

SUPPLEMENTARY FILE 2

First stage of analysis (Consolidated Framework for Implementation Research) with illustrative quotes

Domain (constructs)	
The intervention characteristics	Illustrative quote
HCP: Community of practice (Relative advantage)	Well it's fantastic. and also it's, you know, obviously a great social, a lot of people with these conditions feel quite isolated so a programme like this gives them a chance to interact with other people and I think sometimes they learn a lot more from people they're with than people like me. They know what it's like living with their conditions and they can share their experiences.
Attendees: Supportive intervention (Evidence strength & quality)	I didn't know anybody else, um, but we were all of similar age and we were all in the same boat and I think that was probably a big part. Previously you felt as if you were on your own with your diabetes. But here we all were and we were all quite open about things like um, you know medication, the exercise part, I went in there thinking well I am here for exercise, so for the three quarters of an hour we were to exercise I made a really good attempt. and I did enjoy that. ... And we were all, I think by the end of the programme to, one of the biggest benefits was actually, the comradery that you had with everybody all you know, hi [attendee name] how are you today and you were the same, kind of got to know people a bit and thoroughly enjoyed that. And that probably was um, took me going back, [attendee name] and I kept us going back on the maintenance programme. (A324)
HCP: A valuable resource (Relative advantage; Design quality & packaging; Cost)	I think, personally, really important. I think it's something that could grow and develop and be a real resource. I think it's amazing. I think it's fantastic. We really refer an awful lot of people to the DCEP just simply because I feel really confident because I know the expertise that are there, so that's always a great starting point. If you refer people you need to be confident that they're going to be in good hands. Obviously, particularly if they've got diabetes and other health related problems, that they are going to be cared for and put through a programme that's specially designed for them and that's really, really, really valuable, I think. The other thing that it is, there is no cost apart from the donation which is really valuable as well and just being able to refer people to a community service.
Attendees: Acceptable and valued (Evidence strength & quality)	Well if it was, if you know doctors could refer people that are border line diabetic or people that are type 2 and have ended up on insulin and it was just a good way to you know, find out about things. Because if you just go for one day, you know all those questions, but over 12 weeks there is different things that crop up that you are able to ask. So just on one day you might not think of everything, but with 12 weeks, yeah. And like with having like the dietician and the

	<p>pharmacists and all those different people, you know, you kind of thought of something and other people asks questions as well, and you think, oh yeah, I had been wondering about that. (A920)</p> <p>So it's been a um, yeh it's been a tough couple of years but for us the DCEP has been an important part, a positive part. It's been a real support in terms, as I say both a health and psychical fitness point of view. So we're very grateful for the programme and we found it really worthwhile.</p>
<p>HCP: Perhaps too social, and thus not enough exercise.</p> <p>(Relative advantage)</p>	<p>I've had a couple of patients that have come in, not for the maintenance programme, they've just come to have their blood pressure taken so they haven't done any exercise in the maintenance, and they haven't done anything other than pop in to have their blood pressures taken. actually, some of them don't even exercise.</p> <p>They come to the class, and that's the big thing. They come to class to socialise, and the exercise is like a side issue. And for the exercise purists, this is challenging. And I'm constantly challenged by this. And I've got to constantly stand by it. And my line will go something like, typically, you're working with the sedentary population, who do next to no physical activity, who will get the maximum bang for buck from going doing no physical activity to doing some physical activity. So, if they're motivated to come because they feel comfortable and not judged, and accepted, and they can just do what they can manage, then that's more important than anything else.</p>
<p>Attendees: Not enough exercise</p> <p>(Adaptability)</p>	<p>The maintenance class, the only thing I'm finding, this is the only negative I have about the whole thing, alright? You know how we used to just do forty minutes to forty-five minutes of exercise? And it was fine. Well, when I went to the maintenance class and you can do it an hour, and I want to do the hour, there's not enough variety to be able to do to fill in the hour. I started to find I was getting a bit bored. you have to keep looking to see if the machine you wanted was free so that you, you know or go to something else. (A238)</p> <p>One lady, all she did was walk around a couple of laps and then sat down for the rest of the time and talked and all that. It was um, a get out of home activity for her and she did you know a few wee laps and that was it for her. You know, that was better than sitting at home just doing nothing, that was her exercise you know, it was catered for everybody. It really was. (A887)</p>
<p>Attendees: Tailored person-centred approach</p> <p>(Adaptability; Design quality & packaging)</p>	<p>There's a number of things I can't do because of my hip. My hip's down to bone on bone so it's kind of discomfort. I'm on fairly high levels of pain relief um, and I take a whole bottle of [pain medication] to get here. So, yes, they've helped me and pointed me in the right direction to give me the strengths in the areas I will need to have it when I come out of theatre and move onto stage, the next stage in life. (A205)</p>

