2023 KT Online Conference: Engaging Diverse Stakeholders

Presenters:
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KATHLEEN MURPHY: OK, so our first presentation in this panel is from Alison Hoens and Taylor Irvine. And it's "Sharing Research Findings with Target Audiences." They are both coming from the University of British Columbia. And I'll drop their links to their bios so you can learn more about their backgrounds. But I don't want to cut into their presentation time. So I think Alison, yep, you're on first.

ALISON HOENS: Thank you, everyone. It's a pleasure to be with you all. And thank you for all the preceding presentations. They've been wonderful. My name is Alison Hoens, and I'm a white middle-aged female with short gray hair, and I'm wearing a green blouse. And I'm pleased to co-present this session with Taylor Irvine who will be speaking after the first seven slides. So next slide, please.

So I just want to acknowledge that the funding for this work was provided by three funders, Genome BC, Genome Canada, and Michael Smith Health Research here in British Columbia, Canada. Next slide, please.

So the objective for our time here together is to share with you all the impetus, the process, the findings, and the recommended considerations from the literature that we reviewed, exploring different kinds of information formats and different kinds of data visualizations for varieties of audiences. Next slide, please.

So the impetus for this work-- next slide-- came from a project team that was co-funded by those previous funders that we've mentioned. And it was about pharmacogenomics for depression. And this was really a project exploring the use of genetic testing for drug therapy in people living with depression. And the question being asked by the project was, "What is the effectiveness and the cost-effectiveness of introducing pharmacogenetic testing here in our province of British Columbia as a routine component of clinical practice in the care for people with depression?"

And this was a multifaceted project that involved interviews asking people what they thought, both people living with depression, clinicians caring for people living with depression, researchers, et cetera. So asking what people thought, reviewing the literature to come to a synthesis of what is known, analyzing existing administrative data, and putting together all of this information into a simulation model to see if we could test people prior to administration of their first medication, if that medication was going to be a good genetic match for them, both in terms of effectiveness, and in preventing side effects.

We knew very early on as a KT team, that what was really important here is that, when the findings were developed from these various sources of investigation, we wanted to be able to use the evidence of how to share the evidence. We didn't want to guess, really, whether we should be using an infographic or a video, whether we should be using a pie chart or a bar chart. We wanted to review the literature first to find out if there was guidance in which kinds of information formats we should use and which kind of data visualizations we should use for different audiences. Next slide.

So we know this is important because knowledge producers and funders, they want to share their findings with their various audiences, but they can be uncertain as to which format. Should they do a written summary? Should they do an infographic? Should they do a video? And which data visualization-- A bar chart? A line chart? A pie chart? A table? --would be most appropriate to accurately and effectively convey their desired messages? Next slide, please. So now I'm going to turn it over to Taylor for the process that was undertaken.

TAYLOR IRVINE: Hello, everyone. My name is Taylor Irvine. I'm a white woman with brown hair and glasses. And I conducted this work as a Knowledge Translation Research Assistant at the University of British Columbia. So in terms of the process that we took, we wanted to identify literature that would inform the selection of information formats and data visualizations to share information with intended audiences.

So we used 27 key terms and searched eight databases to identify this evidence. We used an initial search strategy to identify key terms and to conduct an initial survey of the evidence. The findings from this search strategy helped us conduct an enhanced search that identified more relevant and credible evidence.

So our enhanced search resulted in over 1,200 articles which were screened at the abstract level. Most were then removed, as they were not relevant, and full texts were then retrieved and assessed for eligibility. We also included relevant studies from the initial search, from snowball searches, and from journal alerts. These texts were then assessed for eligibility, specifically to ensure that they evaluated one or more information format or data visualization. Review articles were also included that provided insight, analysis, or critique of information formats or data visualizations.

Any non peer-reviewed or exclusively opinions-based articles were excluded. And any individual studies that were included in review articles were also removed to avoid any duplication. So we were then left with a total of 36 articles. The data from these articles was extracted and put into tables to help us analyze the data. We then input this data into descriptive analysis tables, such as this one here. And this charted the data based on the audiences that were included in the studies, the information formats that were being evaluated, the methods that were being used, the outcomes that the researchers were measuring, and the outcome measures or the tools that the researchers were using to evaluate the information formats.

