

Adrian H.: [00:00:04] Hey, this is Adrian Hernandez, and welcome to the NIH Collaboratory Grand Rounds Podcast. We're here to give you some extra time with our speaker and ask them the tough and interesting questions 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 our Grand Rounds content can be found at [Rethinkingclinicaltrials.org](https://rethinkingclinicaltrials.org). Thanks for joining.

Adrian H.: [00:00:28] Hi there, this is Adrian Hernandez from the NIH Collaboratory and today we're here with Dr. Aaron McKethan, who is going to reflect on policy and priorities, rethinking university research with state data.

Aaron McKethan: [00:00:39] Thanks Adrian, glad to be here.

Adrian H.: [00:00:41] So you have this interesting life going between government and university settings. What do you see as kind of the big problems that could be addressed together, or why are you actually doing that split between university setting and government?

Aaron McKethan: [00:01:01] Yeah, it's a good question. It does bear explaining, 'cause I think I'm on a non-traditional path for sure. By day I'm on the faculty of the Department of Population Health Sciences at Duke, and by day and night, seemingly, I am also working largely full time at the Department of Health and Human Services in Raleigh as Chief Data Analytics Officer. This has been a great experience. I've been doing it for about a year now, and it's opened my eyes to some important points for those of us who are in the health services research or policy research world as it relates to how we interact with state and federal government.

Adrian H.: [00:01:50] So one of the things that you talked about is the admission that the state government needs help. What do you mean by that, in terms of needing help from the universities and others?

Aaron McKethan: [00:02:04] One of the most important things I have learned in the last year, and I've had prior experience in the federal government so it's sort of re-learning this as well, is that the typical policy official is preparing for the next legislative hearing, which might be next week. They're not thinking about studies that they can commission over a six or nine or 12-month period that much. They're really thinking about, how do we get through the next legislative hearing, how do we get our budget, how do we think about some relatively short-term milestones? And of course research takes a long time, it can. So there's this sort of gap between the time horizon that typically a state official is under and the analytic needs or offers that come in from the research community. I think one of the things that states need help on is actually sifting through evidence to try to help policy community get out of the two-week legislative hearing kind of time horizon and to help them think about, what are the questions that we ought to be asking of our data that can inform our work now?

Aaron McKethan: [00:03:31] I think it has two flavors. Number one, the intellectual assets of a university come with a lot closer knowledge of the evidence base in any policy domains. No one in the government has time to read all the journals and attend all the conferences, and so there's a gap there. So the first question is, what is the evidence base today, in whatever policy domain, and how different is our actual practice in policy relative to that evidence base? That's a super helpful way that universities can contribute. The second one is to be very explicit about answering the question, what are the things that we don't know the answers to in the evidence base? What are the gaps? To quote from former Secretary of Defense Donald Rumsfeld, "What are the known unknowns?" The things that we actually don't know the answers to but that are important, that could be important for policy in the near term.

Aaron McKethan: [00:04:34] So universities can help develop what I call an analytic roadmap for states or federal government or other units of government by helping them understand what the evidence says today and to show where we're not in accord with respect to how we do policy against that evidence base. And number two, to be really clear about what we don't know, and that requires a posture of humility from universities. Usually we go to conferences and we tell everyone what we do know, right? We present our paper. But I think states and federal policy leaders need as much clarity about what we don't know that we can invest research in to improve our knowledge and then therefore to improve the degree to which we can make policy decisions informed by evidence.

Adrian H.: [00:05:27] That sounds quite interesting. I guess actually having evidence base policy seems important. Can you tell me a little bit about the thoughts on, I didn't realize this but, research methods matter. But it may not be the most complicated research methods. What did you mean by that?

Aaron McKethan: [00:05:49] Yeah, I mean, I think I was reflecting on the fact that literally every week we get an incoming pitch or request for a meeting from either a researcher or healthcare organization that wants to show us their new fancy research method, or their algorithm for this or that, or their machine learning technique. I love that stuff, I care about that, I think it's important. But putting yourself in the mindset of a policy official means actually sort of acknowledging that sometimes the simplest research methods are the most important, and I mean simple. I think I mentioned in my presentation the other day that Todd Park, who was the founder of Athenahealth, recently gave a lecture at my class at Duke on healthcare value. And he said, "We don't need machine learning in healthcare. The gaps are so big in healthcare that you can see them from space." What we need, according to Todd, is histograms and two by two tables, and I agree.

