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Abstract

Introduction

Covid-19 accelerated the implementation of virtual working at pace, which carries the risk of missed opportunities for shared learning across organisations and services. This study therefore investigated the experiences of 'virtual working' among Occupational Therapy (OT) staff and students in Wales. The objectives were to establish the meaning of virtual working for Occupational Therapists (OTs), identify the perceived advantages and disadvantages of the technologies used to support virtual working and explore the specific contextual factors that impact on service delivery.

Method

An online questionnaire was completed by 191 registered and unregistered OT staff and students working in Wales and 11 semi-structured interviews were conducted in a convergent mixed methods design.

Results and Findings

The questionnaire data confirmed that the use of virtual working has increased and impacts all areas of service delivery. The semi-structured interviews identified three themes: the art of OT; keeping doors open and looking forward.

Conclusion

Virtual working can improve access to services, but one size does not fit all and its use in person centred care should be carefully considered. Virtual working should not compromise high quality service provision and the risks of virtual working to staff's mental and physical health needs to be considered.

1. Introduction

In 2015 the Welsh Government (WG) published its Digital Health and Social Care Strategy, stating that “Digital health and social care will be a key enabler of transformed services in Wales” (WG, 2015, p.6). The use of digital technologies to facilitate new ways of delivering health and social care has also been identified as a fundamental element of the nation’s prudent health care policy (WG, 2016) and was recently promoted as part of a modernisation programme aiming to reduce waiting times for planned care through accelerating the use of virtual approaches (WG, 2022). The Department for Health and Social Care has also published its plan for the digital transformation of the health and social care system. The plan promotes the use of digital channels to enable people to interact more easily with health and care providers, thereby supporting independent, healthy lives (Department for Health & Social Care, 2022).

Alongside these government policy drivers, the Occupational Therapy (OT) profession has acknowledged the potential impact of technological and communication developments, as evidenced in the Royal College of Occupational Therapists’ (RCOT) report setting out its vision that Occupational Therapists (OTs) will be able to use information and communication technologies skilfully as an intrinsic part of their practice (COT, 2014). However, the report acknowledges a lack of consensus regarding best practice due to the rapidity of developments in this field and sets out recommendations for how the OT profession could harness the potential of emerging technology. Furthermore, the Data Innovation Strategy 2021-2023 (RCOT 2021) states that OTs need to be confident in their information and data needs for the purposes of improving health outcomes. The potential benefits of digital technologies and the importance of OTs’ digital literacy skills are again recognised by the RCOT (2022) and the World Federation of Occupational Therapy (WFOT), who have stated that Telehealth can be an appropriate service delivery model for OT providing it meets the same standards of care as services delivered in-person (2021). There is therefore recognition of the importance of evaluating digital OT services to learn from experience and identify circumstances that may require a different approach (RCOT, 2022).

In this policy context, in early 2020 the Covid-19 pandemic added further impetus to the digital reform agenda (Cottrell & Russell, 2020; Smith et al., 2020). Social distancing restrictions imposed by the UK government in an effort to slow the virus’s rapid spread and devastating impact prompted an unforeseen acceleration in the use of digital technologies within health and

social care, including OT. Practitioners sought novel ways to deliver services remotely, to overcome restrictions on face-to-face contact and provide and plan rehabilitation services in this new environment. OTs have reportedly used a range of technologies to delivery services, including virtual assessments, interventions using telephone or video conferencing, online tele monitoring and virtual visiting (Jones & Read, 2020; McGoldrick, 2020).

2. Literature review

Arguably, Covid-19 hastened the implementation of the pre-existing digital health and social care policy agenda and enforced the transition towards the use of digital technologies in OT practice, so-called 'virtual working' (Cottrell & Russell, 2020; Smith et al., 2020). While this opportunity has resulted in an abundance of innovation, it has evolved at pace and in a fragmented way (Smith et al., 2020). This carries the risk of missed opportunities for shared learning across organisations and services and insight into what can be implemented into practice going forward lost. As such, there is a requirement for OT practitioners to capture and evaluate the accessibility and effectiveness of clinical services provided using such technologies (Sarak, 2020); however, evidence is currently limited and comprehensive best practice guidance has not yet been developed for the profession. The evidence that does exist is variable and has been complicated by inconsistencies in terminology, 'telecare', 'telehealth' and, within the allied health professions, 'telerehabilitation' all having been used to describe the delivery of person centered healthcare at a distance (Flodgren et al., 2015). This inconsistency could lead to misunderstanding around this topic (Cottrell & Russell, 2020).

Some systematic reviews of digital working practices have been conducted in specific health and social care settings or client groups. They provide limited support for this way of working (for example Campbell et al., 2019; Ferguson et al., 2019; Hewitt et al., 2020; Dominguez-Lucio et al., 2022); however, they also identify gaps in the literature, methodological flaws and a lack of high-quality evidence. While the evidence reviewed in these studies relates to wider healthcare services, some specific to the OT profession has started to emerge. A recent literature review of the use of telehealth in OT home assessments concluded that it offers an efficient and effective alternative to in-person assessment; however, some shortcomings were identified, particularly the significant barriers posed by technological problems with equipment or connections and difficulties in identifying environmental hazards. The lack of evidence

regarding the suitability of telehealth for specific client groups and health conditions is also noted and the authors highlight the overall scarcity of evidence (Carrington & Islam, 2022).

There are indications in the literature that in fact evidence relating to more defined patient groups is developing. A systematic review considering OT interventions delivered through telehealth reported strong evidence for its use in neurological and pain conditions and moderate evidence for use with developmental disorders (Feldhacker et al., 2022). Whilst this is encouraging, the authors acknowledged that the review was conducted pre pandemic and note that the evidence base may have developed since. A more recent scoping review conducted to explore the use of telecare among older adults reported a range of modalities being used to improve accessibility to OT, with generally favourable results across areas of OT practice (Ding et al., 2023). Both studies concur with the previous reviews findings however, that more large scale research in use of telehealth for a wider range of conditions and applications is required.

Other recent studies have also provided evidence supporting various forms of virtual OT working, for example: virtual OT home assessments (Read et al., 2020); OT home adaptation interventions (Renda & Lape 2018); remote OT and physiotherapy consultations in an outpatient musculoskeletal setting (Hadley-Barrows et al., 2022); on-line OT groups in a mental health service (Ferrari et al., 2022); and the use of telehealth in an international study incorporating a range of OT services (Abbott-Gaffney et al., 2022). While these studies identify benefits of virtual working in terms of increased accessibility and efficiency and all report generally positive client outcomes, they also identify difficulties such as those relating to technological shortcomings, acceptability, service users' and providers' digital skills and knowledge, safety and security and a sense of threat to the OT role and skills. The increased use of technology also has information governance implications as the growing number of communication channels used by OTs brings with it the need for diligence regarding the handling of digital data (RCOT, 2021). Additionally, all studies also comment on the need for further research to investigate the impact on different client groups. Taken together therefore, the evidence regarding the use of virtual working practices to deliver health services generally, and OT specifically, whilst is advancing, remains limited, there is a need for evidence regarding the optimal conditions for the use of these modes of delivery. The question of what works, for whom and in what circumstances still needs to be answered.

