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Reflexive thematic analysis exploring stakeholder experiences of virtual pulmonary rehabilitation (VIPAR)

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ABSTRACT

Introduction To enable greater availability of pulmonary rehabilitation (PR), video-conferencing technology was employed to link a community site to a standard outpatient PR service to deliver the programme closer to those with chronic respiratory disease. The service was called virtual pulmonary rehabilitation (VIPAR). To understand the experiences of those involved in this service, this study aimed to answer the question: How do the different stakeholders that interact with VIPAR experience the programme?

Methods Focus groups were conducted with people with chronic lung disease attending either the community or outpatient PR site, in addition to the staff involved in the running of the PR groups. A total of five focus groups were conducted. Reflexive thematic analysis was used to analyse the transcripts.

Results Participants who received VIPAR were positive regarding the programme and described the benefits of the service. Additionally, participants discussed the trade-off between convenience and relatedness. Staff described barriers to the service and solutions that could be employed to mitigate these, including greater training, organisation and understanding of risk.

Discussion Using technology to increase the availability of PR is acceptable to the stakeholders involved, providing problems and organisational issues are resolved with training.

Key messages

- How do the different stakeholders that interact with virtual pulmonary rehabilitation (VIPAR) experience the programme?
- Participants were positive of the VIPAR service and appreciated receiving care closer to where they lived and staff were optimistic; however, the staff focused on key aspects which needed to be improved.
- This article provides interesting insights into how people with respiratory conditions and staff experience a novel VIPAR service and how could this be of use for service providers and researchers.

INTRODUCTION

Chronic respiratory conditions represent one of the greatest causes of death, with over 8.2 million people worldwide dying from a respiratory-related disease in 2016.[1] People with respiratory impairment are extensive healthcare users, with the National Health Service (NHS) spending over £800 million per year treating chronic obstructive pulmonary disease (COPD) alone.[2] Common symptoms include dyspnoea and coughing[2 3] and these cause a range of daily living limitations, including reduced physical abilities and feelings of social isolation.[4–6] Due to this, both anxiety and depression are common in people with chronic respiratory impairment.[7–11] Unsurprisingly, studies show a decrease in health-related quality of life (HRQoL) for people with respiratory conditions.[4 5 9]

Pulmonary rehabilitation (PR) is a multidisciplinary programme lasting between 4 and 12 weeks, generally consisting of exercise, smoking cessation and education[12 13] and is a key treatment for people with respiratory impairment.[14] Although there is heterogeneity in the provided components of PR between different health regions across the UK, research reliably demonstrates its ability to improve HRQoL, exercise capacity and symptoms.[15 16] This includes a Cochrane review which concluded that, due to the substantive evidence, investigations into the effectiveness of PR are no longer necessary; instead, research should investigate how to improve access.[16]

Hywel Dda University Health Board (HDUHB) provides services for a semirural population of 400 000 across a large geographic area (69.2 per square km population density). As a result of travel difficulties and poor staff recruitment and retention, only 31% of the eligible population are offered PR in HDUHB,[17] the lowest rate in Wales.

To overcome problems caused by the rural environment and deliver PR to a greater number of people while minimising extra staff costs, the HDUHB PR team implemented a virtual pulmonary rehabilitation

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(VIPAR) programme. VIPAR consisted of using videoconferencing (VC) technology to link 7–10 participants attending a standard PR service based at a hospital cardiopulmonary centre (the hub) to 6–8 participants attending at a rural, village hall (the spoke). A Polycom RealPresence Group 500 VC system and Samsung DM65E-BR interactive screens, installed on movable mounts, were used. After attending a preassessment at the hub, participants would attend the location nearest to their homes, two times per week for 7 weeks, and receive 1–1.5 hours of personalised aerobic exercise in addition to 20–40 min of self-management education per week, according to best practice and current guidelines.[14] Self-management topics included diet, breathing exercises and smoking cessation and were mostly delivered through lecture slides and accompanying speaker, who attended the hub site. Participants were instructed and supervised by more senior staff at the hub site through the VC equipment, with junior staff available to offer support at the spoke site if needed. Hub-site staff consisted of an experienced occupational therapist, physiotherapist, and assistant exercise instructor, with a physiotherapy technician and respiratory nurse based at the spoke site. Cross-site communication was possible for both staff and PR participants. A postassessment was conducted at the same site participants attended for the PR programme. For spoke-site participants, this was supervised by staff in person and through the VC equipment. Hub participants were supervised by staff in person only.

