WEMSIS Forum - NEMSIS Overview & Update, 2-20-15

Melissa Belgau: Welcome to the WEMSIS forum. WEMSIS is a free web based data repository for electronic patient care records. EMS agencies and their associates may use it to enter or view patient care record data, manage records and information and run reports. It works best in an office or stationary setting. WEMSIS meets the strictest state security standards for the protection of restricted confidential information and all users require authentication.

We have recently launched an upgraded version of WEMSIS that complies with new national standards for EMS data collection called NEMSIS Version 3. Throughout 2015 we will offer both our Version 2 and Version 3 systems to allow time for training and development before completely making the Version 3 transition in 2016. Our Version 3 system is currently in its early stage and you may use it now.

Throughout this year, new features will continue to be added, including customized reports, until it is fully developed by the end of the year. There are several patient care record software options that work best off line and in the field. Field products do have a cost, but offer additional benefits as you will learn about today. Even if you purchase your own data collection product, we encourage you to still log into WEMSIS to run reports, which we will show you today.

Our first speaker is here to discuss EMS data collection from the national perspective. How was your data used on the national level? What does NEMSIS Version 3 compliance mean? How and why are national standards changing? Then the four largest vendors in the state are here today and will show you their products and discuss their Version 3 implementation timeline.

All of the webinar attendees are muted; however. I encourage them to ask questions by typing their questions in the question pane in the GoToWebinar control panel and then hitting enter. After each speaker, we will do a Q&A and I will check the webinar questions and read them to everyone so we can all hear them.

For our in-person attendees, we have a wireless mic to go around, so wait for the mic to ask a question so the folks on the webinar can hear it. If anyone on the webinar has a difficulty hearing a speaker, just let me know by typing it in the question pane.

The first part of this meeting is being recorded and will be made available for public access on the Department of Health web page. The recording will stop before our last two presenters.

The purpose of the forum is to get some answers to questions and concerns I've heard over the past two years -- why participate in WEMSIS if there's no mandate? Who is doing what with our data? How easy and fast can we make the process for those who are less tech savvy and have minimal time for reporting? How does this data improve patient outcomes? How can WEMSIS improve operations? How can we be assured that the data is accurate coming in and going out? How can we improve technical support, provide training and facilitate data exchange between partners?

Our first speaker comes all the way from Utah and this is Karen Jacobson. She's the director of the NEMSIS Technical Assistance Center and she's also a nationally certified paramedic. NEMSIS stands for National Emergency Medical Services Information System. NEMSIS is a national repository that stores EMS data from all participating states and NEMSIS establishes the national standards for EMS data collection with the help of EMS stakeholders around the nation.

So with that, I will pass it over to Karen.

Karen Jacobson: Greetings everyone. Thanks so much for the invitation to come to the great state of Washington -- ocean shores, it's already just absolutely wonderful to be here. Utah is a dry state, as many of you know, so coming to Washington has actually been really nice. The air is clear, it's moist, that's also a really nice thing. But anyway, it's really a great opportunity for me to be here and I appreciate it.

So again, my name is Karen Jacobson. Melissa, thanks so much for the introduction and again, the invitation. It's nice to see people here and so many on the webinar as well.

So what I want to do is probably provide a lot more information than is listed in today's agenda. So I'll be a little outside of what Melissa has. I just want to go through some things and I'll hit some of it pretty quickly, but I also do want this to be as much of an interactive session as it can be.

Those of you who are online, I'm probably not going to open up any of the chats, but hopefully somebody else in the room might be taking a look at that so they can provide what the questions might be. But those of you in the room, please feel free to have some conversation with us as I ask some of the questions, and as we get into this you might have some questions

that pop up. I do really appreciate it if this is more of an interactive session.

All right. So I want to start off by just asking some questions that you may not have considered recently. So these are then the whole EMS Sentinel questions regarding the systems that we have. So what's our primary focus as EMS?

Morbidity and mortality, yep. What else? Anybody? Interactive session. Okay. So how about patient care? Responding to the needs of our community. You have a comment in the back?

Audience: Yeah. [Inaudible].

Karen Jacobson: Oh, so delivering emergency medical care in accordance to best practices across the nation.

Audience: Injury and biologic prevention.

Karen Jacobson: Injury and biologic prevention? Okay. Good. Yeah. These are things that we're doing on a regular basis, and again, I like to pose these questions because I think they're things that we forget about when we're so deep in the weeds of everything else that we do. Sometimes it's nice to kind of come up and look at it from a high level. So then there's a few more questions in here, so you know, how do you know that we're fulfilling our mission to our communities?

And we don't have to answer all these questions, just things for you to think about a little bit. So, you know, do we evaluate it? If we provide value to our communities, are we making a difference clinically with our current practices and systems? And if we think we are, can we objectively prove that? What would the mechanisms be to do so? Well, guess what? That's one of the purposes of creating a national EMS information system and then EMS data standard that can be used across the nation and locally.

Over the last number of years, NEMSIS has become an integral part of EMS and it's a component from documentation, proof of value, data such as response times, treatment frequencies and of course times are something that have been looked at probably, for what, the last 20-plus years because it was an easily measurable data point and so it's grown out now with the development of the NEMSIS standard.

So just kind of a quick overview plus more, because I didn't have enough really bullet points in here that I could fit in and have it still be legible, readable, so we're going to go over a little bit of history of the NEMSIS project. Version 2 and Version 3, compliance testing for Version 3,

enhancements to the standard, sharing data, health information exchange, some of the available reporting tools that we have. And again, I want this to be interactive, so if you have any questions, we're not going to wait until the end, even though I have in here question period. As questions pop to mind, please feel free to just ask them.

All right. Our project, why we exist is to develop the NEMSIS Version 2 standard, which was a revision of the NHTSA, the National Highway Traffic Safety Administration's original pre-hospital standard, which was called the pre-hospital version, NHTSA 1.0 data set. At that point in time, there were 67 values. So what's happened is we developed a common language for data transfer and a standard.

So when it reads develop the NEMSIS XSD, XSD is a technical term. You guys don't see that if you're involved in a user interface -- there's an XSD and an XML. The data has to go through in a certain format and there has to be a gate keeper or key for that data structure to meet and that's what the XSD is. So we promote state data systems, meaning one of the things that we did was help states or regional systems originally provide technical assistance, education guidance as they develop their original systems.

Obviously, the state of Washington, your system has been up and running for six, seven years now, I think?

Audience: Something like that.

Karen Jacobson: Something like that. But our goal is to have an electronic patient care record for every EMS activation and patient contact that EMS responds to.

So here is a breakdown of the history of NEMSIS and the standard -- going back to 1994 when we had the uniform pre-hospital data set. Then last September we had our first submission to our national repository of the Version 3 standard.

As I mentioned, one of our jobs is to help states set up their systems. Then we have a national reporting database. You'll see some numbers in a little bit here about how much data we actually have in our system. We provide some national reports with aggregate data. We work to identify trends and we work to publish.

This is a spreadsheet of publications that researchers and others have completed using the NEMSIS national research data set or just NEMSIS based systems. So we've had a lot of publications over the years and people are continually looking to use the national data that we have because even though it's a relatively small data set from a perspective of

what comprises it, the sheer numbers are one of the largest in the entire nation.

I wanted to talk real briefly just kind of about the overview of a standard. So what you see here in this kind of a bull's eye, and it does reference the NHTSA 2.2 data set, but it is also to what Version 3 is. We've created a standard and so here's your pie and then as you may say, here's the data that I want in the outside blue area, then as you go in, you can say here's my local, here's my state and at the national level we receive a small subset, so the national subset of data. That's what we receive from a state.

So the flow of the data is typically you at the local level document your care. You submit to your regional or state systems, and it does vary across the nation. Sometimes there is a regional system before a state system, and then the state in turn sends the national only subset of data to the NEMSIS tack and then what we do is we aggregate that data and make it publically available. Currently states can't be identified, let alone zip codes, counties, or EMS agencies.

Looking at the number of data that we currently have in our system, this is a screen shot -- the green map -- from our website. What we do is we keep track of the states that submit data to us. This is actually an "interactive map," meaning if you go to the website you can click on a state. The states that are green are currently submitting data to the NEMSIS technical assistance center to populate this national registry.

So just kind of go back really quick. We are funded by the National Highway Traffic Safety Administration. When I say we, I mean the University of Utah School of Medicine Department of Pediatrics Division of Critical Care, it's really long. I'm now saying that sometimes on my voicemail. It's really crazy. But so we exist there because we all have a sister agency.

How many of you are familiar with EMS for children? Okay. So they have a data analysis resource center also at the University of Utah and they actually helped initially get states up and rolling before the NEMSIS tack was fully funded and located at the University of Utah. But as you see here, we have a little over 24 million records per calendar year 2013. For calendar year 2014, as of Friday, we have over 17.9 million records and for 2015, so year to date, you know almost 88,000 records.

We have a couple of states who submit data to us every day based on our Version 2 standard and that's a system or a mechanism called Web Services. As you may note on your agenda, Web Services is the bottom item listed here. It's called Web Service Data Exchange and so this will be

something that we will be able to see more real time data. Again, we have two states that currently submit to us.

So we've been collecting data since 2006, but because of the sheer volume, over time what we did is was made a determination in our public reporting tools to only make available a 2-plus-year rolling database. A little later I'll just show you, just on the slides that have some hyperlinks in them, how you can access our public reporting tools if you're so interested.

Question?

Audience: Quick question. How many states actually allow -- have mandatory [inaudible] do you know that?

Karen Jacobson: I should know that. But I don't. Of the 46 that are currently submitting, and that includes the territories, the number is roughly I'd say 20, 15 to 20. Do you?

Melissa Belgau: I know it's most numbers.

Karen Jacobson: No, actually, yeah, I'd say it's half. At the most it's half.

So, for example, Minnesota is orange. I'm from Minnesota and when I worked at Minnesota for the state EMS office, Minnesota was one of the first three states to submit data to populate the national registry at the NEMSIS TAC and Minnesota is a mandatory reporting state. Their agencies are still receiving data or still documenting data and submitting it to the state. The state is no longer submitting to NEMSIS because of some -- well, they're not sharing data with anyone right now, the state of Minnesota, whereas other states are.

It's one of those things -- 2006, North Carolina, New Hampshire, Minnesota, first states to submit and now Minnesota no longer is. It's a blight on my personal history. Florida, so just let me give you another example of voluntary states versus non-voluntary. Florida is a voluntary state for submission of data. Florida represents the largest number of records for a single state. We are not basing that based on population, just based on sheer numbers.

You would think that New York, Texas or California might have larger numbers and we don't know that yet. Maybe, but we just don't know. Texas, by the way, they are orange as they went from a pre-NEMSIS system directly to NEMSIS Version 3. So we'll never receive data from Texas based on our Version 2 format, which is fine. They're going directly to Version 3.

Why move to NEMSIS Version 3? And I really actually like how Melissa presented this, because it's an update. Now, we have identified it as a specific version because of some of the changes we've made, but for a lot of you, regardless of who your software vendor is, hopefully they're providing that to you in a mechanism of it's an update to the system. It isn't a huge, huge change and hopefully there will be a limited cost associated with updates that are made to your individual systems.

One of the things we identified over time, looking at the Version 2 standard, was that we didn't have enough data elements and the value choices left a little bit to be desired. I see some heads nodding out there. We're going to take a look at that here in a minute, but one of the things that we said with Version 2 was let's work on establishing this standard, get it rolled out across the nation used at the local level.

What we said was, if you had an element and you needed to add additional value choices to meet your specific needs, you could add those value choices with the expectation, in a perfect world, that those values would map back down or collapse to a national value choice. Guess what? It doesn't really happen. We'll see that here in a minute.

I want to talk real quickly about some data quality issues and then we'll move forward here. I didn't recreate this. The numbers really don't change much, so here's some data from 2011 and I'm going to drill down to some additional criteria. We had overall 14.3 million records and what I wanted to do was look at the provider primary impression statistics. I like to use primary impression, because there were only 27 value choices plus the five not-values.

