

00:00:42.000 --> 00:01:03.000 Gam Wijetunge: Hello everyone and happy Friday. Welcome to EMS Focus, a collaborative webinar series. I'm Gam Wijetunge, Director of the Office of EMS here at the National Highway Traffic Safety Administration.

00:01:03.000 --> 00:01:17.000 Gam Wijetunge: Obviously you're aware of our EMS focus webinar series since you're here today, but I just want to remind you that we produce one webinar each quarter to bring information about EMS system improvement from NHTSA

00:01:17.000 --> 00:01:31.000 Gam Wijetunge: and the Office of EMS and from other members of the Federal Interagency Committee on EMS or FICEMS. We address a variety of topics on these webinars and encourage you to register for upcoming webinar topics.

00:01:31.000 --> 00:01:42.000 Gam Wijetunge: And sign up for those announcements via email@ems.gov.

00:01:42.000 --> 00:01:48.000 Gam Wijetunge: Before we begin with the main content of our webinar, I'd like to handle a little Zoom housekeeping.

00:01:48.000 --> 00:01:54.000 Gam Wijetunge: You can use the Q&A button in your operation panel to submit questions throughout the webinar. And we'll address those in the Q&A portion of the agenda in the last 15 min or so of the hour.

00:01:54.000 --> 00:02:08.000 Gam Wijetunge: Feel free to submit questions as they occur and our facilitator will collate them at the end of our speaker panel presentations.

00:02:08.000 --> 00:02:22.000 Gam Wijetunge: And you can use the show captions button also to view closed captioning at any time during the webinar.

00:02:22.000 --> 00:02:30.000 Gam Wijetunge: Very quickly, before we dive into our topic today, I want to remind you about the focus of NHTSA's office of EMS.

00:02:30.000 --> 00:02:40.000 Gam Wijetunge: The Office of Emergency Medical Services, which also houses NHTSA's national 911 program. Supports the improvement of patient care in the out of hospital setting on a national level.

00:02:40.000 --> 00:02:50.000 Gam Wijetunge: We do so in 3 ways. Bringing together available data and industry experts to identify the most critical issues facing the profession.

00:02:50.000 --> 00:03:10.000 Gam Wijetunge: Tackling those issues through collaboration with partners, including other federal agencies and national EMS organizations. And by providing awareness and education about best practices and evidence-based guidelines.

00:03:10.000 --> 00:03:22.000 Gam Wijetunge: A little background on the national roadway

safety strategy or NRSS. Which utilizes the safe system approach to guide our national activities on roadway safety.

00:03:22.000 --> 00:03:35.000 Gam Wijetunge: You'll notice that post crash care. Is a key element of the safe system approach.

00:03:35.000 --> 00:03:47.000 Gam Wijetunge: And the objectives of the safe system approach focus on safer people, safer roads, safer vehicles, safer speeds, and post crash care.

00:03:47.000 --> 00:03:56.000 Gam Wijetunge: Post crash care is focused on enhancing the survivability of crashes, through expedient access to emergency medical care.

00:03:56.000 --> 00:04:18.000 Gam Wijetunge: While also creating a safe working environment for our responders and preventing secondary crashes through robust traffic incident management.

00:04:18.000 --> 00:04:32.000 Gam Wijetunge: Little bit more housekeeping, before we get to our speakers. One of the ways we support the goals of the office is through sharing and storing many, many resources to help EMS leaders and clinicians access information they need.

00:04:32.000 --> 00:04:43.000

EMS.gov's updated resources hub makes it easy to search for, browse and download a variety of documents, reports, and guidance created by NHTSA's office of EMS.

00:04:43.000 --> 00:04:51.000

and our partners and other stakeholders. From the EMS agenda for the future to clinical guidelines and reports,

00:04:51.000 --> 00:05:02.000 Gam Wijetunge: these resources helped advance the profession nationwide. But you can access the EMS resources hub using the QR code that's up on the screen.

00:05:02.000 --> 00:05:14.000 Gam Wijetunge: Right now. Or just go directly to [ems.gov](https://www.ems.gov).

00:05:14.000 --> 00:05:22.000 Gam Wijetunge: Also, if you want to access previous webinar recordings and register for updates on future webinars. Just scan the QR code, that's on your screen right now and it'll take you right there.

00:05:22.000 --> 00:05:39.000 Gam Wijetunge: This is also on [ems.gov](https://www.ems.gov) as well.

00:05:39.000 --> 00:05:46.000 Gam Wijetunge: So, on to today's webinar, we'll explore the role of EMS in assessing and treating crashing injury patients.

00:05:46.000 --> 00:05:55.000 Gam Wijetunge: As responders, EMS clinicians initiate treatment and ensure continuity of care during transport to the hospital.

00:05:55.000 --> 00:06:25.000 Gam Wijetunge: and also be learning about factors influencing EMS operations from varied system setups to resource availability and effective strategies for pre-hospital care and outcomes for crash injury patients.

00:06:25.000 --> 00:06:29.000 Gam Wijetunge: I'm slowly mastering the slides, folks. So, now I'm very pleased to hand it over to our 1st speaker, Dr. Matt Levy.

00:06:29.000 --> 00:06:43.000 Gam Wijetunge: Deputy Director of Operational Medicine and Associate Professor of Emergency Medicine at Johns Hopkins University. Matt.

00:06:43.000 --> 00:06:48.000 Matthew Levy: Well, thank you very much Mr. Director. It's a pleasure to be here with you all today.

00:06:48.000 --> 00:06:53.000 Matthew Levy: And I thank you for the opportunity to speak to this important topic. As mentioned, my name is Matt Levy.

00:06:53.000 --> 00:06:59.000 Matthew Levy: I am a career along the EMS, practitioner and, myself, starting off as an EMT.

00:06:59.000 --> 00:07:04.000 Matthew Levy: I then became a paramedic and now, serving as an EMS physician, medical director, and Emergency Medicine Physician.

00:07:04.000 --> 00:07:19.000 Matthew Levy: So we're going to talk about a topic that's very near and dear to my heart. We're going to talk a little bit about pre-hospital blood programs and we're going to talk about some of the work that I've done locally in our EMS system and the system in Howard County, Maryland where I am the US medical director and chief medical officer.

00:07:19.000 --> 00:07:33.000 Matthew Levy: We'll cover a little bit about these programs, why they're so impactful and what you should know is how the resuscitation of trauma patients with blood is really changing the landscape.

00:07:33.000 --> 00:07:47.000 Matthew Levy: Well, if we had to sum up the slide, this portion of my talk, I would say that despite all of our efforts over the past 30, 40, and even 50 years have been our advancements in our EMS and trauma systems.

00:07:47.000 --> 00:07:55.000 Matthew Levy: Trauma still remains one of the largest leading causes of death in any age group. In fact, it's the number one cause of death for those in the United States age one through 44.

00:07:55.000 --> 00:08:02.000 Matthew Levy: And on top of that, nearly 3 quarters of all trauma deaths occur either in the pre-hospital phase of care.

00:08:02.000 --> 00:08:12.000 Matthew Levy: That's our space in EMS or during that 1st hour of hospital arrival. Now it's important to acknowledge that some of these injuries are simply not survivable.

