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Molly: We are at the top of the hour now so I would like to introduce our presenter; we have Dr. Christian D. Helfrich joining us today. He is a Core Investigator with the Seattle/Denver Center of Innovation for Veteran Centered and Value Driven Care. He is also the Principal Investigator for Improving Safety and Quality Through Evidence Based De-Implementation of Ineffective Diagnostics and Therapeutics. At this time I would like to turn it over to you Christian.

Dr. Christian Helfrich: Thank you Molly. Good morning or good afternoon to everyone. This work that I am presenting today is part of a Quality Enhancement Research Initiative Program or QUERI Program Improving Safety and Quality Through Evidence Based De-Implementation of Ineffective Diagnostics and Therapeutics.

As Molly said I serve as Principal Investigator with David Au and Christine Hartmann of this QUERI Program. The conceptual model that I am presenting today is one that we developed as part of our QUERI Program and are seeking to test as part of this program. To start out let me better understand who we have in the audience, on the call today.

Molly: Thank you. So for our attendees as you can see we do have a poll question up on the screen, please select, just click on the circle next your response. We would like to get an idea of what your backgrounds is, the answer options are: VA Research; non-VA researcher; clinician; management or policy maker; or other. It looks like we have a nice responsive audience we already have had ninety percent of our attendees vote so that is great. I see a clear trend so I am going to go ahead and close out the poll and share those results. Looks like almost half of our audience are VA researchers; twenty-four percent non-VA researcher; ten percent clinicians; five percent management or policy maker; eighteen percent other. So thank you to those respondents and I will give you back control now.

Dr. Christian Helfrich: Excellent thank you. That is helpful to know. Issues of medical quality are often characterized in terms of underuse, misuse and overuse. Underuse is the failure to provide necessary care such as aspirin for a patient who has a heart attack. Misuse is the failure to provide the correct care such as incorrect medication dosing and overuse: providing medical services to patients who either do not derive no benefit, or where the potential harms from providing the medical service outweighs the likely benefits from that service.

We know from our vast literature that medical overuse is very common. There have been a few literature reviews that have sought to characterize the prevalence of medical overuse which varies by procedure and setting but on the low end, it ranges, the estimates range, from ten percent to sixteen percent of care. So ten to sixteen percent of care representing medical overuse. And on the high end for some procedures and some settings, it ranges from thirty percent to forty-six percent. This evidence comes from a variety of sources including chart reviews; quality metrics; patient reports and provider reports. For example in some survey work PCPs have reported that when asked about whether their own patients receive too much or too little care PCPs will report that forty-two percent reported that they believe that their patients too much care versus six percent reporting that they believe their patients receive too little.

There is some indication that underuse is improving while overuse is not. A study using the quality indicators for the National Hospital Ambulatory Medical Care Surveys comparing quality indicators from 1999 to 2009 found that of the eleven metrics assessing overuse two of them improve while one of them got worse as compared to the nine metrics for underuse, six of those improved, three of them did not change significantly. Some indication that overuse does not appear to be improving or not improving substantially even while efforts to address underuse at least by some indicators appears to be improving.

There is a range of literature and effort to address overuse, understand and address overuse and there are a number of different labels that have been used for this work. I use the term de-implementation, de-adoption, undiffusion, exnovation, disvestment, discontinuation and extinction or extinguishing have been used or as my thirteen year old says to me frequently – don’t just don’t.

What is common across much of this literature in many of these efforts, not all, but much of it is that it is predicated on conscious behavior change. Some of the strategies that have been tested to address overuse include things such as: monitoring and reporting the rates of inappropriate services; performance measures; education; audit and feedback interventions. All of these could be characterized as types of unlearning, that is intentional conscious process of abandoning a given set of ideas, beliefs or practices in favor of a new set. Most recently I think in the U.S. at any rate the efforts to address medical overuse is encapsulated or represented by the Choosing Wisely Campaign promoted by the American Board of Internal Medicine and *Consumer Reports.* And again implicitly much of that work is aimed at raising awareness and promoting conscious behavior change on the part of clinicians.