	<p>I think it makes you more comfortable the fact that you've got the nurse there and the physio there. Like um, for me, um, like having them there to guide you and support you show you like, [Physio] would show me like she would sort of challenge me, like um, and she's like "Oh, I think that's too easy for you. So we're going to do this." And I was like... "Oh, do we have, you know, do we have to?" And she's like, "You're doing that too easy, we're going to do this." (A238)</p> <p>I am 13 months out of a triple bypass ah so I have a few issues with my chest. So, [Physio] has been working with me to exercise and strengthen chest muscles. And this is something that would never have happened if I hadn't had been involved in this, you know. (A373)</p>
<p>HCP: Importance of relationships and communication</p> <p>(Relative advantage)</p>	<p>It is better in terms of relationship building if we're there doing the exercises with them... I definitely think there's advantages to working amongst the people ... for building rapport and trust. My first session I went to, I rolled up in my work gear, and they were all, like, "where's your gears?" And, so, for my second session, I was, like, "right, well, I'm coming prepared then." "I'm coming in my lycra!" "Activate your tights." Then it just, kind of, it felt a bit more comfortable, um, in terms of... they just seemed to be a bit more... relaxed.</p> <p>I try and engage with people, like um, like I try and engage with everyone to start with and I make time to block out, so what I tend to do is when people are you know doing their thing I'll walk around and chat and I'll do that connection so I am working on a kind of personal connection, not just a I'm your physio kind of connection but actually kind of finding out a bit about them and oh you know, "What do you do," and this, that, I'll share a little bit about myself and so I sort of engage them from there and then I tend to like, particularly the bikes, when the bikes are together and things like that, you end up having a conversation with two people at the same time and they end up talking and you kind of move on [laughs].</p>
<p>Attendees: Social atmosphere</p> <p>(Evidence strength & quality; Relative advantage)</p>	<p>I have quite enjoyed it, um, we have had a really good mix of a good bunch of ah people in it, and I thought, like Lena has been wonderful and so have the nurses that have come along. So, it has really been good that way. And, I have enjoyed most, most of the um, classes that I have afterwards, I have learnt a hell of a lot more from that. ... you spend three quarters of an hour each lesson on a particular subject and you have got interaction of the other people so it is really good. (A373)</p> <p>Do I enjoy it here? I love it. Are the people great? Fantastic. And the group is fantastic, we've made new friends um, and they're all respective of one another, but they all have teas and laugh and joke amongst themselves. The majority are women, but that means absolutely nothing, it</p>

	<p>just means that they drew that envelope. It could've gone the other way just as easy. Do I have any, no I have no regrets. Am I going to carry on? Hell yeah! (A205)</p>
<p>Attendees: Unpretentious environment (Adaptability)</p>	<p>I think um, family inclusion is good, um, especially like the meal preparations and all that sort of thing and why it is important to go for a walk after dinner and how it is nice if you can have someone walking with you, and all that sort of thing. Um, so I think that is really beneficial to have um, a significant other as part of the programme. (A639)</p> <p>I brought hubby along when he had a week off. I said come along, so he came along and did a few exercises and listened, it was a good talk that day and he gained valuable information, that day, through diet and all that. (A887)</p> <p>And, you know, I mean, we don't, it's like, when people go to the gym, they've got all the flash gears on, you know, just to be looked at, that's what I think. We can go there how we are, we're taken how we are, and get on with it. which is good, you know, those are the sorts of people you want, and they don't use big, like, um, flash words. They use language that we understand. (A21)</p> <p>Encouragement, you know talking amongst yourself. A lot of humour quite a bit of hilarity you know. Oh, we have had some good laughs, yeah. And that, I guess that was one of the reasons why we kept going back to, um, because we had some laughs and because we were comfortable. (A639)</p>
<p>Attendees: Beneficial (Evidence strength & quality; Relative advantage)</p>	<p>I have quite enjoyed it, um, we have had a really good mix of a good bunch of ah people in it, and I thought, like [Physio] has been wonderful and so have the nurses that have come along. So, it has really been good that way. And, I have enjoyed most, most of the um, classes that I have afterwards, I have learnt a hell of a lot more from that. In fact, I would say that I have learnt more from that, I did the Desmond ah, course and ah, I have found this more beneficial than the Desmond. The Desmond was too much to try and squeeze in over a six-hour period, you know and to try and take in all the information that they give you in such a short time it is really hard. Whereas where you spend three quarters of an hour each lesson on a particular subject and you have got interaction of the other people so it is really good. (A373)</p> <p>Well, I can just show you. Like, if you start at my book. Like you see, my, on the 24th of the 4th, my blood pressure was 160 over 190 which is quite high. ... And then, as we keep going down, it went down to 140 over 90..... And then it went to 132 over 82. Um and then towards the end, like I was getting 124 over 82. Ah, my blood sugars range between 8.4 and 4.7. ... And like when I, I got my certificate up on the bookshelf up there, and when I got it, I came home and put it on Facebook and all the um, I got all these comments about it and everything. (A238)</p>

