



BHW (Health Workforce)

Health Resources and Services Administration

Examining Patient Outcomes Using a Mixed Methods Approach

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Essex, Alyson (HRSA)

**Primary Care Training and Enhancement
(PCTE) Program
Evaluation Technical Assistance (TA)
Webinar Series**

**Webinar #1: The Importance of Using Mixed
Methods Approaches to Examine Patient
Outcomes in Graduate Medical Education**

January 26, 2017



Event: Examining Patient Outcomes Using a Mixed Methods Approach

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Problems Encountered with Adobe Connect Pro

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Recording

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Allen Perkins	Christine Morgan	Geri Tebo
Alyssa Adams - ECU	Christine Schudel	Gina Wiseman
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Amanda Gmyrek	Craig Stevens	heather Miselis
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Chat History

N/A

Polls

N/A

Q&A

N/A

Transcript

Primary Care Training and Enhancement (PCTE) Program Evaluation Technical Assistance (TA) Webinar Series

Webinar #1 Title: The Importance of Using Mixed Methods Approaches to Examine Patient Outcomes in Graduate Medical Education

Date: Thursday, January 26, 2017 at 4:00pm EST – 5:00pm EST

Meeting Details:

- **URL:** <https://hrsa.connectsolutions.com/epo/>
- **Conference Number:** 888-456-0343
- **Participant passcode:** 5936235

Coordinator: Good afternoon and thank you for standing by. And welcome to the examining patient outcomes using a mixed methods approach. Your lines have been placed on a listen-only mode until the question-and-answer session of today's conference. At that time you may press star followed by the number 1 to ask a question. Today's call is being recorded. If you have any objections, do please disconnect at this time. I would now like to turn the call over to Mr. Craig Stevens. Thank you, sir. You may begin.

Craig Stevens: Thank you, Michelle, and good afternoon everyone. Please let me introduce Dr. Candice Chen, Director, Division of Medicine and Dentistry in the Health Resource and Services Administration Bureau of Health Workforce. Dr. Chen is going to provide our welcome and opening remarks this afternoon. Dr. Chen?

Dr. Candice Chen: Thank you, Craig. As Craig mentioned, my name is Candice Chen. I am the representative from HRSA and I am just so excited to kick off this webinar series and also recognize the work that JSI, our contractor for the evaluation technical assistance has already done, as well as all of you working with JSI and developing your evaluation plans and beginning to implement your – book your activities in your evaluation plans under the Primary Care Training and Enhancement Program.

I also always like to take the opportunity to thank in advance our speakers, Dr. Freddie Chen and Dr. Roberta Goldman, who I think are going to give really fantastic

presentations today. I expect that I will be learning a lot as well. And I take this opportunity, as well, just to reiterate again how important we find evaluation here at HRSA, both in terms of the – being able from the perspective of HRSA to really be able to tell with data and with evidence, the value of our programs like the Primary Care Training and Enhancement Program, and the differences that you all make in training and in your communities in terms of patient care, patient access, patient quality of care and cost as well.

And also, just highlight again how important we – not only is it important to us at HRSA, but how we believe that evaluation really is the key to sustainability for your – for the really important activities that you're doing with the grant program from HRSA. So, from there I'm just going to hand it back over to Craig.

Craig Stevens: Thank you so much, Dr. Chen. Again, this is Craig Stevens from JSI. JSI and JBS International are the partners responsible for developing evaluation training and technical assistance for the Primary Care Training and Enhancement, or the PCTE program. I'm sitting in for Alyson Essex, who is not able to join us today but will be introducing future webinars.

Alyson is the contracting officer's representative for the PCTE program, within the National Center for Health Workforce Analysis in the Bureau of Health Workforce, at The Health Resources and Services Administration. The overarching purpose of the PCTE program is to strengthen the primary care workforce by supporting enhanced training for future primary care clinicians, teachers and researchers.

The PCTE program focuses on supporting innovative training in three primary ways. Now, one is to encourage high quality primary care practice in underserved areas. Another is to enhance diversity within the workforce, and the third, to produce clinicians who will practice in and lead transforming healthcare delivery models.

You're joining us today for the first in a series of six PCTE evaluation technical assistance webinars. We're very pleased to offer this webinar series designed to provide awardees with evaluation resources aimed at increasing your capacity to

develop and conduct your evaluations. These educational webinars will focus on the application of evaluation topic areas and concepts of relevance to PCTE awardees.

As a kickoff to this webinar series, we're going to discuss the importance of using mixed method approaches to examine patient outcomes in graduate medical education. So, presenting on this topic, it's my privilege to introduce our two guest speakers for today, Dr. Frederick Chen and Dr. Roberta Goldman.

Dr. Chen is the Chief of Family Medicine at Harborview Medical Center, Director of the WWAMI Family Medicine Residency Network and Professor in the Department of Family Medicine at the University of Washington, where he teaches health policy, conducts research, as well as sees patients. He attended medical school at the University of California, San Francisco and received his Master's of Public Health in epidemiology from UC Berkeley.

After completing his residency in family medicine at the University of Washington, Dr. Chen was a Robert Wood Johnson Clinical Scholar, where he developed his research interest in health policy and medical education. He then moved to Washington, DC as the Kerr White scholar in the US Agency for Healthcare Research and Quality.

