Clinical Action Plans and Where to find them - Pediatric Grand Rounds-20250110_082924-Meeting Recording 1-10-25

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Kamat, Deepak M 0:40

Good morning and happy New Year everybody.
It's 730 on time to start our grand rounds. Just a quick reminders. The CME code is in the chart box and also quick reminder to complete the evaluations which daily ascends right after the grand rounds.
It helps me write.
Thank you. Later to the presenters, giving them some feedback from your.
Survey responses.
It's my great pleasure to introduce Doctor Reeves.
Who is associate professor of Pediatrics in Uniform Services, University of Health Sciences and Brooke Army Medical Center.
He is board certified pediatric gastroenterologist practicing in San Antonio at Brooke Army Medical Center and University Hospital.
He also maintains board certification in general Pediatrics and obesity medicine.
He was an early adopter of telemedicine and E consuls. Prior to COVID pandemic.
With research in the field of in the field starting in 2016 with a focus in facilitating home chronic care management, doctor Reeves have extensive quality improvement and research dedication to the enhancement of care using digital communication and E health.
In fact, over the last 10 years, Doctor Reeves has developed more than a dozen point of Care E health solutions, called clinical Action Plans, which make care faster.
More guidance concurrent, safer and easier for providers.
In addition, Doctor Reeves has published more than 30 Pub Med cited articles and

received 3 grant awards in pursuit of enhanced care models.
Doctor Ruiz, thank you very much for accepting our invitation. And the floor is yours.
Thank you.

Patrick Reeves 2:31
Thank you so much, Doctor Kamat and welcome everybody to the talk today.
I hope that this can.
Be a interaction where I can debut some of our tools to the team, some of which, when rounding with the trainees on the GI floor that we've already used in practice, that University Hospital.
But I want to tell you a little bit deeper about what they're all about and hopefully how they can make your lives a little bit easier in clinic and on the inpatient floors.
So let's get started.
Big disclaimer is that some of these works are intellectual property and so.
Please don't use or sell them.
Without permission and then IA prepared this presentation as a part of my duties with regards to the United States military. But none of the things I will say here are the official opinions of the federal government, and I make a couple of JK Rowling, Harry Potter references and.
She didn't approve this presentation either.
OK, so big about me.
I'm a born and bred Texas guy.
I went to Texas am University for undergrad.
I did my residency here.
San Antonio Medical Center.
And so I grew up as a pediatric trainee with the likes of Doctor Hughes.
And then I went off to fellowship at Walter Reed and Doctor Kamat already kind of told you what my research focus has been.
I'm a proud husband and father of two in my hidden talent is that I'm a Carpenter.
OK, so 4 broad objectives for today.
First and foremost, we want to answer the question of why.
Do our patients benefit from the use of clinical action plans?
And we'll talk about low health literacy as a fifth vital sign that's worth measuring in clinic and on the inpatient centers will understand the evidence based behind the development of clinical action plans.

How clinical decision support can make you a safer pediatrician, but also a faster working pediatrician?
And then, because the mother ship is probably going to appreciate higher RVU billing.
We'll talk about how these plans can boost your rpus even for a simple Constipation clinic visit. OK.
So what do we know about clinical action plans?
Well, everyone who has tuned into this talk is probably used an asthma action plan at least once.
And this is an older version from the South San Antonio Independent School District.
And this is really the prototype for clinical action plans where you have this stoplight motif of green, yellow, red with different medications or the same Med at higher doses and frequencies where you escalate care based on a prescribed.
Number of clinical symptoms or signs what we also know is that there are better action plans out there than the one that San Antonio School District has. The one on the left was developed at New York University and was the first to demonstrate the actual devices between Flo.
Albuterol, or the oral medications, and trying to do this in a low health literacy fashion.
You can see in the middle that this is from Children's Hospital of Eastern Ontario.
Medical system where they have both an anaphylaxis and an eczema action plan, and then finally on the right you can see that the headache society has also used pedmap which is a low health literacy migraine action plan.
So these have been out for several years and it just goes to show that asthma is not the only disease process to which you can apply a clinical action plan and where there may be multiple benefits found from using these tools.
So what's the new concept?
Well, you may have heard of health literacy before, but to really just put an exclamation point on it, there's two types of health literacy.
1st is the personal health literacy, and that's really about the patient. And as pediatricians, it's also about the caregiver and the extent to which those caregivers can find information, understand it, and use it towards the benefit of their child's medical care. That's where doctor Google comes into.
Play.
And so when you're giving that preventative counseling and that end of visit

