

*John Clymer:* Thank you, Doctors Watson and Ferdinand. You may recall that last year Hilary Wall and Warren A. Jones had a conversation about solving barriers to self-measured blood pressure control. Today, they are going to update us on progress in the last year. Hilary is a senior scientist in the Division for Heart Disease and Stroke Prevention at CDC, and the science lead for Million Hearts. Dr. Jones has headed TRICARE, worldwide, and Medicaid in the state of Mississippi. He has served as president of the American Academy of Family Physicians, Associate Vice Chancellor of the University of Mississippi Medical Center, and NIH Endowed Professor of Health Disparities Research at Dillard University. He is the immediate past chair of The National Forum. Dr. Jones?

*Warren A. Jones:* Well, John, thank you so much for that warm introduction. And Hilary, I'm so happy to be here with you again, as I've shared with you before, when I'm around you, it makes me feel a lot smarter.

*Hilary Wall:* *[Laughter]* Well, I always enjoy chatting with you, Warren.

*Warren A. Jones:* As we talk, today, we're going to talk a little about self-measurement of blood pressure. Okay? But most of you are aware of self-measure blood pressure monitoring. Please give us a brief overview, and share what you think and when you think it's indicated.

*Hilary Wall:* So, and you know, last year, I had an opportunity to talk to the national forum about self-measured blood pressure monitoring. This is one of my personal favorite topics to talk about. And just to remind folks, self-measured blood pressure monitoring, or SMBP is really the measurement of blood pressure by a person with hypertension, outside of a clinical setting. And it certainly can be at home, but we also like it to be more open if somebody wants to take their blood pressure while they're traveling. Or if they work, maybe a night shift, and they want to take it while they're at work. You know, that's why we like the more inclusive term of self-measured blood pressure monitoring, versus just home blood pressure monitoring, which is another term it's known as.

I do want to say a minute about the fact that SMBP is not remote physiologic monitoring. This has been sort of a hot topic, since the public health emergency happened. But CMS, this is a very specific service that CMS reimburses for. And it has some very strict monitoring requirements, and that's really not aligned with the ad hoc or as needed basis of SMBP. So as folks likely know, SMBP is really indicated for confirming a new diagnosis of

hypertension. It's also used in monitoring changes to a medication regimen.

So if a clinician adds a new medication to a patient's regimen, or up titrates an existing medication, SMBP is a great way to monitor the impact that those changes have on his or her blood pressure. And so we'd want to see that monitoring happen for a week, or two weeks, maybe additional adjustments in the medication regimen are made. And we'd want to continue SMBP, essentially, until that patient is brought to control.

And then they can pause for a while. They can resume their life. They can continue taking their medications as prescribed. And then their clinician might say, "Well, gee, I'd like to see you in the office for a follow-up visit," or maybe there's a telemedicine visit. And the clinician might ask that person with hypertension to check their blood pressure for a week or two before they connect again. So that's really the – that's what I mean by ad hoc, or just as needed basis for SMBP.

*Warren A. Jones:* Great, thank you. Can you address the progress towards implementation challenges of SMBP in the last year?

*Hilary Wall:* Yeah, it's hard to believe it was a year ago since you and I last spoke on this. And I have to tell you, there have been some, there's really passionate groups of folks, CDC and Million Hearts were one of them. But the American Medical Association, the American Heart Association, the National Association of Community Health Centers, and many, many others, we are all working together to try to tackle some of the implementation barriers I reviewed last year.

And so I just want to level set. A lot of what I want to update you on are some of the technological challenges that we have when we talk about what I refer to as "optimal SMBP". So you know, if in Hilary's world where everything is perfect, and it's the way that I want things to be, this is kind of what SMBP should look like, where the clinical team trains their patient on conducting SMBP, and all the good stuff that's associated with that. The patient goes home, they check their blood pressure, and then they're able to remotely transmit those readings to their clinical team.

The clinical team can read them, review them, interpret them, and remotely send back titration and/or lifestyle modification advice. That's what optimal SMBP looks like. But, unfortunately, we're not quite there yet. And there are a number of technology challenges associated with that. But I wanted to give you some

updates that really have happened in the last year that are going to make this process a little bit easier. So one of those is the Office of the National Coordinator for Health Information Technology, which is an office located within the Department of Health and Human Services, where CDC sits. They have an initiative called “The US Core Data for Interoperability”.

And what this is they say, these are a set of data elements that any certified electronic health record product must have. And there’s a rulemaking process. They get public input. It’s a very formal ordeal. But the data elements that come out of this process, certified products are required to have and be able to collect so that those data can be shared for clinical quality reporting, quality improvement, and all sorts of other purposes. What’s really great about this is for self-measured blood pressure monitoring, the protocol that is recommended is that patients take four readings a day for up to seven days, and that that gives you 28, up to 28 values.

And then the best practice is to average all of those available values into one representative blood pressure. But that’s an average blood pressure. The value you get as an average systolic over an average diastolic blood pressure. Right now, a challenge that has been universally identified by clinicians who are trying to implement SMBP is that they can’t store an average blood pressure reading in their electronic health record. But as of very recently, ONC, The Office of National Coordinator for Health Information Technology, they have agreed to include average blood pressure, as a required data element for certified electronic health record products.