What I did when I pulled these data was said where type of service is 911 response seen drop the records by 3 million to 11.3 and the primary role of the unit was transport. The reason I did that was we know we're getting, "duplicate records "-- whether it's a single agency that has a tiered response with a fire engine or a quick response vehicle and then the ambulance, the transporting vehicle. We know that. We recognize that that's a process that's used across the nation, whether it's also basic life support service and advanced life support service that our individually licensed with the state. There might be standalone first responder units not associated with an ambulance service as well, incident patient disposition of treated and transported by EMS. Records dropped down again and then looked at destination type of hospital. So 14.3 million to start off with, that got dropped down by 8 million to a total of 6.3 million per calendar year 2011.

The reason I use those criteria were to say you've now responded, quote unquote, for a 911 response call. Not necessarily lights and sirens, but an

emergent, immediate response and you've taken that patient to a hospital. Should you know your provider impression? You should. But as you see here, the five not-values in 2011 accounted for, at a national level, 40 percent. Can we say we have some data quality issues, not enough value choices?

And of course, this is just one element. I'll also say we had definitions for these not-values. How many of you are boots on the ground, EMS professionals documenting your PCRs? A good handful of you, very nice. How many of you actually know what the definitions for these five not-values are? Whether your EPCR solution allowed -- showed this or not, most not availables -- a lot of people that I've seen or talked to about this over the years have said, well, not available means my value choice that I want is not available.

The official definition back in the day-- I mean, still exists for this -- is the information was not available to the EMS professional at the time of patient documentation. Not really true, but how it's been used primarily is as the values have been expanded -- and I said we allowed this in Version 2 -- they should collapse that back down to a value choice. Well, CHF. Where would CHF go? Or COPD? One could go to a cardiac arrhythmia, one could go to respiratory distress. One could maybe go to chest pain, but then we have choices such as electrocution. I don't know what -- how much you could extrapolate out of electrocution and then put it back down to electrocution.

I took those slides out, actually, to show you how small the data points are. In fact, I'll just say that of the 27, in 2011, the same criteria, 10 of the 27 values accounted for 0.75, 0.75 percent of all responses. Yep, heads nodding. So now 27 minus those 10, now we're at 17 and of course there are some that were still only used 1 percent of the time, such as 1 or 2 percent, such as cardiac arrest.

In any case, this is one of the reasons why we wanted to look at Version 3. I also wanted to show you some disparities that we also saw across the nation. What I did is I dropped the national aggregate data, looked at the states that were submitting in 2011. Looked at each of those, counted up the not-value usage percentage and did it across the ward; an average then of 36 percent, so a little better than the national pulled together. The median was 32.7.

One state had -- again, the same criteria; 82 percent of their provider impressions are not-value and there was one state who had only 8 percent, which would make the question how on earth was that possible? The results were there.

Here's the top 10. Again, same criteria. You can see in red the three not-values that are pretty high up there, so not available. What happens then is you expanded a value in your provider impression list and you had to map it. Traditionally, a state probably expanded their value choices and if you used third party software -- if you used ESO or ZOL -- who else is here today?

Audience: Emergency reporting.

Karen Jacobson: Emergency reporting.

Audience: Image trends.

Karen Jacobson: Image trends. The state system, if you're using it directly, you might have additional value choices. If they provided those codes, you could map your expanded code list if you, as an agency, though your software company, expanded the value so you could either map them to the state or you could map them to the nation. In the end, at the national level the state has a responsibility to map them to not available. These are some of the reasons why we wanted to move to Version 3.

I do want to touch just quickly on some of the resources we have for you. I think I only have two slides on this, but we do have public reporting tools. We have an enhanced cube. I don't know how many of you are familiar with Excel and Pivot Tables. Anybody use those tools or have your own cube in your own systems? Well, if you are familiar with that, in essence that's what a cube is. It's an online analytical reporting tool.

The aggregate data is available, so the 42 million records that we have in our system, you can log into that today with the public user name and password at the bottom of this page and access that. We also have some static reports that are available that we're updating to a new database or reporting software called Tableau.

We have a Facebook page and this is just a screenshot from our Facebook page that was posted on -- this is complaints reported by dispatch by year and so again, as I said, we have a 2-plus-year rolling database. Over here, if one can see it, the 2012 data fell off, but I pulled the data based on percentage and it stays pretty standard. A sick person is the primary complaint reported by dispatch, but what we try to do is we try to promote and share what the national data are looking like on our Facebook page.

I was recently at a meeting and somebody said, we need to change EMS from an event base. So NEMSIS -- where it says here, NEMSIS -- is a recourse-centric response to a patient-centric. Thoughts on that? How hard would that be for us to kind of change that mentality of being able to track

a patient? We all go into our clinics and we have our whole patient record. We're asked what our medications are. What our history is. We're able to track our own personal trends because we are a patient centric at a clinic or in a hospital setting. Is mobile integrated healthcare/community paramedicine in use here in Washington? Are you folks doing that and moving in that direction?

Audience: Starting to.

Karen Jacobson: Okay. Starting. Obviously for those of you who are going in that direction, you'll have to have a patient centric system in order to track those patients. We're getting into that overlap. Until then, our system right now is response based and then at least specific patient documentation. Purpose of NEMSIS Version 3 are many.

One of them is to improve data quality, as we already saw with Version 2. We have a couple of mechanisms to make that happen. Some of them is in improved data structure. Over time we've all made a lot of progress, lessons learned, improved processes. The community of EMS, our primary stakeholders today are the state EMS offices, data managers such as Melissa; the software developer community such as some of the folks in the room here today. And obviously you, but we don't interact as much directly with EMS agency and boots on the ground EMS professionals.

Those that we are working with to provide a solution to you in the field is to have business intelligence, rules engines, something called Schematron. We want to have enhanced performance assessments. One of the things that systems will be able -- should have the capability, I shouldn't say will -- should have the capability of doing, is be able to document provider performance protocol adherence.

Because of course if you have an active system where you're looking at your data, you can say, oh, do we know if the patient received aspirin on a chest pain call? If they didn't, is it documented somewhere other than narrative? Can we pull that data out of that EPCR and take a look at it? I talked real briefly before about web services, so what we're looking for is data transfer will be automated, one of the things that will help with this surveillance.

Ebola. Did you guys have any Ebola cases here in Washington? Okay. How about H1N1? Measles? Measles, right? Did I just hear on the news again last night there's a new case of measles? Web Services would allow an agency, a regional system, a state, to look at what's happening across the state and provide some health alert networks. How many of you or your agencies receive HAN alerts? I don't know, maybe you call them

something slightly different regarding, again, incidents -- you do? Okay. Great.

Working with your public health communities is hugely important and this is something that as we move to Version 3 surveillance and just what some of the components are of it will allow us to do. Web Service, almost real-time submission of a record from you in the field and whatever your product is, to your agency, your state -- your agency would have a system in place that says, okay, my record is complete. My system recognizes it as complete and it then rolls up to the next level, which would be the state. The state also could have a scheduled automated process for the submission of data to us at the national level, all in a process called Web Services.

Then preparing for the next steps of HL7, which is Health Level 7. How many of you are hospital based providers? One, two? Thank you. I'll just touch on this real briefly. Health Level 7 is a standard. It's an international standard. Its organization, it's an ISO approved standard for healthcare documentation. Hospital systems use that today, so as we talk about health information exchange or as you hear about health information exchange, the system that's used on the back end is called HL7. It is a critical content, so what we're doing is we're working to synchronize our NEMSIS Version 3 standard, so our clinical content with the hospital clinical content down the road to facilitate health information exchange.

Continue a little bit with our history, and I'm going to speed up because I've spent too long on, what, 10 slides?

We're working to address issues that have been identified by yourselves, shared through your state, through your software companies, to allow documentation to be fixed. We're fixing errors that were in the Version 2 standard. We're adding elements that have been identified as needed. We do want to be able to facilitate national research with our standard, so some additional elements have been added such as the CDC Trauma Triage Criteria. Do you use that as a standard? Okay. Great.

Improved data quality, so there's a couple of things that will be able to happen here is software systems may have validation rules, business intelligence, close call rules, clinic rules built into their software to facilitate the documentation. Those software companies who are here will probably provide a little information on what their products do to facilitate that.

For example, if you have a cancelled call, you never make any patient contact, should you have to hit with all -- and I'm just talking Version 3 now, don't freak out too much, all 165 national elements -- if you have a

cancelled call, really you probably need to hit 5 or 6 and your software should have artificial intelligence, business intelligence, built into the solutions to say, oh, well if I know as I'm driving, I get canceled, I can document that and then some of the other fields disappear. The software, in turn, automatically will send an appropriate not-value, because it was not applicable to the call, up the chain. And I get Web Service real time.

We have a couple things as we moved to Version 3 as far as improving data quality. We've identified our 500-plus elements of this standard, which still don't meet all of our needs, by the way. You might have needs at an agency level that the 500 don't necessarily meet. We're an ever changing environment and so we need to meet those needs. You can do that with your software solutions that you have. What we've done is we've identified each element based on a usage. The national elements are either mandatory or required. State elements are either recommended or optional and then some optional are another 200 or so. We'll see the numbers here in a second. They would then be submitted only if they were applicable. We'll talk about that.

We also went from the five not-values to either two or three. The national elements only have two not-values. They're either not applicable or not recorded and then the state recommended elements have a third not-value called not reporting. Depending on how your software system chooses to display that and the user interface, they've been separated from the value list of elements. Why is that important? You don't need to know, other than -- and it does depend on how the software is going to display that. Again, it's important for that scenario that I just gave of the cancelled call, so that if you never touch that element and you did make patient contact, they could document not recorded; that the EMS professional never documented it or not applicable in the case of a cancelled call.

We have pertinent negative documentation. I referenced before protocol compliance. Chest pain call and aspirin or nitro usage -- how important is it to be able to document that the patient took that aspirin or took at least one nitro at home? It's important. Pertinent negatives were added to a number of elements throughout the standard, but not every element.

Business logic via Schematron. What we've done is we've created through the great efforts of our state EMS offices kind of an almost a business -- it's a little bit clinical in nature and structural Schematron rules. These national rules help to enforce data quality. Schematron is a component of compliance testing for software systems and software has to be able to consume the national Schematron file. Then if a state has created additional rules, then it's beneficial to all software that's operating in the state, to have those in a consistent format language, which is Schematron,

so that the record would run against Schematron. This would be in addition to your point of entry rules that your software solution has.

Again, state can have some -- Melissa, are you guys going to have additional state Schematron rules? Don't know yet?

Melissa Belgau: They wouldn't keep records [inaudible] did.

Karen Jacobson: As the state considers adding Schematron rules specific for the state of Washington, what Melissa said, in case you did not hear her, was that they would -- in essence they'd be warnings and it would not prohibit the data from being submitted. They would just have to meet the national criteria and we have warnings as well, not always something that would prevent a record from being submitted into a state repository. But sometimes.

We also have performance measures. We have seven categories that you can see on the screen and what we're working to do over the next 18 months or so is to develop new performance measures based on Version 3, but in the meantime, our office, NEMSIS Technical Assistance Center, is using existing standards of performance measures that were published in 2009 from the NTHSA office of EMS.

One of the things that we've done with our Version 3 standard, knowing that one of the goals long term is to have Health Information Exchange, is to use existing healthcare standards for data. We did have it, to a degree, already with Version 2, but only for one or two elements as it relates to billing. There's something called ICD-9 codes. Any of you involved in billing today? Those of you who are actively involved in billing are familiar with ICD-9 codes, CPT codes that CMS allows and other insurance companies. You're also probably very aware of the movement to ICD-10 codes.

We're using ICD-10 codes for many, many elements with Version 3. The change that that makes to our system is instead of 27 provider impressions there's now literally thousands of options, but what we did was we created a suggested list through efforts of very active medical directors, Melissa and her colleagues and me. I started it, provided some lists out, and people said, Karen, what are you thinking? Why would you want to add that? That was removed. This was added. But this has been done for not every element, but for many elements.

I'll show you at least a screenshot of where that is available on the NEMSIS website if you have not seen it before. I think the provider impression list now has been minimized from the 20 or 40,000 to, again, recommendations and I think we're at 121. It might be 97. Still a lot, but not as limiting. The thing I just want to make you aware of is there are still

limitations to this, because these standards were created based on hospital and clinic need. They don't necessarily meet all of the needs of the EMS community, that prehospital environment.

