

TRANSCRIPT

Guideline-Based Alerts in the Electronic Health Record for ASCVD - Transcript

00:00-01:08

Narrator: The 2018 American Heart Association/American College of Cardiology Guideline on the Management of Blood Cholesterol set a new emphasis on patients at very high-risk for future atherosclerotic cardiovascular disease or ASCVD events and appropriate guideline-directed therapies based on risk. We aim to have constructive conversations about caring for these patients throughout the continuum of care for longer, healthier lives.

In today's conversation our guest will discuss the topic of alerts in the electronic health record to aid in guideline-directed medication therapy for ASCVD.

The opinions expressed in this podcast are solely those of the presenter and not necessarily of the American Heart Association/American Stroke Association (AHA/ASA). The AHA/ASA does not endorse any specific products or devices.

01:09 – 02:27

Natasha Chiofalo: Hi everyone, my name is Natasha, and I am a Program Consultant in Healthcare Quality at the American Heart Association.

I am happy to be with Ralph Riello III, who is a PharmD and board-certified clinical pharmacy specialist with expertise in cardiovascular critical care, previously embedded within the Coronary Intensive Care Unit (CICU) at Yale-New Haven Hospital for over six years. He currently teaches several pharmacology-related lectures for the Yale University Physician's Associate Online and Traditional Programs as well as the Yale School of Medicine. Dr. Riello is also an integral member of the



Clinical and Translational Research Accelerator (CTRA) where he is an investigator on many innovative and practice-changing clinical trials in cardiovascular, renal, and metabolic disease.

Hi Ralph, thank you for joining me today. We are really excited to have this conversation going, as many healthcare systems are always looking for ways to streamline their processes. The topic of alerts piqued our interest because there are so many other alerts that compete for provider attention. And there's a phenomena of alert fatigue, as well. So, Ralph, I will let you open the floor and introduce yourself to listeners.

02:28-02:59

Ralph Riello: Thanks so much for extending the invitation to join you in the podcast today, Natasha. Briefly, as you mentioned, I am a clinical pharmacy specialist, and lately, I have been working on a lot of implementation projects through Yale School of Medicine with my research team at CTRA, the Clinical Translational Research Accelerator, really focused on using the EHR as a tool rather than a barrier to help facilitate clinical workflow and close gaps in care for patients with atherosclerotic cardiovascular disease.

03:00-03:22

Natasha Chiofolo: That sounds amazing Ralph, especially since EHRs are so widely used now in healthcare. This is such a timely topic. For those tuning in who may not have seen the featured presentation at the 2022 American Heart Association Conference, can you please explain the objective of the PROMPT-Lipid Trial and summarize the key findings?

03:23-04:43

Ralph Riello: I certainly can. So, the PROMPT- Lipid Trial was designed to evaluate whether automated electronic alerts that focused on providing recommendations for guideline-based lipid lowering therapy can help improve the management of patients

with established, very high risk atherosclerotic cardiovascular disease. The best practice alert intervention that we studied was actually associated with about a 40% increased probability of providers who saw the alert to follow those guideline recommendations and intensify lipid-lowering therapy consistent with those latest guidelines. You know, compared to usual care or no alert. And this was an entirely decentralized EHR-embedded, randomized controlled trial. Among our providers who meaningfully engaged with the alert, so in other words, didn't dismiss it immediately, we actually saw an even greater benefit out to six months with their patients being twice as likely to receive a high intensity statin, five times as likely to be prescribed a PCSK9 inhibitor, and importantly, about half of those providers who saw the alert made some sort of positive, consistent with guideline lipid-lowering therapy change, right at that very moment—at the point of care, with the patient.

04:44 -04:59

Ralph Riello: So, it's our hope that all of those improved process metrics for following the guidelines, intensifying lipid-lowering therapy, you know, will help us achieve our goal of having our population of ASCVD patients with their LDL below target as recommended by the guidelines.

05:00-05:14

Natasha Chiofalo: Well, this certainly sounds promising. As we all know, that adherence to guideline-directed medication therapy is a critical component of secondary prevention for ASCVD. Can you tell us how your team approach the topic of guideline adherence for ASCVD?

05:15-05:54

Ralph Riello: Yeah, I certainly can, and I think that gets a lot of the motivation for why we even conducted the study in the first place. As I'm sure you may be familiar, there is a vast evidence practice gap for even patients with the highest risk of atherosclerotic cardiovascular disease. It's actually frightening that only about half of patients with established ASCVD are prescribed any statin at all. And these are patients with a

history of heart attack, a history of stroke. And furthermore, fewer than a quarter of these patients who should be recommended to be treated with the highest intensity statin are actually prescribed that therapy in real world practice.

