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SRA LAB
RESEARCH SEMINAR
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>> Okay thank you all for joining us for the Shirley Ryan ability lab research webinar. In a few minutes Dawn Ehde the NIDILRR invited lecturer will begin her talk. Before she begins with the formal introduction I have a few housekeeping announcements. This webinar is being recorded and will be posted on the NIDILRR website as part of Dr. Ehde's invited lecture.

Please keep your microphone muted during the talk. We encourage discussion in the chat box during the talk. If it is a clarification issue I will bring it up to did you know at the time and if it is a general question we will save it for the end of the talk.

At the end of the talk if you are interested in active discussion you can unmute your microphone to engage with the speaker and I will moderate the discussion to answer chat features as well.

>> Thank you I would like to pass it to Linda to provide the introductions today. Thank you all.

>> Good afternoon it is my pleasure to introduce you to Dr. Dawn Ehde. A clinical psychologist and holds the Nancy and Buster Alvord Endowed professorship in multiple sclerosis research, professor of rehabilitation at the University of Washington.

She has conducted multiple randomized control trials evaluating behavioral, pharmacologic and physical activity interventions for chronic pain, depression and fatigue in rehabilitation populations.

(Static) via telehealth and integrated interventions for chronic pain in healthcare. She serves at the editor in chief for the "Journal of Rehabilitation Psychology" and is an editorial board member for "Archives of Physical Medicine and Rehabilitation." She is the 2020 NIDILRR invited lecturer for the employment of persons with physical disabilities. Please welcome Dr. Ehde.

>> DR. DAWN EHDE: Hello --

>> I have one additional housekeeping announcement before we begin. Closed captioning is being provided for the talk. If you would like to see closed captioning you can go to the bottom of your screen and select closed captioning to see the subtitles. Right click on that if you would like to change the size of the subtitles thank you. Sorry for interrupting.

>> DR. DAWN EHDE: No problem. Thank you it is strange to be giving a lecture to a bunch of boxes although I am sure most of us have done this by now. I want to thank my collaborators at Shirley Ryan and the University of Washington for partnering and I want to thank the attendees for coming today.

I know many of us are getting Zoomed out or getting Zoom fatigue so I hope to make this interesting and relevant to you practice and research to make it worth another Zoom meeting. Today I am going to describe why we should be interested in telehealth and telehealth interventions for pain and I am going to describe a few different studies that we conducted here at the University of Washington as well as the study that is part of our employment or RTC that we are just getting started.

You may have patients or people you know that could potentially participate and I am going to speak about best practices for delivering interventions via telehealth for individual and group conference delivery. I hope to save time to talk about this because I think it is on the forefront of most of our lives right now. Especially if you are a clinician providing care.

Much is being delivered in many places via telemedicine so I am going to talk about that as well.

First I want to describe terminology. You may hear the word telemedicine and rehab and telepsychology. I wanted to give you a distinction for telehealth. It is

technology enabled healthcare that involves both care management and delivery systems that really expand and extend capacity and access that is the definition per the American telehealth association. So telehealth is the catch all category for telemedicine and telerehab being components of that.

You may hear me interchangeably use the terms. When I am talk today, I am talking about the use of technology to provide access to healthcare.

Now telehealth can include a lot of things. Delivering care via phone in real time or synchronous. It can involve live videoconferencing with groups of individuals and one on one. Also in live time but there are other interesting ways that technology is being leveraged to deliver care. There is asynchronous and one example here at University of Washington is some of our surgeons have developed an app where postsurgical wounds are evaluated by sending the patient home with instructions in the app.

And they can upload photos of the wound as it is healing to let the providers who should come in for a wound check and whose wound is appearing to be healing fine. The physicians like at it when they have time to sit down and do that. Not in real time so that is store and forward. That is remote patient monitoring.

There is interest in using apps for emotional health and web based E health that we started to do a bit of work in. And there has been work in pain looking at interactive voice response technology. You call a phone number and depending on the pain rating, maybe you rate your pain at seven so you punch seven into the phone and then you get back information on what to do to manage the pain.