00:08:12.000 --> 00:08:21.000 Matthew Levy: But for those that are. We know that hemorrhage accounts for nearly 40% of all trauma deaths and remains to be a leading cause of preventable trauma related death,

00:08:21.000 --> 00:08:35.000 Matthew Levy: both in the US and worldwide. So there's a lot of opportunity here and this indeed has been the source of a lot of interest and a lot of focus both on the civilian side but also on the military side where we've been able to translate

00:08:35.000 --> 00:08:42.000 Matthew Levy: a lot of very impactful lessons from the battlefield. To enhance trauma resuscitation.

00:08:42.000 --> 00:08:59.000 Matthew Levy: The challenge very simply put is that not all patients will survive those 60 min through that golden hour long enough to get to trauma facilities where they can receive blood administration and in definitive hemorrhage control.

00:08:59.000 --> 00:09:17.000 Matthew Levy: We've come a long way with a variety of interventions including the Stop The Bleed program, bystander awareness, and many of the other resuscitative techniques that we can use to help temporize and stabilize someone. However, we also know that the opportunities still exist for us to do more for these patients to change that death slope in a death car.

00:09:17.000 --> 00:09:31.000 Matthew Levy: to just pick up a little bit more time. Pre-hospital blood programs began around 7 or so years ago and the data continues to emerge to show a very clear and profound impact on survival.

00:09:31.000 --> 00:09:37.000 Matthew Levy: Now, when we talk about pre-hospital blood programs, it's important to understand the topic itself.

00:09:37.000 --> 00:09:49.000 Matthew Levy: focuses around blood products and that may be different components of blood. It could be all blood itself, but more and more there's interest in the use of whole blood.

00:09:49.000 --> 00:09:57.000 Matthew Levy: And we'll talk about why that is in a second. In our system in Howard County, we chose a low titer O positive whole blood because,

00:09:57.000 --> 00:10:03.000 Matthew Levy: because of the fact it is the closest and by

constitution to what patients are losing when they're bleeding out.

00:10:03.000 --> 00:10:10.000 Matthew Levy: And it contains all the components of blood products.

00:10:10.000 --> 00:10:17.000 Matthew Levy: In our system, we sought to deploy blood to every major trauma victim within 10 to 15 min of dispatch.

00:10:17.000 --> 00:10:31.000 Matthew Levy: And the way that we did that was through using our existing EMS supervisor vehicles. We have these vehicles strategically placed throughout our county and our goal was very simply to ensure that we can get blood to those that need it the most.

00:10:31.000 --> 00:10:38.000 Matthew Levy: We had to build the surrounding training program to train up our EMS clinicians and also ensure policies, procedures and accountability.

00:10:38.000 --> 00:10:45.000 Matthew Levy: To make sure that we follow it in here to all the requirements. And of course, following up on these cases is very important as well.

00:10:45.000 --> 00:10:49.000 Matthew Levy: So we can learn from each case or what works well, what doesn't work, or how we can improve.

00:10:49.000 --> 00:10:55.000 Matthew Levy: When we think about how it is that we would give the blood, it's important to acknowledge that we have to maintain our blood supply,

00:10:55.000 --> 00:11:07.000 Matthew Levy: and our blood chain in its current and existing state of quality that hospitals would use. So in another words, we have to maintain this blood supply with the same degree of rigor and accuracy and responsibility,

00:11:07.000 --> 00:11:18.000 Matthew Levy: that they do in the hospital. So the blood has to be kept between 2 to 6°C and has to be tracked.

00:11:18.000 --> 00:11:32.000 Matthew Levy: We have to know that we're maintaining those times and we have to have procedures in place to ensure that if indeed those times vary or those temperature wages vary that we can immediately course correct for that.

00:11:32.000 --> 00:11:38.000 Matthew Levy: It's incredibly important, incredibly essential to the success of these programs.

00:11:38.000 --> 00:11:43.000 Matthew Levy: We'll jump ahead here, hang on a second.

00:11:43.000 --> 00:11:55.000 Matthew Levy: Waiting for the slides to advance. I apologize to everybody. We sought to develop and implement a blood program that was both clinically

effective, but also socially responsible.

00:11:55.000 --> 00:12:01.000 Matthew Levy: So we sought to build a zero waste blood rotation system. So the blood itself has a half life, it has a functional life of around 28 days,

00:12:01.000 --> 00:12:10.000 Matthew Levy: For the type and the way that the blood that we receive comes from. So by day one we rotate all of our blood out of the county and we get a new batch of blood.

00:12:10.000 --> 00:12:20.000 Matthew Levy: And day 14 we rotate that blood back to our blood-make partners so it can be used in the hospitals with the goal of not wasting a single unit of blood by way of excretion.

00:12:20.000 --> 00:12:25.000 Matthew Levy: We feel very strongly ethically that that's the right way to do this.

00:12:25.000 --> 00:12:33.000 Matthew Levy: We also value and respect the individuality of patients. So we recognize that not all patients would want to receive blood.

00:12:33.000 --> 00:12:39.000 Matthew Levy: So we make an earnest effort to consent patients for blood, understanding the limitations that may occur if someone is unconscious.

00:12:39.000 --> 00:12:54.000 Matthew Levy: And we also do a brief momentary time out to see if there's any evidence this person has by way of a medical alert bracelet or a wallet card that might indicate that they don't want to receive blood.

00:12:54.000 --> 00:12:59.000 Matthew Levy: As far as the actual tactical administration of the blood, there's no brand endorsement here.

00:12:59.000 --> 00:13:06.000 Matthew Levy: This is just the system that we use in Howard County and it mirrors that of some of our clinical partners.

00:13:06.000 --> 00:13:15.000 Matthew Levy: We use a warming circuit to bring that blood up to, basically body temperature, and then we use an infusion system to rapidly infuse that blood into the patient to get that entire unit of blood in the patient within a few minutes.

00:13:15.000 --> 00:13:25.000 Matthew Levy: We're very successful doing that. So, once we decide and we commit to giving that person blood,

00:13:25.000 --> 00:13:30.000 Matthew Levy: it's important that we get that blood in the patient right away. And we'll talk about some of those clinical implications in just a moment.

00:13:30.000 --> 00:13:45.000 Matthew Levy: We also recognize the bundle of care and the

value of giving other adjunct treatments including TXA and if the patient is still hemodynamically unstable after the 1st unit of blood, giving them calcium as well.

00:13:45.000 --> 00:13:48.000 Matthew Levy: Our training program includes an online section that has all the trauma resuscitation, blood resuscitation and clinical and technical information about using blood.

00:13:48.000 --> 00:14:00.000 Matthew Levy: Followed by a 3 hour in person program that we built including scenarios, case-based situations, and skill stations.

00:14:00.000 --> 00:14:05.000 Matthew Levy: Each of our blood administration cases is debriefed in real time or right after the call by myself or one of the other medical directors.

00:14:05.000 --> 00:14:13.000 Matthew Levy: And we debrief these as a group as a team on a monthly basis.

00:14:13.000 --> 00:14:23.000 Matthew Levy: In the interest of time, I skipped over our clinical administration protocol, but I want to add that we use physiologic criteria to decide who gets blood.

00:14:23.000 --> 00:14:32.000 Matthew Levy: We are looking for an age defined hypotension. We look for one other hard sign of shock and this is in patients that we believe are having signs of hemorrhagic shock.

00:14:32.000 --> 00:14:39.000 Matthew Levy: So the inclusion criteria is patients over the age of one year of age, who have clinical suspicion for hemorrhagic shock.

00:14:39.000 --> 00:14:45.000 Matthew Levy: Age defined hypotension plus one other hard criteria of shock, and that could be an age defined tachycardia.

