Podcast 1: Continuing the conversation of the RAPT model and implementation considerations

Jill H:	00:02	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 M:	00:30	Hey, I'm Susan Mitchell, co-leader of the NIA Impact Collaboratory, and last week I hosted our inaugural Grand Rounds and I'll do the same today for a related podcast. I can't think of a better way to start our Grand Rounds and podcast series than with the talk, "Are you ready for a pragmatic trial, the RAPT model and implementation considerations". And this was presented by Eric Jutkowitz, and Rosa Baier, and I've got Rosa and Eric here with me today. Welcome.
Eric J:	00:59	Hi Susan. Thank you.
Rosa B:	01:01	Hello.

Susan M: 01:01 All right, so in the field of pragmatic trials, the PRECIS-2, has sort of been the foundational framework on which investigators tend to think about the design of their trials, but the RAPT model is different, although be it related to PRECIS-2, it even looks a bit the same with the diagram visually with this wheels in the spokes. But Eric, can you explain to us why you felt the need for the RAPT model layered onto the PRECIS-2, how they're related, different, and compliment each other?

Eric J: 01:34 Sure. So I think it also is helpful to think about the NIH stage model, which sort of positions behavioral-based interventions along their pipeline of development, and it goes from something like stage 0 or stage 1, which is basic idea generation, all the way up to stage 5, which is implementation dissemination. And between that stage 1 and stage 5 are sort of various levels of testing, efficacy testing, which many non-drug behavioral based interventions have been through. And after efficacy testing there's sort of the pragmatic trial phase.

And as you said, the PRECIS tool has been around for a long time and it helps us understand how our sort of study design decisions position the study design along that stage model. And so our design decisions can make a study more or less pragmatic. And the more sort of explanatory a study design is, the more it falls into the stage 2, stage 3 setting of the stage model. And the more sort of pragmatic it is, the more the study design falls in towards sort of a pragmatic trial or stage 4.

Again, PRECIS is about understanding how your design decisions impact where you lie on that continuum. But it doesn't say anything about whether or not you're ready to make the leap from say a explanatory study to a pragmatic study. And so from our perspective, I think that was the big limitation in the literature and a challenge and a struggle that people are thinking about. When is my intervention or a intervention ready to be tested in a pragmatic trial?

And so that's really what RAPT tries to do. It seeks to fill that gap and help investigators, decision makers, policy makers, whoever it may be, understand when the evidence base is sufficient, along with several other domains to say, yes, my intervention may now be ready to be tested in a pragmatic trial.

So we think all three of these sort of instruments, RAPT, PRECIS, the stage model, can be used sort of as complimentary tools to help inform thoughtful discussion among the study team, the investigators, the partners sites, to understand the current

evidence base, how your decisions about the study design, how you recruit people, how you collect data, et cetera, place it along that continuum, and if you are ready for moving along towards a pragmatic trial, then potentially how to adjust your study design decisions, to position it more in that area of the continuum than being in a sort of explanatory stage.

Susan M: 04:31 Thanks. That's really helpful. So one thing that struck me during Grand Round, Rosa, is how you explained you use the RAPT model as an illustration, how it guided the focus of the pilot phase of the music and memory pragmatic trial, and how you use that pilot phase to make the intervention in quotes "more ready for the full pragmatic trials".

The NIA Collaboratory will be funding upwards of 40 pilot studies with that exact intent, trying to make them ready for a full pragmatic trial. So Rosa, can you comment on how you see the potential for RAPT to help shape some of these pilot studies or even help shape selection of interventions that are close to ready, need some tweaking, or not even close to ready?

Rosa B: 05:23 So when I spoke about music and memory, we were applying RAPT post-talk. That was the example that we included in the paper that we published recently, but the model is relatively new. I have been applying it prospectively to some of the projects that we're considering implementing in the research center that I run here at Brown.

And what I'm finding in that context, and what I would recommend for the collaboratory pilots, is that it's incredibly helpful to plot your intervention along the graphical summary wheels so that you can see at a glance where the strengths and weaknesses are, and use that as a discussion guide. Not only to figure out when and how to proceed, how to design this study that follows, but to think about the importance of the pilot phase in addressing the weaknesses or not.

You may elect to create a study design that's perhaps less pragmatic in some aspect as we did with music memory, in terms of measurement. But having that discussion and being able to use the pilot strategically to address the areas of weaknesses and to prepare yourself for a full trial, can help you position that trial to be successful.

Susan M: 06:32 That's interesting. So I'm just looking at the RAPT model and it seems to me that some of these spokes may be more amenable to change than others, and I'm wondering if one really trumps

another in terms of readiness. So for example, the alignments spoke, to what extent does the intervention align with external stakeholder priorities?