So it is a series of prompts that people seem to enjoy and benefit from so there are a lot of ways to leverage technology in today's word. I am going to be speaking mostly about telephone delivery because that is where we started our work and what we will be doing in our current project and a bit about live videoconferencing.

Now I wish I could claim that telehealth was something I started or invented but it has been around a lot longer than since the COVID-19 pandemic started.

Way back in -- I think it was published in 2005, Dr. David Mohr a psychologist at Northwestern at the Center for Behavioral Intervention Technologies, way back then, he decided to leverage the telephone to improve access to cognitive behavioral therapy for major depressive disorder in persons with Multiple Sclerosis or MS. And many people with conditions like MS have high rates of depressive disorders.

He tested against a control conversation about participants got the same number of sessions and got access to a therapist, a supportive psycho therapy. And he found that people really adhered to the treatment. Less than 6% of participants dropped out of treatment which is an incredible rate when you are talking people with direct examination. He found that those in the telephone delivered group had good outcomes. Their -- remitted and it was better than usual care. So this with a pioneering study that influenced the work that came after it.

Especially in the area of pain. Pain and depression are not the only places people are using technology just to give you a flavor of what is going on in the rehabilitation science area, this is a systemic review and meta analysis that was published looking at technology based remote physical rehab interventions on physical -- and the effects on physical activity including walking with people in MS.

And they showed that technology based distance or remote physical rehab improved physical activity among people with MS. So many of you probably know a wide range of practices starting to become more commonplace. Even prepandemic but certainly since the pandemic.

So you might wonder why I became interested in telehealth beyond the work of David Mohr. Working and living in Seattle presents a number of challenges to many of the people we serve through the rehabilitation clinics. I am a psychologists and I practice clinical psychology in a rehab neural rehab clinic as part of a level one trauma center.

So people with pain and mood disorders and our hospital is the only level one trauma center in a five state region so we get people from all over including the Wyoming, Alaska, Montana and Idaho and Washington states.

So that is one reason for us to think about telehealth. Seattle has the worst traffic on earth according to the headline from 2018 so that is another reason. Many of our patients, even those that don't live that far find it challenging or find barriers to get in for care.

And every time we have a snowstorm the city shuts down. Although it is infrequent it is another reason that telehealth can overcome these barriers. And unfortunately the COVID-19 pandemic has left most of us considering telehealth some for the first time in the delivery of a wide range of healthcare to try to mitigate and prevent the additional exposures to the virus.

So why telehealth specifically for chronic pain? That is the area I am particularly interested in. How can we help people that live with chronic pain and a physical disability access pain care? Well unfortunately to this date our front line treatment tends to be medications. Not that medications for pain are good or bad. But we need to be mindful of opioids and the problems that have come with the opioid pandemic. And there is not a lot there are many pain conditions not Aleve waited fully by medications. Certainly as you know a broader social approach to pain management is considered the optimal care and as part of the psychological interventions, although recommended are often underutilized. So many people with chronic pain and physical disability don't have access. Something like I think the most recent survey I saw was fewer than 10 to 15% of people with spinal cord injury or TBI have access to behaviorally based, based evidence based psychological interventions.

So to step into this deeper for a moment. You know, why could I care about this. Not because I am a psychologist but because we know psychological pain interventions work. They help people. The effect sizes can be modest but they are still comparable to many of our front line medical interventions. Including medications.

And there are considerable individual variability of treatment response. So these people are missing out on the opportunity to improve when they don't have access to pain care. And really right now the pain field if you look at pain research in general is accepted based on multiple meta analytic reviews. That is the interventions work.

And so where the field has turned its focus is not on efficacy but trying to tailor stream line and improve or combine treatments as well as improve access. So here is an app to potentially use telehealth to help people access pain care.

And just to highlight why I am passionate about the area and why it is important for rehab professionals to pay attention is the national academies came out with a consensus statement in 2017 about pain management and the opioid epidemic. They reviewed the evidence and came out with statements supporting the idea of non pharmacologic interventions.

Non pharmacologic interventions represent powerful tools in the management of chronic pain. They may provide effective pain relief for many patients in place of or in combination with pharmacologic approaches.