To investigate the opinions of various stakeholders regarding this novel service, this service development project employed focus groups and reflexive thematic analysis to answer the question: How do the different stakeholders that interact with VIPAR experience the programme?

METHOD

Participants

Twenty-eight stakeholders were recruited to participate in one of the five focus groups between June 2017 and October 2018. Two focus groups were held for hub participants, two for spoke participants and one for staff. Everyone attending the hub and spoke sites for PR had a chronic respiratory condition, with the most common condition being COPD. Staff had to be involved in either designing or delivering at least one of the VIPAR sessions to take part in the focus groups. Table 1 displays brief participant demographics.

Table 1 Participant characteristics.

Hub site (two groups)	
Number	14
Gender	Female=9, male=5
Age, years	71 (14)
Spoke site (two groups)	
Number	8
Gender	Female=2, male=6
Age, years	69 (10)
Staff (one group)	
Number	6
Specialty	Two physiotherapists, one physiotherapy technician, two respiratory nurses and one respiratory occupational therapist

For age, the mean is provided with standard deviation in parentheses.

Data collection

Semistructured focus groups were used with two separate groups for both hub-site and spoke-site participants and one with staff who delivered VIPAR.

After being fully informed about the purposes of the service evaluation, all stakeholders gave written consent. Each of the focus groups lasted approximately 45 min and an experienced qualitative researcher (LK or RG) and observer (MD) led the groups and facilitated discussion. All focus groups used similar interview schedules (online supplemental file 1). Audio recordings were transcribed verbatim with participants given pseudonyms and all identifiable information was removed to ensure anonymity.

Data analysis

The project was underpinned by a subtle realist perspective and thus interpreted the participants' accounts as their own personal truths.[18] The transcripts for hub, spoke and staff participants were initially analysed according to their groups using reflexive thematic analysis.[19 20] Inductive analyses were conducted, focusing on semantic meanings throughout the transcripts, due to the dearth of current knowledge on the topic and to identify specific improvements that VIPAR could adopt, based on stakeholders' experiences.

Through recursive reflexive practice, it became clear that the codes and themes for both hub and spoke participants were semantically coherent and, after discussion among the authors, the four transcripts belonging to these groups were reanalysed together to enable further exploration of the agreement (and disagreement) within these themes. The final analysis produced four overarching themes, two for the staff and two for the (now joint) hub and spoke groups.

Patient and public involvement

Patients were not involved in the project design; however, this study was conducted to specifically collect

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information from those with lived experiences of VIPAR and thus inform future development of the service.

RESULTS

Hub and spoke results

PR routes of action

PR participants had very positive experiences regarding the service and discussed at length the benefits of the course. The experiences were conceptualised into three subthemes, 'gaining skills and knowledge', 'regaining abilities' and 'reducing the effects of respiratory impairment'.

Gaining skills and knowledge

Participants attending both VIPAR sites discussed a range of new knowledge they had obtained from attending the course. Primarily, this related not only to information regarding medication, emphasised by Amelia, but also to more general respiratory-related knowledge, highlighted by Charles.

> I couldn't feel (the medication working) and the nurse that was (at PR), she said to me, Amelia, you're doing it wrong…you've got to shake it a few times before! (Amelia, spoke site)
> I think we learnt from some of the talks. I think we all learnt, quite a lot of information and, for me, I think I gained in confidence on what I could do physically through the exercise. (Charles, hub site)

These quotes demonstrate one way that participants believed PR had positively affected them and there was a consensus throughout the focus groups about how the information would be of longer-term benefit. Everyone who attended the PR sites had received their diagnoses more than 3 years before being invited to the programme. Therefore, it is possible that participants perceived the provision of this knowledge as having an increased value, due to the length of time they had to self-manage their condition without the necessary skills to do so.

Regaining abilities

Respiratory symptoms can limit the amount of daily or leisure activities with which an individual with chronic lung impairment can engage, especially if these behaviours require physical exertion. Perhaps as a result, throughout all the transcripts, the most positive discourse regarding PR related to the programme's ability to provide participants with the opportunity to re-engage with these activities, as highlighted in the following two quotes.

