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Session: The Minimum Quality Criteria Set (MQCS) for critical appraisal of QI literature: Advancing the science of QI.

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Molly: I am very pleased to introduce our presenter today. We have Dr. Lisa Rubenstein; she is the Director of the QUERI Center for Implementation, Practice and Research, which is also known as CIPRS. She is also the Associate Director of the VA Greater Los Angeles, HSR&D Center for the Study of Healthcare Innovation. A Professor of Medicine and Public Health at the VA Greater Los Angeles Medical Center and UCLA. She is also a Senior Natural Scientist at the RAND Corporation. So, I would like to turn it over to you know Lisa. Are you ready to share your screen?

Dr. Lisa Rubenstein: Yes.

Molly: Okay. You should have that now.

Dr. Lisa Rubenstein: Show my screen, yes.

Molly: Okay, and we’re ready to go. Thank you.

Dr. Lisa Rubenstein: All right, and when you’re looking do you see this box on the right?

Molly: No. We all see our own.

Dr. Lisa Rubenstein: So you don’t see the little box that says on air and all that stuff?

Molly: No. Just your slides.

Dr. Lisa Rubenstein: Okay, good. Okay, well welcome everybody. I’m looking forward to introducing you to the concept of the Minimum Quality Criteria set. And I wanted to begin by introducing my co-authors; Susanne Hempel, Jodi Liu, Margie Danz, Robbie Foy, Yee-Wei Lim, Aneesa Motala and Paul Shekelle.

This work was funded by the Robert Wood Johnson Foundation, the VA, RAND, HRQ and was carried out largely and RAND, where there is an evidence based practice center that is run by Paul Shekelle.

So, what is the MQCS? Well, it’s a tested critical appraisal tool that is used to assess the quality of literature on the success, effectiveness, or impacts of quality improvement interventions or QIIs and it is accompanied by a manual.

What is Critical Appraisal? Many people on the call may have heard about guidelines such as SQUIRE, guidelines for reporting can be much more comprehensive, they don’t have to be interpreted with high reliability. They are sort of looking forward not backward. They are directed at improving our work and our approach to our work. Critical Appraisal on the other hand, are directed retrospectively at QII articles and really at the issue of how do we look at articles and figure out if they have the minimum amount of information needed to provide meaningful results to some sort of literature synthesis or evidence review.

This is what the MQCS tool looks like, just to give you a visual. It is essentially a form accompanied by a manual that a reviewer of articles for an evidence reviewer synthesis can use to check off how an article has functioned and done in terms of high priority quality issues.

In this talk, I am going to go through some of the development of the MQCS for quality improvement interventions. And describe the application of the MQCS to literature of QIIs. During that part, we are going to talk about how we identified articles, which was a job in itself. What the MQCS psychometric properties turned out to be and the strengths and weaknesses of current QII publications.

I do hope that as Molly suggested that you turn in comments at any point. I can’t see them as I’m looking at my screen. But, I will definitely read all of them. One thing you could weigh in on is the title MQCS itself. A journal editor suggested that we come up with something more interesting, so we’ll big thank you if you come up with one that we haven’t thought of as a name for this tool.

Why are we doing all of this work? Well, quality Improvement intervention evidence review poses a lot of challenges. It is intrinsically context sensitive. Intrinsically has to do with particular places and it becomes hard to identify articles without bias due to terminology differences, information in the articles is located in all different places because it’s hard to describe a QII often. Language is a big issue; there is a lot of difference in context in articles goals. In what phase, for example, one article might be talking about the first PDSA cycle on something, another article might be a very large study on something that’s been already pretty fully developed. There is a huge heterogeneity evaluation method.

So, why would we want to do something about this? Well, there is a very large set of literature that has to do with quality improvement, but we find relatively less guidance on quality improvement interventions or on how to learn across them. If every single article is one by one and can’t be linked to other articles in terms of what the key features of the quality improvement intervention were, in terms of what kinds of interventions are available for particular types of contexts such as rural or managed care. If we can’t pull together what people have done, we are very limited. And if you look at evidence reviews as they’re done now, they pretty systematically exclude quality improvement interventions unless those reviews are focused specifically on quality improvement. So, there is a missing link in the path to implementation if we can’t do more to bring together quality improvement efforts and try to understand what works and what would work better. That is really what I’m saying here. Without reliable, unbiased evidence synthesis, we can’t learn across QII efforts and the lack of critical appraisal instruments is one of the important steps in being able to do this. There are a lot of QII publications that really doesn’t give enough information to be meaningfully included in an evidence review.

