WEBVTT

1
00:00:11.950 --> 00:00:21.539
Clary Mole: Hello, and welcome to the EMS Focused Webinar Series, hosted by the NHTSA's Office of Emergency Medical Services. My name is Clary, and I'll be hosting as moderator for today's session.

2
00:00:23.630 --> 00:00:31.259
Clary Mole: This Webinar series is designed to provide useful information to the EMS stakeholder community about federal, state and local participation

3
00:00:32.211 --> 00:00:37.969
Clary Mole: in the advancement and enhancement of emergency medical services.

4
00:00:38.240 --> 00:00:53.529
Clary Mole: It includes real-time experiences from leaders utilizing these processes throughout the country. As we celebrate National EMS Week this week and recognize EMS for Children today, we're excited to bring you a special session in the EMS Focus Webinar series.

5
00:00:54.110 --> 00:00:58.750
Clary Mole: During our webinar today we'll explore important resources interventions to help

6
00:00:58.880 --> 00:01:06.360
Clary Mole: ensure your agency is ready to provide the best possible care for pediatric patients. We'll hear from experts

7
00:01:06.810 --> 00:01:26.910
Clary Mole: speakers on two key subject areas. First will be prehospital pediatric blood transfusions. We'll take a closer look at the latest research on prehospital administration of blood to children and learn how one of the one Colorado Fire Rescue Agency is successfully delivering blood to young patients in the field.

8
00:01:27.240 --> 00:01:46.849
Clary Mole: Secondly, we'll have a look at overall pediatric readiness. Did you know, less than 10% of all the calls across the nation are pediatric patients? Well, we'll discuss the research that

has been key in developing training tools and other resources designed to improve the preparedness of EMS clinicians for response.

9
00:01:47.810 --> 00:01:57.430
Clary Mole: This is that involve pediatric patients. You're learned. Excuse me. You'll learn how the participation of Volunteer EMS Agency in New Jersey

10
00:01:57.630 --> 00:02:04.380
Clary Mole: in the National Prehospital Pediatric Readiness Project, and you'll learn more about

11
00:02:05.220 --> 00:02:14.750
Clary Mole: how they were able to become more prepared with even limited resources. Today's webinar is being recorded and will be posted on EMS.gov.

12
00:02:14.920 --> 00:02:24.110
Clary Mole: For more information on EMS focused webinars, access archive recordings, or learn more about the Office of EMS, please visit EMS.gov.

13
00:02:24.240 --> 00:02:32.450
Clary Mole: Feedback or questions about the webinar can be sent to nhtsa.ems@dot.gov.

14
00:02:34.600 --> 00:02:36.909
Clary Mole: Before we begin, let me cover a few quick

15
00:02:37.120 --> 00:02:39.170
Clary Mole: housekeeping items.

16
00:02:39.350 --> 00:02:45.770
Clary Mole: Please use the Q&A button in your Zoom control panel to submit questions throughout the session. We'll address them

17
00:02:46.040 --> 00:03:04.999
Clary Mole: during the last 15 minutes of the webinar, feel free to submit questions as they come to mind. Our facilitators will organize them in the background and have them ready for the

Q&A portion. There is closed captioning available. Just simply click the show captions button, and it'll enable the feature.

18
00:03:09.020 --> 00:03:22.019
Clary Mole: Before we dive into today's topic, I want to take a few moments to focus on the mission of NHTSA's Office of Emergency Medical Services. Our office supports improvement of patient care in the out of hospital setting nationwide.

19
00:03:22.390 --> 00:03:34.869
Clary Mole: We want, we bring together data, expert and experts and identify critical issues in the EMS field. We collaborate with partners, including federal agencies, national organizations, and to address those

20
00:03:35.180 --> 00:03:41.499
Clary Mole: issues. Promoting awareness and education about best practices and evidence-based guidelines.

21
00:03:46.400 --> 00:03:58.129
Clary Mole: One of the ways we achieve our mission is by providing resources to help EMS leaders and EMS clinicians. The resource hub on EMS.gov makes it simple to browse, search,

22
00:03:58.310 --> 00:04:03.519
Clary Mole: download, and download a wide variety of reports, documents, and guidelines.

23
00:04:03.690 --> 00:04:18.029
Clary Mole: These resources, created by NHTSA's office of EMS and its partners, help advance EMS practices to access these resources just scan the QR code on the slide or visit our homepage at EMS.gov.

24
00:04:21.670 --> 00:04:26.109
Clary Mole: Now, let's introduce the speakers. It's my pleasure to introduce our speakers today.

25
00:04:26.430 --> 00:04:38.130
Clary Mole: We're honored to have Dr. Christine Leeper, Mark Warth, Lieutenant Aaron McConnellogue, Dr. Kathleen Adelgais, and Rihi Jain

26
00:04:38.240 --> 00:04:39.319
Clary Mole: join us.

27
00:04:39.740 --> 00:04:45.389
Clary Mole: They bring a wealth of knowledge and experience to our discussion. And so let's begin with Dr. Leeper.

28
00:04:50.640 --> 00:05:15.669
Dr. Christine Leeper: Great. Well, thank you so much for the tremendous honor of presenting today. I'm Christine Leeper. I'm a trauma surgeon and ICU doctor at the University of Pittsburgh. I also run a research lab that focuses on pediatric trauma, transfusion medicine, and coagulopathy, and the work that we do is funded through a variety of sources, but none are relevant to the content I'll present today.

29
00:05:17.030 --> 00:05:35.330
Dr. Christine Leeper: So, as this group is acutely aware, traumatic injury is the leading killer of children in this country. Depending on the age group, injury accounts for a minimum of 50% up to 86% of the total annual mortality, which far outpaces the other leading causes of death, congenital anomalies and cancers.

30
00:05:36.600 --> 00:05:53.920
Dr. Christine Leeper: This alarming figure shows the 30% increase in firearm related deaths in children between 2019 and 2020, overtaking motor vehicle collisions as the leading cause of trauma mortality, with no sign of slowing down. So now, more than ever, understanding pediatric injury is an urgent priority.

31
00:05:55.140 --> 00:06:17.309
Dr. Christine Leeper: And we need to prioritize pediatric trauma care not only due to the increasing frequency of major bleeding or hemorrhage in children, but also because at present children in hemorrhagic shock fare quite poorly. The mortality rate for injured children with life threatening bleeding is anywhere from 36 to 50%, which is much higher in comparison to adults with the same injury burden.

32
00:06:18.870 --> 00:06:43.610
Dr. Christine Leeper: We know that death due to bleeding occurs quickly. So this figure shows time to death in a large national database study and hemorrhagic shock. Death is traced in red, showing a median time to death for bleeding around 17 hours. 90% of the death has already

occurred by 24 hours, so that means that the interventions to treat bleeding must occur as close to the time of injury as possible in order to be effective.

33
00:06:44.630 --> 00:07:09.899
Dr. Christine Leeper: And this early treatment and trauma includes a bundle of care that was first established in combat casualty care, and later translated into adult trauma care. It's known as damage control resuscitation, which has a number of key tenets that you see listed here. And what I'll be speaking about today is hemostatic resuscitation, which is the efficient and effective transfusion to restore blood volume and perfusion and the treatment of coagulopathy.