00:14:45.000 --> 00:14:49.000 Matthew Levy: It could be an elevated lactate if there's a lactate level available. Usually there's not.

00:14:49.000 --> 00:15:01.000 Matthew Levy: It could be a fast exam if that's available can also be end-tidal CO₂ of less than 26 or delayed capillary refill or altered mental status not presumed to be due to intoxication or isolated head injury.

00:15:01.000 --> 00:15:08.000 Matthew Levy: Now this dashboard is actually one patient out of date because we just had a blood case the other day and we'll talk about that in a second.

00:15:08.000 --> 00:15:14.000 Matthew Levy: As you can see, we've given blood from the youngest patient we've given blood to so far is 17 and the oldest is 90.

00:15:14.000 --> 00:15:19.000 Matthew Levy: We've given blood to about 2, up to 4 females now and 10 males. And I want to point to the bottom left hand corner of your screen because it's very interesting where you see that from an ideology perspective.

00:15:19.000 --> 00:15:44.000 Matthew Levy: Now five of our total administrations were medical, and nine were trauma. So I think it's important that while we are talking about trauma and we're talking about roadway incidents and survival on our roads of travel, it's also important to acknowledge that these programs can also benefit other patients suffering from non-traumatic hemorrhagic shock.

00:15:44.000 --> 00:15:54.000 Matthew Levy: The shock index is a metric that we use to measure and compare the acuity and severity of someone's illness when they're in hemorrhagic shock, and that's dividing their heart rate by the blood pressure.

00:15:54.000 --> 00:16:06.000 Matthew Levy: And you can see here that before the administration of a pre-hospital blood, patients had an average shock index of 1.45, basically any time – normal shock index is less than point 5 –

00:16:06.000 --> 00:16:09.000 Matthew Levy: any time you're above point 7 that really indicates if you're in hemorrhagic shock or bleeding that you could be in shock.

00:16:09.000 --> 00:16:21.000 Matthew Levy: So after blood administration after one unit to get their shopping that's down by nearly half really really illustrates the impact that this resuscitation can and this intervention can have.

00:16:21.000 --> 00:16:36.000 Matthew Levy: And when we look to our survival, if we take those who went into trauma arrest out, or cardiac arrest out of the equation because there's a whole other layer of but we look at those patients who do not go into arrest pre-hospital, 90% of them

00:16:36.000 --> 00:16:43.000 Matthew Levy: are alive at 6 hours and 60% walked out of the hospital or were alive at discharge. Really impactful numbers.

00:16:43.000 --> 00:16:51.000 Matthew Levy: So as I'm begin to wrap up my section of the talk, I wanted to share with you, we've shared our lessons learned on our implementation, both publicly and online,

00:16:51.000 --> 00:17:03.000 Matthew Levy: They are available there. We published our lessons learned from implementation in a peer review journal, they're free for anyone to download and view and we have a website with frequently asked questions as well and point you to.

00:17:03.000 --> 00:17:09.000 Matthew Levy: So thank you so much for listening to me talk.

About our blood program. I hope that was insightful and enlightening for you.

00:17:09.000 --> 00:17:14.000 Matthew Levy: And Gam, I'll turn it back over to you.

00:17:14.000 --> 00:17:23.000 Gam Wijetunge: So onto our next speaker, I'll hand it over to Otis Oldman, EMS director at Utah Navajo Health System EMS. Otis.

00:17:23.000 --> 00:17:29.000 Otis Oldman: Hey Gam, thank you. Thank you for inviting me to be part of this webinar. Hello everybody.

00:17:29.000 --> 00:17:34.000 Otis Oldman: My name is Otis Oldman. I'm the EMS director for Utah Navajo Health System EMS.

00:17:34.000 --> 00:17:40.000 Otis Oldman: We're located in SouthEastern Utah, we cover the Utah portion of the Navajo Nation.

00:17:40.000 --> 00:17:51.000 Otis Oldman: We are considered a frontier EMS service with about 32 EMS providers. So we're a small agency between two stations, the main one is in Montezuma Creek, Utah.

00:17:51.000 --> 00:18:04.000 Otis Oldman: And also we have a secondary in Monument Valley, Utah. Just on context with our service, we cover about 1,400 square miles and it moves up to about 1,800 square miles

00:18:04.000 --> 00:18:13.000 Otis Oldman: with mutual aid that extends it to Colorado, Arizona, and sometimes New Mexico. We cover roughly about roughly 2,500 miles of roads.

00:18:13.000 --> 00:18:25.000 Otis Oldman: Usually that's between 2 to 3 ambulances, being available. Our average response time is about 20 to 40 min to a motor vehicle accident.

00:18:25.000 --> 00:18:30.000 Otis Oldman: And also, you know, our dispatch is located out of Price, Utah, which is 228 miles away.

00:18:30.000 --> 00:18:38.000 Otis Oldman: So, you know, it's always some challenges to get to locations sometimes of the accidents.

00:18:38.000 --> 00:18:48.000 Otis Oldman: We also, because of how far out we are, we implement a lot of quick response vehicles in our agencies.

00:18:48.000 --> 00:18:58.000 Otis Oldman: The benefit of that is a lot of times the quick response vehicles will show up 10 to 15 min before the ambulance show up.

00:18:58.000 --> 00:19:07.000 Otis Oldman: And about 80% of the time that quick response

vehicle shows up before the ambulance before the fire and before law enforcement shows up.

00:19:07.000 --> 00:19:12.000 Otis Oldman: And because, and all of our quick response vehicles are, you know, equipped up to the ALS level.

00:19:12.000 --> 00:19:20.000 Otis Oldman: And because of that, we really focus a lot on emergency vehicle operation courses and of course traffic incident management.

00:19:20.000 --> 00:19:29.000 Otis Oldman: TIM's training plays an important role within our agency when responding to motor vehicle accidents and it's a requirement for all of our responders to take that.

00:19:29.000 --> 00:19:39.000 Otis Oldman: A lot of times when they first show up, they may be the ones to secure the traffic. Or, you know, with the TIM's training we can

00:19:39.000 --> 00:19:47.000 Otis Oldman: move the crash vehicles off the road and do patient treatments off the side of the road,

00:19:47.000 --> 00:20:01.000 Otis Oldman: which has been a really great tool for us to use. So, that's some nice pictures there, some long roads that we cover.

00:20:01.000 --> 00:20:05.000 Otis Oldman: A lot of times we get asked, well, why didn't you just request a helicopter?

00:20:05.000 --> 00:20:11.000 Otis Oldman: Well, it's a good question. On average, our average response times for a helicopter is 40 to 60 min from the nearest

00:20:11.000 --> 00:20:25.000 Otis Oldman: city or town and during the winter that increases to 69 min for a flight service to arrive. The good thing is, the flight service do carry blood and we don't carry blood in our agency yet.

00:20:25.000 --> 00:20:38.000 Otis Oldman: But another thing is that we can also make arrangements with the fixed wing intercept and we can intercept them at the nearest airport to get the patient to some type of specialty care, especially children's hospital.

00:20:38.000 --> 00:20:47.000 Otis Oldman: Because of our distances and response times and patient care times, we do train a lot with the flight crews within our area.

00:20:47.000 --> 00:20:56.000 Otis Oldman: They provide a lot of the equipment trainings for us, and treatment cares, with our program.

00:20:56.000 --> 00:21:10.000 Otis Oldman: And some of our flight services nearby have started an auto launch program which allows them to launch automatically based off information

that's given to dispatch from the RP on scene.