3. Method

To begin to address some of these issues, this study was conducted as a preliminary investigation into the virtual working experiences of OT staff and students practising in a diverse range of health and social care services across Wales; it also explored the terminology in use, to further inform the evidence base for this area of practice. Specifically, the study's aim was to investigate the experiences of 'virtual working' among OT staff and students in Wales. The objectives were to establish the meaning of virtual working for OTs, identify the perceived advantages and disadvantages of the technologies used to support virtual working in Wales and explore the specific contextual factors that impact on service delivery.

A steering group was established consisting of the Chief Investigator (CI), Principal Investigator (PI), a study collaborator, two OT consultees and two members of the public who provided a lay perspective. This group shared joint responsibility for the conduct of the study, with oversight from the sponsor, Swansea Bay University Health Board. Ethical approval was obtained from the Health Research Authority and Health and Care Research Wales (REC ref: 21/HCRW/0013) on 19th July 2021.

3.1. Data collection

This project aligns with an ontology of bounded relativism whereby a shared reality of virtual working is bounded within the cultural context of the Covid-19 pandemic, a constructionist epistemology then follows, as meaning exists as people engage with and interpret the world (Moon & Blackman, 2014). This study therefore adopted a convergent mixed methods design to explore virtual working among OT staff - including students who had completed virtual placements - based in a range of health and social care settings across Wales. Data collection tools consisted of an online survey of registered, unregistered OT staff (i.e. OT Technicians) and students and semi-structured telephone interviews with OT staff/students who expressed an interest in participating.

3.1.1. Questionnaire

The questionnaire was distributed using Online Survey software and was piloted with 5 OT staff and the steering group (N=5), in line with Sheatsley (1983) who suggests 10 to 30

participants for questionnaire pilot studies, before circulation between October and 31st December 2021, to approximately 2,000 OT staff and students in Wales. Participant recruitment used a snowball sampling approach, utilising professional networks in Wales and responses were anonymous.

Participants were asked to identify the technologies they had used in the delivery of their services before and since the Covid-19 pandemic and any advantages or disadvantages they had experienced when using them. They were also asked about conditions which impacted either positively or negatively on their use of these technologies. Anonymised demographic and work setting information was collected and an open-ended question asked participants to articulate their definition of virtual working, to identify whether a consensus emerged. A copy of the questionnaire is provided as supplementary material.

3.1.2. Semi-structured interviews

All individuals who took part in the online questionnaire were invited to participate in a follow-up semi-structured telephone interview between March 1st and 31th May 2022. Conducted by the PI, the interviews explored the advantages and disadvantages of the adopted technologies compared to previous ways of working, along with contextual factors that, in the interviewees' experiences, had impacted on the effectiveness and acceptability of these forms of service delivery in their settings. Interviewees' definitions of 'virtual working' were also explored.

Interviews were audio-recorded using 'Otter.ai' software and the resulting transcripts were checked against the audio recording for accuracy, then sent to the interviewee for checking. On return, the transcripts were anonymised and the original audio recording and identifiable versions of the transcripts were destroyed. The Interview schedule was considered and reflective practice upheld by the interviewer individually and through steering group discussion to minimise any potential bias.

3.2. Data analysis

Analysis of the data consisted of the following steps:

- i) Analysis of the quantitative questionnaire responses was completed by C.P and findings were analysed descriptively to provide an overview;

- ii) Thematic analysis (Braun and Clarke 2022) was conducted with the interview data, to identify recurring themes. This inductive approach resulted in a framework of the key themes derived from interviewees’ responses;
- iii) An initial analysis of the qualitative questionnaire data was conducted the study collaborator (C.P) and inductive content analysis based on Bengtsson (2016) was used to identify key recurring words or phrases (‘codes’) which were then organised into categories and higher-level themes. Code, category and theme verification was performed by the steering group;
- iv) The interview and questionnaire data were triangulated with reference to the framework developed at step ii), resulting in a set of key themes that encompassed the entire data set.

4. Results and Findings

4.1. Questionnaire results

A total of 191 responses were received; 176 (92%) were female and 15 male (8%) and 149 (78%) were registered OTs with 42 (22%) unregistered. A total of 54 respondents (28%) were aged between 35-44 years, 50 (26%) were between 45-54 years, 41 (22%) were between 25-34 years, 26 (14%) were between 55-64 years and 20 (11%) were between 18-24 years. The majority of registered respondents (31%) had been practising as an OT for 11-20 years, whilst 24% had been practising for 6-10 years and 20% for 21-30 years. Only 4% had been practising for less than 1 year. The work settings of respondents are shown in Figure 1, four respondents (2%) selected ‘Other’ work setting – 2 were students, 1 stated ‘University’ and 1 stated ‘Primary Care’. The geographical location of respondents is shown in Figure 2, of which 58 respondents (41%) were of one particular health board.

-insert figure 1 and 2 here-

A total of 124 respondents (83%) selected ‘clinician’ as their main role, with 20 (13%) selecting ‘non-client facing management/leadership role’; the remaining 4% selected ‘case manager’ or ‘academic/education provider’.

4.1.1 Definition of ‘virtual working’.

Respondents were initially asked how they would define the term ‘virtual working’, with the aim of exploring an understanding of its meaning to OT in practice. An initial process of familiarisation with the data revealed that the vast majority of responses contained four elements: what; how; where and with whom. These elements were therefore used as categories for the purposes of analysis. Each response was examined to identify ‘meaning units’ relating to any of these categories. Each category was then examined to establish recurring concepts. A summary of the results is shown in Table 1.

-insert table 1 here-

Combining these concepts produced the following definition of ‘virtual working’, which has been used throughout the study:

“Virtual working is the conduct of work activities that require communication with others (including service users and their families/representatives, colleagues/team members and individuals working in other agencies), using technology that removes the need to be physically present in a particular location.”

4.1.2 Virtual working technologies

Following this, the first section of the questionnaire asked respondents about their use of virtual working technologies. Nearly all participants stated they had engaged in virtual working in their OT practice (Figure 3). Respondents were asked to indicate which virtual platforms they used; nearly all selected Microsoft Teams (90%) with 46% selecting Attend Anywhere and 45% selecting Zoom (Figure 4). When asked about the quality of platforms used, 138 (76%) respondents rated the quality of the platforms they were using for virtual service delivery as either ‘very good’ or ‘good’, with only 12 (7%) respondents selecting ‘poor’ or ‘very poor’ and 30 (17%) indicating ‘not especially good or poor’.

-insert figures 3 and 4 here-

4.1.3 Telephone use

The next section of the questionnaire asked about telephone use before and since Covid-19, specifically participants were asked ‘approximately how many clinical appointments did you

conduct using the telephone in the course of a week (on average)?'. A total of 142 respondents (80%) indicated that they used the telephone to conduct sessions directly with patients/service users. Prior to Covid-19 respondents indicated that the mean number of weekly appointments conducted by telephone was 2.90; this had increased to 5.99 since Covid-19. The percentage change in telephone use per day before and since Covid-19 is shown in Figure 5 and the types of activities conducted via telephone since Covid-19 that were not conducted via telephone prior to Covid-19 are shown in Table 2.