And we did these charts for both information formats and data visualizations, such as here. And this allowed us to see, for example, how many bar charts were evaluated for eye tracking or for response accuracy. And this then allowed us to compare findings and frequencies across the studies to get a better sense of the findings across the literature.

In terms of what we found, for information formats, researchers evaluated them with respect to their effectiveness in communicating information to audience groups. When evaluating information formats, researchers analyzed the comprehension of information of participants, the preference and satisfaction of participants with the various information formats. In terms of the methods, the researchers used questionnaires, interviews, focus groups, or a combination of both interviews and questionnaires.

In terms of outcome measures, there were various outcome measures employed, such as Likert scale questions, open-ended questions, knowledge scores, and so on. And so we found a real variety of different methods and outcome measures that were employed by researchers.

And then for data visualizations, they were evaluated with respect to their effectiveness in communicating information accurately and in a timely manner to audiences to enable completion of different tasks by their readers. So researchers evaluated them based on participants' response accuracy, so the number of errors that participants made when completing tasks using various data visualizations. And they also looked at response time, so how long it took participants to complete these tasks using the data visualizations.

In terms of how data visualizations were evaluated, researchers used eye tracking. So they look looked at the movement of participants' eyes when reading the data visualizations. They also used relative judgment questions, asking participants to compare values within a data visualization. They also used absolute judgment questions, so estimating the value within a data visualization. And then information recall questions, asking the participants to recall a value after viewing a data visualization.

So as I mentioned, there were a real variety of different methods, and outcome measures, and outcomes measured by the researchers. And because of this, it necessitates caution when drawing conclusions across studies.

One particularly interesting finding is that preference does not always correlate with increased comprehension of information. So one study found that although infographics were preferred over written formats, they actually did not result in increased comprehension for their participants. And another study found that although participant preference for data visualizations was associated with their accuracy, perceived accuracy of the data visualizations did not always correlate with task accuracy. That being said, we need to be cautious about making statements about comprehensibility both within and across information formats and data visualizations. And so as to not be tempted to select a format based solely on preference.

In addition to that, format does not always guarantee increased comprehension of information. Not all lay summaries are equally comprehensible just because they are lay summaries, because not all information formats are made equally. Content and presentation of information are also determining factors of audience comprehension.

In addition, we also found that numerical and graphical literacy are important to the comprehension of information. Numerical literacy is the ability to understand and use simple numerical concepts. And graph literacy is the ability to understand information that is presented graphically. And it just so happens that one third of people experience challenges in numeracy and data visualizations. And so, despite the evidence that data visualizations can improve comprehension of information, they are not likely to be helpful for all readers. Visual displays may be more helpful for people with low numeracy, whereas numbers may be better for those who have poor graph literacy.

And so really it's best to provide a combination of both text and data visualizations to ensure that the information format or data visualization is able to reach a broader range of audience groups. And I'll pass it back to you, Alison.

ALISON HOENS: Thank you, Taylor. So what is the take home message? What do we, as people interested in knowledge translation want to-- how do we use this information about what's in the evidence about how to share evidence? So let's go to the next slide, please.

First of all, we found that for lay audiences, written formats benefit from including a narrative, having a story as a part of it. And video formats benefit from augmenting the video with animation and with narration. For health care professionals, scientifically-based written materials may benefit from being supported by infographics as well as plain language summaries. For policymakers and their staff, for particularly the policymakers, they like data-focused material. And their staff prefer the story-focused material. And for researchers, there is understandably an emphasis on critical appraisal of material. Next slide, please.

What about for data visualizations? Well, bar charts are really good for visualizing a comparison between several data points or for showing clusters of data. Pie charts are preferred for proportions. And they're best if you can add a numerical value to them so people don't have to guess what percentage that is, or tick marks on them. That helps improve accuracy. But they should really be avoided for correlations and for tasks where you're trying to look at a relative judgment.

Line charts are preferred for visualizing trends or correlations, when readers needed to precisely identify the value of a specific data point. Scatter plots are really great for displaying anomalies, for visually showing that there are anomalies in the data. Icon arrays-- person-like, where possible-- are really great for showing reduction in risk or a risk of side effects. But they're particularly helpful if you include a baseline risk with numerators and denominators. And finally, tables are preferable when you need to retrieve or add numerical values. But they should be avoided for correlation tasks.

So what you can see here is, if you're deciding between a bar chart and a table, for example, if you want to look at a correlation, you're going to avoid the table. You're going to choose something like a pie chart. OK, next slide, please.