00:21:10.000 --> 00:21:21.000 Otis Oldman: Which has been really helpful in most cases instead of having to wait for an ambulance, the EMS crew to dispatch, or request for a rotor.

00:21:21.000 --> 00:21:26.000 Otis Oldman: Let's see here. And also just some context, our nearest hospital, our critical access hospital is about 40 to 60 miles away.

00:21:26.000 --> 00:21:39.000 Otis Oldman: Our nearest level three trauma centers, 90 miles, level two, 225 miles. Level one trauma center is 352 miles.

00:21:39.000 --> 00:21:47.000 Otis Oldman: Because of how far out care is, definitive care, we've started to implement a lot of

00:21:47.000 --> 00:22:12.000 Otis Oldman: things on our site to help with motor vehicle accidents. We've started looking into and started building our own extrication program and outfitting one of our quick response vehicles because most of the time they're the ones that show up on scene first, so the EMS can start the process of stabilizing vehicles and extrication process if the – but if the fire department does show up, they can collaborate with them.

00:22:12.000 --> 00:22:29.000 Otis Oldman: We've also run through times where we've had to call out a different fire department from another township and it takes them up to another 30 min for them to show up to help with extrication.

00:22:29.000 --> 00:22:41.000 Otis Oldman: And also with the fixed wing services, a lot of times the primary children's - we do fly patients out from here directly to the primary children's hospital.

00:22:41.000 --> 00:22:44.000 Otis Oldman: via the fixed wing.

00:22:44.000 --> 00:23:02.000 Otis Oldman: Okay. One of the things that we've been working on the past several years is that we've noticed, um, every time we call flight service, it takes - we call flight service due to that they can get to the hospital a lot quicker than we can and to a little bit higher level care.

00:23:02.000 --> 00:23:06.000 Otis Oldman: But we notice in the past that it sometimes it takes them up to 30 min packaging the patients, you know, stabilizing the patients.

00:23:06.000 --> 00:23:34.000 Otis Oldman: And it seems to be pretty common in the frontier, rural areas, and because of that we started looking at some of the our tools, equipment and training, one reason why we started training with flight crews a lot more for our services to try to create a less scene time, and we've also started looking at some of our equipment.

00:23:34.000 --> 00:23:41.000 Otis Oldman: So, we started utilizing some of the same equipment as the flight services do. Do we use the same infusion pumps? The same tubing?

00:23:41.000 --> 00:23:55.000 Otis Oldman: The same cardiac monitors? Same airway equipment, you know. And. Understanding what type of infusions they do and what their pressure rates are so we can mimic what they are doing.

00:23:55.000 --> 00:24:12.000 Otis Oldman: Some of the local flight crews also provide Red Card trainings for our EMS crews, meaning that the helicopters are able to pick up our crew if needed and transport them to the scene and help package a patient if needed, if the analyst is not able to get to that area.

00:24:12.000 --> 00:24:21.000 Otis Oldman: A lot of times, it's a lot of the simplest things that we do, that really decreases the on-scene times for the flight crew.

00:24:21.000 --> 00:24:31.000 Otis Oldman: And it could just be as simple as utilizing the ECG electrode that is easier to transition between two different cardiac monitors.

00:24:31.000 --> 00:24:38.000 Otis Oldman: Doing your 12-lead right when the flight crew lands so they have a copy for themselves and they don't have to do it for themselves.

00:24:38.000 --> 00:24:56.000 Otis Oldman: So because of that. We have started to notice that on scene times for our flight crews have started to drop down to around the 10 min mark and if we get enough information to them before they even land, we've done a few 5 min hot loads on critical trauma patients and motor vehicle accidents.

00:24:56.000 --> 00:25:02.000 Otis Oldman: So, next slide.

00:25:02.000 --> 00:25:07.000 Otis Oldman: And that's really what it comes down to is, let me go back to the last slide there.

00:25:07.000 --> 00:25:15.000 Otis Oldman: Is how we try to - and because of how much we train with the flight crews, it's also increased our EMS providers

00:25:15.000 --> 00:25:28.000 Otis Oldman: critical care knowledge that if the flight crew is not available, we do have all the tools necessary to transport a critical patient to the nearest hospital.

00:25:28.000 --> 00:25:45.000 Otis Oldman: And collaborating with the hospitals also makes a big difference also because our - we have access to critical access hospitals and sometimes they don't have surgeons available so we may have to start calling around to see who's available to take a trauma patient if they need surgery.

00:25:45.000 --> 00:25:57.000 Otis Oldman: And one of the biggest tools that we have is TXA, you know, the flight crew that does bring blood, but at times, you know, we do start the process of administering TXA infusions.

00:25:57.000 --> 00:26:07.000 Otis Oldman: And also starting the secondary doses also, based off the patient's vitals. And,

00:26:07.000 --> 00:26:15.000 Otis Oldman: if we try, we're always trying to improve as much as we can for our little agency that we, but we have a large area we cover.

00:26:15.000 --> 00:26:23.000 Otis Oldman: And a lot of that we wouldn't be able to do if it wasn't for our EMS, staff and crew members.

00:26:23.000 --> 00:26:29.000 Otis Oldman: And their commitment to the community and how much time they take because we're still considered a volunteer department.

00:26:29.000 --> 00:26:36.000 Otis Oldman: And how much time they take out of their own lives, to further their education and knowledge within EMS.

00:26:36.000 --> 00:26:41.000 Otis Oldman: So I think I'm right about the 10 min mark Gam.

00:26:41.000 --> 00:26:46.000 Otis Oldman: Thank you so much, Otis.

00:26:46.000 --> 00:26:55.000 Gam Wijetunge: Alright, so, next up our final speaker, I'll hand it over to Assistant Chief, Robbie MacCue at Town of Colony EMS.

00:26:55.000 --> 00:26:56.000 Gam Wijetunge: Robbie.

00:26:56.000 --> 00:27:10.000 Robbie MacCue: Alright, thank you, Gam. And folks, I really appreciate you for inviting me here to talk a little bit today about an opportunity that I think everyone here watching has in these next few years to advance clinical care.

00:27:10.000 --> 00:27:24.000 Robbie MacCue: Specifically, I may be talking about post crash care and improving safety, through a federal grant, infrastructure grants and to give you a little more context of where we're joining in from.

00:27:24.000 --> 00:27:34.000 Robbie MacCue: We're going from Otis' super rural area to a less rural but certainly not metropolitan area of upstate New York here in Albany, New York.

00:27:34.000 --> 00:27:56.000 Robbie MacCue: So we are between two major cities and, I'm going to get into a little bit about the geography here, but just for a little more context of where I'm joining in from and what we're going to talk about today, but first a few disclosures here that I'm certainly not representing any federal entities and I appreciate the invitation by the

Office of EMS.

00:27:56.000 --> 00:28:02.000 Robbie MacCue: Any products or brands discussed here are purely for demonstration purposes. We haven't selected any vendors for and it's contingent upon state and local procurement rules,

00:28:02.000 --> 00:28:09.000 Robbie MacCue: for this grant that we're going to discuss.

