September 2021 September Hospital Association Recipient Webinar
September 16, 2021
Event Transcript

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Megan Wassef: So it looks like we have a good amount of people in so I'll go ahead and pass it over to Jennifer Hannah who will open up today's call.

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Jennifer Hannah:

Thanks Megan and good afternoon everyone, thank you for joining us today. I am Jennifer Hannah, the Deputy Director of ASPR's National Healthcare Preparedness Programs, or NHPP, Branch. Before I hand it over to our first presenter, I would like to provide a brief overview of what we will cover today.

First, we will provide an overview of some exciting ASPR Health Care Readiness Programs updates. Next, we will hear from Shayne Brannman, the Program Director of ASPR TRACIE, who will provide an overview of the preparedness and response-related resources now available on or coming soon to ASPR TRACIE's website. Afterwards, Aldo Algarra will share some high-level takeaways from our team's analysis of Hospital Association End-of-Year Reporting data. Then, Dr. Hunt will provide a brief introduction into load leveling, followed by a presentation from Dr. Sameer Kadri of the National Institutes of Health. Dr. Kadri will share some findings from his research on surge management and load leveling efforts. Finally, we will leave some time at the end for questions from the audience.

I'd like to begin today's webinar by talking briefly about what we call 'Stories from the Field.' Stories from the Field provide us the opportunity to highlight your hospital association's and/or funded hospital and health care facilities' hard work and accomplishments. They are critical for the program's success. Stories from the Field do not only have to be a report-out of a successful response. Rather, stories may highlight lessons learned, promising practices, effective trainings and exercises, coordinated and/or successful responses, and new preparedness methods and processes. We may share these stories on the ASPR website, via ASPR social media, and/or ask you to participate as a spotlight during an upcoming recipient webinar. Your stories will also add value to recipient fact sheets, budget narratives, and external presentations.

If you have a story to share about how you are using cooperative agreement funding to make an impact on your communities, please reach out to your field project officer (FPO) or email hpp@hhs.gov. We look forward to hearing about the great work that you are doing. I will now pass it over to Shayne Brannman to present ASPR TRACIE updates.

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Shayne Brannman:

Thank you, Jennifer and good afternoon, everyone. We've been very busy at ASPR TRACIE and we know you have too. I would be remiss not to acknowledge that many on the call today are part of ASPR TRACIE's SME Cadre and were instrumental in shaping some of the new resources that we'll be highlighting for you today. Thank you so much for your continued support of ASPR TRACIE. You should have all received our ASPR TRACIE express this morning with many of the resources I'm going to cover, but if you did not, please reach out to me and I'll make sure that you get our next outreach.

The first slide here is a depiction of some of our recently released resources, and I want to call out just a few that I think may be of particular interest for hospital partners. The first one is the COVID-19 concerns and opportunities for healthcare leadership. Over the past year, some leaders in healthcare innovated to address pandemic related challenges safeguarding infrastructure, staff, and patients, while maintaining their institutions' mission and values. This ASPR TRACIE resource highlights some of the considerations and promising practices that healthcare executives may consider implementing in their systems during the pandemic and beyond.

The second resource is the effect of COVID-19 on healthcare incident command systems. This was really a needed tip sheet that we put together. And again, many of you on the line were instrumental in helping improve and shape this tip sheets, so thank you. This particular resource highlights several key observations about how healthcare ICS functions during the COVID-19 pandemic and includes lessons learned collected from interviews, surveys, and literature reviews as of August 2021. So please check out that resource.

Thirdly, again you're going to hear more about different surge management strategies, we have an innovations and COVID-19 patient surge management. This ASPR TRACIE tip sheet summarizes 4 healthcare executives' experience with statewide patient surge management during COVID-19. Access to the full report can also be gleaned from this tip sheet and lessons learned from other resources. It will be updated continually as new information emerges.

And then the fourth resource I want to highlight is something that just recently came up and was requested by specifically hospital partners, and that was considerations for healthcare facilities planning for and responding to the Afghan relocation response. ASPR TRACIE received a technical assistance request from private sector healthcare partners on considerations for healthcare facilities planning for and responding to the Afghan relocation response operation allies refuge response. This document provides general considerations that may be helpful for healthcare facilities that are caring for Afghan special immigrants during the operation allies refuge mission. So again, this was based on a technical assistance request from hospital partners, so I really think you might want to check that resource out.