At UW, he has been the lead faculty for the WWAMI Underserved Pathway, Medical Director for the Washington State Patient Centered Medical Home Collaborative, and a researcher in the Rural Health Research Center. He recently served as senior advisor to HRSA's Bureau of Health Professions for the Teaching Health Center Program.

And Dr. Goldman is a cultural anthropologist specializing in the sub-discipline of medical anthropology, with particular expertise in qualitative methods of research. She's a Clinical Professor of Family Medicine at the Alpert Medical School of Brown University, where she's the Director of the Scholarly Development Program in the Family Medicine Residency and Director of Community-Based Research at the Brown University Center for Primary Care and Prevention.

She's also an adjunct professor of Social and Behavioral Sciences at the Harvard School of Public Health. Dr. Goldman has broad experiences in qualitative methods of research for mixed methods studies in clinical and community settings, and for incorporating social contextual issues into research and intervention design.

She consults nationally and internationally on qualitative research methods. Her research primarily focuses on the contextual issues that influence health illness, health-related behaviors and healthcare delivery. Dr. Goldman has become increasingly involved in health services research, particularly evaluation of initiatives to transform medical practice using the patient centered medical home model. She directs the evaluation unit of the Brown Primary Care Transformation Initiative, housed at the Brown Department of Family Medicine. Dr. Goldman received her Master's and doctoral Degrees from the Department of Anthropology at the University of Florida, as well as a Masters certificate in Latin American studies from the University of Florida.

Dr. Chen will be speaking on the need and opportunities for outcomes evaluation and research in Graduate Medical Education and Dr. Goldman will discuss an applied approach for mixed methods evaluation in PCTE settings. So, with that, I'm going to turn the webinars over to my colleague, Amanda Gmyrek, a member of the JSI/JBS evaluation technical assistance team, who will provide some details about the webinar and logistics.

Amanda Gmyrek: Great. Thank you, Candice and Craig and thank you everyone again for joining today's webinar. As Craig mentioned, my name is Amanda Gmyrek. I'm with JBS International and I am part of the JSI/JBS evaluation TA team. Before we begin today, I have a few very brief housekeeping items to address.

First, at the end of both presentations, we will have a question-and answer-session. When it's time for the Q&A, the operator will provide instructions on how to ask questions. Please make a note of your questions and hold your questions for both speakers until that time.

Second, today's meeting materials will be made available to you following the webinar. And finally, if you're having any difficulties with technical aspects of the webinar, please use the chat box to chat with JBS IT for assistance. It is my pleasure to now turn the webinar over to our first speaker, Dr. Frederick Chen.

Dr. Frederick Chen: Great. Thank you very much and welcome to everybody. Thanks for joining us. Thanks especially to HRSA for hosting this terrific webinar series, and it's really a pleasure to talk with you about this topic. I'm going to give some introductory remarks and some – a little bit of overview about medical education research and the quest kind of for patient outcomes in that work, and then hand it over to the next speaker.

So, let me – so I think most of us would agree that the overarching mission in medical education in general and I mean – in both graduate medical education, as well as undergraduate medical education, is to educate students and residents ultimately to be able to provide high quality patient care. So, how do we know we're doing that is the main question. And so, some of the questions that come up around that is how do we evaluate and how are you researching medical education? And as we started looking at this topic, we asked these questions about, well what's been the state of medical education research to date?

Have we started being able to answer some of these questions? We recognize that the authority for medical education has historically resided within the profession of medicine itself and a belief that there is an intrinsic capacity, as with many professions, to self-regulate and to adjust accordingly, how you create future members of the profession.

So, Geoff Norman in 2002 did a nice review article looking at the previous three decades of research. And really sort of characterized medical education research as a basic research on reasoning, on the use of knowledge, the development at the time of problem-based learning, and performance assessment around OSCEs [Objective Structured Clinical Examinations] in standardized patients and ongoing provision of continuing education.

And what you see there is reflected on the next slide, which is really a lack of a patient-level measurement, clinical-level measurement of outcomes of the kind of work we're doing in training and the work that our trainees do. And then – and again at the time, this was a nice paper by Georges Bordage that really characterized how the miniscule number of research articles and published papers that had even started to – tried to look at clinical outcomes of patients and that the vast majority measured trainee performance and trainee satisfaction.

So why haven't we tried to study or looked at patient outcomes? And I think even at the time and in these review articles, we saw a lot of common arguments and ones that we talk about currently. So, the focus on – of a lot of medical education research is actually on undergraduate medical education. So, medical school education, where at least at the time, you know, medical students' exposure and opportunity to affect clinical outcomes was relatively limited. There was an interesting belief, I think that many still have that students and other learners are actually able to overcome any kind of educational interventions that we try. And so, that it's not worth trying to measure sort of downstream outcomes.

There was – it's very challenging certainly to conduct any kind of randomized or blind trials or sort of high-quality evidence trials. There was at the time no reliable data on outcomes. And I think this continues to be true, the lack of resources [and] funding for this kind of research. And I think underlying that was a real sense that medical education as an enterprise really focused on individuals, and on selecting or admitting better individuals, improving or teaching them along the way, approving faculty, and had less of a focus on system level interventions like clerkships or residency programs, hospital-levels, health systems change.