We do have some mechanisms to get values added to the various standards. I talked about ICD-10 codes, so we have the CM codes, which are more clinical or diagnosis codes. Do we diagnose, by the way? Thank you. Yes, we do. Using a diagnosis code where we're trying to use some values that are simplistic for the pre-hospital setting is what's happening. Of course we're told we don't diagnose, but we have to, which is why we use the terminology primary impression. The provider's impression, but we know we have to treat the patients.

Medications we're using something called RxNorm. It's a defined list. In Version 3, just so you know, the national standard was a free text field. Can you imagine my nightmare of trying to map every free text field that we have coming into our system? We do it. We have a program that takes previously submitted value choices, but it's painful. If somebody wants to see during a break, I'll pull something up so you can see the nightmare I get every quarter or so. Then we're using SNOMED CT codes for procedures. We originally were going to use ICD-10 PCS codes, or procedure codes, and those of you who've looked at those as you're looking for a transition for billing purposes, probably have identified that there's even less value choices than there are with SNOMED.

I want to give an example of the pertinent negatives. I have a couple of additional shots here. This is Version 3. This is element E, medications.03. How many of you have looked at our day to day sharing? Our online web based day to day sharing or the PDF version? We have the element name, the definition, indication of whether it's a national element or not. By the way, if it's a national element, it's automatically a state element. We reference whether or not it had a corresponding value in Version 2.

Here's the usage. Here's the performance measures for the element. I lost my mouse again. There it is. Then we have some things call attributes. Attributes for an element will be a little different than the actual value list. It will allow someone to be able to document a value. Again, medication given, we don't have a list shown here because we're using ICD-10 and these are some of the pertinent negatives that can be allowed. You would be able to then document aspirin and you'd be able to document here medication already taken or that the patient indicated -- whether it's their history, the patient refused, they have a medication allergy, but these are your pertinent negatives for element E, medication 03, medication given.

This is an area where our expectation at the national level is you would document the aspirin and the pertinent negatives. Then your software

solution would be able to say -- or at least if you did some protocol compliance, then you'd also be able to say, well, the patient did receive aspirin or did receive nitro, or if they did not, then why.

The Version 3 performance measures. This is just a high level list of the seven categories that we have and then just a screen shot from Excel spreadsheets. We have them actually as TXT files on our website that can be transformed into Excel spreadsheets of the elements that have some. Here's just, again, a screen shot of complaint reported by dispatch is the second element here. It shows that all seven -- [inaudible] to the right there -- is a total count of the performance measures that that element has. What we'll be able to do over time is be able to look at those elements and move things forward as far as using the elements to identify performance measures.

NEMSIS Version 3 versus Version 2, and we actually have a new version of 3 coming out on the 2nd of March. Here's Version 2, Version 3.3.4 and Version 3.4.0. This was a major release, hence the numbering change here from a 3.3 to a 3.4. It's because we added some elements. We actually retired two elements. We added five elements to the EMS data set and we added two to the demographic agency information. We actually added two custom elements for clarity purposes. Here's your total count of national elements. It's 165; 130 at the EPCR level. Now, you might think that seems like a lot. I'll show you why it's not in a minute.

Compliance testing with Version 3. As I mentioned briefly, compliance testing of software solutions requires that they can take a Schematron file. The national Schematron file we have, we're actually testing them with a dummy file to ensure that their software, when it generates an XML file, could run Schematron -- check for data quality. What happens then, by the way, is a message goes back to say, as an example, there's an element on pregnancy. If it's a male, do we want there to be an indication that the patient is pregnant? We do have pregnant males in the national database, which is probably a mapping issue, but we have them. Just so you know.

We have information on the NEMSIS website regarding the status of software systems. There's differences in Version 2 and Version 3 for compliance. The first is at Version 2, software systems were allowed to have either a gold or silver status with a NEMSIS TAC. Silver meant they demonstrated that they could collect the national elements and export them plus additional value choices.

Gold was everything. In Version 3, guess what? There is no silver option. They have to be able to have every element in the system and export every element out. The software systems are being tested on that. There's also a capabilities requirement that we did not have in the past. One is collect

data and the other is receive and process. You'll notice that there are a couple of software systems here that have been indicated both.

American Ambulance has indicated here collect data and receive and process, so they submit an application to us and indicate what type of compliance they are working to obtain. Collect data is the agency level software system whereas receive and process is a regional or a state level product. You as an EMS agency or just individuals can go to the NEMSIS website and see what the status is. I can go to that page here in a bit.

You're supposed to be nudging me when I get too close, by the way, since I don't have access to any clock.

Melissa Belgau: Fifteen minutes.

Karen Jacobson: Holy moly, I better start talking faster.

You can check yourself on what the status is with the software company you're currently using for your solution. As the state of Washington moves to Version 3, they'll stand up their system, as you'll hear about soon. They'll stand up their system and make it available and there will be a transition process for agencies to be able to come on board.

This is just a screen shot of the element structure for the e-medications section. Just in case you haven't looked at it before, we have this for every section of our data set. This is medications. This whole grouping can repeat. There's multiple medications that can be administered to a patient, so each medication you're going to document and you're doing this already. You're documenting the time a medication was administered, whether it was administered prior to the event, that's a yes/no question, plus the two not-values, the name and so on. The color code -- so there's a legend here, tells you what this means, but if you become familiar with it, you can look at it and know immediately what it stands for. I won't bore you with it now. If you have any questions, you can ask.

What I want to show you right here, this represents 18 elements from the vital signs section. These all existed in Version 2. Your software products had this already and these are now national elements. This is efforts you were already making and you document this information when it's pertinent, right? You're not checking a pain score and a stroke scale on every single patient every single time. Your software would have the ability to say, oh, you documented the pulse oximetry and the respiratory rate or the pulse oximetry and the heart rate and the blood pressure. The rest of the elements it would be either a not applicable or a not recorded value would eventually float to the NEMSIS TAC, but we'd have the time

that that was done. We don't feel that's an extra burden because that's something you're doing already.

Here are some cardiac arrest elements that existed in Version 2, which are -- the first three on this list, by the way, were part of the national standard for Version 2. The rest of the elements were not. This again, we don't really feel this is a burden because what we've seen nationally is that anywhere from max of 2 percent to less than that is what your typical response to cardiac [inaudible] is. You're not going to be doing this very often and your software solution should -- if you have a patient contact, should or could display the cardiac arrest element. You can answer either it, no, wasn't cardiac arrest, or yes, it was. Then if you say no, the rest of the elements -- in a perfect world, the ease of documentation, if you have artificial intelligence, business intelligence in your solution, then those elements are not displayed. Question in the back?

Audience: [Inaudible]

Karen Jacobson: Yes. There's been some discussion on that. I might have -- I actually had a slide on CARES that I put in, took out, put in and I think I might have taken it out again. But yeah, because you guys are a CARE state and what's interesting about CARES is that with Version 2, there was less similarities than there is with Version 3. Right now there's a lot of discussion also with American Heart Association who is looking to create their own cardiac arrest and chest pain registry.

Right now, the fact that there's CARES, American Heart is looking at doing something and of course there's the NEMSIS standard, we do want to try to work them out. There is a custom element project that one of my team worked on with our principle investigator, Clay Mann, and the CARES folks. Is there? Yes. What's the long term time frame? Now that American Heart Association is thinking about doing their thing, it's probably on hold for a little bit until we know what direction they're going. Great question though, appreciate it. I'm sorry for those of you on the webinar that I did not fully repeat the question. Hopefully you understood from my responses.

Here's a number of elements that are new to the standard and are national elements. Again, you'll notice that some of them are in the vitals section. Some of them, they vary as far as where they're coming from, but they've been identified as information that's important at both a state and a national level to get a better idea of what EMS is doing. I consider EMS to be the hub of healthcare. We touch all components of healthcare and public safety whereas you've got a clinic, they might interact with a hospital, but we as EMS, touch all of them. It'll be important for us to be

able to take a look at what is happening with EMS and how it is touching the other spokes of the healthcare continuum.

We have some information that we're collecting "once a year" and those are elements related to your specific agency. We refer to these as the demographic information, which is frequently confused with patient demographics. This is agency demographic. We call this the demographic data set. It's an element that starts with D. If you're familiar with Version 2, there we had D and E element as well. E elements are your event or your response and patient care record, patient contact. The D elements are related to you. This is information that we at the national level need to receive before we'll even take your event records.

In essence, it's once a year, your software solution should also have the capability of recognizing when you're made a change. If you've added medications to your system -- so how many of you were impacted by the morphine shortage? Did any of you add new pain medications or did you have some already? You had Toradol and fentanyl and stuff? Okay. Well, of course another example would be -- how many of you are just basic life support agencies? A handful? Any of you already allow Narcan? No? Yes? Okay. Well, the big movement across the nation is that everybody gets to carry Narcan.

Well, if your system did training on Narcan, you added it into your system, then your software solution should now recognize that Narcan has been added. The certification level that was now capable of administering that. Your system should recognize that an update is needed, send it to the state. The state in turn recognized that there's an update and in turn send it to the national registry for that. Just a list of those elements.

Outcome data. This is information that are new elements to the system and this is important for you. These are not -- these that I'm showing here are not national elements. We do have two, which are ED disposition and hospital disposition, but this is information that's important for you and we do have some successful implementations today of EMS sending data to the hospital to populate their medical record. What we're working on in the future now is to make sure that the data comes back to EMS.

Whether that's directly to your agency or whether that would go from, for example, a hospital trauma system to the state EMS system and then potentially then the state could be able to push it back down. We all know, just as we received the call for a complaint of chest pain or a motor vehicle accident, and yeah, there might be a motor vehicle accident, but -- or I should say traffic injury. You get there and, guess what? The reason the patient had the traffic crash was they had a stroke. They had a cardiac arrest. They had a diabetic condition, hypoglycemia, all those things.

So it's always nice to know -- or wouldn't it be nice to know -- was my provider impression that I did or my personnel did, documented, does that match the ED diagnosis or the hospital diagnosis. That's one of the things that we want to get to is outcome data coming back to EMS from hospital systems.

Am I down to like three minutes?

Melissa Belgau: Five minutes.

Karen Jacobson: Five minutes, okay. Thanks. I'll speed up again.

This is coming back to Schematron again really quick. We have national rules. These are examples of the descriptors that were used to create the rules. This is friendly text. We're looking where element E arrest.03, which is resuscitation attempted by EMS. We're saying the rule reads resuscitation attempted by EMS cannot equal not applicable when element cardiac arrest, E arrest.01 has a value of yes after EMS arrival.

We want to know what the etiology is. We want to know what resuscitation mechanisms were used on the patient. This is just some friendly text that you'll be able to -- well, just as a reference as to how they were created. I mentioned before that we have suggested lists on the NEMSIS website and I'll show you where this is, if you don't know where this is already. We've created some white papers, which is this middle column. This year, the information in here -- this is a table, you just can't see the lines. These links on our website are .pdf documents where these are Excel spreadsheets.

This is a documentation that explains to you the guidance that we are providing as to how we limited or are recommending limitations for the various elements and the various standards that are used. Procedures are using SNOMED CT. The Excel spreadsheet usually will have multiple worksheets on it and it's ordered based on different things. If you guys haven't seen this before, maybe we can pull it up on a break when I'm not on. Previously I showed you the map that was primarily green. Here's our map for states that are working to transition to our Version 3 standard.

There are two states that have submitted data to us successfully and we actually have a third that is working on it today. States that are in gray have not indicated that they have a transition plan. States that are in the yellow/gold have indicated that they have a transition plan. States that are in purple have some documents that are available. I just need to work with Melissa to say, hey, do you have some documents I need to post for you

guys to turn you purple? Then green are states that are actively submitting to NEMSIS now.

I'm going to blow by this, but we do have some agency level reports that we're either working on and working to improve. We have statisticians in our office and business intelligence developers for reporting. These are some of the tools that we utilize for the reports. I'm just going to blow by this, but these are examples of this benchmarking toolkit that we created and it's based on the NTHSA 2009 performance measures. I know that you are working on key performance indicators. Melissa has done an awesome job on that, by the way. I know there's been a task force or something, right?