So based on the need we saw in the clinic and conducting research in person, we found that people wanted to be in the research studies and wanted to participate in studies of pain treatments but when they found they had to drive and park or take a bus or arrange transportation they found it difficult and some couldn't afford it or couldn't get there.

We draw from people all over Washington State. And so you know that really led us to deciding based on input from stakeholders that we needed to be looking at telehealth it is a means to deliver pain care.

And I have to say I am not alone in this. A number of my colleagues have been conducting telehealth research in a wide variety of areas for the past ten years. And that includes areas of chronic pain and treating depression and fatigue management and multi symptom management and physical activity.

And my colleagues and I recently added up, we figured out we have treated more than 1300 adults that have rehabilitation conditions using telehealth in the past ten years.

This includes works done by my can colleagues Jean Hoffman and mark Jensen and Charles Lavardia.

So now I want to describe how we use telehealth, briefly describe three studies. And I am not going to get in a lot of detail about the specific study design or the specific bullets but I want to highlight how we leveraged technology to study different kinds of treatment.

We were interested in the technology or telehealth side of the research but also whether the interventions are helpful to people. So the first study I am going to mention is the take charge of MS study. This was a randomized controlled efficacy trial where we compared people that had chronic pain or chronic fatigue or moderate or greater depressive symptoms. Mild to moderate depressive symptoms in people with MS and it was a single centered randomized trial where people were assigned to a telehealth cognitive behavioral self management program or randomized to an education component that was delivered by phone. So it was two telehealth treatments going head to head against one another. The interventions themselves were delivered by phone one on one in 45 to 60 minute sessions and again, they were, it was really developed to be a flexible treatment. Utilized a manual and a participant workbook but people learned different strategies like relaxation training or cognitive restructuring or pacing.

And would learn how to apply that to their issues. As is true in caring for people with MS, many of them have multiple symptoms. Very few just have pain or fatigue. So really, kind of multiple symptom management. And the treatments were delivered by doctoral level psychologists or masters level social workers.

And we found that 47% of those that received cognitive behavioral therapy delivered by ten phone had a change in pain intensity. Clinical meaningful change when a person has at least a 30% reduction in pain interference or pain intensity from baseline to the outcome point.

And we found that not only did people have a clinically meaningful change but that the changes were maintained over time and in the pain research field, 47% is actually a robust number of people to have a change. Unfortunately pain is very difficult to treat and having 47% who get better with a meaningful change, is considered a good outcome.

Certainly suggests we have more work to do but it is a good outcome. So want to highlight the feasibility or acceptability data. This was really the first telephone based or telehealth based study that I led and we were not sure how it was going to go. We were not sure if people could adhere or like the phone or treat it casually and not be there at scheduled time.

We found the opposite. We found that treatment as experience was quite high. 86% of the sample completed seven or eight of the eight sessions which is unheard of in our clinic. Even with people that want to come in and work on symptom management it is hard to make that many sessions given the many barriers that can be experienced.

They stayed on the phone a long time. Sessions lasted 61 and a half plus or minus ten minutes or so on average so they were engaging with the sessions. We found that treatment satisfaction was very very high and that working alliance was high. And by working alliance I am referring to the therapeutic relationship or rapport that was established between the participant and the therapist.

And when we did the say there was a lot of talk and skepticism among our team and people we talked to in the field that you could establish a good relationship just through the telephone. But we found that we could. And that people were able to -- or at least they self reported that they rated their alliance with the therapist as something very productive and very high.

Not surprisingly Dr. David Mohr and his colleagues looked at the issue as well in a follow up to the study I mentioned before. The telephone treatment for depression and they found that therapeutic alliance was high for people. This was a study where they compared face-to-face and telephone administered C BT for depression.

And they found it was comparable in terms of therapeutic alliance. Another question that often comes up when doing telehealth is people with cognitive impairment or subjective cognitive problems, things like difficulty with attention or memory or organization or executive functioning. Whether they can benefit from treatment. So we decided to do a follow up analysis of the take care study to look at moderators of treatment outcomes.