-insert figure 5 here-

-insert table 2 here-

4.1.4 Virtual working

The mean number of virtual working weekly appointments prior to Covid-19 was 0.5; this had increased to 3.80 since Covid-19. The percentage change in virtual working time with patients/service users per day before and since Covid-19 is shown in Figure 6 and the types of activities conducted via virtual working since Covid-19 that were not conducted via virtual working prior to Covid-19 is shown in Table 3.

-insert figure 6 here-

-insert table 3 here-

4.1.5 Technology and training

Respondents were asked to answer questions relating to their experiences of accessing/using technology and the training they had received. In total 113 respondents (64%) indicated that equipment they used for virtual service delivery was used only by them, with 65 (37%) of respondents indicating that it was shared with others. When asked whether they had any difficulties gaining access to the equipment they needed to engage in virtual service delivery, 85 respondents (48%) indicated 'never', 81 respondents (46%) indicated 'occasionally' and 12 (7%) indicated 'often'. A total of 134 respondents (75%) indicated that all equipment had been supplied by their employer, with 36 respondents (20%) stating some equipment had been supplied by their employer and only 8 (5%) indicating all of their equipment was their own. Figure 7 shows responses regarding the adequacy of the equipment available to enable virtual

working for service delivery, and Figure 8 shows responses regarding the adequacy of training received.

-insert figures 7 and 8 here-

4.1.6 Quality of patient/service user care

The impact of virtual working (including use of the telephone) on the care of those who access OT services was investigated. Figure 9 shows responses regarding the impact of virtual working on the number of appointments, and Figure 10 shows responses relating to the impact of virtual working on quality of care.

-insert figures 9 and 10 here-

When asked whether technical difficulties affected the provision of care, a total of 103 respondents (73%) stated 'sometimes' and 24% (N=34) stated 'often'. However, the majority of participants indicated that virtual working had a beneficial impact or no impact on some aspects of service user experiences, specifically in relation to access to care (78%), convenience (89%), waiting times (85%), likelihood of DNAs (69%), family involvement and support (77%), anxiety about attending appointments (69%) and confidentiality (69%).

4.1.7 Barriers to virtual working for patients/service users

Barriers to virtual working for service users were also explored. Respondents indicated that access to equipment (88%), no internet or cost of internet (73%), poor internet connection (97%), no safe or quiet space (88%), no support with technology (94%), inappropriate or suitable technology (83%), lack of confidence (89%) and lack of IT skills (94%), were all relevant barriers to virtual working for service users that they had experienced.

In terms of general work practice, access to equipment (61%), poor internet connection (82%), no safe or quiet space (83%), no support with technology (69%), lack of IT skills (69%), lack of confidence (66%), lack of support/supervision (59%) and confidentiality issues (71%) were all considered relevant barriers, whereas no internet or cost of internet was only considered a relevant barrier by 37% of respondents.

4.1.8 Personal impact

Respondents were asked whether virtual working has had any personal advantages or disadvantages. Respondents indicated that virtual working had improved (38%), had no impact (38%), or had made their general wellbeing worse (24%) with 8% unsure. In terms of work life balance respondents indicated that virtual working had improved (54%), had no impact (28%) or made their work life balance worse (15%), with 3% unsure. Relating to caring responsibilities, respondents indicated that virtual working had improved (42%), had no impact (42%) or made their caring responsibilities harder (7%), with 7% unsure. Finally, when asked about CPPD respondents indicated that virtual working had improved (54%), had no impact (31%) or made CPPD more difficult (8%), with 7% unsure. Overall, 105 respondents (59%) stated that they were 'satisfied' with their experiences of virtual working, whilst 34 (19%) stated 'very satisfied', 16% (N=28) were 'dissatisfied' and 3% (N=5) 'very dissatisfied' with 3% (N=6) preferring not to say.

4.2 Semi-structured interview findings

A total of 11 out of 13 participants who were all invited after expressing an interest following completion of the questionnaire, took part in semi-structured interviews (Table 4).

-insert table 4 here-

Definitions of virtual working derived from those interviewed aligned with the concepts identified from the questionnaire data. This consensus in shared understanding further supports the present study's working definition of 'virtual working' previously stated. Findings from the interview data generated insight into virtual working among OT staff and identified an overarching theme incorporating experiences of changes to communication within practice, derived from working in and beyond a pandemic. This overarching theme developed from three main themes and a set of accompanying sub-themes; these are presented in a framework to represent participants' experiences (see Figure 11).

-insert figure 11 here-

Theme 1 – The art of Occupational Therapy

This theme illustrates the perceived impact of virtual working on the delivery of OT with a focus on the core skills required to fulfil the role. A common observation from participants was the impact on the therapeutic process when delivering services virtually. An essential aspect of the art of OT practice is the practitioner's therapeutic use of self during communication to form constructive therapeutic relationships (Taylor & Melton, 2009). The impact of telephone-based consultations on this connection was identified:

"...Whereas if I was face to face with them, I could communicate differently, they could, you know, they could understand what I was saying through my body language, they might feel more comfortable that way. But building the rapport remotely, you do have to take a slightly different approach, because you don't know the person and you can't read their body language obviously, how they're feeling." (Participant 3)

Limitations were also observed when providing assessment and intervention through video platforms:

"... you just don't have such an ability to have that therapeutic use of self when you're behind a computer screen. So whereas some kids are really engaged in tech and, you know, they're there, as soon as there's something on that screen, they're ready to go. Others, when they're in their home environment and possibly have things that they feel are better things to be doing just aren't interested in sticking around. So I think the other thing is that a lot of the treatment kind of things I would do would be around, like, motor skills and things like that. And that's actually very hard to demonstrate and get a kid to do on the other side of a computer." (Participant 9)

For certain client groups, notably those impacted by physical conditions, the challenges of reduced opportunities for observation and the importance of physical cues used by OTs during assessment were highlighted:

"...You can try and see how people move, but it's not the same as having them in a clinic in front of you. So that definitely made it harder to make a judgement about how somebody was, yes, if they were guarded or protective, that was quite difficult." (Participant 6)

Client and carer dissatisfaction following a virtual approach to the OT role in a physical setting was also observed:

“I wouldn't necessarily say there's been a massive increase in complaints but certainly there have been a number of complaints that have come in potentially about discharges that haven't been successful... it's clear that if certain visits were done in person, rather than virtually ... those things that weren't picked up on video screen might have been or very likely would have been picked up if the clinician had been in that particular environment, and therefore it might have been more successful.” (Participant 8)

Whereas those working in physical settings identified some limitations on being able to utilise the OT skillset effectively, some participants conversely suggested that virtual working supported some aspects of forming therapeutic relationships.

“I don't know... it almost felt more like we're kind of equals with being online. So especially with the parents, I don't think you've got that, such a hierarchy kind of thing going on, as me being a visitor into their house. And rapport building has been absolutely fine, actually, to be honest.” (Participant 9)

Overall, support for the virtual application of the OT skillset appeared more consistent from thematic analysis of the interview data, in settings providing services for chronic conditions that utilised biopsychosocial approaches.