The last resource I'm just going to highlight is the role of the poison control centers during the pandemic. The poison control centers are an integral part of the ESF 8 partnership that ASPR enjoys and their role during the pandemic has been significant. One of the things I found most interesting during this is that their ability to take a lot of different data from a lot of disparate resources and pull it all together to do trend analysis on poison control, I think, is something we can all benefit from.

So these are just five of the resources on the slide that you're seeing that I want to make sure that I bring to your attention. But again, we've done a lot of work, and please check them out. And if you find something that you think we can improve upon, please let me know. Second slide, please.

This slide just depicts some of the resources that we're working on right now. A couple of them have already been done, that's how fast TRACIE works. In that we'll be able to have these done probably by October/November timeframe. If some of these peak an interest, where you want to become actively involved and be able to shape these resources in the coming days, then please reach out to me and I'll include you in our review process.

And again, just be safe, while you take care of others and are in service of others, be sure to take care of yourself and your families as well, and I just appreciate what you do every day.

Thank you for this opportunity, Jennifer, to speak today. It's now my distinct pleasure to introduce Aldo Algarra, who's going to provide you an overview of Hospital Association interview reporting data analysis. Aldo, over to you, sir.

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Aldo Algarra:

Thank you so much Shayne, and good afternoon everyone. My name is Aldo Algarra, and I form part of the team that has supported with the data collection and analysis of data for the Hospital Association Cooperative Agreement. If you could please go to the next slide.

Great. So this past week we went ahead and conducted some preliminary analysis on the recipient level data. The information that is in front of you right now depicts the amount of funding that was allocated by recipients towards the seven activities associated with the Hospital Association Cooperative Agreement target outcomes.

So, starting with the table to left of your screen and reading that from left to right, we have your performance measure, performance measure ID, then in the middle, the associated activity, and then finally, the total amount of funding that was spent by recipients towards that activity. And then the pie chart to the right of your screen shows the percentage of total funding that went into each those seven activities. As you can see, the vast majority of total allocated dollars went towards PPE with 57%, or around $5.3 million. The second highest was 28% and that was towards administrative efficiency activities, with around $2.6 million being spent towards that activity. Next slide please.

Great, thank you. Given that PPE had the highest amount of funding, we decided to do a little bit more of a deep dive towards this performance measure. So the table in front of the screen, the column to the left, titled "Equipment Type," those are all the PPE categories that recipients could select for this performance measure. And then the percentage of all hospital associations, or the right column, just shows the percentage of hospital associations that selected that type of PPE.

Just going a little bit deeper into the data, 21% of hospital associations purchased face masks or face shields. 19% selected gowns, eye protection and gloves came at 17%. For the hospital associations that selected "other" for this performance measure, a couple of the explanations that were selected or inputted for performance measure 18.1, or that free response option, were shoe covers, UV lights, HEPA filters, and then finally, fit testing kits. Next slide.

Great, thank you. So this is just a reiteration of the key takeaways that we just discussed for you all to take a look at your own convenience. But if there are any questions, please reserve those towards the Q&A session later during this hour. And if there are any questions that you would like to type into the chat box. I'll be monitoring that so we'll get back to you through there.

That's all for the high-level recipient analysis. Thank you all for the time and we'll now pass it over to Dr. Rick Hunt. Thank you.

00:11:25.170 --> 00:11:27.120

Dr. Richard Hunt: Thanks very much for the introduction. I want to talk about load leveling, at least introduce the topic. As you're aware, the 2017-2022 Health Care Preparedness and Response capabilities, which in many respects feel like a distant past compared to where we are in the pandemic. Capability 4 is medical surge, and while all of us worked on medical surge, until the pandemic, we really never had experienced such massive surges of patients. And frankly, we really didn't know the impact of surge on what happens to patients and our institutions.