Now there is an issue because we know that it is from research in cognitive psychology that conscious behavior change represents just one kind of cognition that drives individual’s behaviors. That conscious behavior change represented by unlearning is sometimes termed ‘reflective cognition’ that is a conscious process of evaluating behavioral options based on some combination of utility, risks, capabilities and social influences and based on those forming and subsequently acting on an intention. Reflective cognition is very cognitively taxing, it is something that requires attention, it cannot be done as part of multitasking and is difficult to do in settings where individuals are trying to process multiple sources of information or are dealing with stress or distractions. There is another type of cognition often termed automatic cognition that is largely unconscious and it occurs in response to environmental of emotive cues. It relies on ingrained heuristics that are triggered by those environmental or emotive cues and a typical example of an automatic cognition is when you get in the car and drive to a location that you are familiar with you can actually arrive at the location and have little or no memory of the act of driving there. That action was all determined by these deeply ingrained and established heuristics.

Now this is important to understand because there are some key challenges to promoting behavior change through reflective cognition. Again, reflective cognition is challenging under some situations to act on intentions, intentions have to be retained in active memory but we know that intentions are rapidly forgotten and particularly difficult to retain when individuals are multitasking, interrupted or again in situations where there is stress or distractions. Reflective cognition is effortful, these cognitive resources are a limited resource and experimental research established that people will rapidly exhaust their cognitive resources and in those situations where they have exhausted their cognitive resources will increasingly rely on automatic cognition. Then finally in terms of research or evaluating strategies to promote behavior change based on intentional behavior change when we asked individuals about, for example, efforts to present information or change their behaviors in some situations it can occur that individuals will behave automatically but when asked post-hoc to explain their behaviors will provide a reflective cognition sort of rationale.

As part of our effort to develop a set of quality improvement projects, for our QUERI to reduce the use of ineffective and harmful therapeutic diagnostic practices, we developed a draft planned action model of clinician level de-implementation based on these two cognitive processes – automatic cognition and reflective cognition.

A planned action model is one intended to help engineer change or promote change. Planned action models you can contrast with a descriptive or classic model, for example Rogers Diffusion of Innovation which describes how an innovation diffuses or moves through a social network. In its clinician level addressing the way that clinicians change their behaviors and lead to reduced use of ineffective practices. Again, this is in contrast to multilevel models and is all discussed before the end of the talk. One of the next steps for us in doing work on this conceptual model is to understand other factors, organizational context, patient level factors that also play a role in influencing the use of ineffective and harmful care.

This planned action model of change has two parts corresponding with the two types of cognition. An unlearning process based on reflective cognition and this would proceed based on exposure to new evidence or information on the ineffective practice; some exposure to new evidence leading clinicians to engage in a critical assessment of that evidence, the evidence of harm or ineffectiveness, perhaps evidence of the practice patterns in their own clinical setting or their own patients. And the formulation of an intention to change that is then enacted and produces a reduced us of the ineffective practice.

What might that look like operationalized? Let us use the example of an intervention to reduce the use of antipsychotics among patients with dementia in nursing homes. Antipsychotics are sometimes used to manage non-cognitive neuropsychiatric symptoms of dementia so things like aggression, agitation, hallucinations, disinhibition. So we might test an audit and feedback intervention to promote unlearning of using antipsychotics to address these behavioral issues. We would engage in audit and feedback with prescribing clinicians presenting evidence from the research order to potential harms from using antipsychotics among these patients for example increasing risk of falls. And presenting evidence of their own prescribing practices and for their own patients and perhaps benchmark against peers or benchmark against high performing clinicians or clinical settings.

We can then measure clinician’s assessments of the evidence both potentially changes in their perception of the potential for harm from using antipsychotics for patients with dementia or they are perceived their assessment of their own practices and to what extent their own prescribing practices are suboptimal. We can also measure clinician’s intentions to change and then you assess average changes and use of antipsychotics by that clinician or by that clinic over time.

Now there is some potential unintended consequences from promoting de-implementation and that is one of the things we think is particularly critical in thinking about efforts to de-implement in ineffective practices and we will come back to this in a moment. One of the things that we also know from cognitive psychology is that individuals when they feel that their freedoms are being curtailed sometimes experience something called reactants. And this is a response that includes anger, feeling anger at that loss of freedom and also something called negative cognition sometimes also called counter-arguing which basically is the individual increased in their commitment to a threatened behavior or trying to restore freedom by exercising their prerogative in other ways often in opposition to the individuals or entities that they perceive as trying to curtail their freedom. For example again from the research on audit and feedback there was some work by Cougar and Denisi in the 1990s looking at studies of audit and feedback. And they found that over a third of the audit and feedback interventions actually resulted in significant declines in the quality performance that the audit and feedback was intended to improve. In over a third of the cases, the clinicians receiving the audit and feedback responded by essentially doing the opposite of the desired behavior.