34
00:07:10.510 --> 00:07:29.449
Dr. Christine Leeper: Now this can be accomplished with a balanced or high ratio transfusion of component blood products which would include red blood cells, plasma and platelets. And another option is to use whole blood, specifically Low Titer Group O Whole Blood, which is blood from the donor arm before it's broken down into any of the component parts.

35
00:07:29.970 --> 00:07:45.400
Dr. Christine Leeper: And I could go on for a while about component therapy versus whole blood. But for the sake of time today I'll say that, regardless of which is available to you. We know that the use of blood products in adults in the prehospital setting is associated with increased survival.

36
00:07:45.400 --> 00:08:01.649
Dr. Christine Leeper: and that seemingly small delays, meaning minutes in time to transfusion can have outsized impacts on reducing mortality, such that early blood product use by out of hospital EMS providers has become an accepted, common and effective practice.

37
00:08:02.830 --> 00:08:20.130
Dr. Christine Leeper: This is not yet the case for children who are ineligible to receive blood products in many regions. Which raises the concern about, you know, if we are providing the very best care to this vulnerable group, and I think it's kind of time to reframe this issue as a question of you know, why not prehospital transfusion for children?

38
00:08:21.070 --> 00:08:47.240
Dr. Christine Leeper: Because it's been pretty well described that crystalloid for resuscitation in the setting of traumatic hemorrhage and shock causes harm. Crystalloid meaning fluids like normal saline ringers, lactate. There are myriad adverse effects related to its use, just some of

which I've listed here, and they delay the time to transfusion and not prevent it. So this is a quote from a friend that I think summarizes what the use of crystalloid should be.

39
00:08:49.820 --> 00:09:15.719
Dr. Christine Leeper: There have been a few cohort studies, meaning descriptions of small groups of children who received blood prehospital, comparing those to children who received crystalloid only, and in the children who received blood products there was no transfusion related complications and no increase in clinical complications reported. And we know that children receive blood products for multiple indications while in the hospital, and that this is a generally very safe and feasible treatment.

40
00:09:17.140 --> 00:09:30.670
Dr. Christine Leeper: So, after feasibility and safety, we, of course, want to assess a blood product transfusion prior to hospital arrival, improve survival compared to blood product transfusion in the Trauma Bay. Right? Because that's what we're we're aiming towards.

41
00:09:30.670 --> 00:09:48.050
Dr. Christine Leeper: And to do this, our group used the Pennsylvania Trauma Systems Foundation database, which is a statewide database with over 50 contributing centers, and we included children aged up to 18 years, who received blood transfusion and compared those who received it prehospital versus those who received it in the Trauma Bay.

42
00:09:48.100 --> 00:09:55.190
Dr. Christine Leeper: And we looked at survival, after adjusting for a number of important patient and injury factors.

43
00:09:56.360 --> 00:10:11.130
Dr. Christine Leeper: In total, 559 children were included in this analysis, 70 of whom received transfusion in the prehospital setting, and these were well matched groups. Generally, the cohorts looked like each other in terms of those characteristics.

44
00:10:12.570 --> 00:10:33.729
Dr. Christine Leeper: And here's the bottom line. So both 24 hour mortality and in-hospital mortality were clinically and statistically significantly lower in the prehospital transfusion cohort compared with the Ed transfusion cohort. You can see the rates of 16 versus 27%, and then 21 versus 32%. So by a pretty substantial margin.

45

00:10:34.970 --> 00:10:52.189
Dr. Christine Leeper: And looking here at prehospital EMS time, you can see that between the time spent on scene and in transport, these kids are reaching the emergency department typically in less than an hour. So moving that treatment from the Trauma Bay closer to the time of injury by just a matter of minutes can make a huge difference.

46
00:10:53.690 --> 00:11:03.240
Dr. Christine Leeper: We then calculated the number needed to treat here the number needed to transfuse in the prehospital setting in order to save one child's life, and that number was 5.

47
00:11:04.940 --> 00:11:34.540
Dr. Christine Leeper: Now I do want to acknowledge how daunting is the task of setting up a prehospital blood program. So there are many logistic and clinical hurdles, including ensuring a robust blood supply, the financial considerations, needing to recycle or offload products near expiration. And then this also requires skilled pediatric providers, weight-based dosing guidelines, the ability to obtain rapid access, which can be challenging in children. So the implementation piece is not simple by any means.

48
00:11:37.400 --> 00:12:02.850
Dr. Christine Leeper: You know, in conclusion, we can see that showing early prehospital transfusion is associated with increased survival compared with transfusion on arrival to the emergency department, that bleeding pediatric patients benefit from early hemostatic resuscitation, and that although the logistics of prehospital blood product programs are complex, strategies to shift that resuscitation toward the immediate post-injury period should be pursued.

49
00:12:03.870 --> 00:12:33.249
Dr. Christine Leeper: And if you need some additional backing while you're trying to develop your program, the Pediatric Traumatic Hemorrhagic Shock Consensus Conference was held in 2022 and developed guidelines around the use of prehospital blood products in children. And consensus was achieved with 100% agreement that in traumatically injured children, in hemorrhagic shock, it is reasonable to consider prehospital transfusion by out of hospital EMS for injured children based on product availability and clinical judgment.

50
00:12:33.810 --> 00:12:45.810
Dr. Christine Leeper: There are a number of other really excellent resources from the prehospital blood transfusion coalition, as well as some excellent literature that addresses some of these logistic considerations.

51

00:12:47.823 --> 00:12:57.539
Dr. Christine Leeper: So with that, I'll hand it over to Mark and to Aaron in order to introduce themselves and to speak a little bit about their experience in Colorado Springs.

52
00:13:03.490 --> 00:13:09.929
Mark Warth: Good afternoon, everybody, again. Thank you for this honor for speaking on behalf of Colorado Springs Fire Department

53
00:13:10.480 --> 00:13:12.260
Mark Warth: here in Colorado.

54
00:13:12.410 --> 00:13:18.579
Mark Warth: My name is Mark Warth. I'm the Medical Program Coordinator for Colorado Springs Fire Department, and I'm here with Lieutenant Aaron McConnellogue.

55
00:13:19.150 --> 00:13:32.170
Mark Warth: Hi, thanks for the opportunity to be here today. Been in the system now with Colorado Springs for 32 years and excited to share a little bit of information on our experience with whole blood in the field.

56
00:13:34.680 --> 00:13:55.220
Mark Warth: So, as we kind of discuss whole blood, we were the 1st in Colorado to successfully deploy whole blood within our city of Colorado Springs. If no one's ever been to Colorado Springs. It's a fine city. It's fantastic. It's got about 500,000 people citywide, almost a million around city proper. We have about 205 square miles that we're responsible for in response.

57
00:13:55.260 --> 00:14:05.270
Mark Warth: We have about 600 Firefighters and full time Paramedics and EMTs working for us on the civilian side, of that 515 different Firefighters work within our department.

58
00:14:09.929 --> 00:14:38.409
Mark Warth: As far as our general calls go. We're running roughly, about 85,000 calls for service in total, for the fire department, of which, right, roughly, 65,000 of those are medical in nature, and then our total providers around 750 includes a private ambulance service that provides all of our transport. And then, amongst our you know our firefighters as well, and 25 fire stations are are covering that 205 square miles.

