

Hi everyone, and welcome to the LungFIT podcast. I hope you're all doing well today. I'm going to be talking a little bit about some of the research that I'm doing up in northern BC and it's something that you might not know about me. I've been certainly spending a lot of time on this podcast talking about my interest in pulmonary rehab, and now more lately general things related to being a researcher and an academic. But I haven't talked too much about the research that I'm doing in partnership with Carrier Sekani Family Services. And so settle in. This is a bit more of a stream of consciousness type of a podcast won't be heavily edited, probably make lots of mistakes, but I just wanted to share with you a little bit about what my research life is, especially focusing on this work with Carrier Sekani Family Services.

So starting in about 2016 or so, I had a bit of a research crisis, I guess, for lack of a better word. I was, you know, in the process of getting tenure at U B C and, and very happy and proud of going through that process. But I was also really struck with impact and what I perceived to be kind of the lack of impact of my work. It, you know, I would write the papers and I would present to the conferences, but I think I was really gonna be hard pressed to be able to point to something and say, you know, the research that I've done has made an, has made an impact. I can, I can see the changes that are happening now. I'm not naive. I know that a lot of research gets published and not a lot of it turns into clinical practice.

And even if it does, it can take years and years and years. So I wasn't expecting to sort of jump, you know, forward in that research to practice cycle. But I, I was really aware that maybe I could be a little bit different or a little bit more deliberate in the kinds of research that I was gonna pursue, the partners that I would select and who would hopefully want to work with me. And I don't know, just that whole sense of fulfillment of all the work that I was doing. I really wanted to give it a shake. So I was becoming quite interested in telehealth, and I wanted to learn more about how telehealth could be really helpful in chronic lung disease. And in British Columbia, you know, by far and away the communities that are most advanced in the delivery of telehealth are First Nation communities.

And we had partnerships with a First Nations healthcare society called with Carrier Sekani Family Services. And that society provides primary care, population health, nursing services just a whole range of healthcare provisions to a number of First Nation communities in north central BC. And so, as part of that, and many places in BC, many First Nation communities would also be doing this. Lots and lots of telehealth, definitely light years ahead of most small communities at that time, that's for sure. And we were already partnering with CSFS Carrier Sekani Family Services in terms of having placements for our physio students. One of our faculty members, Robin Roots, was living in, is living in the north and was regularly taking student to different communities as part of the physical therapy placements. So there was already a relationship established with our department.

And so I reached out with Robin's support and help and just asked the question, Hey, you know, are you interested in lung disease? There's many health concerns in most small communities, especially remote and rural communities and First Nations communities are no exception. And so, you know, in the list of things that communities have to deal with, chronic lung disease might not be high on their priority. So I wanted to say, Hey, like, is this something that's interesting to you? Do you wanna explore this together? And C S F S said, absolutely. And specifically, it was Dr. Travis Holyck. He is, at the time, he was the executive director of health and research and strategic Services. He's now moved up to being the executive director of health altogether. So basically we started, we started slow back a number of years ago.

We had some community events. We brought together the CSFS Advisory Health Board and talked to them about lung disease. They gave us guidance about what we should do next. And the doing next was,

okay, we gotta understand more about how chronic lung disease, and really my focus is on C O P D. So I was really interested in focusing on that. So how was C O P D affecting our communities? That was the question that they wanted to ask Travis. And I then sat down and started writing C H R grants, and we started writing more, and we ended up being very successful with C H R funding. So that was amazing. And it was a huge, I guess, validation that I was on the right track. That what the questions that we were interested in asking were what C H R wanted to fund.

And the partnership with Carrier Sekani Family Services and with the individual nations that C S S F Ss provides services to. That was the real selling point of our grants. And so we were able to get grant funding in a lot of different research areas. So you might be thinking, well, how feasible is that? I mean, Pat aren't, aren't you in Vancouver & you're talking about research in the north? And yeah, it's not, it's not super feasible, right? It's it would be much better if I was living in the north and being able to kind of walk out my door and connect. So it is expensive and it is more complicated, but the reality is was that was where the relationship already was, and it made sense to start where we already had some relationships you know, our university with communities as opposed to starting from scratch.