Melissa Belgau: [Inaudible].

Karen Jacobson: There's that one too, but before that you guys were ahead of the curve working on identifying your KPIs for the state of Washington. Kudos to you guys. I know it's taken a lot of effort, but you have a lot of expertise here in Washington, so it's really great that you're moving that forward and leading the nation.

By the way, Melissa presented at the National Association of State EMS Officials data manager council -- DMC -- in October regarding that project and everyone was really excited about that part that you guys are making on that. This is a report, and I don't know if you guys are thinking that you want anyone in Washington to participate, but you did receive that email from me, right? Via the data managers listserv? If not, we'll talk later.

Anyway, it's a report that we create based on data submitted to us, and each agency actually has a capability of receiving this. This is an example of one agency. They're the one in red. The black is the rest of the agencies in the state showing where they stand on the NEMSIS definition of completeness of documentation, which are laid out in the document. Right now it's six pages, not terribly long.

We're working on a benchmarking API and so we're doing some things then for Version 3 where we've translated the elements that were identified in this NTHSA document into Version 3 elements and there is, as many of you know, a national performance measures initiative body that is working to identify what can truly be measured in EMS across the nation. That will be coming. That will be published. Right now it's scheduled for publication in August of 2016 and then we'll be updating things hopefully, actually in 2016, not waiting until 2017. Error on my part, but this is the current version if people haven't seen it before.

It's just the cover page of the NTHSA performance measures document. These are examples of where things are moving and some of the things that we're working on right now and will have available in the future, especially as we have more data. We don't have a lot of data yet and we need adequate data to make sure, so that people can do some benchmarking and comparisons on national data. This is just an example of the 2009 report and how the elements are being modified. This is what percentage of patients over 35 with suspected cardiac chest pain received a 12 lead ECG. Then there's the criteria, the various criteria that are used and then the Version 3 values and the codes, in some cases.

Here's health information exchange. You might wonder, as you quickly look at this. What we have today, the NEMSIS Version 3 standard is going through an approval process and so what we're able to do today is this blue line. This is what we have proven. This all, actually is the software company that successfully completed this so that we could meet this process of NEMSIS Version 3 becoming an ANSI, which is through HL7, an international standards organization. The standard helped us obtain that certification. We're now sending from the EMS unit to the hospital, their software solutions that can do that and you guys should check with your software systems to find out where they stand on being able to do that.

The key, of course, is they might be able to do it, but it's now then a question of can your hospital receive it? There has to be a relationship. It's real easy for me to say yep, can your software solution do it? They have -- you as an agency have to have a partner at a hospital who wants that information, and by the way, there's many across the nation that are very interested in that. It's just a question of have they identified their own mechanism for that to move over or are they using the standard?

I'm going to stop because I have another 15 slides talking about health information exchange and I don't know that I necessarily hit everything on there. Question?

Audience: Yeah. When you were talking about previously having the silver and the gold standards and [inaudible] did or you don't, what's the downside? Do you guys have any [inaudible]? [Inaudible] compliance but they're not really if they [inaudible]?

Karen Jacobson: So we do. In fact we just had a software company we were working with this week on that very issue. What happens is we may be contacted regarding the status of a software company that may indicate that they're NEMSIS compliant. Sometimes this is a software company that's new to the EMS realm and they don't understand how compliant is understood in our industry. It's usually an education process.

There's two ways to look at it. They'll say, oh, I'm NEMSIS compliant, when what they might mean is we have developed our product based on the NEMSIS Version 3 standard. They might not understand what the steps are. If you're talking about software companies who have gained compliance, which might be your real question.

Audience: Yes.

Karen Jacobson: If software companies have gained compliance with the NEMSIS TAC and are working and are no longer compliant, we expect to have communications with our state EMS offices and anyone else regarding that. What we do, and let me scroll down here. This is the page where we indicate software compliance.

Here's agency compliant software. What we're doing is we're saying that on this date they gained compliance and they were able to meet the needs set forth or the requirements set forth through the compliance process. Now, those of you who've received updates from your software companies, from their solutions, just like when I'm shutting down my computer, once a week I get my Microsoft updates. We know that there are updates. There are bug fixes. My Google Maps on my phone, the navigation won't allow me to navigation. Maps isn't working, it's shutting down. I'm like, okay, well, hopefully I'll figure out my own way there.

I think two things are happening. One, you need to recognize that software is ever changing and our IT department says pretty much anything is possible, there's just a cost associated, which might be delay in something else that you may have prioritized. "Anything is possible," but one of the things that happens is as you -- as software is developed, you need to test it. You might find that things aren't working as you originally wanted. As enhancements are implemented or upgrades made to a system, you have to just be aware that something might not work.

Our line really is if that software was compliant based on their product version for our standard as of this date, we know that, particularly now, that there were software systems as they rolled out their products and they may still have been in their beta stages. They've worked with clients such as yourselves to say, hey, I want/need you to roll out your software. You've got your super users. Have your super users break our system. One of the things we know, for example, you guys are intelligent enough, your staff are intelligent enough, to try and figure out a way not to document something.

Then you feed that upstream. Fixes are put into place, new rules put into place, whatever the case may be within a software. What we're doing is if

we're notified of something, we will research it as we can. We will reach out to them and work with them. Most of the software companies that we work with, we have really, really good relationships with. We could not be successful without you and without them. We've never had someone who isn't willing to work with us, but we have to first be notified.

Any other questions?

Audience: Going back to the issue of voluntary compliance, the state -- very touchy-feely and so most things are voluntary in nature, but we struggle. If we're going to have good data at the state level, we struggle with poor participation in WEMSIS and we don't have any real carrot, enticements or [inaudible]. I'm curious about how other states have -- that have voluntary compliance, if they have high participation levels, how are they able to woo all the players to participate? Any thoughts? It seems like otherwise we have flawed and incomplete data, which may or may not be representative of what we're actually doing in the state if only half the agencies there participate.

Karen Jacobson: That's a good question. I was just in a state where they are somewhat voluntary, meaning they have -- there are a number of states that do offer funds to an agency, but one of the requirements is participation. It's not that -- I don't know of that many states that actually on a regular basis or annual or every two year basis provide funding to their agencies, but sometimes that's an enticement for agencies to participate. We also have seen that agencies are more likely to participate if they're invited to the table. You guys are here. You're obviously actively participating, so if you have a voice in what's happening, that makes a difference.

If you're involved in the key performance indicators that Washington is setting up and if you're getting data back, if you're recognized, we -- and we probably should do something on the KPIs anyway, that Washington has put forth. What we're doing at NEMSIS right now is we have a new spotlight newsletter. We've only had our second one published, so but a best practices spot light. This can even be based on an agency level, but it's information then we are getting from, again, either an agency, a state, a regional system, but some of the questions have always been, well, what are you doing with the data? How do we compare?

I think having the ability to compare one agency to another has real value. The state of Virginia, for example, they have a reporting card type system in which they do report actual agency names. When you saw ours, we had that little chart and said here's your agency, well, do they want to reach a higher stage or not. They are more likely in those scenarios to want to do better. One of the things I've found, so you know how I showed you the

data quality issues from Version 2 and there was a state that had 82 percent not-values when the patient was treated, transported to a hospital?

Well, what's interesting is I showed that and I had actually shared with the state that that was the case for, and then we shared that information in general at the state site visit. They were also talking about version -- slowly moving to Version 3. Two of the agencies were at the table and they represented probably all of that data. Ironically, we had pre-scheduled a site visit for one of the agencies. Well, the agency level data was fine, the problem was mapping and submitting the data to the state in an appropriate manner and then in turn to us.

One of the big, big reasons -- and I know this is not answering your question -- to move to Version 3 is, as I said, Version 2 we said hey, you've got an element. You can add more value choices as long as it collapses back down. Version 3, it's a standard. If you want to do anything extra, it has to be done through a custom element perspective. We now have a standard that can't be modified. Software companies have agreed to that, so even though we now have 20,000 value choices for primary impression, we said okay, here's a shortened list.

Most software companies with those shortened lists have said we will adopt and start with the NEMSIS suggested list that the stakeholders have identified. We'll roll those out and as our clients identify additional values that they need, we'll search within the data set. We'll talk to the NEMSIS TAC to see if they can help identify something else that might be appropriate. Giving information back ends up being critical. We all know that -- and I mean, Washington has been in this position, so I'm not trying to throw Washington under the bus, because most state EMS offices don't have adequate staff.

You guys are really blessed that funding was identified and Melissa is in the position she is now to be able to help and you can build those relationships. For me, it's building relationships. It's giving information back. It's spending time identifying various things. Even doing your own spotlights, if a state is in a position to say hey, this is what this agency is doing. Here is the difference they're making in their community. You guys are in Washington and I know -- anyone here from King County? I'm not throwing them under the bus either. Everyone around the world knows about King County, right?

All the efforts that King County has made over the years -- of course we mostly know about cardiac arrest, but we're sure it isn't just cardiac arrest. My point is just if we know that lots of good work is being done by EMS. Are you doing something with your communities? Are you doing something here and there? If that type of information can be shared, then -

- and how is the state learning about it? Is the state learning about it through your data? I think those are some of the things that can help say, hey, well, if they're able to get that information and I'm not yet submitting and I think I'm doing just as well as that agency, in fact, sorry to segue again here, I was at another state last year.

I shared we have two states that are submitting data to us via web services for our Version 2 standard. Those states are Pennsylvania and Alabama. A state EMS director said, I know the state director, named him, and said, and we can do better than Alabama. Why aren't we submitting via Web Service? We need to move this forward. Sometimes it's a whole friendly competition, but beyond that I think that's a question we have to pose to the DMC.

What do you think, Melissa? She's quiet.

Melissa Belgau: I'm going to check for the questions on the webinar and in the meantime, if anyone wants a quick restroom break, it's a good time for that.

Karen Jacobson: Should we go in here right now and see if we can?

Melissa Belgau: I can do that if you want to [inaudible].

Karen Jacobson: Fabulous. Thanks for letting me talk everybody, and talk.

[talking over each other]

Melissa Belgau: So the only question is for me, will I provide the PowerPoints after the session and the answer is yes.

It's me again. I am Melissa Belgau from the Department of Health. I didn't introduce myself earlier.

This is Joe Robinson from Image Trends. We're going to be talking about WEMSIS Elite. Image Trends is our vendor for WEMSIS and WEMSIS Elite is our Version 3 system.

Joe Robinson: Hello, everybody. Thanks for being here. I appreciate the opportunity to be partnered with the state here on this presentation.

We really want to talk a lot about what's changed in our application suite and then exactly how that might impact you in the field and also on the WEMSIS site. The application is a URL change. You'll see it up here on the board with the slash Elite nomenclature. It is a complete 100 percent rewrite of our solution. We feel that that's a good thing. The rewrite was

done partly because we wanted to support your demands and needs for hardware ubiquity.

We wanted to craft the application in a way that can be extended out into the field devices like tablets and iPads and applications down into the low level of your requirements list. One of the things we wanted to do was write it in HTML 5 and get away from some of the supported hardware nightmares that you might be running in to in the application today. We also wanted to become browser ubiquitous.

We have basically the ability to be on any normal browser and if you decide to have something exotic as a browser, we'll support you there. Then overall functionality and community sharing was something that we felt was very important. We pretty much gave you a data warehouse application behind the scenes. It gives you the ability to do these things that Karen started to suggest with hospital integrations, payers integrations, connection to other database systems like traffic or some of those types of areas of data that you want to link in to or get outcome data back from.

In our mind, these changes were very important because just like it's been suggested in the room, we wanted you to have the ability to get something back from the effort of putting data in. Melissa, you call that easy in, easy out. If I may introduce that to you.

Melissa Belgau: Yes.

Joe Robinson: Is that me?

Melissa Belgau: Yes.

Joe Robinson: All right. What we think will come out of this, and what we're very excited about, is the faster ability to collect data at patient side with the hardware that you want to choose. That's basically the number one thing. If you've got an Apple out and you wanted to hold that thing in a vertical way, you're going to find our forums designed with the thumbs being used, the pinch being used, the scrolls.