We can see the potential for that unlearning intervention to lead to reactant and potentially to have the opposite of the intended effect on intention to change and we could also imagine that that reactant could lead to feelings of professional inefficacy, like the clinicians clinical competency was being called into question or unappreciated, professional inefficacies one of the components of workplace burnout. And this we know that currently both in the VA and outside the VA in medicine particularly in primary care that burnout has been increasing among clinicians. And that burned out clinicians provide lower quality of care, experience more personal issues, absenteeism and also patients receiving care from clinicians who are burned out have a worse patient experience. There is some very important potential adverse or unintended consequences that could occur as a result of de-implementation efforts.

We also know that unlearning as I mentioned before is difficult under some conditions. If we are trying to use an audit and feedback strategy or de-implementation strategy in a setting in which the clinician is processing multiple sources of information, they are trying to multitask, they are already fatigued, stressed, collectively we can call these conditions of cognitive depletion. That might reduce the likelihood that the exposure to that new evidence is going to result in some sort of critical assessment and subsequently the formation of an intention to change and reduce the use of the ineffective practice.

Now on the other side, we can imagine a substitution process based on automatic cognition. And what the might look like is the presence of an environmental or emotive cue that cues the use of a substitute practice. Some sort of alternative that is incompatible with the ineffective practice and consequently reduce, leads to a reduction in the use of that ineffective practice.

Again, let us use the example of reducing the use of antipsychotics for patients with dementia for managing behavioral issues in patients with dementia. And use the example of a program called DICE. DICE is a program developed by Helen Kales and colleagues in Michigan. It stands for Describe, Investigate, Create and Evaluate. Essentially the DICE approach is a set of sequential and iterative steps for managing non-cognitive neuropsychiatric symptoms of dementia in real world clinical settings. It is based on assessing three sets of considerations: patient considerations such as the possibility that the patient is experiencing something like pain, untreated pain or hunger; caregiver considerations such as the possibility that the caregiver does not understand dementia and thinks that their loved one is misbehaving intentionally and consequently is responding in ways that are unproductive and actually reinforce the negative behavior. And environmental consideration, such as maybe the lack of a predictable daily routine. And what DICE does is provide a very structured and again sequential and iterative way of assessing each of those considerations and formulating a set of strategies to address them. DICE is a program that can be trained so nursing assistants in nursing homes can be trained in the DICE approach. We could imagine a situation where there is an environmental or emotive cue, in this case resident with dementia who is exhibiting one of these symptoms such as aggression. And that would cue the use of this DICE protocol or this DICE approach to address for example a lack of a routine for the patient in the nursing home setting. By using that approach and addressing aggression by changing the patient’s routine giving them a daily routine we might be able to avoid the antipsychotic prescription and on average reduce the use of antipsychotics in that setting.

There are challenges with substitution process. Even though in the setting we can imagine a situation where it is the process of automatic cognition, that is we can imagine establishing a setting in which that environmental or emotive cue triggers the use of the DICE protocol and leads automatically to following this DICE protocol. But it still requires the nursing assistants to be trained in the program, that is going to require reflective cognition so there has to be a process where the reflective cognition occurs initially. And there is going to be a period of time where the use of that alternative practice is not automatically triggered and there would need to be environmental supports reinforcement to establish that substitute practice until it becomes automatic. That might include resources and organizational supports, leadership support feedback over some period of time.

Now we can also imagine a de-implementation strategy that incorporates both approaches, both unlearning and substitution. For example another project we are doing as part of our QUERI Program is trying to reduce the use of inhaled corticosteroids for treating exacerbations among patients with mild to moderate chronic obstructive pulmonary disease. Inhaled corticosteroids can increase the risk of pneumonia and there are better ways of dealing with the exacerbations. An approach that we are trying is having pulmonologists identify from the electronic medical record in the VA, identify patients with COPD who are on an inhaled corticosteroid and do not have an indication for inhaled corticosteroids. The pulmonologist reviews the chart and enters an unsigned order into the electronic medical record to transition the patient off the inhaled corticosteroid. The patient’s primary care provider then receives that unsigned order. An unsigned order includes information about the rationale for taking the patient off the inhaled corticosteroid that there are better ways of managing the exacerbations and that the inhaled corticosteroids introduce the risk of pneumonia. It represents substitution because the primary care provider only has to sign the order to initiate the implementation. Over time the unlearning may take place as they are repeatedly exposed to this message and the information but in terms of acting on it all they have to do is see the order and sign it.

