I am yelling at the driver saying that he has cardiac arrest, and tell them to leave me alone. I am involved in CPR.

And my only form of communications was yelling through the window at the driver to pick up his microphone. I was too busy to actually do any communicating on my own from the back seat.

And I think it is very important that we -- well, the issue is what does the guy in the back of the ambulance need. He needs some operability. So that goes to coverage. I need coverage where I am going to be.

I need the ability to talk and I need the ability to transmit and receive data. Those are my communications needs, similar to every other public

safety agency, but now I am tying that need to any number of specific examples in the day of the life of a guy in the back end of an ambulance, or somebody who is on the other end of what that ambulance is transmitting in the emergency room.

I think that it is really important for us to tie the practical requirements of those people in the end-user seats to our larger recommendations. I guess that is what I am trying to say.

I am not condemning Verizon. It was beautiful. I would love to see every ambulance with this capability. That's what I was trying to say.

CHAIRMAN BUGEL: I agree.

MR. CORRY: Otherwise, our committee's report ends up just being more white noise on Capital Hill, unless we give them an attention getter.

MR. GRIFFIN: I know that it has been discussed in our -- well, at least in the public health committee, exactly what has been from the end-user perspective. And there has been numerous white papers and everything that has been filed on how to operationalize our conceptual framework.

CHAIRMAN BUGEL: Basically my point is as I said earlier, that is probably something where we would come back and draw down to make that point

specifically.

MR. DELAHOUSEY: As we proceed, and I hope that we do keep these comments in mind, because there is a great diversity of types of EMS, and three hospital EMS that is being provided today.

There will be some systems that will take advantage and can afford to use all the technology that we have seen, and that is good. But there are still ambulances that arrive at hospital emergency departments today with no advance notice, with critical trauma patients, and no advance notice.

And a lot of these efforts over the years have been or have seemed to be beneficial, but when you talk about things, and allowing EMS to use some of the 700 megahertz bandwidth, while that may sound good, if that were to happen today, the likelihood of ambulance services being able to afford equipment that is going to be able to come up on that network, that is probably just going to create additional problems rather than resolve those problems.

There are very few systems that can afford to purchase that type of technology. So making the funding available is one thing, but then putting restrictions on that funding, and the billion dollars that was going to be released, and that was released

this year.

Initially, it was going to be earmarked that it can only be used for systems of 700 megahertz, and that is going to once again ensure that probably EMS is probably not going to play a role in that, because they don't have the funds to purchase that new type of equipment.

Now adding deadlines and other ways to make a transition from VHF and 800 megahertz to allow some of the gateways that Raytheon talked about to allow that to happen, I just hope that we keep that in mind, because there are very few systems that will be able to afford EMS systems.

And probably even fewer hospitals that will be able to purchase that type of technology. So setting some goals is good, but addressing the needs of the guy, the paramedic in the back of an ambulance today is even I think more important.

CHAIRMAN BUGEL: Thank you. Yes?

MR. WILGIS: I just have one comment that we try and keep in focus as we are drawing down these examples, and that is that we not get pigeonholed into thinking of the day to day operations of EMS, and that we take it back to a mass casualty incident, or a disaster like Katrina, and that we try and think

beyond the scope of getting the pre-hospital and community health issues from the ambulance at the scene to the door of the ER.

And that we think of other communication capabilities for hospitals. That is, incident command. We are being asked to think of how we surge hospitals. Well, that includes patient tracking and bed tracking.

So hospitals need to have a capability and capacity to talk to one another in this. So, you know, I think we need to kind of go beyond and broaden our scope on some of those examples, to include some of those other disaster type examples of where communication is needed.

CHAIRMAN BUGEL: Right, and that really speaks to the points that I raised earlier today about the networks, the network of networks. Mr. Roskind.

MR. ROSKIND: First of all, I would like to thank everybody on the technology integration working group, and my co-chair, Jim Corry, and I want to thank your service with the Secret Service.

On behalf of Secretary Chertoff, and Deputy Under Secretary Jamison, and Assistant Secretary Garcia, I want to thank everybody in the room for their support of FCC and NTIA, and for the help of the

FCC and NTIA staff on allowing this to occur.