So these are our sample of the references that we've included in this presentation. But the full paper has many more references that we haven't included here in this slide so that we don't overwhelm people. So now we can move on to the question and answer slide and see if there's any questions from any of you.

KATHLEEN MURPHY: So there was some conversation about posters, right? A lot of people do posters. And Susan is wondering, "This presentation is making me wonder about the effectiveness of the posters I have created and shared at conferences. What should I have done differently to improve KT?" Do you have any suggestions about applying the findings of what you were researching specifically to posters?

ALISON HOENS: Thank you. That's a great question and understandably so, because we put so much time into developing posters for conferences. And you think of all the posters over all the years shared at all the conferences. That's a lot of resources that have been put into that. This project did not include posters, because it was about creating KT products for audiences other than research audiences.

So we can't speak to what the evidence shows for that from this particular study, but many of the concepts in terms of selection, for example, of data visualizations, would still apply. Like did you want to use a pie chart or a bar chart in your data visualization in your poster? But as far as testing comprehensibility, preferences, satisfaction in posters, we can't speak to that from this work.

KATHLEEN MURPHY: OK. Scott Mitchell comments, "Very interesting to learn that preference for visualizations does not correlate with better understanding. Does the literature indicate whether data visualizations might increase overall reach by attracting audiences that might otherwise ignore traditional text-based data reports?"

ALISON HOENS: Yeah, a great question. The literature certainly supports that the more options you have for different kinds of learners within each audience group. Like as Taylor had shared, if one third of people have graph or numeracy challenges, then having both available can address both needs. So the take-home message is really that having options that are visual, that are graphical, that are numerical, that include graphic images as well, you're more likely to reach the variety. There is no single one best option. And the more options that you have in varying formats, the more that it will be a better match for both what the preferences are as well as the comprehension abilities of different audiences.

KATHLEEN MURPHY: That makes sense too. And just thinking about multi-pronged outreach. As notes, "There's a funny African saying that if you want to hide money, put it in a book." So posters are good, but know your audience. So if you're going to publish a book, I guess the research finding is equally as hidden. Thank you for that little joke,

OK, so I think we're moving on. Someone's asking for a link to the full paper. Is that possible? Is it publicly available?

ALISON HOENS: I'm going to pass over to Taylor to answer that.

TAYLOR IRVINE: Yes, so we have not yet published these findings, but are in the process of publishing them.

KATHLEEN MURPHY: OK. Thanks, Taylor. So I think that addresses Joanne's question as well. So Taylor, this is a question for you as well. "Very good presentation." And he/she/they asks, "What visual methods are you using?"

TAYLOR IRVINE: Visual methods in terms of the different information formats that were included in the studies? Is that what--

KATHLEEN MURPHY: It's not clear to me either. So I'm going to let them go ahead and clarify that. And we may end up talking about that later. We have a couple of minutes before Michelle is scheduled to go on. So Christina Cole is wondering, "Question about infographics. What were the issues about compression? I see a lot of poorly done infographics that don't apply best practices." So it's a question about the compression.

ALISON HOENS: Comprehension?

KATHLEEN MURPHY: Perhaps.

ALISON HOENS: OK, Taylor, do you want to speak to anything specifically from the literature before I give general concepts?

TAYLOR IRVINE: I don't recall any specific issues off the top of my head with comprehension with infographics, so maybe I'll pass it over to you, Alison.

ALISON HOENS: Certainly. So I think generally what we can see by best practices in infographics, that often our choice is based on, for example, a color palette that we think is kind of cool or appealing. Or a font size, a particular font that we think is appealing. But there's actually evidence to show which kinds of fonts, ones with serif and ones without serif, are more legible. And whether bolding is more legible than italicizing, for example.

We have to be careful that we're not utilizing our own preferences about what we think looks cool, and instead that we're referring to the literature. There is additional literature, which is not covered in this presentation, about things like bolding, and italics, and font type, and font size, and color palettes that can guide what we choose to use in our infographic. I think that's the take-home message for me, to use that literature in designing the infographic, rather than assuming all infographics are better or worse than a video, for example.