00:28:09.000 --> 00:28:23.000 Robbie MacCue: And our Safe Streets for All grant was approved late December of 2023 and we still have to execute on that federal grant but we're pretty to talk about the opportunities here for

00:28:23.000 --> 00:28:52.000 Robbie MacCue: that we're looking at and. A major concern of roadway deaths is this increase from 2019 to 2020 and in the last 10 years really the amount of roadway fatalities that we've seen, almost 354,000 people on the roads experiencing – dying from a transportation, a roadway transportation related incident. In 2021 that number was 42 almost 43,000 people killed in a motor vehicle crash.

00:28:52.000 --> 00:29:00.000 Robbie MacCue: And in a good portion of those, 70 Or 100, were people pedestrians, so more vulnerable populations on the roads.

00:29:00.000 --> 00:29:22.000 Robbie MacCue: As Gam mentioned earlier, the National Roadway Safety Strategy framework has been critical in shaping our grant to really adapt it to the opportunities we have here, the Safe Streets for All grant is a federal grant that was focused on this idea of Vision Zero which originated actually from Sweden in the ninety's.

00:29:22.000 --> 00:29:27.000 Robbie MacCue: The idea that can we that eventually we will get to zero roadway fatalities and it's going to take a systems approach.

00:29:27.000 --> 00:29:39.000 Robbie MacCue: So we've been talking about post crash care here and certainly this has led me down quite a rabbit hole of traffic incident safety, learning more about TIM training as well as the

00:29:39.000 --> 00:29:45.000 Robbie MacCue: other opportunities to have safer roads and safer speeds and conversations with our partners at New York State Department of Transportation,

00:29:45.000 --> 00:30:15.000 Robbie MacCue: the statewide traffic incident management committee as well as our local law enforcement partners that are tasked with enforcement. An excellent infographic from NHTSA here that, an really unfortunate infographic that highlights the amount of people that were die that had died in traffic related crashes in one year and the staggering part is nearly 40% of those people that did die were seen alive by 1st responders and later died.

00:30:18.000 --> 00:30:28.000 Robbie MacCue: And NHTSA points to the opportunities for interventions, including what we're going to talk about today with data interoperability.

00:30:28.000 --> 00:30:43.000 Robbie MacCue: And coordinating post crash care with our 911 call takers and partners and improving our opportunity for safer highways.

00:30:43.000 --> 00:30:51.000 Robbie MacCue: So the Safe Streets for All grant is a federal infrastructure grant. Five billion dollars over 5 years. This is the 3rd fiscal year.

00:30:51.000 --> 00:30:58.000 Robbie MacCue: So our grant was actually in the prior fiscal year. This is an opportunity for EMS to be seen as infrastructure.

00:30:58.000 --> 00:31:07.000 Robbie MacCue: So we are a pretty critical infrastructure in every local community, but often not funded federally, especially by, so at the local level.

00:31:07.000 --> 00:31:20.000 Robbie MacCue: So it's an exciting opportunity that we were given and that we we have here and that all of you really have access to. There is a upcoming deadline here, which I will mention in a future slide.

00:31:20.000 --> 00:31:32.000 Robbie MacCue: Little more context. We did a collaborative grant approach the town of colony here is a municipal 3rd service, a department of local government as well as our neighbors to the south of us.

00:31:32.000 --> 00:31:40.000 Robbie MacCue: Municipal system and the neighbors to our north of us, the north of us who are a private nonprofit serving two different towns.

00:31:40.000 --> 00:31:52.000 Robbie MacCue: So we have a significant geographic area. For us that really highlights about 30 miles of high speed roadways.

00:31:52.000 --> 00:32:10.000 Robbie MacCue: So part one of our grant approach. It's a two part, two-pronged approach here. Is how do we reduce the possibility how do we make our roadways safer while our emergency responders are operating on those roadways? how do we improve awareness that there's a crash on the road?

00:32:10.000 --> 00:32:17.000 Robbie MacCue: And that's where we talked about piloting and researching transponder technology. For example, Hasselert and their safety cloud technology that can actually take over an infotainment system

00:32:17.000 --> 00:32:29.000 Robbie MacCue: in somebody's dashboard and and give them advanced warning, maybe 20, 30 seconds warning saying warning, emergency scene ahead, use caution.

00:32:29.000 --> 00:32:37.000 Robbie MacCue: Or emergency vehicle approaching. Slow down and pull over. These are standards and technologies that are out there that would allow our first responders to be operating in roadway conditions and on crashes,

00:32:37.000 --> 00:32:59.000 Robbie MacCue: as well as reduce the opportunity for secondary crash. If more people are aware, rather than the traditional 3 to 5 seconds most vehicles get of an emergency vehicle or emergency scene approaching.

00:32:59.000 --> 00:33:10.000 Robbie MacCue: We are also going to experiment with other AVL Technology. We have a demo of this - alert system and with just two vehicles and about a 2 and a few months.

00:33:10.000 --> 00:33:15.000 Robbie MacCue: About 5 and a half months notifying over 2,800 drivers on the road. So we're excited.

00:33:15.000 --> 00:33:37.000 Robbie MacCue: When we start to scale this to approximately 80 vehicles across the systems and the other opportunity here is to investigate other technology that will allow us to take information that may be traditionally siloed in on people's personal devices, medical alert,

00:33:37.000 --> 00:33:54.000 Robbie MacCue: advanced care registries, and how do we ensure that those smartphones that data is passed through our 911 partners and actually makes it to the providers that are responding to the incident and maybe in the future we can identify who the patients are in that vehicle before we even arrive on the scene.

00:33:54.000 --> 00:34:09.000 Robbie MacCue: And in part 2, I'm going to get talk a little bit more about the opportunities for getting more of the health context of what those patients they have from other systems.

00:34:09.000 --> 00:34:12.000 Robbie MacCue: The other opportunity is also in the AVL space in a box like Samsara or Geotab and these connected devices that would allow us to monitor vehicles

00:34:12.000 --> 00:34:29.000 Robbie MacCue: in real time and give us more advanced warning of the potential fleet issues and and other information as well as sensors that can be attached to these vehicles.

00:34:29.000 --> 00:34:38.000 Robbie MacCue: So I think there's a lot of opportunity here to experiment with technology, and make our vehicles a little bit more connected.

00:34:38.000 --> 00:34:43.000 Robbie MacCue: As well as other smart tires that are on the market that are actually embedding sensors into tires to let vehicles know of hydroplaning.

00:34:43.000 --> 00:34:54.000 Robbie MacCue: So lots of opportunities here to investigate. The second half that I'll talk about here, our approach.

00:34:54.000 --> 00:35:16.000 Robbie MacCue: Pretty excited about both of these but this is the idea of a pre-hospital health and safety information exchange utilizing existing frameworks such as TEFKA and our New York State Health Information Exchange to allow providers at the point of care utilize technology that they're they're already using.

00:35:16.000 --> 00:35:31.000 Robbie MacCue: For example here our region adopted Samsara for communicating patient information securely to the hospitals. Imagine if this platform has a two-way API or interface that allows you to identify that patient,

00:35:31.000 --> 00:35:45.000 Robbie MacCue: ping the appropriate health information exchanges for treatment related inquiries and get back not a thousand pages of medical records but what are the top 3 things that we should know about this patient's care, allergies, significant history, hemophilia, other blood types.

00:35:45.000 --> 00:35:57.000 Robbie MacCue: But information that may be pertinent if there's advanced directives out there. Maybe they're special specialty care registries.

00:35:57.000 --> 00:36:03.000 Robbie MacCue: Our region adopted a handle with care registry for, in accordance with NAMI in New York State.

