

**Session 4.05 - Evaluating Evidence-Based Practice Implementation in  
Child Welfare: Methods and Emerging Issues in the Field**

**Panelists:**

Jill Filene (Moderator)  
C. Hendricks Brown  
Brian Bumbarger  
Enola Proctor

*Please note: The following is a direct transcription and has not been edited.*

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Jill Filene: Hello, good morning. Welcome to the session title Evaluating Evidence-Based Implementation in Child Welfare: Methods and Emerging Issues in the Field. My name is Jill Filene. I am a Senior Research Associate at James Bell Associates and I will be moderating today's session. As the evidence grows for interventions in child welfare agencies have undertaken the replication and scaling up of those interventions. As this has occurred researchers and policy makers have increasingly emphasized the need to understand not only the outcomes producing these replications, but, also the mechanisms and elements that influence their outcomes. So we're now at the point where we have a growing body of wisdom and experience about evaluating implementation readiness, process of implementation and their effectiveness of implementation strategies in the context of child welfare service delivery.

Today's panels will share a wealth of information drawing from their experiences and evaluating the implementation of mental health and child welfare interventions. In addition to the information that they will be providing, I have planned to spend yesterday attending all the session that were related to implementation evaluation and then try to identify some key issues that cut across those sessions. But, that didn't quite work out as well as we've planned. So, last night on my flight up here I was trying to figure out what I was going to say to introduce this session. Well, I won't say much because we have these three leading experts in implementation research. I'll start with talking about why it's important.

So, 10 years ago I worked on a state wide replication of an evidence-based child welfare program. I was really excited because the state had decided that they wanted to adopt an evidence-based program to try to reduce their child maltreatment, infant mortality rate and so I thought great. I can go. I can help train new staff. Then I can go out to home visits to do fidelity assessments and we're going to make this big change. So, I attended the two-week training session and then started to go out talking to supervisors and home visitors about the program and the supervisors weren't really so sure they wanted to do it. The home visitors were very resistant. They thought what they were doing was already effective, and then I started to observe implementation in the field. And I mean I saw the broad range of things from people who you know is a very protocol standardized intervention who knew exactly what to do at every single visit more comfortable, confident, implemented well, people responded well to it.

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To one home visitor who looked at me as soon as we went to the home and said I have no idea where to even begin and this is after very a two-week training where we used you know all the right training methods with role playing and discussion, observation and my favourite story is about a home visitor who did know what she was doing and felt comfortable with that. And part of the program is to go around house and identify hazards and point them out and teach the family how to modify those that they weren't accessible to the children. And so we went into the kitchen and she is opening doors that can be you know reached with knives and then by the children said, okay these are hazards. We're going to need to talk about these and then she opened a cabinet you know kind of at eye level and there was a massive snake, the biggest snake I've ever seen in my entire life.

And I was like you know she said okay. So, we consider this a hazard. And I was like all right. You know we have developed the relationships as we are travelling all over the state and she is slowly backing out of the kitchen and I thought it was big, so and she told me to pull that I mean, and I said is that real and she said yes, oh we got you and they thought it was great, but, she felt comfortable enough to be able to implement the program and pull a big trick on me. And so while I think that I am going to turn this over to the panellists and I also want to say that it's really important I think to have this dialogue. Yesterday, we were supposed to have a session about fidelity and we had three different sessions. We were all following the same abstracts.

We all created our slides and put them together and had a plenty of discussion about how they fit together. Even though we're all using the same abstract, our sessions were completely different. One was focused on fidelity to a very small set of fidelity criteria and related to outcomes around that. Mine had 33 fidelity criteria and trying to condense those into a meaningful scale so that you could look at that in relation to outcomes. Another one was looking at well, really what are the factors, implementations that sounded to get us too high fidelity. So, we all just think need to be having more discussions so that we can all be speaking the same language and moving in the right direction. So, now I'd like to introduce our three panellists. Brian Bumbarger is going to be our first speaker. He is the Director of the EPISCenter, I am sorry if I pronounced that wrong.

Brian Bumbarger: No, that's all right, EPISCenter, it was like an earthquake.

Jill Filene: Okay, well that's perfect. As well as Translation and Dissemination Unit Leader at the Prevention Research Centre at Pennsylvania State University. He has served as Instructor of Criminal and Juvenile Justice at Penn State, Director of Technical Assistance from the National Coalition for Juvenile Justice; Drug and Gangs Specialist for the Office of Juvenile Justice and Delinquency Prevention and the Project Manager for the Pennsylvania Centre for Safe Schools. He has been a member of peer review and expert panels for the U.S. Department of Education's Office of Safe and Drug Free Schools, the National Council of Juvenile and Family Court Judges and the Journal of Prevention Science. He has provided training and technical assistance to juvenile justice and social science agencies in nearly every U.S. state and territory. He has consulted

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with a number of foreign governments and published a variety of peer-reviewed journal articles, book chapters and state and federal policy papers.

Following Brian, we'll have Dr. Enola Proctor. She is a Frank J. Bruno Professor of Social Work, Research and Associate Dean for Research at the George Warren Brown School of Social Work at the Washington University in St. Louis. She leads a Dissemination and Implementation Research Core for Washington University's Clinical and Translational Science Award grants. She directs the Center for Mental Health Services Research and a doctor on Post-Doctoral Training Program in Mental Health Services Research both funded by the National Institute for Mental Health. Her research grants have been supported by the NIMH and the National Institute of Aging and most recently she was the Principal Investigator of an NIMH R34 grant to adapt and implement collaborative care for depression and community long term care settings for older adults.

And following Dr. Proctor, we'll have Dr. Hendricks Brown, who is a Professor of Epidemiology and Public Health at the Miller School of Medicine at the University of Miami and the Interim Director of the Prevention Science and Community Health Division in that department, Director for Social Systems Informatics Program in the Center for Computational Science and is adjunct professor of Biostatistics in the Department and Mental Health at Johns Hopkins School of Public Health. Since 1985, he has received national institutes of health funding to direct their Prevention Science and Methodology Group and have a national network of over 130 scientists and methodologist who are working on the design of preventive fields and their analysis and implementation of prevention programs. He also directs the National Institute on Drug Abuse funded Center for Prevention Implementation Methodology for Drug Abuse and Sexual Risk Behavior and the National Institute of Mental Health funded study to synthesize findings from individual level data across the multiple randomized trials for adolescent depression. So you can see that we are in very good hands to talk about the current methods and issues for implementation research. Brian?

Brian Bumbarger: Thank you. Good morning everyone.

Jill Filene: Good morning.

Brian Bumbarger: So, just let me get a this is my first time at this conference, so just let me get a quick stand. How many people here are researchers? Okay. Policymakers? Practitioners? Direct Service Workers? Managers of provider organizations, yes, mostly researchers okay. Well I think we have an interesting panel this morning. I thought I would start out the panel, because I'm going to be really talking about kind of a big picture philosophical issues if you will to think about how we ground our thinking in regard to evaluating the implantation of evidence-based practices in child welfare in the realities of politics and real world practice. And so I'm going to be I'm basically going to be summarizing my observations over the course of 15 years of trying to take evidence based programs and practices to scale. As Jill mentioned, I'm the Director of the EPISCenter, which is the Evidence-Based Prevention and Intervention Support Center,

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which is a project of the Prevention Research Center at Penn State University and I've been working there for about 15 years primarily in partnership with state agencies in Pennsylvania to promote the large scale dissemination of a specific menu of evidence-based interventions.