<p>Attendees: Advice confusion (Design quality & packaging)</p>	<p>I got really confused about what is right and what is not right. I had started on a diet control management of diabetes and it was working for me and they were telling me something different. They were telling me about whole grain breads and pastas were ok and rice and all that, and yet in my diet I had none of that. (A639)</p>
<p>Attendees: Costs (Evidence strength & quality; Relative advantage; Design quality & packaging; Cost)</p>	<p>I really liked the venue and I was quite surprised um, about the equipment that was available. So, walking into the [venue] where I had been several times before for different things and seeing it all set up where there is a gym was quite cool. ... I like working out and I like doing that and I even like it better when I am doing it for free. (A639)</p> <p>It is unique because it is an exercise programme that doesn't cost us anything, it is very local. Um, it is utilising a business locally. And it is free. (A887)</p> <p>I enjoyed it. I'm not an exercise... I'm an active person, but I have to be doing something constructive, like shifting the sheep or doing something like that. Whereas, um, to go, say, to the gym... and that's the other thing, gyms are so expensive to go to, and when you're on a pension or something like that, um, yeah, it's one of those things that get left behind. The fact that it was free, it was good. (A280)</p> <p>... because of the cost of petrol and everything, twice a week getting to the other side of town is um. ... It is a bit too much. (A159)</p> <p>(Interviewer: Yeah, like if you had to pay for it.) I probably wouldn't go then. Yeah, I don't think, there would be a handful of people that were there wouldn't be able to afford that either. Yeah. A couple of them on their, well that is only my opinion of looking at them, I don't think they would come if there was a fee to it. (A639)</p>
<p>HCP: Timing of the classes (Adaptability)</p>	<p>The middle of day obviously excludes a large portion of people from being able to participate. Um, and it makes it exponentially more complicated. But, having something that's available as, like, an after-work type option... you know, some of the patients are working 2 jobs. ... type 2 diabetic working, like you say, more than one job, limits their exercise opportunities, plus they're stressed, probably eating at their desk and not eating great.</p> <p>I think that having that availability, that flex, I think yeh definitely long term going forward recognising that people who are working get diabetes. (HCP)</p>
<p>Attendees: Timing of the classes</p>	<p>I don't know. I think basically it depends on where people are in their lives. I mean I was lucky in that I'm retired, so I took retirement early so as a result of that I made a point of using that as</p>