59
00:14:41.150 --> 00:15:03.760
Mark Warth: As we look to initiate whole blood, we we started this process in March of 2023, where we went down to San Antonio and kind of participated in their Blood Academy, learned a lot, learned about how we can start a whole blood program within our system and came back quickly with a parameter and a goal to get this done within one year.

60
00:15:04.070 --> 00:15:25.410
Mark Warth: We actually, with the help of our local hospital UCL Foundation, were able to secure funding. Which then once occurred, we were able to catalyst our program forward by supplying equipment and training education. And we couldn't do this with our community partners. We couldn't do this without our medical directors who were gung ho for this program.

61
00:15:25.410 --> 00:15:37.520
Mark Warth: And we launched just shortly after May 22nd with all the the equipment, the the whole blood, and all the logistics in place. And it's been running fantastic ever since we did that.

62
00:15:37.855 --> 00:15:47.019
Mark Warth: As we look forward the deployment model is a little bit different than most, but we use our medical lieutenants to deploy across the city, and Aaron can talk about that.

63
00:15:47.750 --> 00:16:13.519
Mark Warth: So there are two of us on duty splitting the city 24/7, 365, and, you know, available to respond with with blood. Currently, we're carrying 2 units. Each of us carry 2 units in a Delta ice cooler. It's not a refrigerator, but a fantastic cooler that we've been using actually holds a temperature for about 48 degrees.

64
00:16:13.560 --> 00:16:28.690
Mark Warth: I'm sorry 48 hours, but we do an exchange every every 24 hours, just to make sure that we can keep the the cooler. Nice and cold. Other equipment that we're using is the Qinflow Warrior as far as our warmer for the blood itself.

65
00:16:28.840 --> 00:16:53.580
Mark Warth: and that has been very, very successful for us. That system takes about 6 seconds to to warm the blood up, and it's been very beneficial for us as far as just what little equipment we have, but how simplistic and how effective. It is, I think, the only other thing that we're really carrying out there is ultrasound that we use to assist us as well.

66
00:16:54.086 --> 00:17:23.159
Mark Warth: But as far as our deployment model. Like, I said, between the 2 of us out there, we we initially had some challenges with that trying to figure out, how do we deploy to these calls? Do we set something up with certain parameters that are automatically hit through our dispatch center? And I think with that we we very quickly realized that we would be absolutely overrun with 2 of us, that every time you know a call note said anything about bleeding they would be dispatching us to that.

67
00:17:23.608 --> 00:17:39.980
Mark Warth: What we'd opted for, and that we're still currently doing today is we educated everybody out on the streets, all the EMTs, all the Paramedics out there. We told them what parameters we would need in order to be administering whole blood out into the field itself.

68
00:17:40.310 --> 00:17:47.020
Mark Warth: And so what currently our crews can do is they can read certain things off of

69
00:17:47.120 --> 00:18:13.449
Mark Warth: off of the call screen as they're responding to the call, and that kind of gives them a index of suspicion to to call for us things such as you know, multiple people shot, or they have a confirmed shooting, confirmed stabbing, things like that. Or there's just sometimes there's certain things whether it's a a labor and delivery issue that they may call for us before they're even on scene, or we're getting high speed traffic accidents at known intersections.

70
00:18:13.731 --> 00:18:27.819
Mark Warth: And a lot of times they'll call for us for certain things like that. They also have the latitude to wait until they're on scene to call for us. And they actually get to see if the call screen matched what what they're actually seeing with that particular patient.

71
00:18:28.274 --> 00:18:49.940
Mark Warth: So that gives them, you know, that latitude. And then we also, my partner and I, we have the opportunity to, as we're reading call screens, you know, we will jump a lot of these calls, and we'll just start responding to them on our own based off of whatever the call notes are, and and that has been something that's been very effective for us as well.

72
00:18:50.030 --> 00:19:12.079
Mark Warth: That's one thing that we're tracking. Something that we've learned through this process is, how can we simplify an auto aid or auto dispatch these guys to scenes? So we're

tracking on the back end the notes and as well as the dispatch code to see if we can match up and marry within, you know, 80% of the time to ensure that they're going on the right call. We didn't want them traveling all over the city,

73
00:19:12.080 --> 00:19:33.059
Mark Warth: you know, going to false calls all day and then actually missing the calls they needed to respond to. So they've been doing a fantastic job rotating around. We've only been missing around average about one to two cases a month where whole blood has not been able to get get to the patient in time. And so we're still growing and learning in that facet. But overall, it's been very successful when we talk about our deployment model.

74
00:19:35.400 --> 00:19:56.700
Mark Warth: Overall, so we've had circulated 304 units of whole blood. We've given our 100th unit with just the other day. We have 86 patients that have been administered to with about a 70% survival rate on mortality. And this has been again a great story in its use and its success. Very few medications in our toolbox actually have the ability to turn somebody who was

75
00:19:56.700 --> 00:20:12.099
Mark Warth: peri-arrest, nearly dead, to actually talking by the time you get to the hospital, which is an amazing tool. So one of the things that the surgeons and the ER physicians had to realize when we were giving whole blood as they're coming in. They're questioning why, we gave whole blood. They look so good and

76
00:20:12.100 --> 00:20:23.730
Mark Warth: well at the time we got to them they weren't looking so good. So this product is far better than pasta water, as they say, this has been a phenomenal product in giving and receiving the patient to improve outcomes.

77
00:20:23.730 --> 00:20:38.949
Mark Warth: And we do that through data collection and analysis. We have, prior to our launch, one of the biggest things we did was ensure that we had the right information, the right data to deploy this in in a way that can control a a resource that is one, on shortage

78
00:20:39.260 --> 00:20:58.099
Mark Warth: always. It has a short half life of 21 days, and you know we want to make sure we were stewards of these. You know the whole blood. Make sure we're not wasting it. We didn't want to come out the gate wasting a lot of whole blood. And so we worked really hard in data collection. We found that we were going to give

79
00:20:58.100 --> 00:21:25.780
Mark Warth: one unit of whole blood every 3 days or one patient every 3 days, and we've hit that mark almost exactly. So, one of the things that you really need to look at when you're starting your whole blood program is data analysis. Ensure that you're going to have the right tools for the right job and the right amount of whole blood so you're not wasting as much whole blood as you're moving forward. So that's been very successful. And we continue to collect. We have about 160 different data points we look at with whole blood across the docket all the way from

80
00:21:25.780 --> 00:21:46.740
Mark Warth: times to specific reasonings to if the patient, you know, died from their injuries, where they ended up being a donor. And even that is a success story for us. So we want to make sure. Did we not only help save a life, but did we save several lives down the road with blood donation, blood administration, and then also with organ donation down the road.

81
00:21:46.970 --> 00:21:51.460
Mark Warth: So even in death, we're hoping to see some benefit in that whole blood administration

82
00:21:52.230 --> 00:22:21.600
Mark Warth: Overall, we're seeing some fantastic effects. Other systems are showing the same thing. We're looking at our decreased wastage at the hospital, they used to waste about roughly 50% of whole blood in a level one trauma center, which is quite a bit. And when you look at our unit of whole blood about $800-$1000 per unit in cost, that's a lot of money that the hospitals were unfortunately having to waste on whole blood just from lack of use. Since we've started the program, we've decreased that wastage down to 13%.