guidance, you want to be able to put your caregiver of this child in the driver seat using only accurate information and not false news. Organizational health literacy involves a degree to which we as long school.
Of medicine, utsca and University Hospital can actually leverage these resources.
In an equitable fashion to help these patients accomplish appropriate health literacy.
Better understand their care and action at home.
And why does this matter?
It matters because low health literacy has been linked to a number of clinical complications, including increased visits to the emergency department.
Longer inpatient stays, poor adherence to complex medical therapies, and higher mortality rate. And as of 2022, the CDC clocked that nine out of ten Americans have limited, aka low health literacy.
Which is below United States fifth grade standard level of reading.
And when we actually address health literacy, there's empowerment of our patients.
They can feel understood and through that, the adherence and clinical outcomes tend to improve.
And so it's not just me telling you this about health literacy. In 2021, the American Academy of Pediatrics released a policy statement that was focused primarily on preventing home medication administration errors.
In that there were many things that were addressing low health literacy, such as providing straightforward and actionable instructions using a universal precautions approach, wherein we assume 100% of patients and caregivers will have low health literacy.
So it doesn't matter if your patient's parent is the chief of Pediatrics.
You assume that they have low health literacy so that we can provide equitable care.
And instructions to all of those who come under our care.
You can see that medication counseling to convey key instructions is at the very top of the list for the AAP.
And so we need to enhance our communication strategies using this universal precautions approach.
And what that health literacy inform strategy involves is eliminating ambiguous instructions like twice a day and instead giving it with once in the morning and once in the afternoon.
Trying to simplify this so that twice a day your patient doesn't take their augmentin at 10:00 AM and 11:00 AM 'cause. That would still be twice a day, but it's not the way

that our infectious disease colleagues would like us to dispense that medicine.
There is a five step process to developing these clinical action plans and we'll go through it very briefly, but it's derived from the clear and simple campaign from the NIH.
You first have to define the target audience and that also involves identifying with the audience. If there's a need for this clinical action plan, is there a gap wherein you're providing standard of care, counselling and instructions and clinic you send the patient out into the world?
And then something's missed.
Something's lost.
They forget, they do it wrong.
Is there a way we could be doing it better and so defining that target audience and then conducting the research allows you to determine if a clinical action plan could help bridge the gap in that disease process.
You develop that process concept for the clinical action plan. You also create the content in the visual design features that.
Will enhance the communication and meet that low health literate patient.
Where they are, and then you test the materials before you roll it out into the clinical setting. And if you're looking for an actual how to I publish this one back several years ago and it's from clinical opinions and Pediatrics, but in essence we go through the same.
Thing we add pictograms which are static images that help to show the patient's symptoms that they should be recognizing or sometimes.
The devices such as feeding tube types and other apparatus.
That are necessary to support the patient at home.
We address readability to make sure that the words and the sentences that are on the plan are at a low enough reading level so as to not be too complex for patients or parents with below 6th grade reading level to understand and will actually test it with parents.
With medical librarians and clinicians through a variety of validated questionnaires.
So that we.
Really get a diverse response.
Group to determine that universally.
We think this is going to be a good idea.
We started doing this in 2015 and really ramped it up.

After that we started with Constipation and then really just started teaming with other colleagues in my Medical Center and across the country. And so far we have published these that you see before you including Constipation, adrenal insufficiency, cyclic vomiting syndrome, asthma and cystic fibrosis.
For me, as a gastrologist, it's important to sort of put stomp that.
It's not just gastrointestinal pathologies that can benefit from clinical action plans. There's chronic conditions across the myriad of disease phenotypes and Pediatrics for which kids can probably benefit from use of these tools.
And so kind of showing you how we did this in 2021, we designed this Constipation action plan and published it in the Journal of Pediatrics using the same steps that I just went over. And then in 2023, we completed our randomized control trial which. Was essentially a sham process where we randomized children and their parents to receiving a Constipation action plan.
Or not receiving that plan and instead getting the standard of care.
Education and counseling that we would normally do in clinic. The clinical outcomes were pretty awesome.
We're able to show that at disease study end, we were achieving the pediatric Bristol Stool Form scale that was desired and those who actually received the plan were more likely to adhere to the therapy for the entire four months and not stop therapy prematurely.
And they were not just.
Qualitatively more likely to adhere they actually adhere.
Here for almost one month greater than those who had been in the control, so that the idea is that giving them this piece of paper may actually not just help them understand, but that will remind them that it's very important to take their medicines.
When we get to patient related outcomes, there are some validated scoring metrics that allow us to do PGI quality of life and you can see that when we compared these patients, there was a significant improvement.
By 11, almost 12 points in the patients who received the plan versus those that were in the control.
So not only are we improving clinical outcomes when the patients or their parent proxy responded to these on a 100 point scale, we have significant improvement in the planned patients.
And then finally, does HCS stands for health confidence score?
It's essentially the empowerment score.