(Adaptability)	part of my physical exercise programme, to actually take part. I think a lot of the people that were there were working people. And so I think it was harder for them to actually, to come once the actual programme started and I think it's, while they could probably get it off for 12 weeks, having it, continuing that over a year period probably became a little bit more difficult. So yeh, so my, yeh, my feelings are that it probably was the fact that some are working. Some of them, I have seen some of them who will be in the group doing exercise, like walking out and about. So some of them obviously have carried on their exercise but they haven't obviously wanted to do it in an organised setting, that's down for a particular time of the week. And so it gives them a bit more flexibility if they're doing it themselves, so that would probably be my take on it.
HCP: Good venues (Complexity)	Community halls, and went to scout halls, in the end. And... things that were important to look for were: access, as in accessible for, sometimes, older, frailer people with physical disabilities; good parking, ideally, free parking, so you didn't have to search for 10 minutes to find a park or pay for expensive parking, trying to break down the barriers, any barriers to access; and maybe in a good location, as in, um, closer to the high-needs communities where we wanted to work in, with the people with a high incidence of type 2 diabetes. And then it was a venue that was big enough to house up to 25 people, with bathroom, kitchen... a sound system or something like that. Yep, affordable. And, um, but also, that the exercise equipment... 'cause we've got some exercycles on wheels, some mats, some benches-type things or steps, and some rowing machines. Which are all portable but require storage space. So, not only did the venue need to be able to fit that exercise equipment in, if it was a multi-purpose, it needed to have a storage space where you could store that space also.
HCP: Importance of relationships and communication (Relative advantage)	<p>It is better in terms of relationship building if we're there doing the exercises with them... I definitely think there's advantages to working amongst the people ... for building rapport and trust. My first session I went to, I rolled up in my work gear, and they were all, like, "where's your gears?" And, so, for my second session, I was, like, "right, well, I'm coming prepared then." "I'm coming in my lycra!" "Activate your tights." Then it just, kind of, it felt a bit more comfortable, um, in terms of... they just seemed to be a bit more... relaxed.</p> <p>I try and engage with people, like um, like I try and engage with everyone to start with and I make time to block out, so what I tend to do is when people are you know doing their thing I'll walk around and chat and I'll do that connection so I am working on a kind of personal connection, not just a I'm your physio kind of connection but actually kind of finding out a bit about them and oh you know, "What do you do," and this, that, I'll share a little bit about myself and so I sort of engage them from there and then I tend to like, particularly the bikes, when the bikes are together and things like that, you end up</p>

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Outer setting	
HCP: Ongoing funding (External policy & incentives)	<p>Well, I think, I think, from an investment point of view, you cannot underestimate the investment in preventative kind of work. It needs, you know, these patients, so, even the social aspect of them being engaged socially has to have good patient outcomes. And benefits. And then, um, doing an exercise programme in a supported way, it has to make a difference to people's kind of, where they're heading and what they're doing with their long-term condition. So, yeah, I think it's a valuable investment to make. Um, just that, who's going to make that investment, and where does that sit? And that's why I think it needs to be a collaborative, kind of, community investment. Because no, our health system here is strapped financially. (HCP)</p> <p>There is going to be no shortage of people that will benefit for the foreseeable future. Um, so, I think there needs to be options like this. Like, it's kind of a step up from Green Prescriptions. It's a more costly intervention, absolutely. But the cost of managing people with multiple long-term conditions as they age just exponentially goes real high. (HCP)</p>
HCP: Engagement with communities (Patient needs & resources)	<p>Just around engagement with the community, and how you approach community, especially Māori community, rather than approach Māori participants. It's not a usual programme, but it's great to see that. They've had a good focus. It's, it, and I've also seen benefit..., and I like the idea of that, some of the programme, they're inviting whānau too. So, it's not just about one patient with diabetes, it's about a whānau, can go too. It's a no-brainer. (HCP)</p>
Inner setting	
HCP: Importance of administration (Networks and communications)	<p>And the same like thinking about what else is going on in the community so we had a number, particularly in this last group we had quite a lot of people that were involved in outdoor bowls and once outdoor bowls season clicked in, our numbers went down [laughs] it's on same day so yeh having a little think about what else is in the community, what else that might those people be involved in as well I guess, and that's going to be really hard to work around from a bigger group perspective. I think if you had a bigger group it probably wouldn't be that noticeable but um, certainly if you're in a smaller community, having a think about what else are those people involved in because with timing those groups around that. Um access and stuff here was fine. Like parking was really easy, everyone was like you can park straight outside the door, yeh it was good. Bus stop not that far away. (HCP)</p>

