Talking to Change: An MI Podcast
Glenn Hinds and Sebastian Kaplan

Episode 51: Lessons from the Lab: The Dynamics of Change Talk with April Carcone, PhD, MSW

Sebastian Kaplan:

Hello, everybody, and welcome to another episode of Talking To Change: A Motivational Interviewing podcast. My name is Sebastian Kaplan and I'm based in Winston-Salem, North Carolina. And as always, I'm joined by my good friend from Derry, Northern Ireland, Glenn Hinds.

Glenn Hinds:

Hi, Seb. Hi, everybody.

Sebastian Kaplan:

Yes. Hello everyone. We are winding down the year. We're recording this late December 2021. Before we get into a discussion about the episode, Glenn, why don't you orient everybody to the ways that they can contact us and access the podcast?

Glenn Hinds:

Of course. So as usual, our Twitter handle is @Changetalking. On Facebook, it's Talking To Change. On Instagram, it's @Talking to Change podcast, and for emails in relation to questions or queries about the podcast or information that you you're seeking in relation to trainings that we offer, it's podcast@glennhinds.com.

Sebastian Kaplan:

We're having a bit of a different style of episode today. As our listeners know, most of the time we're speaking with clinicians or at least having a conversation that's more clinically oriented. What we were we're thinking about doing is periodically having a researcher join us. Now, it wouldn't be the first time. We've had a couple of prolific researchers previously, but we want to have intentionally bringing on some researchers here and there to talk about their work in the lab and how it influences or guides our work as clinicians in the various settings that we work in.

Sebastian Kaplan:

We had April Carcone join us, who is a researcher at Wayne State University in Detroit, Michigan in the US. Just to give a brief context to her and offer a resource, perhaps, for many of our listeners, April and I met for the first time back in, I think it was 2011 or '13. Somewhere in the early 2010s. We met at a conference called the International Conference for Motivational Interviewing, also known as the ICMI. Our listeners will be familiar with the acronym of the MINT, which is the Motivational Interviewing Network of Trainers. That's a group that Glenn and I are part of, and many of our guests have been a part of. That's an organization that you can apply for membership. It's quite rigorous;

clinical examples and go through an application process, but ICMI is open to anyone interested in attending a conference on Motivational Interviewing.

Sebastian Kaplan:

It is intended to be more research oriented, so that's something for people to know, but we just wanted to offer that bit of information for people interested in joining the group more professionally, and we'll provide a link on the episode notes page. So, yeah. That's a bit of a background on April. This particular episode that we're sharing today, and then this organization called ICMI. Glenn, as we've been doing lately, share with us some thoughts or some important take-home points, I guess, that you took from our conversation with April that we just had.

Glenn Hinds:

Thanks, Seb. I suppose the first one is that, as you mentioned yourself, just about why we're speaking to a researcher, in particular. It's just the importance of, of research itself and how it informs our understanding of where we are and, very importantly, where it is we might get to in the future. April does a wonderful job in helping us begin to explore the discoveries that she and her team are making in relation to the language that is used in Motivational Interviewing and the populations that it can be used with, and the variations, the slight variations, that may need to be taken into current when we're practicing with different people. that's really interesting.

Glenn Hinds:

The other thing, building on the conversation we previously had with Jordan in Episode 27, is looking at the impact of AI, artificial intelligence on healthcare and practice, and the interesting ways that researchers are now using AI to shorten how they mine information from the details that they have in the conversations. And then, finally, it's very clear just how very passionate April is in relation to what it is she does and, and why she does it. So, a very fascinating episode, and I hope everybody enjoys it.

Sebastian Kaplan:

Agree on all counts. There's some really wonderful work that that really is looking at the future of MI and eHealth, Telehealth, AI, all of these places that the, the field is going. And so that's all exciting. A couple of things on my end, kind of building off of what you already said, Glenn, is it's always interesting to me when I listen to researchers talk about their work and how methodical and precise, they are, or many of them are, anyway. I think April describes it in this way. Very careful about what conclusions to draw, what conclusions not to draw, and appreciating every piece of the puzzle in what it is that we do as clinicians behind closed doors and why we might use particular skills. Whether it's an affirmation or to provide autonomy support, and why we might choose to not do certain things like explore in at length another person sustain talk.

Sebastian Kaplan:

These are all things that, as MI practitioners, we're careful to do or not to do, and that comes from people like April, who is doing all the good research that requires a great deal

of time and energy to do. So, that was one thing for me. The other is she really highlights a finding in one of her past research endeavors on the importance of autonomy support, working with young people. And so, she goes into some detail talking about that particular study, and it's all really interesting stuff. So hopefully you all enjoy it, and hopefully you'll look forward to some of our future episodes talking with some of the great researchers out there across the world. Without further ado, let's listen to April.

Sebastian Kaplan:

Hello, April. Welcome to the podcast. Thank you so much for joining us.

April Carcone:

Hi, I'm so happy to be here. Thank you for inviting me.

Sebastian Kaplan:

April, tell us and tell our audience a bit about yourself, your background and what we've come to-to call your early MI story.

April Carcone:

Sure, sure. I currently am an academic researcher at Wayne State University in Detroit, Michigan in the United States. I'm in the Department of Family Medicine and Public Health Sciences in the Division of Behavioral Science. Primarily my job is to do research, and a good chunk of that research has been in the field of Motivational Interviewing. I got introduced to Motivational Interviewing by Sylvie Naar, who I think many of your listeners might know. She has written a book on Motivational Interviewing with adolescents and young adults, as well as been very active in the MINT for many, many years.