And so I'm going to summarize my own thoughts and experiences about what has worked where we've been, where we are now and what I think the challenges are that lie ahead. And then the other two panellists I think are going to get a little more specific about evaluation methodology and I know Hendricks is going to talk about a specific example. I just want to mention that the work that I've done that has resulted in this accumulation of wisdom or experiences has primarily been funded by the Pennsylvania Commission on Crime and Delinquency specifically the Office of Juvenile Justice and Delinquency Prevention although I think it's worth noting that my centre the EPISCenter in Pennsylvania is funded jointly by the Pennsylvania Commission on Crime and Delinquency and the Pennsylvania Department of Public Welfare and it's overseen by a Multi-Agency Steering Committee that also includes the state departments of health and education. So, that's I think that's really a progressive approach that Pennsylvania is taking to think about all of the what usually function as separate silos having them work together to support a state infrastructure for moving evidence-based practice to scale. So just to give you a snapshot of the things I'm going to discuss this morning. I'm going to talk about our progress and scaling up, but, I'm going to introduce the idea that I think we've got a little bit of goal confusion. I'm going to talk about the fact that what we all know what gets measured matters, but, I'm not sure we're measuring the right things. I'm going to introduce the question of whether there is any logic to our logic models. I'm going to talk a little bit about carrots and sticks.

So and Jill please keep track of time for me. Let me know when I have about five minutes. So, in Pennsylvania just to describe the context of this work that we've been doing in Pennsylvania, we have something we refer to euphemistically as the blueprints initiative stemming from the blueprints for violence prevention work that identified sort of the first list of evidence-based programs and it's primarily those blueprint programs that we've been working to disseminate and take to scale in Pennsylvania over the last 10 or 15 years. It's worth noting that prior to this initiative to disseminate these specific evidence-based interventions, Pennsylvania first rode out a previous initiative to fund a community prevention planning process called Communities That Care. I don't know how many people are familiar with Communities That Care anyone? Okay.

So, here it is the care is sort of an epidemiologically based community prevention planning model that guides communities in the identification of specific risk and protective factors that they want to address using local epidemiological data. Excuse me, so through that process communities throughout Pennsylvania identified the need for specific programs that they wanted to implement to address specific risk and protective factors. And to do that the state then began funding the replication of program start-ups from a list a specific menu of evidence-based programs. Since about 1998, there have been about 200 replications of evidence of the specific menu of evidence-based programs throughout Pennsylvania. So, that's a huge test bed in it and I think a pretty unusual test

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bed just study this process of large scale dissemination and to begin to investigate some of the issues related to translational research.

The menu as I said is it stems from the blueprints list. It's kind of the usual cast and characters and prevention and intervention, big brothers, big sisters, life skills training, strengthen families program, promoting alternative thinking strategies, multi-systemic therapy, functional family therapy the programs that I'm sure you're familiar with. Although it's worth mentioning that if you look across this menu of programs that's our really broad range of programs with very different targeted behavioural outcomes, very different targeted age range populations a huge diversity of theories of change involved, but, they all share two common characteristics. They've been they've demonstrated evidence in randomized trials and they improve long term behavioural outcomes for children and families. So, this is what our coverage area look like in 1999 after we had just begun disseminating this menu of evidence-based programs in Pennsylvania the little dots are the locations of the actual grant recipient organizations and the green shaded areas are the county coverage areas of those programs and you can see the list of different blueprint programs there. So, this was 1999 and this is in 2011. So, that's a pretty substantial increase over that decade in the dissemination of these empirically validated interventions across a whole range of behavioural outcomes. So that can be seen as a success and the state considers that a success; we consider that a success, but, the in the middle of that period, in the middle of that decade long period, we changed gubernatorial administrations and the state agencies that support our work came to us and said, we have a new governor and the new governor says, if we want to keep anything that the old governor put in place, we need to demonstrate to the government for the new governor that those things are really having an impact. And so we you know we went to the data that all of these grantees had been reporting to the state and we look through all their quarterly reports and we thought, well, this will be easy.

We'll just take all their quarterly reports and just roll up that data and produce a little report to demonstrate the new government. Well, what we found out was that we really couldn't say a whole lot. It's nothing we couldn't say anything, but, across what then were maybe a 120 replications of evidence-based programs, the best we could do was really come up with about 20 case studies 20 case study examples of specific programs that had collected good data and could demonstrate that are in impact. So and I think that this is sort of its characteristic of where we are in the field right now. We've demonstrated the efficacy of loss of interventions. We've created lots of different lists. We've established policies and mandates for practitioners to use programs interventions from these lists, but, that hasn't equated to broad public health improvement, which is really where we're trying to get to it. The goal here is not the dissemination of evidence-based programs. That is a means to an end. The goal is really to improve public health outcomes. So, it's important again kind of philosophically to think about why that is the case.

So, it's important to remember then that these programs that are currently on the list of evidence-based interventions, they were generally developed by researchers who were interested mostly in testing a theory. They were interested in testing a hypothesis about

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an ideological model of some behaving problem. So, they created an intervention that they wanted to that they hypothesized would interrupt a causable chain of events that ultimately led to some behaving problems that they wanted to intervene with or prevent. And then they conducted a study to demonstrate the efficacy to support their hypothesis. And if their efficacy study worked out, they published an article about it. Someone did a literature review and read their article and boom, they're on a list.

And you know we all kind of saw how that chain of events happened over the last decade. So, you know it's not surprising although it seemed to have caught us all by surprise that just because these programs had demonstrated efficacy in a randomized trial, it didn't necessarily mean that they were ready to go to scale, but, there was the infrastructure to take them to scale that they could be delivered with fidelity and quality and natural conditions and that they could be sustained and that they would and that outcomes that we saw in randomized trials would actually also be seen in under natural conditions under large scale replication. So, you know we've gone from prevention science. We've gone through this process of developing a science of prevention and now we need to sort of step backwards and unpack that back into prevention service and that's where we are right now as I feel we're thinking about okay, and how can we take these efficacious interventions and how can we make them work under natural conditions in the context that they need to work in. So, that's point number one is that dissemination and implementation are not the same and sometimes they work across purposes. So, again in the work that I do the states thought that what it was the mandate that they were giving my organization in the beginning was to get these evidence-based these evidence-based programs are clearly good. We want to get them in every community and every county. So, for instance we heavily promoted multi-systemic therapy and functional family therapy. We got them in lots of counties in Pennsylvania and after a few years, many of those programs failed.