Theme 2: Keeping doors open

The Covid-19 pandemic was a challenging time when access to services became limited. The second theme, 'keeping doors open' includes insights into how technology supported access to care, but how it also created some barriers.

Sub-Theme 1: Maintaining the health & wellbeing of the population.

Partnership working and collaborating with families, teams and other agencies and organisations through technology was identified as an enabler for the continuation of patient

centred care. Participant 1 observed this when conducting an environmental assessment of a hospital inpatient's home:

"...so if I've done a home visit with a family member, I can take the device to the patient and do it with them. So I think that makes us a lot more involved in their discharge planning."

Participant 3 also describes innovative practice to support individuals in a mental health setting whose access to care needs were initially deemed less urgent:

"...you could see how much they needed the intervention as well, because people just weren't getting that access to anything and it was awful watching people to, you know, having the effect of that sort of isolation and loneliness and everything and not being able to engage in the things that kept them well. So we sort of pushed forward with the intervention programme and that's still, you know, running now remotely, and it's actually been really successful, has been really positive and a little bit surprising as well."

One of the key ways in which OTs using virtual services appeared to meet the needs of their users was through enabling them to manage their resources more effectively. Amongst those services supporting people with chronic conditions, a saving on travel time was a commonly observed benefit.

"...because they don't have to travel to the face to face group, I think then it's, you know, there are a lot of advantages of not travelling... the time and the effort, particularly if somebody is in pain, and it's quite a distance to travel, maybe it's a better management, then maybe, maybe they're better able to manage their fatigue as well, and pain."(Participant 2)

Participant 6 lends further support to this, identifying that virtual working enabled individuals to access their care more flexibly whilst simultaneously supporting participation in meaningful occupations:

"...for patients that work, it's a massive advantage for sure. Also, a lot of our patients do have some, an amount of psychological distress, which is often one of the barriers

to their kind of recovery from pain, so for some patients, it feels a little bit less anxiety provoking to be in their own environment, rather than again, coming into a clinical area. They're a bit more relaxed, I guess."

Services delivered virtually also supported accessibility through opportunities for increased access to care. This was perceived as particularly beneficial for those accessing services over a wide geographical spread, as well as being beneficial to those managing such services.

"... by the time you travel 45 minutes to go and see somebody, spend an hour with them, 45 minutes back, you know... that would cut waiting lists, people's needs would be met a lot quicker than sitting on, you know, big waiting lists." (Participant 11)

Sub-Theme 2: Obstacles to accessing care

Despite the above advantages of virtual working, evidence of some limitations placed on accessibility was also apparent. One barrier to engagement in care was a sense that some individuals did not place the same value on virtually delivered services as they did on traditional appointments.

"...I've noticed a lot of the time you ring people, and whether they don't see it as important as a face to face appointment. So you're ringing people and they'll say, oh, sorry, I'd forgotten and I'm out shopping, can you ring me again? Or they don't, just don't answer even though they're expecting the call at that particular time." (Participant 7)

In addition to considering the impact on individual care, reduced user engagement during group work was also observed. There was a perception of the effect of a lack of physical contact and face to face communication on service user outcomes:

"...so I think you already are losing that connection between group members. A lot of the work that we do in mental health is very much about patients supporting the patients because they're having a shared experience, so you're losing a lot of that by not being in a room, and you lose it even more if people are just a little circle, and, you know, it's, actually, having to prompt people to sort of "Do you have something to say about

this?" is much more difficult to, on a remote, on virtual working than it is actually in a group." (Participant 4)

The option to hide behind the camera was an issue frequently mentioned, and some pros and cons were identified. The benefit of turning cameras off to allow multitasking and promote musculoskeletal care by enabling individuals to move was identified (Participant 8). For some individuals experiencing psychological distress, opting to leave a camera turned off could be a consequence of their limited skills or a lack of self-confidence, however in some circumstances it could be a useful way to enable accessibility to care. Nevertheless, participants generally regarded this practice as more of a threat to effective engagement. This observation applied to staff communications in team meetings as well.

"...And as I said sometimes I wonder whether we're more engaged when we're having to sit around the table, than if we're online, and we turn our camera off." (Participant 7)

Engaging with IT was one of the main underlying barriers identified throughout the data. This included limitations due to the compromised skills of certain service user groups accessing OT.

"...I don't know if it's particularly our client group, sort of in terms of their attention and concentration, but they, it was almost like it's too much to process, they had the paper in front of them and they were looking at a new face on the screen, they were trying to engage in the conversation, there were other things in the home environment, you had your dog under the table and they just found it too much." (Participant 3)

Participant 10 also identified the impact of service users' skills in accessing information to support their health:

"...for those few people that aren't able, actually aren't actually able to engage with the technology side, it feels like they might be disadvantaged because we're not having them in so we're not able to give them paper, paper information and leaflets like we used to, we, we do send them out but I guess it feels like, you know, not only our service, but the setting as a whole has transformed and so there's such an attention now to doing

things online that I think, yeah, if people aren't able to get online, I think that can prove quite challenging for them and for the clinician, because we're so used to that now ...”

Other barriers to utilising skills included examples of individuals with language and communication needs:

“But I do have, I did have a gentleman who is deaf, and he didn't use British Sign Language, he lip read, and didn't feel confident or comfortable using a video platform to lip read. So that posed a bit of a barrier. That gentleman had to wait until we were able to open our clinics to bring people back into the hospital.” (Participant 6)

Alongside the competencies needed to engage in therapy provided through virtual means, access to technological resources to support this was an additional limitation noted by the participants:

“... from a community perspective, you've got the added challenge of digital poverty, apart from living in areas where they may not have access to, to regular Wi Fi it's do they have devices that will support? Yes, most people will have a mobile phone, but they're not necessarily able to use it for more than telephone calls or texting or things like that... it's accessibility to devices, accessibility to Wi Fi, and skill set in using in digital technology.” (Participant 8)

This observation included accessibility issues due to interruptions, problems with equipment or environmental challenges such as geographical differences in infrastructure. These issues were noted both for service users and staff across a range of services and were prevalent in rural areas.

Finally, there was also evidence of the impact of virtual working on managing risk.

“... one of them for me as an Occupational Therapist, “No, I'm fine, there's absolutely nothing wrong, I'm managing everything”, you know, and you don't know if you see that, you know, they could tell me that, and I get there and there's six months' worth of medication and they're telling me that they're managing it fine over the phone, so in

terms of risk management, you don't know until you know, that's kind of the motto for remote working isn't, you don't know until you know, because you haven't seen it. So diagnostically you have to be really careful.” (Participant 3)

From a leadership perspective it was also identified by Participant 8 that remote working can limit access to informal day-to-day direct staff oversight. This may have consequences for the quality of care provided to those who access OT services but also has impacts for staff wellbeing and overlaps with sustaining the workforce, explored in Theme 3.

Theme 3: Looking forward

The lessons OTs have learned from communicating differently during the pandemic may be used to influence future practice. This insight contributed to the development of Theme 3: Looking forward.