And I co-authored an article with Helen Burstin back at that time, that used this graphic as a model of looking at the challenges and where we are in medical education. What you see in this diagram is the stages of medical education from undergraduate to graduate and then continuing medical education.

The current focus on intermediate outcomes of physicians' knowledge, skills and behaviors, and then ultimate, sort of, our effort at talking about how important it is to actually try to get to patient-level outcomes using at the time the IOM quality framework and thinking about those outcomes. This – and then the around the edges of this where these important environmental modifying factors, including the healthcare system writ large financing workforce, information technology, evidence-based medicine.

So, I am now going to admit publicly to the 110 of you, that these slides that you – we've just been looking at, and that I've just shown you, are 13 years old. These are, in fact, the same slides that I used for presentations when our paper came out in Academic Medicine. And it's a little bit telling that much of it is still quite relevant and it's quite relevant to our current discussion.

You'll be happy to know that they have been refreshed. And so, these – the rest of these are newer slides, which actually was a nice opportunity to kind of update where our thinking is now, in 2017. There's a couple articles I want to call your attention to. This is David Cook and Colin West piece in Academic Medicine from a couple years ago that really, I was pleased that they referenced our article, calling for outcomes research, but really sort of helped, sort of, counterbalance efforts to try to do outcomes research, and just be more realistic, if you will, or more practical about sort of how challenging it really is to do patient-level outcomes research.

And they have – this article is a really nice distillation of some of these – the main reasons why we should think twice about doing outcomes research, patient-level outcomes research in medical education. So, dilution is this concept of you know, what you teach a first year medical student and the time they've – after they graduate and then complete a residency and then are in practice for three or four years – how can you possibly sort of take an intervention that happens in the second week of medical school, and try to follow it out through over time with the confounders and the environmental changes that happen. I think that's certainly a very reasonable and valid argument.

Feasibility, which we've touched on a little bit already. The next point that they make is about how difficult it is to actually be sure you're measuring any kind of causality. And that's absolutely true without randomization efforts, without blinding efforts, and we end up with a lot of correlation type associations.

They also make an argument about biased outcome selection. When you're focused entirely on clinical outcomes or patient-level outcomes, like hemoglobin A1c or delivery of preventive services, are you sure that's the right test that we should be teaching to? I mean that's certainly an important measure, but you end up biasing the entire field of medical education research if you're solely focused on that, and I think that's the teaching-to-the-test argument that they were making.

That article actually engendered a healthy discussion in the literature, and this one is the most recent one that just came out this past year in JAMA [Journal of the American Medical Association] Internal Medicine that really sort of is a counter and continues to describe this ongoing tension we have between medical education, research outcomes, measurement of our interventions and sort of patient level and health system focus, and especially in the era of healthcare transformation, healthcare reform, sort of. This article really talked about how important it is to build systems thinking to link the education of our physician workforce with the care of our patients. What you see in this article is that reference to the sense that where we were, maybe 15 years ago, with a very singular focus on the individual has really transformed into systems level thinking, both around how we deliver healthcare, how we transform healthcare, and I think also, currently, sort of how we think about education and training at a systems level, and I thought that was a very helpful piece.

So, I'm just going to wrap up with actually some looking back at sort of where we've come over the last 10 to 15 years. There really are some very tangible success stories I think we can think about when we talk about, "Well, where are we now with medical education? How do we know we're getting close to the goal that we'd originally set out to do in medical education? And how do we know where we are?"

So, the examples I'd point to are physician workforce, both research as well as measures, as well as programming around it. I think the PCTE is actually a great example of it. I think some of the work coming out of the Bureau Health Workforce, both at the National Center, as well as others that have really sort of helped evolve our thinking about what the physician workforce is, where it comes from, how it moves, how it's trained. I think those are great examples of research – evaluation research that are really made more explicit the link between what we do in the training realm and what ultimately results. And as you heard, one of the goals of the PCTE program is, in fact, a training and production of clinicians who can practice high quality care.

I think if you look at our accrediting agencies and the specialty boards in the profession, you – I think you've seen a very healthy focus from those entities like the ACGME [Accreditation Council for Graduate Medical Education] and various specialty boards on really making relevant that link between continuing education, between residency training and clinical excellence, clinical outcomes. And that's everything from milestones work to continuing maintenance and certification and I think that they're – all of those efforts, as politically unpopular as some of them are, are really about this linkage between clinical outcomes, patient-level outcomes and the role of education and training.

And then finally, as we have moved into the era of the triple aim and now have a healthier understanding of it vis-à-vis the quadruple aim, which includes provider or physician satisfaction and understand – sort of engagement with care transformation efforts. I think that whole line of thinking about burnout, about how to keep physicians engaged and involved in their daily work and in the transformation work, I think that really lends itself as well to this thinking about where does that start earlier in the pipeline – in the medical education pipeline.

So those are my sort of overarching thoughts, a little bit of a walk back in time and a reminder that articles in the literature never die and that people will find them [laughter]. And so that's helpful too and I'm really excited about engaging in further in this webinar in discussion about this.

Amanda Gmyrek: Great. Thank you so much, Dr. Chen. Just a reminder to folks on the line to please hold your questions and save them for Dr. Chen at the end of today's presentation. And now we're going to turn it over to Dr. Roberta Goldman who will be speaking about using an applied approach for mixed methods evaluations in PCTE settings. Dr. Goldman?

