Supplementary material – Thematic analysis

Table 1. Thematic analysis

Theme	Sub-theme	Illustrative quotes
Consequences of sudden service delivery change	Sudden change	"So I think throwing us into the 21st century, it's been an interesting experience…" – Participant 10 "We needed everything. We didn't even know how to operate the cameras or anything. I think it was the biggest learning curve." – Participant 4 "Our service had to relocate. We were given about a week, …. So that was quite a challenge in March to shut shop and essentially move our whole service and staff to a new centre" – Participant 9 "We had actually tentatively planned on a project around telehealth at the very start of the year, obviously taking our time [but instead] … it was all practically rolled out within a very short space of time [when COVID-19 restrictions began]. So we had already been thinking around utilising a telehealth model for some of our clients." – Participant 5
	Funding ramifications	"It was through donations, through the medical fund here. That's what helped with our licences. So it wasn't covered through the health funds" – Participant 7 "Working at a Private hospital there was no funding to accommodate group [telehealth] delivery - needs to have further Private health fund consideration of CR delivery models to ensure we can service more cardiac patients." – Participant 8 "At [private hospital] we were directed that private funds prefer video mode of telehealth but would accept telephone if this was not possible." – Participant 7 "We were struck with the dilemma of not many health funds actually supporting the telehealth system. So we were really in a real bind about that." – Participant 7

		“With the private system, some insurances didn't pay, and we fought really hard for some patients that already started and we did get paid.” – Participant 1 “When the bean counters come and say, "This [telehealth] is cheaper, why shouldn’t we do it?"” – Participant 2 “So I think we’ve got to work really hard… [to get] back to being able to offer face-to-face as best practice in this area is really important because it actually appeals to the bean counters just to keep us virtual.” – Participant 3
	Continuous improvement and learning	“But we've all adapted very well and look, I think the six-week service seems to be about right. We're getting more sophisticated, particularly we're putting in on a Webex now, a physio, OT, a multidisciplinary team Webex for clients across sites to link into for standardised education.” – Participant 9 “It was just fly as you go and work it out and say to patients, "I've never done this before. I'm going to try and share my screen." – Participant 1 “initially, we started with phone follow ups only - we started a small face to face program again of 6 a month ago - our EP now offers exercise via face to face or zoom - we are still offering offer 1:1 education 1:1 exercise , zoom platform exercise (has been running for 3 months now set up by AHA)” – Participant 17 “We spent one day, 45 minutes to get three people on the same Zoom with me, another physio, and the OT all on the phone talking to people to help them to get the app up on the screen and to get them online on the same thing, and then Zoom went over the 40 minutes. It was hectic sometimes. But once everyone was used to it, because they're 86-year-olds, being there, first on all the time and ready to go and then, "Oh yeah, I see you're there. I'll go and make a cup of tea now. Call me when you start." So it worked.” – Participant 1
	Positive effects and unexpected benefits	“Found people were engaged in remote delivery secondary to being more available - unable to go out due to restrictions. Lead to more readily prioritising recovery and rehab. Isolation lead to greater engagement for many.” – Participant 8

		"We actually found there was good uptake because during COVID times, there was nothing else happening in their lives, and that's what I'm a bit concerned about as people resume work and things. We're having less completion rate because people are unavailable to tune in for their hour or whatever as the world wakes up again, and there's competing interests." – Participant 3 [and program capacity] "The majority of feedback that we've had is that our patients have really appreciated the one-on-one support. So a lot of our work has been done ... it's been very individualised. It's been around their goals, their education needs, and they've had really good contact with both the nurse and physio, and other allied health professionals throughout the whole time." – Participant 5 "Much more individualised service provision, and more care coordination, which clients have all appreciated. Reviews have been more on individual basis as per individual appointments rather than as previous group program. Plan to keep some of this ongoing, especially for people returning to work." – Participant 9 "It was a more individualised program." – Participant 7 "We can cater better for all the individuals needs regarding focused education, individual exercises but it comes with a disadvantage of lack of social interaction." - Participant 14 "A number of them [patients] said, "I really have appreciated just having somebody that we can call on, somebody that we can talk to, somebody who's checking in with me regularly." So that's been fantastic." - Participant 5 "Only about 10% access via MS Teams, all other over telephone and 1:1. Much more individualised service provision, and more care coordination, which clients have all appreciated." – Participant 9 "So people that don't interact with groups. They don't like that whole coming together. Some people doing the digital side of things with the app and everything, some people just really loved that being committed and being held to task by entering in their daily tasks, whether it be their walking, their blood pressure, their stress levels. So I think that it suited different cohorts of people, really." – Participant 7