All of that functionality that you were getting used to on your cell phones and tablets are going to be used in our form. Then the field and web interface is going to have an identical looking feel. The training overhead is going to be smaller. The retraining overhead is going to be smaller when we change from versions. That's really a good thing and then we really wanted to give you control in the field. This is a permissions thing that you get and you can get control over the look and feel of the forum.

You can get control over the naming of the types and you can control the type of situation of where things go in the forum. We're going to show you that today a little bit too. Then permissions granularity, you know, who can see what and do what performance. Not everybody is the same rank in an ambulance or an EMT unit and so some protocols and procedures might be limited based on rank. That's an example of where we think the permissions might be useful in gathering that and who can actually administer Narcan.

Okay. What's included is a lot of information. One of our key goals for rewriting the application was to not lose a single feature that we currently have. Then we're also adding almost 2x the same amount of features in the solution. We've categorized these in colors. Red meaning the fire features that would go into the application, the orange is EMS added features that we don't already have and then we're connecting devices such as in blue and then we're putting in some additional community parts of our application in green, including opening up the billing capability to those things, providing an online training service with videos and community input and also a community sharing part of the application.

Our user base is very, very important to us and we feel like your voice -- we have a program called User Voice and we've actually wrapped that into the application. If someone wants a feature, you can put that in User Voice and it'd vote up the feature like Reddit and we'll entertain that into the next round of the application release. It gives you a very active role in making the product your own. That helps Melissa with getting more data from you. That's our goal is to work together in that.

Melissa Belgau: Over the past couple of years, since I've been in the position, I've heard several barriers to using the Version 2 system and I believe that the Version 3 system responds to most of those barriers. We've been working on designing Elite. Like Joe said, it's easy in, easy out, because some people have limited time to enter data. For those of you who use the WEMSIS or Image Trend run form, Version 3 has new features that speed data entry.

For those of you who use different products, some of you don't have the time to do the data extracts or you run into errors when you do that. In Version 3, your vendor will be able to upload your data for you on a regular, frequent basis and it'll be faster for you also to run reports. Even if you just log into WEMSIS for that feature, and if not all of the reports are pre-built for you, we can build them for you.

Joe Robinson: One thing we'd like to add is this navigation capability. Thinking about how you might work together as groups at county level or maybe underneath a centralized CAD area, and so what you can do in the tool is

also switch your views from being the central hub of an agency area like a county or a region. It allows you to regionalize your protocols or regionalize your reporting. While you're in that, you can then have a broader view of everything that's going on at the micro level from a higher perspective. Then of course that's available for the state to see as well and share that information through their KPI project.

Melissa Belgau: We moved from Version 2 to Version 3 to continue following the national standards as Karen was explaining them, including the new and improved data elements and ways of capturing the data so it's more accurate and complete. WEMSIS has always been a solid application that meets the standards and Image Trend has been around since 1998. WEMSIS offers different technologies in a one stop shop. It manages both EMS and fire runs and includes modules for quality improvement, quality insurance as well as analytics. There are other modules as well that the state doesn't purchase, but can improve your operations like billing and CAD integration and hospital hub.

Joe Robinson: We also added CARES, which since it came up, I thought I'd add that in. The thing that I want to highlight on this slide is that we really are platform agnostic when it comes to hardware and software. We kind of see ourselves as the catcher mitt in the interface to other providers. If you have a different application in the field, you can use that application and we're providing -- our goal is to provide the web services to capture that data so you could report there. In addition to that, we really want to help you with the community paramedicine application and turn into more of a patient centric view.

We did win a significant project this year, in 2014, actually, and so we feel that that is going to help us a lot with our patient centric point of view. In addition to that, we're growing community paramedicine features in the solution as well, which will automatically roll up into the Elite opportunity for you to share in that kind of growth. The other thing is the field based application is online/offline capable and that gives you the ability to do live patient side care and capture that data as fast as you want to.

I think I've mentioned this fairly well. We're browser free, essentially, and you get to kind of pick the flavor that you like the most. We are basically touching all the major hardware components. I caution people to make sure your hardware choices maybe come after your software vendor choice and I only mention that because you have monitors from different hardware vendors.

Sometimes those monitors might require an OS that is run related to me, but might drive the interface requirement of a particular piece of hardware. It isn't as easy as just saying, well, Image Trend covers Apple now. I'll just

get iPads. Your EKG monitor company may have a voice in that and you may want to check with all of the people who touch your hardware, your applications, before you make the choice. While we're ubiquitous now, and that's nice, maybe everybody else isn't. Also, you may have a billing software application that has the same kind of requirement.

Okay. Here's an example of our run form. This is the new Elite run form picture. I will have a booth here at the conference, so I can show you this live. Basically the solution is a rotatable and sizable application on the fly. If you have a small, handheld device like an iPad mini, it'll shrink down automatically to its own size and format for you. You're not going to have to use scroll bars and move the screen around. It's going to actually reshape itself very easily.

As I pointed out, on the left-hand side are thumb oriented buttons that you would choose. What's really, really cool about our buttons is they're context based. If I have a pediatric event, I will not see the adult oriented issues for that particular case. Then the other thing that we have is the context to see color oriented choices. If something is red, that means you have to fill it in. We also give you the score of where you are on that completeness of the form before you post. Some of these are automatic things that everybody will have and some of the stuff that you'll see in our application along the way here as I beep it into the form will be unique to us as well.

One thing that's unique is what we call six pack run form. Right now you're seeing a 3x1 -- basically 3x2 format on the format of the form itself and the injury mechanism. If I were to put this on a phone, that's going to be trouble for me to try to put in that impression. What we do here is we would turn that six pack into a one by five, in this case, and then you would just go down and use your finger on the phone and touch that.

So again, going into this easy entry and getting that database to be populated simply and fast, we feel like you don't want to fool around with the hardware. You want to make that easy. You want to touch those buttons and guess what happens? On the phone, the buttons automatically get really big. I have trifold glasses now with the little things and I have a hard time with the tiny little stuff. For me and my chubby finger, I get to use big buttons and so that makes it a little bit easier for me.

It's mentioned in NEMSIS 3 that it's a large data set. One of the things that we want to do is give you the ability to touch the data easily and quickly without having to do a lot of scrolling and a lot of trying to hold control and click. In the NEMSIS 3 version of our application and what we're doing with the state is to make this touch oriented. Right now, if I wanted to pick multiple choices out of a pick list, I have to hold the control key

down and click the mouse one, two, three. In this particular case, I just touch it on the screen, touch it again, touch it again, oh, I don't want that one, touch that again, it goes away -- trying to get you down to one finger entry.

Then of course the search is very, very powerful. You can stay there. The search is very powerful. We've done a few things with trying to automate and build this robotic search in. We also are going to get smart with loading the search where it kind of pre-empts what you've already done in the past a lot. Then in addition to that, it'll allow you to preselect out of the long list of options maybe the 10 you automatically do all the time or not automatically, but regularly do as your top choices. Right now, a lot of opportunity exists and the list gets really long. Thousands of things to choose from. It might be ABCDEFG as your list. Maybe that's inefficient. Maybe you want the 10 that you use the most, put those up there first. That's kind of how we're going to do it to make these free to do a data entry.

Melissa Belgau: This screen shows the pertinent negatives that Karen went over, so I won't go over what they are just to repeat that they are new to Version 3. It's really exciting to have these, which is going to help documentation. Some elements offer them, and yeah, it really makes the reporting more accurate because it enables us to know whether you're following a protocol without having to search in the narrative to see if you did and that's important because you can't make a chart from the text and the narrative.

Then this example just shows patient demographic information. You leave it blank, it could be not because you didn't ask, it's because the patient refused. It shows that at least you followed the protocol, that you tried, even if it's blank. Then in an example with aspirin, if you do -- you try to administer aspirin, but for some reason there was an allergy, you can still mark aspirin and then also in addition you would hit the button underneath that would say allergy. You're documenting it and that can be charted.

All the software that you see today will have these pertinent negative options, because it's part of the national standard.

Grids are used in the run form when a group of data elements are tied to each other. For example, you can have multiple crew members, but each crew member has his or her own ID number, certification level, response role, so you would complete the grid for one member and then you would hit on the plus add button to add another member with their own associated information. The grids help speed up the way you enter data. You'll also find grids for complaints, medications, procedures and some other groupings as well.

Joe Robinson:	Some of you are familiar with the form already and it has an element called Power Tools in it. This is our way of basically giving you protocols that you can control and then allow you to build wizards into your run form and allow you to make those touch friendly as well. You had quite a bit of control over how this gets laid out and how this gets operated. Again, thinking of it as regional, you might have regional approaches to the way you want to respond. This is a way to get that into your run form and to do some analysis on how well that's going.
	Everybody does assessments, so this is very common. The old paper body gets circled and we write little notes next to it. In the mouse world, it was easy to grab a little area and circle the body and maybe scribble some notes. We're going to do that. That's in the WEMSIS tool and it's interactive and you can do some bulk selections and choose some areas of it. In NEMSIS, the pertinent negatives are actually going to be used in our solution in the assessment part, which is kind of a unique way of approaching it.
	What we're going to do is we're going to allow you to take body chunks into a touch oriented perspective. If I only have a patient with a hurt ankle, I'll do pertinent negatives on the rest of the body and just say choose all and then except for the ankle. Then I could go into the ankle and do my assessment just at the ankle level and choose left, right, of course, and all the other issues that might go along with it. This gives me very, very quick way of interfacing with the assessment and doing it on a handheld or tablet in a very small, you know, basically being next to the body while I'm doing this.
	In our world, just moving away from that mouse, trying to make it a little bit easier for you to do entry and then using pertinent negatives in the assessment part of the process.
Melissa Belgau:	This is a screen that I'll see when I customize the run form. I can customize a run form for any agency that wants labels and fields in a certain way that makes sense for your providers and facilitates data entry. On the left side of the screen is where I can rename the sections and panels on the form and on the right side of the screen are all the data elements in the national data dictionary. In addition, it includes some additional image trend elements that they've created for some other clients that have requested it. I can easily search the data dictionary and then drag and drop the elements into the middle section.
	Then I can reorder them -- drag and drop them up and down so that the order kind of flows with your work flow and the form that I currently have in WEMSIS, it does not include every single element -- 500 elements or whatever. I've just included the minimum that I'm thinking that you would

need for record keeping and that we would use for reports, but at any time you can request that I add more for you. Any form I create can be visible to any agency and if there are any forms there that you don't want to see, you can just deactivate them so they don't appear on your list and you don't have to scan through them looking for the right form.

What really speeds up the data entry is what Karen was talking about, it's called the visibility rules, so it has some business intelligence in there. The rules would make the elements disappear if they're not relevant to your call. So like for example, if you don't make patient contact, you're not going to see all the patient related elements and so this means that you should only have to have one form and it should transform according to your type of call.

Another feature that makes data more accurate are the value triggers. Again, if someone marks pregnancy, then the form would be smart and know to change gender to female if it was marked male or even just to populate female if it was blank.

Joe Robinson: Okay. Another thing we were kind of thinking about in coming up with this application was to add things that are patient side. There's a pretty big rural area here in the state and one of the things that you might actually do some procedures in transit like labs and then you might have the form open for you to capture some lab data. We put an element in here called lab elements and transport and that gives you the ability to capture some of that patient side information while you're sitting there. You're riding along and you're going 110 miles to the next trauma hospital. This gives you a little bit of the ability to capture some of that information so it automatically reports up.

Melissa Belgau: The validation is how we control the data quality and there are rules that are already programmed into the application and then there are more rules that I'll add this year. There are the logical rules such as dispatch time can't occur after time at scene and then there are the national rules that NEMSIS is requesting to collect at the national level so they can use them for their reporting and they're also the local and state rules that we can develop at any time to reflect our protocols such as CPAP administration for heart failure patients. These rules affect the appearance of the form so when a field is left blank or the entered data is illogical, it will show it to you on the screen.

I'll be configuring a data scoring system based on the elements that we use to run reports. You're not going to go out of your way to complete any elements that no one is going to use. Let's say you're using or you have a patient with cardiac chest pain and that means 12 lead EKG should always be documented so we could build a rule at any time that if the EKG is

missing for that impression, you would get a major reduction in your score that's displayed prominently on the form and so if you click on that score, that can navigate you to the missing data elements and also it could be -- the actual control could be tagged red along with the panel and the tab that it's located in.