And, you know, I did, I did approach other communities that were closer to where I am in Vancouver, but, you know, everybody's got their own priorities and there's nothing, there's no judgment. It's just, you know, does everybody be wanting to be looking at lung disease? No, in terms of where community's health priorities are, it might, that might fall lower down the list with Carrier Sekani Family Services, it wasn't that low down the list. They were interested in exploring more. So that made that partnership make sense. So over the last several years, we've now gotten several multi-year grants from C H R. We have over film \$4 million in current funding, which is fantastic and it is all happening up in north central BC. So I thought, okay, well what's this got to do with this podcast? Well, we were just recently up on a research trip, and I thought, I would just share with you what's a week in the life of a field researcher?

And I use this term field research quite lightly. You know, we're not in the field, we're in communities, but it's a, it's a term that's used. I think when we're kind of referring to research that's not occurring in a healthcare setting. You know, it's not in a lab, it's not in the hospital, it's not in the clean clinic down the hall from where my lab is, it is out in the field. It's working in communities, it's working with the, with the concepts and basically the context of being in small communities. I just thought, you know, I'm gonna share a little bit about what it looks like to be a field researcher to conduct research and partnership with First Nation communities, and also to just, you know, go with the flow and, and try to figure out how to best conduct a research project in the context of what potentially is a lot of things that you can't control.

So that's what this podcast is about. So where does all this recur? Well, north Central BC, if you look on a map, you always think of it as north, but really it's only about halfway up the province and at about the level of Prince George. So Prince George is a probably the largest community in the northern part of the province. I'm not quite sure where the population is. It's probably around a hundred thousand maybe more. And it's a heavily resource. So a heavy industry logging and mining and basically different kinds of forestry work are predominant in that area. And so how we get there is we fly from Vancouver to Prince George with the team, and I'll talk a little bit about those people in a minute. And then we rent cars and

we start traveling west. And so there's a highway that goes through Prince George and it goes all the way the west to a town called Prince Rupert.

And so that highway is called Highway 16, and Highway 16 has many first nation communities north and south of it. And so sometimes we go in the winter. So in Canada, in the winter, in that part of our, our province, it's very cold. It's can go quite com quite easily, I should say. And not comfortably, but quite easily down to minus 20, minus 30 below zero Celsius- it can be quite snowy. There could be lots of feet of snow on the ground. And in the summer, which is where we're at right now, here in Canada, it can be pretty hot and it can be very stormy. And those storms often mean that there's a lot of a lot of thunderstorms. And so it's an area that has a high risk of forest fires as well. In terms of landscape. Oh, it's beautiful.

It's this rolling landscape. It has, you know, some farmland for sure. It has forests, it has lakes as you get farther west, it has more mountains. So it's really beautiful. It's lots and lots of lakes in some of the parts of some of the communities that we go to. So it really is quite, quite special. So how do we do this kind of work? Well, like I said, I'm in Vancouver and this work's happening in the north. So the reality is that a lot of the work is still happening while I'm here in Vancouver. We communicate a lot by email. We do have Zoom meetings we, we sort of get ourselves into other kinds of meetings at C S F Ss where we can, where we can talk to people. Travis and I, we don't meet regularly, but he's available to meet whenever we need to.

And in the beginning, I, we needed to meet a lot. I was completely dependent on Travis for really every kind of communication. As time has gone on, I've built more and more relationships myself with different community members. And so I don't really need Travis to kind of initiate every conversation. So now he and I meet regularly and I give him updates, tell him what we're doing. He gives me suggestions. He opens doors! He also will approve certain elements of research if I'm not quite sure what the way to go is, or he may have repercussions on communities or c s s f s that I'm not aware of. So in many ways, he has the final say for a lot of the things that we do, but we're also on the same page, and I have a good sense about what is appropriate or not.

So it's rare that we don't agree about the approach forward. So just a couple weeks ago, we wanted to go up north and we were going to be working on one of the studies that I'm that I'm conducting that is around epidemiology of C O P D. And so there's not a lot of information about what the prevalence is of C O P D in First Nation communities. And some communities have higher smoking rates than non-first nation communities. So it seems reasonable to expect that the prevalence might be as high or maybe even higher than what we would see say down here in Vancouver. Also, communities are exposed to air pollution. They have a lot of wood smoke in the summer or in the winter, I should say, just from their own wood stoves. And they can have a lot of wildfire smoke in the summer.