April Carcone:

I came into this world because we had a grant, or really, Sylvie had a grant and she brought me into it, and part of that grant was adapting Motivational Interviewing for home-based weight management treatment for overweight and/or obese African American adolescents living in and around the city of Detroit. There was a real interest to try to understand if the communication that happens in the MI context with those youth was effective, or how to make it as effective as possible in helping these youth achieve some of their weight loss goals, so that was the start of it. And since that time, I've really taken off with this research and have been involved in a number of projects to look at the sequence of communication and Motivational Interviewing to really understand how communication works and whether there are different communication strategies that different providers use in different contexts that work better than others.

Glenn Hinds:

Fascinating introduction, and quite a specific target group that you began this journey on, working with home based African American youth who had a diagnosis or were presenting with being overweight or obese. And then just being curious about that, does the mechanics of Motivational Interviewing work well with them? Or do we need to do it slightly differently with this population? I guess that's a really interesting question for many

people to consider. Whether it's Motivational Interviewing or any other approaches, do we need to speak differently to different populations while using the same approach? I guess that's part of what we're going to be exploring today. In broad terms, then, April, what did you discover and what how has that led on to more research in your field?

April Carcone:

What we learned from that first initial study was that there were... Let me take a step back, I suppose, and just talk about the broader research in this area. Back in, I believe it was around 2006, Terri Moyers and Tim Martin had embarked on this initial discovery of trying to understand, really, they were looking at two consistent communication behavior, so those behaviors that are emphasized in MI training as being patient centered and supportive. Is there an empirical link to the elicitation of change talk in the patient, right? So, asking open-end questions, using reflections, using affirmations, do those things really cause the patient to make expressions of change talk? We know from other research that change talk is linked to behavior change, so the more we can get the patients talking about the underlying reasons, desires, their ability, their commitment to making change in their lives, the more likely those patients are going to be enacting those changes in their life outside of the clinical setting, so outside of the therapy room or outside of the exam room.

April Carcone:

And so, we were building on that initial research because much of it had been done with adults who were in substance use treatment or alcohol use treatment, and we really wanted to understand, for our African American youth who are struggling with a health problem, are the same communication strategies as effective? We wanted to be able to really teach our community health workers, so I guess that's an important part that I didn't mention initially. We were working with community health workers, so these are paraprofessionals, so people who may have a bachelor's degree, but they're not master's level clinicians that you might see when you come into the hospital or into the clinic for formal treatment. We wanted to really be able to help them home in on some of the communication strategies that would be most effective with these youth.

April Carcone:

And what we learned is that if we wanted to encourage adolescents to make change talk statements, there were three behaviors or three communication strategies that counselors used: asking open-ended questions that were phrased in such a way that the patient's expected response would be change talk, reflections of change talk that the counselor may have been hearing, and then statements that emphasize the patient's decision-making autonomy. These were the three behaviors that were directly linked to change talk statements, and the same behaviors were also linked to commitment language statements which, as we all know, are a little bit more closely linked to actually enacting behavior change, right? So, these are the things you're going to do, or you intend to do, when you leave the office that day. So that was sort of what we learned from that initial investigation with these youth.

Sebastian Kaplan:

So still stepping back if we can, and one of our motives for inviting you, April is it's maybe a thread that we'll continue with a bit in the coming year is to have researchers on the podcast. As many people know who are listening, the podcast is quite practical, or the intention of it is to be quite practical and focus on clinicians.

April Carcone:

Sure.

Sebastian Kaplan:

But the work that we do in Motivational Interviewing isn't just a set of skills or strategies that just feel good or made kind of intuitive sense. Maybe you could argue both of those are true also, but the reason why we emphasize things like reflective listening and open questions and commitment language evoking change talk is the foundational research that led to the growth of MI, really identified these skills that led add to positive outcomes, as you said, in a certain population, adults seeking treatment for substance use problems.

Sebastian Kaplan:

I think it's really interesting and important to highlight, even if you are a clinician out there, you're never going to write or perhaps even read a paper in your, in your life to appreciate what goes into the skills that end up getting taught in a training. And so what you did here, from what we're gathering, is you took these findings from one population, and then you ask this very curious question, like, "Okay, so an adult with a substance use issue, different person, different experiences, different background than an African-American youth living in a large Metro are in the US struggling with some health problem. health. I guess I just wanted to really highlight that process of exploring and kind of questioning that.

Sebastian Kaplan:

April, could you maybe speak a bit to even just the process of thinking about the questions that you ask yourself and you explore with your team, and then thinking about how that clinician out there in the world working with those youth, those community workers, whoever they are, what's that process like? What that about for you?

April Carcone:

If I'm understanding correctly, partly what we are trying to do in research world is build empirical evidence for interventions, right? There's a whole wealth of evidence around Motivational Interviewing at this point, that it works if there's a high degree of fidelity, meaning counselors are using those MI consistent communication strategies in their interactions with patients end up changing their behavior, and one of the cool things I think about MI is, unlike other interventions, the change seems to stick. That has to do, I think, with the intrinsic motivation that is being elicited as opposed to other types of interventions that may rely on extrinsic motivation or rely on that relationship that the

patient has with a counselor, and when that relationship goes away, some of that support for behavior change goes away with it.