Sub-Theme 1: Sustaining the workforce.

The workforce is central to maintaining services and access to care. There were a number of observations that supported the role of virtual working in maintaining workforce wellbeing. This included opportunities for an improved work-life balance:

“...that's meant we can work from home, which was something we never did before COVID, so yeah, for me personally, there are, there are advantages to that. Just stuff like work life balance... in terms of childcare things, there's, there's advantages to working from home. But then, yeah, so I think there are loads of pros to it and, I don't know, I can't quite imagine going back to a different system now.” (Participant 10)

Conversely however, the frequency of virtual working occurring in isolation or commonly at home was observed as a potential risk to staff wellbeing:

“...I think there is huge value in actually being in the in the physical presence of others. I know that, you know, when, when I do have, when I do now get to staff meetings, for example, it is absolutely marvellous just to be sat in the same room as other people and having that that sort of social contact, I think working on virtual technology makes you very efficient and effective but it does mean that you lose that social contact that we

would normally have within the workplace, which I think is very, very important to people, and I think it's protective for staff..." (Participant 4)

Participant 11 also identified the protective factors of working alongside others.

"I think, for wellbeing, so, you know, you can see somebody on Teams and say 'Oh are you fine? Yeah, you're great?' 'Yeah, yeah, I'm fine.' but actually seeing that person in-person and seeing that every day and maybe seeing that maybe a decline in their mental health or their wellbeing, you don't really see that over Teams."

Sub-Theme 2: Keeping people healthy

Participants also identified ideas about how they would like to see virtual working developments embedded in the future. The importance of offering patients/service users choices about their OT offer was commonly discussed:

"... We carried out online virtual group sessions while the restrict, restrictions were on, but now we've started face to face sessions again and we are offering both a space, face to face sessions sorry, together with the virtual online sessions, side by side and as a result, the service users are getting a lot more choice about which they prefer to attend." (Participant 2)

Supporting this collaborative and prudent approach to providing care, the notion of a hybrid model of care was recognised as a means to uphold professional values through enabling person centred care:

"... I'd like to see continue with that hybrid model with the intervention programmes, being able to offer a face to face group, a one to one in the home, or one to one over the phone or remote or virtually over Teams, you know, being able to have that active offer of what works best for you. That's a much more client centred way for working for us..." (Participant 3)

The benefits of offering individuals options based on their personal needs and circumstances were unsurprisingly widely acknowledged, as was the case for supporting staff in

homeworking; however, the importance of measuring the efficacy of the approach, and involving patients when co-producing future service delivery, were also noted:

“...and I think we're at that point of, I suppose, at some point thinking, does it work for our client group? I guess we don't really know until we ask them... So, because I think it is hard on a personal level, maybe there are lots of advantages to it, but in the end, I guess until we ask people and know what actually works for them, then that's what we should be basing our decision on.” (Participant 10)

Sub-Theme 3: Learning and development.

The final sub theme focuses on future practice and the role of learning and development. There is evidence that virtual working has led to some skill acquisition both for individuals accessing OT and for OT personnel. This has enabled continued service delivery and has contributed to aspects of personal and professional workforce development.

“...I think one of the things it's given us is an opportunity to really reflect on our service and to think of different ways of working because this, the online working is a new way of working... it's given us scope for development really, to think of innovative working, you know, and also to build up new skills and maybe confidence as well, because, you know, I'd never run groups online until, until COVID happened.” (Participant 2)

In addition to the learning that occurred from innovative service delivery, others observed the benefits of increasingly more accessible on-line educational resources.

“...I did a lot of webinars and different things like that, looking at what people were doing internationally in terms of running interventions and working with people...”
(Participant 3)

Whilst there was recognition for general improvements in development opportunities, there were also observations that more could be done to provide staff with the skills required for continued virtual care delivery:

“...It's something that we keep, we have been asking for... there's so much out there that we could probably be using that would help us in our work that, and we, it's been

difficult to actually get anybody to provide that at the moment, you're often directed towards online resources but often they are not, they're not actually necessarily aimed at health staff and they're definitely not adapted to the specific needs we have in our service, you know, we actually would quite like more bespoke training, I think."

(Participant 4)

Despite the insight that there may always be room to improve technological skills, overall the technological advances that rapidly unfolded to enable 'new ways' in health and social care were well received:

"...and it could have been like COVID could have been a little bit dire. But how it works, actually, it was fine. I think there have been lots of learning points for us, I think it's taught us how to do things that we wouldn't have done before and it's almost like change is scary, isn't it sometimes, but we were forced into it. And because we were forced into it, we found new ways of working." (Participant 9)

5. Discussion and implications

An exploration of the term 'virtual working' has contributed to a clearer understanding of how OT's perceive this concept in practice. Telehealth has been defined as "the use of information and communication technologies to deliver health-related services when the provider and client are in different physical locations" (WFOT 2021 p.1) and whilst it was previously unclear how this compared to an understanding within practice, consensus derived from the data suggests that OT's share an understanding of the term virtual working consistent with this view. Furthermore, the range of technologies in use as identified from the data collected, which included telephone communications as well as digital platforms also upholds the modalities included in literature pertaining to telehealth (Lanfranchi et al., 2022; WFOT 2021). This study has been conducted in Wales, however due to the wide representation of services included, there may be similarities generalisable to both UK and wider global services given similar pressures experienced in maintaining population health and to consider this in context, three recurring themes alongside the questionnaire findings identified above are discussed in turn below.

5.1. The art of Occupational Therapy

The study has confirmed that virtual working increased dramatically amongst this group after the onset of the Covid-19 pandemic in the early months of 2020. This is in line with the finding from a global OT survey that the amount of work time spent using video conferencing technology rose by 39% during the pandemic (Hoel et al., 2021). There is also evidence that all aspects of the OT process were affected, as well as other activities (e.g. administration, management and education). Participants provided examples of how services and individuals rapidly adapted their practice to meet changing circumstances. However, some had concerns that the move to virtual working did not allow them to make full use of their OT skillset, a finding that coincides with Read et al (2020) who identified a perceived threat to OTs' role and skills as a major barrier to the acceptability of virtual working. In particular, the ability to carry out a thorough assessment by virtual means in some settings was repeatedly questioned. This was especially true for environmental assessments, supporting the findings of Jones et al (2022), which question the quality of remote home visits. There were also some concerns about communication and rapport-building skills being hampered. This suggests that virtual working may compromise the 'therapeutic use of self', considered an integral part of OT practice (Taylor & Melton, 2009). In relation to the impact of virtual working on the care provided, the findings reveal a perceived reduction in standards. Over half of questionnaire respondents thought that the quality of care delivered by virtual means was lower than traditionally delivered care. The question is whether this perceived lowering of care quality is a direct result of OT skills being compromised or whether other factors are responsible. Hoel et al., (2021) suggest that the Covid-19 pandemic had a tumultuous effect on the quality of OT services and it is arguable that the rapid switch to virtual working prompted by the Covid-19 pandemic represented a 'revolution' in OT practice in contrast to the slower 'evolution' that might normally be expected to occur. This potentially left some aspects of practice unprepared for the change, but this may improve over time as OTs learn to use the tools of their trade in a different way. In fact there is some emerging evidence suggesting that the virtual offer is already as effective as traditional care. A systematic review considered delivery across a range of disciplines in healthcare and reported that telehealth was either as good as, or better than care delivered more traditionally (Snoswell et al. 2021). In OT specifically, there is also support in favour of the effectiveness of services delivered in this way (Feldhacker et al. 2022; Ding et al. 2023), however all recent studies identify that more research needs to be conducted. Furthermore, the main focus of much of the literature on virtual working and the effectiveness relating to patient outcomes can only be considered as part of quality in healthcare. Both safety