They failed because they are designed under a business model that requires a certain level of a certain case load, a certain number of therapists to be employed and the reality was in some of these counties that had in Pennsylvania if you're familiar with anybody here from Pennsylvania? So, in Pennsylvania we have some counties that where there are more yelp than people, just more than sufficient. It wasn't a sufficient case load of children to support the team of therapists that needs to be in place to have a high quality, high fidelity replication of MST or FFT. And so, it was a that was a lesson that we learned that the dissemination just for the sake of dissemination is not the goal. Again, it's does it fit in this community context and that again so I'm mentioning this in as something that we need to consider when we're deciding what to measure when we evaluate the implementation of these evidence-based practices.

So, we know that again that there are a number of barriers that have been identified that might prevent us from going from listed evidence-based programs or evidence-based interventions to this public health outcome that we are ultimately trying to get to. Today, we're focusing specifically on these three barriers ensuring sufficient implementation quality and fidelity, understanding adaptation and preventing program drift, and measuring and monitoring implementation and outcomes. And I think that this is really

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where the rubber meets the road. I think this you know if I could if I only had two minutes instead of 20 minutes I would just get up and show the slide, because this is really the bottom line of the whole issue of where we are in the field right now is that.

We're approaching this practice of and trying to improve child welfare through these list of evidence-based interventions as if they're magic. You know but they're on the list, so if I adopt this and displace whatever I was doing before, magic will happen, a miracle will occur and the children will be better. There is some of that going on at the practitioner and provider level. There is a lot of that going on at the policymaker funder level. There is even a little bit of that I think going on at the research level. So, point number two here is that performance and evaluation measures, where you're talking about performance measures as they're applied to in accountability systems that are put in place by funders or whether you're talking about evaluation measures that researchers use, those measures should be clearly linked to an interventions underlying theory of change, the specific interventions logic model. And going back to that story of not being able to shift to demonstrate the impact of these programs in Pennsylvania to the new governor that's what we found out had taken place was that that was the disconnect. The state had given out grants to all these communities to implement these programs from the lists.

And they had said well, you know we have to be accountable to taxpayers for our use of these taxpayer dollars. So, we're going to attach these performance measures that these grantees are required to submit to us on a quarterly basis, but, the performance measures that were attached to these grants had absolutely no connection to the specific underlying theory of change or the underlying logic model of these specific interventions. They were just very general. For instance, one of the programs life skills training is the middle school classroom based drug prevention program targeted primarily at sixth and seventh grade kids. So, this state said okay, we're going to give you a grant to do this proven effective drug prevention program. We want you to report quarterly on the reduction in past 30-day drug use of these kids, sixth graders.

So, well first of all you're not going to reduce that on a quarterly basis. Second of all, there was a floor effect, because the sixth graders weren't using any drugs. And so that's they were measuring all the wrong things not measuring any of the right things. So, one of the things that we did once we recognized this, we went back to this list of programs and we said we're going to rewrite the state's performance measures for these grantees. And if we're going to rewrite the state's performance measures, we need to go to each of these interventions underlying logic models and develop performance measures that directly tie to the programs theory change. Alone and behold when we tried to do that we realized that none of these programs actually had ever developed a logic model.

They were there was a logic model clearly in the developers head and we could probably figure out what the logic model was if it wrote off if we read all the peer-reviewed journal articles on the intervention, but, had it had never been put into a kind of a visual package like this. So, we developed a logic model. This is the big picture logic model, the really simple version and then on the backside is the much more complicated version

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that it's into okay, what do you do, why do you do those things, what specific changes in attitudes and skills and knowledge are you trying to create, what are the proximal indicators that you that are likely to that you're likely to achieve as a result of doing those things and changing those knowledge and skills and attitudes and intentions and what are the long term behaviours and when is it reasonable to see those long term behaviours.

And now we have a clear picture that we can develop specific implementation measures from and logical both proximal and distal outcome measures from. So we this is for multi-systemic therapy. We did the same thing. And I don't have time to go through these in detail, but, these are all on our website. We have a specific program section for each of the blueprint programs with the logic model like this. So point number three that I want to make is just a few minutes that I have left is that one of the other big issues I think in the field right now is that we need to move from an extrinsic motivation to an intrinsic motivation among practitioners. We need to shift the paradigm in the field from a focus on compliance to a focus on excellence and again that goes back to what gets measured matters. So, I think there is an important philosophical reason also to be measuring implementation quality and that is to promote continuous quality improvement not to promote compliance so that's a very different approach to measuring the same thing. So, you know measuring fidelity to say, okay, we ticked off all the boxes. You've done okay. You get your gold star. That's very different. That's a that's sort of an extrinsically motivated compliance mentality. What we need to do, bless you, is to promote an intrinsic motivation among practitioners and provider organizations who want to do the best they can and to do that we need to develop usable practical data systems and this is I think the aside from the then a miracle occurs, punch line. I think this is the other huge barrier in the field right now is that we don't have robust practical data systems to allow practitioners to collect data on their implementation quality to have that data to be used to generate a dashboard type systems that give them immediate real-time feedback on the quality of their implementation that they can use not to report accountability to their funder, but, that they can use practically as a source of continuous quality improvement in their programs.

So, the final point that I want to make is just overall that it's not enough to be busy. Everybody in this field is busy. We're all really busy. But we sometimes lose track of what it is we're trying to accomplish. We are moving towards public health population level outcomes for children and families, not the dissemination of a list of evidence-based programs and the work that we do to evaluate these programs it can be framed in that context that what we're trying to get to is not ticking off boxes to make sure that somebody you know was developed delivered an intervention with strict fidelity, but, are they doing, are they delivering services in a way that is logically going to lead to better outcomes for children and families. Thank you.

Enola Proctor: Good morning. Well, this is also my first time at this conference and I'm really excited to be hearing about all the work that's going on in the field of implementation. As Jill indicated my work in implementation research had its origin really in my concern about the fact that the social work profession has too often focused on compliance or I think you know you, social workers, child welfare workers, we work

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with the hardest cases. And I think sometimes we have felt like it's all we can do to get by and to keep on delivering services, but, we're really concerned we're in this work, because we want to do quality work. So, I think that the most important impetus toward implementation toward evidence-based practice is our concern for the quality of care that we're providing.

So, my move toward the field of implementation research came about in an interesting way our NIMH funded research centre had a network core where we partnered with community agencies and our school also had a commitment to evidence-based practice. So, we were testing interventions. We were teaching our MSW students the importance of evidence-based practice. And one of the executive directors of one of our partner agencies came to me and said okay you know I really think it's important for us to deliver evidence-based practice. How do we do that? What are the evidence-based strategies for moving evidence-based practices into real world care? And that question was put to me probably about eight years ago now. And it and I thought that is the question. That is really the important question.

