IMPACT Grand Rounds 48 – RE-AIM, its PRISM expansion, and their application in pragmatic trials

Jill Harrison, PhD:

Hi, this is Jill Harrison, executive director of the National Institute on Aging (NIA) 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.

Vince Mor, PhD:

Welcome to our podcast. Today I'm delighted to be speaking with Dr. Russell Glasgow, who is from the University of Colorado Anschutz Medical Center, where he's been for some time. He, today, will be speaking about a lecture that he gave at the IMPACT Grand Rounds last week on current and future use of the RE-AIM and its PRISM expansion. It's all about the application to pragmatic clinical trials in the world of doing large pragmatic clinical trials and trying to understand something about the implementation science component of that.

What is really fascinating for this is some of the questions that came out during the conversation that we had, and some people were implementation science nerds and completely into that and some had broader open-ended questions, and so I'll be asking some of those broader questions as well as some of the more focused questions.

Russ, to begin with, how do you envision PRISM being implemented or used in ongoing study? Could PRISM be proposed as an ancillary proposal to evaluate the effectiveness of implementation during an ongoing study that might be in place already? Could it be interjected in the midst of a study that's already underway?

Russell Glasgow, PhD:

Yes, I think it could. We've had less experience with that than when it's used a priori and that sort of thing, but I definitely do think it could, and we're experimenting with a few tools and things that we have that I think make that more feasible now. One of those would be this iterative PRISM web tool that I mentioned, but I do think that's possible.

I should also note that RE-AIM has been used even going way back to efficacy studies, so it doesn't have to be just an implementation study. Again, there's a lot of nuances and some restrictions and things that don't make sense, but it has been used for that as well as epidemiologic studies, natural observations, some policy research and that sort of thing. So I do believe, with some caveats and nuances about ways to do that, that it's quite possible.

Vince Mor, PhD:

So let me just follow up with that, this is a paradigm that actually helps understand the way in which a new initiative is implemented regardless of whether it's implemented as part of a large scale effectiveness trial or not?

Russell Glasgow, PhD:

Absolutely, Vince. Yeah, that's a great point. I also think, related to community engagement and health equity issues and things like that, it's, I think, quite applicable. We have a moderate amount of

experience with that and I think it has the potential to do even more so in terms of working with clinical teams or community partners in a way to evaluate how are things going now. And as I mentioned in my talk, we like to have this framework thinking about what are the priorities that the stakeholders or these partners have at a time using our RE-AIM dimensions as well as other things. And then the notion is, given these priorities, what's your progress to date on this? And then areas where you're not making such great progress, let's have a discussion about what might enhance outcomes moving forward.

Vince Mor, PhD:

That raises such an interesting question because under experimental conditions you sometimes are worried that if you change the nature of the intervention in the middle, how's that going to be understood or interpreted when you look at your results in terms of your comparisons between the experimental controls in terms of the outcomes? But when you're thinking about this as a way of providing feedback to adjusting the manner in which implementation is being done, that's another whole different strategy of thinking about these initiatives as a way that are not necessarily only in the experimental context.

Russell Glasgow, PhD:

Great point. It is, and it also touches on an issue that we didn't have a lot of time to talk about during my presentation, and that has to do with adaptations even during an experimental trial. Again, as I just mentioned briefly, I think if and when you want to do that and how depends on the phase of where you're at. You probably don't want to do that at all in an efficacy study. I personally think there are opportunities and times as long as it's transparently reported that it's possible and maybe even necessary for example, like changing how you're doing recruitment during an effectiveness trial, and then often I think it's quite appropriate. And there are a number of designs for how you can do that during a hybrid or an implementation trial.

Vince Mor, PhD:

Yeah, that's a really good point. So earlier you were mentioning about disparities, do you have examples of how PRISM can be looked at with taking into consideration NIA or other NIH emphasis on disparities frameworks for research?

Russell Glasgow, PhD:

We do have some. This is very much, admittedly, a work in progress and I want to be clear, I don't consider myself an expert on equity issues. I am fortunate to work with some great colleagues who are however, and this is an area of rapid expansion that we're doing. There were a couple references on the slides which will be available to people. But particularly working with my colleagues, Meredith Fort and Monica Pérez Jolles, we've been trying to both provide examples and have a couple recent publications out there, especially focusing on how PRISM can be used in the planning phase and then with, again, our diverse community partners to go about evaluating progress in a way that's locally relevant.