Did the parent feel confident after receiving the plan to make these sort of clinical decisions at home?
Perhaps that included going up on a higher dose, repeating a clean out without asking questions without paging the on call service, and you can see that at study start immediately after receiving the plan.
Our parents were more confident in their controls.
And that was maintained throughout the entirety of the study.
So simple questionnaires, but uniformly showing that a Constipation action plan leads to better clinical outcomes, patient related outcomes and higher self-confidence in parents for the kiddos with Constipation.
And again, this is our prototypical plan right here.
The fun thing that I added after the fact as I sort of push this out to the best of my abilities through the military health system, is the ability to do some automatic dosing.
And so you can see here and I'll do it in a walk through momentarily where you fill out demographics at the top, you can click a couple of buttons based on what you want and it will fill in this whole plan for you, so.
At least at my center, there's no more asking.
What does the GI team think would be an appropriate clean out, inpatient wise or outpatient wise for this patient? Are residents especially have?
Tack on to this, I think and are using it in those instances and then this fun era at the bottom is that the plan ends up reading itself from top to bottom and puts it in a standardized text form.
So you just copy and paste and put that directly.
Into your visit note.
OK.
So let me step out and we will do.
Do a couple of sharing demos, OK?
While I'm opening that up, are there any questions from the group thus far?
No. OK.
Awesome. So we'll just do some quick demographics right here. If you were to click today's date, it always inputs it for you and let's say that this is a January 1st kiddo, and that they're born in 2016.
You can put their MRN right there, and let's say this kid is 15 kilos.
So if you were to use these leftward buttons, it helps you determine if you want to

clean out yes or no, or if you don't want to clean out on the bottom row.
The leftward clicky boxes.
Will basically be Doctor Reeves's algorithm for treating Constipation and so you can see that here it fills everything in for you versus.
If you were to change things up again and say, let's just say this is a little bit older of a patient.
And.
Let's do it like that.
You can see how things change a little bit. So the bigger thing is that there's some cut points on here that are built in as far as weight goes and so they will be age appropriate and weight based appropriate clean out and maintenance therapies.
But let's say because Miralax is our go to laxative, that your patient didn't want miralax.
Maybe they wanted to do.
Milk of magnesia. You could select that.
Right here and then if you're wanting to save time and not look up lexicomp on what the doses and frequencies would be, you just click the right word box and you can see that it fills in for you.
Alright.
OK.
So let me get back to sharing the PowerPoint and then we'll hit a couple more demonstrations here momentarily, OK.
So again showing you what we have, let's go through what some of these before and after effects of clinical action plans are. So some of the more recent evaluations, especially from the American Academy of Pediatrics suggest that 54% of adults have below 6th grade reading level.
In the United States, but all of our clinical action plans have been validated and rated at AUS 5th grade reading level.
Or lower, which means you can probably capture even more adults understanding them.
It's a fact many parents confuse medications, medication doses and the instructions, but that we have many studies thus far with the pub Med ID shown before that, we can increase parental comprehension.
Of the medical team instructions using the universal medication schedule and probably the biggest foot Stomper from a clinical perspective is that many families

discontinue therapies early.
Especially with regard to Constipation, but that the Constipation action plan, probably because of the pictograms and parts greater adherence to the prescribed regimen and 40% of kiddos will fail treatment for Constipation versus 80% treatment success in our cohort.
When we actually look at primary clinical team members, so that's you in the Pediatrics clinic or the pediatric subspecialty clinic. Sometimes you know we unfortunately have a lack of awareness of guidelines when we made our asthma tool that was in order to bridge the gap of unaware of.
The NHL BI 2020 guidelines and so work with a group of pulmonologists on that.
There's sometimes our new providers to the team who may not realize that using.
Acid suppression therapy and infants for reflux is not recommended, and so many of our tools help to provide that as a built in clinical decision.
Support for those specific clinical problems.
There's other times when providers may be uncomfortable and selecting medications or doses such as laxatives for Constipation, or in finding mixing guides for things like.
Recipes for different high caloric density powder formulas.
For infants and children, which our tools can actually provide you at the point of care, instantaneously and then in other times, there are instances when providers are inexperienced with the acute care of different things, like a flare of cyclic vomiting syndrome and how best to manage that well.
In those instances we have a cyclic vomiting syndrome plan that provides a problem based.
Directed goal based therapy in an emergency department.
Department protocol and we've implemented that here at Bamsi to a good degree of success, anecdotally leading to fewer hospital admissions.
Secondary clinical team members absolutely need to be thought of when we're talking about chronic care and clinical action plans because it can be very difficult.
You may have a patient who crosses many different regions as far as care from their gastrologist or their pulmonologist, and seeing a nutritionist.
And so forth. Going from hospital A to hospital B perhaps being seen at Baptist in the emergency department but actually receiving their sub specialty care at University Hospital.
So these action plans can be something that we place into the hands of the family, both physically and digitally, that they can show other team members and provide