So, I started exploring around and at that time NIH had convened one interest group in the area of dissemination and implementation research. I actually got on a plane, went and met with David Chambers and said David, who is the Associate Director for Dissemination and Implementation Research at NIMH, I said you know, we're working with agencies, we're working to improve their care, and they have posed the question of questions. What are the evidence-based strategies to move evidence-based programs, policies and services into real world settings of care? And that started a very long and fruitful set of conversations which continues today. A several of us are working I think we're just working to try to move this field forward. I don't think we have yet a strong evidence base about the strategies for moving evidence-based practice into place. We're beginning to map that. So, what I'm going to talk about today is an important companion to that notion of implementing evidence-based practices. I'm going to focus on implementation outcomes, how do we know that we've achieved that. So, you know I gave you the big question how do we do it. I think another equally important question and a companion question is how do we measure the success of implementation processes, strategies, implementation activities, and how do we measure their impact on service delivery. And I've come to feel very strongly that implementation outcomes need to be identified and assessed distinct from client clinical outcomes.

Now, of course, I think the client clinical outcomes are the most important indicator that's where we're headed, but, if you'll think with me about some possible scenarios, you know when services are unsuccessful is the failure due to the fact that the services didn't work? That is they're not effective or is the failure due to the fact that the services or treatments never got a fair shake. That is they were not implemented well. So one of my early mentors was break it down into a two by two table, I still remember him putting two by two tables all over the board and I think I still think that way. If you indulge me, I think we could have an effective treatment that is poorly implemented. We could also have an ineffective treatment very successfully implemented and I might add sustained and in fact we have a lot of that going on now.

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So this I'm not only thinking two by twos I think in terms of pictures, so this picture reflects how I think about the moving parts of implementation and Greg Aarons who is the room, Greg you want to maybe you don't want to be identified Greg is a he is a co he is a partner in Crime In My Thinking. He is a co-author on this paper. So this kind of unpacks and there are many, many conceptual models to guide implementation research and this is one of my most simple just lay out the parts which for me has become a spring board now for delving deeply into some of these other boxes. But if you'll look with me on the far right, those are our outcomes; the big blue box and the big blue box on the left are our processes. So, you know we have evidence-based practices and we have quality improvements, but, I think we have a second important component to the process or a second important technology or part of strategy that is what we do as professionals. You know we're trained to intervene. We're trained to deliver.

So, we deliver evidence-based services, but, we also have to implement them. We have to answer the question that my agency director colleague said, how do we do that. So that how with the implementation strategies is really the only partly answered question that goes in the box raised to me eight years ago. And I'm going to be spending my time with you this morning focused primarily on the right hand side of that big box. And if you'll look at the far right, you know those are the clinical outcomes. Our people satisfied how are they functioning, what are their symptoms, how problems resolved. And although I'm focusing my comments this morning on implementation outcomes, let me say that I completely agree with Brian that that that's the most important indicator of what we do, that's the improvement in public health, you know that's why we're in the business that we're in.

However, to kind of un demystify the miracle, I think you know we have to unpack the process and that middle box the service system outcomes, those are what the Institute of Medicine is urging us to attend to. The Institute of Medicine is has said that we've paid far too little attention to things like efficiency, safety, you know when we think about safety, we all are familiar that if you're going to have a surgery now, they write on your body part with a marker, you know replace this knee, don't replace that knee. So, you know that's an indicator of our concern about safety in acute healthcare. Well, certainly child welfare, the child welfare field, we're very concerned too about safety, but, how and I think child welfare with respect to social work and mental health, you know you've this field has probably led the way and worrying about safety, but, patient centeredness, timeliness those are the indicators that the IOM is advocating.

Then the box called implementation outcomes that's what I want to think with you today about how do we conceptualize and what are some of the available tools for measuring implementation outcome so that we can get a better handle on demystifying the miracle and get a better handle on how successfully are we implementing evidence-based practices. Now, some colleagues and I reviewed the literature starting about three years ago at our Center for Mental Health Services Research. We have a lot of mechanisms that we call work groups and Greg participates in our work groups by phone often when he is driving through Oklahoma, but, we tackle hard problems and one of the we

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reviewed the literature and trying to write a paper that was is referenced on the prior slide that's out now and we almost gave up, because we did a systematic search of terms that we thought would capture approaches to measuring implementation outcomes and the field is a mess. And you know and I thought at one point I thought we can't solve this. You know we can't put forth state of the art measurement. And then I realized well, maybe our aim could be a bit more modest and we could just portray the mess that the field is in.

So, I'm going to give you a snapshot right now. First of all, they are widely varying constructs used. There is lack of detail regarding those constructs. There is a lot of unit analysis error that is something will be measured at one level conceptualized and reported in another level regarding an agency or an individual provider and there is a lot of poor measurement quality. On the positive side, measuring implementation outcomes I think is a really nice field with respect to the combination of methods. There are quantitative methods and some qualitative methods. So, again if you will kind of think with me about the acceptability of evidence-based practices, you know we say sometimes evidence-based practices rolled out in a push format. There are accrediting agencies pay for performance in healthcare.

You know they're saying thou shall do it and I think it's really important to give some attention to how on board are the people who are really involved in implementing, so how acceptable is evidence-based practice is a particular evidence-based practice is the implementation approach to the participants in the implementation. Adoption, do people really take this on and start using it or do they give lip service, I'm going to talk about a few ways that that can be measured. Appropriateness, something that came to mind, I was working with a team who of colleagues who are interested in smoking prevention programs and actually we were writing a grant to implement offers to a smoking quit line to people who call up the 211 number. So, how many of you have 211 in your area? So, it's a in St. Louis area it's united way number 211, you can call and get flood assistance, utility assistance, so this my colleague is implementing a question would you like help stopping smoking and I said, wait a minute. You know the 211 answers of the phone they're used to giving one kind of service. If somebody calls up asking for help with their utilities, how receptive are they, how appropriate do they think it is that you start offering this evidence-based practice. And as we found out it's okay. It really is okay, but, this notion of acceptability you know are our services accepted by the people we're offering them to and if they're not we'll probably get some push back in implementation. Cost is another really important factor and this has to do more with more than just the cost of the evidence-based intervention with the cost of implementation. I know some of you in the room have done studies of the implementation of evidence-based practices and what do managers and CEOs often say, yikes, training takes my folks offline and that cost me real dollars and cents. You know if I have to take people offline, plus pay for them to go to training or pay to bring a training in, so the perceived the cost of implementing an evidence-based practice is something we really need to think about.

The feasibility, you know many people say well that's way beyond the scale, the scope of the resources we have. Often we hear agencies saying oh my gosh, I just we just

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implemented a whole new data management system. We can't possibly take on this new evidence-based practice at this time. It's just not feasible for us right now. It might be acceptable. It might be adopted. It might be appropriate. It might even be affordable, but, you know we can't go there. It's not feasible for us. Fidelity, we hear a lot about and I'm going to as I'm going to show this is the most frequently measured implementation outcome and indeed if you'll think back to that conceptual model you know can we have effective services implemented if they're not you know where we see clinical outcomes that we expect if fidelity is not achieved, probably not. So, this can be thought of as an implementation outcome. The penetration is really how deeply or thoroughly within say an agency is the new evidence-based practice implemented. If you have 10 workers in a site, is it implemented by three or by eight or by nine and if those that are implementing is it implemented for 10% of the clients for whom it's appropriate or 80%. So, penetration is really a key outcome. It's akin to reach in the public health literature and Russ Glasgow's RE-AIM and also really, really important to achieving public health impact.