The first thing is that I want to give an update on the Office of Emergency Communication. I am now officially the deputy director as we now officially have a full-time director, Chris Esset, who comes from the Commonwealth of Virginia as the Interoperability Coordinator, and just came on board about a week ago.

So I want to thank Jim for his continued leadership. It is actually a lot of fun watching Jim work. I am learning a lot about how to be a thorough professional by watching Jim. So I appreciate your service. Thank you.

CHAIRMAN BUGEL: Yeah.

MR. ROSKIND: It has been a little over two weeks
and in that time our technology integration work has wrapped up and completed its draft. I would like to take the opportunity to bring you up to date on what our work has been up to.

In phase one, we focused our effort on data collection, and we tried to determine technologies available, and what technology is currently in use by the Emergency Medical Responder and Public Health sector.

For successful completion of phase two, our group moved into an active draft compilation approach. We set target assignments to meet our goals. Our group is continuing to utilize this approach in an effort to keep everyone on task and on deadline.

Additionally, we have used the SRA touchtone portal for document management and interaction. So the relevant technologies. There is an abundance of technology that we all have taken a look at.

More information on the technology will be included in our TIG draft. Colonel Ebbert, I want to thank you for your service. Are you still on the line, sir?

MR. EBBERT: I'm here.

MR. ROSKIND: Okay. It is a lot of fun when you get to work with people like the Colonel, who is one of the foremost subject matter experts on the issues that Mr. Wilgis just alluded to, is what happens when things really go sideways on you, and a person who has thorough knowledge of what it looks like to have your infrastructure collapse, and then to reconstitute, redevelop, and develop policy.

Okay. The next week, we split into three groups, with a goal of assessing an aviation components medical emergency response. It was one of

the areas that our group was interested in discussing, and identified this as an important component to be included in the final TIG draft.

There is a section of a need for networks with lower latency, which Colonel Ebbert and Curt Bashford have been working on, and emphasizing the importance of increased bandwidth throughout the mobile client interface to ensure conductivity.

Since the technology integration group is ready to draft by the end of the week, we don't have our summary points, but we will have that in our draft to the Chair. TIG members will have the ability to review to make edits through the use of the portal that I discussed.

One of the comments that keeps coming up is how do we tie everything together. What is the glue that might allow this to occur. There is an effort within the Federal government to create a national command and coordination capability, which is continuous communication from the States to the President, and they are looking at methods of how would you actually create that conductivity all the way from State, and local, and tribal, and all the way to the President in a fashion which would be useable and scalable by the different sectors.

For example, what would be the glue that we might use, and we have been discussing this with the Chair, and with several of the members, that a common issue is this common operating picture.

If you read the Katrina report, you will see the reference to the common operating picture six, eight, or ten times in there. That the inability to maintain the situational awareness and use the two basic functions of emergency communication, which are where did something happen, and when did it happen, and track that through the process.

And where in the case of an emergency medical crisis site, which might be a traffic accident to a police officer, might be the mobile tracking of a victim through the emergency medical system.

And creating the ability at some core level to do that data exchange, and then allowing these technologies to frame round it as a national strategy. These are things that are being considered, but the point is that the country wants a solution.

I think that everybody in the room is in agreement on this, and the trick to a solution is to get some core roof foundational probers that are common across all sectors in emergency communication. And this common operating picture is something that

has been in use by DoD and proven in emergency management at higher levels.

It is the extension of the common operating picture all the way to your dismounted responder at a core level that can potentially provide a strategy to build off of.

It does not answer all of your problems, but at least it creates conductivity, the glue between emergency services communications, and as you create a common operating picture, it unloads your voice circuit.

If you are transmitting your position in a blue force tracker, which is one of the titles that Defense calls it. The idea is to track yourself and GPS. How many people in the room have GPS, own a GPS?

(A raise of hands.)

MR. ROSKIND: Okay. So the idea is that your computer knows where it is automatically. Taking that position and exchanging it through a set of business rules that would be allowed by a governance group, possibly by the governance group that you are describing, could facilitate interoperability at a very core level.

And again the business model behind it is what needs to be considered and matured, the creation

of a system that might sustain from year, to year, to year, is critical for integrators to come in and develop strategies.

NCIC is a model that we are looking at, the National Criminal Information Computer, and the inlets, and the governance group procedures on processes that have been successful and might be translated into this environment to create a core capability. And again this is just something that we are talking about, and it is not mature.