Dr. Roberta Goldman: Okay. Thank you very much and thanks so much, Dr. Chen, for that great historical overview. I'm going to bring it down a few thousand feet and talk about different ways of designing mixed methods evaluations for PCTE and even other kinds of grants, other HRSA grants.

And what I was just thinking about is that I'm going to be referencing what we're doing for patient outcomes in our own Brown University PCTE grant that we have. What we're doing there is we're looking to enhance care for children and adolescents within the patient centered medical home. So, that's the context within which I'll be talking about those examples. But we've done a lot of evaluations of different HRSA grants and even this one, which involves some of the other things that Dr. Chen was talking about, in terms of evaluating effects on learners, on faculty. And so, I realize that some of my examples will be coming from there.

And the other thing, just to give you a sense of how we're going to do this, is you'll probably notice that I'm repeating various key points as we go through because with different examples, what I'd like to do is convey a sense of what the decision-making process is about. Because as you heard, it's really important to figure out how are you going to do this in a way where it's high quality and it meets the needs of what your research questions are?

So, with that introduction, let's get started. You know, why use mixed methods? Historically, qualitative methods weren't really used very much in evaluation or in medical research at all and now you probably hear about qualitative methods all the time. I have a small bias about qualitative methods, just because I am an anthropologist and predominately a qualitative researcher, but a lot of what I do is

in conjunction with quantitative researchers for a mixed methods approach, and the reason is that it's different ways of knowing.

Different types of data give you different kinds of information and you might need different kinds of information for different reasons, but also in the end you can triangulate the findings. Look at something, ask about something, hear people discuss something, and you get a certain – you get a much more expanded view of what's going on. Then survey about something, collect outcome data about something. You see where I'm going with this. So, for the quantitative, you're looking at the what. You know the outcomes, the frequencies, cause and effect, that kind of thing. What you can't get from quantitative, but what you do get from qualitative methods, are the whys and the how's to really understand the meanings associated with what's going on.

It's also very good for process evaluation, say you know, these PCTE grants are five years so they're – your programs are going over a long period of time and process evaluation lets you understand, do I need to make some changes? Do we need a mid-course correction? Are we collecting data that we want to collect? Are we missing important evaluation opportunities?

Also, you can have – use qualitative data for exploratory purposes. If you don't really know what you would ask on a survey, if you don't know what's going on very much about the topic you're exploring or explanatory. Say that you're getting outcome data, that's quantitative, from the electronic health record or from surveys, qualitative data can sometimes help you explain what's going on because you can get the "what" from the quantitative, but not necessarily the "why."

And I find myself always wondering when I see a purely quantitative study, "But why did that happen? How did it happen?" And so that's what the qualitative gives you. So, when you're designing program evaluations, ideally what you need to aim for is a contextually comprehensive mixed method evaluation. So that would give you the "what" along with the "why" and the "how."

I published a paper that I'm quoting myself from here, from a previous HRSA study that we did which was a PCMH (patient centered medical home) transformation evaluation, which seems to fit where I was talking about the notion that evaluation should be explanatory and it attends to the context of, in this case, the program intervention component and it elicits the experiences of the diverse stakeholders, which is important because sometimes you might just be looking at just the trainees or just the patients and looking at more than one of the stakeholders in the program that you are implementing – [it] is very important to get a comprehensive view of what's going on.

However, I'm here to tell you, again the 116-people listening, that it's easy to go overboard. It's easy to collect too much data – and I'll be talking a little bit more about that – where you are going for quantity over quality. And so you really have to make some decisions to figure out what is your best plan so that you can balance the comprehensiveness with feasibility – that is you can do what you set out to do and that you can do it well; and also that it's appropriate – so that you're collecting the appropriate data for the reasons that you have decided you are going to evaluate particular components.

So, some points about what to consider when designing an evaluation and really, it's all about decision making. There's decision making at every step of the way. First, deciding what you want to evaluate. If you have a multiple component program – which we certainly do for our PCTE and I imagine most of you do as well, with so many goals and so many objectives within those goals – maybe you can't evaluate everything, or you can't evaluate everything in the exactly the same way or with the same intensity or at the same time.

And so, what you have to decide is which elements are you going to evaluate and then how you're going to evaluate each one, you know, and then, not forgetting the "why." You always have to have the "why" of your evaluation in there, so that you can check yourself and decide, "Why am I collecting this data? What am I going to do with it? How is it going to help us?"

And that's something that you want to think about. "In the beginning, will we be using it for quality improvement purposes? Will we be using it because HRSA requires it?" Well then, of course you're going to collect it. "Will we be using it because we want to move a particular element of the field forward, give presentations at professional conferences, write publications?" You collect things differently for different reasons.

And what you want to do is think about how you're going to get the essence and the progress and the outcomes of each element that you're going to best assess – that you're going to assess and how are you going to best do that. So, I kind of surprised myself when I put the word essence in there. You don't hear that a lot in relation to research or evaluation. But when you think about the qualitative elements of what you can get, how are people experiencing the program? How are they experiencing the changes? How are they experiencing being a patient who is now being – getting services that are in a different kind of way? That's what I'm talking about, about getting the essence. And because there are so many different evaluation modalities at your fingertips, you have to think about how you're going to do it.