KATHLEEN MURPHY: Perfect. Thank you, Alison. OK, I think we are ready to-- we know we didn't address all the questions, but we have time also after Michelle speaks to go back to any of those. And I'm sure there's going to be people with questions for her. So we're really happy to have Michelle Zorrilla with us today. I mentioned that NIDILRR funds other KT centers. And Michelle is the associate director. Dr. Zorrilla is the associate director of technology translation at the NIDILRR IMPACT Center for Knowledge Translation of Technology Transfer. And she's going to be speaking with us today about "Bridging the Gap: Engaging Diverse Stakeholders." Thanks for your patience, Michelle.

MICHELLE ZORRILLA: Absolutely. Thank you so much for having me, Kathleen. So my name is Dr. Michelle Zorrilla. I am a Latina female with long brown hair, brown eyes, and an emerald green shirt. And so getting started for today our objectives will be, we'll identify key strategies on how to reach your users. This is important whether you are a business or a research center. So you might think, well, we work on technology translation. How is that applying to me? We'll get into that. Who is the IMPACT Center, or who we are as a center and what we do. And what are the strategies that we are using? And applying them throughout the work that we do.

So a little bit about knowledge translation. If you're unfamiliar with this particular topic, and sometimes this comes up often in calls that we have, knowledge translation can support assistive technology, tech transfer, through the exchange, synthesis, and ethically sound application of knowledge within a complex system of interactions among the researcher and users. So you want to accelerate the capture of the benefits of the research.

The IMPACT Center and AT or Assistive Technology. So our goal at the IMPACT Center, as Kathleen mentioned, is, we are a knowledge translation center funded by NIDILRR on technology transfer. So we provide tools and approaches to understand, what are the barriers and facilitators to successful assistive technology tech transfer or ATTT? We help to raise awareness and increase the capacity of researchers and entrepreneurs to actually get their ideas, products, and services to those who need them. And also, How do we perform that? How do we do that overall?

Our team is pretty diverse. Our co-directors are Dr. Jonathan Pearlman and Mary Goldberg. Our project manager, Nancy Augustine. And we have a diverse team of not only graduate students, but also staff and other educators and within the University of Pittsburgh, that help complete our team and put these items out into the market.

So we are broken up into three different initiatives, research, training, and technical support. And anyone, whether you are an NIDILRR grantee or not-- we have people who are also interested in NIDILRR funding reach out to us-- can contact us through our website, which I'll go through further. So when it comes to research, we have a management system that we have developed to look at annual reports as well as the success rates of NIDILRR grantees in getting their products, services, and standards to those who need them most.

We also have developed a database that is located on our website. And you can look and see what those actual products and success rates are. But also trying to understand what the barriers and facilitators of tech transfer is. As well as models that we look at for taking products to market or services. So you might be thinking, well, I don't actually, I'm not a business. So we'll get into that, right? Whether you're a business or a research center, what we're going to be talking about is still very important points to think about when you're trying to get your information out there.

We also have a three-phase training program that we take a look at, and I can go into further in future slides, called idea2Impact or BootCamp, StartUp, and Accelerate. And then there's also the technical support aspect, where we collaborate, look at market data, also help with tech transfer plans for RERCs that might be funded through NIDILRR. And if you have advice on what you need to do to apply for NIDILRR grants, that's where we come in as well.

Why assistive technology? Most of us on the call already probably know this, but for those who may not, ATs, or assistive technologies, are critical for people to live active, healthy, independent lives. And between now between 2015, they had an estimated 1 billion people that needed ATs. And by 2050, that number is expected to double, up to 2 billion people. I misspoke. 2 billion. As well as the market size, right? So we're going from $15 billion in 2015 here in the US up to $26 billion by next year.

So as the market grows, the need for good assistive technology grows. So there's an urgency to develop effective products because oftentimes what we see when it comes to barriers is that products that are not developed through feedback from those end users and other stakeholders, tend to be abandoned by users. They fit poorly. They're not designed well. What is it that we need to do to meet the needs of those users? There's fragmented markets, lack of financing. That's everywhere, right?

But when you have a product or an idea that might not be a large return on investment for those people who are looking to invest in products, it sometimes can be very difficult to find additional funding just beyond grants. So what else can you do to get sustainability in mind? Long-term benefits of the ideas and products that you're bringing to market. So services might have just a website or an app. But how are you going to keep that app updated over time? Those are things that people need to think about.

