Jill Harrison, PhD:

Hi, this is Jill Harrison, Executive Director of the National Institute on Aging IMPACT Collaboratory at Brown University. Welcome to the IMPACT Collaboratory Grand Rounds podcast. We're here to give you some extra time with our speakers and ask them the interesting questions that you want to hear most. If you haven't already, we hope you'll watch the full Grand Rounds webinar recording to learn more. All of the companion Grand Rounds content can be found at impactcollaboratory.org. Thanks for joining.

Susan Mitchell, MD, MPH:

Welcome to today's podcast. I'm Susan Mitchell, one of the PIs of the IMPACT Collaboratory. In today's podcast, we'll take a little bit of a deeper dive into the discussion about our Grand Rounds from last week that was called eRADAR: an embedded, pragmatic trial using electronic health record data for targeted dementia screening. With me today, I have our presenters and study investigators, Dr. Deb Barnes and Sascha Dublin. Dr. Barnes, professor of Psychiatry and Behavioral Sciences, Epidemiology and Biostats at UCSF. And Dr. Dublin's a senior investigator at Kaiser Permanente Washington Health Research Institute, also a physician at Washington Permanente Medical Group. So welcome to both of you. Thanks for being here.

Deborah Barnes, PhD:

Thanks for having us.

Sascha Dublin, MD, PhD:

It's great to be here. Thank you.

Susan Mitchell, MD, MPH:

Thanks so much for your Grand Rounds last week. It was really provocative and a great study. You told our audience about your study, but for our few podcast listeners who may not have heard Grand Rounds, let's just get a really high-level two minute synopsis of what this study was about.

Deborah Barnes, PhD:

Yeah, absolutely. The basic goal of the study is to try to improve dementia detection in primary care in our two clinical settings. The background is we know that about half of people who are living with dementia right now don't have a diagnosis. There's a lot of resistance to setting up routine screening of all older adults, and so what we're studying is a targeted screening approach. So we have this tool called eRADAR that uses electronic health record data to try to identify a smaller subgroup of older patients who don't have a diagnosis right now of dementia but may be at high-risk based on their eRADAR score. And then in the trial we're reaching out to them and doing targeted screening basically with our research team.

Susan Mitchell, MD, MPH:

That's really great. So at IMPACT, and I know NIA and some other pragmatic trial mechanisms, there's, I guess, a reasonable handful of pragmatic trials that are focused on improving early detection of either/or MCI or dementia using some sort of interventions that are embedded into EHRs within healthcare systems. So from a field perspective, like an ePCT design perspective, what aspects of the design do you think is most challenging for these types of trials? I'm sort of picturing the PRECIS wheel and thinking about the different domains. And what are your perspectives on that?

Sascha Dublin, MD, PhD:

Thanks, Susan, I can take a stab at it. There's lots of challenges. I mean, I think one of the challenges is that primary care is extremely stretched right now, and there really isn't a lot of appetite or extra staff time for big new initiatives. And so you have to figure out what the health system's goals are and how you can align with their goals and show them that this will be worthwhile. I also think that until we know for sure that either the method for finding high-risk people is effective or that the overall screening flow process are effective, it's hard to ask a healthcare system to divert precious resources and time to this. Which is why we felt it was important to bring research funding and research staff to the table, while also crafting an intervention that was very much modeled after what a clinic could actually do if it was proven to be of value.

I think another challenge is that the patients we are reaching out to, and I think many studies, are often really complicated. They have a lot going on medically. And especially if they are struggling in their life due to memory problems, they may not prioritize being in a quote, "research study." And so being able to work with your IRB in a way that would, in some cases, seen as more quality improvement and less research might improve participation. But even if you did, I think some of these patients really have trouble getting in to the clinic to add an extra assessment or an extra step to their already very complicated medical and personal lives. Which I think all boils down to the idea of what is the response rate, what's the actual participation rate of successfully getting these often complicated older patients into some kind of assessment visit.

Deborah Barnes, PhD:

Yeah. I would just add, I think there's a question in my mind of pragmatic to whom? Like the PRECIS wheel assumes that the most pragmatic thing is to have staff in the existing clinic deliver the intervention, but the resources are stretched and as Sascha said, they want to have proof that it's worth it. And so there's a tension there.

Susan Mitchell, MD, MPH:

So let me pick up on that because, Sascha, you used the phrase we want to show it's effective and of value, and Deb, you just underscored again, that it's worth it. Can you define those for me and for the audience? What would it mean to show that it's, A, effective, I guess that means what's the outcome. And then a corollary of that is, if it's of value?