Not only to look at cognitive moderators but to see if they will other baseline factors that would predict who would benefited from the treatments and relative to our discussion today, we found that the treatments were beneficial regardless of the baseline characteristics. So regardless of severity of MS, regardless of severity of pain. Depression level at baseline. Age. Sex.

As well as perceived cognitive impairment. People seemed to do equally -- they seemed to do well regardless of the baseline levels if they improved. So, with that we decided then to look at another way to use telehealth to leverage telehealth to deliver pain care. And we decided to look at that in a context of integrative care. Many of you are aware that there is a movement in primary care to use integrative care.

Where behavioral health is integrated into the care team of people. One of the main models for this is collaborative care. I want to talk about how we leverage telehealth in this but we had a randomized controlled trial looking at trying to improve the quality of depression in pain care in the MS specialty clinic using collaborative care. We called this the MS care trial.

And we did this in part because in our qualitative work and our work talking with the stakeholders who advise us and guide us on research, we were talking with them. Why do people when they live close by and we help them to get in to see us

by problem solving transportation, why do we still underuse -- I don't mean to place the blame on them -- but why is there a gap?

Why are they not getting this care? This is some of the things we heard in talking to people. Managing MS is confusing. There are a lot of things they have to do. One person said I know there are treatments for mood and pain but it is hard to get connected to them in a way that works for me. Another said when I was depressed my doctor recommended I see a therapist. I never followed up because it seemed do difficult and I was not sure where to start.

One said I am lucky my wife is a physical therapist so she helps me navigate the system. So we decided to look at using, through a randomized control trial looking at collaborative care compared to MS care. This is a busy side and I am not going over it in detail.

But collaborative care plants a care manager in our case social worker, with behavioral health skills and training and has them become part of the care team in the MS center. So rather than a model where patients are referred by the providers to a psychologists or social worker or physical therapist.

We have a care manager that has a panel of patients they follow and work with and do a lot of outreach to and as part of the outreach in addition to trying to catch people that fall between the cracks in regards to care, they provider behaviorally based in person or telephone cognitive behavioral they were care for pain or mood.

So people were randomized to receive care, in our specialty center which has an interdisciplinary expert level of care and compare it to collaborative care that includes an embedded social worker to really enhance the care.

So in this trial we randomized 195 participants. We just about to submit the primary trial results but the results are public. They are published on -- website that I am sharing with you.

Here you see the state of Washington. I want to talk about the reach of MS care. So here are the various counties and this is king county where Seattle is based out of. The darker the blue the more people we received. We hit a lot of our counties. Some of them are not very populated so that is why they are in grey. We had a few patients from Alaska, Wyoming, Idaho, California and Montana.

So we gave in this study, the choice for people to see the care manager in person or see them -- or have the care delivered by phone or a combination. And we tracked what they chose. We found there were a number of people, half, 52% that wanted a combination. Often that was the first session being done in person and the follow up sessions by phone. We had 40% that only did phone. Many of them were from the outlying areas and only 48% chose to come in for sessions. The number of sessions was flexible based on their needs butt but it ranged between 6 and 12 sessions.

Where they met with a social worker on a weekly basis and spent 45 minutes getting tools and coordinating their care. To show you the kinds of things that can be delivered via telehealth, these are the types of skills that people were taught and depending on the presenting problem they may not have used or gotten all of them. But by using the telephone and put integrative care model, everyone got psycho education.

100% were taught how to self monitor pain and moods. Self monitor in order to activate coping skills and many received exploration of values and tying that to their goals. Goal setting and relaxation et cetera. Really a wide range of cognitive behavioral and educational treatment components can be delivered via telehealth.

And just to highlight a couple of things, these results are about to be published and about to be under review, but have been reviewed by Pecori -- for the study participants, those assigned to MS care compared to usually care it a statistically significant change in pain post treatment. With 38% reporting that the pain was well controlled.

Again using that outcome of a 30% or greater reduction in pain intensity. And 41% reported that the pain was well controlled at six months. So a lot of times we see this in the studies that people who get better tend to stay better up to a year as long as we follow them once we have learned the behavioral skills.