So, here is a question for you all, and please, go ahead and click on the answers. Have you participated in the quality improvement intervention? Please click if you have participated in the quality improvement intervention.

Molly: Okay, it looks like we’ve had about 40%, 50% of audience vote so far. And the answers are still streaming in. So we’ll give people some more time to get their responses. And as you can see this gives you the option to click all that apply. So feel free to click any of those that you’ve been involved in. We’ve got a fairly responsive group today. About 70% of our audience has voted so far. But again, the answers are still coming in. So we’ll give people more time. Okay, it looks like the answers have stopped streaming in. So I’m going to go ahead and close the poll and we’ll look at those results. It looks like 71% of our respondents have participated in a quality improvement intervention. About 41 % have written up a quality improvement intervention and about 62% have reviewed quality improvement intervention literature. Thank you to those respondents. And Lisa, you’re going to see the pop-up to share your screen again.

Dr. Lisa Rubenstein: Okay.

Molly: There we go.

Dr. Lisa Rubenstein: Okay. Well, thank you for answering. That’s really helpful. So, we have a pretty experienced audience. Which is great. It gives one more time to say please give your input as we go through because I will value it greatly.

Molly: You will have to click back on your slide to make it advance, there you go.

Dr. Lisa Rubenstein: Okay. All right, so the first segment here is developing the MQCS. We wanted to develop this unbiased identification of QII articles and then develop a critical appraisal tool that would be reliable, valid and would identify high quality articles for evidence review without excluding important work. So, what do we mean by that? We didn’t want to develop something that, for example, set the bar so high that key segments of quality improvement efforts would be excluded. And this is a place where it’s different from thinking about guidelines. If you’re doing a review on quality improvement, you want to be able to include a broad segment of articles. And we didn’t want it to be specific to any one country. We didn’t want it to be specific to a particular methodology such as randomized trials. I mean, that’s been done a lot. And, we wanted it to be feasible and short.

For the development steps, we defined QIIs for the purpose of article identification, reviewed existing criteria, convened an expert panel and then iteratively developed and tested items or criteria. Each criteria was a single item. The domains of the items were determined by the expert panel, as were the initial versions of the criteria.

This is what our timeline looked like, just to give you an idea. If you look at the bottom, a research identified existing review criteria including SQUIRE domains. Developed preliminary quality improvement criteria and then iteratively developed the final tool. If you look above the line, where it says nine month panel process, the nine month panel process involved first giving consensus on the QII definition, then reviewing our methods for article identification, screening and our preliminary criteria. And then, really coming to consensus on the domains and preliminary criteria. And then after that we went ahead and tested those criteria on literature and further refined the tool.

Why is it such a big deal to identify QIIs? Most reviews so far have not been tremendously systematic in terms of how they identified QIIs, which then gives room for bias. The QII literature is a subset of all articles that are important for QI itself, which include articles on tools, methods and all kinds of other things. So, it is a subset of all quality improvement. And it’s also a subset of all articles relevant to interventions, because not all of them really talk about the QII success. Electronic search capability is essential for being able to do unbiased reviews. There is now a library of medicine term quality improvement, but obviously literature that’s very recent and literature from prior to that point doesn’t have a tag and so it requires some careful searching. I gave full references in some slides at the end, so if you’re motivated, you could find the references if you want to know more about those aspects of what we did.

The QI definition again was something that we needed to do for article identification. So we’re not necessarily trying to define QIIs for every purpose under the sun. But for this purpose, the first fundamental difference that we came to from classical intervention research is the quality improvement interventions involve and reflect organizations. We’re not talking about going in and holding the hand of an individual provider, staff or patient. We’re talking about changing in some way the environment within some sort of organization to influence how ongoing care is done within that organization.

A second difference from classical intervention research is that QII is non-linear and this poses many challenges. I think 41% of the audience had written up quality improvement and I’m sure that they’ve encountered these struggles. It’s hard to fit a non-linear activity into a traditional article format. The model for improvement is an example of how the non-linear model goes. And in the actual model, which I actually think I have a slide on later there are arrows between every part of this model such as what are we trying to accomplish, what changes can we make that will result in an improvement? How will we know that a change is an improvement?