Okay. The next step is there is a conference call on December 20. The draft will be submitted by the end of the week. Now one of the things is that there is a bunch of interesting innovative solutions on the back end of this also that I think Verizon and I think AT&T, IP based multi --

CHAIRMAN BUGEL: Internet and Multimedia Subsystems.

MR. ROSKIND: Right. Multimedia -- that's what I was going after -- Subsystems is an example of connectivity, and different vendors, and major corporations are looking at, and how you might bring this together.

So there is sort of a high end of how we can integrate all of our devices, but maybe a strategy

underneath that we could leverage at a very core level, because at some point it is the ability to communicate at all that is missing, and not just the ability to communicate vast amounts of information, and that there is no conductivity across the enterprise.

Now the TIG numbers will get a chance to review, edit, and change the draft from our group before we submit to Jim. Are there any questions?

CHAIRMAN BUGEL: Yes. Let me just take a moment to talk about some of the technology issues that I and others have discussed with Mike and members of the Technology Integration Group.

As Verizon brought up earlier today the Internet 2.0, and I wanted them to define that. These are not company specific or vendor specific protocols or standards. This is the next enhancements of the internet globally.

What is happening to internet architecture, IP internet protocol architecture, is that it is getting flatter, and this is happening globally. And when the architecture gets flatter, it gets simpler, and it gets more universally applied.

Instead of having, for example, in the medical community, instead of having front-end

programming to make the application of -- you know, looking at x-rays at a distance in telemedicine, instead of having it have a front-end program, and then it hits the transport wing, and then it goes to the destination, and it has back-end programming, that is what is called elementary architecture, where actually that application is actually an element embedded in the architecture.

As it flattens out and you get into what is called internet multimedia subsystems, which is where we are going, and we are truly going from circuit switched to packet switched, and that's when EMS, and public health, any sort of national defense, any sort of transaction, is truly application based.

And it moves from front-end to back-end, across the internet or across the IP platform without interpretation. So you have greater accessibility, and you have greater transferability and interoperability, because more nodes are more common, both in the sending and receiving side.

With this comes incredible versatility. With this comes incredible security issues also. But what it does require is that it requires managed networks, networks of networks.

There are tremendous technological games in

lowering the -- basically increased access is what it is. It is increased access, but it is increased broadband access. So you have to have more broadband capabilities.

So those are some of the things that have been discussed with the Technology Integration Group as an overview. I have a question. Well, does anybody else have a question relative to this? Yes. Dr. Kaplowitz.

DR. KAPLOWITZ: As what you describe happens more and more, it makes the governance even more important, because you no longer have the technology as a barrier. That is the way that I am understanding it.

The technology will not be a barrier anymore, and so the pressure will be on how you set the rule.

CHAIRMAN BUGEL: Right.

DR. KAPLOWITZ: And I guess part of my concern comes down to making sure that we are really using incident command, and I have had this concern more and more that, yes, everybody wants to know what is happening all the time everywhere, but there is going to have to be a limit here, because we are going to have to define who is responding to what.

And that is starting to concern me more and more. Everybody may see that something drastic is happening, and you just don't want everybody sending their resources in.

CHAIRMAN BUGEL: It does. I mean, you are absolutely correct. I mean, there is the possibility. I don't want to break it down simply like this, but you could be receiving a bunch of x-rays, or x-ray spam. I don't know. Whatever you want to call it.

But basically you do have to work under governance. I mean, that is absolutely correct, but what it does, and what the technology enables is more accessibility, and that is really the real focus here, is accessibility to this, to the data.

Now do we know to talk to the dog catcher while something else is going on? That's a governance issue. Mike.

MR. ROSKIND: So the point of defragmenting in my mind is keeping just that simple section that nobody can disagree on. That is you don't have the simple ability to connect and communicate in very simple ways, you are toast.

And the common operating picture really in a lot of ways represents that. If we look at a mass casualty event, Oklahoma City, basically you have a

bunch of people, and you have three basic conditions.

One is normal operations, and the second condition we worry about is mass casualty, and the third one is a collapse of your facility, where you have to move everybody out of your facility and disperse them.