So a couple of months ago, I received an email from Matt Watson, who works with us at HPP at ASPR, and he provided a link to an article published in Annals of Internal Medicine, "Association Between Caseload Surge and COVID-19 Survival in 558 U.S. Hospitals, March to August 2020". And so I opened the article and I quickly scanned the abstract and then suddenly was quite honestly awestruck by the final sentence in the results section: "Nearly one in four COVID-19 deaths was potentially attributable to hospitals strained by surging caseload." While, you know, we've talked about surge for many years, we really didn't know the impact of surge, and tragically, we've had the opportunity to study it.

Another surprise when I took a look at the article, I was surprised to see that the author of the article was one of our colleagues at HHS, Dr. Sameer Kadri, at the National Institutes of Health. It's an honor to introduce him. As far as I can recall with our program, we haven't had an NIH speaker before, so it's good to have one of our HHS colleagues on this. So, without further ado, I'd like to introduce Dr. Sameer Kadri, he's the head of Clinical Epidemiology Section in the Critical Care Medicine Department at the NIH Clinical Center. He's also Associate Professor of Medicine at the Uniformed Services University and Associate Editor of Critical Care Explorations. Over to you Sameer, thanks.

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Dr. Sameer Kadri:

Thank you very much Dr. Hunt for that kind introduction and thank you for the opportunity to speak to everyone today. I'm just going to quickly share my slides. Are you able to see my slides?

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Hillard, Laura: Yes, we can.

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Dr. Sameer Kadri: There you go, sorry about that. So as Dr. Hunt mentioned, this is a study that I did to understand the impact of strained hospitals, hospitals strained by surges on their own COVID-19 mortality rates. And as a practicing intensivist, I also practice, in addition to NIH, at some of the community hospitals in the area that really experienced a very serious surge a number of times during the pandemic. I think many of you, both on the clinical and the administrative side in hospitals and hospital associations, feel my pain. I saw many mistakes happen, I saw that the patients who require a lot of high precision care were not getting it, and as a result, I suspected that harm is probably happening just by virtue of overcrowding in hospitals. We aim to try to bring that out if in fact that was true, because I think it has very important downstream implications, and I'll discuss them subsequently. I have no financial interests or disclosures.

So at least as of May, the global death toll is 3.5 million. And while we have data in developed countries like the US, there are still some images here that are pretty haunting that I think we all remember from the news from the last year and a half or so. Unfortunately, in some parts of the world, this is literally the only real data we have in terms of how bad the surge was because of lack of readily available electronic data and analyzable data. But I think with that comes a bit of a responsibility in the developed countries where this data exists to really go into it and try to understand patterns of outcomes that occurred as a result of overcrowding and straining because, according to me, I think that that is something that is actionable. COVID-19 is very difficult to treat in its severe forms. We don't have any sort of, you know, magic bullets to treat it

yet, which almost makes this even more important to try to find if there are things that we could do on an organizational and operational level to try to bring down this needless excess mortality.

So, as of August 2021, 631 people have died of COVID-19 in the United States, at least 631,000. And the question that has been on many people's minds is, is it the virus? Is it age and comorbidities? Or is it care quality? And our hypothesis was, this is the sort of infamous curve, I should say, from the last year that looked at the three peaks of deaths that occurred as a result of COVID during the pandemic in the US. And my question was, if I was a patient with bad COVID and I got admitted to a given hospital during the peaks, during the blue periods, versus during the green periods, would my outcome be any different?

And I think many of us on the call know that we've had to modify our standards of care during the pandemic, and some have had to assume what we call "crisis standards of care." And typically, this is a principle that has been in place, even prior to the pandemic, it's just come to light and has become common knowledge during the pandemic that we typically function in a conventional environment where we call that "usual" or "standard of care." If our numbers go above a certain limit, hospitals are relatively resilient and we're used to ups and downs in our volume, and we sometimes have to go into contingency. And that sometimes involves things like nurses have to start taking care of three patients instead of two, or we have to start using areas of the hospital, like the PACU, to accommodate critically ill patients when the ICU is full. But then there is another level of care, this crisis, where it's really a last resort and it is a state of desperation where it's not a solution by any stretch, and it's something that you resort to when you don't have a choice. We end up using alternative care sites, like parking lots are made into ICUs, which can never meet the standard of a regular ICU, especially when created in record time. Staff then have to step over, not only take care of more patients, but get out of their comfort zone and start taking care of patients that they've never taken care of before. Supplies are severely lacking as well, and often we have to resort to rationing care, which is a very horrifying sort of sentiment or experience for a clinician. And the goal is to remain in contingency and not to go into crisis as much as possible.