And if you start with the QII framework rather than from the research framework it takes you in a little bit of a different direction. So, this is the definition that we used for article title and abstract screening. It’s an effort to change or improve the clinical structure, process, and/or outcomes of care by means of an organizational or structural change. Another way to say that is that it’s an effort such as continuous quality improvement, Lean QI teams, System redesign and there are many terms. I think we ended up with a list of probably 30 of them. But, it’s a systematic effort of some kind destined to make an organizational or structural change. Such as a change in the organizations procedures, policies, resources, care models, etcetera to affect the organization or organizational units structure process or outcomes. And there are a whole variety of different outcomes that these articles look at.

Molly, if you see questions coming in that are particularly salient I’d be happy if you told me about them or if you see a number of questions about the same thing for example.

Molly: Absolutely.

Dr. Lisa Rubenstein: Okay, step two; was identifying existing review criteria and guidelines. This is something that we could provide for you if you were particularly interested. But our main sources were SQUIRE and the Medical Research Council. I referenced the one that we used. There is a new set of MRC guidelines as well and you can see the SQUIRE guidelines goals that I referenced earlier helping authors to write excellent usable articles. So, future looking. We also used the equator-network, which is a great place to look for evaluation designed criteria. And we ended up reviewing many sets of these. The third step was putting together an expert panel and you saw from the slide on our timeline these people did a lot of work. And we really want to acknowledge and thank them, Davidoff, Eccles, Lloyd, McLoughlin, Mittman, Moore, Ogrinc, Rennie, Salem-Schatz, Stevens, Wagner, Melichar, Dougherty, Sangl, Kleinman and Atkins. We benefited greatly from their input, but any errors are certainly ours.

The panel determined the MQCS scope. And one of the major decisions they made was that the MQCS should focus only on QII specific criteria. We had originally thought about adding pieces about specific designs in kind of an algorithmic form. But they judged the heterogeneity of QII designs and made that not advisable. They felt that there were enough existing criteria that systematic reviewers could access them and apply them, as they needed for their particular purpose. And I think that was a really wise decision on the part of the panel.

We did however, then add two non-panel identified items to our list because we felt that we had to -- it didn’t really make sense not to address anything about evaluation methods. And we added two items that focused on how well the article described what they did essentially in the area of data sources for outcomes and study design.

In step four, we developed the MQCS tool iteratively. It has 16 domains, one item per domain with yes/no answers and scoring criteria. And we calculated psychometrics. So this is an example from the form, there’s an item that represents a domain intervention rationale, it’s this one. The rationale linking the intervention to its expected effects and it names or describes the rationale; at least one for one central intervention component and the score is met or not met. One of the things that I learned in doing this is that the language has to be -- you have to be really careful to be pretty generic in the language or you really miss important information. An article that provides a rationale but it doesn’t provide it in exactly the language that a given textbook or whatever might say.

Okay, and then moving to application of the MQCS. Our objectives in applying the MQCS was to use a diverse set of electronically searched screens, reviewed QII articles and looked at their psychometric properties and then the areas of strength and weakness in QII publications. So we applied the MQCS to 54 articles that resulted from an electronic search and hand and machine- screening for a quality improvement intervention. We used a validated electronic search strategy that had come out of comparing to known article sets to try to -- we used essentially three known article sets and validated different versions of search criteria to see which ones picked up the articles that had been identified by experts or the Cochrane Collaborations as QII. We got a total of 9,427 articles, which is actually not horrendously out of range of what many evidence reviews find. We randomly selected 1,600 and two individuals hand title and abstract reviewed those. Those results were used to train a computer program that does machine learning. And then 7,827 were machine-screened and the focus of this screening was did the article report empirical data on a quality improvement intervention. A total of 248 screened in. We added 244 exemplar articles from our panelists. And then, we screened the articles using the full article for 272 articles in all were screened by two reviewers and the reviewers came to a consensus.

One thing I learned from this was that you really, you have to go -- compared to other evidence reviews you have to go much sooner to whole article review and that’s because the information -- you might find important information for quality criteria that are in the discussion. You might find them in the methods. You might find them in the introduction. So you couldn’t depend on the abstract to identify important features you really had to, even for this screening step go to the whole article.

The resulting articles covered diverse topics some that I put here are restructuring teams, audit and feedback, falls, tuberculosis detection and all kinds of things. And they were international from developed and developing countries. And we were particularly interested in ensuring that some of the important work that we saw from developing countries would make it in.