05:56-06:35

Ralph Riello: So, as it currently stands as a clinician on the front lines, I think it's clear that passive diffusion of these guideline recommendations, you know, hoping that that trickles down to the providers when they're, you know, in the office setting with their patients is not enough to overcome clinical inertia. And that really gets at the crux of why we conducted the PROMPT-Lipid Trial in the first place. You know, to test it to see if we can disrupt that usual practice of, you know, clinical inertia, barriers in the EHR, to actually flip that on its head and use the EHR as sort of an innovative tool to help coach providers to make more evidence-based treatment decisions around lipid-lowering therapy for the highest risk patient population.

06:36-07:01

Natasha Chiofalo: Absolutely, Ralph. And I will say that health care providers are no stranger to alerts in the EHR. In fact, alerts, there seems to be alerts for almost anything and everything. So, would you say that alerts are overused to the point that teams experience alert fatigue? And can you speak about how you saw, observed this, and overcame this challenge? And if there are any differences in alerts for inpatient versus outpatient settings?

07:02-07:32

Ralph Riello: Yeah, all great questions that I think really address one of the fundamental challenges of you know, doing these sorts of EHR-embedded studies in

the first place is that, you know, surprisingly there's no standard for implementation of EHR-embedded alerts or best practice alerts in general. And even clinical decision support tools very rarely are they ever subject to any sort of, you know, rigorous clinical investigation, in order to sort of prove in a prospective trial that the alerts actually do what they were intended to do.

07:33-08:02

Ralph Riello: Unfortunately, the majority of the EHR alerts, as I'm sure many frontline clinicians will agree, is that they're deployed in the acute care setting, and they're purely informational. So, they're not necessarily very actionable. So, the majority of those alerts, you know about a 90% or more of them are actually ignored or immediately dismissed by providers because they don't see them as clinically relevant, or you know, actually influencing clinical decision making. And I think that's one of the major contributors to alert fatigue.

08:03-08:37

Ralph Riello: And unfortunately, that comes with some patient safety concerns as well, especially if providers are missing important messages. And it even contributes to provider burnout. So, you know, rather than direct our attention to the inpatient setting where you're competing with, you know, flu vaccine alerts in peak flu season as we're currently in now; we decided to take a more outpatient approach where there's far less noise with regard to ongoing best practice alerts. And honestly, that's where our ASCVD patient population is most stable anyway, and perhaps more ready to accept new pharmacotherapy recommendations: stable and in that outpatient setting.

08:38-09:27

Ralph Riello: So, it's a little bit of a less sort of closely monitored environment. But we saw it as an important opportunity to deploy our best practice alert to help providers engage with these guideline best recommendations. And, you know, keeping in mind that we designed this alert to only fire, you know, when a patient with secondary prevention ASCVD was not at their target LDL goal and not on optimized lipid-



lowering therapy. So, it really only fires at the point of care while the provider is already adjusting medications so that sort of psychology of “I want to make a change” is already there, and it only will trigger when an actionable change is indicated and necessary. And remember that this is life-saving medications. So, you know, we want to encourage these providers to use them whenever they're appropriate. And I think the results do corroborate that.

09:28-09:47

Natasha Chiofalo: I'm sure many of our listeners know exactly what you're talking about, and you've already discussed about some of the benefits of successful alerts. Did you notice any other benefits like physician satisfaction, patient outcomes, better patient care? Did you observe any changes in your data?

09:48-10:33

Ralph Riello: Wow. We certainly did. And I think that was one of the biggest surprises and takeaways because I think, you know, best practice alerts in general come with this stigma that, you know, they're all annoying, they're utterly unhelpful. And clinicians tend to be, you know, very skeptical of new alerts. In fact, a lot of health systems are actually rolling out initiatives to de-deploy a lot of alerts that have already been, you know, firing at their system because alert fatigue is a real concern for them. But I think what made our study different and, you know, sort of the secret sauce, if you will, of why we found it so effective was that early in the best practice alert design and development process was we engaged frontline clinicians who actually saw the most, very high-risk ASCVD patients, and we were pretty intensive about how we went about that.

10:34-11:22

Ralph Riello: We polled our highest volume PCSK9 inhibitor prescribers because we figured those were the clinicians who really took the extra step to make sure that non-statin therapies were being prescribed to their highest risk patients. And we would value their input and their feedback in the development of something that we hoped

would help enhance rather than hinder their clinical workflow. So, we actually gathered about ten to 15 of those providers across a couple different focus groups where we all brainstormed together and really gave them a voice. Gave them a seat at the table to contribute, you know, down to every last detail of in what circumstance will the alert fire? What laboratory values will it display? In what order will the medications be listed? Some of that fine-tuned detail and some of the providers are really excited that, you know, no one's asked them before to contribute to something like that.