that close loop communication for their care setting.
And then finally.
We've anecdotally in the last couple of years received feedback from.
Some home nursing groups that having these clinical plans, especially our Nutrition 1 can be very, very helpful to simplify the instructions to the Home Care nurse and to facilitate better understanding of long term goals for these kiddos.
And finally, we'll go into this in greater detail.
Most pediatric sub specialty phenot will generate around 3 rvus.
This data is about 18 months old, so it may be different now, but when we.
Ran this query and used the solution billing protocol that I'll show you here. You Canmore than double that for the use of clinical action plans and providing the appropriate documentation that goes with that and we vetted this through an outside billing and coding firm. So it really does.
Work and all you have to do is use it and then finally the institution probably likes the idea that clinical action plans not only have the ability to automate the progress note.
But it also after you've used it a couple of times, has anecdotally shown that you can decrease time spent on that encounter by about 10 minutes per patient.
So if you're talking to specialty visit and you're trying to teach new things or doing the same thing over and over for different kiddos, this time adds up and saving 10 minutes per patient can certainly be beneficial in the long term.
So if I didn't say it enough, Constipation action plan certainly work.
We've got a couple of different varieties out there.
This one was from chop from I guess Brooke Army Medical Center and Walter Reed.
This one is from nationwide and this one is from Boston or I think I may have flipped those. In any case, looking at different things, we see that universally clinical action plans directed at Constipation can be beneficial. And you can probably copy and paste that to infer that.
They're beneficial for other disease processes.
As well.
So we'll do a couple of walkthroughs.
Let's say we have an 8 year old male has chronic cough, has had one usage of systemic cortical steroids in the last 12 months, but comes to you for nighttime worsening of symptoms.
And so we're obviously trying to hit at and talk about asthma at this point. And so

let's give a look at our asthma tool, how that might help you out.
So.
We'll just call that patient something, OK and then let's say how old did I say was he was eight?
We'll just, that's about right.
So one of the good things here that you can do is you can put in whatever your clinic or nurse line contact is and that can be an easy way for the parent or even the emergency provider to get back in contact with you and then you can.
Start here.
So we input the patient's age, we start clicking what?
Their symptoms are and it actually takes the.
NHLVI guideline and you could put in their PF TS if you wanted to.
And you hit OK and it actually outputs for you the severity index.
And you can see that I have a guideline check built in that says this patient has persistent asthma and that you should be doing some sort of inhaled cortico steroid for them.
So maybe that's Flovent.
It starts out with the baseline dose that you can certainly edit here, but then you see this QR code that populates and what that does is.
Based on the different devices.
That we have, and there's probably about 8 total devices, something like 50 different medication and shrinks in this built in formula. It actually links you to a YouTube video that shows the patient in real time how to use the device.
So let's say that you are in the general Pediatrics clinic and you're trying to refill a medication that pediatric pulmonology order, but.
You've never used it before.
That might be a problem.
And so you can actually.
Do this, so maybe we're talking about dulera.
You could do that.
You could do the Brio.
And it will actually bring up the video specific to that device. If it's different than their typical HFA, and you can watch it if you need to before you do your instructions or watch it with the patient and make sure that they understand how to actually use this.