As part of this process we can assess the extent to which that unlearning takes place by assessing provider’s perceptions and awareness and perceptions of the evidence against inhaled corticosteroid use and the degree to which it is a problem for their patients.

What are some of the implications of the model? There are two broad implications I think in contribution that the model potentially makes to the literature. The one is simply taking into account what type of cognitive process is implicitly assumed by de-implementation strategies. For our unlearning strategies are we designing on learning strategies that are going to take place in settings where clinicians can effectively engage in reflective cognition? How can we develop unlearning strategies furthermore that are going to minimize the risk of reactants and the risk that we are going to have unintended consequences but perhaps promoting the behavior that we are trying to reduce and potentially burning out a workforce that we are already concerned is experiencing a great deal of stress and burnout. For substitution how a clinician learn a substitute practice and what are the environmental or emotive cues that need to be put into place to trigger that substitute practice and the organizational and environmental supports that are needed to assure that that substitute practice becomes automatic. Then of course anticipating and assessing unintended consequences notably reactants. I want to just briefly note that we actually have in the United States had a period where medical overuse and healthcare costs were effectively addressed in the 1990s with the advent of a dominant managed care model in the U.S. we saw healthcare costs plateau. And we had a very robust research study the Ram Health Insurance Experiment that compared different healthcare models and found that managed care models did reduce care. But there was a huge backlash to managed care in the 1990s, we literally asked PCPs to act as gatekeepers to turn on and off the spigot of access to care and generated a great deal of antipathy among patients and providers alike by that model. So I think there is a huge danger, we know we have this experience, there is huge danger in efforts to reduce care if it is perceived as being driven predominantly by a concern over costs and utilization.

There are a bunch of limitations to this model. Precisely everything that is not in the model. There is an already considerable and growing literature on de-implementation and the factors that promote medical overuse and some strategies that might be brought to bear to reduce medical overuse. Some of the things that we have evidence already influenced medical overuse and do not exist in this model include provider and patient factors both intrinsic and extrinsic. So on the provider level we know from research non-providers that there is a prevailing belief that more care is better care. There is often poor knowledge of patient preferences about care and there is not infrequently off label use of therapeutics that might not be appropriate. We know in terms of extrinsic factors that providers are operating in a system where there are frequently financial incentives both to the provider and to the hospital for greater medical use. The more you do the more you are paid, not always but frequently. There is concern over litigation in the use of defensive medicine, making sure that you provided the care and do not risk having a patient coming back. For example, a patient who you believe is not well served by receiving a PSA but subsequently develops prostate cancer and you are sued for malpractice. Finally a medical culture that esteems clinicians who are thorough not necessarily a clinician o is prudent. The expert clinician is seen as the one who is the most thorough in their diagnosis and treatment of patient. On a patient level, intrinsically we know that patients often lack knowledge about the harms from overuse that may be changing with the advent of Choosing Wisely and the involvement of consumer reports. But frequently there is a lack of knowledge about those harms. Again, patients likewise generally believe more care is better care and there is some very strong evidence that both patients and providers feel errors of mission more acutely than they do errors of commission. So to have missed for example again the opportunity to detect early prostate cancer weighs more heavily into subsequently develop prostate cancer. Weighs more heavily on them then the potential that by screening for prostate cancer, they subsequently undergo biopsies or procedures, surgery for example that was actually unnecessary to treat something that was not going to develop into a cancer and discomfort with uncertainty. Again patients and providers like oftentimes feel a discomfort with uncertainty and to elect to not actively pursue care leaves them with the feeling that they do not know what is going to happen. Extrinsically of course, there are again financial issues; patients are shielded from the cost consequences of overuse by third party payers. They are exposed to a media that often misrepresents research; media is very quick to count new and emergent findings especially about potential revolutionary treatments, much less interested in carefully weighing the costs and benefits of treatments. And of course patients also are targeted by advocacy groups who often are focused on a narrow set of procedures or care and are advocating to expand the use of those.