So, for some examples, you know if you were to do qualitative interviews with open ended questions, you're asking people questions and they tell you what they're thinking about that. So, it's what they say. For instance, one of our program elements is to teach the residents geographic information system, GIS, mapping skills. And so, there's a long exercise that we just started implementing this month that they're going to do for part of their population health training.

And so, I can interview these residents about how they're learning what their process is. I could also watch them do what they're doing. It's a very long 14-page exercise instruction booklet that they go through and I can see how are they doing it? Is it too burdensome? Is it onerous? Are they getting aggravated? Are they interested? Are they trying new things? Are they doing only what it says? Something that I could use participant observation [on] and then we could use a survey to get comparable metrics. And, so actually we're going to be doing at least two of those, if not all three of them for that particular component. We have one of

our components is an adolescent health advisory council that we have started partnering with the Boys and Girls Club that's local and we have student member leaders from the Boys and Girls Club. We've got our own young faculty. We've got more seasoned faculty, not – well not young faculty, young staff, more seasoned faculty, residents and they're conducting six-week series for the teens at the club.

And the staff there are reporting on not just how many kids are showing up and what the topics are covered, but all elements of participation, questions asked, the tone and the feel of the sessions, the obstacles and the solutions that they're running through, all kinds of logistical issues in delivering this program. And they're preparing a synopsis of this for every one of our six-week series and it's in a way like a PDSA, like a Plan-Do-Study-Act quality improvement cycle, where we can continuously make this better and better, including the experience of the residents who are involved.

So, the participant observation is something that is not often used, but for our past HRSA residency training program, what we did was implement a resident faculty for our workshop once a month in the afternoon, protected time, on thorny aspects of professional development. And we knew that we were asking the faculty with the residents to roll up their sleeves and really get into topics that were difficult to discuss. And so, I was there, sort of like a bird on the windowsill or something, to take notes throughout about the tone and the reaction to each of the teaching moments and the silences and the outbursts and the laughter and we use that for quality improvement as well as for publications and thinking about professional development. So, just some examples of how these things could be considered.

So, if you're going to decide which methods will ensure contextually comprehensive evaluation, you have to think again as I mentioned, about, do you need more than one method for each element? Do you need different elements for different methods? Or do different elements need different methods and maybe there's different time points and again the "why."

So, you might do a survey of knowledge pre- and post- the program, supplemented by interviews to understand the experience and maybe figure out why knowledge changed or didn't change. You might want to count group medical visits that residents participate in and then survey with close-ended answers about how they raise their confidence and comfort and their skills and their intention to use this kind of modality in their practice after graduation. And then you might interview them about their experience, about why they're feeling this way about their comfort level and their skills.

Different methods at different times. So for our Brown [University] PCTE, we're surveying in the beginning and yearly about curriculum innovation and then we're following with interviews later on and for patients' outcome measures; what we did was we used EHR, electronic health record, data at baseline before we started any of our interventions and then we are going to be analyzing EHR data for patient outcomes about child and adolescent HEDIS [Healthcare Effectiveness Data and Information Set] measures and measures in screening and uptake and all different kinds of things going through the entire grant period.

So, you can see that there are things that you might want to use differently, or you might want to use them at different times and all of these take decisions. So, for efficiency, you might consider, can one method be used to simultaneously evaluate more than one element of your program? And that's what we've tended to do. So, our survey is evaluating all the curricular components for residents and faculty – the faculty about the curriculum and how they see the residents going through it, the residents for their own experience – and, but you have to worry about that because on the one hand, the burden on each person is only one, as opposed to multiple small surveys. But, on the other hand, it's a long survey and we literally had to duke it out with the directors of all the curricular components to reduce the number of element – of questions that they were having in each of their sections and it's still a long survey.

So, you know, the residents and the faculty saw it as a bit of a burden, but eventually we did get them to complete it. In the past we had interviews, qualitative

interviews for all the curricular innovations and we had thought that that was too much of a burden on residents and faculty, but now we're hearing from residents who experience both that actually they preferred the interviews to the surveys. And I think that goes to some of the other values of doing qualitative interviews, because the residents, I think, really felt like they had a lot of input into the assessment of our curriculum innovations as we were going along because the survey allowed them in their own words, you know, to talk about what their experience was.

The other thing you can do is use the same base survey for different activities. So, for another HRSA grant we have right now, what we have is so many different components that each have different learners. See, if in our PCTE the learners are usually the same that are going through all the components, but if you don't have the same learners, then that won't work to do what I was mentioning a minute ago. So, maybe you'll have a survey that has the same structure, but you change the topic of the questions for each of your different components, so it reduces the burden of having so many almost willy-nilly seeming surveys out there and it gives you a little bit of rigor and structure to what you're doing.

So, all of this, because it requires so much decision making, really requires that you document it. And that's something that we have done better and less well in the past and learned a lot from that, because what happens when you have a long multi-year grant, is that you find that you could be circling back to old decisions.

And maybe you've already nixed something and then three years later you've got a new staff person, because your staffing changed, and he or she comes up with an idea and you say, "Oh yes, why don't we do that?" And then there's maybe only one person on the team left who even remembers that you went through that decision-making process already and you don't want to drag that up again because you very, very thoughtfully decided that you were going to do it this way and not that way and goes with the changes that you made.

