

Association of Paediatric Chartered Physiotherapists COVID-19 Survey Analysis: Technology

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Introduction

The outbreak of COVID-19 continues to have a significant impact on working practices for all paediatric physiotherapists. Technology was recognised by the working party as a key a priori domain of the APCP membership survey. The unprecedented speed of application of many new technologies and the sudden reliance, in many cases, on telehealth has been widely recognised during the pandemic.

This domain explores members experience with technology during the COVID-19 pandemic.

Aims

To identify, appraise and synthesise respondent data exploring paediatric physiotherapy experiences in the use of technology during the COVID-19 pandemic.

- To identify the changes in technology use
- To identify the challenges of technology use
- To identify the opportunities of technology use
- To consider changes in technology usage which will continue in practice

Methodology

An electronic survey was sent to all APCP members between June 4th and June 17th 2020. A qualitative approach utilising Framework Analysis (Ritchie 2014) has been applied. A detailed methodology of the design, development delivery and analysis of this electronic survey is reported in the introduction and methodology section of this series. Further consideration of methodological limitations within this project have been detailed in the Introduction and methodology section. The domain of this survey was explored through four key questions. These are presented in Table 1.

Table 1: Survey Questions	Type of question
1) Has the use of technology changed within your role over the past three months?	Closed (yes/no)
2) Please specify what technology you use and for what purpose	Open ended
3) What have been the challenges and opportunities you have experienced?	Open ended
4) Will your use of technology influence your practice in the future?	Open ended

Table 1: Survey questions within Technology Domain

Respondent data was synthesised across all survey questions using a structured framework analysis (Ritchie 2014). A detailed methodology of data analysis is reported in the 'Methodology' section of this series. Within this survey domain, raw data was extracted line-by-line to develop themes and sub-themes. Microsoft Excel was used to present a matrix of findings and facilitate comparison of demographical and raw data within and across themes. Descriptive statistics were used to support qualitative findings.

Results

472 respondents (APCP members) completed the survey, representing paediatric physiotherapists from all UK regions, banding, specialties and employment settings (refer to 'Background' section).

94.7% of respondents stated that their use of technology had changed during COVID-19. Only 4.2% (n=19) of respondents did not feel their use of technology had changed and 1.1% of respondents did not answer this question.

Of those who stated their use of technology had not changed, 16 out of the 19 were NHS employed and 13 worked within the primary care setting. 10 of these respondents worked in neurodisability. Respondents represented levels of banding AFC 5-7 and 9 out of APCP's 11 regions were represented with the majority of 5 being from London. The reason for not changing in use of technology was not captured by the survey.

When asked about which technology platforms were used, many platforms/technologies have been signposted for a variety of purposes. The most common was either Zoom (321) or Microsoft Teams (235) for meetings and AttendAnywhere (160) or AccuRx (54) for treatment/virtual clinics (See *Figure 1*). WhatsApp (88), Facetime (20) and Skype (49) were all popular, suggested by respondents to be a preferred method for patients and families. Many respondents reported having to change platforms as the service evolved rapidly. It was noted that AttendAnywhere has recently gained in popularity having been slow to be introduced initially. Respondents in Northern Ireland, Wales and some parts of Scotland were more likely to be using telephone only consultations i.e. slower to start using other technologies as many stated they were just starting virtual platforms or waiting to start.

Analysis shows that in many cases the respondent's choice of platform was led by the patient and family preferences where members had to adapt to the system families felt comfortable with.

'Dependant on what the family feel comfortable accessing as long as within the guidance' (R45)

'Did offer other technology software but the ease of WhatsApp was a preferred method for all parents' (R52).

In total there were 27 different platforms used by respondents (See Figure 1).