April Carcone:

I guess, if I'm following your question correctly, one of the things that we were looking at is at the time that this research site started, Terry, and Tim Martin, one of her collaborators on that early MI work, they had sort of said, building on the clinical wisdom that came out of MI research before that, that MI works to evoke change, and then they were sort of saying, okay, so what is it about MI that works? Is it these, these communication strategies, these techniques that counselors are using to try to elicit motivation, intrinsic motivation? Get people to articulate the reasons why they want to change.

April Carcone:

We could have done something similar, but in the research world, we always want to build the research base, so the next step in that process is really sort of teasing apart what are the MI consistent strategies, what are MI inconsistent strategies and what is just other conversation, pleasantries and that sort of thing, and can we draw an empirical link, between the specific things that people do rather than a group of things that people do? And then that opens up the question of, "Okay, so if open-ended questions, eliciting autonomy, reflections of change talk work with adolescents," the next thing we did is we looked to see are the same strategies effective with their parents, the caregivers, because these are family based interventions when you're working with kids, so you're having a meeting with both the kid and the parent present, maybe some of the time and maybe individually.

April Carcone:

How can we help the counselors, these community workers, who are going out into the home be as effective as they can in those brief encounters? Even though this is considered an intensive intervention because we're going out into the homes, we were meeting with them weekly for over a period of about six months that's still, in the grand scheme of things, the grand scheme of somebody's life, that's a relatively brief interaction. Right? And so, we really wanted to kind of make it as powerful as we could, if that makes sense. Did I answer the question? I feel like maybe I got rambling.

Glenn Hinds:

Yeah. I guess what I was doing as you were talking there, I was just imagining the group of researchers sitting around and getting excited, I imagine, then, about, what's the information that we have and how can we interrogate it even more in a way that will give us more insight. And the whole purpose of this is, so when we send practitioners out into the field, that they have been given a steer as to what we know works, and we can equip them with that knowledge and those skills, and then invite them to make that their own.

Glenn Hinds:

That's the relational aspect of their helping, but they will understand asking these types of open-end questions, using these types of reflections and using these autonomy statements generally enhance the outcomes when you're working with this group. It was almost like, as I was listening to you, just the notion that you had been given some music and you were just breaking it down into its different sections and going, how does this music work in this population?

Glenn Hinds:

And then the question was that you then began to explore, you described was working with the parents, and I'm just wondering, did you notice that the same music was being played, but at a slightly different rhythm? What was different about the interventions with the young people and their parents? Or was it just do this, and it works with both populations?

April Carcone:

What we found when we looked at the conversations between the community health workers and the caregivers was that the same kinds of communication strategies, as what we think of them. I'm not sure if that's the language that you would use, but in a different order, if that makes sense. So, for kids, the open-ended questions and the emphasizing autonomy were sort of the top two and reflections were strong as well, but maybe not as strong as those two.

April Carcone:

For the caregivers, what we found is that reflections of change talk and then open-ended questions, so demonstrating, perhaps active listening through communication, or excuse me, through reflections, and then really having a conversation with the caregiver by eliciting some of those motivational statements from them were more powerful in eliciting change talk in caregivers. Emphasizing autonomy was still an important tool, if you will, to kind of help parents build motivation towards changing their behavior, which in this case would be supporting all the things that child might need to enact a weight loss intervention recommendation, so lifestyle modifications, but they were in a little bit of different order.

April Carcone:

We actually were a little bit surprised by that, because we kind of thought initially going into it that maybe the caregivers would respond a little differently because they're adults, and to an extent they did, but the key behaviors were similar. So, what that really caused us to kind of reflect on is this idea that when you are working with people to change their behavior, when it comes to asking those questions, it really matters what you're asking about, and correct me if I'm wrong, but in my understanding of Motivational Interviewing is asking questions is... I'm trying to think about how I phrase this.

April Carcone:

Asking questions is always an MI consistent behavior. Maybe in the past, there has been less emphasis on, is this a question that is phrased to elicit change talk? Is this a question

that is phrased to explore sustain talk or reasons that you might not want to change your behavior? Is this a question that asks about barriers? Those questions have maybe been all considered to be MI consistent. I think what we found is that, if you really want to boil it down to moving the patient forward, moving your client forward, it really matters what you ask about. If you ask them about what are the reasons, what are the desire, the reasons, the ability to change, you're going to really hear that coming back at you, and we know that the more we can get them to talk about those things, the more likely they are to enact the changes that they are in treatment for.

Sebastian Kaplan:

I think what I'm hearing from this is, again, thinking of somebody who's learning about MI or a clinician out there who's sort of getting a sense of how to use these skills, that a reasonable starting point might be what's an open question and what's a closed question? What's a reflection? What's an information? What's a summary? The OARS, the core skills, as we often talk about. It perhaps makes sense to just make sure that... I mean, people know what questions are, but make sure they understand the distinction there, make sure they understand the mechanics of a reflection and how the voice tone works, and what an affirmation is relative to what a praise statement might be. There are these sorts of things, right?

Sebastian Kaplan:

But what you and your team's work has contributed to, I guess, is to really emphasize the importance, not just of any old open question. I could say, "So what did you do today?" That's an open question. It's not necessarily about any direction, but it is an open question but emphasizing specific kinds of open questions that are strategically meant to elicit change talk, and then reflections also that are strategically meant to invite the person to say more about change that they're going to make.