So, of course having good meeting notes, meeting minutes. You could record your meetings, but what we actually are doing for our PCTE now, which we're finding to

be incredibly useful, is we have a table. We have a table of evaluation components by a particular type of learner, by the goals and the objective and who's responsible, what the evaluation component is, when it's supposed to start, when it's supposed to end, when it's supposed to be repeated, why we're doing it and we have a column for the changes.

So right away we can look back – we're already in the second year – we can look back and say, "Why did we decide that we were going to hold off until the third year? Why did we decide we were going to do a survey instead of an interview?" It's been very, very helpful. So, I recommend that people put together a table or a spreadsheet or something that then helps you keep track of the decisions that you made and the decisions going forward.

So, I talked about feasibility. Now it's really, really important to think about – your best design may turn out not to be the design that is the most feasible for you. It's disappointing. It's aggravating. You have to make the decisions of where the give is going to be, because you want to keep the quality very, very high. So, how can you collect all of the data that you propose to collect? Can you do it in a rigorous, high quality manner, or do you need to maybe reduce it, so that your quality can be improved? And then, will you analyze, and can you analyze? Do you have the staff and the skills, and the time and the resources to analyze all the data that you collect? And then will you use it, and how will you use it?

So, it goes back to my original point of, how will you use all the different kinds of data that you're collecting? Can you apply it for the reasons that you intended? So, you might want to also periodically revisit your evaluation plan. Make sure that you're on target with what your plans were. Have your needs changed over time, because you've changed your program? Are there other ways to evaluate? For instance, I always knew that I was going to do brief interviews with the residents after they did the GIS mapping exercise. And just yesterday, we decided to implement a short survey, so that we can have comparable metrics as we go forward, because we realized that this is something really new that we're doing, and we thought if we document it very, very well, we will be able to publish on it, and

that's something that we'd like to be able to do. And I know all of you have very innovative aspects of what you're doing. So, the higher the quality and rigor with which you collect the data, the better you'll be able to report on that going forward.

So, what are all the potential evaluation methods? We could have a series of webinars on just this topic. So, I'm going to just briefly breeze through it, but thinking about how these measures can be used with all the different types of learners. For instance, patients, your trainees, teachers and faculty, community, other stakeholders, maybe local governments or whoever else is concerned about what you're doing.

I see that I label my columns qualitative measures and quantitative measures, but in fact I don't usually think of qualitative measures, but more like qualitative methods. So, in the qualitative, there's all kinds of site observations that you can do. We're observing, as I noticed, our Adolescent – as I mentioned, our Adolescent Health Advisory Council for PCMH transformation. We observe clinic waiting rooms, and back at the nurses' station, and all throughout the clinic to see what the workflow was, taking very, very rigorous notes. You can have site observation, otherwise known as participant observation. Guides that help you figure out, you know, keep track of what you're seeing and how you're going to take the notes.

You could have process pathway observations, which we used extensively for the PCMH transformation, where you're observing basically something, anything from the beginning to the end that's relevant to your project. So, maybe you're looking at a patient visit from the moment that the patient walks into the waiting room, through registration, waiting, going into the back, doing everything that's done, going out through, checking out, and then back out into the waiting room.

You get the clinician on the patient to just stick with the patient throughout all of these different process, including – we were right in the visit room with the patient, with their permission. We did the same thing with staff to see what workflow is like, and you take notes throughout the whole thing with the staff. We didn't go into the patient room. We thought that would be too disruptive, but waited right outside,

and then picked up when the patient came out. Or maybe it was a staff person that wasn't going into the patient room for very long, but just maybe rooming the patient, and then going with that staff person to whatever else she was doing.

You can look at residents caring for patients during a clinic section. You can look at faculty bringing learners through an exercise, like the GIS mapping I mentioned, or some other kind of maybe simulation exercise they might be doing for -- you could use interviews, if you want in-depth individual story. You can do them in person, you can do them on the telephone, but the thing that you want is a relatively small number of in-depth information from the person that you're interviewing.

In contrast to focus groups, which gets you a dynamic interaction. Focus groups are discussions. So, what you hear is something that's more shallow, but what you hear is that discussion of people talking about your topic, which can be very, very important. And then analysis of written materials. It could be materials that already exist like mission statements, strategic plans, that kind of thing, or new written materials, for instance reflections on an experience. It could be patients writing about their experience in the clinic. It could be residents, it could be students, whatever it is.

So then on the quantitative side, you've got you know, the gold standard is usually considered to be validated surveys, but I found that very rarely do we find validated surveys that are looking at exactly what we want for our topic, and for our population. So maybe there's other existing surveys, surveys that you create specifically for the PCTE project. As I mentioned, our EHR patient outcome data tasks that we're doing, normal curriculum evaluations that you usually do. You want to leverage what you're usually doing for rotations, for new conferences whatever it is, and then of course, the HRSA required data. Going to speed up here.

So, this slide gives you a lot of information. And you'll have all these slides afterwards, so you'll be able to look more closely. But the point being that all of these different needs for information will, you know, motivate you to choose different kinds of methods. So, for instance, counting percentages. You can go to

EHR data, surveys, participant demographics. If you need frequencies in ratings [you can use] surveys. If you want to understand meaning and context, or process and progress, you might look at participant observation, interviews, focus groups, and then the individual or the discussion, interviews or focus groups.