But there are facilitators. Understanding what are those barriers and facilitators and what can we do to change that. Improve your customer discovery. I'll talk about more of that in within the training. Training itself, getting educated on what we can do to get our knowledge and the research we're doing into the hands of those who need it. As well as leveraging databases to understand product gaps. Industry and academic leaders are very important to engage, as well as looking at those different market technologies, and the different markets that those technologies and ideas fall into. As well as expanding multidisciplinary stakeholder involvement. Super critical when it comes to tech transfer.

What are some of those techniques that you can actually do? There's business strategies. So as I mentioned, some of you might be thinking, well, I'm not a business. That's OK. You can actually apply these different business strategies to the research that you have. So you want to provide assistance, engage people, and make connections. So you can take these strategies, create a value proposition. It doesn't matter whether you have a product that you want to sell, or you have research that you have done, or you have a center. So are people coming to you? Are you the center on vision or low vision? What is that value that you're bringing to people?

A value proposition in particular is a concise statement of the benefits that a company or a center might be delivering to customers who buy/use its products and services. So having a brief statement as to, well, we help researchers and entrepreneurs get their products and ideas to those who need them. That's kind of what we do. That is one sentence. And people might be like, Oh, so I want to hear more. So think of this as the very first part of what people usually call in the business world an elevator pitch. You always want people to know more about who you are and what you are doing.

By also engaging people, you encourage adoption and implementation of the research that you're doing. So do you have a standard? Who are you going to engage? Whether that is in the government sector, or legal, to really become speakers of who you are and what you do. You want champions. So you want consistent branding and promotion. Do you have a logo? You can do that really easily through Canvas or Canva. Design your logo. Have your branding. Have your colors. Keep that consistent.

Are you on LinkedIn? Did you just publish a paper? Do you have a website? A blog? Any time you do something, even if it's minimal, keep putting the word out about yourselves. Promote your work, your manuscripts, articles, white papers, anything Open Source. Open Source is so wonderful because you get the word out. Thank you, Kathleen, for that link. [LAUGHS] Email signature, even in an email, I have a link to the IMPACT website. Or if we happen to have something new that just came out, you can put a link to your new publication. Sometimes people get all the way to the end of your email and they're like, Oh, look at that. I had no idea that this was happening.

Our newsletter, our social media links. That is very easy to incorporate nowadays within an email at the bottom and is an easy way to engage people who you might be contacting really quickly to find other places where you are located. Social media, that's everywhere nowadays. It's not just for a business. It can also be for a research center, a nonprofit. Conferences and webinars, as we're all doing here. Speak about what you do. Present your work and your findings.

When it comes to market research strategies, this might be foreign terminology, but really it breaks down pretty easily. You gather information to better understand your market or who you're trying to provide your services to. What is market research? Those are techniques. Those can be surveys, online analytics, interviews, anything you use to gather information and better understand your market. And then you tailor those messages and approaches to that market that you're trying to target.

How can that improve your work? You design better products. Customer discovery interviews, which we promote in Phase 2 of our training program in particular, is focused on that. And we have teams from all sorts of backgrounds. Not only small businesses go through our programs, which you'll see in a few slides. You can also improve user experience. There's a variety of end users. So make sure you engage them throughout the entire process. You want to understand what is it that they feel are those pain points? What you might perceive as a pain point, might not be what that end user thinks is a pain point.

And then, craft your marketing strategy. This doesn't need to be very elaborate. Are you going to post once a week on something that's exciting and new? Are you going to have an online presence? And how are you going to reach the people that you want to have to give them more information about what you do? So there's different methods that you can use for that.

How are we implementing this? I've mentioned some of this already. We have a multi-level training program that runs yearly. Level 1, IMPACT BootCamp. That's where people start to generate their value proposition. We increase the awareness and the capacity of these researchers and entrepreneurs to understand the business side of things. So those business strategies that I mentioned earlier, it's like the 101 of that. That's BootCamp. Then we move on to IMPACT StartUp. There, we have customer discovery. People go out and they interview all the different stakeholders that they have already determined might have a hand in what they are doing.

And then we also talk about the Business Model Canvas. And so you don't have to be a business to use that. It can help you understand better who your audience is. Don't be afraid to implement business techniques into your research and getting that dissemination out there. And then Level 3 is IMPACT Accelerate. For most of our teams, that looks like a marketing strategy. They've already understood who their audience is, what the actual pain points are, how can we get the minimum viable product, so the first iteration of our product, out there?