There are various ways to navigate to the missing or the inaccurate data. The validation process creates two ways to control the data quality, improve your documentation and the first is your fixing the data as you're entering it because you can see it on the form and also you can create data quality reports, which are now customizable in Version 3. These reports allow you to review and address the most common data quality issues. You can incorporate them in your training exercises.

Joe Robinson: Because we are doing this more in a regional way as well, you can come up with your own protocol and procedures and do universal course corrections on your own form. This is a very powerful feature that's now available to you. Helps you do that patient care better.

There's additional configurability in the application. For example, if I were a county, I could look at the various subagencies statuses based on where I'm at in the application. I might be the regional director or county director or EMS chief and then I can just stay where I'm at in the application and pop from agency to agency and see what's going on with their form or their reporting or their documentation.

This is also some place where you would administer permissions and access to the system and then that'll help you build these work flows or these power tools or protocols, if you want.

This is probably the most important. I call this the most important slide of the presentation is our integration capability that WEMSIS has for you. In addition to CAD and billing, we've really lowered the bar to the cost of some of this. If you are currently struggling with some additional costs around billing integration or CAD integrations, you probably need to see us. We also are expanding the data dictionary, of course, to the NEMSIS 3 requirements and we're providing the web services tool.

You can provide data to the state without having to have the Image Trend run form. That's something that we want you to hear clearly through Web Services. More importantly, we don't really have any limitations if you want to open up a data warehouse or a cube or something where you've got some exotic connection you want to make to a hospital or they've got a unique EHR that you want us to touch or you've got some reports that you want to gather from your scheduler. It really doesn't matter to us.

Now we've got this new structure that we can add connectors into those various applications. It's really as open and as creative as you want to be. Everybody knows that meaningful use is here, so we want to help you with the frequent flyers. We want to help you with keeping people from being readmitted. All of that kind of stuff is something that we can get outcome data down to you as well, and we can do that today through our hospital hub application. That's just one example of the integrations that we can do today with NEMSIS 3 and the elite.

Really I think our differentiator in the world is how well we can let you get to your data. Report writer is very robust. It comes in three layers. There's a transactional report layer, which is very common, where it's rows and columns, then there's the analytical report layer, which is where you can create your own pivot tables and to start to do some of this Big Data science stuff where you can do your own calculations, your own math with this data that you want.

Then there's always a need for pretty pictures. I love Tableau, which is a company in Seattle, which I'm very close to. I used to be a Tableau reseller in a former life and so I love the data analytics that we provide in Image Trend and with the WEMSIS system. I have yet to find us say no to any data connection. Really, if you can think it, we can connect it and report against it. That's really an important distinction.

Melissa Belgau: We probably all know why we should be reporting. It makes your records easier to read and to manage and when you run reports, you can understand the data and help prepare for your operational needs, but reporting also helps promote evidence based decision making through the quality improvement process. Agencies, counties, regions and the state can use the data to evaluate the EMS, cardiac and stroke systems of care and report writer will help you in identifying best practices to improve patient outcomes.

Since our EMS and trauma steering committee approved our key performance indicators or KPIs last September, we've identified the most useful data elements for improving clinical outcomes. WEMSIS is the only data source that has the ability to collect all the data for these measures. We're currently building all the 27 KPI reports in report writer so WEMSIS users can easily run these reports at any time just by selecting among the list of options. All you need to do is to set your report filter so you're just looking at the agency data and the time periods that you're interested in.

Also, when the data is stored electronically, it can also be shared with your partners who are also making patient care decisions. They can easily

	benefit from easy access to their patients' data that's being collected by other providers.
Audience:	What I hear you saying, [inaudible], what I hear you saying is anyone who submits to WEMSIS has access to this data? So even if [inaudible] what could benefit [inaudible]. If you publish these reports more frequently and people become aware of them, then regardless of what software you're using, you could still go to the state system and access it?
Melissa Belgau:	Mm-hmm, yes. Of course you wouldn't be seeing the patient identifiable information. It's just the data and aggregate and if there's too few information, then it would just not show it.
Audience:	[Inaudible].
Joe Robinson:	[Inaudible] with what?
Audience:	[Inaudible].
Joe Robinson:	Oh. I don't know.
Melissa Belgau:	WEMSIS also offers visual analytics with which you can create dynamic charts and so you have the flexibility in how you want to view and analyze your data. There are various chart types, including the common bar, column, line, pie, and even the funnel, radar and bubble charts that you hardly use. Charts are used to identify trends and to make predictions, maybe, and perform assessments. The charts can easily be exported to other documents too, if you ever want to show them to anybody.
	The charts will also be developed for each KPI so you have a visualization to go with the report output. What I'm looking forward to in particular is for you to compare your data against some benchmarks. We'll be able to benchmark against the KPI goals as well as against your county, region and state level performance, hopefully. That's also why it's important to get all your data in one location so you can do this benchmarking and you can demonstrate all your achievements.
Joe Robinson:	It's really about constant, never-ending improvement of patient care. We want to give you a perspective for you to be able to measure out your actions and your activities to some type of performance that you build in your own narrative. Sometimes that's tough when you're switching systems, so in NEMSIS 2 you've got a bunch of data that you've done and NEMSIS 3 you're now on a different trail and that data doesn't really marry.

What we've done is we've built the data warehouse for people to get and you can then map that data into a single view report. Again, I don't want to hammer this too hard, but you can also map other applications data so if it's output from an Excel spreadsheet or another EPCR application that you want to marry into view, we're happy to help you do that with our data mart.

Melissa Belgau: The charts that you're most interested in, you can also post them to your dashboard, which is the first screen that you see when you log into WEMSIS and with each log in, the data is refreshed so the data that has been most recently uploaded will be included in the charts. This feature is most useful when your data comes into WEMSIS as near real time as possible. If you have your own reporting software, then be sure to ask your vendor that they upload your data as often as they can. It could be monthly, weekly and some even do it daily.

Audience: I'm going to stop you there for a second, because over time [inaudible] the goal of [inaudible]. How quickly that can happen from one software to another, I obviously [inaudible] but in the future [inaudible] would upload to automated via Web Service scheduling.

Joe Robinson: Thank you.

One of the major improvements to the NEMSIS 3 Elite solution from Image Trend and now going to be on NEMSIS is the web based health system. Again, this whole idea of easy in, easy out, where you can learn how to engage with the system a little bit more freely. There's going to be online videos that you can download in small chunks and maybe have new staffs that you want to educate on how the form works or how to get the posts up there. We also are putting together easy to find reference material and things for your course training and to help you with detailed support.

Our world-class support is available. We definitely want people to use it and we feel that the first place is on the form itself. All of this available from the run form screen, so you don't have to go back to the office or back to a computer online. You can do it right from the mobile device in the unit and out there in the field if you have an internet connection. Then you can use the -- those little videos are tiny on those screens, so you can use your pinch finger to make them bigger so my eyes can see them. It gives you that facility to actually use the technology in the field, or if you've got that two-hour ride, you can do some research on the system.

I would be remiss in saying we're very proud of our unified run form where you can get your Nemfers [ph] data on your EMS runs to post as well through the application. This gives you a consistent look and feel for training. You don't have to go into dual apps. You can stay in the same

application. You can collect your six or seven fire-oriented Nemfers data and then post that live to the system in either the state or the nation repository for that data. You can then post your NEMSIS 3 requirement data as well at the same time, so you don't have to pop in and out of two different applications. It makes it a lot easier.

Melissa Belgau: Because we follow the national standards, the data is formatted in a way that it can be exchanged with your partners. Like Karen was saying, for example, the impressions are matched with their ICD-10 codes. EMS data not only helps us evaluate our EMS protocols, but can also be linked to other data sets to evaluate other systems of care. We plan to link WEMSIS to the trauma registry to better follow trauma patient outcomes in the hospital and pre-hospital data together with hospital data and traffic record data can help capture the burden of severe traffic injuries in the state, including the identification of populations at risk and the identification of new and emerging injury patterns.

In addition, it has the potential to contribute valuable information to traffic injury prevention and for engineering safety improvements. I've been asked by my own agency colleagues if they can use WEMSIS data for their drowning and older adult prevention programs. We've also gotten a request to look into loading data -- into WEMSIS data into our syndromic surveillance software application called Essence and that would be used for emergency response and situational awareness purposes.

Some jurisdictions monitor EMS data when there is an event of public health importance and since EMS are the first responders, you could become aware of a public health risk even before you would learn of it in the emergency department. So far we haven't been able to use the WEMSIS, because the data set has been mostly incomplete, but we hope that we can change that with Version 3.

Joe Robinson: Also, the linkages that are important to you in the state is WA Track as well, for patient tracking and Have a Bed and all that kind of application is also available. We connect to that. I don't want it to be too much of a commercial, but we do sell software for licensure management and also for billing applications and so forth. There is some of that you can also get from single source.

This is your application. It's made for you to have an easy way to engage with the form and an easy way to report. Our whole vision and goal is for you to use the application that's available here simply and easily and so they can get more data, but you get something in return. The idea that you get something in return is easy configurability through CAD, easy output to your billing and then perhaps some of this outcome data could come your way too if we could get these hospitals to work with us. Then also

have a unified field solution, so you're training in your environment, fire and EMS is unified under one application.

I've been promising a road map and so I got this together last week from our team in development. The good news is we're pretty accurate on this. In March you're going to get a full update. The version is out now, but we're going to have a full updated EMS form with all of the state initiatives that we have decided to put in together, so that's good. One of the things too is you're going to get, in a June release, the two totally unified fire and EMS run form built live.

What you won't have is some of the modules like scheduler or training tracking or things like that, which is going to come in the later part of the year in September for the NFIRS side or the EMS side of the management. You'll see a progressive and aggressive output of code from Image Trend this year with, of course, a couple of states already going live on the Version 3 platform and Elite and with six or seven coming in this first quarter. Got a very active group using the system today.

I'm here all this week.

Audience: Just to follow up on the question that I asked before, specific to your organization [inaudible].

Joe Robinson: Sure.

Audience: [Inaudible] and some of the others [inaudible] right on track Version 3 compliant right now?

Joe Robinson: One hundred percent. Yep, both coming and going.

Audience: Okay. No paper record?

Joe Robinson: No. No. We could give you a trial application today. In fact, I could get you your own log in and your own version so we can do a little trial with your group. In addition to that, Melissa has a very aggressive timeline on her release too, so you'll be part of that. She has to be the catcher's mitt that's ready for you to get a lead. The good news is I think she is ahead of you in that regard. What we want to do is make sure we're in that marriage with who's going to catch it and who is going to send it.

Melissa Belgau: Yeah. We kind of had to come first.

Joe Robinson: Yeah.

Melissa Belgau: We needed to have something so that when everyone else is ready --

Joe Robinson:	So no matter what vendor you pick, she's ready.
Melissa Belgau:	Has a place to go and to be tested.
Joe Robinson:	Yep.
Melissa Belgau:	And also, here's my contact info if anyone wants to have a one on one or group webinar with me. I can go into the software by sharing my screen with you.
Joe Robinson:	I'm available 24/7 on text and mobile. That's kind of the way I operate when we're very happy to be participating with the state. Thank you, Melissa, for inviting me up here.
Melissa Belgau:	Thanks for coming.
Audience:	Melissa, we've got a question.
Audience:	Melissa, I'm kind of confused with where we went here a little bit. I'm not sure. Is WEMSIS Elite our state system?
Melissa Belgau:	Mm-hmm.
Audience:	Okay. All those things up there our vendor will be populating for us or is that something that we're supposed to be going in to and populating? I also heard all kinds of things throughout this that were talking about at patient side collection. Was it also image trends EPCR platform?
Melissa Belgau:	For the data entry, I was showing the WEMSIS run form and it's the same run form that if you used Image Trend's field product, that you would see the same run form.
Audience:	Okay.
Joe Robinson:	If you have a connection, internet connection patient side, you could use her run form and do all that stuff I talked about.
Melissa Belgau:	Then if you use a different software, none of that was relevant to you. It's just the reporting stuff, basically.
Audience:	[Inaudible].
Melissa Belgau:	Yes. Yeah. So yeah, I would encourage you to at least log in to run the reports and so you can see your data merged with other data. Everyone is using a different software.