What can we understand from this article yield? Well, one thing was that most of the articles in the field did not include empirical data on quality improvement interventions. About 3 % had any empirical data on a QII. And about 20% of the 3% hand screened in for qualitative or quantitative data focused on health related process or outcome. We defined health related pretty broadly, patient or caregiver, provider behavior, or process of care health outcome.

Here’s another question for you. Do you think the dearth of QII empirical evaluation publications is primarily due to, and you have to choose one: scarcity of QI project that gather empirical data on whether there was an improvement, difficulty writing up and publishing empirical QII evaluations or about equally due to both?

Molly: Thank you very much, and as you can I had to truncate the first option, so I’ll read that in full again. A scarcity of QI projects that gather empirical data on whether there was an improvement. It looks like the audience is taking a little more time to think about this one. So we’ll give people as much time as they need. We’ve had about half the audience vote so far. People are a little more shy to answer this one. But that’s okay, remember these are anonymous and you not being graded on this poll.

Dr. Lisa Rubenstein: It’s kind of a judgment call.

Molly: Yeah. All right, well it looks like about 2/3rds of our audience have voted. So I’m going to go ahead, close the poll, and share the results. It looks like 14% of our respondents said a scarcity of QI projects that gather empirical data on whether there was improvement, 36 % responded difficulty writing up and publishing empirical QII evaluations. And half of our audience said about equally due to both. Thank you again to our respondents.

Dr. Lisa Rubenstein: Yes, thank you. I think that’s very helpful. And I think it kind of confirms what I’ve thought in terms of difficulty writing up and publishing. It is a key piece of what makes it difficult to get this literature out there.

All right, so then we assessed the tools reliability. Reviewers agreed 83% of the time across all of the criteria and the kappa was 0.57. There were two low outliers, one was for spread. Agreement was 67%, but the kappa was 0.13. The adhere/fidelity agreement was 56% and the kappa was 0.9. The inter-item correlations were all below so we think that the domains addressed why these items were significantly independent of each other. The other was we weren’t measuring the same concept across the tool.

Now we’re looking at the actual results of applying the MQCS to articles. And I’m going to highlight some of the news in there as a second step. Organizational motivation is the problem or reason for the intervention. Intervention rationale is -- we already discussed. Intervention description indicates what the change in organizational or provider behavior the study aimed to undertake was. Organizational characteristics are the demographics or basic characteristics of the organization, such as size, location, managed care/not-managed care. Implementation activities are temporary activities used to introduce potentially enduring changes. So those are the things such as PDSA cycles, continuous quality improvement. Whatever redesign, whatever was done to introduce the change. The study/evaluation design is a description of how the authors evaluated whether the intervention worked. The information about comparators is about describing what was there without the intervention, whether there was a formal control group, which many of these studies didn’t have. Data sources for the outcome are about whether the article described where the data came from and how the outcome was defined.

If you look here, I’m highlighting the good news. I think the good news that intervention description, implementation activities, in particular were addressed by these articles as was organizational characteristics.

Now, looking at the next set, timing of the intervention and evaluation is about whether the article described the timeline for intervention and evaluation such as whether there was baseline data. It was difficult in many of the articles to figure out when the intervention started relative to the data that was collected for example. Adherence/fidelity to the intervention assessed whether the article reports on the extent to which the intervention was implemented. Patient health-related outcomes assess whether the article reported a patient or non-professional caregiver health-related outcome. And one reason for considering this is that some of the articles reported, for example, an economic outcome with no information on whether that, whether there was any health- related effects. Organizational readiness assesses whether the article reported barriers or facilitators such as quality improvement resources, culture and so on. Penetration/reach assessed whether the article provided information on the proportion of all eligible units or sites that participated. Sustainability of the intervention reports on whether the article describes sustainability or the potentially for sustainability. Ability to spread or be replicated asks whether the article describes the potential for spread, including for example, did they mention a tool from the -- for spread attempts or rollouts. Limitations asks whether the study interpretation reports on its limitations. And that was just at least one limitation.

Here the good news is that most studies reported on penetration/reach, sustainability of the intervention, and ability of the intervention to be spread or replicated according to our minimum criteria.