00:36:03.000 --> 00:36:15.000 Robbie MacCue: So that we, so parents can get their children and into this database. But imagine all these different data sets that may be traditionally siloed and unstructured.

00:36:15.000 --> 00:36:28.000 Robbie MacCue: Being able to tap into those in a secure way. Well as feeding that information back including outcomes data from the hospital back to the providers to make sure they can improve their level of care.

00:36:28.000 --> 00:36:44.000 Robbie MacCue: Was their assessment in alignment with what actually happened and and how did that patient make out. And of course, the statistic of only less than 2% of hospital outcome information and patient information of the 50 million records a year that are submitted to NEMESIS actually have outcome information.

00:36:44.000 --> 00:37:00.000 Robbie MacCue: So how do we make sure we're working with our partners in NEMESIS and our state partners and making sure that all this information is making it its way back to the front line providers and again a secure Way.

00:37:00.000 --> 00:37:09.000 Robbie MacCue: The notice of funding for the 3rd year of this grant is open. So I'd encourage you to work with your minute your other partners in your region.

00:37:09.000 --> 00:37:19.000 Robbie MacCue: Check with your metropolitan planning organizations or other entities that may be interested in that have experience applying for these grants. I will tell you this grant was significantly easier.

00:37:19.000 --> 00:37:21.000 Robbie MacCue: We were awarded 3 million dollars in phase one. Phase 2 funding is for 10 times the amount of funding to scale a project.

00:37:21.000 --> 00:37:39.000 Robbie MacCue: So there are some great opportunities out there and you don't have to reinvent the wheel. We have certainly there's many people that are on this program that actually have a significant history and experience with health information exchanges so we don't have to learn at all ourselves.

00:37:39.000 --> 00:38:04.000 Robbie MacCue: And I'm about a minute over but I do want to just say this definitely sent me down a safety rabbit hole as this opportunity opened up several other doors to partner up with our traffic incident management, our traffic safety division and actually look at the engineering behind

00:38:04.000 --> 00:38:16.000 Robbie MacCue: cross walks and roadways and there there are a lot of technologies out there that can be experimented with to actually protect, protect the most vulnerable populations that are operating out that are on the roads.

00:38:16.000 --> 00:38:27.000 Robbie MacCue: And I've just got a couple slides here of different technology that is approved and on the market but maybe slightly underutilized.

00:38:27.000 --> 00:38:35.000 Robbie MacCue: And certainly lighting at night most of these roadway fatalities happen from dusk till dawn. I think about 85% of them.

00:38:35.000 --> 00:38:47.000 Robbie MacCue: So there are a lot of opportunities here to study what's working in other areas of the country and see how we can apply it locally as well.

00:38:47.000 --> 00:38:51.000 Robbie MacCue: I think that's all I've got. I'll turn it back over to you again.

00:38:51.000 --> 00:38:52.000 Robbie MacCue: Thanks.

00:38:52.000 --> 00:38:59.000 Gam Wijetunge: Thank you, Robbie. And thank you to all our presenters. For their presentations.

00:38:59.000 --> 00:39:08.000 Gam Wijetunge: Really appreciate, everything. It's been very interesting and I know we have questions that are, flowing into the Q&A.

00:39:08.000 --> 00:39:18.000 Gam Wijetunge: So, just a reminder to everyone who's tuned in today, you continue to send questions using the Q&A chat function in the zoom panel.

00:39:18.000 --> 00:39:27.000 Gam Wijetunge: We're gonna try and get to as many of the questions we we can in the in the time remaining.

00:39:27.000 --> 00:39:35.000 Gam Wijetunge: But we'll also collate the questions and make a written a document with answers, that will be part of the archive recording of today's

00:39:35.000 --> 00:39:43.000 Gam Wijetunge: session. So, on that note again, just a reminder to folks, just, feel free to drop your questions into the Q&A and I'll help

00:39:43.000 --> 00:40:00.000 Gam Wijetunge: moderate them here. So the first question we have, I think we'll go to to Otis, and the question was good points on TXA in the super rural environment.

00:40:00.000 --> 00:40:12.000 Gam Wijetunge: What have the results and trends showed with your use of TXA?

00:40:12.000 --> 00:40:27.000 Otis Oldman: Yeah so that's one thing we've been trying to work on is trying to get more data on some of the patients that we have given TXA to. The, lot of the issues we have on our side is that most of our trauma patients get flown out.

00:40:27.000 --> 00:40:37.000 Otis Oldman: Out of state from where we are because we live in the 4 Corners area. Most of our trauma patients, they get flown to New Mexico or to Colorado as the nearest trauma centers level 2.

00:40:37.000 --> 00:40:49.000 Otis Oldman: So it's sometimes a little bit more difficult to get that patient information outcome from other states, but if the patient is flown in within Utah we can get data a lot quicker and pretty easily.

00:40:49.000 --> 00:41:01.000 Otis Oldman: But since we're such a rural area in a frontier setting everybody knows each other a lot of times we get family members coming over say, oh yeah, sounds so so, so then, you know, physical therapy now, whatever, you know, we do get outcomes just that way.

00:41:01.000 --> 00:41:15.000 Otis Oldman: But as far as getting data goes, sometimes it can be a challenge to get that.

00:41:15.000 --> 00:41:22.000 Gam Wijetunge: Thanks, Otis. The next question I'll hand over to Dr. Levy. Wonderful presentation.

00:41:22.000 --> 00:41:36.000 Gam Wijetunge: We're getting a lot of those comments from everyone. Regarding pediatric patients hypotension is a light late sign of decompensation. Is there any concern that a waiting?

00:41:36.000 --> 00:41:42.000 Gam Wijetunge: Sorry, just jumped on me. Is there any concern that awaiting true age related hypertension may be waiting too late?

00:41:42.000 --> 00:41:51.000 Gam Wijetunge: Have you considered using the lowest 10% of a normal blood pressure for age to catch patients prior to decompensation.

00:41:51.000 --> 00:41:59.000 Matthew Levy: It's really, a thank you, it's really a great question. So thank you, to our colleague for asking that.

00:41:59.000 --> 00:42:05.000 Matthew Levy: You know, as pointed out pediatric patients compensate until they don't and we know this very well.

00:42:05.000 --> 00:42:16.000 Matthew Levy: We, I think are gonna have more contextual ability as we have a growing amount of knowledge about pediatric presentation with with blood products to answer my question.

00:42:16.000 --> 00:42:22.000 Matthew Levy: One of the things I didn't really get into Gam, is the fact that this is a resuscitative intervention, right?

00:42:22.000 --> 00:42:26.000 Matthew Levy: So anything we do is not without risk in the situation where someone in some profound hemorrhagic shock.

00:42:26.000 --> 00:42:38.000 Matthew Levy: The benefit of giving uncrossmatched blood outweighs the risk, right? So we only want to give the right product crossmatched if we can but but if someone's bleeding out in front of you don't have that time.

00:42:38.000 --> 00:42:49.000 Matthew Levy: So we weigh out those risks and benefits and everything we do in medicine. And to answer the question concretely, I would say as we have a better data set and we understand more about shock.

00:42:49.000 --> 00:42:57.000 Matthew Levy: Early shock in the pediatric population, which we know more about now than ever, I think we can be more thoughtful about looking at some of those modifiers.

00:42:57.000 --> 00:42:59.000 Matthew Levy: So that's my way of saying, yeah, we're looking at that. I think that we need to look at larger data sets to answer those questions.