We also have a tech transfer readiness assessment tool that is available not only on our website, but we also have a paper which is cited at the end. So this tool in particular will help assess the market readiness for your proposed product, whether that's a device, freeware, instrument, or tool, or even a standard in clinical guidelines. So what is the problem you are trying to solve? Who are your stakeholders? What is your solution? What makes you different from your competition? Is your team well-developed? So not only is that your immediate team, but other maybe partners that you bring into the fold. Who are your collaborators? And then, how are you going to sustain not only your business, or your center, or your product, or your service, long-term. So this tool can be used on an individual basis or with a mentor that you might have.

Testimonials and feedback. If you ever do anything, give a talk and someone comes back and says, I loved what you said because of A, B, and C, use that as ammunition to show your worth and what you're doing. So we had someone that happened to go through our training program. Well, they didn't move on to Phase 2 because they felt they did not need that next part because they had done some of that work. It helped reinforce their commercialization plan when it came to the Phase 2 proposal of their small business, their SBIR, the Small Business Innovation Research grant that they were proposing. And they were successfully funded.

We had someone else who had an idea. It had been sitting on the shelf for the longest time. Came through our training program, helped them put everything in perspective, and now they actually have their first sales. So that's huge. That shows that there's promise in what we do. Same goes for whatever you're doing. There is promise in what you do. There's a reason why you might be funded or you're looking to get this information out there. Testimonials are so important. If you have a web page, for instance, and it doesn't even need to be something with multiple tabs. Websites are key nowadays as well. Put those testimonials out there.

Stakeholder Engagement, as I mentioned before, leveraging collaborations and influencers. So engage those stakeholders throughout. Make them feel like they're part of what you're doing. When people are excited about what you're doing and what they're engaged in, they're more likely to put the word out there. Helps with collaborations. Influencer marketing, is there someone that you're working with that happens to have a handle or a great following online? On Twitter? For instance, when we have people who come to our podcast, sometimes we have influencers that we will cite on not only our social media. That gains more traction. That gains more followers. These influencer marketing engage collaborations with individuals who already have a following and increase your brand exposure.

These are leaders in the sector, end users, businesses, individuals, organizations, all super important to have as part of your core base. People who want to be, who are subject matter experts, industry leaders, policymakers. So it really depends on what your product is. All those people who can advocate for you and communicate effectively what you're doing, you want them in your corner. And then like I mentioned before, find a champion to promote your work.

And we have that when it comes to our advisory board. While some of them might not have an assistive technology background, some of them are end users. Others, John McInerney, for instance, has low vision. Try and find people in the different sectors that you work with to be champions, help you develop your products, your ideas.

We also have, not only some of our board members are also mentors, but mentors that help our trainees go through our program. They're paired with mentors from the very beginning. These people always engage and put the word out. References, referrals, they always refer people to us. Hey, I found someone at this conference. I think you could really work with them or help them out. Same thing goes for your papers or the research you're doing. Other people getting the word out.

This particular slide has about 40 different logos of teams that have gone through our training program. And while some of them are actual small businesses, others are research centers, or might have an actual just one product or service that they have that has been developed by one particular institution. And so they still have their branding. They use this across the board. And so as you can see here, there's a diverse group of individuals and companies that have gone through our training program. Use that to your advantage. They can become future partners as well.

Other initiatives that we have, as I mentioned, we do surveys. In order to understand what are those barriers and facilitators of getting these technologies or services to market? And some of the trends that we've actually seen or themes is that most grantees lack the resources, support, and knowledge to successfully transfer or sustain their technology or their services. So what we've done with that, then, is through our actual technical support and training, we try and provide those services and understanding for these individuals to be successful. The lack of funding as well. Phase 2 of our training program comes with a $25,000 award that can be used to move these technologies or ideas into the next phase and get them into the hands of those who need them.

And then people also find a disconnect between the need to commercialize and incentives. We still work on that, and that's something that can be based on the center where you're at or the university. So that varies from location to location. But find a reason to get this out there. Find a reason to incentivize people to talk about who you are and what you do.

This is an example of what we call the NIMS Dashboard where we actually put all the data that we're continuously collecting over time about successful NIDILRR grants. So there's papers, publications, other patents out there. People always want new information. As you get things, put it out there. Sometimes researchers are hesitant because you don't want that information stolen. That's OK. But you have tidbits.