Joe Robinson: Yeah.

Audience: How do we plan to address the issue of duplicate entries when we have systems where we have ambulances from one agency still responding with a first response engine from another organization? You have then two EPCRs entered for one call. Is there any way to sort that out? I'm not sure I've heard any good solution.

Joe Robinson: That's a really great question and I'm glad you asked it. One of the main reasons you do a unified run form fire and EMS is because it does have a vehicle in there to keep track of that. You have a one patient, one run, and we also have a multi-agency report so in the narrative and also all the data sets will have a jurisdictional unique identifier so you can see in the total report this agency started with the cardiac on the side of the street. They were the first response unit. They did their initial impression, then they did some checks with aspirin and so forth. Then they handed the baton to the transport, boom, and then that's the end of the universe for that first EMS response team. They hit post, boom, it's up to the state.

                   Now the responding transport agency has got the next part of it and the guy goes into full cardiac, they've got all their protocols that they're doing. They hit the emergency front door of the hospital. Boom, they're done, and now that turns into one report. Then it's divided into time lines based on who touched what. We don't want you to type in redundant data. There's really -- if you connect with us in CAD, all of that is combined together automatically. If you don't, then you have to type in a little bit of information that's kind of demographic stuff that we talked about today where you have to identify yourself as unique. That's something you might repeat in the form, but that's about it.

Audience: I think your question was [inaudible]. If you have three different agencies [inaudible], how are you at the state handling that [inaudible] identify [inaudible]?

Melissa Belgau: Well, this is where our epidemiologist would come in and when she's looking at the full data set, there are so many different NEMSIS elements that there's a way that you can sort through by looking at the date of the events and maybe looking at patient identifiers. You would associate multiple units to a scene. Also, there are the new fields of were you the first unit on scene, so if one says yes and the other says no, then you know, well, okay, now I can look out for maybe more than one response. I think together with the location and maybe certain parts of the form are going to be really unique to a call. Hopefully a business intelligence software would be able to figure out that it's the same response.

Karen Jacobson: This is a difficult one. We get this question asked all the time and it is an issue simply because the reality is that everybody needs to document what they did. That they responded, that they made contact, that they did something. Just transferring all of the data from -- we'll just say Bluetoothing it from agency one to agency two to agency three and only have that just be one chart is -- we're not there yet. I don't know that we necessarily want to go there yet, because everybody needs to, and I'll just say justify their existence, right? For your communities.

One of the things we did with Version 3 is we now have two additional elements that are required. Incident number and EMS response number. With Version 2 we only had patient care report number. What the state did, of course, is another question entirely, but you know, we're frequently asked at the national level and I'm sure the state is too, just across the nation and even for those of you who have a tiered response, how many incidents did you have? Do you guys know the answer to that question?

Audience: [Inaudible]

Karen Jacobson: Well, you talked about a law enforcement dispatch center who has -- there's the motor vehicle crash and 50 people call in. How are CAD systems handling that as well? The question is really vague and there isn't an easy solution for this anywhere, I don't think. For me, in a perfect world, because I live in a lot of perfect worlds because we know they don't exist, but in a perfect world the incident number would be shared regardless of who dispatched the EMS agency. The incident number would be the same for agency A, A1, A2, B, C and D and the EMS response number would be unique for the unit responding and then the -- if there's multiple patients, then each patient care report number would be unique.

Having some conversations with the Nordic countries, specifically recently today even, Finland, but Norway. They actually have, in Norway, they actually have a patient healthcare record number. Every patient knows what their healthcare record number is, so in theory it could be like a social security number, but they're not afraid to share it. You would have that way to link at least a patient, if not an incident. There's a lot of things we could do, it's just how do we get there. We have to have the same terminology and lord knows we don't use the same terminology.

Joe Robinson: Very well said.

Audience: [Inaudible]

Joe Robinson: Yeah. We'll try to help as much as we can.

Audience:	Melissa, when you mentioned that at bedside you could use the WEMSIS form, if you did that then that would require the utilization of the soft security access, wouldn't it?
Melissa Belgau:	The WEMSIS run form? Yes.
Audience:	Yeah. Which most people aren't aware of yet, since you just told us about it the other day.
Melissa Belgau:	We're still figuring it out.
Audience:	But if they don't have that attached to the cell phone they keep with them, they're not going to be able to do that.
Melissa Belgau:	Yeah. I've been talking with our security team and it looks like if you can use WEMSIS -- that's why I mentioned at the beginning it's at a stationary setting and you have a phone near you and you can be authenticated in case it wants to authenticate you. Then it'll work, but if you're moving around, it's not practical for that and you would need to purchase an offline system for that if you want to enter data while you're moving around.
Joe Robinson:	The way that we do that is to build a local instance of the run form on a tablet. Then it posts when there's a live connection.
Melissa Belgau:	Okay. I will temporarily stop the recording until we get our next presenter.
Joe Robinson:	Any questions from online?
Melissa Belgau:	No. I checked and I didn't see any questions online.
Joe Robinson:	All right.
Melissa Belgau:	You're not going to lose me. I'm just going to -- we're just going to switch presenters.
Joe Robinson:	All right. Thank you everyone.
[talking over each other]	
Melissa Belgau:	Our first -- or shall we say second -- vendor speaker is Adrian Mintz from Emergency Reporting. If you want to take it away.
Adrian Mintz:	Great. Thanks, Melissa. Can everyone hear me okay?
Audience:	Yeah.

Adrian Mintz: Okay. My name is Adrian Mintz. I'm the cofounder of Emergency Reporting and I think there's a handful of customers of ours in the room already, but I thought it'd be good to cover where we came from and what we're doing. I'm going to switch mics here. Hold on one second. There we go.

Emergency Reporting came about back in 2001 is where things originally got started. I was working up in Skagit County, Washington, about four hours from here, and there was a hospital0based EMS system that was going away. Many of you remember that period of time when a lot of the systems went away.

As part of the community, going into a new third service for EMS, they brought me in as a consultant to do some GIS and mapping and data analysis of the data, in which case I did through 2001 and 2002, and then in the year 2002 we wrote a web based system for doing data collection. This was back in the days when, of course, web based anything was around, but wasn't widespread, certainly not in the EMS or fire service industry. That was around 2002 and we started incorporating the company in 2003 doing web based data collection and growing it from there.

Originally the product was designed to collect data to do computer mapping, GIS. I have a graduate degree in computer mapping in addition to 22 years in the fire service and EMS. We then promptly took a detour and spent over the next decade doing data collection around the Nemphers and NEMSIS standards. The NEMSIS 2 and NEMSIS 3, which I'll demonstrate here in just a minute.

Currently we have several thousand agencies using our services including 170 in Seattle, Washington. There are customers in all 50 states plus quite a presence in the Department of Defense, including an enterprise contract with the U.S. Marine Corps. We're based out of Bellingham here in the state of Washington with 38 employees. This is all we do is fire an EMS data collection web base.

We are a NEMSIS 2.2.1 Gold certified and we're currently operating in a number of different states pushing data to the state systems. Our NEMSIS 3 effort has been under way for 14 months and it's going to continue through this year. The product I'm going to show you right now is in beta. It's not available for use for production data today right now. That's going to change in the next month. We're going through the certification process. We've not yet been certified.

By all means, if there's any questions just raise your hand and I'll answer them throughout the presentation.

Melissa, incidentally how much time do I have?

Melissa Belgau: Well, half an hour I would say.

Adrian Mintz: Okay. Around 3:30? Okay.

Our product can be configured as standalone NFIRS, standalone EMS or NFIRS and EMS combined. When we wrote the product in 2003, that's how we originally did it, to combine these two standards into one. Based on my experience with fire and EMS, nothing used to drive me more crazy than doing duplicate data entry.

We designed this product at the very beginning to be combined as much as possible to collect those fields. We can operate them separately if needed. An ambulance group, of course, would not see NFIRS data and a rural fire department would not see NEMSIS data if they weren't going to be NEMSIS reporting, for example.

What we see here, this is the NEMSIS 3 product. There's actually two things going on here. The older parts of the system are up here and these are these little red light, green lights. This is the main piece of the product for EMS and of course it's newer, so we're going to do things like bigger buttons, easier to use, easier to read. This was originally written for desktop use, which is a little bit harder on an iPad or an iPhone, that kind of thing. You're seeing here a mix of technologies as we migrate everything to a newer technology like this. This system was designed right off the bat to be designed for a desktop or tablet or phone use.

For example, I have an iPhone, I could show this, but we wouldn't be really able to see it. I'm just going to demonstrate here. I'm going to shorten the width of the product and you'll see how the different forms go away and now we're down to a single column here. As I continue to shrink it, it goes down to a form factor. This would be like for a phone. This entire product, we really wanted to address mobile right from the very beginning. Also this, because it's in beta, has a mix. The user interface has been applied to parts of it, but not all of it. Notice that this left side here is very sharp looking. It looks very easy to use. The validation, the red light, green light is all looking really sharp. These areas over here are a little rougher. That's all part of being in beta. That's all being changed as time goes on.

All right. When I say red light, green light, we have these different statuses here, the green and the red that refers to the requirements. One of the challenges, of course, you heard Joe and Melissa mention a minute ago talking about business validation rules and data collection and these kind

of things. We of course have the same issue we're dealing with. The tool we've broken out and we've used since the very beginning is required fields are in red and when things are correct, we turn it to green.

As the system continues to fill out the data, we'll flip it more and more to green so it's very easy for users to see. I'm going to click on one of these, for example, situation. Here is these different fields. The text up here is in red and I've already completed it, so these different text fields are completed on the entire page and so that rolls out to being green in situation. We really wanted the entire system to be easy to use. As you hop around, you'll see as you complete the business rules and validation.

In NEMSIS 2 we had a lot of -- not just us, many folks in the industry, many software vendors in the industry -- had issues with trying to complete the data and select from a number of check boxes. This time we've used a lot of auto complete drop downs. For example, primary symptom, we start typing in pain. Here's all the different symptoms that contain the word "pain" -- pain in throat, pain in back, so on and so forth.

We do a lot of these kind of things all over the system now. We use a wide variety of other different pickers and controls. For example, you see that, okay, this is a different picker. It's used for when you have more than maybe a dozen options, a drop down becomes kind of hard to use and so we have these. You can actually choose multiples and they stay illuminated. We'll have actually a couple different variations on that, depending on the number of fields we have available.

On the left side, there's three different colors here. We have the green which shows it's been complete, red which means there's something outstanding and then we have this other color here which is a gray. The gray is designed -- at this point, under this patient configuration in this particular state, it's still optional. Maybe you'll get into this.

We'll go into procedures, so now we're going to start recording procedures. We'll put in on procedures. I'm going to put in -- I think this call was on today and you'll see at the top, here are some required fields that are already popped into place. I'm going to put in some times here and then you'll see, as I complete it, the time will change. Excuse me, the colors will change and I'll complete some of these other ones here and the procedure.

Now we've triggered a requirement, so we have red at the bottom. Procedures have now gone red over here and as I complete it, I did it and -- oh, [inaudible] that's a year right there. If I just leave it as such, you'll see a bunch of different required fields. Procedures is red and so as you go through entire incident -- we're not going to stop you doing data collection

at the time. We want you to put in that data. Of course other products I've seen in the past, you'll put the user in a bad spot where you might, for example, you're doing a procedure and let's say it's CPR and maybe the system would throw up an error.

Well, you can't do CPR unless the assessment is pulseless and apneic, for example. Well, we're going to let them put in whatever they want now, but then if there's a logical problem with it, we'll leave it flagged as red. If they're putting in data in the field, we're not going to stop them, prevent them from putting in data collection. We're going to let them do it then and then when they try to close it out, we'll finish running through any kind of validation rules to clear that up before we try to submit.

We have lots of other things I could touch bases on. We have a great narrative page. The narrative is designed to input text and auto save it in real time. If I had another set of fingers and another screen, I could actually display this by putting my narrative text on the iPad and it would show up here on this auto save narrative here. That's a help so we don't have lost narratives between two different devices.