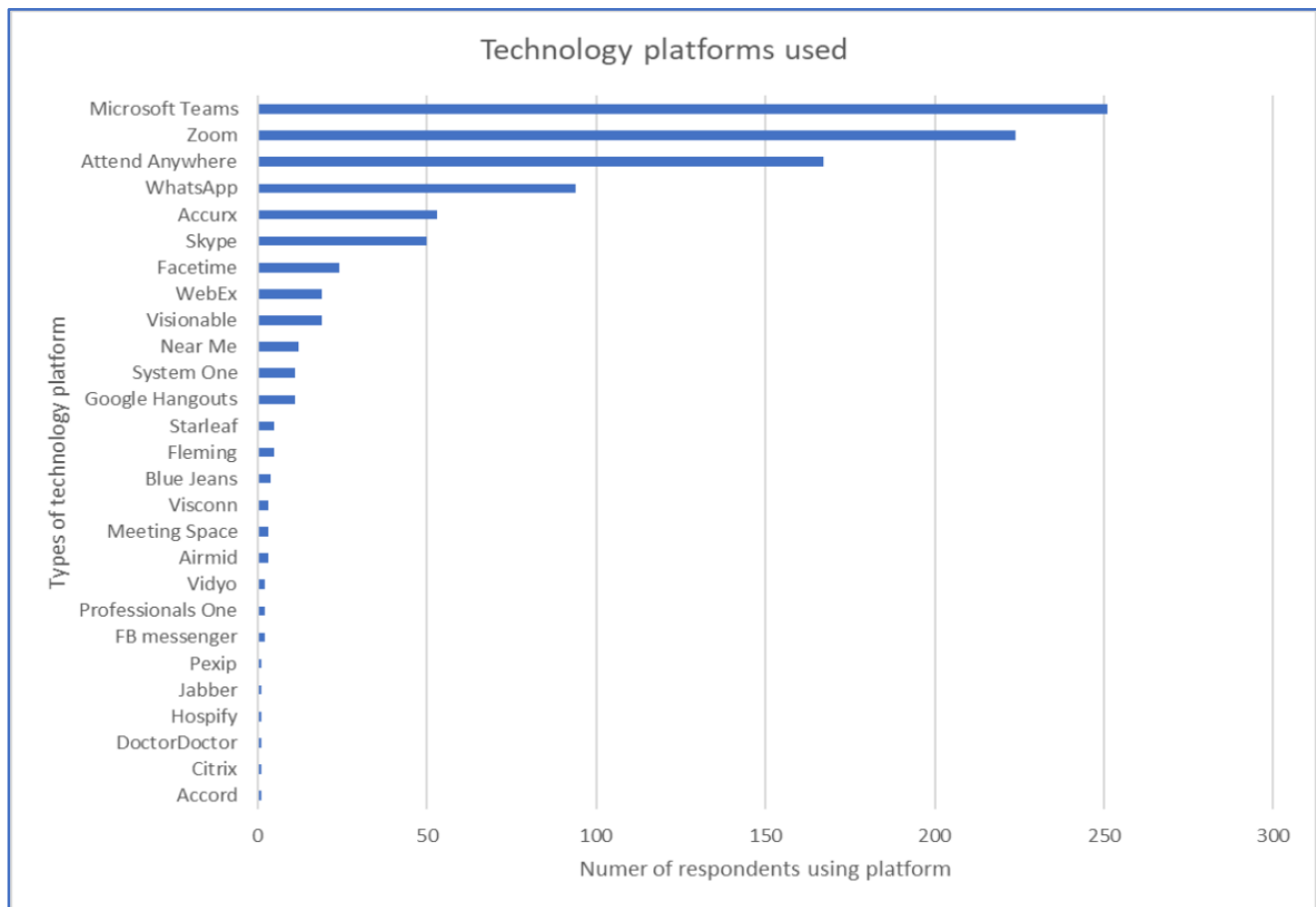


Figure 1 - A graphical representation of the most used platforms determined by participant responses.

Themes

Data analysis within the technology domain revealed four subthemes:

1. Capability using technology
2. Technology and service delivery
3. Technology to support professional communication and clinical education
4. Technology use in future practice

1: Capability using technology

In this theme respondents described the ability to use technologies both from a clinician and perceived client perspective which could be otherwise considered as digital literacy. There was a strong subtheme of technology resources and the environmental requirements, including connectivity.

The unprecedented shift to digital service and rapid reliance on these technologies happened within days and caused many challenges for both clinicians and patients. Learning how to use multiple platforms quickly alongside a lack of training in the systems were amongst the most reported frustrations.

'Speed with which the technology was rolled out made it a very steep learning curve' (R67)

'Frequent crashing of database and lack of experience of being able to problem solve some of the more easier IT technical problems'(R62)

Fear of not looking professional and lacking competence in the technology was another common theme.