When you have a mass casualty event, it begins actually out in the field when the first people arrive, and knowing that you have an event, and then being able to communicate the scope and magnitude of the event, and reasonably have large numbers of these sorts of systems coming in, and that even if you failed in one car, you still have the other system arriving.

It is its own form of redundancy, but what you get out of it is the ability to potentially have the common picture of that event at multiple emergency rooms that allow you to disperse your casualty base in near real time.

And if you don't have that, you are really in trouble, and again if you just get down to this concept of what common thread across all areas that you don't have, are you really in bad shape, and lay that out as the national framework.

And build to integrate the other sector

specific transport mechanisms and across that, and have the interface occur.

MR. LINKOUS: But a related problem to that -- and I agree with you. You need to have the common thread. But that thread can become very large, because we are talking about huge volumes of data, and having that data available everywhere may be important, but knowing what is important within that data is even more critical.

Within medicine, within telemedicine, for example, we are getting to the point where we can do 24-7 monitoring of basically all vital signs coming from the body.

MR. ROSKIND: Right. So the strategy -- and again I used to do electronic welfare, but the strategy for a robust system is redundancy, and graceful degradation. So during normal operations, you might be able to have this capacity, but during the collapse mode, you might just have the common operating picture, which is almost nothing.

And having that graceful degradation built in builds in a set of resiliency and redundancy that is critical to national strategy. So if you had coverage in a city, where you have wideband coverage, and you have the proper footprint, you are good to go

on the types of technology that Kevin described, or you are describing, transmission of telemedicine and that sort of thing.

But when you have the collapse of the infrastructure in New Orleans with Colonel Ebbert, it is very critical that you just maintain that basic picture in order to track your resources, to distribute your workload, and to remove a tremendous amount of the volume of work from the voice structure.

That all of the information in the visual world is not being forced over the transmission of your radio, and then they have these systems that they are deploying, but they are deploying in a fragmented manner. That if there could be just one layer that might be deployable, it might be this layer.

MR. LINKOUS: One nuance I would put on to that. What is critical for one group is not going to be areas that are critical for another. For an incident commander, you are absolutely right in New Orleans that is what was needed. For the public health agency, it may be a different set of data.

MR. ROSKIND: And in fact, I would argue with public health, and their monitoring program, and that in actually doing analysis of your breakout there, they are very common operating picture

oriented, and that you have events that are location specific, and you have quarantine areas, and you have the assimilation of these crisis sites into a greater picture that gives the public health authority a near real-time picture of what the scope, the magnitude.

For example, how far might a person who is infected travel, and that time-distance relationship. Those are best handled in a visual environment.

DR. KAPLOWITZ: But then I think, or I guess, my concern becomes the understanding of who is responsible for what in the response. You know, what are the localities responsible for, or when does the State step in, or when do the Feds step in. That is going to make that even more critical when everybody has access to the same information.

MR. ROSKIND: Right. One of the things that I did was with the National Sheriff's Association working as a deputy sheriff was an analysis of whether with Corel that we should accept a broad license, and that everybody in the country would accept a license for law enforcement from Corel WordPerfect.

And the analysis was in 1999 that 20 to 40 percent of the agencies could not open a Word document at all. So the issue is sometimes very simplistic. Now getting back to what you are saying, that

sometimes very thin information, that is another benefit.

If you are going to set governance and the Department of Defense is killing themselves over this, and they have 20,000 requirements, and they have five agencies, but they have to agree on 20,000 requirements.

If we could just agree on 8 or 10, you have a chance at setting a governance structure in motion, and then once the governance structure is in motion, you have the ability to set a chance process in motion.

The trick is that what is missing is the ability to communicate at a very foundational level in any way. The only comment communication device in all emergency vehicles was the ERG-2000 when I looked, and that is the HAZMAT guide book.

There is no conductivity. That is a missing critical infrastructure. The ability at any level to communicate in data in a structured environment is a missing structure.

CHAIRMAN BUGEL: Okay. All right. Mike, I look forward to you all getting your high level recommendations together and findings, and share them with the rest of the group.

And we will have more discussion obviously as we continue to jell these all together, but you know, I completely understand what your point is. You just don't want this floodgate to open.

Well, with Jim's point, I am dealing with patients, and I don't need terabytes of data coming in that isn't relevant.