This is a busy slide it just shows you that in addition to pain intensity there are other measures that the combined in person telehealth integrated care impacted including pain interference, depression -- sorry, disability and fatigue.

So with that, we decided that although we found that we were having good reach and finding good outcomes in our research doing one on one telephone care, obviously the world is moving to videoconference. So we decided to explore videoconference delivery and group delivery because of the fact that if you do a group delivered behavioral intervention, people can learn from one another and they can also you can see more people at one time. So it is more cost effective potentially and they allow more people to access care through groups. So we turn to the literature and the idea of videoconference is not -- videoconference sessions in the behavioral realm is not all that unique. There are still not that many studies published out there. I did find a systemic review that found that there were about eight high to moderate quality studies in the review.

I think the review came out in 2019. Group videoconferencing has been used for pain in rural Australia, used for weight loss therapy interventions and stress management post cancer.

And the trend -- I mean this is -- the area is still small enough that we need to be mindful that there is not a lot of data but this analysis found that videoconference appears to offer advantages over the phone and tends to be associated with reasonably good outcomes so it merits further consideration.

With that I am going to tell you about a study that is ongoing called the adapt study and this is where we use videoconferencing to deliver mindfulness meditation and C BT together.

The adapt study is comparing mindfulness based cognitive therapy and cognitive behavioral therapy for chronic pain in people with MS use group delivered therapy. So eight sessions of the mindfulness based therapy or cognitive behavioral therapy.

And we decided to add a usually care condition so we have the care for people that don't get the usually interventions. The people are offered to participant in either intervention at the end of the outcome assessments. This is funded by National MS Society.

If you want to learn more about this, there is a web address there. I want to talk about the telehealth component of this. The study is still ongoing we have no results yet. But we use the Zoom platform. The HIPAA UW Zoom account and we have manual Zoom workbooks that we share as well as paper if people want them. We do because it is a study, we have the luxury of doing pretreatment tech training.

Where a research staff members contacts each participant and talks them through how to use Zoom and set up everything so that when they are ready to start the treatments they are all set. Interestingly we found that as time as gone on,

since the pandemic the tech training is taking less time because people are becoming more comfortable with using videoconference delivery.

And then we have weekly group supervision. We have a supervision session where the investigators that are experts in the treatments and telehealth including myself, we supervisor and consult with our study therapists who learn a lot from one another in addition to the investigators. And just to show you what it looks like. This is not a treatment group.

I would not share photos of patients but this is our consultation group and my colleagues who I will have pictures of later. This is where we are doing our consultation supervision for the treatment sessions. It shows you, this is what our screens can look like when we are doing group therapy. You can see everyone at once. And there are a lot of ways to navigate the Zoom. So now I am going to present a bit of information about feasibility for the study.

Just preliminary data. Not by any kind of outcomes but I wanted to share with you where our participants are coming from and how the telehealth piece seems to be going so far. And I have to admit the data was pulled prior to, mid February I believe, and -- sorry I am going back to the slide. So they have come from 33 states and since the slide was put together in mid February we have had a few more states. But the national MS society posted an announcement and sent out an e-mail about our study and we were flooded with people. We had about 300 calls of people interested in the study which speaks to the desire for people to have accessible pain care.

Out of the 65 participants that received treatment at the time the data was pulled in mid February, 77% had attended sessions. Only 2% were missed due to technology issues. When asked at the end of treatment if they would choose group videoconference or something else or prefer in person, 70% said choose videoconference again and 20% said they prefer in person treatment.

It is not something that everyone enjoyed. I am sure many of us would enjoy in person if it was more easily accessed. 87% are satisfied or highly satisfied with treatment. So these were the only kind of data that we looked at so far. And we will see -- I caution you, this is preliminary but we are about halfway through our sample. We are going to be rolling 240 and we have well over half of that as this point.

We are just over two years into the study so we will easily roll the full sample. I attribute that to telehealth. Ever since I started doing telehealth intervention studies, I have never not -- we have never not enrolled the number of people who wanted to enroll.