I think two key things there, and kind of related issues, are the notion of representation. And by that we mean when assessing the context early on and the key factors there, particularly some of the external factors and, if you will, structural drivers in equities. And the representation has to do with who's at the table, thinking that through and who's not at the table. The representativeness, the other issue there, has to do, as it always has been, with the various RE-AIM outcomes and what is the equity or the representativeness or the heterogeneity across different populations on those different outcomes?

One last thing I will say, we haven't, to date, at least my group hasn't, but there are a lot of other people applying PRISM or RE-AIM out there that I may not know about, but explicitly used it with either the NIMHD or the NIA IMPACT models, which look great by the way, I'm certainly not an expert on either of those. But there is a new section on a web tool, again, I didn't develop it, but a web tool called dissemination-implementation.org, the purpose of which is to look at, think about DNI theories, models and frameworks that might be appropriate and how to select, combine, or adapt those. And that has a new section called special topics all devoted to health equity. And on that, one of the key issues is looking not only at PRISM, RE-AIM, but at many other models, this notion of integrating health equity models with implementation science models and vice versa.

Vince Mor, PhD:

Yeah. So that's a really great point, and that reminds me that our group in IMPACT has worked very hard on this whole issue of the applicability and how to frame and raise questions about equity issues in the planning, design and then ultimately implementation of large scale pragmatic trials. And that ranges from the selection of which sites from which to recruit based on the proportion of people of minoritized backgrounds, to obviously the appropriateness of the outcome measures and even the appropriateness of understanding implementation and whether it needs to be separately or different for one group versus another that might be part of the target population. So these are really important topics that are now getting sufficient attention.

Russell Glasgow, PhD:

Yeah. And again, congratulations on the IMPACT framework. Just a couple comments on that, and again, given my knowledge is pretty sophomoric on it, but I particularly like that focus about the different phases that you just talked about in research, during the planning, implementation and then later on too. I think that's critical, as is the multilevel approach that you have there about all the different levels I think is a really critical point.

And I love the notion that you gave, an example that you just mentioned there about starting even thinking about what settings do you work in? Maybe even broader, what communities do you think about working? What types of settings do you involve? Who do you approach? Which of those participate in things? Often those are things that, unfortunately, are not reported, and I think that they're so critically important for understanding the outcomes. And sometimes I've even gotten into debates or arguments about this, and some people think that I have argued that you absolutely have to include the most challenged settings, the most difficult one in every study, and I don't mean that at all. There are good reasons to have different criteria. What I do think is important is to transparently report those so that you don't end up concluding when you've had the most highly selected settings with the best trained staff in the world with a highly homogeneous population, and then say that that can be applied out there broadly. So I think that's the issues is just that each of these states thoughtfully approaching that and then transparently reporting it.

Vince Mor, PhD:

Yeah. In many respects, these models are heuristics and things that prompt us to ask the questions as part of the planning process. Yeah, that's very important.

There's another question from one of the people who's listening, the whole area of applying PRISM to the area of chronic conditions, and is it possible to think about applying PRISM for understanding the adoption of new technology? The example they gave was ultrasound for screening in general, for example, for various kinds of things. Or let's imagine in the case of dementia where the new technology

might actually be a new biomarker with some level of precision that could be used for identifying people with dementia or ultimately at risk of dementia. What do you think? Is that possible?

Russell Glasgow, PhD:

Short answer is yes, and that's one of the things that we would really like to see and encourage. I have a couple of colleagues that are exploring those type of technology-related things, depends of course how you define technology-related things, but I think there's great applicability, including things like telehealth. I know we have some colleagues that are looking at that. I have a number of folks that are interested in EHR-based applications and clinical decision support projects and things like that. We're starting to see some publications there. Again, I think there's a lot of opportunity and it should work.