And then sustainability once we invest in implementing an evidence-based practice, are those effects sustained, those are some of the key issues. So in a quick scan of instruments, you know we found that acceptability is most frequently measured, adoption and fidelity are more are second most often measured and the others are measured less frequently. This is a result of a scan that we did of studies in substance abuse treatment of implementation and the implementation outcomes in use. We're currently doing another study in the field of mental health to map the same profile. So, I know there are sessions at this conference on fidelity. These are some of the ways that fidelities often assessed. It's often observation by research teams, sometimes face to face. We think that a really good example is the fidelity approach to measurement of the assertive community treatment. This is available through the SAMHSA website and gives you a snapshot probably a model way to assess fidelity. In terms of acceptability, there are often brief Likert scales, sometimes also interview questionnaires and we think that Greg Aarons' evidence-based practice attitude scale, which has had extensive psychometric research and a lot of good research demonstrating its usability, it captures acceptability with four subscales, the appeal, the requirements, the openness, and divergence and Greg is here who can tell you more about that. Feasibility is something that is rarely measured directly, but, usually when programs fail, people say wow, that really went very feasible. So, you know when we looked at the literature you know we found very little direct prospective assessment of whether this very ambitious often expensive implementation effort is feasible from the perspective of the key stakeholders or whether it's going to fall flat. Adoption, is sometimes measured just dichotomously, is it being used. There we found one scale that kind of measured or counted the number of program components that were adopted, but, we found very little psychometric evaluation of the concept of adoption. I would recommend this particular approach from the substance abuse field by McGovern, which has kind of a rating scale of whether or not people are ready to adopt and here you know again we try to say not is that acceptable, but, are you willing to use it, because you can have a favourable attitude to something, but, saying, I don't think we're going to take it on right now.

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Brian really set this stage for thinking about the issue of spread. That's really key if we're going to improve services and achieve our public health goals and I think the concept of penetration is important to capturing spread. These are just a few of the other ways that you could develop a ratio or a proportion of the actual use in relation to the desired use of an evidence-based practice. I already talked about RE-AIM. You know the issue of sustainability is something that I'm turning more attention to now. Sometimes we think of sustainability from a return on investment. You know I for certain have been involved in working with agencies introducing a new treatment as part of my research and I say well, I'm afraid it's time to stop recruitment. And they say, why, well you know they know, but, this is the time the grant is going away. So we partner with agencies. We bring them on board and then programs stop too often when our funding stops. So, research funders, researchers, agency partners, communities who participate with us were all concerned about the return on investment and for issues of sustainability.

Finally I just want to close by highlighting that all of these implementation outcomes should be considered from the perspective of multiple stakeholders. Implementation is nothing if it's not a multi stakeholder engaged endeavour, certainly we have service consumers. We have providers, administrators, funders, legislators, OSP-assist groups; a lot of people are invested in implementation and often times what is a priority implementation outcome to one of these stakeholders may not be a priority to another. For example, CEOs are often primarily concerned about cost, where frontline providers maybe primarily concerned about feasibility. So, these are all areas that we need some further attention and research to. So, thanks for thinking with me about this. I hope we have some time for questions and answers later on.

Hendricks Brown: Well, good morning everybody. It's a pleasure to be here at this conference. I'm going to talk about some ongoing work in here about a study of what we've been calling a randomized implementation trial. It's not something that I would necessarily suggest for the faint-hearted, but, it also is something that I think is an important step and our armament of Enola's major question that her you know community providers who are really asking is this, how do we get programs out there? Is there an evidence about what we know about in getting programs out? So, this is work that is in collaboration with John Landsverk Center that is funded by NIMH, an implementation to methods. As Jill had said I'm Director of a new NI NIDA-funded Center for Prevention and Implementation Methodology and it's also major part of the work I'm going to talk about in here is some ongoing work that Patti Chamberlain is directing the scaling of this multi-dimensional treatment foster care and so I'm really delighted to have this is an opportunity to talk about what we've been learning about the design. I will not talk about results in here, where it's premature to do that. We're not done with the follow-up of the study, but, this is a major study that NIMH is invested in, in terms of how do we get it an evidence-based program multi-dimensional treatment foster care in this situation out in here. And then there is also a grant that I've had for many years now from supported by NIMH and NIDA in methodology and the prevention field.

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We have a large number of co-authors in here, Patti Chamberlain is the principal investigator and the one I said Larry Palinkas, who is in the audience here, as well has been a key person in here looking at this one from an ethnographic point of view and looking at the social networks that are that the systems in fact have in terms of implementing these programs in here, a number of other people way long, Lisa Saldana, Lynne Marsenich, who is in the California Institute of Mental Health, which is the agency that has developed the implementation strategy that I'll talk about. This is a program that I'm going to mention just briefly in here as we go forward and Todd Sosna, and Gerard Bouwman and John Landsverk. So I'm going to have three things to talk about in here in today this time. First of all, is there a role for randomized studies and implementation science? It's not obvious by any means that that might be the right way to go might what are the conditions in which to do it. And I think that the result of this is going to be, if so, it's got to be a different result than what we have for efficacy and effect in the studies. So, we have to really go through this in inventing period of what are these kind of randomization studies going to look like.

I'm going to talk about one idea of this one which we've been calling a simplified idea of rolled out trials, which means essentially that the agencies or organizations or communities, counties or whatever the units that we're talking about the large system level units we're talking about get randomized, but, they get randomized into the timing of when they get this implementation strategy to start. Okay, so we call this a roll out. By the end of the study everybody gets the intervention. We think it has some opportunities to be physically useful as well as useful to the community and that you can actually conduct these kinds of studies in real life settings and they're not as complicated as you might think initially would be able to try and do this one. And I'll give you an example of this one with California the Calos study which is California then we extended it to some of the counties in Ohio as well.

Again as I mentioned that's going to be dealing with an evidence-based intervention. This is a single intervention we're talking about in here multi-dimensional treatment foster care and how many people have heard of MTFC? Okay, half of the people in here. I won't make very much comment about that one, but, I'll come back to that a little bit later. And then the implementation strategy is one that is called community development team or CDT that was developed from the California Institute of Mental Health. Okay, so first of all here is the first question I hear. Why you might want to think of this point of view of why randomized trials might not work in the implementation field in here?

First of all randomized trials have been set up to answer problems that have been specific to efficacious or affected interventions themselves you know as opposed to nobody really strategizes about implementation research itself. So, maybe it might not work in here. Implementation really requires us to look at a full strategy, not a single little element in here at a time, because we're really talking about systems that are interacting to one with one another and components interact. The components that are interacting in here are going to succeed or fail under different conditions. We need to examine the whole system rather than a small piece of this one.