There is also a limitation in this work that we are just really working on this conceptual model in an environment where there is a great deal of other emergent work occurring, there has been a number of observational studies I would note just a few by our colleague Ian Graham in Ottawa. The natural history of de-implantation of practices such as episiotomies and radical mastectomies there is new conceptual work by our colleague Michael Parchment and colleagues at the MacColl Institute a group health research health institute on the systematic de-implementation of harmful and ineffective practices. That model is more multifaceted and articulates some of the changes that need to occur for effective de-implementation in terms of establishing a culture of trust and shared language with patients. Precisely some of the things that are almost certainly necessary to avoid that unintended consequence of reactants when we promote de-implementation.

Finally there is some emergent experimental work. Colleague Leti van Bodegom-Vos in the Netherlands is testing a multifaceted strategy to reduce the use of expensive blood savings measures in hip and knee arthroplasty's. Dave Aaron and colleagues in the VA again are testing a multifaceted intervention to reduce inappropriately heightened glycemic control in patients with diabetes. This experimental work is going to provide a lot of information, a lot of valuable findings that may influence our conceptual model, as they understand what is effective and what is not in reducing ineffective care.

So in terms of next steps what we at our Quality Enhancement Research Initiative Program are doing are conducting these three implementation projects. So those include the two projects that I mentioned, projects to reduce the use of inhaled corticosteroids among patients with COPD; reducing he use of antipsychotics among patients with dementia. And a third project reducing inappropriate follow up of incidental lung nodules on chest CT’s. That is being led by Doctors Steve Elliott and Julie, I apologize I have forgotten Julie’s last name but being led by Steve and Julie. These projects are underway; two of these projects are underway currently with a third to be started next year. As part of these projects we are conducting mixed methods evaluations to test and add to this model. So we will be conducting interviews and surveys with providers trying to understand to what extent we see an unlearning process occurring and to what extent we see a substitution process occurring. Again, with each project using a different combination of strategies based on unlearning and substitution.

As a result of that what we hope to do is in the coming years to further develop and test this model and also as I mentioned before keeping track and working with colleagues who are working in this area in conducting related research in this area to use their findings to help inform our model.

With that I would love to take questions or hear feedback from the audience and hear what the audience has to say.

Molly: Excellent, thank you so much Christian. We do have some good pending questions but I see that a lot of our audience joined us after the top of the hour so I just want to remind you if you would like to submit a question or comment, please use the Question Section of the Go To Webinar Control Panel on the right hand side of your screen. Just Click the Plus [+] Sign next to the word Questions that will expand the dialogue box and you can submit it there.

The first question came in – can you give a quick overview of how audit and feedback works?

Dr. Christian Helfrich: Yes my apologies for not explaining that. In a typical audit and feedback session, an audit would be conducted of clinician’s practices, let us say, for antipsychotic prescriptions for dementia patients. A chart audit would be conducted to how frequently an antipsychotic has been prescribed for patients with dementia perhaps whether or not there was any evidence of other solutions being attempted before antipsychotics being prescribed and that information summarized in a report and then presented to the clinician. In audit and feedback interventions there has been a great deal of research on audit and feedback and what makes for effective audit and feedback and what makes for ineffective audit and feedback. The audit and feedback intervention might be designed to do a few things to be more effective. For example, the feedback report might be focused more on the specific behavior on the practice rather than on the clinician. So saying here is how frequently this has occurred for these patients rather than saying, you doctor ‘x’ are less effective at managing dementia or these behavioral issues among patients with dementia then your colleagues something that approach.

Audit and feedback is focused on the behavior rather than on the clinician has been shown to be much more effective. The audit and feedback might include specific recommendations for alternatives, so how does the clinician change the practice and again that would be where program like DICE would come in or other alternatives to the antipsychotic. That information would typically be presented, the feedback given to the provider by a respected peer in a one on one setting, in a setting where they felt that they were not being exposed and had an opportunity to respond and interact. Again, with whoever was delivering the feedback intervention. I do not know if that answers the individuals question but I am happy to follow up more offline if there are further questions about audit and feedback.

Molly: Excellent thank you. Next question – how do you change intention to change in clinicians? Or I am sorry I completely read that wrong. How do you measure intention to change in clinicians?