This is a huge win for SMBP. That means that anybody who takes their blood pressure at home, and can remotely send it to their clinician, the clinician now has a place in the electronic health record to store those data. So this really is a big win. And then I think the last time we connected, Warren, I sort of laid out this map of the various pathways that data can take, as a patient takes their blood pressure at home, so over here on the left, and it has a number of different pathways that can travel to get to their clinician. Into their, maybe just the patient portal, but maybe all the way into the electronic health record. And it was this mapping that we have been working really hard at the national and federal level to try to streamline. And so there’s been some progress made here as well.

So in the past, in the quite recent past, there have been a handful of innovative clinicians and clinical settings that have been able to figure out this SMBP data transmission. But these have been really difficult solutions to make happen. They're usually costly, they're time-consuming. It takes a lot of staff to make it happen. And from my perspective, as somebody who's at CDC, who's trying to get widespread implementation of SMBP, I can't take their hard-earned solution, and scale it and spread it to other clinical entities because it's usually very specific to their EHR installation, and usually one SMBP device.

So while these are great solutions, and I commend these folks from a scale and spread perspective, I can't do much with it. What we're working towards in the future, is what we call "standards-based solutions". And these basically, would make SMBP data exchange between patients and clinicians, sort of a plug-and-play type scenario. It would make it almost seamless. And very recently, September, actually of last year, CDC, Million Hearts, we joined forces with a group called CardX. And that's short for "Cardiovascular Data Exchange". This is what we refer to as an HL-7 FIRE accelerator. An HL-7 is "health level seven". FIRE is "fast healthcare interoperability resources".

And so this FIRE accelerator, what they do is they, in a short period of time, short-ish period of time, they try to develop, test, and pilot data exchange standards. And this CardX group, they've decided that the first cardiovascular-focused example that they're going to tackle is SMBP data exchange. So we won't have the final product of that initiative until May of 2024. But there is a very dedicated group of folks that are working on this. AHA is at the table; AMA is at the table, and a number of other organizations. So this is really good news for the fairly near future. And I'll be excited to come back, maybe in a year or two, and update you all on this as well.

But where does that leave us right now? Right? That's May of 2024. Right now, there are clinicians, there 500 health centers that are trying to implement SMBP. Well, what's happened very recently is that some software solutions have been developed, a small number of them. I refer to them as blood pressure telemonitoring software solutions. And we decided to work with the Public Health Informatics Institute, to provide some guidance to clinicians, public health professionals, and other folks who are interested in SMBP implementation. We developed a health IT checklist for blood pressure telemonitoring software.

So this is a tool that if you know of clinicians who are trying to implement so MVP, this is a great tool to point them to because it's got really concrete descriptors of what good software should look like or could look like. And I think it will really help make SMPB implementation and clinical settings, right now, much, much easier. And the good news is, once those standards that I just talked about that will be created in the near future, once those are available, these kinds of SMBP software products, or blood pressure telemonitoring software products, they can digest those standards. And so their software will not become obsolete, it will only become improved. So this is all really, really good news for SMBP.

*Warren A. Jones:* That sounds great. So I've enjoyed listening to you, as always, and learning. So for our final question today, what can The National Forum members do to increase the use of SMBP?

*Hilary Wall:* Well, you know, I don't want to sound like a skipping record, but a lot of the things that I think forum members can do are the same things I asked about last year. So they've heard a lot, from not only me, but other folks about using validated blood pressure devices whenever possible, and making sure that there are appropriately sized cuffs for patients. This is a really big ask; this is particularly important in pregnant and postpartum people with hypertensive disorders of pregnancy. So this is still something that it could really use our collective attention on.

I talked a lot about, I didn't say the word "interoperability", but all of that technology that I just mentioned, any way, that organizations can help support that, and maybe, you know, some of The National Forum members who may be interested in getting involved in the CardX initiative. If that's the case, they should absolutely reach out to me. We'd love to have folks join that effort. But anything that people can do to support those interoperability efforts would be really welcomed. And even just sharing that health IT checklists for blood pressure telemonitoring, I think that's an easy win. If that could get shared broadly to clinical partners, that would go a long way to helping SMBP implementation.

And then, you know, lastly, and to me, this was like the lowest-hanging fruit coverage for SMBP devices, for a whole host of reasons, is still not ideal. And while we're working on, you know, various public insurance outlets to try to improve coverage, there's a big opportunity in the private insurance market to improve coverage of these devices as well. And so all of The National

Forum members, they're employers. They probably offer employee health insurance.

So if there is a way to work with your company's insurance provider to say, hey, can we cover home blood pressure devices for people with hypertension, or for people who might be getting diagnosed with hypertension? That to me is sort of a low-hanging fruit ask, that is something that all National Forum members can turn around and ask their organizations today. So that would be my biggest ask, I think.

*Warren A. Jones:* You are awesome. This information is extremely valuable for those who advocate for care, and those who deliver their care. Thank you so very much for being with us again. And I look forward to seeing you same time, same station next year.

*Hilary Wall:* Thank you.

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