Why does modifying care standards cause worse outcomes? There's a number of reasons. It could range from medication errors, clinicians, nurses, respiratory therapists, janitors, everyone's tired. Scanty documentation, such as, there was a time in the first wave where people were not writing electronic notes because there was no bandwidth and data was being scribbled on the glass of a door of a patient.

There was a higher bar to hospitalize, so often patients who would have otherwise been admitted to the hospital were sent home just because there was no space. There was an earlier trigger for comfort care, meaning patients were made "do not resuscitate" and care was limited at an earlier trigger than before and people were practicing outside of scope. Not only did this impact COVID patients, but it also impacted your everyday patients with heart attacks and strokes and sepsis and trauma that came in and they didn't have the beds, they didn't have the personnel, they didn't have the attention that these people needed and care was impacted.

I put this picture here, which is a very impactful picture from India during their second wave, which was their delta variant wave. I think that if you're living a healthcare system that starts at a level of infrastructure that is suboptimal to begin with, such as, for instance, India, compared to the United States, this problem is many times worse, as you can imagine.

And so the first question that came to us when we were trying to answer this question is, how do we define a surging hospital? And Ryan Maids and colleagues provided sort of this minor, moderate and major surge based on percentage over capacity. While this is a good place to start, COVID-19 severity matters. It's important to incorporate the severity because severity in

COVID-19 is linked to resource intensity. You have a patient severe enough to need the ventilator, they need more respiratory care attention, more nursing attention, they need a ventilator, they need an ICU bed. And so, for all those reasons, we needed to define search using a metric that incorporates severity. And so for this reason, we came up with what we call as a search index, where for any given hospital month, we're determining the burden of COVID patients that are severity waited and it's sort of adjusted by the pre-COVID bed capacity.

So, for instance, you may have 100 COVID patients. Actually, let me go back for a second. The weights were assigned according to what the ideal nurse-patient ratios are, which are derived from California, which is the only state that provides that information. And so, when you go from taking care of a regular patient to an ICU patient, your nurse to patient ratio should go from one to four to one to two. So, clearly the patients in the ICU, or that required advanced respiratory support, required more weight in terms of strain because of nursing shortage is.

Similarly, respiratory therapists, when you go from taking care of non-vented to vented patients, you need from ten to one, you need to go to four patients to one respiratory therapist. So, the combination of the respiratory therapists and the nursing increase requirement, gave away to five to vented patients in the ICU.

So using this strain metric, we then said, let's use this metric to examine a hospital A and a hospital B. Let's say hospital A is a 100 bed hospital and hospital B is a smaller hospital. And this is just an example for you to understand the importance of the surge index. Just imagine in June, both hospitals got 20 COVID patients. The difference is, hospital A, none of the patients required ICU or intubation or bypass or non-invasive positive pressure ventilation. But hospital A, the 50 bed hospital, everybody required intubation, ventilation, and ICU. So although both hospitals saw the 20 patients, the surge index for one was two, and the search index for the other was 10 times greater, or 20. So you can imagine a smaller hospital experiencing more complex patients is going to experience more strain.

So we did an interagency collaboration with the CDC and also collaborated with Harvard and Emory to do this study. We used the Premier Healthcare database, which provided near real time data for us for over 900 US hospitals. So it's a pretty good sample and it was pretty well distributed across the country, as you can see here. And prior to the study we had done a study that we published in JAMA where we looked at how well does the ICD-10, which is the billing code for COVID-19, a new code that was developed because of the pandemic, how did this compare to people who had tested positive by the SARS-CoV-2 PCR result? And we actually found that it was highly sensitive and highly specific. So basically, the billing code was capturing patients who actually had COVID and so we felt more comfortable using the code as a metric to identify these patients in the database.

And so, in this very large sample of about 145,000 patients who were hospitalized at 558 hospitals, we looked at the distribution by month of the surge index. So what you see here, each dot represents a hospital in a given month. The size of the dot represents the number of patients, and the color represents the geographic region. You can see here that these peaks in blue, so early on in the pandemic, we saw in the North East there were some very large surges in some very large hospitals. Then that kind of died out, and we started to see in the second wave, there was more in the South and more in the West. So we felt like the surge index nicely captured not only the strain, but the geographic variation as well.