What are the key areas for improvement, the not so good news? Well, there were four areas that looked like they need systematic attention from the field. And I think some of this may be struggles with how to write the articles. Some of it may be limitations in how the projects were carried out or designed. But, there was not a minimally adequate description of the study design in the majority of these articles. There was also not much clear description of the timing of the intervention and evaluation. The description of intervention adherence and fidelity was lacking in the majority. And description of patient or non-professional caregiver health outcomes was present in just a little over half of these articles.

One more poll. Do you think -- now, this is addressing -- I wanted to bring back to your attention that two of our items didn’t have great reliability. And those were adherence/fidelity and spread. And one of them was rated as having pretty good compliance, the spread one. And one was rated as having pretty low compliance. But I wanted to know whether you think that more clarity on the definitions of those two terms in particular would be helpful to the QI field?

Molly: Thank you. It looks like a third of our audience has voted. So we’ll give people a little more time. About 60% of our audience has voted, but the responses are still coming in. Okay, I think we’ve got a pretty clear idea of our audience and their responses. I’m going to go ahead and close the poll. And I will share the results. A resounding 88% responding yes or probably yes. And 12% responded no or probably no. so thanks again to those respondents.

Dr. Lisa Rubenstein: Yes, thank you so much. This is really helpful. So these were the ones that were -- these were a little more information on the items that were rated low. There’s more descriptions of how to rate in the manual that accompanies. But, maybe this gives you a little more sense. I think the minimum standards were pretty minimum, I would think. This is the adherence/fidelity one. I think the length of the minimum standard reflects that really have some trouble coming up with how to define this. Where you see a mechanism ensuring compliance for example we gave them credit if they had a reminder for example you had to answer as part of your intervention and part of your clinical care. So, even though it didn’t say, well 100% of people applied, we gave them credit if they said that it was a mandatory thing that you couldn’t get around. But a lot of little things like that came up.

All right, so this is the Model for Improvement. Again, this is more how it’s actually presented. And I think we can see that this is the area that people seem to be having the most struggles with. How will we know a change is an improvement? And I would say that that’s consistent with my sort of experience with quality improvement activities in general. This tends to be an area of challenge in both doing and writing up these efforts.

In conclusion, and I hope that we’re going to have some time to discuss your questions. And I hope you’ve asked a lot of them. And if you haven’t you better put some in now. Thank you.

The feasibility and psychometrics I think -- in terms of feasibility and psychometrics, we would judge that it’s feasible to reliably identify and review QII literature. Now we reviewed a huge cross section. I imagine that people who want to do a specific review, say on depression quality improvement activities aren’t going to have to look at 9,000-something articles. Because they can subset by the topic. But we wanted something that could be used across topics. So I think it will be even more feasible for specific projects. And it had acceptable psychometric properties. Many critical appraisal instruments haven’t been tested for psychometrics. So I think that is helpful, and particularly helpful in this field where definitions can be problematic. But, I think we would agree with the poll and I’m really happy to have your input on the two things that had low reliability. They were definitely struggles for us.

Thinking about QII articles in general, we think what we saw would say that QI practitioners, funders, and journals need to focus on enabling quality improvements intervention publications with empirical evaluation data. And a health-related outcome of some kind. I think it looks like too much of the product is not going into that box. And it would be helpful for evidence review if guidelines could -- and they do this to some extent, but could continue working on the placement of key information in QII articles. And especially the abstract, but also other parts of the article so that we could overtime come up with easier ways to formulate. Then maybe it would take several different kinds of templates or approaches. But, that would really reduce the effort of these reviews if there were a little more consistency. And we need to; I think work on, as a field from project design to writing on improving study design reporting and timing of the intervention and evaluation reporting. If people reported their study designs a little more clearly it might be possible to work on improving designs more. On improving methods, but many of the articles have such limited information on how data collection was structured or done that it would be hard to make progress. And overall, quality we would say was best for critical appraisal criteria focused on intervention description. And worst for those focused on evaluation.

I think we feel, and I imagine those in the audience also feel that we’re still on the path, not fully to the goal for critical appraisal. There are issues with scoring. We tried to score in a way that wouldn’t exclude too many. And that would still give us articles that had useful information. But I’m sure there is more work to be done there. Terminology in the field is -- as everyone who’s worked in it, which it seems like most of the audience says, knows is really a challenge. And there’s a Canadian knowledge transfer group that’s working on this. I know there are other groups around that are working on this. I think it will improve over time, but we have to keep working on how we can bring the terms together. How much standardization do we want? How much is really going to be helpful in terms of, for example, formatting articles, putting together projects. Always paying attention to what QIIs get left out. And making sure that we’re not sort of going to the easy cases. And there’s a lot of border zone issues in terms of what’s a quality improvement intervention, what’s classical health services research, and what is it that we want to focus on? And I think we tackled some of those. I don’t think we got all the way there on all of those. So, just to finish with knowing is not enough. We must apply. Willing is not enough, we must do. And I think that applies to our writing and literature as well as to the projects themselves.