		"On the whole that they welcomed the weekly chats, relationships were formed. It was a more individualised program. They accepted IT issues and were happy to role with however it went on the day…" – Participant 7 "Our clients definitely appreciated the 1:1 telephone follow up and the more individualised program." – Participant 9 "Found people were engaged in remote delivery secondary to being more available - unable to go out due to restrictions. Lead to more readily prioritising recovery and rehab. Isolation lead to greater engagement for many." – Participant 8 "We actually found there was good uptake because during COVID times, there were nothing else happening in their lives, and that's what I'm a bit concerned about as people resume work and things. We're having less completion rate because people are unavailable to tune in for their hour or whatever as the world wakes up again, and there's competing interests." – Participant 3 [also program capacity]
Use of technology	Inequitable access	"I had one lady who doesn't have internet at home, so she would come and would get an iPad and would have to sit in the room next to me. " - Participant 1 "Yeah, I have problems with actually getting people to use the technology because I'm in a low socioeconomic area. So people just don't have the data." "So to park in the McDonald's carpark to do cardiac rehab, but that's the only place that has free Wi-Fi for them to attend. If they don't have the data or they don't have the phone capacity, they can't do telehealth." – Participant 2 "Half of my clientele do not have an email address and they do not have home internet or home Wi-Fi. They have their smartphone that's probably about five years old and that's their communication. That's it." - Participant 2 "As has been mentioned earlier, not everyone's able to use this platform. What we've done to get around it is we orient a son or daughter who's often been around during COVID times.." – Participant 3

		"Some have chosen not to be involved because they just don't have the technical capabilities, even a bit like P3 was saying. We've also utilised family quite a lot to be able to help connect in to that space." – Participant 5 "The other challenge we have is all of those that cannot use this platform because they're not technology savvy enough, we're doing a home-based program. We've got basically real one-on-one intensive modules that we engage those particular patients." Participant 3 "was going to say that I found the people that did my Zoom sessions and were fairly technology savvy and had data, they tended to exercise more and they were more social, whereas the ones that didn't have the data, I found it really hard to get them motivated and get them to do things." – Participant 2 "It's just working out what works and I think it's definitely a socioeconomic problem, how technology savvy people are, what the hospital will pay for." – Participant 1 "We spoke about the commitment and about downloading the app, some did have technology. Some didn't. Some people downloaded the app and never accessed it, and so then that's a waste of resources." – Participant 7
	Group dynamics	"We've had quite good buy in with that [MS Teams], but we have had to limit the numbers in that space as well, just because of the challenges associated with competing people wanting to talk and those things." Participant 5 [also Capacity] "One of the things I find with the platforms as well as the telephone calls is I'm missing out on that ... when they're exercising, I got to chat to them, which is when I found out their marriage was breaking down or their grandchildren were coming to live with them and they were stressed. That's where I got to find out all of that extra stuff that you don't get in a phone call, and I could then refer them on to services that they needed. I find that I'm missing out on a whole lot of that other stuff that goes into cardiac rehab, not just their medical condition." – Participant 2 "I think whenever you've got more than five or six people there, it's never a normal conversation when you do it. You have to take turns and the conversation doesn't flow like a normal group would flow. So that's a big difference" – Participant 1