Dr. Christian Helfrich: Yeah at least right now our plan is to do it through interviews and surveys. There are some off the shelf survey instruments that have been used in a variety of clinical settings to assess intention to change. Again if the individual is interested please follow up with me offline and I am happy to share the draft survey that we developed again adapting a measure of intention to change. But at this point, it is just really asking the provider – do you plan to reduce the use of antipsychotics for example.

Molly: Thank you. Wonderful session, thank you for mentioning Aaron’s work, we found that making our program voluntary seems to overcome the reactants you described. Is that commonly done?

Dr. Christian Helfrich: No, that a great point and I think that really goes to the heart of reactants. With a voluntary program it seems much more likely that that the program is not going to be perceived as threatening an individual’s freedom because they get to exercise that freedom by choosing to participate in it or not. I think that is an important piece of de-implementation approaches is to find some way if it is through voluntary participation but some way to ensure that clinicians retain their prerogative that they do not feel like their prerogative is being curtailed by these efforts. In as far as how common is, our de-implementation efforts typically voluntary or are the approaches being designed typically voluntary. I am not certain, actually I do not know. I think that the danger and again I immediately think back to managed care and some of the efforts that were introduced under managed care like pre-authorization that those were not voluntary and were really perceived negatively. So that whole pre-authorization before you put in ear tubes for your pediatric patients who have chronic ear infections, you have to get a medical director’s authorization. That might have been an effective way of reducing ear tubes, but it really generated ill will. So I do not know how common it is now, my impression is anyway is that in the past it has been common for these things not to be voluntary.

Molly: Thank you. Great work, how are you measuring the difference between substitution and deep unlearning in your work?

Dr. Christian Helfrich: Yeah that is an excellent question and we are still figuring out how we are measuring this. As I mentioned we are taking a mixed methods approach and a huge part of this is conducting interviews, interviews before and after we introduce these strategies such as the DICE program, such as audit and feedback. We do have a provider survey where we have adapted some off the shelf measures. And one of the things that we are doing is trying to assess the extent to which providers at least self-report changes from baseline to follow up in their perceptions of both the evidence against these practices and the potential that if it applies to their patients. That would to us signal that unlearning has taken place. But the truth is as I had mentioned before one of the challenges with this is that again we have evidence from cognitive psychology from experimental studies where people will rationalize. They will explain why they changed the behavior afterwards when it was really not based on reflective cognition; it was based on their heuristics, developing new heuristics or the heuristics guiding their behavior. I think that is going to be one of the challenges we are going to face in this work is really developing a methodology where we can distinguish these two approaches. For the start we are taking this mixed methods approach and seeing what we learn.

Molly: Thank you. What types of study designs and research methods would be most useful in clarifying de-implementation processes and outcomes?

Dr. Christian Helfrich: I think there is most useful and sort of ideally we would have opportunities to do this work in highly controlled randomized settings doing multi-armed randomized control trials would be ideal. For our work, we are trying to do this in as much real world setting as possible and all three of the projects that I mentioned are being conducted as quality improvement projects not research. Although we are trying to bring the rigor of research methodologies to this work, they are being conducted as quality improvement. Just in terms of design. One of the designs that we are using for example with the inhaled corticosteroids project is a stepped-wedge design in which we get some of the benefits of randomization but without having to have a control arm that does not receive anything. Which is problematic both in a situation where we believe there are potential patient harms from the inhaled corticosteroids. If we are effective in reducing inhaled corticosteroids and reducing risks of pneumonia there are the ethical issues of having providers with patients in our control condition. There is also some practical issues with rolling out a strategy like the unsigned order strategy where it takes times. So the stepped-wedge design is one in which we, all the participating providers receive the intervention, their patients will have their charts reviewed by the pulmonologist. But the providers are randomized to when they receive it so there are multiple sort of cohorts or snaps in the first set receive the intervention at time ‘x’ and then the next set receive it. Again the advantage is it gives us some of the benefits of randomization but also allows us to roll out the intervention to everybody.

Molly: Thank you. The next question – in your mind what is the rationale of using the de-implementation model discussed here versus applying a more general implementation framework such as for example the CFIR Consolidated Framework for Implementation Research in a de-implementation project.