And as I’ve mentioned, we’ve done a bunch of literature focused stuff, and if you really want more information, you can go to that. Okay, so I didn’t really mean to go that far. But, I’ll leave you with the picture.

I hope that you gave a lot of comments.

Molly: We do have several pending questions. So we’ll get right to them. I’ll start at the beginning.

Thank you for this timely work. It is crucial to move the QII field forward in the spirit of connecting across other work in this emerging field, the following is offered. This international group is working towards “classifying EBT integration strategies”. And that group is led by \_\_\_\_\_ [00:43:55], Lehman, \_\_\_\_\_ [00:43:57], Locher, Bragg, and Hempel was well as other. So you can Google those if need be. You can write in if you want those names again. Towards a simplified model of intervention to promote and integrate evidence and to help practices, systems and policies implementation science. Thank you for that.

Dr. Lisa Rubenstein: Great. Yes, thank you. I think definitely we want to link across all of these efforts.

Molly: The next writer asks what do you see as connections across these two pieces of work and effort. And those -- the efforts are MQCS, and the work is classification of QI interventions, work as described in the article.

Dr. Lisa Rubenstein: As described in the article we wrote or some other…

Molly: I believe the article you wrote. That was when you were going over your beginning slides.

Dr. Lisa Rubenstein: Okay, so for that effort which was -- I think we published in 2006 or something like that, that’s really the beginning of this. I think we’d actually been hoping that somebody would take this on. And we worked with HRQ to put together a conference that I think was a part of the kickoff of SQUIRE and other efforts. But, part of what we did for that conference was get recommendations for exemplar articles that were important to quality improvement as a whole. Rather than quality improvement interventions. And I think I have a slide in here. This one, this is how the articles broke down in terms of quality improvement as a whole. The articles that this expert group suggested. So there are empirical articles on development and testing of QIIs and those broke down into the development of QIIs, history, documentation or description of QIIs. And success, effectiveness, or impact of QIIs. That’s the branch that we chose to work on for the MQCS.

And then there were stories theories and frameworks that were all considered by experts to be important. Quality improvement, literature synthesis, format analysis, development, and testing of QI tools. Personally, I think all of these branches could use focus.

Molly: Thank you for that reply. In response to your request for new suggestions of MQCS, we have a couple that came in.

Dr. Lisa Rubenstein: Great.

Molly: And I can send these to you offline Lisa. The first being M-QIIC, which would stand for minimum quality improvement intervention criteria. Another one that came in, is, how about we rename it to ACQIIR, which is appraisal criteria quality improvement intervention research?

Dr. Lisa Rubenstein: Great, thanks and anybody who thinks of anything else, please send it along.

Molly: The next question we have, in some circumstances the information noted in the MQCS might not be completely present in a single article by the authors but might be present across several related articles in the same QII. Did the MQCS article review take this into account?

Dr. Lisa Rubenstein: We definitely struggle with this is issue. We didn’t take it into account in our review. And I think that we did explore doing that. I think our final thought, and it may not be the right thought, but it was the final thought that we had was that our criteria were minimum. So, if these were important they should be at least mentioned in the article that you were reading so you didn’t have to go back to the other ones. So, in other words, we weren’t asking -- we didn’t think we were asking for so much that you could eliminate them from the current article. And read the current article well enough. But I think that is a very important issue in this field. It is hard to track those articles. If you really try to do it, which we did on a number of articles it’s -- I think in this field more than in a usual systematic review. And I’d appreciate comments from others who may have done quality improvement reviews. And what they found. But we found with our articles it was very difficult to track. They weren’t all just listed in references and so on.

Molly: Thank you. The next person writes, thank you for this important work. I think another limitation is that many people believe that they are not allowed to publish their results because the project was not approved by the IRB. Do you find this as well?