The next question was, what is the relationship between surge and mortality for COVID patients? So we did this hierarchical model, and so, in simple terms, we adjusted for confounders. We adjusted for mortality that could have been increased because of higher age or chronic conditions or changing practices over time. We were ventilating everyone who came

in initially, later on, we became more conservative with that. All of this was included into this model. We also assessed for the technological capacity of the hospital because hospital efficiency and infrastructure also play a role in the outcome of the patient. What we found was that mortality went up as the percentile of surging increased. And so, in the worst of the worst surging hospitals, mortality risk doubled. So, if I went into a hospital during those green periods or during those blue periods when the hospital surges were at their peak, I had twice the risk of dying at the worst affected hospitals.

We also adjusted for the learning curve because initially there was a lot of changes in practices. We saw decreases in mortality in the first three months of the pandemic, whether or not the hospital was surging, because everybody was doing whatever they felt like. As there was more homogeneity in the treatment practices, then the impact of surge on mortality became more manifested. And hence, you can see these crude mortality curves almost fan out in the second half of the group, after the learning curve occurred, where the more surging hospitals have the higher mortality risk.

And we did modeling to find out that approximately one in every four COVID-19 hospital deaths, as Dr. Hunt said, may have been attributable to surging caseload, and this is because the risk is high, but the number of people affected in the country are also very high. As a result, you put them together, the proportion of people dying from COVID who actually died probably because of being in overcrowded setting, is not insignificant. This is very humbling.

So what are the lessons from this information for hospitals and for governments and for Hospital Associations? The top decile of the surge index had 80% of caseload surge attributable deaths. The top one percentile of hospitals had 37% of caseload surge attributable deaths. And it's not 500 hospitals, even if you take the top one percentile, it was 49 hospitals in March to May and 20 hospitals in June to August that were in that top one percentile. But they contributed to 37% of the case load surge attributable deaths. What does that tell you? That tells you that if we would have done things differently and provided the necessary support and decompress those hospitals who were the extreme levels of surges last year, think about the number of lives we could have saved.

To try to understand better what's happening right now in during this delta variant surge, HHS and ASPR through their project ECHO COVID-19 Clinical Grand Rounds did an audience survey. They asked questions to the participants and live during the grand rounds and there was good representation from 44 States and from DC and a few participants from other countries. We were trying to determine, does my region have an active Medical Operations Coordination Cell (MOCC)? So, what is this? MOCCs came up or sprung up during this pandemic in response to the need to coordinate the activity of operations and to coordinate transfers from extremely affected hospital to a less affected hospital. This has happened either at the hospital level, or at the health system level, and sometimes at the State level. So we asked the question, does your region have an MOCC or not, and is it operated by the state or hospitals? We found that 15% of the respondents said that it was operated by the state. Mostly, it was operated by hospitals, but again, it wasn't a majority was just 23%. So it's kind of all over the place.

Also, we asked the question, what is the most difficult barrier to implementing a Medical Operations Coordination Center in my region? And again, you see the responses all over the place, but we were surprised by some of these responses. There were at least some that said there was a lack of interest or perceived need, there was no leadership, there was a lack of financial support, there was unwillingness to participate, there was concern for negative financial impact on the hospital, because you know, a hospital administer may say we will lose revenue, we are already at the brink of closure, we're going to lose revenue if we get rid of

these patients and send them to another hospital, even though clinically, that's the right thing to do, lack of agreement to load balance for a variety of reasons, lack of support from the hospital administration, and lack of support from clinicians.

So, although there's not one single factor here that is screaming out, the fact that all of them had at least some representation is quite concerning, in my opinion. Also, we found that at least 32% of them said that their regions' MOCC had to reach out to other regional MOCCs to try to coordinate patient placement. And I think this has been more true now than ever when certain areas are so badly impacted that there's no hospital, there's no ICU bed in the whole region and so you have go to another region to try to look for a bed. All the more reason that there needs to be more leadership, there needs to be more of this activity happening at a level above the hospital, above the health system, so that coordination can occur. Not only between hospitals, but across health systems so hospital patients are not just circling within the health system and that there's more equitable distribution because I think our data it shows that it's a no brainer that patients will be harmed if we let hospitals overcrowd to extreme levels.