83
00:22:21.710 --> 00:22:34.940
Mark Warth: So what we do is we circulate the whole blood, and we take the ones that need to be used the earliest, and we deliver that first and which then decreases the chances of throwaway or wastage in that point.

84
00:22:35.160 --> 00:22:54.410
Mark Warth: Patients who receive whole blood are cutting their times in ICU and in the hospital by 50%. And they're also decreasing their ventilation time by 50%. So days in the hospital, days in ICU and days on event have all been cut by about 50%. And again, the biggest thing that we can show is we've decreased our product wastage, saving the hospital's money

85
00:22:54.410 --> 00:23:10.769
Mark Warth: and trying to show them that we're saving the money on the long run in a return of investment type process. We're trying to show on that ROI that we can decrease your hospital stays. We can decrease your ventilatory stays, and we can decrease your wastage by enacting whole blood administration.

86
00:23:14.440 --> 00:23:27.930
Mark Warth: That being said with pediatrics, we didn't want to stop and not give this to pediatrics. Just like Doctor said. You know, we're very similar in that. The number one reason for traumatic arrest in our system, in kids and injuries is trauma.

87
00:23:27.960 --> 00:23:57.819
Mark Warth: And so we looked at our numbers. One of our medical directors works for Children's, and he's fantastic resource for us as a pediatric emergency room physician, and he was very adamant about. We should be doing this from pediatrics right off the get start, and one of them we want to make sure we hit that number right about 6 months, and in our system we've given whole blood 3 times in patients under the age of 18. One of these cases was a success story, which is a fantastic story that actually, Lieutenant McConnellogue was on.

88
00:23:58.660 --> 00:24:26.820
Mark Warth: Yeah. So this was a pretty nerve wracking case, had a double auto pedestrian at a pretty high rate of speed, and you know, 2 2 kids laid out in the street. Unfortunately, after a vehicle left the scene. The initial arriving paramedic that arrived on scene as he went through triage and when I arrived and let me know he's like, Hey, this 8 year old is going to be the more critical of the 2. And

89
00:24:27.443 --> 00:24:34.720
Mark Warth: we had a bit of a language barrier with the child. But the the kid was initially able to communicate with us on scene.

90
00:24:34.860 --> 00:25:03.509
Mark Warth: but then started to decompensate pretty rapidly, you know, and vital signs had a blood pressure of 58 systolic heart rate 160, you know a high shock index. So we knew right off the bat that this kid was going to be a candidate to administer blood within the field. You know, had some concerns, as far as some pelvic injuries possible pelvic fracture, and then, child definitely ended up, having a closed femur fracture that was pretty obvious to us.

91

00:25:03.950 --> 00:25:10.420
Mark Warth: And again, like I said, started to decompensate where we were no longer able to communicate with the child.

92
00:25:10.720 --> 00:25:37.620
Mark Warth: Once we get them loaded up into the into the back of the ambulance. At that point we started to administer the whole blood, and as we started to get blood on board, I kind of go back to what Mark was saying earlier with peri-arrest we can start to see the responsiveness of the child, and starts to become more more responsive to us on scene, and by the time, within a few minutes, when we delivered to the emergency department child end up with, I think, a blood pressure of 1 12

93
00:25:37.994 --> 00:25:48.040
Mark Warth: for systolic, rate was still clipping along pretty good. But we had very positive results, and our trauma surgeons were very pleased that we were able to get blood going in the field.

94
00:25:49.370 --> 00:26:05.029
Mark Warth: So, looking at this, the patient was then transferred to a hospital. It was discharged on day 7, home, alert, orientated, and and talking with family. This is an amazing story as it went from the first initial report, was, the child was dead on scene to the person actually walking home

95
00:26:05.030 --> 00:26:31.900
Mark Warth: right about on day 7. So very good news, very successful, and which means we really want to put the plug in there. One of the main pillars for our blood program is we do quarterly blood drives. If you want to have a successful blood program, we have to have whole blood. So please make sure to start looking at that. Also, if you haven't donated, please donate. It does help us. It helps the country get a resource that is also very scarce, and it helps us be able to deliver this lifesaving intervention to patients in our city, in our system.

96
00:26:32.550 --> 00:26:58.519
Mark Warth: What we've learned in this is the criteria that's currently being used is really made for adults, which means they have to use their gestalt. We use providers that have very long years of paramedic experience, and they can use their gut and their ability to navigate these difficult calls that don't have a lot of good parameters when it comes to pediatric patients in a very objective number, just like adults do. So, they rely on their experience. We use the push-pull technique.

97
00:26:58.740 --> 00:27:16.139
Mark Warth: There are other avenues to deliver whole blood in the end sometimes gravity fed, and as fast as you can get in is the best that we've determined with pediatric patients. So looking at this, we want to make sure we understand that these lessons are really important. We want to practice. For every 20 units of whole blood, only one is given really to a pediatric patient.

98
00:27:16.140 --> 00:27:30.799
Mark Warth: So the skill set is one of those things we have to continue to practice and move forward. So we're always looking to improve ourselves, improve our care. And I want to again, thanks for everybody for having us and let us talk a little bit of our success of our program, and I'll pass it over to Dr. Adelgais.

99
00:27:35.080 --> 00:27:55.859
Dr. Kathleen Adelgais: Thank you both for that, and also to Dr. Leeper, for your great information about prehospital blood, and I will say that those are very tough acts to follow. In discussing the next topic, which is, you know, the effort of overall pediatric readiness for EMS agencies.

100
00:28:00.070 --> 00:28:19.250
Dr. Kathleen Adelgais: And so I was in this project. I have served as one of the leads for this project for the last 5 years, and we just completed our national assessment last July. And now have a sense of what is the state of pediatric readiness in EMS, and

101
00:28:19.320 --> 00:28:44.269
Dr. Kathleen Adelgais: to be able to do cutting edge, impressive life-saving work in the out of hospital environment for children, there needs to be some base effort and some baseline ability of the EMS agency to provide good high quality pediatric emergency care, including some of the quality improvement work that the Q & A is asking about in terms of outcomes and things like that.

102
00:28:44.270 --> 00:28:56.930
Dr. Kathleen Adelgais: That. So I think that this is a nice opportunity to wrap back around to the effort at the ground level of making all agencies pediatric ready so that they can be

103
00:28:57.140 --> 00:29:01.249
Dr. Kathleen Adelgais: skilled and ready to do the life saving care that we just heard about.

104

00:29:02.960 --> 00:29:27.239
Dr. Kathleen Adelgais: So the EMSC program, you know, is being celebrated today, which is the Wednesday of EMS Week and EMSC Day is a real nice opportunity for us to give credit back to the Federal EMS for Children Program. And that program is originally been designed to reduce childhood death and disability due to severe illness or injury, and enhance those

105
00:29:27.240 --> 00:29:52.149
Dr. Kathleen Adelgais: pediatric abilities among the existing emergency care systems that are designed for adults. As you just heard from our Colorado Springs colleagues, you know that for every single pediatric patient that gets whole blood in the field 20 adults get it. And therefore, kids still remain a small percentage of overall individuals who require emergency care, but because they are

106
00:29:52.150 --> 00:30:06.710
Dr. Kathleen Adelgais: infrequent, we need to build systems and sustainability and a robust nature to care for children across the entire emergency care continuum, one that has really been focused on adult stroke and adult heart attacks and and other things.