And then a lot of people that are living in these communities are working in heavy industry. They're working in the mills and the mines and in forestry logging. And the roads are also just dusty. I mean, there's a lot of different kinds of air pollutants. And I would be remiss to say that the impacts of colonialism don't have an impact. I mean, colonialism and ongoing discrimination and racism in First nation communities by the healthcare system and by other types of agencies has a impact on lung health. And whether that begins from the beginning in utero and as a child is growing up. And then of

course, access to healthcare services is always an issue. And just different kinds of exposures that people have to different things that can harm lung health. So all of these things together means that, you know, lung health is important and communities are saying, okay, we need to understand the burden of this condition on our communities in order for us to be able to plan for the appropriate healthcare services and also prevention, understand what we can do to prevent this in our children.

So all of these are great goals. And so we were hoping to go up north and actually do some of that lung function testing. So when we go up, we try to travel for about a week. So we often arrive on a Sunday or on a Monday, Sunday or a Monday, and we leave on the Friday usually so people can have weekends back home. And we go about every six weeks or so. So it's no small thing. And we take a lot of people we take myself, and there's often at least one or two staff members. More recently we have been working with a respiratory therapist who comes with us and does the lung function testing. So that's been fantastic. We have staff members that help with the data collection on other types of work that we're doing up there.

And then we also have students. And so I'm very privileged and happy to be working with excellent graduate students. And so they come up with me and they're working on different projects, but they're also, everybody's helping with everybody's projects. So that's the nice thing about having more than one thing on the go. If something sorta slows down, we can focus our attention on something else. And so we also connect with Carrier Sekani Family Services and we have we have our I guess I'd call her our community liaison. And I won't name names for privacy. I haven't gotten permission to do so. Travis is the exception because he and I co-lead this work and I certainly wanna acknowledge that. But the staff and students, I won't name for their privacy, but we do have community members that will help us basically work with the community on these different research projects.

And sometimes community members know me, I can kind of go in and go, Hey, how's it going? We're here again. And they're like, great, you're in room three or whatever if we're working out of a health clinic. But other times, you know, we're really just getting started. And so it's helpful to have the Carrier Sekani Family Services representative with us just to provide that extra assurance for communities that this has gone through the right processes that we're doing this research in a good way. You'll often hear that expression to do things in a good way when you're working with First Nations communities. And I really like how that is. So that's, that's who we bring up. And, and so that's what I have to think about. So as the researcher, I'm responsible for this team of people and I'm responsible for making sure that we are as productive as we possibly can be.

When we're up there, we're using these grant funds, well, we're using people's time up in the north well, and so we have to plan well and also be very flexible. So it's an interesting combination of skills that I've been developing over the years. So on this recent trip, of course we had to organize all of our flights and hotels and cars and we have excellent support in our lab for that. And so you've heard me speak of Ashley Winter, Ashley Kirkham, previously Ashley Winter. Now she of course does all the production for the podcast. So big shout out to you Ashley! But she also handles all of the logistics of our travel, which is super helpful just to be able to arrive and you've got your next step already planned out in terms of things like flights and hotels and cars. So that's fantastic.

We bring a lot of stuff. We bring our ability basically to be a traveling research roadshow everywhere we go. And so we have a lot of equipment, we have a lot of supplies, we have of course our own luggage. And so we store quite a lot of this stuff up north now. But then we also do bring some of the more sensitive equipment with us every time we fly up. So we bring a lot of stuff. So we need a lot of vehicles. We need people to drive those vehicles. That's not easy. Nobody knows how to drive anymore. So, we often, you know, making sure that, okay, well who's gonna drive who and where. And as the principal investigator, you know, I really do need to think about safety all the time. And of course that is always gonna be my primary concern.

So when we think about safety, we have to think, well, where are we gonna be driving? And can the car that we're taking actually handle those conditions? So we drive on rough gravel roads. We're driving in snowy, icy conditions in the winter. So we have to try to find cars that will withstand all of this abuse and we'll get us safely from A to B. We also now take two-way radios because we're driving on logging roads and you know, we have to make sure that well we don't get hit by anything. And so the two-way radio allows us to travel on those roads safely. And I'm just experimenting now with these satellite textures. I don't have much to say about them 'cause we haven't really, really used them, but you know, we're way, way, way, way, way away from cell service.