Sebastian Kaplan:

You could reflect anything that a client might say, and sometimes a reflection might not necessarily be an invitation to go anywhere, and then others can be specifically crafted in the direction of change. So, again, this is one of those things that a lot of MI practitioners might take for granted, or they may not understand like "Why do we spend so much time trying to learn about reflections?" and the work that you're doing, the work that Terry Moyers did, Bill Miller, of course. I mean, all of these clinicians out there are, I'm sorry, all these researchers out there, are contributing to the field and guiding our everyday practice.

Sebastian Kaplan:

I guess that's kind of what I'm hearing from there, but I wonder if you could also offer some specific examples. What would be an open question in the context of weight treatment for weight management? What would be an open question or two that would work or imagine a reflection or two in the direction of change, and also those autonomy supportive statements. What does that sound like for the listeners of our episode today?

April Carcone:

The autonomy supportive statements came up a lot, of course, when you're working with children. The other thing that comes to my mind is tying that into adolescents' development, but I'll answer your first question first. When it comes to emphasizing autonomy, we would hear the community health workers saying things like, "No one can make you do this. It's all up to you. If you don't want to eat broccoli for dinner," and I'm just making a silly example, but "You don't have to do that. This is up to you. It's up to you to decide how this is going to work. If you would like to exercise, you get to choose how that happens, when that happens, and if it happens. We're not here to tell you what to do. We're just here to kind of help you along that path."

April Carcone:

Those are some kinds of just honoring and respecting and making it very clear to adolescents that this is their journey, and this is their life and we're here to help, but we're not here to tell them what to do. Maybe that's a little different from what they have experienced in other areas of their life, right? In school, the teachers tell you what to do. You go to the doctor, and they tell you what to do, and we're not here to tell you what to do. We're just here to help you along the way.

April Carcone:

When it comes to the open-ended questions, asking them things like, "Why do you want to lose weight?" Or "Why might you to lose weight?" and we would hear things from adolescence that you might expect. We're talking about girls who are getting ready to go to prom and they want to wear a dress and they want to look good in that dress. Those sorts of things. "How do you think your life might be different if you were to lose 10 pounds?" or 10%, or whatever the goal is that they had set with their counselor to try to help them envision how life might be different somewhere along the line or somewhere down the road.

April Carcone:

When it comes to commitment language, it's asking them things like, "So what are you ready to do today?" or tomorrow, or next week? We listed a lot of things that maybe you want to do. What are some of the steps that we could take to get you there? Do you want to try that broccoli? What else? What are you willing to try today or tomorrow to kind of move us along that path?"

April Carcone:

Those are a few examples that come to my mind, and then just coming back to the point about emphasizing autonomy, I think one of the things, and this is really a thread that kind of goes through my own work that has come since that, I think that communication strategy, that technique, if you will, of just really being very overt and upfront with adolescents about, "This is your journey, this is your life, this is your choice," really resonates with them because of where they're at in terms of their development. If you

have a teenager, know a teenager, or can remember when you are a teenager, that is a period of time when you're really just trying to figure out who you are and what you want to be, and you're trying to be an adult. You're trying on adult behaviors and adult experiences. A.

April Carcone:

And so, by providing youth with an opportunity to take on that responsibility with support, right? So we have our caregiver there in the weight loss intervention, and we have our community health worker there to support that, I think really resonates with youth in particular, and I think it resonates with African-American families more broadly because of the history, at least in the US, of mistrust and mistreatment that many marginalized populations have experienced, so it maybe feels like a different experience that they can really connect with, if makes sense.

Glenn Hinds:

It just reminds me of the conversation we had with Bill Neto who talked about revolutionary psychology and the idea of social dominance and the importance of, not just in children, but that the reason why we very often get resistance in our helping conversations is because it feels like it's a top-down intervention where the practitioner with good intention is saying, "You know what you should do?" or "You should try this," and what's getting triggered is that middle brain going, "If you're telling me what to do, you've got higher social hierarchy. You're higher on the social hierarchy than me," and I can't afford that, so I'm going to fight back. It's lovely the way you described recognizing that for teenagers, adolescents, there's this transitionary period taking place. Here are these, I'm going to use the word wise, adults who recognize this transition and are going, "If you wanted to do, what would you do? If you were wearing adult clothes, what decisions would you make?"

Glenn Hinds:

Just that gentle invitation to explore if you were a fully grown human being and you could make your own decisions, what would they be? You just start creating that space where they're not having to argue for them for the right to make up own mind. And because they're not having to argue about that, then that energy can be used to think for themselves. "What is it? What is it I do want for myself," or "Who do I want to become?"

Glenn Hinds:

It's such a powerful question to ask anybody who do you want to be? A lot of us have been asked, what do you want to be when you grow up, but how often are we genuinely exploring who do you want to be? I guess it brings me back to what else? I mentioned earlier when, I asked you earlier on about the difference between the, the young people and the adults, and you were saying there was some subtle differences. I wondered was it about that developmental stage, younger people are still trying to find their feet, and they're requiring a lot more autonomy support, but does it go broader than that, then? Is it that given the fact that you're working with, in this example, African American population,

does it change across other populations, or is it that you've noticed if you do these things, it generally works across most populations?