> Oh, I breathe better, I've got better confidence, and I do things now that I haven't done for four or five years. I used to ride, I used to have a horse and go riding, last Sunday that's the first I've been on a horse for four years and I did four and a half miles. (Albert, hub site)

> All my joints and my chest are not so bad. I used to walk a lot but the last couple of years I've slowed down but, first Sunday, I went for a three-mile walk, you know, and no trouble. That's the difference it's made to me. (Galileo, spoke site)

Structured exercise is a principal component of PR.[14] Interestingly, however, rather than participants conducting exercise solely at the programme, they instead supplemented this with other enjoyable, physically exertive activities. Therefore, rather than people with respiratory impairment entirely lacking the ability to be physically active, it is possible that the only barrier is a lack of motivation and once this is overcome, these behaviours are engaged with in earnest. This is emphasised by both Albert and Galileo referencing the considerable number of miles they achieved conducting an activity they enjoyed; thus, demonstrating how PR can make leisure activities reobtainable and have a significant effect on physical abilities.

Reducing the effects of respiratory impairment

The final way participants discussed the positives of PR was its ability to reduce the perceived effects of respiratory impairment. Although similar to 'regaining abilities', this subtheme was differentiated by how the programme directly impacted the symptoms of the disease, rather than the former theme that described the reversing of what these symptoms had caused.

> It's been a marvellous course, unbelievable really, and it's not only here *points to chest*, we've been talking about it, you know. Even our joints and we feel better altogether. And the coughing, I used to cough quite a bit, but I haven't used an inhaler now for the last three or four days. Yeah, it has made a hell of a difference. (Franklin, spoke site)

Here, Franklin highlights how participants felt that their symptoms had decreased because of attending PR; however, he additionally begins to describe how the group interacts with one another. Earlier in the transcripts, participants discussed how before they attended the programme, they felt like they were the only ones with their condition, creating feelings of isolation that have also been described by other authors.[4] However, the following extract demonstrates how PR reduced these feelings.

> Marie: I think we all supported each other, 'cos we've all got the same condition
> Several voices: yeah
> Marie: we've all got breathing problems
> Albert: the main thing really is that we're all suffering the same thing. (Hub site)

Although most participants had a primary diagnosis of COPD, not everyone attending the groups had the same respiratory condition and many had different comorbidities. This extract, however, appears to suggest that

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this dissimilarity in the actual diagnosed condition does not reduce the connectedness between participants and rather it is the breathing problem which they share that unites them.

This subtheme demonstrates how people attending the hub and spoke sites experienced PR to affect both the physical and mental aspects of their chronic respiratory condition.

Convenience versus relatedness

Within this overarching theme, participants discussed the competing elements of increasing the accessibility of PR and the challenges that accompanied this. Two subthemes were developed within this overarching theme. 'The impact of travelling' describes the negatives associated with having to travel within a rural environment to attend PR. 'Cross-site communication' relates to the problems that were created by the inclusion of technology alongside how these began to be overcome.

The impact of travelling

Both hub-site and spoke-site participants struggled with travelling through rural Wales to attend the PR course. VIPAR saved approximately 410 miles and 11.5 hours journey time per spoke-site participant over the duration of the 7-week programme, as they had access to a closer location compared with the hub site.[21] The quote below best highlights the discourse surrounding this topic and the issues associated with travelling through a rural environment.

> …we've got country roads around here, you've got milk tankers, tractor, and cars blocking you. Whereas your journey one day could take 20 minutes, the following day it could take you 40. Travelling there like, it doesn't give you the oomph you know, the thought of the travelling. (Albert, hub site)

A previous systematic review has found that travel and transport are negative predictors of PR adherence[22] and therefore the ability to reduce the participants' experiences of travelling is a significant benefit of VIPAR. Importantly, spoke-site participants unanimously stated that they would not have attended the hub site due to the distance involved and those attending the hub site would have preferred a closer location to their homes had one been available.

Cross-site communication

The use of VC equipment to facilitate PR groups was accompanied by communication difficulties, however, within this subtheme, divergence between hub-site and spoke-site participant discourses was observed. Hub-site participants discussed how the poor communication limited the connectedness they felt with the group members at the other site, whereas those at the spoke site described difficulties understanding course content and the educational speakers who were at the centralised location.