107
00:30:08.460 --> 00:30:25.399
Dr. Kathleen Adelgais: So our vision is that emergency care practitioners have the appropriate resources, including trained and competent staff, education, policies, medications, equipment and supplies really to provide emergency care for children across the entire spectrum of emergency care.

108
00:30:26.670 --> 00:30:51.609
Dr. Kathleen Adelgais: And I want to pause here and highlight what we now understand about the importance of pediatric readiness. We've been really fortunate to have 13 years of data now on the state of pediatric readiness and a series of really monumental publications in the last few years have come out that have shown the impact of pediatric readiness in emergency departments. You know this study by

109
00:30:51.610 --> 00:31:16.509
Dr. Kathleen Adelgais: Stephanie Ames first revealed that about there was one quarter mortality among critically ill children at high pediatric ready emergency departments. In a follow up study, looking at emergency department readiness across trauma centers, children at high pediatric readiness centers had a risk of death that decreased by 50%. And then, finally, the long term and short-term mortality was

110

00:31:16.510 --> 00:31:37.869
Dr. Kathleen Adelgais: also notably impacted by pediatric readiness with a finding that there was a 60% reduction in injured and a 76% reduction in ill children in terms of risk of death among those who went to high readiness emergency departments. And so our question becomes, how does this translate to the out of hospital environment?

111
00:31:39.870 --> 00:32:04.769
Dr. Kathleen Adelgais: So that gives birth to the National Pediatric Readiness Project, and the huge number of logos and acronyms and names of organizations that you see here are all huge partners in this effort, and I just can't thank the representatives of all of these organizations enough for giving their time, energy, and effort to the National Pediatric Readiness Project over the last 5 years.

112
00:32:04.770 --> 00:32:29.349
Dr. Kathleen Adelgais: And so I'll cover kind of a little bit about what this is all based on. In 2020, the American Academy of Pediatrics Committee on Pediatric Emergency Medicine, along with 5 other National or 4 other National organizations, including the Emergency Nurses Association, the National Association of EMS Physicians, the American College of Emergency Physicians,

113
00:32:29.350 --> 00:32:52.739
Dr. Kathleen Adelgais: and the National Association of EMTs, all came together and published a joint policy statement about what does pediatric readiness in EMS look like, and specifically they outlined pediatric considerations for some key domains, including just general EMS operations, such as policies, procedures, and protocols, overall emergency preparedness,

114
00:32:52.740 --> 00:32:59.840
Dr. Kathleen Adelgais: quality and process improvement, which is a key driver in pediatric readiness for emergency departments. We also

115
00:32:59.850 --> 00:33:24.810
Dr. Kathleen Adelgais: the joint policy statement also spoke on clinician education and competency, equipment and supplies. And finally, this concept of integration and systems of care which is truly unique to EMS, because EMS is the starting point of a large continuum of emergency care that starts with that first call to 911. And the joint policy statement really gave key recommendations to EMS agencies across

116
00:33:24.810 --> 00:33:34.129

Dr. Kathleen Adelgais: all of these domains, and what they should be doing with a specific examination of pediatrics in consideration of those things.

117
00:33:35.240 --> 00:34:00.350
Dr. Kathleen Adelgais: So, outcomes of the National Pediatric Readiness Project and resources available to you right now include this checklist. The checklist is available online for an EMS agency to do a self-assessment. It's structured in the domains per the policy statement, and it really served as the basis for the national assessment that we conducted and those specific outlines that I just covered are all

118
00:34:00.630 --> 00:34:18.079
Dr. Kathleen Adelgais: in categories on the checklist with a little bit more granular detail that EMS agencies can ask themselves, are we doing competency assessments with equipment? Are we doing competent assessments with obtaining information in a way that families can feel safe and able to give it?

119
00:34:20.400 --> 00:34:45.260
Dr. Kathleen Adelgais: And then we also created a toolkit. The toolkit can be reached at that QR code, feel free to click on that link and go check us out. There's over 200 resources across 7 domains, and each section is reviewed at least annually, but we actually meet quarterly to review the materials available and then make sure that it is regularly updated as new resources and

120
00:34:45.260 --> 00:35:09.530
Dr. Kathleen Adelgais: things become available. Examples of resources in the toolkit include things that we've also pulled from the EMS for Children, innovation and improvement center, toolkits for or pediatric emergency and advocacy kits. So there are a total of 8 peaks, as we call them, available online. These include. And they're all clinically based. So one on sedation,

121
00:35:09.530 --> 00:35:23.540
Dr. Kathleen Adelgais: one on analgesia, one on agitation and behavioral emergencies, one on sepsis, one on multisystem trauma, which was just released this past fall. So given the conversation about whole blood. Please check it out.

122
00:35:24.120 --> 00:35:48.969
Dr. Kathleen Adelgais: And as peaks become available and resources are available in peaks, and they have any applicability to out of hospital care. We pull those resources over into the PPRP toolkit, so that that information is also accessible from that end as well. The toolkit is

multimedia in nature. There are just in time videos on procedures to do for children, including I/O placement, pull-push IV fluids

123
00:35:49.010 --> 00:36:13.970
Dr. Kathleen Adelgais: such as what was just covered in the talk by Mark Warth on pull-push for giving blood in the out of hospital environment. There's also template policies, procedures, other best practice recommendations. There's an entire list of quality improvement metrics, and one other component of quality improvement is now the NEMSIS dashboards that are available, that it was a collaboration between

124
00:36:13.970 --> 00:36:38.069
Dr. Kathleen Adelgais: EMS for Children and the NHTSA Office of EMS, so that there are pediatric specific outcomes that you can check out and see on the pediatric dashboards. We've also did a crosswalk of the toolkit to our national checklist, so that we could make sure that every item on the checklist had a resource available that could help EMS agencies if they needed to kind of improve what they were doing in that area.

125
00:36:38.490 --> 00:36:46.750
Dr. Kathleen Adelgais: Finally, it is big, it is tough to navigate and negotiate, so we do have a short orientation video for new users to make it a little bit more user friendly.

126
00:36:50.420 --> 00:36:59.870
Dr. Kathleen Adelgais: So we conducted the first national assessment of pediatric readiness among EMS agencies last summer.

127
00:37:00.010 --> 00:37:14.039
Dr. Kathleen Adelgais: It was open from May to July of 2024. It was online and open access. EMS agencies were invited to participate. It was intended for ground 911 responding agencies, and we,

128
00:37:14.040 --> 00:37:36.359
Dr. Kathleen Adelgais: agencies who completed the assessment immediately got some benchmarking and an agency specific gap report. The data for states is coming soon. It's under review right now, and we hope to have data stratified by both BLS and ALS agencies in the hands of your EMS for Children State partnership program manager soon.