April Carcone:

Well, the other population that I've done some of this more intensive looking at the process of communication is with young adults in the HIV clinic, so these would be individuals who have been diagnosed with HIV, and they are coming into clinic for their medication and health monitoring. In a study that we did not too long ago, we were working on developing a tailored... so this is Sylvia Naar's tailored Motivational Interviewing work, if you are familiar at all with some of what she's been doing in that space. Part of the role that I had on that project was helping to examine the communication that the various healthcare providers were having with the patients when they would come into the clinic. And so, these are young adults, mostly. They can be older adolescents, but they're more like what we would call emerging adults in the work that I do, so these are going to be, maybe some 17 year old's, but, 18, 19 into your early twenties coming into the clinic, and so we found some similar patterns there, but some differences as well.

April Carcone:

Still asking questions that were phrased in a way that you would expect to hear change talk back, but in that setting, it was less important if it was an open-ended question or if it was a closed ended question, interestingly enough, and reflections were also very strongly related to the elicitation, having the patient make a change talk statement. Some of the other things that we know about Motivational Interviewing, so making affirmation, emphasizing autonomy, presenting information in a patient centered where way, so this would be like using ask-tell-ask or phrasing it in a way that the patient can sort of say, "I don't know if that's for me." Those strategies were also likely to elicit a change talk statement among the patient, but at a lower rate than the questions and the reflections.

April Carcone:

And one of the things that we were reflecting on, because we were actually of puzzled. We kind of thought maybe we would just be seeing the same thing that we had seen in our adolescents engaged in weight loss treatment, because they're still young, they're largely African American youth that are coming into this clinic, right? So, we're here in Detroit. That's mostly who we serve, but it was a little different, and so we reflected on that a little bit, and one of the things that we sort of concluded was I think it's partly because of the way that healthcare providers are trained, right? They're trained to ask a lot of questions and they're not trained to ask open ended questions. They're trained, "Is it this? Is it that? Tell me about this. Tell me about that." They're really closed ended questions that they're trained.

April Carcone:

One of the things that we concluded from that work was that if we could encourage healthcare providers to maybe be less focused on, is this closed or is this open, because it's really hard to change once you've been trained to kind of ask questions that way, but

really to focus on the content of the question, like what are you trying to get the patient to talk about here and really focus on change talk rather than, "Okay. I want you to take all these close questions that you're going to ask and open them up," which can be a little bit more challenging, particularly in a busy clinical space. They're seeing many, many, many patients in a day and it's hard to change the way that you're speaking, but maybe if we can get them to just focus on what do you want, what do you need? Why is this important? That can help them move the patient along. Or at least the evidence suggested that helped move the patient along.

Sebastian Kaplan:

I hear that as this still ongoing curious process, also a flexible mindset with this. It's not dogma of it must be open question, no matter what. It's seeing what you've learned from doing the research and interpreting the data, and then trying to fit that into the real world of the health care provider of a doctor, a nurse, or somebody who is trained heavily in asking questions, and then the conclusion or the next step from that is it's not to change the world of medicine or to change how medical schools train their student doctors entirely. But it's to suggest that you can ask questions in more efficient ways or more effective ways regardless of whether they're open or closed.

Sebastian Kaplan:

It's sort of like choosing your battles. Well, maybe that's not really a battle that's worth having, but being really strategic in the question that you're asking now you're going to be efficient and produce outcomes that you're hoping for anyway, in your work. Just thinking about this part of your work here, which is very much rooted in the past of MI and sort of the foundational ideas that Bill Miller and Steve Rollnick pondered and wrote about in the early days and in the early editions of the MI books and the first articles and, and clinical trials that they ran. Another part of your work is very much about the future and where we might be going with MI. And so, wondering if you might pivot or transition a bit to talking about some of the work you're doing right now and where that's heading.

April Carcone:

Great. I was hoping that we would be able to talk a little bit about this because it's pretty exciting, I think. It's exciting for the research world, but I think it's exciting for the whole world at this point, the thought of how we can utilize some of this exciting artificial intelligence technology that is being developed in this kind of work. At first glance it might seem like, I don't know what that has to do with what we're doing, but I think there is a lot of exciting opportunities here. When you asked me about what other populations or you what have you learned from other populations, part of the reason why there I haven't done as much of this work as I might have enjoyed is because it's so time consuming, right? First, we have to get our hands on these encounters, which is probably the easy part, but then to train human coders in Motivational Interviewing, at least in the language of Motivational Interviewing.

April Carcone:

What do these different techniques or behaviors that we've been talking about mean? What do they look like? What do they sound like in these different contexts? And then to have them actually go through the transcribed clinical encounters and basically label them, right? We're looking at each thing a person says and saying, if it's a patient, is that change talk? Is that commitment language? Is that something else?

April Carcone:

If it's a counselor or a provider, another type of a provider we're asking ourselves, they they've got a much longer list, right? Is it emphasizing autonomy? Is it asking questions? Is it this thing we called structure session, which is kind of like telling people what the agenda is or where the interaction is going? That can take a of time, and then the coding process can take a lot of time as well, and so one of the things that we've been doing is trying to understand if machine learning algorithms, machine learning modeling, could be an approach to really accelerate this type of work, and we've had had some success in doing that.