> Amelia: you can't hear them, and you can't hear the answers
> Malala: it's all mumbled isn't it and you can't make out what they are trying to say
> Galileo: yeah, that the only snag
> Franklin: yeah, it's the sound system from (the other location) to here. They can hear us
> Malala: but one of them was talking better than the other. (Spoke site)

As this extract highlights, this was a significant problem for participants, however, it also describes how these difficulties were reduced as more sessions were delivered and, by the second cohort, some of those attending the spoke site did not feel this was an issue.

> Some of it was very good, I enjoyed some of the talks but one or two of the others were a little bit vague. I think that could be improved a bit. The hearing of them was fine most of the time. (Louis, spoke site)

The improvement in communication was largely because of the staff delivering the sessions learning how to best configure the room and microphones and present self-management advice through the equipment. Although participants at the hub site discussed that the poor cross-site communication limited the connectedness they felt with the spoke site, this was not seen as a significant negative of the programme.

> you're too busy really getting on with what you've got to do, to be worried about what's going on (at the spoke site). (Mahatma, hub site)

Because of the improvements in communication, although some of the early participants were hesitant regarding the idea of adding additional sites (ie, one hub site connecting to two or more spokes), the second cohort did not think this would detrimentally affect the programme.

Staff results

The need for increased preparation

Although the staff were positive about the use of technology to deliver PR, they identified several factors that would help facilitate further programmes. The subthemes 'increased training needs' and 'the importance of good administration' were largely positioned as essential to the success of the programme in HDUHB, or indeed other locations, should they adopt similar technologies.

Increased training needs

Like the participants attending VIPAR, staff also found that the earlier sessions were difficult and experienced several problems, particularly related to communication.

> It took me a few sessions to realise that there was a delay over the system…I realised when the sound was going off and I did some of the talks and it was going off. (Elizabeth)

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Although the staff did find ways to reduce the difficulties they were experiencing and increase the quality of communication across the VC equipment, it was felt that greater training could have potentially prevented this altogether. Staff additionally believed that the training was needed for the speakers who provided self-management talks and were unused to the new system; however, it was accepted that the majority of the speakers present for altruistic reasons and therefore this may not be possible due to time constraints. Staff also discussed what staffing was required in the future.

> Each spoke site would need a band 4 (physiotherapy technician) that was very experienced…who was highly trained in life support, pulmonary rehab… plus one other (staff member). (Maya)

This quote was made in response to how staff were anxious that spoke sites might not be given experienced personnel and this could increase the risk if something happened during the programme. Risk is discussed in a later theme, however, the increased training identified here was seen as a potential solution to manage this.

The importance of good administration

One element that the staff quickly adapted to was the increased pressure the added participants put on staff time and organisational skills.

> You've got 10 people who have no idea what a bicep curl is, how to get on a bike and turn it on is half the battle. Their chest is the least of our problems, they're going to cough—it's fine—they are going to get breathless—that's normal—but it's trying to negotiate them around the room is half the battle but then, once they all settle down after a few weeks, it actually… evens out, but you've got to be prepared. (Maya)

This quote highlights how the initial sessions of PR are usually intense and the increased number of people attending the spoke site exacerbated this. Staff described that organisation was fundamental and believed a dedicated person for administration was necessary to help facilitate the smooth running, both inside and outside of the programme.

VIPAR-specific challenges

Within this overarching theme staff described how they navigated the difficulties associated with the installation of technology to the PR service. 'The interaction between risk and technology' involves a discussion of the potential for added risk because of VIPAR. 'The impact of technology on service user engagement' represents how the PR staff believed it was more of a challenge to interact with participants attending the spoke site and the consequences of this.

The interaction between risk and technology

Within this subtheme, staff discussed how the use of technology affected the risk of PR, where it was also believed that if too many spoke sites were added this could be a negative.

> No matter how experienced the clinician is, trying to watch 3 different groups is a huge ask, but I think you do need another person in the (hub) room so that the clinician is just overseeing the 3 different groups because, if the patients are stressed or anxious, you are going to have problems. (Rachel)

Rachel highlights the worries relating to the addition of too many participants attending spoke sites, in addition to how VIPAR still required adequate staffing. Although one of the strengths of VIPAR is that it increases the participant-to-staff ratio, the focus group believed risks accompanied this for spoke-site participants, if the ratio increased too much. Alongside this discourse, staff also discussed the confusion surrounding who was ultimately responsible for the spoke-group's safety and believed greater clarity was required to decrease any potential problems. Despite these concerns, however, a separate study found no adverse events occurred for spoke-site participants with equivalent outcomes between the two sites.[21] As discussed earlier, increased training was provided as a potential solution to manage VIPAR-related risks.