		"Somebody mentioned earlier that you just don't get that presence, that engagement, that real sense of support for each other. In a group, trying to discuss emotional impact of a cardiac event, you just ... they're all in their little silos and it's just not the same" – Participant 3 "When we're having a group session, I didn't think they were as comfortable supporting each other.." – Participant 3 "People enjoyed the online sessions but all really thrive on a face to face engagement." – Participant 14 "As a CR coordinator I was acutely aware of the absence of the group dynamic and what that offers all participants." – Participant 8 "The incidental discussion and interaction with others is very important to so many of our participants." – Participant 8
	Maintaining assessments	"… because the physios have really struggled trying to do assessments and really know what the patient is capable of, and then have them do exercise." – Participant 4 "So probably the main issues there were about the exercise prescription which people have already touched on. So prescribing exercise to a person that you haven't seen or assessed is probably the biggest challenge initially." - Participant 6 "Well, the only outcome measure we couldn't do was the six-minute walk test, but I swapped that for a five time sit and stand to show that there was improvement in fitness. All the rest was the same. I don't know. " – Participant 1 "But we do find that if you are not actually seeing your patients or clients face-to-face and being able to physically see them, you do miss a lot. Face-to-face still has got the best outcomes when it comes to doing your assessment." – Participant 12
	Tech as a threat	"So what about just being a devil's advocate? What about when patients start requesting recordings of the presentations and videos of the patient exercises and basically just providing people ... giving the people option of tuning in remotely to these sessions at a time that suits them? I mean, I don't agree with it

		because I think they should be ... there's so much gained from being able to answer questions and guide them and all of that, but I'm getting requests all the time, "Sorry, I'm going to miss tomorrow's session. Could you please record it so I can listen it later?" and, "Can you please send your PowerPoint presentation through?" and I wonder are we going to be redundant? Being facetious but ..." – Participant 3 "I actually have a meeting next week with my executive who've been approached by Cardihab to take over our whole cardiac rehab and why I don't think that's a good idea. So they're certainly looking at that option because it's going to be cheaper for them to pay ..." "it's going to be cheaper for them than paying for me and a physio and an AHA and then resetting up our gym again. So they're actually looking at it from a cost-effective management thing" – Participant 2
	Reach	"Because a lot of the regional programs had actually closed, we were actually able to offer them something from this end as well. So that was I guess ... that extended our numbers of patient enrolments.." – Participant 7 "There were certainly people that elected that as an alternative, so people that don't interact with groups. They don't like that whole coming together. Some people doing the digital side of things with the app and everything, some people just really loved that being committed and being held to task by entering in their daily tasks, whether it be their walking, their blood pressure, their stress levels. So I think that it suited different cohorts of people, really." – Participant 7 "Certainly the forced remote delivery mode has opened up thought on how to access participants who may not have engaged in a face to face program - due to geography, return to work, other long standing access limitations." – Participant 8 "For the younger cohort those that have RTW, geographical boundaries. may help overcome some of the barrier for attending daytime program/" – Participant 7 "Definitely see it as potentially part of the suite of Cardiac Rehab service provision, either for those returning to work or for some of our older clients who can't easily attend for centre based. Can see it as

		more 1:1 service provision, with option of telephone support or 'telehealth'." – Participant 9 [Also The way forward] "COVID has really increased our ability to be flexible in the delivery of the CR program. We can cater better for all the individuals needs regarding focused education, individual exercises but it comes with a disadvantage of lack of social interaction." - Participant 14
Capacity	Telehealth	"The challenge is though, the physios and OTs are concerned about the number of people that we're exercising remotely at the one time. So that can impact on our waiting list.." – Participant 3 "So a bit like P3 saying with the numbers blowing out because telehealth is just so time consuming. So when we used to have groups of 20 patients or 25 patients here at any one time, and now we're doing them individually, so our program usually would have about 55 to 60 patients during a week, and now we're probably seeing 30 to 33. Our waitlist is blowing out quite a lot, so it's been very difficult." – Participant 4 "It's just more ... I know I'd love to have patients back in the gym and the education in the rooms and to have that discussion they have together, but I just don't see how I can do both from a staffing perspective with how much time remote and one-on-one telehealth takes." – Participant 4 [Also The way forward] "Obviously, the weekly phone calls; they would take anything between 30 minutes to an hour. What we found was it was quite tiring, I think, being on the other end of the phone and it's very repetitive." - Participant 7 "…Healthdirect is quite limited as to how many people you can have in the room." – Participant 4 "Can I just ask everyone what your capacity is for the remote one-to-one groups? Based on my experience about 20 to 23 clients which we had consistently is probably enough. I can't manage any more I don't think