April Carcone:

We started off just looking at the patient language and can we, without getting into too many technical details, there's different types of these machine learning algorithms. One type that we're using is called supervised learning, which essentially means you provide the computer with examples of what you're looking for, so this is what change talk statements look like. This is what commitment language statements look like. This is what an open-ended question in a weight loss counseling session looks like. The computer learns to recognize those behaviors by looking at the pattern of the language, so we started with the patient language, and we had some pretty good success training the model to recognize this behavior. And then over the course of... I have a long list out here. We have at least three papers.

April Carcone:

That we first demonstrated that we could recognize commitment language and change talk. We then improved upon that model by looking at different... There's different types of models. It's a little bit beyond even my comprehension. It's my computer science colleagues real domain of interest to understand nuances of the different types of models. And so, we identified a model that performed really well and figured out how we can add features to it. So, things like, oh, dear, I'm forgetting his name. Oh, shoot. I can't remember. There's a researcher that I'm not remembering the name of right now that has all of these dictionaries of cognitive states. So, if you have a depressed affect, these are some of the words that you might use. If you have an anxious affect, these are all of the words that you can use. Pennebaker? I think that's it, but I'm not confident in my response right now. But anyways, there's all these dictionaries of cognitive states.

April Carcone:

We can give the computer algorithm that as an additional source of information. We can also give it information about, these are adolescents, or these are caregivers so that it can start to differentiate the language of adolescents and caregivers. There's probably

some other ones that I'm not remembering at the moment. So essentially we were able to refine the model, and then we were able to get it to also recognize the counselor behaviors, and so at this point, we have been developing these classification models they're called, that can recognize patient behavior, and not only recognize, but it can correctly classify or code if we want to use the language of qualitative research, which is my language. Classification is the computer science language. It can accurately classify, it can accurately segment, which is another term for parsing. So, sort of dividing up a speaking turn into the different behaviors that are being demonstrated there.

April Carcone:

And then it can tell us whether or not the pattern of the language that it's seeing is going to result in change talk or commitment language, or sustain talk, with a pretty high degree of accuracy, and that's pretty exciting work because it takes my human coders, I always estimate about five hours for every recorded hour of intervention to do the coding, and this is after they're trained and up to speed. The computer can do it in seconds, and so if you think about our ability to understand the nuances of what works with who in what setting in the event that these models could work, it's really exciting. It's really exciting, and it also opens up the doors to other things that people may or may not be as excited about. Things like automated counseling.

Glenn Hinds:

It's interesting that you say it because we did have a conversation in the past where the idea of speaking to an automated counselor who who'd been trained to recognize change talk, or change client talk, and to respond in consistent ways. That that was intriguing. What I'm hearing here is, is what the AI is doing is actually reading the process rather than listening and talking, and the fact that you've given it the language to listen out for. You talked about commitment talk and affect, and then recognizing the different sounds of adolescents and caregivers. And then introducing, this is what a practitioner sounds like as well, and what's clearly exciting about that for you is that you all you need to do is transcribe the intervention and then ask the computer what's going on here. And in seconds it can go, well, this is what we think is happening here, here, here, and that immediately offers feedback to the practitioner for them to recognize this is, in technical terms, this is what you were doing here, and that relates to the theory of what we're trying to explore.

Glenn Hinds:

So if you practice doing that more, then what's likely is, is that there's going to be more change talk, which ultimately leads on to more change, so it just opens up an avenue where it sounds like it's shortcuts so much of what it is you're trying to help people understand and just go, this is what we're trying to help you understand, and you're doing it here. You're doing it here. You're doing it here. Over here, maybe tweak it a bit.

Glenn Hinds:

Potentially that's where mentoring and coaching can come in for the practitioner to say, tweak these bits, and then you can track the development of the practitioners over a

period of interventions that the computer, like you say, can code and moments, and that's fascinating. Another question that comes up for me is because when we, if we go back just slightly, what was interesting was the fact that you're saying, here we are trying to help these practitioners change the way they do things, and it's not always that easy to get practitioners to change the things that they know how to do. It's almost like there's a loop or a circle here where we know a way of doing things and we want to try and help you change the way you do things so that you can help your clients change the way you do things.

Glenn Hinds:

There's a block, not a block. There's a hurdle at both those point where the individual, whether they be the practitioner or the client struggles to decide to change, and it sounds like it's the same thing.

Glenn Hinds:

I'm just wondering, given the fact that this research started way back going change talk is predictive of change. You refine it down to going, okay. So, what makes people use change talk, and you've done that now. I'm just wondering, does your research then go on to go, we can get people to use this change talk by getting them to use open-end questions, autonomy support, and does the research, then, go on to show that when we've done that these kids actually change in the long term? We've got the practitioners getting the people to talk, and does it loop back to the start, which is saying, and yes, it's still getting them to talk, use change talk means they still change. We're just helping them understand how do the practitioners get the clients to talk like this.

April Carcone:

We have not yet demonstrated or attempted to demonstrate that, if I'm following the question correctly, that a given sequence of communication is associated with, let's say, weight loss or changing your lifestyle. I'll tell you, I've been puzzling this on this for a while now, and the dilemma is, I think, that even though we know that in the moment, if a counselor uses a given communication strategy, if they use emphasizing autonomy, if they use open ended questions, that's going to be more likely than another communication strategy to elicit change talk. And we know that from some of the work that Terry's done that the accumulation, so the proportion of time that a counselor spends in a session doing those things is associated with the behavior change that you are targeting. I have not been able to, in my own work, be able to make the link between the individual sequence.