Dr. Christian Helfrich: That is an excellent question too. I do not think that the two are mutually exclusive. As I mentioned I think one of the issues for us with developing this model and one of the not issues but one of the next steps for us through our projects is trying to understand the roles of many of those factors that are represented in the CFIR. What are the types of clinical settings the internal settings in which unlearning is effective? Settings in which clinicians are focused on a single clinical issue where there is not a major time constraint things like that. Those are things where I think we can adapt existing models. I think the de-implementation is somewhat different and unique from implementation. In fact we had a number of conversations about this. One of my colleagues suggested de-implementation is really just the mirror of implementation. When we try to implement a new practice we are often maybe usually implementing a practice that is taking the place of some prior practice. So something new comes along and displaces an old practice and the example I use is this is from work that I have been involved in is from coronary interventions that are interventions to restore blood flow to the heart when there is a blockage. Coronary interventions in the U.S. are typically done through the femoral artery so catheter is threaded up to the femoral artery through the groin to restore blood flow but they can also be done through the radial artery in the wrist. The radial artery procedures are much safer; these procedures are much safer they have a much lower rate of bleeding complications. So the radial approach for that reason is the preferred approach and we have had efforts to increase it.

In the absence of the radial approach the femoral approach is still clinically indicated, it is still advantages patients for whom it is appropriate, it still advantages patients and can be effective in either helping manage their symptoms that cannot be managed medically. And for a certain high risk group that are experiencing heart attacks it is actually lifesaving. In the absence of the radial procedures, the femoral procedure is still indicated whereas for de-implementation projects we are really talking about things where it is not a practice that has been supplanted by something superior, it is something that really introduces harms and should not be done in the absence of a specific superior alternative. In addition as I discussed today, de-implementation entailed I think a set of unintended consequences that are unique. The issue of reactants is a much more prevalent issue with de-implementation strategies I think than implementation efforts. I think that implementation efforts do not entail the same risk of provoking anger, negative cognition and burnout among our providers.

Molly: Thank you. The next question we have – do you believe your work has direct application to complementary and alternative treatments? And if so, how can these ineffective practices be discouraged, the growing adoption and promotion of these ‘treatments’ is alarming to anyone who understands science.

Dr. Christian Helfrich: Yes, I have to admit that I am really ignorant of most complementary and alternative medicine. It would be difficult for me to comment in too much detail. I will just say that I think that potentially thinking about de-implementation has targeted these two approaches – substitution and unlearning is applicable in any situation where we are trying to discourage a practice. And I think if I understand the question correctly, I think where our work which right now is really focused on providers where our work could be applicable or more applicable to complementary alternative medicine might be in thinking about how it applies to patients. In taking multiple tax or how strategies might be leveled at unlearning, providing patients with information about complementary and alternative practices that really are not effective and could introduce harm. In substitution figuring out how the need that a patient has that is being met by the complementary and alternative medical practice the need that they are trying to fulfill with pursuing that how that can be addressed through some other method. That is how I think on first blush that is how I think our work potentially could apply.

Molly: Thank you. I wonder if you know of any studies that evaluate the role of contextual clinic factors that may contribute to de-implementation of ineffective healthcare practices. For instance, leadership, culture, supervision?

Dr. Christian Helfrich: Yes and that is something, that is exactly what we are hoping to understand better with our mixed methods approach or what are those as the questioner said, those contextual factors that are going to make it more or less likely that a given approach is going to work. I will say that again Michael Parchment and colleagues at the MacColl Institute their model which again is also a planned ‘x’ amount I think starts to articulate some of those ideas. Two of the ideas in that model that really jumped out at me are establishing a culture of trust with a patient and then having a common language. And having that common language is so important about communicating effectively about both the benefits and risks of a practice, the risks over years and understanding patient needs and understanding what it is that the patient is trying to, the needs they are trying to address. Where they may want whatever the medical practice is. I think there is some work, there is definitely work out there that has started to articulate what some of those factors like we are. The other questioner indicated we have a pretty rich literature already on implementation, on contextual factors that promote implementation of evidence based practices were inhibited. My guess is that many or most of those factors are going to come into play with de-implementation efforts.

Molly: Thank you. Forgive me if I mispronounce some of the stuff in this next question. Have there been any attempts to de-implement the use of Factor 5 Leiden and/or Prothrombin test orders? Other long standing tests that are ordered because that is what I have always done.

Dr. Christian Helfrich: I am not familiar and actually I should have prefaced all this by saying I am not a clinician and I rely on many very intelligent clinical colleagues to educate me about these care processes and I am not familiar with the ones the questioner brought up. I am not aware of de-implementation efforts there.