<p>HCP: Issues with training</p> <p>(Implementation climate: Learning climate)</p>	<p>Just going over the motivational interviewing, lots of practical sort of stuff like we did the other day would've been good and where we got to practice it on, you know pair up and practice doing that discussion</p> <p>Like looking at blood sugar levels if you're at 17 then it's actually a little bit risky to exercise ... yeh just that safety stuff. Um and just kind of having that team, let's the whole team know that this is when it's unsafe or this is what we do so kind of know 'cause like there was a couple of times we had, particularly the first group we had a lady who threw some really high blood pressures and so we had this kind of team management approach around her, you know? "You're not allowed to exercise until you go get your blood pressure done," and then the nurse would sort of say yes or no.</p> <p>Yeh, is there anything else that you feel is important to mention about the programme going forward like you know, this is going to be written up into a package to that anyone should be able to read and be able to roll out in any community. Like cultural appropriateness or something we haven't talked about, and health literacy and talking to people that maybe don't have the same language around health issues.</p>
<p>HCP: Nursing staff changeover was particularly high</p> <p>(Implementation climate: Goals & feedback; Available resources)</p>	<p>I think from a staffing perspective again just having the ability for people to take leave 'cause you know like we have had pretty much the year and a half of just nonstop and apart from that break over Christmas it's, we've been here every week and I think ongoing that would be, ... I think you need more than just the two people that are running it, I think you need to have a bit of a team.</p> <p>Mainly, that is probably due to our kind of staff turnover. And keeping the communication flowing when there's new staff, um, between the research project, us and, um, trying to orientate new staff members to the programme, the intention and what it's doing, and how it, kind of, the operational components of what they need to do.</p>
<p>HCP: Attributes and skills of staff</p> <p>(Culture)</p>	<p>Partnership acceptance, compassion are, ultimately, helpfulness. How can I work with you to be helpful? Um, and so, that attitude was core. Non-judgemental, accepting, come from that place and that space because too many people don't necessarily have, unfortunately, healthcare experiences that they really enjoy. Particularly people with multiple, long-term health conditions. They see numerous healthcare professionals, numerous times, and are told, "do this, do this, and do this." And not many people are particularly good at 'doing this, doing this, doing this', hence they keep on presenting with continuously deteriorating health concerns. So, it's trying to develop trusting, meaningful relationships with these people. Don't judge them, accept them. And, actually, often, they open up to you a bit more. And you can find out more, what's actually going on with them.</p>

	Certainly someone who can engage easier with people is quite important in this space where you've got all these random people that don't know each other and you need to engage with them and then try and get them to engage with each other, it's um, I think that's quite key to how it runs as well.
Attendees: Good staff (Culture)	I think it is fantastic. I think it should be, you can't make exercise compulsory, we are adults we won't be dictated to. Therefore, it should be encouraged to the maximum. It takes a special type of person to lead it and I think Lena and Michelle were wonderful. Um, there will be other people out there that are of a similar approach as they are, they have, I think their term is bedside manner. They have got a fantastic approach and way with people. They never at any point and time made you feel a lesser person or embarrassed or, I don't know what I am looking for, but there was nothing that they ever said that put you down in any shape or form. They were full of encouragement all the way. (A205)
Characteristics of individuals	
Attendees: DCEP enhanced attendees' self-efficacy (Self-efficacy)	<p>But, as it moved on you know, we walked in and straight away we were over to get our blood pressure done. We are lining up there, we want our blood pressure done before we go ahead and do any exercise, so that we can, well, so that I can see how it is going and all that, you, know from day to day Um, I always check my labels when I buy food, I always do. I take so long at the supermarket; it drives him nuts. (A887)</p> <p>And I take, I took my um, notebook to the doctor's appointment that I went to and showed him...everything. And I'll take it to, like the dietician and stuff like that just to, so they can see what, what's been happening over the last few months. 'Cos I've got it all there on paper. (A238)</p> <p>But something the programme has encouraged me to do and I do it almost every day is actually to before I have any um, cup of tea, or first thing in the morning before I have anything, I will sit down and do my blood sugar test, which I haven't been doing very regularly before. Since we started the programme, um, we have actually purchased exercise equipment, we brought um, the rower and the exercycle and mini trampoline and so we actually are using those at home. (A324)</p>
Attendees: Reduced anxiety (Individual stage of change)	The first day of the programme I was probably a little bit anxious about it. Like not sure what you were going to, what was going to happen or what you were going, or what it was going to be like? And what, and what the people were going to be like. Because it's a, it's a big thing to put yourself into that sort of ... situation. Um, and but then, as the, as the weeks went on, you just

	got more comfortable with everybody. With [physiotherapist], with the people, with yourself. (A238)
HCP: Healthcare professional	