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How many people work directly with communities or being involved with communities? I'd expect almost everybody here at some point. Sometimes, if you go in, if a researcher goes in and says I want to do a randomized trial in your communities, it's a non-starter and it's definitely not the way to start a conversation. You know it's just wrong and we ought to train people not to do that in here. So, the biggest issue I think around here is the besides the trust, the issues of what researchers have done to people in minorities especially in this country for a long time and the distress it's been around here, the issues are a lot had to do with control groups. And if we've got an evidence-based program, it doesn't work under certain conditions in here, why would you want to withhold it; you know why would communities even stand for that, that's the kind of question in here.

And the word that people have used in randomized trials and medicine and others is equipoise. How many have heard of that word? Okay, not very many people. Yeah, equipoise idea is an ethical issue. It says, if you're going to give you know a trial and you got two options in here. You want them to be roughly equal to one another, so that somebody is not automatically getting something that's that really most people think is worse. In prevention, it's not quite so bad and treatment is a little worse in here, because getting in control in an area when people have anti-depressants, for example, the work is not a is really again a non-starter in here ethically if we're trying to do this one. So, this issue of having an evidence-based program, it looks like it works. Did you actually do this one with equipoise and allow people to get something that's comparable and we're talking about communities now, so that's another major issue that comes up in here.

The third one is this issue of boy conducting research in here just observing getting into the systems or organizations allowing them to measure things in here. That's incredibly sensitive. How many people have found it even more difficult to go into organizations and measure things that are going on in organizations? That is even more difficult than measuring outcomes for kids. That's tough right. I mean you're really talking about something is really new and do it people. People get fired, because of what you say, you know. So, those are the kinds of issues in here. So, we'll I think that there are some potential opportunities to do this, but, these are charged issues. And so you might want to think initially that you really don't have anything. What I'm going to talk about is this that there are multiple ways of doing randomization in here. We often think of randomization at the person level and that's it, but, that's not necessarily true. There is a lot of place-based randomized trial, so schools get randomized all the time in the intervention trials for the example, and there is a lot of ethical issues around those issues that have been more or less resolved that would allow you to do this one. But I'm going to be talking about time being the key thing that you're randomizing when somebody gets something. So, at the end of this one, everybody gets it's like a little weight based design, but, what's happening is there is a roll out, so the randomization when it occurs hit here is not just half of the people now and half of the people later, but, that there is a systematic set of different sequences of time in here. We published some of the work on this one, some of technical work and clinical trials when we looked at this for a study with suicide prevention and then also we talked a little bit about this on the CDT trial that we talked about here. First of all, I did want to mention in here is that when you start talking about what kind of designs people are using in implementation research. When

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you start reviewing them as John Landsverk and our colleagues have done in here and just published on a couple of things that you find this is the most of the studies in here don't have a comparison group that you're really trying to make. That's not good you know. I mean the really big distinction came when we went from doing case studies to case control studies. And it's we need something to like that that is ethical and appropriate we're trying to use it here in the in our field of child welfare and here. But there were nine settings out of these 338. Eight of those actually use this as a randomized trial and implementation. So, it does exist in here.

I'm going to give you an idea of when the study is not randomized and give you some idea of this one. The multiple baseline study is example like this one, Tony Bickman ran a study where he tried to choose the tobacco outlet stores proclivity for selling cigarettes to under age kids. And you can see that that dash line in there corresponds to when an outlet was changed in terms of the rate. So, they actually put people into the stores to buy cigarettes who look like they're under age who should have been checked and then checked the proportion of those kids those young people who actually got carded to see what that was. And you can see in these two locations in here there was a dramatic reduction in those under age tobacco sales or potential tobacco sales without checking over there as soon as that went. And that too it looked pretty good. So, those were two communities there. Here is the third one and then a fourth one. The third one looks really great too, but, the fourth one might not be so great you know. That's why that does what happens in here.

Okay, so that was a multiple baseline in here, but, there are some problems in that kind of a design and I think we need to be able to separate those kinds of issues in here. What if these there is a exogenous factor that happens at times of transition? You got a real problem in here. In the suicide prevention programs, they're really looking at right in the middle of our trial; there was a tenth year anniversary of Kurt Cobain's suicide. If we hadn't been allowing our design to handle these exogenous factors in here, what we would have done is just found something very different in that time when there was a lot of you know kids who are mimicking that kind of behavior. And so, we would have had you know I'm thinking there and intervention was something that was going to happen, but, in fact, there is some external function in here. And in the implementation world, there is a ton of external factors in here. So, a useful thing about the design of randomization is that you can balance across that especially if you deal the time. Okay, and then the other issues in here what if you select just promising communities who work with. First, it might be just something about those particular communities that are different than the others and then also the number of the small number of communities in here. So, anyway what we want to do is just trying to find a systematic set of designs that will help us to conclude the new program implementation was the friend of cause change rather than just leave it up in the air that might be for multiple reasons that I have it.

So, this is where this idea of where that design came from. And it comes in to four steps in here. And I'll give you a picture of this as time goes on. So, the idea is just to start off taking a universe of all of the communities to begin with, to buy them in the comparable batches to begin with, balance them so that each of these batches looks about the same,

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start measuring out comes on the all communities or you can do it actual line of smaller group of communities in here, randomly assign when each of the comparable batch starts to implement the program. And then at the end, by the end of the study, all of those communities are exposed. So, what you get is, is that there is a randomization or when the communities get randomized in here. And the analysis with use all communities in all times communities who have their own controls in here, you can do mixed effect models and other advanced models up here.

So, here is a picture of it of what you can do. You take all the communities, select them and say here is five you know comparable groups in here, randomize them into places on the x axis which corresponds the time of transition. And then it looks like those always correspond to baseline but no treatment or first group might have two time points that you measure and then you follow up with other ones. And then you go to the next sets of groups over here. And over time which you'll see is this that you're going to be changing and implementation goes all the way out to the fifth group in here. And so you measure these changes. This has some statistical advantages and in terms of power, it also reduces bias. I'm not going to talk too much about the first one, the statistical issues in here or the third, but, I'll talk a little for about bias for a second.

So, this is where we got our idea, originally came from a program called empowerment intervention which was run through UCs-- the San Francisco. And it was a community based intervention for young gay males that try to reduce their HIV risk. And what it did was it took two communities at a time. One of them was Eugene, Oregon and the other one was I think was Riverside, California. And then those two are not identical by any means, but, what it did was it flipped the coin so one of them gets set in the first year, the other one gets at the second year, simple idea about that one. And what the nice thing about that kind of design was is that it was a fair design. Communities regarded you know to get it in one place versus another. And that's what the right hand side. It's you know one of the things that it does is it breaks down this issue what we often talk about is communities being ready, but, not equivalent communities, but, some communities are more ready than others. And it's not an easy thing to measure. We might think we're measuring community readiness, but, it may be some other issues in here that are important.

So, if you think that the green ones on the left hand side being typically what you know ready communities and make a comparison to some control in it, on the left side you're going to get a bias that's community readiness, not your intervention, but, community readiness there might be a better explanation of why you might have differences over time. But on the right hand side what you could do is you can randomly assign communities, the red ones might be less ready or not but one of them gets to the treatment at the first time doesn't get to the treatment the second time and then the third one. Then you can see that you can bring down the one who didn't get the you got the control in the first condition, so that the next year that person get that group gets the intervention. Okay.