'Lack of clinician confidence in technology when using technology in front of a patient', 'ineffective with video consultations. due to my lack of knowledge' (R61)

'Delivery of a professional service from my home environment - with kids/ dogs /noise often interrupting despite best efforts to stop this' (R119)

Fear of doing something wrong or issues with data security were reported, it was common for respondents to report that they needed more support than what was available:

'Cyber-attacks = remote access suspended, emails on the go (on a phone) suspended and not reinstated' (R64)

'No previous teaching/ experience on these platforms so were unsure of confidentiality/ safeguarding issues - poor and minimal guidance available'(R118)

There were many environmental concerns, from the patient perspective with siblings or pets interfering with the appointment. Or from a clinician perspective working from home with their own family present and the privacy of calls. The access gap was highlighted especially for those more vulnerable families, similar responses were found regardless of post or banding.

'Poor connectivity. Parents not being able to access new technology.' (R182)

'Language barriers for non-English speaking families.' (R217).

Although there were many technical challenges and difficulties, there were also many positive responses to the opportunities provided such as;

'I find I am more efficient when working at home when comes to reports/programmes' (R201)

'This hasn't just been a review and manage period, it has been progression.'(R261).

Having the correct, often basic resources was one of the biggest challenges our respondents have found;

'Had to buy own webcam to use at home' (R309) 'Lack of laptops for home working. Lack of webcams for office desktops for those in the office' (R406)

2: Technology and service delivery

In this theme, the use of technology for service delivery and the perceived quality of such delivery were highlighted.

A sudden transition from face-to-face delivery to a virtual service model required rapid response to change for both clinician and patient. Some respondents felt virtual working was an asset.

'Seeing people in their own home environment gives a better understanding of their circumstances.'(R5)

'Have also seen a dramatic improvement on confidence of parents/caregivers in providing hands on support to their child with support via video' (R64)

Other responses captured the difficulty of virtual working.

'Lack of eye contact and harder to read body language' (R58)

'Holding iPad/phone while teaching taping application-very difficult and had to get a colleague to sit 2m away to hold iPad' (R236)

Patient safety, service inequality and information governance were frequently reported as a concern, attributed to the rapid adoption of new systems;

'Lack of guidance for community services on information governance' (R250)

'Cyber-attacks affect access into remote working' (R187)

3: Technology to support professional communication and clinical education

This theme identified inter-professional communication such as meetings, team support and education, corroborating with findings from the wellbeing and CPD domains within this survey.

Overall, there was a very favourable response to the use of technology for meetings, attributed to reduced travel time, wider attendance and improved interdisciplinary team working. However, respondents reported initial difficulties getting used to virtual meetings;

'People getting used to the technology and feedback during meetings/calls, other people in the office on different calls' (R140)

'Time saving due to less travel' (R105)

'Ability to meet with colleagues and other service providers remotely through Teams' (R15)

'More attendance for MDT meetings by consultants' (R101)

Some respondents found virtual meetings difficult;

'Can be difficult to speak up in a team meeting on zoom, I found this much more difficult than speaking up in person' (R130)

Although team support was found to be useful;

'Virtual coffee is excellent' (R131)

'Being able to carry out peer support virtually more regularly than I would have been able to' (R323)

Generally, it was felt that virtual working lent different, but valuable opportunities for shared working, professional communication and peer support.

4: Technology in future practice

This theme collated respondents' perspective on which, if any, of their current technologies they would like to retain for future practice and delivery of treatment. A majority of 363/472 (76.9%) respondents did feel that technology would influence their practice in the future.