Dr. Lisa Rubenstein: Yes, in fact, we’re often needing to clarify that point with people who do quality improvement research. And I think this is another area that’s rapidly evolving. And another area that takes care and thought. Yes, certainly you can publish quality improvement intervention work. There’s no ethical barrier to that. The ethical barrier is though, that you have to be really careful of the border zone. And you have to make the work stay within quality improvement bounds. So, it needs to be validated in terms of the organization wanting this. It needs to be reported in terms of the organization and its improvement. You can’t -- if you start venturing into areas that are not for the organization you probably need to consult with somebody other than yourself. And in fact, for most of our projects in this area that are large projects in any case we create an ethics committee specifically for the project. So that we can get input and be sure that we’re staying within bounds.

Molly: Thank you. The next person writes, I’m actually working with a group of clinicians on publishing the results of a QI study right now. Are there examples of articles that could be used as examples or templates that you could suggest?

Dr. Lisa Rubenstein: It’s hard. This is where I think there needs to be more work on templates. I think the SQUIRE guidelines are an excellent place to go to think about it. And there are brand new SQUIRE guidelines coming out any minute that I think are made even simpler to use. But the quality -- what you see when you review this literature, the literature is so interesting and there’s so many different approaches, it’s hard to just sort of come up with a formula without knowing more about specifically that article I suspect that if over time we look at it we can figure out frameworks that apply to types ole. So I think potentially someone who’s written QI articles, if I knew more about specifically the project, I could probably be helpful in terms of making it interpretable and easy to read. But it’s hard to do just generically. And I think that is one of the barriers we have.

Molly: Thank you for that reply. The next question, which guidance for reporting enables implementers to address conditions needed to implement and likely local success in their context without research resources.

Dr. Lisa Rubenstein: This is a challenge. I think, another area of interest that I have is research clinical partnerships. So that some of the research methods and resources in organizations can be more easily accessed by people who do on the ground quality improvement. And can be dialed to the appropriate level for those efforts. But I think the SQUIRE guidelines are a good starting place again for thinking about what the issues might be in a particular project. And again, in working with frontline quality improvement I think the area that I continuously see as being a challenge for people who don’t have research resources is measurement. And I think it takes -- it doesn’t take turning something into a research project to improve the focus on measures. It can often be done relatively simply. So I don’t know if that’s entirely an answer, but I think it’s an important area to continue to think about. I think the more we have practice networks, the more we have other forms of linking across hospitals or clinics or nursing homes or whatever, the more we can think about adding those kinds of help to those groups.

Molly: Thank you. The next person writes is there a difference between improvement science and implementation science?

Dr. Lisa Rubenstein: I think there is, but it’s again an evolving border zone. Improvement science really tarts from one of the models such as the improvement model that I showed you. So it starts there. What do we want to improve? And it may pull all kinds of evidence from prior efforts that might be related. It might pull in a variety of implementation science tools and I think often would benefit from that. But it starts from that place. Implementation science I think starts from a different place. It starts from we know some things. We know some principles. We know some things that work. We know some things that don’t work. And how do we bridge between what we know and what would help organizations do a better job. So, certainly they overlap and cross. But I think they do start from different places. And those different starting points end up making some difference in the methods and approaches used.

Molly: Thank you very much for those replies. That is the final pending question that we have. Would you like to make any concluding comments to our audience?

Dr. Lisa Rubenstein: Well, just thank you so much for joining, for your participation and your comments. All of them have been really helpful. And I look forward to looking at the transcript afterwards. If you think of any other comments or questions, please send them on. I’m very interested. But thanks for your attention.

Molly: Thank you. We do actually have a survey for everybody to fill out. So as you exit out of the meeting, please wait just a second while the feedback survey pops up on your screen that will give you the opportunity to provide Lisa with some feedback as well as suggest more topics you’d like to learn about. As well, as provide her any feedback or comments regarding her requests. So once again, as you exit out, please take just a second to fill that out. We do look at those very closely and it helps us decide which sessions to help facilitate and what to provide our audience. So, Dr. Rubenstein, we very much appreciate you joining us today, and to our audience, we very much appreciate you as well joining us. And please do stay tuned for our next QUERI cyber seminar, which will be taking place on the 22nd of this month at 1:00 p.m. Eastern. This will also be about evaluating implementation. So we look forward to seeing you then. And this does conclude today’s HSR&D cyber seminar. So everybody have a wonderful day. Thank you.

Dr. Lisa Rubenstein: Thank you, bye-bye.