00:42:59.000 --> 00:43:14.000 Matthew Levy: Not one system, single system answers, but rather across trauma registries and other things. And, take it one step further, how do we predict who's going to need that blood?

00:43:14.000 --> 00:43:22.000 Matthew Levy: You know, 1, 2, 3 hours later in their in their

course of care for that reason. So really, really great question.

00:43:22.000 --> 00:43:28.000 Matthew Levy: I think it was Joe. Thank you for asking it. More to follow on that, but you are right.

00:43:28.000 --> 00:43:41.000 Matthew Levy: We do look at a variety of physiologic criteria as well. And our crews do have the ability to pick up the radio and say, hey, I have a kid who - their pressure is okay, but they have other hard times of shock.

00:43:41.000 --> 00:43:53.000 Matthew Levy: Have that discussion with the base stocker and should they get a blood. So, so that is more of a I think a case by case situation where the answer might be yes, go ahead and do that as opposed to

00:43:53.000 --> 00:43:59.000 Matthew Levy: doing it autonomously so that's that's my best answer then great question

00:43:59.000 --> 00:44:08.000 Gam Wijetunge: Thanks, man. So our next question, it was mentioned there was collaborative work going on with 911 dispatch.

00:44:08.000 --> 00:44:17.000 Gam Wijetunge: Can you share some project ideas on that? I think this might be intended for. Otis or Robbie, but I'll throw it open.

00:44:17.000 --> 00:44:20.000 Gam Wijetunge: I think to the whole group.

00:44:20.000 --> 00:44:45.000 Robbie MacCue: Yeah. I can, I can discuss some of the opportunities. There are platforms that 911 systems are using. Every 911 call system and 911 PSAP, maybe operate obviously a little bit differently, but there are certainly platforms out there that many might be using such as rapid SOS that are that are trying to create more intelligent 911

00:44:45.000 --> 00:44:58.000 Robbie MacCue: answering systems as opposed to more legacy technology systems and again if you have your medical information on a smartphone, making sure that information can pass through along the way and embrace video and location.

00:44:58.000 --> 00:45:05.000 Robbie MacCue: So all that data. How do we pass it through the frontline providers and again in a way that doesn't overwhelm them?

00:45:05.000 --> 00:45:20.000 Robbie MacCue: So it's it's a matter of just partnering, asking a lot of questions, getting curious, I'd say, and seeing what support the 911 PSAPs are looking for and really looking for other successes throughout the country.

00:45:20.000 --> 00:45:31.000 Robbie MacCue: There are a lot of people that are much smarter than I am that go into the health information exchange realm and make sure that this

information can get passed along securely.

00:45:31.000 --> 00:45:34.000 Robbie MacCue: So feel free, and make sure that this information can get passed along securely. So feel free anyone to reach out if you have a question can get passed along securely.

00:45:34.000 --> 00:45:55.000 Robbie MacCue: So feel free anyone to reach out if you have a question about any of the grants that I discussed and that opportunity or if you need a referral to some of the folks that again they live and breathe the health information exchange world and especially in our kind of niche environment operating at the intersection of public safety and public health here in our 911 systems.

00:45:55.000 --> 00:46:02.000 Robbie MacCue: Great. Thank you, Robbie. And, also, you know, I spent several minutes at the beginning of the webinar, plugging EMS.gov.

00:46:02.000 --> 00:46:22.000 Robbie MacCue: Another great resource for folks is 911.gov. We just have a world of resources on there that can I think that will that will address you know issues of how we interface with 911 is that that first point of contact with the patient.

00:46:22.000 --> 00:46:43.000 Gam Wijetunge: Now let me go to the next question. This is for Dr. Levy. The concern often voiced against EMS use of ultrasound is prolonged scene time, do you have any data refuting this concern so any thoughts on pre-hospital ultrasound?

00:46:43.000 --> 00:46:49.000 Matthew Levy: Yeah, that's a great question. Thank you, Sam, for asking it. I was actually feverish and trying to type a response.

00:46:49.000 --> 00:46:57.000 Matthew Levy: So this makes my world a little easier. I, I'm, I'm an advocate for point of care ultrasound in the right clinical context in the right situation.

00:46:57.000 --> 00:47:05.000 Matthew Levy: And to answer that question, you have to remember that the whole purpose of point of care ultrasound is to ask a specific question, to yield a specific answer that's going to affect patient care.

00:47:05.000 --> 00:47:15.000 Matthew Levy: So where we get into trouble with point of care ultrasound is when we do things for the sake of doing them that doesn't really affect the decision at that moment in the phase of care.

00:47:15.000 --> 00:47:17.000 Matthew Levy: So with that being said, There are pre-hospital, there are point of care ultrasound interventions and techniques that we do in the emergency department

00:47:17.000 --> 00:47:36.000 Matthew Levy: that, that I don't think always make sense to do in the field. For example, the fast exam where the rush exam can be very, very helpful in

differentiating hypotension.

00:47:36.000 --> 00:47:42.000 Matthew Levy: But if they're hypotense, it may have, it's more important that we begin resuscitating them.

00:47:42.000 --> 00:47:49.000 Matthew Levy: for their present presenting complaint. Instead another way, it's got to be at the right time in the care.

00:47:49.000 --> 00:47:58.000 Matthew Levy: Now the other big thing talk about ultrasound is the investments not just money and equipment and gear and all that stuff, but in knowledge to get people to be proficient with ultrasound.

00:47:58.000 --> 00:48:07.000 Matthew Levy: And to not only in that initial investment, initial learning, but also the skills sustainment to be proficient with doing scans. It takes a lot of work.

00:48:07.000 --> 00:48:13.000 Matthew Levy: As a guy who trained before we had really a lot of ultrasound and had to learn all shown along the way, I can tell you.

00:48:13.000 --> 00:48:20.000 Matthew Levy: It takes a lot of work and you it's it's metaphorically guys it's not like going from direct

00:48:20.000 --> 00:48:21.000 Matthew Levy: laryngoscopy to video laryngoscopy where where you know what you're looking at right away. You've got to really think about the anatomy.

00:48:21.000 --> 00:48:33.000 Matthew Levy: So that being said, it's a tough counter argument to make, but if we're looking at very specific questions. Do I see lungs sliding, yes or no.

00:48:33.000 --> 00:48:41.000 Matthew Levy: Do I see pulsatile wave forming, and getting a pulse during cardiac arresrt, no? That's where I think we go with ultrasound personally, prehospitally, and that's how I'd answer it.

00:48:41.000 --> 00:48:56.000 Matthew Levy: But, but I would just, Sam is and to those who are looking at planning off some programs, I just work very closely with your medical directors and and think through what is the problem we're trying to solve and how does this tool help us with that.

00:48:56.000 --> 00:48:57.000 Matthew Levy: Thank you.

00:48:57.000 --> 00:48:58.000 Gam Wijetunge: Thanks, Matt. Yeah.

00:48:58.000 --> 00:49:07.000 Otis Oldman: Hey, Gam. I just had to add on to Dr. Levy. We've been dabbling with ultrasound, lately also in the frontier setting.

00:49:07.000 --> 00:49:24.000 Otis Oldman: And I think this tool makes total sense for frontier setting when we have so much patient care time. And like I said, waiting for a helicopter up to an hour, you know, but we don't initially do the ultrasound on, you know, it's not the first thing we do.

00:49:24.000 --> 00:49:31.000 Otis Oldman: It gets done maybe 15, 20 min down the road after we've done all of our interventions and started to stabilize the patient.