It seems like, more or less, a certain intervention will or won't align with stakeholders priorities. There's not a whole lot of movement, particularly in a pilot phase where you can go with that. Whereas something like implementation protocols, or protocols sufficiently detailed to be replicated, is a lot more amenable to tweaking.

So Eric, how do you see one of these spokes relative to another in terms of being more actionable or not actionable, in getting your intervention ready for a pragmatic trial?

Eric J: 07:26 Well, I think you're right on that, some of these things are a lot more tweakable or adjustable from the interventionists, the researcher's perspective than others. In terms of getting ready for a pragmatic trial sort of, we came up with these domains based on sort of a working group discussion with experts in the field, and they really sort of pinpointed the various nine domains we have in the tool as being vital towards informing whether or not an intervention will, not only be sort of ready for a pragmatic trial, but part of that also means whether or not it will be accepted.

So there's sort of the issue of the evidence and the intervention being sort of sufficiently detailed and being able to be replicated, and that's very important, and that's something that as you noted, the research team might have more power in sort of adjusting and working out on their own. But there is other sort of external factors that impact whether or not the intervention will be sort of embraced and sort of successfully implemented. And that's where that domain of sort of alignment, as well as, we have a domain that's related to sort of internal stakeholders buying into it. And so there are a dynamic sort of set of factors that play into whether or not an intervention will be, not only ready for a pragmatic trial, but also sort of accepted by the individuals that are ultimately going to be the ones responsible for implementing it.

So we think all of these factors play into acceptance and readiness of an intervention for being tested in a pragmatic trial. Unfortunately not all of these things are items that we can have direct control over, although there is room within the framework to adjust.

Rosa B: 09:34 If I can just add, I think these are all dynamic aspects that are also quite subjective. So we're not saying that any one is more important than another. And we're also not saying that this is something that you should just look at at one point in time. You're right that from a researcher or an interventionist perspective, we have less control and maybe less understanding of the alignment and the acceptability domains, but we would hope that when an intervention is being developed, perhaps even before it's been tested for efficacy, that the stakeholders and the providers and others who are going to be effected by this intervention and called on to implement it, would be involved in the design.

And so there's various different times where you might employ this in different ways and use it in different contexts to think about how to develop and test and shift your intervention along the stages model that Eric discussed earlier.

Susan M: 10:23 You know, one of the more challenging spokes, I think, on the RAPT model is the evidence spoke. To what extent does evidence based support efficacy? And in particularly in the field of dementia research, well-done efficacy trials of non-pharmacological interventions are few and far between, let alone ones that are positive in terms of its findings signaling readiness for a pragmatic trial.

Also, when you shift those types of interventions from an efficacy trial to an effectiveness trial, inevitably you're changing the intervention. Rosa, can you help us understand how you see this and how much in quotes "proven efficacy" is needed or even realistic before embarking on a pragmatic trial, particularly in this field of dementia research?

Rosa B: 11:13 You've highlighted, I think, one of the key aspects of RAPT, which is the value that it has as a discussion tool amongst the team, because I think this is something that we've talked about a lot internally here, certainly Eric and I, but also the research teams that we have for different projects, and I think it's very contextual. Music and memory, the example that I provided during the Grand Rounds last week, is an intervention where we explicitly made the decision to move forward even though there really isn't efficacy data. And what we're doing now in terms of our embedded pragmatic trial is something that we've sort of termed a hybrid stage 2, stage 3 efficacy effectiveness study.

So that sort of points back to your question that this really is something that's difficult, and then in the field of non-drug

dementia interventions there are yes, some interventions that have efficacy, but then there are a lot of promising interventions that would have to be tweaked and do not yet have that evidence base. And at least internally here in the discussions that we've had with our research teams, we haven't let that stop us from moving ahead towards designing a pragmatic trial. But it's a difficult decision and one that every research team needs to address head on, and this is a tool that can help them to do that.

Susan M: 12:26 Yeah, I mean I think this is going to be particularly salient for the NIA Impact Collaboratory as we try to support different pilot studies and usher them to a full pragmatic trial. It's going to probably be one of our biggest challenges.

Well this has been a great discussion. I want to thank you both for developing what I think will be an increasingly useful tool in the field of pragmatic clinical trials. I also want to thank you for launching our Grand Rounds and podcast series so well. So thank you both.

Eric J: 13:02 Thank you, Susan.

Rosa B: 13:04 Thank you, Susan. We both enjoyed having the opportunity to present.

Susan M: 13:07 Great.

Jill H: 13:08 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.