Sascha Dublin, MD, PhD:

Yeah. I think there are lots of kind of levers and motivations for doing this kind of work. I mean, in addition to the more altruistic vision of we want to provide the best possible care to our patients, you can argue that identifying people who have dementia and are really struggling to care for themselves could lead to more efficient care. If you could get them more support, sometimes they're going to need to be in a more supportive living environment, you could decrease some of the burden on the healthcare system of excessive or inappropriate utilization. For a healthcare system like Kaiser that's also an insurance plan, helping keep people healthier so they stay out of the hospital results in cost savings potentially.

And finally, insurance plans, such as Medicare Advantage, do receive higher levels of funding and reimbursement for patients with more complicated conditions. So having a large number of patients with undiagnosed dementia, those are patients who are utilizing care and needing more services, yet if you don't code them as having dementia, you don't receive the funding needed to support their care. So there are ways in which healthcare systems could benefit both in terms of less unnecessary PCP visits,

less unnecessary hospitalizations, and higher reimbursement from Medicare if they accurately diagnose people who truly have dementia and try to put supportive systems in place to help them get the best care possible and the most organized and least chaotic care.

Susan Mitchell, MD, MPH:

So, if I drill down a little bit though, effective. So in your study, what was the outcome? Can you remind me the clinical outcome?

Deborah Barnes, PhD:

The primary outcome is dementia detection, but the secondary outcomes are things like hospitalizations and emergency visits, and other kind of ancillary workups and stuff. So we kind of hypothesized that for someone that's newly diagnosed, there might be a little bump up in the kind of care that they're getting as the system is doing labs and stuff like that to rule out other causes. But that over time we could actually possibly see lower hospitalization rates and emergency visits between the groups because we do have a usual care control group.

Susan Mitchell, MD, MPH:

So, yeah. So this is not my field of interest, but I sort of wonder, to make the case do you need to incorporate into pragmatic trials? Again, imagine you're starting this again or advising someone who's doing some... Would you build in a formal cost-effectiveness analysis? Because Sascha, I agree with you, it's a lot of hypotheticals and I'm just kind of curious. Do we really go to the C-suite and say this is worthwhile?

Sascha Dublin, MD, PhD:

There's definitely a place for that work. I think it's typically after you've demonstrated effectiveness. I think we also still view this as a pilot study where we're partly still learning how to deliver the intervention in the best way. And I think we're having some serious discussions about... As we mail to a patient, invite them to come in, and do phone calls and some patients say they don't want to come in. Is it ever appropriate or ethical to share their information with their PCP who could do an evaluation in the clinical setting? Right now in negotiation and discussion with our IRB, it's looking like it really wouldn't be appropriate to be trying to sort of recontact someone who doesn't want to be in a research study. But if you design the study differently, you could design it in such a way that the PCP is more involved from the beginning, and we have the ability to offer the multi-layered approach of the research evaluation or the PCP evaluation.

I want to just give one more tiny example, which is that, like many healthcare systems, Kaiser struggles with the problem of no-shows. At a time when access and primary care is a huge challenge, to have a couple of no-shows a day is really harmful to the system and the patients. And we also have tried randomized trials of trying to predict from the EHR who's going to no-show and targeting reminders to them. If you know someone has a diagnosis of dementia, they might be the prime candidate who needs a reminder to not no-show. And that's a very simple way in which knowing who has dementia could improve outcomes a healthcare system cares about.

Susan Mitchell, MD, MPH:

Let's shift gears just a little bit and let's talk about some of the ethics and regulatory considerations in these types of early detection studies. I believe your brain health visit for those that were picked up at

high risk on eRADAR was presented to potential participants as research, is that correct? Like, you used the word research?

Deborah Barnes, PhD:

Yeah, we tried to not use that language. Actually, we consulted with the IMPACT Collaboratory about this issue and they recommended trying to get it approved with a full waiver.

Susan Mitchell, MD, MPH:

Did you get informed consent and how did you decide whether to do that or not? Because not knowing what the Ethics and Reg Core told you, tell us a little bit about that deliberation and why you landed where you landed.

Sascha Dublin, MD, PhD:

Yeah, I think this is kind of a challenging issue and it kind of gets to the issue that different IRBs can make incredibly different determinations. There have been research studies published showing that if you present the same study to eight different IRBs, you can get radically different outcomes.

Susan Mitchell, MD, MPH:

Yeah, it's kind of like getting your house inspected. You can get eight inspectors and they'll find a whole bunch of different set of issues, right?

Sascha Dublin, MD, PhD:

And I think part of it what it gets to is not just that IRBs differ, but that this is a really hard area. Knowing what is ethical to do with people who may lack capacity to consent in a society that doesn't guarantee access to health insurance or care for everyone, I mean, it is really hard stuff. So the IMPACT Collaboratory's viewpoint was that a cognitive assessment on a regular basis is actually a part of high-quality geriatric care and that this was very appropriate to offer to anyone, and that it didn't seem controversial to them that the care being delivered was in any way sort of research.