And so if we get lost or break down or somebody gets injured, we really need a way to call for help. So we have now started to use these satellite texters or texters, and basically they just hotspot your phone with a satellite and you can send a help message and there's also like an SOS button and it sends your GPS coordinates and we bring emergency kits in the car so that, you know, if we, if we run into trouble, then hopefully we could be a bit self-sufficient. So on this last trip, what did we do? Well, one of the studies that I'm doing is looking at air quality as part of First Nation communities' ability to respond to wildfires. Oh my gosh, it's such a bad year this year. So we had a bad year in 2018 in the north and 2019 it wasn't great, but it was okay.

And then 2020 to 2022, it was not too bad. There were certainly some serious fires, but for the most part, the, the region, you know, did fine. But this year has been an awful year. In BC in general, this province is burning. And the north has been especially hard hit as of this podcast airing at the end of July. And so we happened to arrive right when the storms were raging and fire fires fire wildfires were popping up every half hour all around us as we were driving, we would get another ping on our phone, new wildfire, new wildfire, new wildfire. And so this was, it was not, it was a difficult time to be up there, but in terms of the relevance of their work, when you talk about impact, you know, nothing says impact. Then being able to go into First Nation communities and literally install air quality sensors so that these communities can have a real time knowledge of what their air quality is in their community and not rely on a government sensor that may be hundreds of kilometers away.

And so it's not relevant to what is actually happening in their community. And that, you know, air quality can change even like one kilometer to the next. So it's all depends on how the wind blows and what the topography of the land is. Your air quality can really, really be different. So, so we went into these communities and we were putting up these sensors and then we get the data from that and we can create air quality bulletins that are individualized for each community. And that's part of the research work that we're doing. And so we had our sensors and we're up on ladders and we got the screwdriver out and we're, you know, connecting these sensors up with wifi and we're engaging with the community

to ask them where they want the sensor and to provide them with some initial education about what these things are, and we're all learning about them together.

So that was one of the things that we were doing. We were hoping to go up and do some lung function testing in one of the communities, but it ended up that that was the week that a community was going basically away on a culture camp. And so a lot of the community members that we would hope to invite to participate in a prevalence study of COPD, were going to be at this other site where they were camping. And that's not a really feasible place to just kind of walk in and go, Hey, you're having a great time camping, do you wanna do this research? So didn't wanna do that, but we were invited to go attend the camp. And so we thought, well, this is an excellent opportunity for us to learn more about the community and another study that we're doing.

So I've got multiple studies. Another study that we're doing is around physical activity in First Nations communities. And so we thought this would be a great time to just, you know, understand a little bit more about physical activity and what people, how people express it, and you know, just how it looks like when it's lived in real life. So we use these types of trips to meet, meet, meet with people. Anytime anybody comes up and says, hi, how's it going? You know, we can, we can chat with them, we can learn about the community. If they have a formal role in the community, like they're a member of chief and council, we can tell 'em about the work that they're doing. They often have a link with somebody else or maybe their own portfolio links with what we're doing. And there's another connection that we make.

And there's another opportunity to think about how do we do this work? So anytime we're up north, I spend a lot of time having kind of informal meetings and sometimes they're formal. I might be asked to come and speak with the chief or counselors about what we're doing, but other times it can be quite informal and it's just with a cup of coffee or a cup of tea in my case and just sitting around and telling people about what we're doing. And then they say, Hey, you know what? We've already got a project that's similar to this that's happening over here. Let, why don't you come and talk to that person? And away we go. So we spend a lot of time making connections, developing relationships sharing the work that we're doing, asking how we should be doing it, asking maybe what they think the next steps are.

So there's a lot of opportunities to do that if you just take them when we're in community. So we make sure that we meet and talk and just learn as much as we can. When we did attend that culture cap, that was super cool because you know, we're there as observers in a way, right? We're not from the community, so it's not our culture camp, but we're also a whole lot of hands. And my team, they're pretty young and they're very able and they're very smart. And so we can walk in and go, what do you want us to do? And they're like, great. Set up that table there. We got an auction happening over there. We have a family coming in that need to camp. Can you set up some tents? You know, can you just if we, we can you clean off the tables, we're getting ready for our for our meal, can you help provide the first meals to the elders so they don't have to wait in any kind of lineup.