00:49:31.000 --> 00:49:43.000 Otis Oldman: And we, you know, just a quick FAST exam and you sometimes you would go off the mechanisms of injury while it is, you know, his left upper quadrant was involved.

00:49:43.000 --> 00:49:52.000 Otis Oldman: Let's start there first. And if we see free fluid. Your exam stops. You don't need to go anywhere else because there's already presence of free fluid in that left upper quadrant.

00:49:52.000 --> 00:49:59.000 Otis Oldman: There's no need to check the right upper quadrant, there's no need to, right upper quadrant, we may need to check the lungs, but you know, if the oxygenation is good then we won't do lung sliding, but

00:49:59.000 --> 00:50:12.000 Otis Oldman: once we start seeing the compensation saturations, then yeah, we may look at the lungs for lung slide and also and we think it's it's a great tool to have in the frontier

00:50:12.000 --> 00:50:17.000 Otis Oldman: service just because we have the time available to do it.

00:50:17.000 --> 00:50:23.000 Matthew Levy: I think Otis brings up a great point, which is that it's got it's gotta be sequenced in with your overall resuscitation bundle of care.

00:50:23.000 --> 00:50:30.000 Matthew Levy: And it's gotta help drive clinical decisions, right? So if it's positive, that helps you a lot.

00:50:30.000 --> 00:50:38.000 Matthew Levy: But if it's negative, it might not help you. If indeed, unless you have a hundred percent confidence and one of the challenges of ultrasound is the variability between users.

00:50:38.000 --> 00:50:47.000 Matthew Levy: Right, so, proficiency between users varies tremendously. Great thoughts, great question.

00:50:47.000 --> 00:50:57.000 Gam Wijetunge: Great. And the good questions, keep coming. The next question, what steps are being taken to mitigate

00:50:57.000 --> 00:51:10.000 Gam Wijetunge: skill decay with low volume. And critical decision making. Application of transfusion algorithm and focus interpretation.

00:51:10.000 --> 00:51:18.000 Gam Wijetunge: I can repeat that one if you want that, I think you might want to tackle it first.

00:51:18.000 --> 00:51:21.000 Matthew Levy: Did you wanna, yeah, there's, there's about 5 questions built in there.

00:51:21.000 --> 00:51:22.000 Matthew Levy: It's really, really, no, no, it's, it's any question.

00:51:22.000 --> 00:51:26.000 Gam Wijetunge: Yeah, yeah, it's a lot. Maybe.

00:51:26.000 --> 00:51:27.000 Matthew Levy: Yeah.

00:51:27.000 --> 00:51:30.000 Matthew Levy: So, to skill decay, let's start with there, right? So this concept of HALO skills, high acuity, lower current skills are real, right?

00:51:30.000 --> 00:51:46.000 Matthew Levy: Those are the things. Crike, needle decompression, you know, variety of other very, very once or twice in the career kind of skills and some people may do, you know.

00:51:46.000 --> 00:51:50.000 Matthew Levy: Some people could even argue that, you know, intubation should be a HALO skill.

00:51:50.000 --> 00:51:55.000 Matthew Levy: Emergency childbirth, all these things that we consider bread and butter for us in EMS, but maintaining proficiency is really important.

00:51:55.000 --> 00:52:08.000 Matthew Levy: Now you know what's interesting, when we talk to our law enforcement colleagues, I don't know if they have any law enforcement personnel on the call today, but ingrained in the law enforcement culture is this concept of qualification, right?

00:52:08.000 --> 00:52:16.000 Matthew Levy: Someone's gonna carry a weapon system, they're gonna carry a firearm, they know that they're gonna qualify probably 2, maybe even 3 or 4 times a year.

00:52:16.000 --> 00:52:24.000 Matthew Levy: How many EMS systems out there have their medics qualifying in intubation 4 times a year?

00:52:24.000 --> 00:52:28.000 Matthew Levy: It's still, it's not the way we're built. We don't think about things that way, but skill decay is real.

00:52:28.000 --> 00:52:42.000 Matthew Levy: And this concept so you take this concept of high

acuity lower current skills and then you take this concept of skill decay and then we think about this new thing that we call fire frequency, lower intensity training.

00:52:42.000 --> 00:52:50.000 Matthew Levy: And we put all those things together, what we realize is, we got to be practicing more, more frequently, maybe not as long in duration.

00:52:50.000 --> 00:52:57.000 Matthew Levy: So is the answer going to one com ed cost for 8 hours every 2 years? Does that really make you squared away to do your job?

00:52:57.000 --> 00:53:02.000 Matthew Levy: Maybe, maybe not. But I would rather know that the person taking care of me and my family member

00:53:02.000 --> 00:53:09.000 Matthew Levy: has demonstrated skills on an ongoing basis, with some degree of regular interval. And I think that's how we combat skilled decay.

00:53:09.000 --> 00:53:16.000 Matthew Levy: Training, simulation, multimodal education, what we're doing right now, learning from each other is really important.

00:53:16.000 --> 00:53:21.000 Matthew Levy: The other questions there, I think, just to get to them really quickly, application of the transfusion algorithm, we, we spend a lot of time thinking and practicing on this.

00:53:21.000 --> 00:53:36.000 Matthew Levy: Now we require, not every paramedic in my county is allowed to give blood. They have that's relegated to our EMS supervisor cadre.

00:53:36.000 --> 00:53:41.000 Matthew Levy: It's about 30 or so people and and they have to requalify in that skill annually, and and so we - same thing for RSI and a couple of these other skills.

00:53:41.000 --> 00:53:53.000 Matthew Levy: And that's how we try to maintain that so that we are not only talking about the technical skill.

00:53:53.000 --> 00:53:55.000 Matthew Levy: The technical skill is not the hard part here. It's the brain parts thinking about what is the right thing in your gonna face and what.

00:53:55.000 --> 00:54:12.000 Matthew Levy: Focus interpretation, that's a whole other webinar. But, but, I think there's a lot to be said for you have to learn the normal before you can learn the abnormal and you really have to get good at it and really have to get it.

00:54:12.000 --> 00:54:31.000 Matthew Levy: You really have to you have to invest the time. And there are technologies in to help with that. The interesting thing and I'll end on this note is that AI is going to help a lot with this because as more and more technologies come out to help us with the AI built into the ultrasound apps and and devices can really help guide you and get

the right image and to answer some of these questions.

00:54:31.000 --> 00:54:34.000 Matthew Levy: Thanks, Gam.

00:54:34.000 --> 00:54:40.000 Gam Wijetunge: Thank you, Matt. That was a battery of questions. Answered very efficiently. Appreciate it.

00:54:40.000 --> 00:54:51.000 Gam Wijetunge: Hey, we're nearing the top of the hour and we're, gonna be running out of time, but as promised

00:54:51.000 --> 00:54:56.000 Gam Wijetunge: the once the archive is, once the webinar is archived, we'll be posting, written answers to any questions.

00:54:56.000 --> 00:55:14.000 Gam Wijetunge: we didn't get to today. So I do want to thank everyone for for joining, we had very high attendance and of course wanna thank our speakers, Matt, Robbie, and Otis. It was a great presentations.

00:55:14.000 --> 00:55:26.000 Gam Wijetunge: I really learned a lot today and appreciate you, joining us.

00:55:26.000 --> 00:55:40.000 Gam Wijetunge: So thank you everyone and please have a wonderful and safe weekend. Bye.