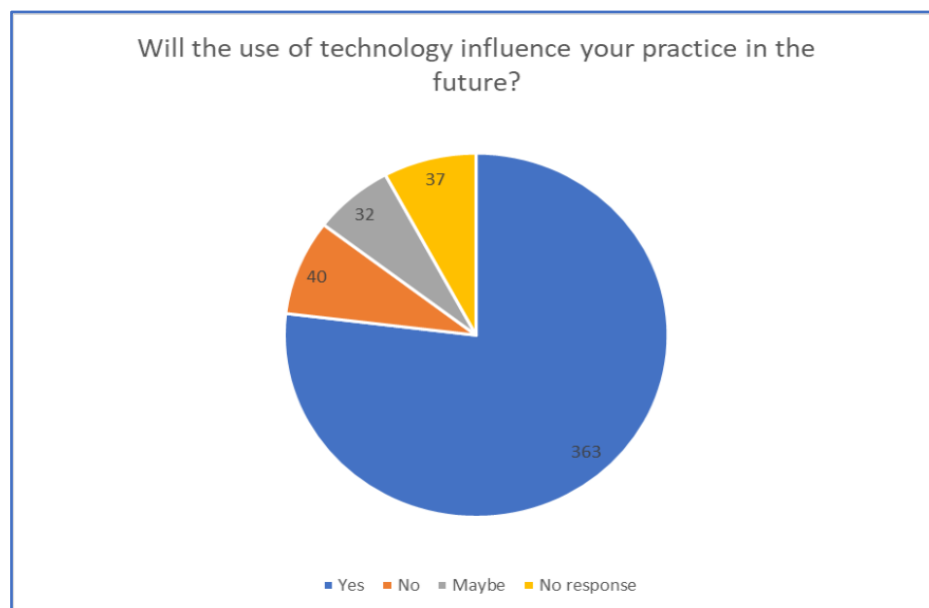


Figure 2 -A graphical representation of responses to whether respondents would continue to adopt the use of technology in the future.

10% of respondents specifically recorded that new patients would require a face-to-face appointment but a larger number recorded that follow-up appointments could perhaps be a combination of face-to-face and virtual delivery.

'Yes, we will offer it as an alternative to families and may offer a mixture, e.g. initial phone/video to take history followed by an initial face to face for assessment, then a few video appointments intermingled with face to face when necessary' (R11)

'Should be given as an option for all appointments'(R36)

Some respondents reported to be very keen on embracing the digital changes forced upon them during COVID-19, although a small number of members contradicted this;

'Should be given as an option for assessment. Convenient so only those needing to attend outpatient departments come.' (R10)

'No really. I prefer to see patients F2F' (R98)

A minority of respondents (41) reported they did not think technology would influence their practice in the future, some expressing strong beliefs and linked to their professional identity.

'Has a role though a poor substitute in Physiotherapy for hands on assessment' (R251)

'Feel physio is hands on especially with children and no amount of technology can replace it' (R287)

'I'm not sure I want to use Zoom again after this!'(R376)

'I will not move on into technology-based assessment or treatment. I think this could be detrimental for our profession' (R150)

Technology was highlighted by respondents as the most significant change in their practice, leading to considerable connections across key domains within this survey. Digital technologies were reflected within the 'Moving Forwards' domain, in which respondents considered how to integrate technology into their future role.

Discussion

'Organizational crises "forward the awkward dimension of 'un-ness': unexpected, unscheduled, unplanned, unprecedented and definitely unpleasant" (Rosenthal and Pijnenburg 1991, p1). In both their onset and their impact, crises are inherently unpredictable. Despite the unexpected, unscheduled, and unplanned nature of crises, people in positions of power are expected to respond in a manner that is both scheduled and planned. The general public expects that leaders will have a written response plan to consult, and the ability to offer regular scheduled updates, in the midst of a crisis response. Herein lies a conflict.' (Shaw, 2018)

The APCP survey followed the COVID-19 outbreak that led to a national lockdown, and the biggest health crisis any current paediatric physiotherapist has had to experience in their working career. Telehealth in itself is not new, some more remote parts of the country had been already engaging successfully with it prior to COVID-19. However widespread adoption amongst healthcare practitioners and patients, beyond simple telephone correspondence, has been relatively slow. (Centers for Disease Control and Prevention, 2020). There were a number of barriers and facilitators to technology described, however, the concept that our profession is psychomotor and hands on is inherent, being a physiotherapist via a screen is difficult and not natural to our professional identity.

Members recorded significant challenges in practical terms (acquisition of hardware/software), professional terms (role changes) and the more subtle indicators of managing sudden and unprecedented organisational change affecting their role, their workplaces and their professional and personal lives.