So, in conclusion, high caseload surges can make hospitals into dangerous places. Rapidly expanding bed capacity is a stopgap not a solution. Transferring patients to less impacted hospitals might help load balancing and prevent a single hospital from becoming compromised. Load balancing seems to be under-utilized, and MOCCs could benefit from higher level leadership, and there's a question to all of you, whether there's a greater role for states in load balancing.

I'll stop here. There are a couple other things I want to discuss, but I think I'll open it up for questions in the interest of time. Thank you.

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Megan Wassef: Thank you, Dr Kadri. If anybody has any questions, feel free to put them in the chat or raise your hand and we will answer them.

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Dr. Sameer Kadri:

We'll give a little bit more time for questions, but in the meantime, perhaps I could use this opportunity to share a little bit more information that I think was very relevant that I kind of left out in the interest of time for questions.

So I think there's one question that many of you and many people who work in hospitals and hospital administration are struggling with, which is, my hospital is overloaded, surrounding hospitals are overloaded, should I expand my own native capacity or, should I try to transfer patients to other places? And I think that we have to note that at least our study, which showed these surging hospitals, these hospitals did in fact increase their own capacity. They didn't have a choice. They suddenly quadrupled their volume and they had to make room for patients. And so our study, with the detrimental effect of surging, is a reflection of expanding your bed capacity overnight and going to alternative care sites.

So I think that their message is that there may be harm in doing that. Obviously, if things happen all of a sudden, and you surge all of a sudden, you don't have a choice, you have to keep the patient somewhere, while you try to figure out an exit strategy. So some of it is unavoidable. But, if you get to a point where there's a constant inflow, you're trying to send patients out, but you need to change your process of sending patients out into a turbo mode, you need more help, you need a Coordination Center, you need somebody higher up to help

you with that. This is where I think some centers are doing this less than others, and we feel that it's important to raise situational awareness and awareness that many transfers have occurred for COVID-19 patients across the pandemic and you know, many people have been safely moved. If there are safety concerns, at least according to data, it seems like they are more at risk at staying in a highly overcrowded setting than going to another hospital where there's a nurse to take care of them, there's space to take care of them, and there's more attention that's possible. Obviously, the decision to move somebody is a very clinical decision and you can leave that up to the up to the clinicians.

Two, I think it's important to note that if a local area is very overcrowded and many hospitals in the local area crowded, it is going to be essential to have that higher level MOCC on a State level, or even higher, or at a regional level, to coordinate transfers, because they will have the bandwidth to understand which hospitals are not overcrowded, which hospitals currently have the nursing capacity to handle patients. I think one of the major problems of the delta variant phase is that there may be beds, but there's no nurses, there's no staff to take care of patients. And when you're in that setting, even if you expand your bed capacity, if you don't have the bodies to take care of these patients, there's no point in doing that. If there's no point in increasing your ratios from one to two to one to nine, you ought to do more to try to find a home for these patients elsewhere in the country. And there are areas, not every hospital in the country is full. I think that's really the pitch that I think is an important one to make that's data driven, that's based on this study.

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Dr. Richard Hunt:

Sameer, I might jump in here for a second this break.

One observation, or I guess question I have, you talked about with this study how over time, the impact of surge on mortality didn't seem to change very much. What about like, we made some quantum leaps with steroids and Remdesivir, what about the impact of those? I mean, didn't that decrease the impact of surge on mortality with those, you know, really big advances in our treatment of COVID?

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Dr. Sameer Kadri:

Rick, that's a fascinating question and we did actually address that in our study.

So I think we have to understand the limitation is that it's only data from the first two waves. And so, the only comparison we had was the first wave, the first three months, March, April, May, versus June, July, August. And if you remember, steroids became a thing in terms of saving lives, we first noted that, from the press release in June from the trial. People had already started to use it, but steroids and Remdesivir really picked up in the second wave. And Remdesivir was not very readily available initially, so it was the people in the trials who got it and then, when the EUA happened, it was almost being rationed to certain hospitals and some hospitals didn't have access to it.