So we are, you know, five or six hands that walk into something like this and we just say, put us to work. And they're like, awesome. So everybody is happy to chip in on the team and they see it for what it is. It's an opportunity, you know, to say thank you for us to say thank you for allowing us to be able to work with their community. And so if we can help out in other ways, you know, that is just fantastic. And then we get to eat, of course, delicious food and we get to chat with people and sometimes other things

happen. Like I was just when we were up in this culture camp. One of the women from the community was cutting hair and she was cutting all these little boys' hair and I just said, man, I want a little boy's haircut.

She's like, sit down. So I now have a super short haircut and I hope it never grows out because it's such a great memory of that connection. And I really value that. And, and everybody got a good laugh, you know, like, who's this woman from? Not from our community getting her hair cut, but by the side of the lake. So it was just fun all around. So I really just, I don't know, I think those are cool moments that if you can jump in, participate in a game you know, when you're invited, you're not taking over, it's not your event, but you're just you know, being able to make a connection.

So I wanna reflect, just to finish off on some, this is already a long podcast, but I wanna reflect a little bit on what my role as that researcher is and what are some of the things that I need to walk into when I'm doing this kind of field research in partnership with communities. What are sort of the principles I guess, that I often bring in? And this isn't comprehensive and it isn't specifically related to the cultural safety training that I've taken to be able to better work with First Nation communities, but it's almost more like some of the core things that I understand as I walk in. And the first one is responsibility. I feel an enormous responsibility to my team to make sure that I can get them through this experience safely, and that they also feel like they're doing their research in an ethical way.

So I try to teach them what we're doing but recognize that we're also very guided by what the communities want. And so they might learn something about how you do a certain thing out of a textbook. And of course we all have that, that basic understanding, but then the communities say, well, we want it this way. And so then we sit down and talk and we figure out, okay, you know, should we do it that way? How do we do it that way? What are the ramifications of doing it that way? So I feel a responsibility to make sure that to the people, the people in community, to my team, to myself, and to the work that that we're, you know, conducting ourselves properly in all ways. And so that responsibility fundamentally sits on my shoulders and I, I, I welcome it and I acknowledge it and I try to work well within that.

The other thing that I bring in when I am with in doing the field research is, is opportunity. So one thing that you don't wanna hear the criticism is that you're sort of doing research tourism where you're maybe going to communities and you're, you know, you're enjoying yourself, you're engaging, you're taking part of events, but you don't actually get any work done. And then you come home and you start writing emails and trying to get things happening and people don't answer and you think, what's going on? And it's like, you gotta take the opportunities when they arrive. And so it's okay if you are in a setting to be able to turn to somebody and say, we're doing a project, can I chat with you about it? And if they're like, well, not right now, then it's like, okay, that's fine, not right now.

But when, and try to set something up or take the opportunities. If somebody says, well, I know you're here for this, but can you come and talk to us about that? And it's like, absolutely, you know, like being flexible- actually that's my next one. But taking the opportunities when they arise and making sure that you are doing the work that you are being paid to do. And so it's not research tourism, you're not just going up and having a good time and getting involved and making relationships, but not actually getting anything done. So that's kind of a combination of taking the opportunities and also that responsibility as

well. The third thing I take in is flexibility. You have to be so flexible. I think when you do any kind of field research, this is not a controlled environment. And I think that lack of control is really what makes this fun and is probably why I'm drawn to it.

But you also need to be quite flexible because you can arrive and everything that you planned has been canceled for different reasons, important reasons. And you, you can maybe be disappointed, but you gotta be flexible. And so for me, I try to imagine what's the next thing that we can do? Okay, if that's not gonna work, can we do something else? Can we use our time well, can we meet with somebody else? Can we plan something? Can we just sit down and work on something together that will move this project forward? Even if our team can't really engage with the community, like what can we do? And I find that this is getting easier as I'm building more and more relationships with different communities. So if something doesn't happen in one community because of the need to cancel, you know, sometimes I can pick up the phone and go, Hey, like, we're near you.