Are there little things like coming soon? Or did-you-knows? Little things that you can put on social media to keep people thinking and engaged. Always update your data.

Also, add value to your research outputs. So in particular, when it comes to the data that we collect from NIDILRR grantees and we put in this database. If they so choose, we actually have this output, which is called the actual NIDILRR Report. It's a visual. They could put this on their LinkedIn. Not only would that then continue our branding and what we do, but also gives them the opportunity to show their successes. People love to talk about themselves and what they've done that's successful. So if you happen to have any particular outputs that people can use, make that available to those people that you engage.

And then an online presence. A website does not need to be complicated. For us in particular, we want to provide assistance, engagement, and make connections. We have various tabs and different pages on our website with a small business help desk. So the SBIR Program is on there. What are the key resources for funding and applications? You can request assistance from us. Also resources tips and more. We have a Learning Center that we're constantly trying to develop with research and ideation, topics, development itself, and production and commercialization.

Innovator Spotlights, success stories and submissions, but a website can just be a landing page. Do you have information about who your team is? Your publications? Important links to social media if you have them? Put that on there. It doesn't have to be difficult. There are tools out there for you to create free websites. Of course, you have to have a place to host it. So that's part of the sustainability. But those fees are usually pretty minimal.

Podcasts. We had someone speak already about a podcast. Everyone's doing it nowadays. If you go out there, you will see so many podcasts on so many topics. And that's OK. You can still get the word out there. You have a really cool topic. Someone that's coming up with something really neat, an innovator, or a paper, or anything. People love to talk and people love to listen. They learn new things. Podcast is an easy way to make a drive much shorter, right? So our particular series highlights AT innovators and influencers.

We've had three seasons so far, 23 episodes. Well, our 23rd actually comes out tomorrow. 30 guests across three countries, majority of those-- 63% are women. 25% come from underrepresented groups. And so all different mechanisms. And so podcasting can be easy to get started. And as you move along, you can actually grow your following that way too.

Expanded marketing and education campaigns. Social media, super important. Do you have videos, even about your talks? Do you tape anything that you do? Webinars, YouTube, newsletters. So our particular newsletter happens to have recent publications. Up and coming technology services. Even if you want to feature a clinical trial, send that our way. We'd be happy to feature you in our newsletter that goes out quarterly. Just keep that in mind. If you want to get information out there, mailing lists, especially email, super easy to do.

Key takeaways to maximize your research and that impact. You want to increase your reach. You want to make an impact. And you want to make sure that people uptake the information that you're doing and getting out there. Collaboration and partnerships. Keep in mind business strategies. You want cohesive branding to make sure people recognize you across the board, regardless of where you are. Targeted dissemination and marketing, which can be done through customer discovery interviews in order to understand your market better. As well as stakeholder engagement and an online presence. Thank you so much. And thank you to our collaborators and to the KTDRR Center. And here are some references and publications that we currently have out. And any questions?

KATHLEEN MURPHY: Perfect. Thank you, Dr. Zorrilla. So Bonnie is completely agreeing with you. "Pro tip: Email is not dead. E-news is a powerful tool to help share your research story." And there is a question from Joey who is asking, "What are the aspects of the dissemination plan that you likened to a small business model?"

MICHELLE ZORRILLA: Value proposition is in there, right? Your stakeholders is in a business model. [LAUGHS] Those are two things that I mentioned that everyone needs to keep in mind. Your marketing is also in a business plan. A business plan and a business model can be two different things. You have different strategies that go in each. So I would recommend looking up that difference. But definitely think about all the different topics. The Business Model Canvas that I mentioned happens to have that value proposition, stakeholders, marketing, who you're going to be reaching and how. Who are your partners, your collaborators? All of that goes in there.

And so those are business strategies but can still be applied to what you do. So a dissemination plan of how to get the information out there, that's almost like a marketing strategy, right? So you have to think about who you're going to reach and how. How are you going to disseminate this information? Keep those in mind, even when you're looking at your research and getting that out there.

KATHLEEN MURPHY: You're getting a whole chorus of "Great presentation." And Beatrice is noting, "Very insightful presentation, Michelle. Really big eye opener for me. My key takeaway: Your visibility is in your hands. Just put yourself out there." So I do personally have a question. When you talked about the importance of testimonials, how do you arrange to get permission from those people to post their quotes? Do you ask ahead of time? Are you soliciting them? Like how are you, how is that working?