Again, in any field, it's often that PRISM or RE-AIM isn't going to work 100%, and that's to be expected. We don't expect every aspect to apply to everything. But as you just articulated quite nicely, I think as a heuristic to think through the issues and figure out pragmatically what works and what doesn't apply there.

Vince Mor, PhD:

Great. That's terrific. One other question from somebody who's clearly in the weeds on the world of implementation sciences, can you comment on the RE-AIM QuEST mixed method framework that you've recently developed and its applicability? So if you could describe that for the listeners, that'd be very helpful.

Russell Glasgow, PhD:

I'll be glad to. And to clarify, we didn't develop the QuEST. It was developed by some great colleagues at the University of Michigan. The genesis of that was to look at... At the time, it wasn't generally available or publicized well, some of the qualitative ways that PRISM, and at that time it was RE-AIM they talked about rather than the full PRISM. The notion was they just felt that there was both a need and an opportunity for qualitative assessments of the RE-AIM dimensions so that you investigated not only, well, what are the results? What percentage of reach or participation did you get and how equitable was that? But then to have qualitative interview questions to follow up and understand why, which of course is critically important for the future.

So they did a really nice job, I think, looking at three particular things that are related to qualitative assessments, they looked at context factors to understand most of these outcomes. They definitely emphasize mixed methods, which we feel are critically important. And then, as we mentioned before, and IMPACT does a nice job of, they thought about this during the different phases of research. So I think that really works 100%. I'm a fan of it.

I will note that, independent of that, and I have to confess, for several years after RE-AIM QuEST was developed, we weren't aware of it. It's hard for me to track everything. But we independently had been doing some things, and in my talk there's a publication there led by Jodi Holtrop about qualitative applications of RE-AIM. So, I strongly agree, and I think those two things are highly related and we do have a number of qualitative interview guides and things on our RE-AIM website. So I am a big fan and I think there's a lot of overlap between what they did, which I think was needed and innovative, and then directions our group has taken.

Vince Mor, PhD:

Great. Thank you. That was very good explanation. And actually I love the fact that it's qualitative. It's hard to imagine some of the aspects of RE-AIM being able to be done without some sort of incisive

qualitative work going on in the process because you need to observe and or extract information from the descriptive content in that sense. Yeah.

Russell Glasgow, PhD:

Absolutely. Gives me a chance to plug one other thing, and that is the notion, again, the phrase you just said of observation too.

I think that there's so many opportunities, the RE-AIM QuEST thing gave one, to be creative about these type of methods that we apply beyond surveys, looking at either traditional qualitative things. I particularly love your notion of observational data that you can, and often you can also use, I think, secondary data depending on clinical applications, EHR data are becoming more available and things. So this notion of thinking broadly and triangulating in on that, but I'm particular a fan of observation where that's feasible.

Vince Mor, PhD:

Great. Is there anything else that you'd like to comment on regarding the overall RE-AIM and PRISM perspective?

Russell Glasgow, PhD:

We have covered a lot. I do want to say I just really enjoyed interacting with your group and doing the presentations.

I'll maybe just briefly comment on two things. One of them is that I am really a fan of a system science perspective approach in applying not only PRISM, but I think more generally. Going there and looking at, you know, the world is so complicated and things going on that usually when we make one perturbation in one thing, and that includes a RE-AIM dimension, it usually has impacts not only on that direct target but on other things, and that can be either a positive or a negative impact. Or another way to say that, the RE-AIM outcomes are not independent, they're not orthogonal, and so you need to look at the whole picture there.

And then the other one, and again this is, I don't know if it's quite the level of philosophy of science question or not, but I think the issue is the fundamental question that we're asking I think should be beyond just the question that we usually ask is, what's the mean effect or the average effect of an intervention across everything? Across settings, across participants, across staff and things like that. To be more of a realist approach and to be answering the questions about, what intervention components with what implementation strategies are most effective, and I should say maybe most cost-effective for what populations? I think that's the way our science needs to move forward, I think, congruent with thinking about a precision medicine or a precision public health approach.

Vince Mor, PhD:

That's a great place to end, so thank you very much, Russ. I really appreciate it. It was a great grand rounds. I urge everyone who's just sitting in on the podcast to actually go back and listen to the grand rounds.

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.