April Carcone:

I haven't looked at the accumulation, so we haven't really looked at is the proportion of time that the counselors spend using MI consistent communication associated with weight loss. We know that the intervention package that we delivered to the adolescents, which was a combination of Motivational Interviewing and Cognitive Behavioral Therapy was effective at eliciting weight loss. The kids that participated in the intervention lost weight, but we have not been able to establish that empirical link between, if they are sequences

of open-ended questions, emerging, or emphasizing autonomy and reflections that elicit change talk, that lead to change talk, is that associated with weight loss?

April Carcone:

It's been frustrating me, I'll tell you that, because it seems logically it should. That's the theoretical model. If you do these things, it will cause the patient to express the underlying reasons why they want to change, and the expression of the underlying reasons that they want to change is associated with the behavior change. It's associated with changing your lifestyle. It's associated with losing weight I think it's a sample size issue, if you want the truth. It's a sample size issue perhaps, and then maybe there's of other factors.

April Carcone:

This is the dilemma of research is that we really hone in on a specific question. What does a provider say that elicits change talk? And then it opens up the door to all these broader questions, but we haven't collected all the information that we need to answer that bigger question, so there could be other cognitive changes that might be happening or not happening that is causing or not causing weight loss. I think that becomes really complex. That's why human behavior is so difficult to change. There's so many factors that contribute to it.

April Carcone:

At least my understanding and my thinking around MI is that we are sort of changing one component of the puzzle and it's a really important component, but it's not the end all be all. It's not like we can just get them to say change talk all is going to be well and good. Right? You guys know that from the work that you've done with patients. They tell you things and then they go out in the world, and they do different things. Yeah.

Sebastian Kaplan:

It makes me think, too, first of all, the nuanced specificity at which you operate, April is great. I mean, its researchers have a way of just making sure they're saying the things that they feel confident that they can say, and not saying things that they can't say, because things that they haven't discovered, or others haven't discovered. It makes me think of how often in healthcare, and I'll use that term broadly, practitioners do things without any basis of support. Actually, you could even go so far as to say how often they are doing things with actually basis of negative support. I mean, most healthcare encounters are probably some version of the provider asks questions, finds out what the problem is, and tells the person what to do to change it. That happens in most healthcare settings, fair to say, across the world, certainly in the US and in Northern Ireland. I'm sure Glenn would agree.

Sebastian Kaplan:

Well, is that working? It's not working that well clearly, if we have epidemics of all kinds of things, but it doesn't seem to stop people from continuing to say, "No. What you have to do is you have to put the cigarette away because don't you know that it causes cancer." I'm pretty sure people know that smoking causes cancer. That's not getting it done, so

the practitioner's left with decisions about how to interact, what to recommend, what to say, what not to say. You describe one piece of the puzzle and I think that's a great way of framing it.

Sebastian Kaplan:

There's so many pieces of the puzzle in totality with human behavior, and then even within these 10-minute, 15-minute, 45 minute, perhaps, conversations, there's so many pieces of that puzzle also. And so, your work and Sylvie's work and Terry's work and all the wonderful researchers that are out there trying to figure this out, it's just methodically discovering, "Aha. We've got a puzzle piece right here. Let's find the next puzzle piece," and meanwhile, people are going to be out there guided with the best information that we have available.

April Carcone:

Incremental. That's what we call it in the research world. Incremental. We build a little bit on what has already been done and it broadens our understanding a skosh, but it also opens up the door to so many more questions.

Glenn Hinds:

What comes out of that, as well is just, from what you're describing, it's almost like the potential of AI is that it's taken the most effective parts of human interventions and using just that and leaving the bit that isn't working. It's almost like it takes the needs of the human practitioner out of the equation and just leaves this pure intervention.

Glenn Hinds:

It's almost like AI has the opportunity to offer someone pure love. And that's in that circumstance that this individual will feel held, the pure Rogerian experience, which is held and understood, and, in that moment, they can flourish for themselves in that contained place. It sounds like part of what your work is doing is identifying, how does that sound? How does a human being say that? And then teaching machines to say that, so that people can feel held and understood. I guess it's both exciting as you describe it, and scary about where that might lead, but if it leads to people getting helped quicker, more effectively, then it's certainly going to have a place.

April Carcone:

There were two thoughts that I was thinking about as you were talking. One of them is that's the logic of the grants that we write. Fidelity is high in the eHealth world because we're programming the machine, if you will, to do what we want it to do. And there's not that human factor that intervenes, which is human thinking and human reactions and emotions and that sort of thing. That's the argument for eHealth, but at the same time, I think there's a time and there's a place for all of these factors. The way that I think about eHealth, AI, and where we're headed in that domain is in a continuum of care.

April Carcone:

One of the things that Sebastian and I talked about before the podcast airing was that, if we can blast out to anybody who has a need, and right now in our world need is high in a lot of different areas, and if getting people to answer a couple of questions about why you want to change, how you might be able to change, and really kind of create enforcing for them, "The ball's in your court. This is up to you. You got the power to do it," and that changes a fraction of the people or helps a fraction of the people.

April Carcone:

That frees up the human resources for the people who maybe can't respond to that sort of light low level of intervention. Right? I just keep coming back to this idea. The need is so high right now in so many domains, whether it's COVID, whether it's the racial relations, at least here in the US of things that are going on. There's a lot of need right now. And so, if we can reach a larger number of people and help a fraction of those people, then that enables us to kind of have a bigger impact in the world.