So with that, I want to turn to the RRTC employment studies specifically which is part of the RRTC employment and disability and really a partnership between my colleagues at the University of Washington and my collaborators at Shirley Ryan ability lab

It is a randomized control trial. And the aims are to evaluate the efficacy of an evidence based telehealth pain self management intervention, E-TIPS and care it to usual care in adults with physical disabilities who are employed.

The reason we selected to do this is that chronic pain is the biggest barrier that interferes with employment in terms of missed work and ability to work and overall quality of life and satisfaction.

So we decided to use an intervention I have not talked about today that is similar to the take charge intervention. Called tips or telephone intervention for pain study.

We are going to examine it not only in terms of pain but also secondary outcomes. Evaluate treatment adherence and barriers to the testing.

We are going to enroll 200 people with chronic pain and a range of disabilities including TBI and spinal cord injury and limb loss and MS.

Primary outcome is pain interference or how much pain interference and a variety of secondary outcomes we will look at. And this one like the tips and the take charge studies is eight sessions delivered by telephone where they will learn pain self management but they will learn how to address it in the context of employment.

So they are going to learn how to take the break when you are having a pain flair up and practice relaxation. A lot of what needs to happen for many people is, a lot of the changed they need to make are self care or self accommodations where they have to remember to stand up every so often or remember do a pressure release or a variety of things to help manage the pain.

Like our other studies, this is using a therapist manual guided by the therapist and we have several they are paste in the study delivering the care and there is a participant workbook so people can follow along in paper or electronically.

So that study has just gotten under way. We enrolled our first few people. Three or four people have been enrolled at the University of Washington and we will start enrolling at Shirley Ryan in the next couple of months and the treatment is run by telephone out of the University of Washington but it is a partnership between our two sites.

Given all of the Zoom we tossed around the idea of if we should go with videoconference compared to telephone but we decided to stick to the telephone because it is more accessible and the feedback we are getting from people working with pain is that it would be easier for them to step away and have a private conversation session versus to do it by video.

So I want to conclude by talking about best practices and I want to give the caveat that many of you are probably already doing telehealth. You were probably been trained at your institutions on how to do telemedicine so I want to highlight a few things we have learned from supervising people delivering a wide variety of telehealth. Pain but also other things.

Quickly -- certainly in Washington State and I suspect at your institutions as well, we have to provide people a patient education flyer describing it. When we are on video we have to show our badge and verify our patient's identify but also our own and we need to talk to them about how to contact us or how to contact them if technology issues arise this is an example of the flyer that we use.

So when we did our training, this was prepandemic. UW medicine has training that I went through and not to minimize it I think it is important but the positive behaviors they recommended I thought, I won't go through all of them in the interest of time -- but they listed things that were really helpful. Things like, leaning into the camera, nodding your head for encouragement.

Making sure the site is secure. Making sure you are not tapping your pen and finger but a lot of things. But this is a start. One of the things I learned is being a good therapist or clinician doesn't always make you a good telehealth or medicine therapist. It takes training and practice and some just, it comes more easily for some than others. And I think one of the most important things I can recommend is the first session is key.

And use common sense. These are the things we do that contributes to the high adherence rates. We train people in the use of technology as I described. We

ask them participate in a session from a safe private place. We tell them we are going to treat it like an inperson visit and we ask that you do the same thing. We ask that you are in a private place.

That you are only focused on the session and that you come prepared with your questions and what you need to be doing. We make sure we have a plan for what to do if disconnected and we talk about the limits and challenges to privacy and how we as a collaborative clinician and participant or patient are going to manager those.

And having an emergency plan as a clinician is key and we can talk about that more later if it is of interest.

Despite setting things up well and people being well intended we see a lot of privacy challenges that require ongoing monitoring. One of our study therapists talked about how a patient had two kids, two babies she was managing in the middle of a group session and the babies were not content to sit and participate in group therapy.

So it can be challenging. Other times we have had people come in where people are bringing them a beer or things like that. For evening groups. So there can be a lot of challenges unintentionally as well.