and person centeredness including the aspect of experience are, according to the World Health Organisation, imperative parts of quality (WHO 2023). There is evidence that guidance for supporting the implementation of providing services virtually has started to emerge however at present this remains limited (Wardlow et al. 2022). It would be useful for future studies to investigate in more depth the whole aspect of quality of care being delivered 'virtually' in comparison to traditional approaches, preferably from a variety of viewpoints, and using more objective measures.

5.2. Keeping doors open

One of the main benefits of virtual working identified by participants in this study was its usefulness in improving the accessibility of services. Despite concerns about the overall quality of care delivered virtually, the majority of questionnaire respondents indicated that virtual working offered improvements to care in terms of ease of access, family involvement and confidentiality. During the social restrictions imposed because of the pandemic and in the time since, virtual working has been recognised as a vital means by which health and care agencies could continue to provide services to those in need. Participants showed widespread appreciation of this benefit, recognising that it enabled services to deal with shifting restrictions and priorities during the acute phase of the pandemic and to manage the waiting lists left in its wake. Virtual working was adopted primarily to allow continued access to services when social contact was restricted (Hoffman, 2020); however, the impact on service accessibility has been more widespread than this. Participants in this study provided examples of how virtual working enabled more efficient work practices - such as reduced travel - that have freed up their time and availability, and these efficiency gains for some services are likely to be long term. In addition, it has widened or eased access to care for people when mobility, travel or other personal limitations would otherwise have precluded them from accessing some OT services. There is evidence that virtual working also facilitated enhanced communication with others involved in care provision, including other professionals and team members, outside agencies and service users' families and carers.

While the above advantages of virtual working were widely recognised, participants also commented on factors that could reduce its potential benefits. These primarily related to technical issues that the majority had encountered, in particular, internet and equipment shortcomings, this is consistent with Safdari et al (2021) who, in their systematic review of

telehealth and telemedicine in response to Covid-19, found that access to a suitable platform, the internet and equipment were the most frequently mentioned obstacles. The lack of an appropriate quiet, private space was also frequently mentioned by participants. These problems could be experienced by OTs or those using OT services. Other problems reported by participants related to lack of IT skills and competence (OTs' own or service users'); the tendency for some service users to 'hide' by turning off their camera during on-line sessions; tokenistic attendance by some individuals; and the risks of environmental distraction or multi-tasking reducing meaningful engagement.

These findings indicate that certain fundamentals need to be in place in terms of equipment, internet service, user competence and an appropriate space in which to conduct the interaction. Upskilling the health and care workforce to achieve digital competence is underway (WG 2023) and the agenda firmly set for the OT profession with current members (RCOT 2022) as well as an established prerequisite in the curriculum for future learners (RCOT 2019). However, ensuring things are in place for OTs is only one part of the equation; they need to be in place for those that use OT services too. This is generally outside the control of service providers and raises questions about the equity of OT services if they can be utilised more fully and effectively by some individuals than by others.

The finding that the majority of participants in this study were of the opinion that virtual working improves access to care contrasts with the finding from the questionnaire data that over half considered the overall quality of virtually-delivered care to be lower than traditionally-delivered care. This poses the question of whether virtual working increases the quantity of care provision (by making access easier) at the expense of quality. This is another potential area for future study.

5.3. Looking forward

Three main elements of this theme were identified. The first concerns the sustainability of the workforce. The majority of questionnaire respondents were satisfied or very satisfied with their experience of virtual working. The majority also reported either a positive or neutral impact on general wellbeing and on specific aspects of personal and professional wellbeing. This was echoed by interviewees who reported a number of ways in which virtual working had made life easier for them, including reduced travel stress, greater time flexibility, improved work-

life balance and financial benefits. On the other hand, interviewees also identified ways in which virtual working had affected them negatively and support the findings of Ingham et al (2022) who identified similar difficulties faced by OTs in the early stages of the pandemic. On a personal level, some felt a loss of human connectedness and peer support that they believed undermined their general wellbeing and ultimately reduced the quality of care they provided. Other negative impacts resulted from feelings of increased time pressure due to the nature of virtual working, which had removed even small interludes of 'down time' from the working day. The difficulty of maintaining home/work boundaries was repeatedly mentioned as were technological problems and a lack of necessary IT skills. Other difficulties arose from frustrations caused by an inability to satisfy service users' needs and preferences and the mental and physical impact of prolonged computer use.

Understandably, participants recounted their whole experience of virtual working, which for many had coincided with a move out of the workplace in the early phase of the pandemic. In considering the above impacts, it is worth noting that some, such as reduced contact with others and the blurring of home/work boundaries are more attributable to home working than to virtual working per se. It is therefore important that the two issues are not conflated. Nevertheless, other impacts identified above do arise from the increased use of virtual working practices and potentially pose a risk to the wellbeing and sustainability of the OT workforce.

Given that over half of participants perceived that virtual working involved a reduction in the quality of care provided, it is perhaps surprising that they also reported relatively high levels of satisfaction with their virtual working experience overall. It may be that their overall satisfaction is due to its positive impact on aspects of their own wellbeing rather than any impacts on service users' experiences of receiving OT. It should be acknowledged that the health and wellbeing of OT personnel is vital both in its own right and as a factor in sustaining service provision, and the evidence from this study indicates that virtual working can contribute to this. Nevertheless, in the interests of person-centred care, it is of course also paramount to ensure that working methods suit the people who receive services. Future research should therefore investigate those accessing OT services' perceptions of the different delivery models offered.

The second element of this theme relates to keeping people healthy in the future. Despite the various difficulties noted above, it was evident that the majority of participants in this study had adapted to their changed ways of working and accepted them as the 'new normal'. It seems likely that virtual working is here to stay as a means of delivering OT in the long term. Although the restrictions on social contact that prompted the adoption of remote working in the early days of the pandemic are no longer a consideration, the many advantages it offers are unlikely to be discarded particularly alongside ongoing government programmes to embed virtual working as a means to managing current pressures (WG, 2022). It was evident that participants valued the contributions virtual working can make in terms of improved access to services, greater choice for service users, risk management, flexibility, efficiency and their own wellbeing. Many participants reported the beginnings of a move to 'hybrid working' in which the preferred aspects of virtual working and traditional models of care were combined. This echoes the findings of Bayly et al (2022) who observed that the pandemic could be a springboard for positive change via the adoption of hybrid rehabilitation approaches and supports how virtual OT working practices may evolve over time.