Can we pop by and have a visit and talk about whatever? And oftentimes that spontaneous thing has worked quite well. So being able to be flexible and not get yourself in a knot because all of your plants have gone, have gone. But to really enjoy the fact that chaos can sometimes rain and and you just have to go with it. And when we were up north this last time, we had to deal with a lot of wildfires and it was super smoky and there was a fire burning within walking distance of our hotel. And so every day we just packed up everything and took it in the car because we were sure if we're gonna be allowed to go back to our hotel if they needed to evacuate. So we just had to be flexible. And, you know, one morning we got a flat tire because we were driving on these gravel roads and maybe the tires just weren't good enough and we had a flat tire and we're like, well, we have to go.

What are we gonna do? And so the team just jumped into action. Hey, I see this tire place, I'm gonna take it right over. We'll call the rental car, da da da dah. We'll get everything sorted out and away we went. So people I find in remote and rural communities have an, have a problem solving kind of knack. And so if you bring your own problem solving nac, I have found that people are problem solvers with you, right? And so everybody wants to try to find a way to make it work and they can be pretty creative. And so that flexibility has really helped me out. And the final kind of main thing I bring in is that accountability. So I wanna say that's like responsibility, but I think there's a different dimension to it. It's the fundamental accountability that you will perform ethically.

You will perform in a culturally safe way, you will deliver. And I struggle with this because it's a lot of work and sometimes we don't get it done in the timelines that I would like. And I feel that accountability, like I need to show people that they have invested their time in me and it was a good investment. And so I'm accountable this to this work, and it's up to me to update people to keep tabs on it. You know, nobody else is moving this forward but myself. And so I need to be accountable to that. And so that part I struggle with because sometimes we're really understaffed or sometimes I'm not quite sure where the next direction is and I feel a little stuck. And so I'm accountable to everybody and the donor, of course the funder to make it happen. And so that's something else I bring in.

So super long pod podcast, but I just thought you might be thinking, oh, well she's a physio and she do, she does like work in pulmonary rehab, and that is, you know, that's her only box that she sits in. But

actually I'm involved in so much to do with lung health. I've got a, a epidemiology study, we got a physical activity study, we have this sort of climate change, wildfire disaster preparedness kind of study. We're soon gonna be moving into an area more related to health service delivery for for respiratory care. So there's lots to do. And you know, I bring my healthcare background, but not a lot of this is physio to be honest. But because I've been involved in lung health stuff for so long, I do feel like I kind of bring a wisdom to some of this. And I bring this love of the chaos and I like having a million things going on, and I like, I like just the environment that field research provides.

It's extremely exciting, it's super stimulating, right? Like me, I've always got questions, you know, about the next thing to do. It's really challenging and we, you have to think quickly. And I'm often having to make very quick decisions and my team is super nimble and they're able to just pivot and do something differently. So it's so rewarding and I wouldn't, I wouldn't change it for the world, even with all of the craziness. And I have to say that I feel like to wrap it up, I feel like I'm having an impact. And it might not show up in the metrics that the university wants to see. You know, I might not get a bunch of high impact papers out. It's not easy work to publish. And I have to think more and more creatively all the time about how can I actually publish and meet the needs of the funders and the universities, but also think about, well, how else am I having an impact and how else should I show that impact?

And so in a way that is a different challenge for me, and how do I, how do I measure impact outside of the usual academic metrics? And I think this is something that a lot of researchers are faced with, especially if you do kind of non-traditional, not lab field research, like what I'm talking about. So on an upcoming episode, you're going to hear a similar talk, but now you're gonna hear it from the perspective of my grad students who are going up and, you know, they have some deadlines, right? They've got the research that they're doing for their, for their thesis. They are, you know, trying to establish their own relationships. They're thinking about what their future careers might look like, and they're learning right along with me about how to conduct this research in a good way. So I hope that you'll tune in for their their podcast as well while I go and take a little bit of a vacation.

I hope that you've found this interesting. If you're interested in working with me, if you're a grad student that has a background in say, population or public health or health geography, or you've done work with First Nations Health and you're interested in exploring more research around that, and all of what I've described sounds like the best day ever, then please feel free to reach out to me and I'm happy to, I'm happy to hear from you as well. So, until the next episode, I'm gonna enjoy vacation. You're gonna hear from my grad students in an upcoming episode. And all the best to you. I'll see you soon. Bye for now.