So it is important to repeatedly discuss and trouble shoot these challenges so we see it as part of the process of telehealth.

Another thing we have encountered is this. 69% of Washington drivers use phones behind the wheel and some while participating in telehealth. Despite telling people they should not and cannot be on a phone are on the internet while they are driving -- or shouldn't be driving while doing telehealth we still find that as a problem and we have had to develop protocols where we tell people we are going to hang up until you get some place safe.

And then we will talk to you again.

We use technology to engage people. Use worksheets and show them on a screen and fill it out, there are all sorts of ways that you can help people visually learn through telehealth. This is one example that a therapist could fill out while you are talking to a participant and here is another example of what it might look like. This is cognitive therapy as part of a pain treatment.

And by the way I will make my slides available if you want to see them in more detail. I want to talk about challenges to group delivery and then we will be ready for discussion.

I think the group delivery in particular, the technology poses challenges. All of us have been in Zoom meetings where someone has noisy backgrounds or don't mute themselves, we had one important who thought he was muted but was not but was talking about another member in the middle of a session.

Flushing a toilet. All sorts of things can happen. Group members can violate the privacy of others. We have had to deal with the fact that sometimes people need caregivers. Someone with a high level -- may not be able to -- often times they can with assisted technology but often they need assistance so we have had to figure out how to incorporate them. It is more challenging to manage remotely a group of people when you are doing treatment.

So it is something to be thoughtful about. As a result of our experience and after we noticed people were moving to telehealth we put together telehealth guidelines. These are the group guidelines and we have guidelines for one on one therapy. You can find them at the website address here or I am happy to send them out to people as well.

And this is just an example table of the kinds of things that come up that we go over in our telehealth guidelines.

So telehealth care involves accessible care and improves access and is more flexible, people who are working, it is easier to work around the schedules and needs. It is efficient. People don't have to travel to and from appointments and the lit race suggests it is efficacious.

So in conclusion, I like this image, it is a photo of people on game day for the University of Washington football team. The football stadium, you can't see it, it is if you are taking the picture from the stadium, this is the picture of the variety of boats that people take to get to the game. There are a lot of ways to get to a Husky game. Light rail or the car or walk or carpool or bike. Take a variety of kinds of boats.

Telehealth is not necessarily meant to supplant everything. There is going to be a need for in person care but it is one accessible option for helping people get evidence based pain care. I am going to flash up acknowledgements but we can start talking. I want to acknowledge NIDILRR for the funding of our project and the lecture.

My collaborators. Many of these are familiar faces to you and my colleagues who have worked with me at the University of Washington. We have the faculty colleagues and the postdoctoral fellow colleagues and some of our very skilled therapists.

And also, our research team including I want to highlight. Carolyn Green study coordinator for the E-TIPS study and instrumental in this project. So thank you.

>> Great. Thank you so much Dawn. If you want to engage in conversation please feel free to unmute yourself. There were several comments in the chat box so thank you for engaging there. Is the digital healthcare innovations that are occurring post COVID-19, are these something that will stick around?

>> DR. DAWN EHDE: I do think so for several reasons. I think we are all becoming familiar -- it was interesting -- for the last five or six years I have been talking to provider organizations including some of my colleagues and a ran up against resistance to the use of telehealth. And fortunately of the pandemic has accelerated people's acceptance of it.

And within our system, there is some talk that will become part of one of our options and I do work with our Washington state worker's compensation and they are really looking at whether they might continue to fund telehealth after the pandemic for a variety of injured worker services.

So I think it is out of the bag. So I think it is going to it be continue and what we need to learn is what kinds of care are well suited for telehealth or telemedicine and what kind of things are better suited for in person and there may be combinations that make sense too.

>> That brings up another question that was asked in the chat box. In the E-TIPS program it is mostly telephone based intervention and that excludes visual cues for the patient and clinician. Has that been explored in your work or in general in now so many people with getting used to Zoom and video interactions.

>> DR. DAWN EHDE: It is interesting. David Mohr did a study comparing in person CDT to telephone delivered CDT and didn't find significant difference in rapport or outcomes. So it is interesting as a clinician I like seeing people's faces although I do see patients in clinic now and we are six feet apart and we have masks on. And I find that -- having to overcome that.