129
00:37:37.790 --> 00:38:02.459

Dr. Kathleen Adelgais: In the meantime, if you completed the assessment, you would have received a gap report. The gap report goes over what your score is, what the score of an EMS agency that is similar to your agency is, and then you get a green checkbox if you had something, or a black or sorry, a red X. If you didn't, with some important statements about whether or not, why you would want to have that

130
00:38:02.460 --> 00:38:27.429
Dr. Kathleen Adelgais: if you do not. If you did, do the assessment in the window between May and July of 2024, and you don't have a copy of your gap report. You can reach out to your EMS for Children Program Manager and get a copy of your gap report. And the QR code there is a link to the EIC grants database that has the contact information for all 57 state partnership program

131
00:38:27.430 --> 00:38:55.260
Dr. Kathleen Adelgais: managers. So please take a moment to reach out. If you don't know if your agency did it. You can also reach out to your EMSC Program manager and find that out as well. Out of the 15,000 EMS agencies that were invited to complete the assessment, 7,000 completed the assessment, which is just a huge endeavor, and we're so excited to get a better sense of the state of readiness so that we can help our EMS agencies make next leaps and gains

132
00:38:56.880 --> 00:39:02.329
Dr. Kathleen Adelgais: Also, 40 states are working on overall readiness recognition

133
00:39:02.590 --> 00:39:26.249
Dr. Kathleen Adelgais: for both hospitals and EMS agencies. I would, I'll put into the chat later a plug for the Florida program. They have launched their pediatric readiness recognition project for their EMS agency in their state and it got picked up by EMS World in a really nice online article today to kind of talk about what they did and how they did it.

134
00:39:26.280 --> 00:39:39.080
Dr. Kathleen Adelgais: And you know, as in follow up to my talk, we'll hear from Rihi Jain specifically about what her agency in New Jersey has done to become pediatric ready and recognized by the State.

135
00:39:40.100 --> 00:40:05.010
Dr. Kathleen Adelgais: So in the meantime, I'll invite you to come check us out. We have the resources on the web page, including the toolkit and the checklist. The assessment can also a

copy of the assessment can also be found on emspedsready.org. And you can get a sense of what that paper assessment looks like. Although the online assessment for data collection is closed.

136
00:40:05.250 --> 00:40:18.959
Dr. Kathleen Adelgais: The joint policy statements that give guidelines to what pediatric readiness looks like is also available on this website. And it's currently getting updated. We have a frequently asked questions for our checklist as well to help people learn how to navigate that.

137
00:40:19.770 --> 00:40:23.000
Dr. Kathleen Adelgais: And then here's some examples of our toolkit page.

138
00:40:24.960 --> 00:40:42.689
Dr. Kathleen Adelgais: So I just want to thank you all for your commitment to EMS and the care of our children. And at this time I will go ahead and hand it off to Rihi Jain, who's going to talk about the efforts that River Road Rescue Squad has done in New Jersey. Rihi, thank you so much for being here to present on this.

139
00:40:44.090 --> 00:40:53.830
Rihi Jain: Awesome. Thank you so much, Dr. Adelgais, and thank you so much to my fellow panelists who have been, who have shared such wonderful information with all of us.

140
00:40:53.930 --> 00:40:58.680
Rihi Jain: And as a follow up to everything that we've discussed so far, I am super excited to talk about

141
00:40:58.770 --> 00:41:11.370
Rihi Jain: how we, as an agency at the River Rescue Squad, have implemented the PPRP. And as well as just overall improving prehospital pediatric care in New Jersey.

142
00:41:11.400 --> 00:41:34.989
Rihi Jain: So just a little bit of a little bit of context. So River Rescue Squad, we're a BLS all volunteer rescue squad. Located in Piscataway Township. So we're about hour and a half 2 hour located nicely in the middle of New York City, or close to New York City and Philadelphia. Our average call volume is around a thousand, and we have an around 10% of those calls are

143

00:41:35.360 --> 00:41:39.359
Rihi Jain: our pediatric calls, which I'm going to get, which I'm going to get to later in my presentation

144
00:41:39.810 --> 00:41:41.549
Rihi Jain: next slide, please.

145
00:41:43.540 --> 00:41:46.689
Rihi Jain: Thank you. And I'm just gonna go on to the next slide. Thank you.

146
00:41:47.310 --> 00:41:51.389
Rihi Jain: Alright awesome. So just a little bit about the assessment that

147
00:41:52.000 --> 00:42:15.700
Rihi Jain: that Dr. Adelgais talked about earlier. So we took the assessment in March of 2024, and, like I mentioned earlier, our pediatric call volume was around medium around 10% of our actual call volume. And after taking the assessment, our readiness score was around 74 out of 100, which was actually pretty impressive and largely attributed to the wonderful efforts of our members and

148
00:42:15.700 --> 00:42:23.319
Rihi Jain: our line officers, and sort of curating a robust onboarding process. A robust module based onboarding process

149
00:42:23.320 --> 00:42:41.579
Rihi Jain: along with an evaluation and competency based process for both adult and pediatrics which I'll talk about later. And that's comparable to the national averages, which 70 out of 100, 50 out of 100 when compared to overall national agencies, according to the assessment.

150
00:42:41.780 --> 00:43:06.900
Rihi Jain: Despite this, however, the assessment did a pretty wonderful job of sort of pointing out where we can improve and how we can truly improve pediatric care to the communities that we serve. So some key gaps that were identified by the assessment were a lack of routine pediatric skills verification and sort of simulation, a lot of simulation based work. Llimited pediatric specific continuing education opportunities

151

00:43:07.140 --> 00:43:30.700
Rihi Jain: for our members. We didn't really have a PECC or pediatric emergency care coordinator which we now have, which is me. We didn't really have pediatric specific performance improvement reviews, or whether that's QA/QI processes or just competency based stuff in general. And then one of the biggest things was lack of coordination of pediatric care with hospitals and medical direction.

152
00:43:30.700 --> 00:43:40.640
Rihi Jain: So our medical direction comes from comes from our local hospital. Robert Wood Johnson. So just a lot, just an overall lack of coordination did did prove to be a detriment and

153
00:43:40.970 --> 00:43:47.130
Rihi Jain: and just overall pediatric care at our agency and in our community. Next slide, please.

154
00:43:49.280 --> 00:43:54.591
Rihi Jain: So after we took our assessment, it was time for change. So

155
00:43:55.190 --> 00:43:58.419
Rihi Jain: The changes that we made were can pretty much be

156
00:43:58.480 --> 00:44:23.360
Rihi Jain: broken down into protocols and policy updates, competency and equipment and tools. So just a little bit of stuff that we did for our protocols and our policies. So while we did have some pediatric, some vague pediatric clinical guidelines before we implemented pediatric specific clinical guidelines that were integrated and reviewed with medical direction. So again, we really wanted to sort of strengthen that bridge in connection with our hospital based

157
00:44:23.400 --> 00:44:47.839
Rihi Jain: medical direction. And specifically, we included policies for pediatric MCIs behavioral emergencies and just an overall introduction to weight-based dosing. Even though we're BLS, we don't really use weight-based dosing but just introducing the overall concept of like dosing for medications, and like the idea of getting weights for pediatric patients that we that we get and implementing that into our routine pediatric encounters was sort of where we're going with that.

158
00:44:48.560 --> 00:44:50.100
Rihi Jain: And then just

159
00:44:50.220 --> 00:45:13.859
Rihi Jain: overall implementing a formalized protocol for pediatric specific transport destination and just creating transport destination trees and charts for members to use and to sort of enhance that decision making process, especially when it comes to pediatric patients. So you can see onto my slide off to the right. That's an example of a chart that we've made for our members to follow, and sort of ingrain their memories

160
00:45:14.030 --> 00:45:20.439
Rihi Jain: to to sort of enhance the appropriate decision making for our pediatric patients.