MICHELLE ZORRILLA: So those testimonials we happen to have on the website where people that have gone through our training program. We always ask their permission when we're doing a final survey. So at the end of the training, do you have other feedback? And I also ask, do you have a testimonial that we could use to put on our website? What did you like about what you went through?

But when you're out there on, let's say, at a conference and someone comes up to you. You can certainly do a follow up with them. Say, I really loved what you mentioned, but I would like your permission to be able to use that quote, let's say on our website. Can I reach out to you and get your approval to do so? You never want to use people's words and put them out there without permission. So there's always a way to follow up. So it doesn't have to be through a survey. It could be a simple email. You just want to make sure you cover your bases.

KATHLEEN MURPHY: Mm-hmm. That makes a lot of sense. And it so ties in with so much of your presentation's theme, and really the whole conference, about the importance of relationship building. So it gives you that opportunity to continue the conversation. And Bonnie is noting that LinkedIn is an amazing tool to request and receive testimonials. And she's used them on websites as well. Bonnie is a previous KT conference presenter, so we're happy to have you back.

Marta says, "Bravo, Dr. Zorilla."

MICHELLE ZORRILLA: [LAUGHS] Thank you.

KATHLEEN MURPHY: There was, Taylor, I don't know if you're still here. I know Alison had to leave. There was another question that came in during your presentation that we didn't actually get to. And Allison was wondering, "Did you find any validated tools to help evaluate data visualization systematically? Did any of the papers use the same tools?"

TAYLOR IRVINE: So we did find some of the articles did use tools, but we did not use them ourselves. I can't speak to the frequency of which tools were used. But just to confirm, we did find that some studies did use tools to evaluate the data visualizations with their participants.

KATHLEEN MURPHY: And I'm wondering if either of you have questions for each other? You don't have to, but [CHUCKLES]. Oh, we've got another one from the audience while you think of that. Monica is wondering, "How long did you take to do the review?" And that's a question for you, Taylor.

TAYLOR IRVINE: I would say about eight months to a year. Yeah, it was a longer process with our initial search. And then we looked at the evidence we found and decided to go back for our enhanced search. And then there was a process of drafting our findings and seeking feedback. So it was sort of a long-term process.

KATHLEEN MURPHY: And Selima has noted, and this is really for either one of you, she's imagining inferring reading order through design elements would also help with infographics. So do you have a story or something, like how you decided when you're presenting information visually, how you decided to place the text?

MICHELLE ZORRILLA: You want it to be legible. So whenever I have used infographics personally, one thing is to keep in mind is that, a lot of times when you do a pitch, let's say, for funding, visuals are better than lots of text. But you want to make sure that people can take away that information quickly. Don't put a visual there just for the sake of putting a visual. So make sure that text is legible, the information can be used quickly, and is it better to have this picture or can they take that same information from two quick bullet points?

I think that's one thing that you could try and judge by. Do you want to have all this text? Or is this picture going to be not only more appealing, but easier to understand what you're trying to say? Because when you're actually speaking, you want people to focus on you. They don't want to be reading the text. I know that's a very academic thing to do and it's very hard to break some of our teams that go through the training from that, is that what you're saying should be more important than what's behind you. Your slides should be supporting the information you're putting out there. Not only does that help keep people engaged, but that also then gets people listening more to you, especially and-- if someone is not able to see those slides, you still want to be able to convey that information and vice versa.

So when you try and decide what kind of infographic to use, make sure it's useful information that you're putting there. You're not using it just for the sake of putting an image up. Oh, and for one you actually have an actual infographic, a lot of times it's broken up into different parts. Not screen reader friendly. So take a screenshot of that infographic, put it in there as a single image, unless you're going to be having pieces come in as you're speaking, but if this is becoming a PDF. And then make sure that actual image has alt text. So for those individuals using a screen reader, that's super important. Infographics might look really pretty, not screen reader friendly.

KATHLEEN MURPHY: OK, you're talking Bonnie's language. It's her personal mission to break the academics of that habit. "Heavy text on slides is nasty." [LAUGHS] Whoa, Bonnie. OK. She's not mincing words here. OK, well this is great. I love that this panel, thinking about business as an audience and patients as an audience. And I know Taylor you have a wonderful background, as does Michelle, in really engaging diverse stakeholders as the panel title suggested, including your work with policymakers.