The impact of technology on service user engagement

Lastly, staff discussed how they believed it was more difficult to engage with participants through the VC equipment.

> Rachel: maybe they engaged more because the person delivering it was in the room with them?
> Theodore: yes, that's my opinion. For them to ask questions, especially just in front of a group of people they've only just met, but then across the screen that is, you know, slightly pixelated to someone that can't really see, it's quite detached.

The quote from Theodore highlights how participants were more likely to ask questions to the staff who were at the spoke site, rather than via VC. Later, Rachel also explains how she found it initially difficult to create the same connections with spoke-site participants as those she saw regularly in person. Although PR adherence was similar between sites,[21] staff felt that this lack of connection could detrimentally affect the likelihood that participants would attend all sessions. To partly overcome this issue, hub-site staff increased their efforts to engage with spoke-site participants by specifically asking questions of those participants and providing further opportunities to engage. However, this did not completely alleviate staff views regarding engagement difficulties.

DISCUSSION

Although the project originally planned to analyse hub-site and spoke-site focus groups separately, the authors took the decision to analyse transcripts together because

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of the (unexpected) coherence between the groups. The provided quotations highlight this similarity further across all the themes other than 'cross-site communication', which is discussed further below. While not an aim of this qualitative component, the similarities in experiences between those attending either site does corroborate the quantitative study, which found no significant differences between participants,[21] and does support the use of virtual methods to deliver traditional models of care.

Both hub-site and spoke-site participants were largely positive towards the VIPAR service and their responses describe multiple ways in which the course has benefited their mental and physical health. Previous qualitative research investigating perceptions towards PR has described participants displaying enthusiasm toward the programme and an enhanced sense of group belonging.[23 24] The accounts provided by participants within the theme 'PR routes of action' corroborate these previous findings and build on them, to fully describe how the programme and associated health benefits were experienced by those attending. Primarily, the ability to re-engage with previously enjoyed activities and also reduce some of the negative effects and symptoms of their respiratory condition was seen as a large positive, even though the programme did not return them to a prediagnosis health state. Interestingly, many of these activities required increased physical effort, such as walking or horse riding. Research has described the negative cyclical effect of respiratory conditions, where dyspnoea reduces the amount of physical activities that are conducted, which in turn increases dyspnoea.[25] Within this study, the opposite cyclical effect appears to happen. This suggests that participants do not necessarily lack an ability to be physically active, but more the motivation or confidence to engage in these behaviours. Rapport *et al*[23] found that participants' confidence and activity increased during PR; thus, by targeting motivational factors, physical behaviours could be increased. Motivation has also been highlighted as a possible explanation for why a range of self-management behaviours (of which physical activity is one) is seldom conducted by people with respiratory impairment.[4 26] However, despite multiple recommendations to use psychological theory to understand key barriers within a health domain,[27 28] research has found that very few studies conducted with people with respiratory diseases follow these recommendations and use any psychological motivation theory to increase understanding surrounding this concept.[29 30] Therefore, it is necessary for future research to investigate the ability of psychological theory to contribute to the knowledge surrounding the role of confidence and motivation within a respiratory health domain.

All participants described the benefits of meeting other people with a respiratory condition and how group belonging increased their motivation to engage in the programme, similar to past research.[23 24] Participant's accounts indicated that the specific diagnosis was of less relevance than the shared symptom of dyspnoea, thus supporting the inclusion of a variety of conditions into this well-structured rehabilitation programme from a group-dynamic perspective. Responses did describe that participants found it difficult to form connections with the other site, however, this did not detrimentally affect their motivation to attend the course. One interpretation of this finding could be that participants still had access to group support from those attending their site. If this is correct, interventions that do not incorporate some form of face-to-face group support may be best avoided, unless they include a method by which to still meet the participants' social needs. This may be particularly relevant to PR programmes that are delivered directly to participants' homes. Although this method would entirely overcome the traditional time and travel barriers that negatively affect adherence,[22] participants may not receive all the benefits of a group-based PR programme, unless attendees' relatedness needs are met through other means.