You can see that we've appropriately at least met the need for smart on this patient, and then you can add whatever other albuterol you need and so on and so forth.
And if you click a second medication.
It will populate a second video to go with that here below because obviously these are two different devices used different ways.
All right.
All right, so we got through that.
And so this again was a really fun project that we did kind of me gastrologist stepping out of my comfort zone. But working with a great team of physician scientists and pulmonologists back in, I think, 2023 is when this finally published in print, but this is.
Really, where the the heart of these action plans really starts to come alive is when you have medically complex kids like those with cystic fibrosis.
And so just kind of imagine this, you've got an 11 year old male with CF who's pancreatic insufficient is underway.
It's poor medication adherence, which is very well described in the CF population, and they need a care plan. And so this is one that we did with a whole group of pediatric GIS, pediatric pulmonologists and looks a little bit like this. But the fun part is is on.
This plan.
You click this button for CS medication selection and you actually can click.
The different classes of medicines that they need, because what's been shown is that because there is necessary polypharmacy and cystic fibrosis, they're going home with a whole bag of different meds.
It takes a lot of good education and repetitive education so that these patients can keep this sort of thing straight. But what can often times be the issue is we provide these patients and clinic basically a restaurant menu where all the options are out there.
We start circling things to say. Oh, you're doing this?
Not the other 50 things on here.
Our CF action plan helps to clean that up and make it a little less clunky by only displaying the medication classes, options, doses, and frequencies that they actually need. And then what we end up doing too is we teach these patients, especially with regards to their pancreatic en.
Replacement therapy, not just what they should be doing with meals and snacks, but

what their Max number of capsules per day is based on the units per day maximum that they should get.
To prevent that sclerosing colonopathy so that if they have a triple cheeseburger as compared to a normal meal, they know that they should increase their pert for that one time.
OK.
So this was also a fun one that kind of got developed. Unfortunately, after we started dealing with some early onset inflammatory bowel disease in my fellowship, we had a kiddo who was failing in Flexib failing beat Alyssa Math and was steroid refractory for her ulcerative colitis and as.
You might imagine became adrenal insufficient because of the frequent use and high dose chronically of steroids, and so out of that came the need to team with.
Our pediatric endocrinology colleagues for adrenal insufficiency and I'm not sure how many of you have been in this space before, separate from the endocrinologist, but this actually is for me a really scary thing because you have these patients who are going to need to have a certain amount.
Of maintenance, but also stress those steroids and a lot of the time that leads to a great deal of time spent writing.
Medical letters by the pediatric endocrinologist.
The patient carries with them for a long time.
It also involves a great deal of complex calculations taken from body surface area to figure out what the milligram per meter square per day total daily dose should be and what the stress should be.
So this action plan was designed to facilitate all of that and hopefully make it instantaneous. So all you end up doing is enter weight and height and your body surface area is automatically calculated.
It shown for you and then you can actually do the drop down of what you want your milligram per meter squared per day is and it outputs for you in this box. And then you just simplify it. If you have 10 milligrams per day, maybe you're doing a.
Single 10 milligram tab.
One tab once every morning.
The other great thing is it provides a touch point from the endocrinology team, not just to.
Educate the patient on when to use the solu cortef injection.
For the red zone, but also to provide specific instructions A.

Should that patient have a surgery or need to undergo sedation for things like an MRI or if they arrive at the emergency department?
So we've seen some.
Some really, really good response from our endocrinology teams using that, especially here at Bay MC recently where we have one pediatric endocrinologist managing all of our kids with endocrinologic problems.
We do have some new kids on the block. Not all of these are completely fleshed out, but they're all exciting in my opinion.
It's like having children every time you you make one. We've got the nutrition action plan, which I'll show you here after a second.
We've got an ostomy action plan.
This has been really helpful for our kiddos and the NICU, who might have had necrotizing enterocolitis and have a diverting small bowelostomy of some kind.
It's also been helpful for our kids in the pediatric colorectal center.
We also have a fairly well fleshed out.
Abdominal pain action plan which between you and me is really just functional abdominal pain and durable bowel syndrome.
I've been in the works with children's mercy on a hearse, spring associated, endorse action plan, and we also have been teaming with nephrology, cardiology and also developing a disabonamia action plan for postural orthostatic tachycardia syndrome because.
Yes, pots. It requires a lot of education for the families.
Good gracious.
I'll debut this nutrition action plan next, but basically just the take away from the static image.
Is that from top to bottom? We try and summarize what the two feed plan would be for this patient, but also trying to show you that it's not just for those who are doing 2 feeds. If you have a baby who's failing to thrive, that's going to be.
On a high caloric dense pattern formula, it helps to talk to the parent about what the caloric density is, what the formula is the recipe.
The displacement and how to actually get it into that baby.
It is again very helpful for two kids changes between pediatric and infants instantaneously based on age and also has a backside if we're going home for any reason on central line pernal nutrition, whether that's full TPN or partial parenal nutrition.