April Carcone:

I also wanted to go back to a comment that we were talking about, or maybe that you made earlier, Glenn, because I don't misrepresent some of the work that I'm doing. When you're talking about using the AI to give feedback to counselors and on their adherence or their proficiency with Motivational Interviewing, Dave Atkins out in Seattle, I think he's still out in Seattle, he's done a lot of work in that domain right now. He's actually developed exactly what you described, where people can send their audio tapes and it will feed back a report to them on this is where you can improve.

April Carcone:

I'm not sure, because I'm not a hundred percent up to speed with exactly where he's at, if it will say at this point is where you could have done something a little bit different, but it does give the counselor some feedback. He's really been working in this space as well, too, and has done a lot of really great work on automating fidelity assessment.

April Carcone:

I believe he's using the MITI, which is the Motivational Interviewing Treatment Integrity scale, and I believe right now he's really working on empathy. We've been talking about technical skill, right, and the other piece of it is the relational piece, which is how you are in the room with the patient, and part of that is empathy. And so, he's done a lot of work in that domain.

April Carcone:

I just want to make sure that the work that we've been doing is really on understanding the process and then thinking about how can we apply this knowledge, this understanding to whether it's automated counselors, like that might be the framework of an automated counselor or eHealth interventions, more hardwired, if you will, pre-programmed interventions, click this and it'll take you there and thinking about how we can use the lessons learned from, okay, if this is an intervention for an African-American adolescent,

we're going to really build a lot of emphasizing autonomy or personal responsibility into this intervention. That's really been the space that we've been working in.

Sebastian Kaplan:

Wonderful descriptions of, of the work that you've done previously, and this work that's truly on the cutting edge in several fields, I imagine Motivational Interviewing being a specific slice of that, but just the broader field of automated health interventions, and how best to understand the process, and also inform effective teaching of these skills, so wonderful to hear all this fascinating work.

Sebastian Kaplan:

April, at this point in the podcast, we typically will pivot to ask our guest, what else do you have going on in the not-too-distant future for yourself? What's on the horizon for you? It could be something that's Motivational Interviewing related. Maybe it has nothing to do with professional life, and there's something else that that's really getting your energy and your attention lately.

April Carcone:

Thanks for asking that question. In the academic research space, we're always looking ahead. We're always looking ahead to the next grant, the next idea, the next big thing, and so some of the stuff that I'm working on right now that is really exciting is venturing off into somewhat of a new domain for me. I've been working with a group out of Washington University which is in St. Louis, Missouri, and doing work to develop an eHealth intervention for childhood cancer survivors. Apparently, childhood cancer survivors can have a lot of negative sequelae, one of which is having impact on their heart and their damage to their heart during the treatments they underwent as a child, and this project is exciting to me because it is more of a prevention focused.

April Carcone:

So much of the work that I've done has been intervention with people who already have what we would consider to be an existing problem and at my heart, I've always been really focused and excited about preventing problems from happening or helping people prevent the development of problems. And so, this intervention is really trying to encourage them to get echocardiograms so that they can figure out you if they have damage to their heart from their childhood cancer treatment, so that they can be proactive in seeking treatment around that. I really enjoyed working with this group. It's being led by Erika Waters, who's at The Washington University there, so that's kind of the big thing. There's always a million balls in the air, but that's the one I think I'm most excited about right now.

Glenn Hinds:

You're very clearly passionate about that and just the potential of what it is that you're creating for the people that you're endeavoring to support. There might be something coming down the road here and we can help you find it in advance so that you can prepare for it. You're using the skills and knowledge you have that you've used with problems that

are already exist, and you're just adapting it, and we wish you every success. Perhaps you can let us know how that goes and what other questions spring out of that, because from what you're saying is every time you answer a question, you've two new questions. Every time you get an answer, you get two new questions and that's what driving you forward. Another thing that we always ask our guests, then, if people listening to this episode want to find out more or share some of what they're doing with you that aligns with what you're offering, can they get in contact with you? And if they can, how would they do that?

April Carcone:

Absolutely. I welcome people's interest in the work or otherwise. You can certainly email me at my work email, which is A Carcone. So, A-C-A-R-C-O-N-E @med.wayne.edu. That's my university email. I'm also on Twitter and I've been trying to be more active in the social media space, although boy, does that take a lot of time? If you want to talk about qualitative coding, let's talk about social media engagement, but my Twitter handle is a_carcone, and then I'm also on LinkedIn and Research Gate is another one that is really a research domain where, although I will admit, I don't keep that one as quite up to date, so I maybe should. It's a lot.

Sebastian Kaplan:

Great. So, a few places for people to reach out to you if they're so inclined. Well, this has been really, really interesting to hear the perspective of a researcher first of all, because again, most of our conversations are with primarily clinicians, and just through imagining the direction of where things are going in certain spheres and within MI work. This has been really wonderful, so we appreciate you taking the time to join us.

April Carcone:

Thank you. Thank you for having me. It was really fun and exciting. In my little research life here, I'm usually all by myself, so it's good, especially in days, it's good to see a couple of friendly faces. Thanks for having me.

Glenn Hinds:

Thank you for joining us and thank you for everybody listening.

Sebastian Kaplan:

Thanks, everyone.