The KP Washington IRB took a somewhat different perspective, which was that the tool, eRADAR, being used to single out certain people was very much research. Targeting those particular people and then putting information from a quote, "research study" into the chart was an activity that had potential risks for people, in terms of maybe for instance, their ability in the future to get life insurance or get long-term care insurance. And so they felt it was really important that people be informed about this as a research project. And so we ended up doing an informed consent process that is a... We have a waiver of written informed consent, this is done by telephone. And we had to build in a fairly complex process for assessing capacity and having backup plans to get a legally authorized representative, which after recruitment outreach to over 2,000 people at KP Washington, we have not had a single person yet who lacked capacity.

Susan Mitchell, MD, MPH:

Really? Fascinating.

Sascha Dublin, MD, PhD:

Again, we're targeting people who don't have a diagnosis of dementia yet.

Susan Mitchell, MD, MPH:

Yeah. Well, that's interesting. But they were flagged by eRADAR as having... That's very interesting.

Deborah Barnes, PhD:

And many of them have dementia. So many of them have been flagged and assessed and are newly diagnosed with dementia, but they were very mild, and so they still had capacity to consent on the phone interview.

Susan Mitchell, MD, MPH:

That's a paper in itself.

Deborah Barnes, PhD:

It is, yeah.

Susan Mitchell, MD, MPH:

It's very, very interesting. The last question, sort of real switching gears here. More and more we're hearing about the use of biomarkers for early detection. Could you see this as a potential intervention that might be studied in a future ePCT, like the blood tests that are now coming out? Because you're doing it using technology and data, but Jason Karlawish talks all the time that, "We've got to have our antennas up because this is coming." We might not be quite there yet but I'm interested in your thoughts.

Deborah Barnes, PhD:

Yeah, I don't think we're quite there yet. I think they've had promise and potential, it feels like, for a while, but I don't personally feel like we're quite ready to do that. And they're certainly not diagnostic. You'd still need to do the cognitive assessment and the functional assessment to actually find people who have the symptoms, right?

Susan Mitchell, MD, MPH:

But that's just like eRADAR too, right?

Deborah Barnes, PhD:

Yeah. They could be complimentary, there could be different ways of identifying people who are high-risk. So it'll be interesting. What are your thoughts, Sascha?

Sascha Dublin, MD, PhD:

Well, I think we live in a really rapidly changing world, right? With lots of new and exciting bright shiny objects popping up all the time. And I guess I would say one real benefit of eRADAR is that it's essentially passive from the patient's perspective. There's no need to ask specific questions of the patient to be able to calculate eRADAR. They don't need to come in anywhere. You don't need to draw blood. You don't need to do an expensive laboratory test, right? Once a programmer codes eRADAR, you can run it on a hundred patients, a thousand patients, a million patients. And also with eRADAR, you can set the threshold wherever your healthcare system says they want to set it for who they want to evaluate. So I like eRADAR because it doesn't ask anything of the patient.

With the biomarkers, I actually worry in a way more about really scaring people. One of the harms we worried about what the eRADAR trials, did we have potential to give people anxiety or depression. So if you find someone who's got these positive biomarkers and they go through the cognitive screening and testing process and everything's fine, are they going to have that fear of sort of biology is destiny and become really anxious? And I think we need to keep working in tandem on what we can offer them. Deb and I have also had the great pleasure of working together on the SMART study, which looked at an intervention to try to help people do behavior change to have a lifestyle that's sort of hopefully protective against dementia with lots of exercise, and healthy diet, and getting better sleep. And I think that really we need to be thinking about what can we offer people that's hopeful and gives them some empowerment to make choices and make changes that will help them keep their brain healthy.

Susan Mitchell, MD, MPH:

Well, great. I mean, you guys, you're doing amazing work both in terms of moving the field forward and hopefully improving care for people living with dementia and their care partners but also I think in terms of the methodologies and the things we struggle with with ePCTs, and we're all about moving the field forward. So thank you very much for your contributions and for your presentations and for a chat today. Thank you very much.

Deborah Barnes, PhD:

Thanks again. It was really a pleasure talking to you, Susan.

Sascha Dublin, MD, PhD:

Thanks, Susan. I really appreciate your insightful questions and giving us the opportunity to chat with you today.

Jill Harrison, PhD:

Thank you for listening to today's IMPACT Collaboratory Grand Rounds podcast. Please be on the lookout for our next Grand Rounds and podcast next month.