OK.
So this is a kiddo that I shared with the UH team, but it's actually a couple of years ago she came to me as a three month old female with ag tube in place.
She had AB T shot, placed, had reflux calciuma protein allergy, as well as being very under weight, core adherence and really needed a care plan. And you can sort of see what her tool ended up being.
We had alpha Mino 27 K cow.
She already had ag tube and so you can sort of see.
That image there.
The tool provides the ability to say not just what type, but what size of tube and it leaves you a space for the home nurse to tell them how much fluid to give with each medication.
Plus, because especially with our cardiac babies, we don't want them giving 1000 MLS with every medication because we don't want to induce some sort of heart failure.
The plan itself can be really helpful for those kiddos who have been.
Dealing with gastroparesis.
This would been intolerant of two feeds because you can provide that slow up March of two feeds to them directly on this plan without having to change the nursing orders each and every time.
The really great part about it is when you click the down box for Alpha, Meno, junior or sorry, Alpha Meno, it gives you the recipe automatically and then as you type in the meal volume and the frequency, it completely calculates the total daily volume.
The daily freewater D.
From this and maybe you add some to account for your water flushes and it will calculate the K cow per kilo per day for infants or the total K cows per day for pediatric patients.
It also gives you that proportion of PO, since hopefully for safe patients who are not enter a great aspirators. We're certainly working on the the Po.
Let's sort of do a flip side and say we have a six year old male with a total chronic hirschhrung.
Unfortunately, this patient of mine before I inherited him had multiple ileostomy revisions and episodes of her spring associated in her colitis.
And so he came to me with an ileostomy and was pernal nutrition dependent.
And so this is what his tool looked like.

So you can see it's similar in its features, but different. Specifically in the pictures we provided.
Keithan alpha me know Junior this one. So the recipes a little different and you can see that we're slowly up titrating his continuous feeds.
It provides us an ability to again give that instruction specifically with regards to the ileostomy output.
That's a vital sign.
And then the medicines that he's supposed to be taking this action plan is also helpful because it provides that yellow and red zone so that there's hyostomy output, which for this patient we would say is the harbinger of her spring associ.
Colitis or just enteritis? I guess we would start flagile empirically.
You can see here to that we have the ability to capture his pernal nutrition feeds and so we can put the recipe in here if it's a changing recipe based on the days, whether it's smooth or no smooth, you can enter that.
He was a very fragile patient, so I just put calls for everything and then it again gives that emergency algorithm approach. I tell the ER what kind of line this kit has.
And what to do if he comes in with a fever?
One of the new kids on the block that we haven't really talked about is Alageal syndrome, and really this for me. I started developing after I was working on the liver transplant unit.
It's not really ready for prime time yet, but you can see that Allageal syndrome, chronic liver disease and Pediatrics. They have a lot of medicines, a lot of different things they're doing. And so probably there is an element where this could be helpful as well.
All right, before we jump into that, I'm just going to show you.
What the nutrition action plan can do, and then we'll have a fun time with some billing things.
So I guess I'll show you the adrenaline, fish and action plan.
This is not going to be clinically accurate, but let's say we want 1 milligram per meter squared per day. That body surface area rounds down to one.
So one and you have one, let's say you wanted 15 and that's going to be our 21 milligrams.
And so you would just do that based on however day you wanted it. If you didn't want milligram per meter squared per day, you could just say what you want, the total daily dose.

To be in milligrams.
And so if you do that, it actually reverse engineers it for you and tells you what your target is.
So if you wanted 10 milligram per meter squared, maybe it would be like 14, OK. And then you can do that for the same tier for the step up zone for stress dosing.
All right.
And so this is just our example here.
Of what?
The older child version looks like and you can see here that it's just a drop down with lots and lots of different formula options.
All of this is imported data from the Academy nutrition dietetics, so we're using validated mixing guides and so let's say we're doing Alpha Mino Junior.
Or we can do.
Let's do neocate at 34. Kick out? Sure.
Sometimes you have to reset so it can cooperate with you.
Multi today's date, we'll say they're 20 kilos, OK.
So you can see here that if we do neocate junior AT34K cap per oz, it's 9 scoops at 7 1/2 ounces of water, and then the displacement. So the actual recipe doing this once will make 272 M LS per.
Mix and this can be really helpful when you're trying to give people an idea of how many mixes per day they'll need to feed their child. If you're dealing with.
Instead of Empirics, you want MLS.
It can certainly be.
Be done as well.
And So what we'll end up doing here is adding.
Ag tube. We'll say something like.
240 M LS and we'll do it eight times a day.
That's kind of outrageous, but we'll do it anyway. You can see how it already calculates based on the free water content of that 34 K Cal per oz formulation, what the free water is, what the total volume is, and how many calories.
So if you want to even put it on the pump.
Or make it a gravity feed. You can do that so that maybe you say to your parent. I want the pump rate to be 200 M LS per hour.
We have free text space here for all sorts of fun things. You can show the reflux, CPG if you want it.