MR. MCGINNIS: But those types of things change with the incident. We are talking about everything from day to day to mass casualty. So on the day to day, my future picture is unlike Verizon's, but I think addressing your concerns about doing CPR with people hassling you for information.

I want to place a monitor on the patient's chest, and I want to do speech recognition technology, and describing what is going on. That does into a database. I want to have the vital signs going into a database, and I want to have a camera looking at the patient.

And then when the doctor gets good and ready, they can go and look at those databases and not talk to me. That is my picture of the future in an ambulance. Now if I have a hundred patients, and there are patients to monitor, which goes into the shelf.

I don't do any speech recognition, anything, and the video cameras get maybe turned to the outside of the ambulance, okay? And suddenly we go from patient, doing patient one records like we do now, to disaster tag, except that it will be an electronic form of that in the future.

So all of those gigabytes or whatever get reduced to very small bytes. I mean, more like what you are talking about. So we have to realize that is what we are talking about in terms of scalability here.

CHAIRMAN BUGEL: Thank you, Kevin. As you can see, there are a lot of common elements, and as you can see, we do have a fair amount of continued work. Our goal is to assess the needs, the future requirements, and the transition, the technology transition of how to integrate these.

I mean, that is thematically our mission, and that
that is how we will start basically. So again I want to stress that this is now the time to start looking across the committee at commonalities.

I really appreciate this exchange of ideas and concerns, because this is the deliberation that is necessary in order for everybody to help gel around

findings that do touch upon individual subsector concerns.

And there is all sorts of idiosyncrasies to the different disciplines that are involved in this. But it is all with one common network or base supporting technology that all of this is available.

And, yes, increased accessibility adds increased risk. I mean, that is just the way it is. But it is managed. It has got to be managed. So I will turn to NTIA and the FCC for any comments?

MS. FOWLKES: No.

CHAIRMAN BUGEL: Comments? Anybody else have any comments that you would like to make? Yes, Mr. Bashford.

MR. BASHFORD: Yes, just one, and perspective is very interesting, and seeing it from the different groups coming in, and Jim's comment about the need for examples to kind of bring this down to earth and see how it is done.

I see a lot of different facets of it. In fact, I did ride alongs in Tucson last week and doing EMS telemedicine from an ambulance to a hospital by voice-video data, and then going back to what our mandate is, and seeing how these perspectives are.

I think we do have to be careful not to get

too caught up in some of these details, and how it is going to get managed, and how it is going to happen. Going back to the mandate, and you can read this three different ways, but we are really still talking about the pipes, the infrastructure, and how to allow this to happen.

How we are going to use it, and how it is going to go over, I think we all have ideas and notions, and some of it is going to stick and some is not.

CHAIRMAN BUGEL: Right.

MR. BASHFORD: And how it is going to get governed is going to evolve as it goes along, but the technology, and as the slide said earlier, this is all converging now. But if we don't get on the blueprint to get these pipes in place to allow us to use this as a tool for whatever the purpose, then that is not going to happen.

CHAIRMAN BUGEL: Yes, and I think that is important. But I think that it is vitally important that in our examination that we do explore areas that aren't explored by the mandate, which we have done, which these groups have done.

MR. BASHFORD: Yes.

CHAIRMAN BUGEL: And these working groups

have gone far deeper than the mandate requires.

MR. BASHFORD: And that is a very good perspective as to why.

CHAIRMAN BUGEL: And that is the credibility that will support this report, because if this report is just built on theoretical findings, it will be viewed as such, and so that is the important part.

I want to thank everybody for attending, both on the bridge and in person. I want to wish everybody happy holidays. I want to also prepare you for the arrival of what will be one of many probable drafts of our consolidated report, and I will be working with the working group chairs on that in the upcoming weeks.

And I am just trying to think if I have forgotten anything. I am looking around the room for visual subtle and not subtle reminders. And again everybody travel safe, and thank you very much. I appreciate it.

(Whereupon, at 1:19 p.m., the meeting in the above-entitled matter was concluded.)

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REPORTER'S CERTIFICATE

CASE TITLE: Joint Advisory Committee of Communications Capabilities of Emergency Medical and Public Health Care Facilities

HEARING DATE: December 18, 2007

LOCATION: Washington, D.C.

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Federal Communications Commission.

Date: December 18, 2007

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