161
00:45:21.240 --> 00:45:26.340
Rihi Jain: And then in terms of competency and training enhancements. So we sort of revamped our

162
00:45:26.500 --> 00:45:56.309
Rihi Jain: our competencies and our training opportunities, particularly when it comes to pediatrics. So we have a written based and a simulation based aspect to our competencies. So we revamped both of those to include pediatric assessments and pediatric specific scenarios, to really encourage our providers to think critically during pediatric encounters and pediatric scenarios, and again, that's all scheduled annually during our competencies for all of our providers.

163
00:45:56.880 --> 00:46:08.050
Rihi Jain: And then we also have, like trainings throughout the year. So we also implemented pediatric scenarios and simulation integrated into our trainings and just overall drills.

164
00:46:08.760 --> 00:46:24.620
Rihi Jain: And then one thing we also did emphasize a lot more was to have hands on skills practice for pediatrics. So just really having opportunities for our providers to really just get their hands on like our mannequins and our pediatric specific equipment, just learning how to use it.

165
00:46:24.620 --> 00:46:48.639
Rihi Jain: And even just learning how to use learning and training on how to use like pediatric transport equipment like our pedia mates, etc. Just really getting those reps in to make sure our providers feel confident and comfortable in using pediatric equipment. Because, again, it's a it's

a low frequency encounter in our in our agency, and we really want to make sure our providers are ready for when it does happen.

166
00:46:49.670 --> 00:47:18.780
Rihi Jain: And just overall, and then moving on to equipment and tools just overall organizationally, we created a PECC position and we integrated that into our organizational line officers. So our line officer structure includes a Chief, Deputy Chief, Lieutenants and Sergeants, and we we implemented or we sort of integrated the PECC role into our Lieutenant role as a part of our line officers to make sure that even even as we have a change in leadership, those responsibilities of the PECC don't go

167
00:47:19.430 --> 00:47:21.169
Rihi Jain: don't get overlooked.

168
00:47:21.620 --> 00:47:38.129
Rihi Jain: And, like I mentioned before just reviewing pediatric transport devices like the pedia mate, especially since it's something that we don't that our providers don't really really use on a routine basis. But just making sure we update the policies and protocols related to its use in our agency

169
00:47:39.070 --> 00:47:40.419
Rihi Jain: Next slide, please.

170
00:47:41.760 --> 00:48:09.258
Rihi Jain: So after making all these changes, what do we sort of see? So we saw significant performance improvements. So again, we added pediatric simulations and drills to our training and annual competencies. And as a result of that, we had enhanced provider confidence in our pediatric care scenarios, as demonstrated by our providers, either in real pediatric calls, or just or in QA, QA/QI chart review.

171
00:48:09.940 --> 00:48:13.400
Rihi Jain: And even after making all these changes we also

172
00:48:13.770 --> 00:48:33.920
Rihi Jain: We also had sort of we, we sort of revamped our QA/QI system. So we have. We now have a tier system where it goes through different levels of review through our organizational

line officers. So that includes our pediatric cases. So upon reviewing those we are able to say that

173
00:48:34.660 --> 00:48:51.389
Rihi Jain: We're able to say that providers are able to or have been able to make good decisions, and they're overall, they feel a lot more comfortable and confident in pediatric care when dealing with real patients as a result of the changes we've been able to make to the drills and the training related to pediatrics

174
00:48:52.020 --> 00:49:20.090
Rihi Jain: In terms of recognition and engagement, we were very fortunate to be recognized by the New Jersey Department of Health, Office of Disaster Resilience, and for the EMS for Children Program for meeting the rigorous standards of the Always Ready for Children Program as the 1st BLS Volunteer Agency in New Jersey. So this was a really cool achievement. We were able to put these really cute decals on our ambulances and just overall display them as a symbol of our dedication and commitment to enhancing pediatric care.

175
00:49:20.481 --> 00:49:22.830
Rihi Jain: For our community in New Jersey.

176
00:49:23.220 --> 00:49:29.281
Rihi Jain: And then again, just increase engagement in pediatric focused training and community education. And then,

177
00:49:29.790 --> 00:49:49.349
Rihi Jain: one of the most important things was stronger hospital partnerships for pediatric care coordination. So our medical director played a huge role in sort of developing the protocols and policy changes that I mentioned earlier when it came to revamping our protocols and policies. So because of that, we have a stronger relationship with our medical director, and in terms of like the

178
00:49:49.410 --> 00:50:06.990
Rihi Jain: the relationship between our medical director, us and our community. So that was, that's been really helpful in terms of just having more open communication avenues and just overall creating more changes and creating more updates into our protocols as time goes on. And as we get.

179

00:50:07.720 --> 00:50:12.230
Rihi Jain: And as we get and as we move forward. Next slide, please.

180
00:50:14.410 --> 00:50:36.970
Rihi Jain: So what's next for us? So continuing education and evaluation. So we're always looking to revamp and improve pediatric integration into our annual competency and our trainings and overall evaluation of our providers. And we're still building out our audit and QA/QiI system to address health equity outcomes and critical events, particularly when it comes to our pediatric patients.

181
00:50:37.200 --> 00:51:00.130
Rihi Jain: And then, in terms of quality and coordination, we are looking to expand the role for the PECC within our organization, whether that is more of a policy role, training role, etc. And then we also would love to strengthen collaborations within with our local Eds and public health agencies or department of health for pediatric response and overall MCI management, and particularly when it comes to pediatrics.

182
00:51:00.480 --> 00:51:22.829
Rihi Jain: And then our overall long-term vision is to position the River Road Rescue Squad as a leader in pediatric prehospital care in our region and in our tri-state area. And then to again also involve our community in terms of community outreach and engagement efforts to improve injury prevention and overall just really focus on family-centered care and prevention for our pediatric patients

183
00:51:23.480 --> 00:51:24.909
Rihi Jain: Next slide, please.

184
00:51:26.600 --> 00:51:54.639
Rihi Jain: But yeah, that's a little bit about our program. I hope that was helpful in terms of seeing how we, as an all-volunteer BLS agency, were able to implement EMS for children and overall just improve pediatric care in our agency and in our community. If you have any questions, feel free to reach out to me or reach out to us at the River Road Rescue Squad, and at this point I'm going to turn it over to Clary to moderate the Q & A Section. Thank you so much for having me.

185
00:51:55.420 --> 00:51:56.360
Clary Mole: Thank you, Rihi.

186
00:51:56.670 --> 00:52:02.639
Clary Mole: Thank you to all our speakers for their presentations. Let's start in the Q&A portion of our session

187
00:52:02.940 --> 00:52:10.710
Clary Mole: As a reminder. If you want to ask a question, you can use the Q&A function on the Zoom feature located at the bottom of your screen

188
00:52:10.920 --> 00:52:33.400
Clary Mole: to get all the questions in the day. If we don't get all the questions in a day, we'll compile a document and post that on EMS.gov. It looks like we have about maybe 6 or 7 minutes to ask some questions. So looking online, let's see, Dalton Rose asks what method or equipment can EMS, or even trauma base use

189
00:52:33.560 --> 00:52:36.349
Clary Mole: for giving warm blood to infants, toddlers

190
00:52:36.470 --> 00:52:39.479
Clary Mole: in a bleeding situation, a bleeding emergency?