But you want to make sure that you can get the information. We once tried to collect survey data from harried nurses who ended up throwing the survey paper right back at us, and we realized that wasn't going to work. We had to get information from them in a different kind of way. You don't want to be too much of a burden. You want to get a good enough sample, which actually brings me, I believe, to – yep – the next slide.

We can't really talk in-depth about sampling, but for quantitative, you know, there are sample calculation formulas that people know how to use. And so, you want to figure out, "Will I be able to get a large enough sample to be able to say something about it?" And then for qualitative, it can get actually quite complex because the samples are usually smaller, but the more differences you have, like let's say you were doing interviews of patients, you need maybe different ages, different languages, different diagnoses, length of time in the clinic, who knows what else other characteristics might be? Then your – you realize that the cells start multiplying, and your sample might get too large for you to be able to collect in a reasonable and rigorous way. So, there's a lot of decisions to be made. And then again about when you're going to collect all of these different times.

So, to end up, I just want to let you see that, for our residents, we started different kinds of evaluation tasks in different years. You can see which are qualitative and which are quantitative. And of the 10 things listed on this slide, six of them are entirely new for our PCTE. Two of them existed already, but they are enhanced for the topics to focus on our children and adolescents for this grant. And two of them were already existing.

And then, the last slide from faculty, everything on this slide is new for faculty, patients, and community, in the way that we're collecting the quantitative and

qualitative data. So, I'll leave you with that as the example from our PCTE grants. So

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Amanda Gmyrek: Great. Thank you so much, Dr. Goldman, for that presentation, and for the kind of real world examples. I think we will now turn it over to Michelle, our operator to provide some assistance to attendees with asking questions for our Q&A sessions.

Coordinator: Thank you. At this time, if you do have any questions or comments, you may press star followed by the number 1 to ask a question. Prior to pressing star one, please unmute your phones and state your first and last name when prompted. Again, star one to ask a question.

Again, you may press star one for any questions or comments. Katharine Mai, you may go ahead.

(Katherine Mai): Hi. I have a question for Dr. Goldman. We're doing a study where we are planning to interview patients about their experience in our clinic. And I was wondering if you could talk at all if you've had any experience with – these are outpatients, with how long you want to wait or not wait before talking to a patient? You know, do you want to try to interview them the next day, give them a week to process? What are your thoughts on that?

Dr. Roberta Goldman: Well, I guess in part it depends on what you're interviewing them about, and how vulnerable the patients are and how vulnerable, you know, they might be to feeling, you know, emotional about the questions. I mean it's just – it's really hard to say, but we – I think the sooner the better actually, because as soon as time passes, you know, a patient may go see another doctor in between or know someone who's seen another doctor in between, may have talked about it at length with other people.

So, if you could even do exit interviews, if the patient had time. The problem is patients often are in a rush and you can't, but I think the sooner the better probably is the way to go with that.

(Katherine Mai): Thank you.

Coordinator: Once again if you'd like to ask a question, please press star one. (Kendrick Davis), you may ask your question.

(Kendrick Davis): Hi. My question was for Dr. Goldman as well. I have a program where – and we're doing quality improvement projects in a community based medical school. So, we literally are purchasing RGIS in order to do some GIS mapping with the data that we get. I was wondering if she'd be willing to share her exercise, so that we can see what we can glean from it and incorporate into our training of the residents to use the RGIS software.

Dr. Roberta Goldman: Yes. I'm thinking that we probably can. I will say that as we speak, our first resident to try this, our first intern, is using this instruction manual. And what we're hoping to do is improve it over the next few months and rotations. And we are presenting it at TFM [Teachers of Family Medicine] this year. So that's exactly what I was thinking, you know, would – is it available for us to give – to hand out to people who might be interested? And I'm not the GIS expert, but I'll check with him and I'm pretty sure we will be able to do that. So, just get in touch with me by email.

(Kendrick Davis): Thank you.

Dr. Roberta Goldman: Roberta_goldman@brown.edu and I can let you know.

Coordinator: Thank you. Once again if you do have any questions, you may press star one.

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Coordinator: At this time, I am showing no further questions.

Amanda Gmyrek: Great. Thank you, Michelle. Any folks from HRSA or Dr. Chen or Dr. Goldman, do you have any additional comments you'd like to make? We have a few minutes remaining still, so we can continue the discussion.

Coordinator: And we do actually have one more question. Would you like to take that?

Amanda Gmyrek: Go ahead. Take it.

Coordinator: Ruth Dufresne, you may ask your question.

(Ruth Dufresne): Yes. Hi. This has been very helpful. I was just wondering, do you have any recommendations for how you would see or disseminate evaluation findings back to either learners, clinicians, or community stakeholders?

Dr. Roberta Goldman: Were you asking me, Roberta?

(Ruth Dufresne): Yes. Yes, that would probably be the most...

Dr. Roberta Goldman: Yes. So, I mean that's really, really important. And it just makes a difference I guess which of those stakeholders you're talking about. So, for community stakeholders, you know, I've always liked to have community meetings, if possible. And, you know, if there's any like local publications, you know, if you've worked very closely with community organizations and let's say they have newsletters, there might be ways to get findings back, you know, in that kind of way.