Molly: Thank you. About substitution specifically for medication, how does this happen? Is it a different “better” class chosen? And how do you get physicians to buy in on this new alternative?

Dr. Christian Helfrich: Of course I present this conceptual model and say introduce a substitute practice and the catch is you have to have a substitute practice. I think it is going to be different and again not being a clinician I can very quickly get out of my depth in talking about any given medication. It is going to be different I think for each medication. There are going to be a different set of options for substitutes. I think that actually PSA’s might be as good as an example as any of how substitution, PSA exams for prostate cancer, screening for prostate cancer where Watchful Waiting List was introduced as alternative. By framing it as watchful waiting it turns not doing the thing, not doing PSA into an active thing. Watchful waiting is articulated as an action so I think it just illustrates how even when there, as I mentioned, there is not a specific superior alternative in the sense of another treatment or diagnostic procedure. It may be possible to create a substitute by communicating how not doing the thing is beneficial to the patient. I think that is exactly what they did by creating Watchful Waiting List is one option for a possible PSA screen.

Molly: Thank you. Any measure of clinician’s assessment of evidence against practice or intentions that they are willing to share?

Dr. Christian Helfrich: Yeah again, I would be happy to share. If you want to follow up with me just email me. I am happy to share our draft survey. We have adapted an evidence scale that we used in a survey of organizational readiness to change and have done quite a bit of work talking with clinicians basically having clinicians in different settings review the survey and make suggestions about changes to the language. That is a draft instrument that we will be testing in these projects. I am happy to share it. And if others are aware of existing structured survey instruments, structure interview guides that assess the provider/clinician perceptions against a practice, I would love to hear about it. If people know of any please email me. We have been really largely focused on adapting stuff that we can find off the shelf and not things that were necessarily designed specifically that measure again like perceived evidence against a practice.

Molly: Thank you. Have you looked at de-implementation with clinician and use of clinical decision support or clinical reminders in the electronic medical record?

Dr. Christian Helfrich: We have not and in part I can say from work not as part of our QUERI Program but as work that I have done on the medical home implementation of the medical home model in VA. I do know that we have pretty good evidence that medical alerts and reminders are almost certainly overused right now, that there are such a high volume of them that they no longer have their desire that they end up not, clinicians have to click through them because so many of them come up. Right now those kinds of tools speaking of contextual issues, we may be in a clinical environment right now where trying to use additional reminders is not an effective way to go. Precisely because clinicians are so cognitively overloaded in these settings and these things are popping up that there is no ability for them to process them effectively.

Molly: Thank you. I know we are at the top of the hour but I just have one last question if you are able to stay on for it.

Dr. Christian Helfrich: I would be happy to thank you.

Molly: Okay, great. Behavior changes seem to be a part of de-implementation. We know that some of the public health successes have been via policy and regulation – seat belt use; tobacco; vaccination etcetera. How does one balance the concern about reactants and the concern for better patient outcomes?

Dr. Christian Helfrich: That is a great question and I think in the short answer is I do not know and the longer answer is that is something we are certainly going to try to understand as part of our work. I think is at the heard of much of the other work being done right now. Again Michael Parchment the MacColl’s Institute work being right at the top of the list for that. That is a really important question is – how much of this is going to change going to improve s as a result of us intervening on a clinician level versus more broad efforts such as the choosing wisely campaign that raises not just clinician awareness of this problem but also public awareness of this problem. How much of it is going to depend on that? I do not know but I think that exactly those are the questions we need to be asking.

Molly: Excellent thank you very much. We also have a lot of people that have written in thank you for this presentation. As a reminder I have recorded it and I will make it available in the archive catalog. Christian do you have any last minute comments you would like to make?

Dr. Christian Helfrich: No I would like to say thank you Molly for the opportunity to present and if anyone has any questions and comments, any suggestions, ideas, I welcome them. Please email me I would love to hear from you.

Molly: Great, thank you so much it was our pleasure to have you and we appreciate you lending your expertise to the field. And of course thank you to our attendees for joining us and I am going to close out this session now. Please wait just a moment while the feedback survey populates on your screen and take just a moment to answer these few questions as we do look closely at your response because it helps facilitate ideas for new presentations to support. Thank you once again everyone and have a great rest of the day.