But what we did was we looked at our patients that received steroids, and we looked at the patients that received Remdesivir and we found a very interesting finding. We found that the hospitals that had the the highest surges, they also were the hospitals where patients received the most steroids. And so, patients were not dying for lack of receiving steroids. And during the second wave, people also started to receive Remdesivir more often. Now, Remdesivir doesn't

go to the sickest patients, it goes to patients who are on oxygen, but not necessarily on high flow oxygen, and that practice changed over time. But we also found later on the benefit from Remdesivir is more marginal than anything else, and no studies have shown a mortality benefit.

And so, focusing more on the steroids, it seemed like since the more surging hospitals received more steroids, it wasn't like if I was at a surging hospital, I was not getting steroids. And despite that, the mortality risk was higher in the surging hospitals and that gave us the idea that perhaps being a surging hospital dampens the effect of emerging therapies. So, you may use a therapy all you want, but if you're in a surging situation, it may not matter that much. In fact, it may take away the punch or the mortality or the lifesaving effect of the drug because both surges as well as treatments, ultimately you're interested in the outcome, which is mortality, and if you're going to look at both with respect to mortality, and one is decreasing mortality and one is increasing mortality, one is likely going to dampen the effect of the other.

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Dr. Richard Hunt: Sameer, I have one more question then I'll pass it back to our moderator.

Sameer, you are clinically in intensive care units and you also are head of epidemiology there in your section, and when you think about the results of this study, the one in four deaths might be due to surge, the inability to load balance, how does that compare with your clinical experience in terms of, like, the impact of drugs? We're talking about essentially a clinical operations issue, as opposed to individual patient care issues treatment regimens. You know, the news is quick to pick up on the next new wonder bullet drug that's going to cure X. Given those two perspectives that you have, can you put your study in the context of the individual patient treatment and the successes you can have with that with drugs?

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Dr. Sameer Kadri:

Absolutely. Again, a fascinating question, and one that definitely I have struggled with.

I can tell you that in my field, in critical care at least, we have done myriad trials, the NIH and around the world, to try to find out which therapy works better than, you know, whether this therapy works better than that. And in our field, if we see a 5% difference, meaning we have saved lives by 5%, it's like we're having a party. It's a very big deal and it's a game changer and practice changes overnight because you know these are sick patients to begin with, and even if we can try to do a little bit to try to improve their outcome, we're on top of the world.

Now compare that to this, we're talking about 23 to 25% excess mortality due to the way we have allowed hospitals to overcrowd. Some of it is unavoidable at the speed at which patients have arrived at these hospitals, but some of it, hospitals go into this mode when there's the first couple of days when a region is stunned by a very high number of patients, but then they go into the sort of plateau phase where people keep pouring in and the hospital keeps filling up. I feel like you could use the excuse in March 2020 in New York that nobody knew what to do. We're a year and a half away from that, and we have learned so much along the way, and now even from an operations standpoint, how important it is for us to do things at an administrative level and an operational level to really invoke load balancing to avoid the hospital from just getting to those extreme points.

I think one of the things that we all need to ensure happens is that the administrators and the clinicians have to talk. They have to be on the same page. Not only clinicians, I think the nursing staff, or the nursing leadership, the respiratory therapists leadership, the hospital C suite, as

well as administrators and clinicians, have to all have a seat at the table in the discussion on load balancing. The burn or the strain that's experienced by the person who's really caring for the patient at the bedside is something else. I think that their efforts and their strain and their stress needs to be incorporated into some of these decisions that are happening at the higher level. And this is, I think, happening, but it's happening to a variable degree in different parts of the of the country, and some uniformity around that I think is in everyone's interest.

00:47:42.750 --> 00:47:43.290

Dr. Richard Hunt: Thanks, Sameer, and thanks Megan for bearing with me while I was asking Sameer questions.

00:47:50.250 --> 00:47:51.750

Megan Wassef: We greatly appreciated it, thank you.

Dr. Kadri, thank you so much. I just wanted to point out a couple of comments in the in the chat. There have been several comments just noting how great and thorough of an overview this presentation was.

There was a comment that Utah was successful in using load leveling and talking about how essential that cooperation between systems is.