191
00:52:40.090 --> 00:52:42.120
Clary Mole: That one's open to anyone to answer.

192
00:52:47.230 --> 00:53:13.590
Mark Warth: Hi! This is Mark from Colorado Springs Fire. Obviously there's commercial devices that are out there. We use Qinflow as one of them. There are several different manufacturers out there. There are a couple of studies, one just particularly just came out, that showing that cold blood is still better than no blood. So there are a lot of agencies out there actually foregoing the cost of the warmer to put that money towards the cost of the cooler, which is the most important part

193
00:53:13.700 --> 00:53:26.079
Mark Warth: to ensure that whole blood is delivered in the field. My presumption. I'll wait for the physicians to weigh in on this more in pediatrics. That's definitely for adults, I would presume, and assume that would be the same for pediatrics.

194
00:53:33.780 --> 00:53:56.100
Clary Mole: Thank you much for that answer. I believe this is directed towards Colorado Springs as well. One anonymous submitter asks, How long did it take your service to actually put the prehospital blood program in the field? They want to know from introduction and staff training to getting support of medical direction and hospital acknowledgement and support.

195
00:53:56.470 --> 00:53:57.920
Mark Warth: So just

196
00:53:58.190 --> 00:54:23.400
Mark Warth: just over about 14 months from the first concept of discussion to acquiring the tickets and the travel to San Antonio, securing with and discussing all the community partners from Pathologist to Blood bank as well as securing funding through the UC Health Foundation, our medical director team and then training was right about, I say, probably 14 months.

197
00:54:25.480 --> 00:54:45.740
Mark Warth: You can do it much faster. One of our community partners, Uprad, is now starting their program using a lot of what we've done as a template. Once you get the template down, you can start a program within about 6 months. The hardest part of any blood program, anybody will tell you, is securing the funding.

198
00:54:48.890 --> 00:54:56.689
Clary Mole: Thank you much. Dr. Leeper, any sense of what percentage of EMS systems don't allow prehospital blood administration in children?

199
00:54:58.180 --> 00:55:16.209
Dr. Christine Leeper: Yeah, I don't actually know the precise number. It. It certainly has been increasing of late. You know, we've had lots of folks reach out sort of asking about the logistics and the for templated guidelines.

200
00:55:16.594 --> 00:55:31.600
Dr. Christine Leeper: To try to help facilitate that process in their own local organization. But it varies widely. You know, across the country and even across, you know, regions by EMS organizations. So not a lot of consistency. Yet.

201
00:55:35.940 --> 00:55:37.170

Clary Mole: Thank you for that answer.

202
00:55:39.110 --> 00:55:42.619
Clary Mole: Let's see, we've got about 3 more minutes.

203
00:55:46.330 --> 00:55:48.500
Clary Mole: Rihi, amazing work on the pack.

204
00:55:48.760 --> 00:55:53.300
Clary Mole: How are you able to find support, to protect your time

205
00:55:53.820 --> 00:55:58.409
Clary Mole: and energy, and doing all the hospital peds, readiness projects.

206
00:56:00.910 --> 00:56:29.548
Rihi Jain: Yeah, that's an awesome question. So I think part of the reason we were able to have find such success into implementing like EMS for Children at our agency is because it has such a wonderful team. Even though, like the responsibility for the program was like, was primarily like on my shoulders. I was very lucky to have to have operations officers who were very supportive of it, and were, and did a really good job of sort of helping me out, and sort of like splitting the work

207
00:56:30.070 --> 00:56:55.283
Rihi Jain: like evenly all like in all, and I guess in all in all directions. So I think the key to this is just having a really supportive like, I guess, like upper leadership in your agency, and that and that really does go a long way in terms of also sustainability, which I think was a lot was the second part of your question, because obviously, it's it's it's a huge lift in the beginning like, especially the role of being a PECC and

208
00:56:55.910 --> 00:57:16.389
Rihi Jain: have really, really just having a team that supports you and is able to like, take and not take on some of the workload. But just like even it out, is going to be super important, because that means that there's a lot of your team members that are not that are like, it's not just you that's knowledgeable about the program. But you have other team members that also know about it. And especially when it comes to changing leadership.

209

00:57:16.390 --> 00:57:27.070
Rihi Jain: it's it's something that multiple multiple people know about and like the program won't just die when, like when you leave, it'll be something that's sustainable over time as well, especially as leadership changes.

210
00:57:27.110 --> 00:57:28.739
Rihi Jain: I hope that answers your question.

211
00:57:30.220 --> 00:57:30.900
Clary Mole: Thank you.

212
00:57:31.904 --> 00:57:42.840
Clary Mole: This one's for Colorado Springs again. One anonymous submitter is asking about your transport times. I think this is opportunity to drive home the point about every minute counting.

213
00:57:45.852 --> 00:58:03.289
Mark Warth: Yeah. So our average transport times on a non-emergent is 14 minutes. Our average transport time on an emergent return is about 11 minutes. I know this generally leads into questions of you know why, we just take them to the hospital and do whole blood at the hospital if we're faster there.

214
00:58:03.320 --> 00:58:18.929
Mark Warth: And the reality is is we think they're faster there. But on average they're not. From the time you get to the door to the time you get to treatment, just because we enter the door of the hospital doesn't mean they start treatment right away. We still have to have registration and and activation. And

215
00:58:18.930 --> 00:58:37.550
Mark Warth: in our trauma system, prior to us starting the whole blood, the only one that can activate a mass transfusion protocol was the trauma surgeon itself. So if there was a delay from the trauma surgeon being there, that delayed it even more to the average about 13 min from the time you hit the door to the time whole blood was on board within the hospital system.

216
00:58:37.810 --> 00:58:51.780

Mark Warth: And that's in both hospital systems within our city. We have about 6 hospitals, we, we rotate different patients through. So every minute a whole blood is delayed at the point of injury increases mortality rate by about 5%.

217
00:58:51.800 --> 00:59:10.619
Mark Warth: And so that delay is costly to a patient. So if we can get whole blood at the point of injury and speed up that time, we actually have better outcomes and better salvageability to the patient. And that's what our data is bearing out. So these guys have done a fantastic job a lot of times they're there on scene

218
00:59:10.620 --> 00:59:29.149
Mark Warth: about the same time our crews are, and because of that they're still working on their bundle of care. They're still doing the pelvic binders, the bilateral IVs, the TXAs, airway management, and by the time they confirm vital signs for whole blood, they're already in transit to the hospital. So there really is no lost time

219
00:59:29.250 --> 00:59:51.969
Mark Warth: if that makes sense. So that's why the the time is is so much faster by prehospital administration, a, whole blood versus at hospital because we're not wasting a 14 or 11 minute transport time, you know, giving saline and doing our general procedures. We're actually giving a life saving intervention. These guys most of the time. It's a what 90% of the time you guys are giving it on scene in the back of the ambulance.

220
00:59:53.820 --> 01:00:15.420
Clary Mole: Okay, I'm afraid that's going to have to be our final thought. Thank you all for your presentations today. Any questions that we weren't able to get to during the webinar, we'll be posting online at EMSgov. That concludes our webinar today. We appreciate everyone's participation, and we'll hope to see you the next time. Have a great day.