		and the clinicians can't either. So I'm not sure what other people's thoughts are. But that's our current active client list." – Participant 9 [in response] "I guess it depends on how many staff you've got involved with your programs? We'll be able to increase because we're getting more physio hours, but a lot of the time, we're limited with what we've got." – Participant 4 [Also – Capacity > Staff time] "To answer your question, P9, I have a limit of ten people in my groups, and I run two different sites because we're such a physically distant locality, and what would normally take me three hours to do in a group session is actually taking me six and a half hours out of my day. So for me, trying to increase my capacity, which is what essentially, we want to try and do, is just not physically possible. Running the program is me, me and me. My physios are so busy doing their one-on-one that they are no longer involved and I don't have an AHA and I don't have an EP." – Participant 2 [Also – Capacity > Staff time]
	Physical space	"But the biggest thing for us has really been the capacity and space, so similar to the others, where any day where we've had two groups of 15 participants in those two groups, condensing that to two or three groups of four participants has probably been our biggest challenge…" – Participant 6 "I suppose one of our challenges is as well, and unfortunately our gym has turned into a tea room / meeting room for social distancing reasons at the hospital. So that's an added barrier as well, transitioning back to a fully purposed gym and having the space to socially distance between tea room, meeting room and also our cardiac rehab gym. " – Participant 11 "Not for everybody, but we're having challenges like our gym area is now an office space, like was mentioned earlier…" – Participant 3 "The same as everybody else: our gym's been taken over for chemotherapy because that's had to expand for social distancing, and our education meeting room is now a tea room. We physically don't have the space anymore to do it, and trying to reacquire that space again and take it from whoever's now seconded it is going to be difficult and a challenge. Our office spaces; so I don't physically have an office anymore. I have a cupboard that I can store all my stuff in because we're not allowed to hot desk. So half of our desks have been turned into "you can't be using this" and have been taped over. So reacquiring some of that real estate, if you like, is probably going to be our biggest challenge."

		"There is absolutely no plans on giving us any office space anytime soon. That will require building more buildings or building more space, and that's just money that ... in a regional public hospital that they're going to put into other projects that are more important than ours." – Participant 2 "I was running a program in a pokies venue in XXX for 21 years, 30, 40 patients sometimes, and there's no way they're going to want us back, even ten of us non-paying patrons and they'll be concerned about cleaning of dumbbells, even if we BYO TheraBands and things. There'll be nervous nellies and the hospital's public liability insurance, or is it the venues? All of those issues will be front and centre with management." ". But we've got to try and think outside the square because I think it is a real issue about trying to get reacquisition of the space we've had. I think that's a real challenge to reintroduce face-to-face." – Participant 3 "I was just going to say it'll be the numbers in the space. We haven't actually lost our space, but we have had to clear the space with staff coming back the XXX, where they are looking for places for people to sit. So I'm **still guarding it** and hoping that we don't lose any of it in the same way. But it'll be the numbers that you can have in the gym compared to what we used to have." – Participant 4 [also The way forward]
	Staff time	"But what's a challenge; we've just gone over to electronic medical record systems, and because these encounters create VINAH funding, it takes longer to document the encounter than it does to perform the encounter with the patient. So I know it's technology and I know it's progress, but I don't like feeling like a clerk. I'd rather be a cardiac nurse." – Participant 3 "EFT and time is always going to be an issue, and I think you're right. In terms of what we've had to rapidly pull together, in a hurry ... and the documentation is a massive thing. We definitely found that half of our time is taken up with documenting our patient notes and that stuff in order to qualify those VINAH contacts and those things. But there's definitely ways of streamlining those processes, I think. We did it with our group programs. There's no reason why we can't do that in the telehealth space, particularly with the evolution of online medical records and those things. I think there's definitely opportunity for us to look at those things as well." – Participant 5
The way forward	Continuation of telehealth	"We are definitely looking at a hybrid model going forward." – Participant 5 "So we definitely are very keen to keep some of that more individualised telehealth telephone-based rehab moving forward. That's to be had in discussion with our managers in terms of what's actually going to