This takes you to the Aspen website to show you all the approved FDA formulas. Iddsi if you need to refer to that for aspirators with your speech pathologist and really a button just to select different things.
So whether we're doing Ag two peer you see the G2 boy.
Or maybe we're doing GJ feeds like I've seen frequently on the University Hospital. You get the kid with the GJ. We sure hope that tube is postpyloric, because if they're in the yellow zone, it may be coiled.
I had a really fun time making that.
It was cute for me.
And then I'll show you on page 2. This is where the parental nutrition comes in.
So it can be really helpful again if you're trying to say you know.
This is what the pump might be, and this is an image of an older pump and a lot of them now come with.
Locked in settings and so home nurse really just hit start, which is totally fine. But if you wanted to include a second pump, you certainly could. If there are two bags that are going.
Or you could have this here.
You could delete this and put the whole recipe. Is maybe your kids travelling or you need them to have the recipe then that works and then your ability to say OK I don't want a yellow zone because it's a fresh line.
Or maybe this family is less reliable?
Or maybe this is a teenager with short bowel syndrome?
There's always had a central line, and they're they're good to go. And so you want to make sure and provide them the ability to address some of these central line associated clinical signs at home.
Again, the best part for this plan, and it's not gonna be completely perfect because we haven't filled everything out.
But this plan will take everything that you inputted and will output it for you in a standard progress note.
So you don't have to duplicate your work and most of our plans actually have this little text box at the bottom where it reads it and outputs it for you.
So if we'd entered a name, it would say what the name was, calculate the age takes the weight.
All that great stuff.
Alright.

So we are on the downhill slope here, y'all.
I appreciate you sticking with me.
OK.
Last piece is billing and coding strategies.
So we've talked about the why we talked about the what and how to use these clinical action plans.
But I think the question of where do you see the bang for your buck is on RB US?
So this is taken directly from the American Medical Association CPT Manual.
And what it would say is that for the chronic care of patients, there's really two main classes.
One is a visit where you're addressing 1 chronic condition which they termed as principal care management, or when you're addressing two or more conditions which they've defined as chronic care management. And so you would still do your regular visit code.
Maybe this is a very complex.
You know, hour long follow up visit in the specialty clinic you would.
Complete your action plan, do your counseling, and then follow this algorithm.
So let's instead say we're dealing with that young lady who had ulcerative colitis and adrenal insufficiency.
So that's two conditions that I'm helping to address.
I come down here and I'm the physician.
So you can see that there are some time rates that are associated with this.
So if I spend.
More than 30 minutes developing a plan and teaching that plan to this patient.
And I would capture one code, the top one either 99491 or 99487.
Which gathers my reviewing of the records separate from the exam and developing the care plan for this patient. The 97535 is a procedure code for counseling and teaching, so I not only develop the plan, I taught the patient how to use it and the.
I had a four that I've used before that I think makes better sense is I not only gave I created a fishing pole, I tied my lure and my hook to the fishing pole for the patient.
But I also taught them how to fish. So that is the.
You want to have both CPT codes in there to capture the work of creating the plan and teaching them how to use the plan.
There's other opportunities in here that I don't really use in my own practice, but you certainly could clinical staff driven so your RN, your lbn, your MA, there's additional

workload you can capture here.
So if we created the asthma plan and we've taught them how to use the asthma plan, but we want to capture the nurse going over how to use.
The inhaler device.
This is what you would add to it.
And so we'll go through a couple of these real quick.
So let's say we're in the general Pediatrics clinic.
We have just one problem.
It is Constipation.
We've created it.
We've taught them how to do it based on the algorithm you would hit that visit code.
Maybe it's a 99203. The 99424 is principal care management.
So just one diagnosis and we top them how to use it, which is the 97535.
So I'll show you again. Constipation only just one visit.
OK.
We spent more than 30 minutes of time, which is required.
Cool. So 30 to 59 means a 99424 and we added the teaching CPT procedure 97535.
And again, we've got this complex kiddo with the G tube. She's back, right?
So we're doing a multidisciplinary plan on her and so we've got multiple visit diagnosis that we're going over.
So we developed a care plan.
Plan. We did the follow up code.
She's got two or more, so that's the 99487.
And we taught her how to use it, which is the 97535. The one other caveat, I will say that the AMA still has in place is that you can use these for one calendar month.
So from an informatics perspective, if you were trying to position yourself in a multi disciplinary clinic to capture the most relevant number of rvus, what I tend to do is.
I'll see these kids in my complex medicine clinic.
We will start the plan and then maybe two or three weeks later going from January to February, I'll have a virtual follow up with them and I'll tinker with it, change what needs to be changed.
Update what should be and I get to bill the same thing all over again, right?
And the good thing is, is this old text box captures all of the jargon that is necessary for the billing to be.