Also, because it's all web based, we designed it so that you can have two or more iPhones or iPads on the same patient care report at the same time so you can have -- maybe you're talking to the patient and you're on an iPhone. Your partner is talking to the spouse, getting a list of medications and those all update in real time as you complete the patient care report. That's handy so you're not losing your data or duplicating it. It'll all be tied together back to the main PCR.

One of the other things we have is we have the NEMSIS and NFIRS are all wrapped in a single incident. If we were to jump to the authorized page now and attempt to complete the patient, the system will give me a couple of errors. In this case, this is all patients must be authorized. It'll return me back to the patient page, flip me back to this page. If I had three patients, a house fire or car accident, all those things would all be rolled in a single validation with no duplicate data entry.

You can dive in and work out the issues, then at the completion of the patient care report, the data will be shipped -- this is the plan of the Web Services I mentioned earlier, on incident completion it would be shipped by Web Services to the state so the WEMSIS reporting would be done when you complete the PCR.

At the same time, we also have a wide variety of other interfaces for CAD data to bring CAD interface data into the system and medical billing going out, state reporting going out for fire and EMS and all those are tied to a single PCR. We do lots and lots of CAD interfaces and a number of

medical billing interfaces already, so lots of data coming and going. It's all based on completing the incident and passing the validation rules and Schematron validation.

Any questions so far? Yes, sir.

Audience: How about [inaudible]?

Adrian Mintz: Currently the NEMSIS 2 product does not interface with heart monitors. We're planning on doing some of that with NEMSIS 3, but we have to finish the certification period first. Good question. Any other questions? Yes, sir.

Audience: We're a [inaudible].

Adrian Mintz: So the question was it is web-based and if they don't have internet connectivity, what do you do then, is that fair to say? At this point, it's a web based product. There is no offline capability. We've talked seriously about doing offline capability, but again, we want to get to a NEMSIS 3 product first, certified, which we intend to do some time this -- probably the middle of this year is my guess. Yep.

Audience: [Inaudible].

Adrian Mintz: Yeah. Signature capture will be included to the beginning. It'll be electronic signature capture. If you had an iPad device or an Android device, it'll do signature capture. Yep. That's part of it. Good question. Any other questions? Yeah.

Audience: What about exporting data [inaudible]?

Adrian Mintz: Okay. What we'll do is we have exports available. What we've found is a lot of the receiving facilities have not been able to do data collection -- haven't been in a position to receive it and so if the hospital is in the position to receive it and they can receive Web Services data, then we can talk about doing that. A lot of hospitals are not, which is unfortunate. Another good question. Any more questions? Okay.

Some of the other things I should mention, we have lots of NEMSIS 2 customers right now in the state of Washington and of course around the world. For any of you that are wondering, like how is that going to happen, migrate from NEMSIS 2 to NEMSIS 3, when all the different pieces are ready, when the state of Washington or any state is in a position to receive the NEMSIS data and we're certified and we've got a test case and a handful of advanced users have verified that the testing is working as expected, then we'll start migrating customers over.

	We have several thousand customers, so it's kind of a big deal to worry about migration. That's the plan for that. Some states are going to accept NEMSIS 3 data as late as 2017 and not to put you on the spot, but what's the current plan on NEMSIS 3 for the state of Washington?
Melissa Belgau:	Now.
Adrian Mintz:	You're going to do it now? Okay.
Melissa Belgau:	Oh, closure?
Adrian Mintz:	Both, accept NEMSIS 3 and closure from Version 2. Both are good questions.
Melissa Belgau:	We're hoping to work with our first vendor to test it for accepting Version 3, so whenever you're ready we can start working that out. Then closure of Version 2 is the beginning of 2016, so the NEMSIS deadline.
Adrian Mintz:	Okay. Good. Thanks. Right now, no third party NEMSIS 3 vendors are shipping data yet?
Melissa Belgau:	Nope.
Adrian Mintz:	Okay. Any other questions? All right. I have lots of other things I could talk about. I can talk about reports, computer mapping. Can talk about CAD interfaces. Any particular questions? Otherwise I'll just kind of go on and show other parts of the product. Yeah. Go ahead.
Audience:	[Inaudible]
Adrian Mintz:	That's the same -- yeah. That's a good question. It was asked just a little bit about. It was about receiving facilities. If they can -- if the hospital is in the position to receive the data, we can talk about doing that with like Web Services or even an XML file. It just depends on the hospital, if they're able and willing to receive the data.
Audience:	[Inaudible]
Adrian Mintz:	We haven't. In our customer base, we haven't had a customer with a hospital that's cooperative enough to want to do it, which is disappointing, honestly, personally, because I think it's kind of important.

Other questions? I've got plenty of time, about halfway through my presentation. Yes. |

Audience:	[Inaudible] have you had any discussions with [inaudible] providers [inaudible]?
Adrian Mintz:	Good question. His question was have we had discussions with other providers like Epic, which is one of the vendors, to do data pushes and data interfaces. I'd have to say no, asterisk and I say no-asterisk because those conversations have generally come up through the hospitals.
	I think the discussions that I've had have been kind of loaded for defeat right off the bat, because the hospital didn't want to do anything in some cases, so we haven't had any -- I guess you'd call native discussions with the hospitals, or excuse me, with the vendors. It just hasn't happened. Not for lack of interest or trying, it just hasn't happened. If anyone has a cooperative hospital and is a customer of ours who wants to do this, by all means, get ahold of me. If you can have conversations now for something we can put in place later this year, it'd be great. Any other questions? Yeah, go ahead.
Audience:	[Inaudible]
Adrian Mintz:	Yeah. We do a lot of billing interfaces with NEMSIS 2 right now. We can do with OrderThis, Amazon; DryTech [ph], that's one product. NEMSIS Gold Export Billing Files, all kinds of different ones. We do a number of billing interfaces with those two technologies.
	For the fire people in the room, I'm going to demonstrate a few more fire things. For example, in this case I'm setting up for a house fire. We have the number of different icons up here is increased dynamically based on the content of the incident. So this will add in dynamically as much fire and EMS documentation as required based on the incident type based using the NFIRS business rules. I'm not going to go too much into that, because this is an EMS conference.
	One more thing that I would like to mention also, we have a suggest a feature tool we use -- it's user voice. This is a user driven tool to help drive product development. I think it's as simple as where they put it. These are all different options and people -- things that our customers themselves have voted up they want to do. For example, I'm going to sort it by top; these are the most things with the biggest votes. We get a lot of traffic to this site, so these are different things. Each of these items will generally -- we review every other week and we'll comment on it. This is one.
	An assistant chief would like to see the option to complete daily and weekly apparatus checks. It has 722 votes. That's in first place right now and we just keep on going down.

We'll comment on the [inaudible] planned. Equipment inventory, text messaging and go on, certification expired. That one is planned, that one was actually further than planned, and just keep on going down. These different products, they're all here. We use this a lot. This gets a lot of traffic. Lots and lots of content gets put in here, so that's a good thing to do. This is public. You don't actually have to have a log in. You can go see that.

Other questions here -- the rest of the system is pretty large. We have all these different modules going on the left-hand side of the screen. I'm sorry, you have to ignore the orange. That's just a -- it's a warning just for me because I'm on the live system. A whole wide variety of different products. It's all wrapped into a single web based product and we deliver over the internet to anybody who wants it. Okay. Other questions?

Audience: I have something.

Adrian Mintz: Yes, ma'am.

Karen Jacobson: So, Adrian, is the new [inaudible].

Adrian Mintz: Okay. Karen asked a good question. She said what sort of information do we need from the customers in the state of Washington, in this example, to help deploy here? That's a really good question. I've had some discussions with Melissa about this. I'd say the biggest question mark I have is what are the business validation rules going to look like in every state?

We've had a wide spectrum of states; I think is the cleanest way I could put that, with different -- you're shocked, yeah. States can cost us anywhere from 100 hours of labor on up to literally thousands and thousands of hours, of programming hours, to put in place for each individual state. That's a big concern, right? Obviously as a software vendor to try to deal with these different shifting requirements and so the cleanest, fastest, simplest way to get any state deployed is to keep the rules to as simple as possible and well documented.

Melissa and I have talked about this a good number of times. As long as we keep that as on the straight and narrow as possible, that's the best, fastest, easiest way to get this thing moved forward. I'm always -- one more, I'm sorry.

Melissa Belgau: I also have a question. Image Trend is going to allow each state to -- I don't know if we have more information from Joe, but a state should be able to pull all their rules into a Schematron and just automatically build a Schematron for the vendors. Would that help speed up the process if you have a Schematron that's already filled out or is it more than that?

Adrian Mintz:	Right. That's a really good question. Let's talk about that. When Melissa mentioned Schematron and Schematron and Karen, by all means, please jump in, but Schematron is a technical way of describing the business rules and validation that the different states and sublevels underneath the state could use to validate the data. This has been one of the biggest challenges we've had with NEMSIS 2 is different states have a wide variety of different validation rules that they are creating, in some cases out of thin air and those are not always documented.
	In fact, very frequently are not documented and so the Schematron is going to be the way that these validation rules or many of them, it is hoped, would be checked. As long as we have that Schematron, that will help tremendously. Joe, actually I don't remember, Image Trend was going to use the Schematron file to help deliver the state rules. Was that right?
Joe Robinson:	The rules are further out than my knowledge base, but I would say I heard that rumor.
Adrian Mintz:	Okay. Great.
Joe Robinson:	Do I understand it? No.
Adrian Mintz:	Okay.
Joe Robinson:	That is the assumption.
Adrian Mintz:	That is the assumption, right. Assuming the state rules that Melissa wants get shipped to the Image Trend product and the Schematron file is generated, our plan is that -- I didn't demonstrate this, but the plan is when you go to the authorized page, to complete the PCR. We'll do the Schematron validation at that time and if it passes, we'll ship it, and if it fails, we'll kick it back at that time. Not a month later or whatever, that's our plan. I'm looking at them, because both of them are like going, yeah, I hope that works too.
Karen Jacobson:	Well, and just [inaudible]. As long as the rules are created, and Image Trend has indicated that they're -- when they went over their rules, [inaudible] rules. Most of your software systems today have point of entry [inaudible]. Those are completely different [inaudible]. Right?
	The back end of it, the functionality are different than Schematron. Schematron runs only once the file is completed, as Adrian indicated, and it's generated as an XML file. You have your nice user interface and then you have an XML file. Some of you who deal with the data, you probably know what the raw XML file looks like, but your boots on the ground

folks, they don't know. They don't care. For them, it's important to have the point of entry rules.

I think one of the value pieces then of Schematron is, one, it's standardized just knowing when those rules hit, but then in turn, software companies who understand the Schematron code, they can then go back into their product, at least right in my simplistic world, and make them point of entry rules for the clients.

Adrian Mintz: Yeah. That'll be a big question, yep. From our point of view as a vendor, right, we have customers all over the different states. We have large amounts of data coming and going every day, every second and so we just need a more robust way of handling data validation. We've hung our hat on the Schematron, I think like the rest of the industry has. That's going to be the tool we can use to keep these validation rules simple and not have to deal with one offs in literally every single state.

Just for the record, for the most part, the state of Washington is really good in that resolve. We haven't had a lot of problems with the state of Washington with -- in fact, very few, if any, problems in the state of Washington with goofy rules of anything like that. I want to keep that going.

Okay. Yeah. Sorry I got kind of in the weeds there about Schematron and technical validation. Other questions? No? Okay. I don't think I've got much else. To do a quick review, we've got a -- if you're interested in learning more, I've got some fliers with me, a business card, and you can also request access to our product online. You can -- when you get back home or on your iPad or whatever you can check it out and we can walk you through what our product looks like. There's no more questions. No more? No? Okay. Then I think I'll be finishing five minutes early, Melissa.

Melissa Belgau: Yay.

Audience: [Inaudible]

Melissa Belgau: Well, actually still a little late. It's okay, because [inaudible] is going to be quick.

Adrian Mintz: Okay. Do I need to share back to you?

Melissa Belgau: I will look for questions. Actually, why don't you change presenter back to me so I can see the questions? Right now I'm not seeing them.

Adrian Mintz: Okay. It should be back to you.

Melissa Belgau: Okay. My questions disappeared from here.

Thank you for attending.