		happen with our groups moving forward, and what that's going to look like. But we definitely plan on keeping aspects of what we've been doing, because there's definitely been real benefits to it.." - Participant 5 "Telehealth is here to stay and groups, certainly when the availability arises, when that happens, they will also be a part of our service, but that's probably where we're heading in my opinion." – Participant 9 "Definitely a role in the future for clients living in remote areas struggling to get to a CR location" – Participant 18 "But more importantly, regardless of whether we get back face-to-face when COVID is a thing of the past, it'd be good to run ... we want to set up a virtual cardiac rehab program for the young return to work that have had a stent and run an accelerated virtual program from 5:00 until 6:00. I haven't asked management yet, but that's what we'd like to do." – Participant 3 "I think there would be a place for remotely delivered cardiac rehab for probably people that live remotely and can't physically make it to the gym and people that are engaged with technology that use it in their day-to-day and can't physically make it to a program because they have high work needs or whatever. I guess it would be a good option." "During this COVID period, I think it's great that we've been able to develop these models respectfully within our services. So I guess we'll just keep refining the methods of delivery and our own skills and see where it leads. So it's quite positive in its own way." – Participant 9 "I definitely think there is a role for telehealth models for cardiac rehab moving forward. We know that there's a significant proportion of patients that don't engage in the cardiac rehab space in terms of coming into facilities and I think there's a real opportunity there to at least give them something in that context, and I think that's really important when we're trying to capture as many clients who are eligible for this service as possible." – Participant 5

	Capacity for multimodal delivery	"I think there is definitely a role for remotely delivering it. It's just more ... I know I'd love to have patients back in the gym and the education in the rooms and to have that discussion they have together, but I just don't see how I can do both from a staffing perspective with how much time remote and one-on-one telehealth takes. So it will be a big discussion with management for us as well as to how we'll move forward." – Participant 4 [also capacity] "I think there is definitely a role for telehealth moving forward. But the biggest concern is just resources for how to do it. From experience, it takes at least ... I mean, you can see 20 patients in a gym in an hour, or you can see two patients on telehealth in the hour with documentation. So I think our biggest logistical problem will be EFT moving forward." – Participant 10 [also capacity] "Into the future, there'll be a suite of things we should offer patients: the time of the day, that concept of having twice a week for an accelerated program virtually, but I would love to see face-to-face as another option." – Participant 3
	Resuming in-person cardiac rehabilitation	"…getting back to being able to offer face-to-face as best practice in this area is really important because it actually appeals to the bean counters just to keep us virtual. I'm not being resistant to virtual. I think that it's a wonderful platform. But we should be able to offer ... it should be patient-centred. That's what we've talked about for years." – Participant 3 "So I agree with everybody. Face-to-face is far better. We get so much more information by actually speaking to people face-to-face, but there's lots of good opportunity that I think it would be disappointing to miss out on that opportunity when we've essentially been given a mandate in this space to experiment with these things that perhaps would've taken us years to actually get to a point to do." – Participant 5 "Into the future, there'll be a suite of things we should offer patients: the time of the day, that concept of having twice a week for an accelerated program virtually, but I would love to see face-to-face as another option." – Participant 3

Supplementary material – Consultation question guide

- Are there are hybrid programs being run?
- For those using telehealth, what platform are you using? What platform is most useful for group sessions?
- Have you been evaluating telehealth? If so, how?
- What resources did you use to support remote delivery of cardiac rehabilitation (CR)?
- What are the main lessons learnt from remote delivery of CR?
- Does telehealth address any specific gaps/issues your patients face compared to when CR is delivered in-person?
- What are the challenges now to transitioning to COVID safe face to face CR delivery?
- Do you envisage combining face to face and telehealth delivery of CR and if so, how do you plan to do this?
- Based on your observations, how would you describe the patient experience via remote delivery?
- In your experience, how can we better educate/support patients with online mediums e.g. Webex, Zoom and other tech?
- What support do you require from ACRA?