But I think it makes sense to move to video more. But I think there are always going to be the people that just it is not as easy for people. As least with current technology. Or like I said for E-TIPS study it might be that they are not in a space where they can share where they are at. Maybe sitting in a car. So a telephone is going to be more accessible.

>> Another question on the future of this is whether or not, have you explored or to open it to people in the audience, the cost benefit analysis of doing the telephone intervention? One of the things that we are noticing in the real world is that although know we are getting reimbursed for telehealth which we had not been, that is an amazing advancement -- most of the policies are written to go away at the end of the pandemic.

That might be a long time but do you think that reduced reimbursement rates for phone or video interactions are sustainable? That is a bit out of my expertise I think it is going to vary by state to state and payer to payer and Washington State, the telehealth parity law doesn't allow reimbursement to be different. So in our state there is less incentive to move back to in person because rates are the same.

I think it speaks to the need for us to do research to look at the cost benefit and efficacy and real world effectiveness. Because this is a natural experiment we are all participating in and if we can learn from that, maybe that will influence payment to ultimately, the goal is my eyes is to have good quality care and I hope that includes telehealth as wells in person care. I don't know if others have thoughts on that in the group?

>> One question from the chat but feel free, those of you still muted feel free to unmute. Do any of you studies take into account the technical competence -- is there a baseline level of competence required for telehealth. You noticed the tech checks were getting faster as participants were getting accustomed to the technology -- but what do you think about the technological competence baseline requirement.

>> DR. DAWN EHDE: We did not assess that in any way but I would wonder about that. Certainly, you know certainly we tried to design it so anyone, including people with cognitive impairment could participant. We feel strongly that people with cognitive impairment or other physical impairments should be able to participate.

So we tried to make it, adjust it to the level of the person we were working with. But that would be an interesting question to see if they are tech savvy at the beginning and how they do.

>> A follow up question on that, found it time consuming and found it costly to get the group participants trained and comfortable with Zoom in the first place. You are using the telephone interventions. I am sure you have trainings with Zoom as well. Tips from your training sessions on ways to make it less costly?

>> DR. DAWN EHDE: Yes, well so we have the luxury of being there a research study so the tech training is occurring for free right? It is not costing the clinicians -- it is part of the study costs. But we have developed pretty simple instructions that we share with them. And you know I think, I think as time goes on it is going to be easier and easier and less costly. We are noticing that already. Some of our participants don't need the Zoom videoconference training, they say I know how to do it. So that pairs, ultimately we would take that into account but there might be ways to have administrative help to set up groups in the long run like we have a research assistant help us set up our video groups.

>> That is a really good point. Pam added to the chat, whether any of the services

at the University of Washington were reimbursed by the state of Washington like vocational rehabilitation?

>> DR. DAWN EHDE: Labor industries is reimbursing telephone and video care. And they are doing it at the same rate as they do for in person care. Whether our division, Department of Vocational rehab is reimbursing I am less certain of. It seems to me that if it is covered, by in person, it is being covered by all payers. Is that the case in Illinois?

>> I am not sure. I know that we are delivering, and I believe we have a similar rule about reimbursement rates from the payers that have to be parity but I don't think it is all payers. BT is on the call, one of our vocational rehabilitation counselors at the Shirley Ryan lab. Can you answer?

>> As far as I know, the rehabilitation services are reimbursing the vocational rehab stuff for doing telehealth with their current clients. Now it may be during the COVID-19 precautions but I believe we are getting reimbursed by the state.

>> That is great to hear. The time is just after one o'clock so thank you to Dr. Ehde for your great presentation. It was a very timely topic as people in the chat box noted so thank you very much for that. And thank you to Lynda and Allen for their support of the lecture through the employment study for people with physical disabilities. So thank you all. I will keep the line open for a few minutes if there are lingering comments are people are leaving the room. If not. Thank you all for attending today.

Sounds like no other questions thank you so much and I will talk to you later.

>> Bye.