Both PR participants and staff described how communication through the VC equipment was difficult and limited some of the interaction that was possible. Connection was lost between the two sites in 2 out of 452 sessions,[21] however, both groups also stated that communication issues were corrected as more experience was gained using the system. Participants in the second focus group described how communication was less of an issue and there does not appear to be differences between the groups in terms of how the rest of VIPAR was experienced. Staff specifically identified that more training was required before using the VC equipment, which should also be extended to guest speakers, as this would enable greater engagement with participants at the spoke site. Therefore, although this is obviously a negative of the VIPAR programme, it is one that can be rectified with proper instruction. Interestingly, staff believed that the problems associated with the communication difficulties would result in decreased engagement from spoke-site participants; however, the quantitative results showed that programme adherence was equivalent between the two sites.[21] The lack of the expected decrease in PR adherence could be because of the availability of healthcare professionals at both hub and spoke sites. A recent systematic review has highlighted that staff physically alongside participants engaged in technology enhanced care are instrumental in facilitating interactions through VC and repairing communication when technical issues cause this to be problematic.[31] Additionally, recent literature has highlighted that staff may perceive that technology thwarts their ability to form meaningful connections, however patients do not have similar perceptions.[32] Therefore, future research should seek to investigate how these concerns may be understood and, in turn, reduced potentially by explicitly comparing hub-site and spoke-site staff experiences, which was unfortunately not conducted in this study.

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Staff tended to focus on any potential problems with the VIPAR programme and how these could be overcome. The focus on administration, adequate staff to reduce risk, training and system setup were all important factors required to provide an effective service. Implementation studies encourage the exploration of healthcare projects to understand how interventions work and for whom, in addition to identifying any potential problems that are required to be addressed.[27 33] The analysis of the staff focus group specifically helps meet these recommendations. Therefore, the conducting of this study has allowed for a better understanding of the service and offered practical solutions to several problems that may have gone unidentified. One issue that could require a more complex solution is that of the hectic nature experienced at the beginning of each cohort, as approximately 20 participants new to the course were all seeking instruction. Although a high level of organisation or extra staff could mitigate this issue, adopting a rolling-PR design could also alleviate the problem. This could require more work initially, however, the rolling design could stagger the entry of participants and thus reduce pressures; additionally, this design has been linked with reduced waiting-list times.[13]

In summary, this service evaluation study aimed to fully understand the experiences of those involved in the VIPAR service and thus provide greater meaning to the quantitative results reported previously.[21] By employing qualitative methodology, this study has facilitated the expression of views regarding VIPAR from those with respiratory impairment and has highlighted specific barriers to be rectified within HDUHB. Staff focus groups helped identify several potential problems and how these could be mitigated through increased training, administration and an understanding of risk. Additionally, both hub-site and spoke-site participants were positive regarding the service and described in detail how they perceived the benefits of PR. These benefits could be highlighted to participants before future programmes to increase the attendance at such rehabilitation services. Furthermore, future research could investigate other factors that contribute to participants' motivation before a PR programme to increase attendance. Cohesion between hub-site and spoke-site participants' codes and themes, together with the quantitative analysis of the project,[21] enables the authors to conclude that the use of VC equipment to facilitate PR is experienced favourably and acceptably to participants and staff and results in equivalent health outcomes.

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Contributors All authors provided substantial contributions to the conception and design of the work, in addition to drafting, revising and providing approval for the final manuscript. Furthermore, all authors have agreed to be accountable for all aspects of the work. LK, RG and MD were involved in the acquisition of the data. LK and RG analysed and interpreted the data that was collected.

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Competing interests None declared.

Patient consent for publication Not required.

Ethics approval HDUHB Research and Development Department reviewed this project; however, as this project is an NHS service evaluation, it was not ethically reviewed. Hywel Dda University Health Board do not provide approval IDs, the project was reviewed under the title: using video conferencing to extend the benefits of pulmonary rehabilitation to rural communities. The study strictly aligned to the principles of the Declaration of Helsinki.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available. Unfortunately, the authors are unable to provide access to the raw data for this study due to not having the ethical approval to do so. However, the authors will respond to any request for data with as much information as they are able to provide.

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