Aaron McKethan: [00:07:03] I mean, I think there's a role for machine learning in more advanced research methods and techniques but often as I tried to visualize the other day, we can start by just counting. Here's an example, in 2016 there were almost 17,000 births for which North Carolina Medicaid paid for prenatal care and the delivery, for which those moms did not have the WIC program. They're not

enrolled in WIC, which is the Womens, Infants, Children nutrition support program. That's a two by two table, that's not a black box fancy machine, and just having that information can help us see the opportunity to apply more rigorous statistical methods to looking at this across time and across different patterns of beneficiary and program and to build new technologies and the like that can help cross-enroll people in these programs more effectively. But that can also just start with counting and having a better feel for the beneficiaries, the programs, the gaps.

Aaron McKethan: [00:08:13] I just don't think state officials are in a position to be naturally impressed by research methods per se. They're interested in the degree to which those methods can answer a question. And often, as is true in life, starting simple is often the best way to approach it.

Adrian H.: [00:08:31] Wow. That's really fascinating. That's a great illustration. The other thing it seems like you were talking about was, consider the outcome that you're trying to achieve. Or, really importantly, what's the policy implications? And so designing things in that context. Can you dive a little more into that. What did you mean by that?

Aaron McKethan: [00:08:55] Yeah, I think my last year in the government has reminded me of kind of the way I've approached, for example, writing a paper for a journal. You write the paper that you're interested in. You have your overview section, your method section, the analysis and results section, and then you're satisfied that you've done a good job. Then it's time to submit that paper for publication and you think, "Oh yeah, I should probably add a couple paragraphs on policy implications." And if you actually just read the policy implication sections and the policy-oriented articles that you see in the big journals, they often are written almost like that. You get a sense that, there's nothing here I can actually do. It's just statements about, state officials should invest in training or should invest in education and blah, blah, blah.

Aaron McKethan: [00:09:55] I mean those are helpful, I guess, statements, but what I was talking about and what I think I've learned is the importance of starting the research at the outset thinking very carefully about the specific policy choices in space and time, feasible policy choices, that the legislator, or Secretary of Health or what have you, actually has, and then design the research to inform those specific levers and dials, those actual choices. Not pretending that everything is possible and not divorced from knowledge that actually, if you want your research to have a real impact, you actually have to know what the choices are and what the alternatives look like and structure the work to be informative to that.

Aaron McKethan: [00:10:49] So I think that's just different than the way most of us do policy-oriented research. We write the paper that we are satisfied with and say what we want to say, double check our math and make sure the editing looks good, and then we kind of bolt on at the end this sort of policy implication. I think we've got it exactly backwards. We should start from the perspective of understanding the policy landscape and options and then work the paper that

way. I think it has a lot more actionable potential. But it does require, you know, journals being receptive to that sort of thing and researchers being willing to go there.

Adrian H.: [00:11:29] Great. Well this has been fascinating. It's quite remarkable to hear someone who is really driving data into action through policy, and actually understanding what the implications are. Aaron, I want to thank you for joining us today. It's been great to hear your views and perspectives combining what is needed for developing analytics, using important research methods that are simple but impactful for understanding policy implications, and actually seeing those results through. Hopefully you can join us in the future again sharing more results.

Aaron McKethan: [00:12:08] Thanks, I'd love that. I appreciate the opportunity to share what we're all learning here.

Adrian H.: [00:12:12] For those hearing this podcast, please be sure to join us for our next podcast which will also be quite fascinating, informative of things changing in the research world.

Adrian H.: [00:12:25] Thanks for joining today's NIH Collaboratory Grand Rounds Podcast. Let us know what you think by rating this interview on our website, and we hope to see you again on our next Grand Rounds, Fridays at 1:00 PM Eastern time.