There was also a comment noting that they would love to see a cross reference. This cross referenced with some data on staffing because staffing is this wave's issue, much like it was the earlier wave's issue with PPE. Do you have any comments in regards to those?

00:48:35.850 --> 00:48:36.330

Dr. Sameer Kadri: Absolutely. Thanks Megan and thank you all for those questions and comments.

Utah was a success and there have been a number of other areas that have been successful in doing this. I think that the successes need to be realized, and these successes have to be advertised, because I think there are parts of the country that can learn from these successes. See where what things they're doing right and what they might be doing wrong, for instance. I think, you know, on a more national level, if we can do something even within HHS to try to market, if you will, these successes to show that you can actually do this right, and you can actually make a difference and you can you can be efficient about it. This is new to everybody, and so why not learn from people who by happenstance, happen to do things right. There's no right or wrong here. We're just learning as we go.

To answer the other question, I wish that the data that we are using had staffing data as well. I think one of the issues with some of these large hospital level data sets is that it's linked to either the electronic health system record or it's linked to billing and coding data and unfortunately, staffing does not feature as part of those core data sets. This could be done at the individual hospital or healthcare system level, and I would encourage people who have access to large group of hospitals that have a common data system where you could merge staffing data and hospital bed data etc. together to really help answer that interaction between bed availability and support staff availability, and how they interact and which one's more important and which one might be the actual driver for outcome.

I can tell you that we at NIH are doing a study right now where we are specifically trying to understand whether load balancing, per se, is an important driver for improving survival in hospitals that have already surged. That's currently ongoing.

00:51:18.030 --> 00:51:31.830

Megan Wassef: Great. Thank you so much. I think, with that, if there are any other questions, feel free to put those in the chat or come off mute right now. We'll give just another minute to make sure we get in everybody else's questions.

00:51:35.220 --> 00:51:48.480

Shayne Brannman:

Sameer, I just wanted to say and acknowledge what great analysis this is and research that has been lacking. I just wanted to thank you on behalf of the many health care professionals that have been moving around patient surge and load balancing and the MOCC concept and trying to get that vetted in the C suite of the national and central government as well. So thank you for your analysis, and I just hope this isn't a one and done for you and that you'll continue to advance the research and thinking in this area in the days ahead. Thank you.

00:52:14.610 --> 00:52:20.520

Dr. Sameer Kadri: Thank you very much. I hope to continue this work. Ideally, I would hope to not do this work that there's no need for it, but we live in a different world right now. Thank you, though.

00:52:29.490 --> 00:52:40.170

Megan Wassef: Great. And with that, just again, want to thank you, Dr. Kadri so much for this excellent presentation and echo as everyone said how thorough and helpful it was.

And with that, I believe we'll move into the next slide for just a couple minutes of general questions. If anyone has a general question or question for any of the other presenters, please feel free to put that in the chat or come off mute.

I see the question about the slides being available. We will check and see if all of the slides today are able to be distributed and if so, we will definitely get those to you. There will be a transcript and audio recording from today's meeting available after the meeting.

And just wanted to point out again in the chat, Dr. Kadri shared the manuscript link to that paper if anyone wants to go into that research further.

Alright, so seeing no questions. I'm going to pass it back to Jennifer Hannah who will close this out today.

00:54:00.510 --> 00:54:01.140

Jennifer Hannah: Thank you, Megan. And I just want to thank all of our presenters for their time today, especially Dr. Kadri, thank you so much for sharing your research with us. I think at the top of the meeting it was already stated that you are our first NIH presenter and we hope that we'll have the opportunity to invite you, as well as others, from our sister agency to participate and to present to our stakeholders as well. Thank you so much for the work that you are doing and have done, we greatly appreciate it. And to Shayne as well, as always, for keeping the ASPR TRACIE resources in the forefront of our minds. And finally, just want to especially thank all of our attendees today and for your active participation in today's meeting. Your questions, your comments are greatly appreciated.

So with that, I think we're going to give you back a few minutes in your very busy day. Have a wonderful day, wonderful rest of the afternoon. If you have any questions or anything, don't

forget about the stories from the field, you can send those to hpp@hhs.gov or complete the link for the story from the field submission form. So again, thank you to our presenters and thanks to all of our attendees for attending today. Thank you, have a great day.