Reinforced on that perspective.
Similarly for kids with cystic fibrosis. If you're in the cystic fibrosis center, you have that same idea where you have a follow up visit code more than one diagnosis.
So the 99487 and the teaching code 97535.
All right.
So that's all I've got for you. The big conclusions are that we recommend using the universal precautions approach that comes for me from the AAP, from the CDC and NIH clinical action plans have research been proven to be effective.
We have lots of pH, GI and non GI focus tools and this space is really ripe for more research and investigation.
So if you're a trainee who wants to look into this, feel free to shoot me an e-mail.
And I will end there and take any questions.

Kamat, Deepak M 48:39
Thank to take it up, the reviews for teaching us about clinical action plans.
A wonderful presentation.
There's already a question in the chat box from the.
All the action plans templates available at UHS or proprietary, if so, are blank forms that can be developed in house or different disease processes and specialties.

PR

Patrick Reeves 49:02
Great question.
So they they are proprietary, it's been weird.
I I didn't expect this, but the firewall at university prevents accessing Gmail and I host these on a Google site so it it tends to be sort of difficult, but there's definitely an ability to team and partner and figure out if we want to make these, I just.
Haven't taken that step with University Hospital, but if, if you are interested in doing so, feel free to shoot me an e-mail.
And we can hopefully create something exciting.

Kamat, Deepak M 49:38
Other questions?
Comments for Doctor Reeves.
So Doctor Wood is asking any data on whether Medicare or Chip will pay for those billing codes.

Patrick Reeves 50:07

So I don't have specific research to show that they will pay for it because I use these primarily in the tracker setting and so it's not really an rbu based system right now. I can go through business OPS and show that yes, they did award me more R.
For my Constipation visit than my partners who may not use it every time.
I had an outside billing and coding firm that AAP and NASP began.
Have hired on multiple occasions to vet that algorithm and there are a couple of different static sort of text that you put into your visit that I can share with you if you're interested that really reinforce the need for them to be build or sorry to be comp.
For by Medicaid and Chip.
But at least this outside billing and coding firm who?
That's how they make their living. Said that yes.
This is absolutely the ticket.
Let's see. Doctor Garza, did you have a question?
I just see sometimes.
Oh, OK.

Kamat, Deepak M 51:39

Doctor Janet Williams is asking a question.
Are these plans templates consistent between inpatient and outpatient here at UT?

Patrick Reeves 51:50

I exclusively work on the inpatient side at UH, so the half dozen or so times that I've sent some kiddos home with this, we've used it inpatient, but most of the time these are being employed from a discharge planning perspective.
So hey, we are sending you home on tube feeds.
Here's your nutrition action plan or.
Hey, you really need to address your Constipation.
Here's your Constipation action plan.
After we've cleaned you out, here's the clean out you should do at home.
So they are consistent in that regard. What I would say is we also for any of the hematologists in the audience, we have a sickle cell disease action plan that I created with children's. National has a really robust sickle cell disease population. That plan

was really supp.
To be just outpatient because they have a completely different.
Inpatient and ketamine based.
Protocol that they employ for in patient, sickle cell pain and base occlusive crises.
So not all of them are 100% consistent. Really the ones that you could use inpatient or outpatient are going to be your garden variety, Constipation, asthma, things like that.

Kamat, Deepak M 53:17
Any other questions, comments for Doctor Reeves?
I don't see anything, Doctor Reeves.
Thank you very much for is you getting this and clinical action plans to truly appreciate it.
Thank you all for attending this morning's grand rounds and please complete the evaluation delay. I will be sending them pretty soon.
Thank you.
Have a wonderful Friday and wonderful weekend.
See you again next Friday at 7:30 AM.

Patrick Reeves 53:55
Thank you so much everybody.
Have a great day.
All right. Doctor Kamat, you have a good one.
I'm going to jump off.

Kellogg, Nancy D stopped transcription