QUALITY IMPROVEMENT IN PULMONARY REHAB – IT JUST TAKES ONE transcript

Hi everyone, and welcome to this episode of the LungFIT pulmonary rehab podcast. I hope things are well with you all. Today I'd like to continue the conversation I started on the last episode, where I talked about our research paper entitled "Photovoice exploration of physical activity norms and values among rural and remote pulmonary rehabilitation participants in British Columbia, Canada" published in the journal "Disability and Rehabilitation". I'll put the link in the show notes.

The intent of that episode was to talk about that specific paper, but also to highlight the number of people and their roles that can be involved in a research project – hence the "it takes a village" title. Of course some projects are much bigger, and some much smaller, but typically it takes a number of people to conceive a project, provide ethics review and approval, collect information, and share those results.

However, I don't want you to think that you can't, as a health care professional working in pulmonary rehab, undertake a project **without** a big team. A different kind of project that is very 'do-able' for one person are quality improvement projects. Now, don't turn off this podcast because you think that doesn't sound very interesting. I LOVE quality improvement projects, and I'd like to share with you some ideas for doing one on your own.

First of all, why is it important to do a project that is related to quality of your program? I'm sure that seems like an obvious question with an obvious answer – of course we want our programs to be of high quality so conducting a project that looks at some aspect of how our program is functioning, or learning more about how our programs benefit our patients, well that seems reasonable, doesn't it? But I think that as health care professionals we fall into a bit of a double-rut – we rely on patient feedback to confirm quality, and we're intimidated by anything that looks like 'data' – how to collect it, how to analyse it. The patient feedback that we get might be informal – we get nice comments or cards from patients, or formal, in that we ask them to complete a patient satisfaction questionnaire. And of course those are valuable and provide a lot of encouragement to us. But a quality improvement project looks at information from many participants, not just the ones that say nice things! And also provides the numbers that you can use to look at how your patients respond to the program compared to established expectations.

Let me provide an example. First of all, you need to make sure that you have some processes in place to be able to assess quality. There are a lot of different kind of QI projects, but probably a good place to start is related to the benefits to patients. And in order to accurately assess patient benefit, you need to collect information on patient outcomes. Verbal feedback and patient satisfaction questionnaires are nice but they're not enough. You need to collect outcome measures. And what are the typical outcome measures that are feasible for use in pulmonary rehab practice? For exercise outcomes: the shuttle walk test, the six minute walk test, the sit-to-stand test, and indirect 1RM test. For quality of life: the COPD Assessment Test is quick and easy. For dyspnea: the modified Medical Research Council Dyspnea Scale. These are validated for use in pulmonary rehab, they are quick to use, they are responsive to changes that patients are notice, and they measure outcomes that patients say are important. So if you're not collecting information at the beginning and end of your rehab program, please please please make the most important quality improvement decision you can make – and collect information on outcomes.

Okay, so you're doing that now, and you have all of this information from these outcomes. How can you look at these outcomes measures that you've collected on INDIVIDUALS and look at them COLLECTIVELY

with the eye to assessing the quality of your program. Let's start with 6MWD. You've collected this information accurately – see the episode on how to do this – and you have pre-program and post-program. I suggest that you select 50 patients with COPD and look at this outcome. Now, you can't go through and pick the ones you like or that you know did well. You need to either pick them randomly, or pick every other name in the last 100 patients, or even just pick the last 50 patients (all of them) that went through your program.

Okay, now time for a litte math. Take those people, and calculate the change in six minute walk distance. So take the post-rehab score minus the pre-rehab score. For each person. Hopefully most times this will be a positive number, but sometimes patients decline and it might be a negative number. Now you have a list of change scores. Calculate the average change, which is the sum of all those scores divided by the number of individuals – in this example, 50. Now you have the average change.

Now look at your average change. You can now compare that to the minimal clinically important difference. For the 6MWD for COPD, that value is 25 meters. Did you average change exceed this value? Hopefully yes? If not, some careful thought as to why is important. Perhaps you're not accurate in your 6MWD testing? Is your exercise prescription appropriate? Are you progressing the intensity of the exercise week by week? Are your patients very very frail and this amount of change is unlikely? Examine the exercise prescription, your exercise logs, and the quality of your 6MWD testing to try to uncover why your program is not achieving the MCID when you look at the average change.

But averages is not quite enough. Someone may have had a huge change and that would have affected the calculation of the average. So also count how many people exceeded that 25meter change. It should be the majority. You can then look at the people who did not achieve this change. Any characteristics that you can see? Were these people more frail? Older? Could not attend regularly? Getting a better understanding of who is improving, and more importantly, who is not improving, is key to quality improvement.

This was an example of the 6MWD and COPD. There are other outcome measures, and other patient populations, with different MCIDs, so I encourage you to explore these quality questions in your different groups of patients. It's hard to compare patient populations all together.

Then, if you do decide to make changes, re-evaluate in the next 50 patients. (or 20, or 30. The number isn't that important, but at least 20 gives you enough information to get an idea of the results). Any improvement? Let this valuable information from your patients guide you in your decision-making.

I have done these simple evaluations of several pulmonary rehab programs and I understand the "sensitivities" that can be there, when we start talking about 'quality'. We want our programs to be considered high quality and we can be defensive when criticized. Try not to feel emotional responses when you think about the question, and when you look at the information. Be curious! Look at this as an opportunity to learn more about how this complex intervention that you're providing impacts your patients.

And another thing, **you** want to be in control of this process. You want to be the one to detect problems and change your program to correct them. Better for you to learn about your program, collect evidence, confirm what is going well and make changes where it's needed, than have it be such an external process that you're not engaged with your own information. I've certainly heard of programs that had to

prove they were benefiting patients if they wanted to keep their funding. How great to have that information, collected annually at least, ready!

You may wonder about ethics, funding etc. for this kind of project. Every country and jurisdiction is different, so I don't want to state any policy too broadly. But where I am in British Columbia, projects like this where the data is organized and analyzed for the purpose of improving the health care program are not considered research and are not required to undergo an ethics review. For us, we don't share this information in a research publication or present internationally. The data and the results are only shared with people within the organization, if they need to know. Of course, you can be part of a big project looking at multiple aspects of your program, but they can also be small projects where you are looking at the collective impact of a program using a small amount of data from your patient's charts. But make sure that you are following the regulations and policies of your own institution of course before you begin. Sometimes programs have budgets for quality improvement, but even if you don't, perhaps you can ask your manager for a few hours of time over a few weeks to do this work. It is the responsibility of health care professionals to evaluate our health care programs, and I've shown you that even a simple look at your patient data can yield some interesting results. This doesn't have to take a lot of time, especially if you put together a process for doing it regularly.

So I hope I have encouraged you to systematically examine the outcomes from a small number of your patients, and assess how your program is performing. This, of course, is just one example of a quality improvement question. There are so many more, such as: how long do people wait to get into our program? What proportion of participants complete the program? How well does our program align with quality standards for pulmonary rehab? See our previous episodes on quality indicators if you want to more about those.

Of course, if you are part of an organization that has the budget for these projects but you don't feel like you have the time or the skills to do this project, I have consulted with several organizations and conducted these projects or was hired to work with their team to do a QI project. So feel free to email me if you need a consultant for your QI project and we can discuss the details. But, for something small, it really only takes one! I hope you're inspired to conduct a quality improvement project in your program and learn more about how your program runs, and the impacts it has on your patients.

I hope you enjoyed this episode, and until next time, stay well everyone!