11:23-11:57

Ralph Riello: So you know, they felt like they had some skin in the game, and much to our surprise about 80% of these providers, you know, actually said that the alert was very effective at accomplishing what it was intended to do. From the provider-perception side that's among the highest I've ever seen published. So, you know, it's amazing. You would think something so basic, engage the providers who do the most clinical work in that space to have some input on designing an alert in that space. I think that's a really good approach that others would do very well to take into their own practice if they're considering another initiative sort of like this.

11:58-12:17

Natasha Chiofolo: Absolutely. And that's so critical that you took feedback from your users. You know, your users are going to give you the best feedback since they're utilizing EHR every day. Do you have any advice for our listeners who are interested in implementing this at their own site?

12:18- 12:53

Ralph Riello: Yes, I certainly do. I think we learned a lot conducting all of the PROMPT Trials. You know, now we finished Prompt HF, Prompt Acute Heart Failure as well, on the inpatient side. PROMPT Lipid. And they've been successful. But it truly takes a village to tackle an initiative like this. And really, I think the most fundamental thing that you need is a strong multidisciplinary clinical team of those same sort of front-line provider, stakeholders who are really immersed in the disease state. I mentioned,



we pulled the highest volume PCSK9 inhibitor prescribers, and that was intentional because we know they're immersed in care.

12:54-13:22

Ralph Riello: They spend the most time with those patients, and they should be involved in that development process. On the technical side, you also need IT specialists who are capable of sort of taking that feedback in and actually building the alert around all of those comments and suggestions and making sure that, you know, you test the alert too, before you deploy it. So, our recommendation is usually to run the alert in silent mode to ensure, you know, quality assurance. It only fires when it's supposed to and does not deploy when it's not supposed to.

13:23-14:28

Ralph Riello: And that will help also limit the alert fatigue. You know, the alert actually does what you wanted it to do, when it's supposed to do so. You know, it's also critical, really, to have hospital administrators and leadership buy-in. And they need to sort of endorse this practice of EHR optimization and see the value there. Because it is a fairly, low cost of implementation, but this sort of technology can be rapidly scaled across, you know, any integrated health system or learning healthcare system that's up and running on the same EHR platform. So, as long as you have some providers who, you know, are "believers" in the EHR as a tool, rather than a barrier, and you are willing to let it help guide quality care and clinical decision making to evidence-based treatments when we know there are huge gaps—and not necessarily the alerts infringing on their autonomy—but just knowing that this is such an important disease state that needs to be optimized. And we need to use every tool at our disposal. And last, but not least certainly, I think a robust quality improvement team is absolutely critical to ensure that, you know, after implementation, the alert is live.



14:29-15:12

Ralph Riello: You know, you're tracking it in real time, and that's a continuous quality feedback loop to make sure that, hey, your provider stakeholders are still happy with it. If there are subsequent suggestions for how to optimize it further that you take those into consideration. And of course, that you track that the alert was effective. So, you know, are patients being prescribed more guideline-recommended lipid therapy? Are their LDLs, you know, approaching goal as time goes on? All of those things sort of come together to create, you know, it sounds like a huge team, but a host of experts really working together to use the EHR as a tool to close this practice gap in ASCVD. And it certainly worked across our health system. But we're excited to help share this technology with other systems and expand our findings to see if they work elsewhere.

15:13-15:44

Natasha Chiofalo: Well, Ralph, this is certainly so helpful as I'm sure a lot of systems have been trying to find solutions to these common everyday problems. You've given us certainly compelling evidence as to some of the benefits for creating tailored alerts, especially for ASCVD. And that is the intended goal at the end of the day. We use technology to streamline everyday processes. So, you certainly gave us a lot of tips on how to make this happen. Ralph, it was exciting to learn about your research into electronic health record alerts and what makes up a successful alert. Thank you so much for doing this type of research.

15:55-16:19

Ralph Riello: Thank you so much for having me, Natasha. It was a pleasure talking EHR and ASCVD care with you today. And if I could just leave our listeners with one last message, it's that we should view the electronic health record as the only provider in the entire health system that sees every patient all the time, and it presents an opportunity to use that to improve care.

16:20-16:35



Natasha Chiofalo: Well, for our listeners out there who would like to learn more about Ralph's work on PROMPT-Lipid, you can learn more about all this research being done on his page at www.theprompttrials.org.

16:36-16:57

Narrator: Thank you for joining us. This podcast is supported by Novartis, a proud sponsor of the American Heart Association's Integrated ASCVD Management Initiative. Learn more about ASCVD at www.heart.org/ascvd.