I like to go to the community as opposed to asking the community to come to the hospital, you know, and physicians' auditorium and give them a lecture. So, those kinds of things. For other learners, you know, we do give, you know, lectures and seminars with our residents and tell them, sort of, what we're finding and how things are changing.

We try to give presentations as often as possible at the – we're family medicine, so the Family Medicine Research Group, which is the research organization, or the Society of Teachers of Family Medicine, or more topical other educational conferences, and then publications. But, you know, if we're – you know, we're hoping to actually do a little bit more community engagement with the local governments that are in our area, and, you know, I'm imagining that we'll be doing a lot of kind of ongoing interaction with them.

So, I'm hoping that the feedback that we give to them, and that they give to us, actually is periodic and ongoing as opposed to just like, "Oh, it's been five years and here is the end of it." But I think you're right there, that it's hard to figure out what's the best thing for each type of stakeholder, but it's very important.

(Ruth Dufresne): Thanks.

Dr. Roberta Goldman: Are there any other questions?

Amanda Gmyrek: We have a question in the chat box. (Christine Morgan), I don't know if you're available to press star one and ask the question. (Michelle), I don't know if it's okay if I read it in the meantime and then if she wants to join in. (Christine)'s question is, can you address the need for IRB approval for evaluation tools and measures? And is it better to submit all of your proposed methods at once, or as needed?

DR. Roberta Goldman: It makes me laugh, because in a way we're going through exactly that right now. And I would say it actually depends on what the state of your evaluation design is. Like if you're pretty confident with your evaluation design and you've got all your measures developed or chosen in the beginning, then by all means, you know, put them all in at one time, but you may not.

You know, like we just decided that we were going to do a survey about the GIS mapping. So, obviously I haven't put that one in through the IRB yet, so it'll be an amendment. It also depends on your IRB, you know, the IRB that you're working with. Do they – how quick are they with amendments and, you know, how easily can you get things done?

So, for instance we knew, we – the minute that this – it might even have been before we were awarded the grant, we knew that we wanted to look at the EHR data for the patient outcomes. So, we immediately jumped on the IRB for that and got that done. And then we were – it was recommended to us by our IRB since that was exempt. It received exempt, that instead of then on top of that exemption trying to put the surveys and the interviews and all of that, having an IRB application that was part exemption, part expedited, part full, they said just start again. You know, just make it a new project.

So, you really have to work closely I think with your IRB, when you have these very multifaceted designs that are going over years and may – and some things may not kick in until year two or three. And I actually had that conversation with the IRB, like this is our situation, how should we do it? And you know, we got some guidance on that.

So, I can't tell you exactly what will be best. Of course, you'd love to just get things out of the way. And then maybe if you have something that's going to be very problematic for the IRB and you're not starting it right away, on some grants what I do for these HRSA grants is we don't ask for that one right away. We just ask for IRB approvals for the methods we're going to use right now, especially if those are much more straightforward, because we don't want your IRB to be held up for everything, because there's some problems with something that's a little bit more problematic for the IRB. So, you know, so you have to make those kind of decisions.

Dr. Frederick Chen: And this is Freddie Chen. I mean I think underlying this question is this important issue, you know overlaps, overlapping domains of research with medical education and evaluation with the world of quality improvement, you know, and traditionally or historically we certainly have said, you know, IRBs consider exempts quality improvement work, or educational evaluation work. And yet the real challenge with what we're doing in moving the field forward and elevating, if you will, the level of research, is that it really does need to be disseminated. It needs to be shared, and it needs to – we really need to push it sort of at that level.

So, I generally do recommend people to do the IRB – to go through the IRB piece just because you want that work – this work to get shared and disseminated at a higher level. That's the only way we're going to be able to move it forward and to – and so I think it's a great, it's a really – it's always a challenging question, but I think it's one that's important. And I think underlying it, sort of, touches on these different areas that we find ourselves in, in this discussion around medical education outcomes, quality improvement.

Dr. Roberta Goldman: Yes.

Amanda Gmyrek: Sorry.

Dr. Roberta Goldman: Yes. I agree with that, and I see there's another question about HIPAA and I always – yes, HIPAA is important, and so – excuse me. Our IRB won't let us get through without the HIPAA as well. So, what I usually do is try to incorporate the HIPAA language into the consent form, so that we don't have separate consent

forms and it doesn't become incredibly ridiculous for patients to spend 15 minutes filling out consent forms, but you – of course you want them to consent. So, for patient viewing – interviewing the HIPAA issues are as important as any of the other IRB issues.

Amanda Gmyrek: Great. Thank you so much. Michelle, do we have any more questions on the line? I see that we're coming up to the end of our hour.

Coordinator: Once again if you do have any questions or comments, you may press star one. At this time, I am showing no further questions.

Amanda Gmyrek: Great. Well, thank you so much everyone for attending today's webinar on the importance of using mixed methods approaches to examine patient outcomes and graduate medical education. A huge thank you to doctors Chen and Goldman.

If you have any questions please feel free to contact your COR for this project, Alyson Essex. Here's her contact information. And as I mentioned at the beginning of today's webinar, the meeting materials will be made available to you following the webinars. So, we will be sharing those. And again, thank you for attending today and have a great evening.

Coordinator: Thank you. This concludes today's conference call. You may go ahead and disconnect at this time.

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