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So, here is a couple of implications. The communities that get randomized are large. You know those are generally large in here and here you often fuse them available at a time. Small trials can be started here with the small number of communities and it's not going to be very large to begin with. You're not going to get a very large amount of power in here, but, what the trick is, is to combine them over time. If you've got a model where you're really rolling out at a state wide level for example, all of a sudden if you do that repeatedly, randomize who gets it first, you get an opportunity to really get a very good quality of randomized trial. That's the idea behind this. So, we randomized when counties get the implement this intervention implementation. For the community, the advantage of going early is as the programs available right now. The advantage for going later that might get a better program. And as you negotiate this with communities upfront, they often are very comfortable with this kind of design. So, we've done that kind of saying. I'm going to go here it's the first system. There is equal advantages for going early versus late. It is like equipoise in here. Everybody gets it. The trial that we talked about is the multi-dimensional treatment foster care, its implementation in California and Ohio and I'm going to just skip to what this looks like in here with the different interventions.

Started off with 40 counties in California and they get allocated into three groups. There was a group of about seven that got in the community development team, first batch in here, the first cohort, the first year. And the standard setting is the other implementation strategy, the standard implementation strategy. So, the first year, it was 14 counties that got trained and at the same to deliver the same multi-dimensional treatment foster care, but, they got trained in two different ways. And so what we're asking is this who what are the what's the implementation of these program did one of them go faster than the other, do they get better results in that. And the remaining ones with 26 waitlisted groups in here. The second year, those got divided into those who got CDT and standard setting in the 13 waited this you know waitlisted in here and eventually the last ones get it as well.

Okay, and then we've got a fourth cohort from Ohio that was added on to this one. So, we're asking questions of how fast the other two communities adopt, implement or sustain the intervention. Okay. And here is a diagram of what happened in here. Most of for the most part this design was fine for everybody in here. The only thing that happened was there is the couple of the counties were not said okay, you got me in my first cohort in here, but, I can I'm really not ready to do it right now. So, we had to have some counties get a vacation. When they got a vacation, they went back to the next cohort, but, they say the same intervention condition. And so we were able to retain that intervention provision. So, let me finish up and hear about the advantages of this community standpoint. Everybody gets an active intervention. That's a fair assessment. Those who are early get a potential benefit by getting intervention early. Later they may get a better intervention by doing this one. For the researchers the true randomized trial is comparatively simple to be able to do this one and you may need to compete continue that multiple years cohorts to obtain sufficient power. So, thank you very much.

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Jill Filene: Well, thank you for your thoughtful comments. And I'm wondering we're going to turn now to questions for the panellists. And I have a question, but, since we didn't take time after each of the speakers over and up to the audience to see if you have any questions.

Female Speaker 1: *[Indiscernible] [01:12:58]* talk about changing the philosophy of agencies from those have clients *[indiscernible] [01:13:05]* so I was really curious as to what that's available out there that perhaps to made it like that discrepancy or is this an area that where we needed to make some *[indiscernible] [01:13:38]*

Brian Bumbarger: Well, I mean I think again to fly back up to the mile high view, it's not necessarily surprising considering how long these provider organizations have been in this business and how short the time span is that we've had empirically validated interventions, right. So, what happened, what did they do all those decades before they were empirically validated interventions, they operated on faith and gut instant. And so you know in the absence of empirical evidence, you have to operate on faith or you just think that you're not, not doing anything. You're not accomplishing anything. So, it's going to take some time to shift that mindset to accept, yes, there are some things that work. That requires accepting that there may be things that we're doing that don't work.

Now, I think the best practical thing that we can do goes to my point about data systems. I think that everybody is you know everybody who is in the human services field, has some level of intrinsic motivation to one, their clients to get better and for their agencies to be more effective of what they do. But they've been faced with the challenge of not having the infrastructure and the tools and resources to actually accomplish that mission and so they've had to they've sort of had to shift their mission to a different mission, which is just kind of survival and ticking boxes and keeping people employed. You know that it's just a fact of the reality of the field unfortunately.

Now, I what we have seen and we're what we've seen anecdotally in our experience like I said over more than a decade with a couple of hundred replications is that if you can provide the tools and the resources to an organization and to practitioners, where they can actually pursue that agenda of excellence, it really it's not a very it's not very difficult to make that shift. You know it's kind of like you know if somebody came to you and said I want you to climb Mt. Everest and you said well, you know I don't have any training, I don't have any of the equipment, but, you're just you're not going to accept that challenge, but, if somebody came to you and said, hey, I want you to climb Mt. Everest but I'm going to provide you with the most expert training, I'm going to provide with the best tools and equipment and resources, you're going to have a guide there to hold your hand. That you know that's you know it's a much more realistic challenge to lay down.

So, we're actually we're just starting a project that was funded by NIDA to empirically test the hypothesis that if you put a robust dashboard type data feedback system in front of practitioners will they actually if they have that tool, will they in fact use it to sort of self-diagnose and self-improve and develop that intrinsic motivation or it's again I mean I guess a more accurate way to say it is to act on the intrinsic motivation that already have

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that they've that's kind of been stunted in the absence of the necessary resources and tools.

Male Speaker 1: So, this is for the entire panellists. The only thing I was thinking is each of you talking *[indiscernible]* [01:18:17]

Jill Filene: *[Indiscernible]* [01:18:18] Do you mind just get an Apple pass it around just I'll make sure that people can hear.

Male Speaker 1: So, we're talking about you know how do we effectively implement practices and we're talking about what our strategies, how do we have *[indiscernible]* [01:18:34] strategy, what we have been talking about very much was what are the theories telling the science that the implementation to have, so for example, you know if you're only get clinicians to use data, while this has been a problem since the *[indiscernible]* [01:18:51] does talk about clinical research actual predictions in *[indiscernible]* [01:18:58] the question is what are the mechanisms by which you can engage clinicians, what are the theories by mission in schema that you try that behavior, but, the same time for implementation *[indiscernible]* [01:19:19] adoption decision once the decision balance that goes into other fidelities that they can and the same thing with community readiness you know what are the theory that might perform that *[indiscernible]* [01:19:35] and maybe if you could be able to speak to that a little bit are we moving really in the science...

Enola Proctor: Well, I'll tackle since its typical question to answer in this session. I know you had a I think you were got to do a session yesterday on theory or conceptual models for implementation. And you know I think you're asking exactly the right question that the field of implementation science needs. And the paper that I referenced on implementation outcomes we did link each of those outcomes to some conceptual or theoretical model of change, diffusion of innovation, implementation process. So, the outcomes themselves you know are kind of reflective of some process that participants go through. And when they move from hearing about evidence-based practice or having information put in front of them through some dissemination effort as they're considering whether to take this on.