The final element of this theme relates to learning and development. The experience of the last three years has taught valuable lessons. OT practice appears to be evolving with the move to hybrid working described by participants and the development of adapted rapport-building approaches. Whilst the data also suggest other evidence of skill development afforded through the increased use of digital technologies, ironically, the training participants had received in the use of virtual working platforms was often inadequate, with nearly a quarter of questionnaire respondents reporting that they had received no training at all. This coincides with findings from Onorato et al (2020) and Leone et al (2022) who both identify a lack of training provided for clinicians carrying out virtual consultations and suggests there is a requirement to ensure ongoing individual training needs are considered to maintain effective and safe practice if delivery is to continue through virtual means.

5.4. Recommendations for practice

One size does not fit all; it is important to offer those who access OT services choice and recognise individual needs and preference. Whilst some groups may benefit from the flexibility and accessibility virtual working offers it may be inappropriate for others. Likewise, virtual

working may not be suitable in all settings or for all aspects of OT practice, for example it may not align to all situations requiring physical contact/demonstrations or close observation of physical abilities. Furthermore, where virtual working is used it may be good practice to carry out occasional in-person interactions to reduce risk. Further research and service evaluation should consider all aspects of quality of care provided through comparison to traditional care and importantly include service user and their families and carers perspectives.

To ensure equity of provision and avoid occupational injustice certain fundamentals need to be in place. To both deliver and receive care virtually, this may include the skill set required as well as environmental considerations such as appropriate equipment, internet access and a private space, for both OTs and for those accessing services. To fully understand the impact of virtual working on populations served by OT and to facilitate future accessibility through understanding better how skill developmental and environmental needs can be met, evaluating perspectives from those accessing OT is essential.

Whilst virtual working may support work-life balance and offer benefits for planning services, there are risks of virtual working to staff's mental and physical health. Increased sedentary working practices, reduced 'down time', prolonged screen time, plus the risk of social isolation if working from home are current issues. Service leads and managers could be encouraged to carry out risk assessments to identify issues arising from local work practices and implement protective measures. These are likely to include, at a minimum, regular breaks away from the telephone/computer screen, encouraging regular physical movement, periodic face-to-face supervision and supporting home/work boundaries.

There is a need to maintain access to training and development. Technological competence is required and for OT learners this needs to be introduced and developed at a pre-registration level. For existing staff easier access to training and other forms of continuing personal and professional development was frequently mentioned by participants in this study as an ongoing key benefit arising from virtual working. It is recommended that this enabler for work force development should continue with staff encouraged to engage. This opportunity will support future safe practice and the sustainability of technological developments.

5.5. Limitations

The potential of non-response bias from the questionnaire data could be considered a limitation of the study. The responses received were lower than average (Shih & Fan 2009), however a

wide range of OT areas of practice, registered and unregistered staff and geographical spread was denoted and as such taken together with the interview data, provide a representative insight from across the population sampled.

The study data collected largely represents participants’ experiences as they started to emerge from the heights of the pandemic. Whilst findings do illustrate the continuation of aspects of virtual working in some settings, it is recognised that face to face working may have continued to increase and as such only further research could determine which services have continued to implement the level of virtual activity described. Furthermore, as a preliminary investigation, the study was limited to a general exploration of the subject, with a view to generating broadly applicable findings. The authors suggest that future follow-up studies could usefully involve a more in-depth exploration of particular aspects of this way of working. In particular, subsequent studies could investigate the perspectives of individuals receiving OT services, and their carers and families.

Key findings

- Virtual working can improve access to services, but one size does not fit all
- High quality service provision and person centred care needs to be maintained
- Risks of virtual working to staff ‘s mental and physical health need to be monitored

What the study has added

This study has explored the virtual working experiences of OT personnel to arrive at a fuller understanding of its use and the advantages and disadvantages it offers. Specific recommendations are suggested for clinical practice and future research.

References

Abbott-Gaffney CR, Gafni-Lachter L, Cason J, et al. (2022) Toward Successful Future Use of Telehealth in Occupational Therapy Practice: What the COVID-19 Rapid Shift Revealed. *Work* 71(2): 385 – 394.

- Bayly J, Bradshaw A, Fettes L, et al. (2022) Understanding the impact of the Covid-19 pandemic on delivery of rehabilitation in specialist palliative care services: An analysis of the CovPall-Rehab survey data. *Palliative medicine* 36(2): 319-331.
- Bengtsson M (2016) How to plan and perform a qualitative study using content analysis. *NursingPlus open*, 2: 8-14.
- Braun V and Clarke V (2022) *Thematic Analysis: A Practical Guide*. London: Sage.
- Campbell J, Theodoros D, Hartley N, et al. (2019) Implementation factors are neglected in research investigating telehealth delivery of allied health services to rural children: A scoping review. *Journal of Telemedicine and Telehealth* 26(10): 590-606.
- Carrington M and Islam Md S (2022) The Use of Telehealth to Perform Occupational Therapy Home Assessments: An Integrative Literature Review. *Occupational Therapy In Health Care*. Epub ahead of print 23 January 2023. DOI: 10.1080/07380577.2022.2056779.
- College of Occupational Therapists (2014) Managing information: A 10-year strategic vision for occupational therapy informatics. Available at: <https://www.rcot.co.uk/sites/default/files/Managing-Information-The-Strategic-Vision.pdf> (accessed 10 November 2022)
- Cottrell M and Russell T (2020) Telehealth for musculoskeletal physiotherapy. *Musculoskeletal Science and Practice*. Available at: <https://doi.org/10.1016/j.msksp.2020.102193> (accessed 10 November 2022)
- Department for Health & Social Care (2022) A plan for digital health and social care. Available at: A plan for digital health and social care - GOV.UK (www.gov.uk) (accessed 19 January 2023)
- Ding J, Yang Y, Wu X, et al (2023). The telehealth program of occupational therapy among older people: an up-to-date scoping review. *Aging Clinical & Experimental Research* 35: 23-40.
- Domínguez-Lucio S, Compañ-Gabucio LM., Torres-Collado, L, et al. (2022) Occupational Therapy Interventions Using New Technologies in Children and Adolescents with