You know I think they do reflect is this acceptable, is this appropriate, is this congruent with my role. And one of the implementation approaches for improving care and chronic disease management programs is really shifting up the roles. And as we've examined providers deliberations or even their resistance to evidence-based practitioner they've often said, well, that's not within the purvey of my role. You know that's just not what I do, but, an organizational approach to that that is theoretically based is shift the role and shift the construction of what is your appropriate behavior and then if that if we can align roles and Caroline Clancy says, implementation is all about making the right thing to do, the simple thing to do or the easy thing to do. Make it easy instead of hard.

So, that's just one example of you know changing roles to make it the right thing to do and the feasible thing and the easy thing to do. So, I think you know there are two or

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three parts to your question which really are important. I think what we really are begging for are theoretically shaped and empirically tested implementation strategies. What are the mechanisms and those operate at multiple levels. There are organizational strategies. For instance, changing organizational climate and culture and working with Charles Glisson where we're testing an ARC, A-R-C, organizational intervention which hypothesizes and has been shown effective in changing organizational climate and culture I was reading an article last night that organizational culture is really aligned with safety as a value and a practice in physical healthcare. So, rather than just accepting that we have resistant organizations that can become an outcome you know organizational resistance to something that is there that becomes an outcome that we target through some strategy. Other strategies like performance feedback involve organizational change, but, it really targets the providers' cognition and perception of their role so that they no longer over estimate from a generic point of view their effectiveness, but, get realistic data about what they're doing. Bickman's kind of approach. Yeah, I think I'm being effective, but, guess what the kids still drinking, I didn't know that. Maybe I'm not being so effective. Anybody else want to chime in on Greg's big question.

Brian Bumbarger: Just two things I want to mention. First of all, there is clearly a you've identified a gigantic need in this field. I mean as the field of implementation science is just becoming it's an actual field of science that's what we need to do. I mean we need to develop and reground that emerging science in a theoretical foundation and then we need to empirically test a lot of questions and I think that I think that the Federal government has to play an important role here and that is in braiding service and research funding which you know people have been talking about this for a long, long time. I've yet to see it actually happen. There are questions that there are empirical questions that can really only be answered at a large scale and to continue to fund these artificially created research scenarios that test questions kind of in an unnatural vacuum. It's kind of short-sighted and not very efficient. When Federal agencies are rolling out large scale service initiatives and not attaching large scale research projects to those natural large scale dissemination service initiatives, I think that we those are just continued missed opportunities.

On a completely different topic, I think one area that we're starting to think more about that has implications for this emerging knowledge base in dissemination and implementation is the idea of communities or practice on learning communities. So much of the work that is happening in this in all of human services with all of these evidence-based interventions is practitioners operating in isolation and I think that we can by bringing those practitioners who normally operate in isolation together and creating and fostering communities or practice and learning communities and using them as a source as a knowledge base I think that again that's going to accelerate our learning in this area and the development of our theory.

Hendricks Brown: I compliment people like you know Charles Glisson who tries for comprehensive ARC models that are theoretically models to the whole implementation process. I think what we're going to gain in here is this doing these in smaller subsets of problems. And I urge people to read Greg Aarons' paper that got published just recently

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in the administration, I forgot the name of the administration in mental health system services, the Administration and Policy in Mental Health Services, where he broke down the implementation process in four stages in here that's sort of pre-compliment that's sort of a kind of placement stage, followed by adoption and then implementation with fidelity and sustainability. There are some changes in names might those might be recognizable or others. And I do think it's important to really think through those things very carefully as you build the theory. One thing that we think is a component of those theories that really needs to go into this one is a careful social network analysis. We know that the apologies of some of the social networks are conducive to message passing, some of them are useful messages of knowledge, but, that doesn't necessarily translate into decision making. And Larry Palinkas has been working very closely with 40 counties in California to try and really map out these social networks and Tom Valente has been very eager and interested in doing the same kind of thing as well. And we know that some organization some networks are too dense for decision making from the outside and it might be one of the areas. So, I just wanted to put that as an additional piece on the table.

Jill Filene: Yeah, time is available, we'll do one last question.

Female Speaker 2: This is little bit more of a technical question, but, it's a follow-up to Dr. Brown's last point on slide around power, so I was wondering what creative approaches or what analytical approaches are you using, when you talk about health education in program level, you're inherently talking about small samples. And you got 40 counties or close to 40 counties or again only 20 to do this and...

Hendricks Brown: Yes.

Female Speaker 2: And that you got a simple sense of 20 I mean I'm wondering what your approach is.

Hendricks Brown: Yeah, I think so I think even 40 is small, okay, but, I think it's a lot bigger than zero. And even two is a lot bigger than zero. We don't have anything about this one. It kind of reminds me of what Tom Chalmers said. Tom Chalmers was the Dean of Medicine a number of years ago and was one of the major investigators of evidence-based medicine in United States. He was from Harvard and he basically said I'm killing too many patients. And what I want to do is to start randomizing every patient that comes in. And I think that was a to me a little bit too radical. I think that the idea is if you could match pairs of patients you might be able to get a little bit better idea than that one. I think the idea of trying to say let's do a little bit of matching with no communities or medical there is no patients are going to be identical in here. And then randomized select, which one gets at which point in time, observe before and after this one, I think that that kind of idea would be useful.

We're talking about you know partnering with organizations which have tremendous amounts of money. There is you know the Children's Bureau and the Health and Human Services in here as what is it now it's how much I can hardly say it is what is \$1.5 billion in the programs that the 50 states have and the tribal territories have moving programs in

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for home visitation. \$1.5 billion of implementation money is a tremendous amount of this one. If we were strategic in how we do that and design that, we can probably gain an awful lot of insight of what kind of implementation strategies seemed to work better than others under what conditions. And so I think these are great opportunities you know for you know for the systems like this so we can do it.

Jill Filene: Yeah, go ahead.

Randi Walters: I'm Randi Walters with the Children's Bureau and wanted to just take a minute to thank Dr. Proctor, Dr. Bumbarger, Dr. Hendricks, Dr. Palinkas, Dr. Aarons, your willingness to join with us if I need in helping us thinking about receiving instructive panels, feels like the beginning of a very, very important conversation that we want to continue with you about how we write program announcements and how we do the grading of evaluation with RTA plans with our grantees. So, we missed Monday session of Dr. Aarons and I'm so appreciative of coming in and hope that other people will take the time to spend with you and talk, but, this is the beginning of a conversation. We just can't thank you a lot for your willingness to join with us and think with us and share your ideas. There is a group of about plenty of us in Children's Bureau that are regularly sending around our articles and thinking about what your new science is showing us about how we move forward. So, thank you so much.

And for those of you in the room, you guys are all met with so many familiar faces that are implementing evidence-based and evidence informed program and practices. So, we're just really looking forward to an on-going conversation. I have the pleasure of reading the focus area on submission. An implementation of this conference and we have not have response and the number of people that were submitted, it's only of a round things. You have 25 sessions at this conference which I think does a quite a bit about how the field is growing and developing, but, I'm going to take a minute to say thank you for being here and for being a participant in conversation. We look forward to a rich day and a half of these conversations into moving. Thanks.