- Autism Spectrum Disorder: A Scoping Review. *Journal of Autism and Developmental Disorder*. Available at: <https://doi.org/10.1007/s10803-022-05431-3> (accessed 23 January 2023)
- Feldhacker D, Jewell V, Jung S, et al (2022) Telehealth Interventions Within the Scope of Occupational Therapy Practice: A Systematic Review. *American Journal of Occupational Therapy*. Available at: <https://doi.org/10.5014/ajot.2022.049417> (Accessed 22 June 2023)
- Ferguson J, Craig EA and Dounavi K (2019). Telehealth as a Model for Providing Behaviour Analytic Interventions to Individuals with Autism Spectrum Disorder: A Systematic Review. *Journal of Autism and Developmental Disorder* 49(2): 582–616.
- Ferrari SML, Pywell SM, Borges da Costa AL, et al. (2022) Occupational Therapy telehealth groups in Covid-19 pandemic: Perspectives from a mental health day hospital. *Brazilian Journal of Occupational Therapy* 30. Available at: <https://doi.org/10.1590/2526-8910.ctoRE22883019> (Accessed 28 November 2023)
- Flodgren G, Rachas A, Farmer AJ, et al. (2015) Interactive telemedicine: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Review* 9. Art. No.: CD002098. Available at: https://www.cochrane.org/CD002098/EPOC_interactive-telemedicine-effects-professional-practice-and-healthcare-outcomes (accessed 23 January 2023)
- Hadley-Barrows T, Harrison T, Sedgwick K, et al. (2022). Embracing digital technology in response to Covid-19: A patient satisfaction service evaluation. *Physiotherapy* 114 (1). Epub ahead of print 16 February 2022. DOI: 10.1016/j.physio.2021.12.246.
- Hewitt S, Sephton R and Yeowell G (2020). The Effectiveness of Digital Health Interventions in the Management of Musculoskeletal Conditions: Systematic Literature Review. *Journal of Medical Internet Research* 22 (6):e15617. DOI: 10.2196/15617.
- Hoel V, Von Zweck C, Ledgerd R and World Federation of Occupational Therapists (2021) The impact of Covid-19 for occupational therapy: Findings and

- recommendations of a global survey. *World Federation of Occupational Therapists Bulletin*, 77(2): 69-76.
- Hoffman DA (2020). Increasing access to care: telehealth during COVID-19. *Journal of Law and the Biosciences* 7(1) Isaa043. Available at: <https://doi.org/10.1093/jlb/Isaa043> (accessed 28 November 2023).
- Ingham L, Jackson E and Purcell C (2022). Learning from adversity: Occupational therapy staff experiences of coping during Covid-19. *British Journal of Occupational Therapy* 85(8): 577-584.
- Jones NL, Read J, Field B, et al. (2022) Remote home visits: Exploring the concept and applications of remote home visits within health and social care settings. *British Journal of Occupational Therapy* 85(1):50-61.
- V. Lanfranchi, N. Jones, J. Read, C. Fegan, B. Field, E. Simpson, C. Revitt, P. Cudd & F. Ciravegna (2022) User attitudes towards virtual home assessment technologies, *Journal of Medical Engineering & Technology*, 46:6, 536-546, DOI: 10.1080/03091902.2022.2089250
- Leone E, Eddison N, Healy A, et al. (2022) Do UK Allied Health Professionals (AHPs) have sufficient guidelines and training to provide telehealth patient consultations? *Human Resources for Health* 20, 82. Available at: <https://doi.org/10.1186/s12960-022-00778-1> (accessed 19 January 2023).
- McGoldrick K (2020) Ipad and Zoom for virtual visiting. *Occupational Therapy News* 28 (6) 32-34.
- Moon K and Blackman D (2014) A guide to understanding social science research for natural scientists. *Conservation biology* 28(5): 1167-1177.
- Onorato S, Joshi A and Schwartz AW (2021) Lights, Camera, Action: Optimizing Virtual Video Visits to Provide High-Quality Care. *Journal of General Internal Medicine* 36: 1751–1754.

- Royal College of Occupational Therapists (2019) Learning and development standards for pre-registration education. London: Royal College of Occupational Therapists.
- Royal College of Occupational Therapists (2021) Royal College of Occupational Therapists' Data Innovation Strategy 2021 – 2023. London: Royal College of Occupational Therapists.
- Royal College of Occupational Therapists (2022) Digital Occupational Therapy. Available at: <https://www.rcot.co.uk/practice-resources/occupational-therapy-topics/digital-first-occupational-therapy> (accessed 7 September 2022).
- Read J, Jones N, Fegan C, et al (2020) Remote Home Visit: Exploring the feasibility, acceptability and potential benefits of using digital technology to undertake occupational therapy home assessments. *British Journal of Occupational Therapy*. Vol. 83 (10) 648–658.
- Renda M, Lape JE (2018) Feasibility and acceptability of telehealth Occupational Therapy home modification interventions. *International Journal of Telerehabilitation* 10(1) 3-14.
- Safdari R, Gholamzadeh M, Rezayi S, et al. (2021) Telehealth and telemedicine in response to critical Coronavirus: A Systematic Review. *Iranian Red Crescent Medical Journal* 23(9):e1150 Epub ahead of print 20 September 2021. DOI: 10.32592/ircmj.2021.23.9.1150.
- Sarak H (2020) Telerehabilitation services: A successful paradigm for occupational therapy clinical services? *International Physical Medicine & Rehabilitation Journal* 5 (2) 93-98.
- Sheatsley PB (1983) Questionnaire construction and item writing. In: Rossi PH, Wright JD and Anderson AB (eds) *Handbook of Survey Research*. Cambridge: Academic press, pp.195-230.
- Shi T and Fan X (2009) Comparing response rates in e-mail and paper surveys: A meta-analysis. *Educational Research Review* 4 (1) 26-40.

Smith AC, Thomas E, Snoswell CL, et al (2020) Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). *Journal of Telehealth and Telemedicine* 26 (5): 309-313.

Snoswell CL, Chelberg G, De Guzman KR, et al (2021). The clinical effectiveness of telehealth: A systematic review of meta-analyses from 2010 to 2019. *Journal of Telemedicine and Telecare*. Available at: <https://journals.sagepub.com/doi/full/10.1177/1357633X211022907> (accessed 23 June 2023)

Taylor RR and Melton J (2009) Therapeutic use of self: A model of the intentional relationship. In: Duncan EAS (ed.) *Skills for Practice in Occupational Therapy*. Philadelphia, PA: Elsevier Ltd, pp. 123–144

Wardlow L, Leff B, Biese K, et al (2023). Development of telehealth principles and guidelines for older adults: A modified Delphi approach. *Journal of the American Geriatrics Society*, 71(2), 371–382.

Welsh Government (2015). *Informed health and care - A digital health and social care strategy for Wales*. Available at: <https://gov.wales/digital-health-and-social-care-strategy> (accessed 7 September 2022).

Welsh Government (2016) *Prudent Healthcare: Securing health and wellbeing for future generations*. Available at: [securing-health-and-well-being-for-future-generations.pdf](https://gov.wales/securing-health-and-well-being-for-future-generations.pdf) (gov.wales) (accessed 7 September 2022).

Welsh Government (2022) *Our programme for transforming and modernising planned care and reducing waiting lists in Wales*. Available at: <https://www.gov.wales/transforming-and-modernising-planned-care-and-reducing-nhs-waiting-lists> (accessed 23 January 2023).

Welsh Government (2023) National workforce implementation plan: Addressing NHS Wales workforce challenges. Available at: <https://www.gov.wales/sites/default/files/publications/2023-01/national-workforce-implementation-plan.pdf> (accessed 28 January 2023).

World Health Organisation (2023) Quality of care. Available at: https://www.who.int/health-topics/quality-of-care#tab=tab_1 (accessed 23 June 2023).

World Federation of Occupational Therapists (2021) Occupational Therapy and Tele health. Available at: <https://www.wfot.org/resources/occupational-therapy-and-telehealth> (accessed 7 September 2022).