'Change Management' is the term that is used to refer to the change or transitioning people, groups, companies and projects from one state to another (Belyh, 2019). Many theories of change management have been developed which indicate that change in the workplace should occur in a structured and time specific way (Hussain & al, 2018). The COVID-19 pandemic has not allowed for any gradual processes and members have instead been presented with sudden changes to all areas of their lives, work as well as home. As referenced in the above quote, during times of crisis there is a need for strong leadership, some respondents reported feeling unsupported in their work whilst perhaps being unaware that leadership teams were trying to write the plan for a rapid, unscheduled and complete change in healthcare delivery. Effective strategies need to be developed to manage new working practices and digital professional support and development.

Analysis revealed strong overlap between the Technology and Well-being domain of this survey, with increased reliance on technology often increasing stress, highlighting the emotional impact of change. The change curve (Figure 3) was derived from work by Kubler-Ross (Kubler-Ross, n.d) and is beneficial to understanding the emotions commonly experienced when processing sudden changes. It describes the

internal emotional journey of individuals, exploring shock and denial, anger, bargaining, depression and acceptance when processing change and transition. These complex emotions are overlaid on the practicalities of trying to perform a professional role in a rapidly evolving environment and further complicated by the inherent difficulties in the advent of new technologies.

The overlap of findings across Technology and Moving Forward domain reveal strong links between the use of new technologies and professional identity. This is reflected in their perceptions of physiotherapy as a profession and concerns that these changes will be temporary or permanent precipitating a very unsettling period.

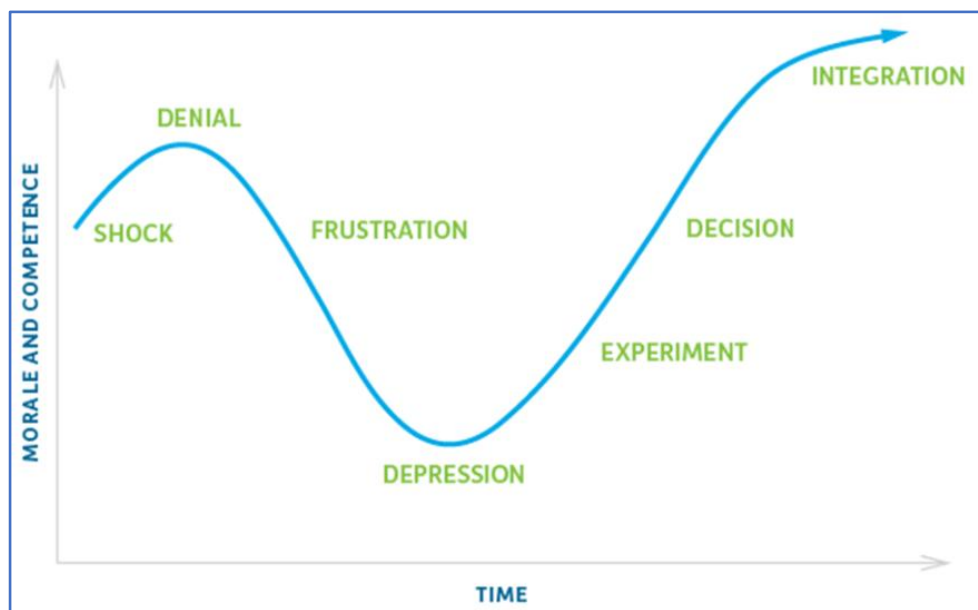


Figure 3 -A graphical representation of 'the change curve'.

Widespread engagement with technology, was initially stalled due to difficulties with procurement of hardware, training and acceptance of new technologies and the move to computer-based record keeping, these concerns need to be addressed in future training.

'Healthcare professionals, managers and IT practitioners are wondering what changes to work practices and new models of healthcare provision that have resulted from the rapid deployment of digital technologies should be sustained beyond the current crisis'. (Klecun, 2020)

The majority of our members can foresee a place for digital health technology continuing as part of their practice, however our profession relies on connecting with children and families which may lead to adjustments in how we engage with technology. It has been recognised that some families are particularly vulnerable in this environment, whether that be because of income, language or learning ability and particular care must be taken to ensure these families are not marginalised. This will require long term planning on aspects of service delivery to ensure services can be accessed by all.

However, most respondents felt that the use of certain technologies should continue, with the possibility of running hybrid systems integrating virtual with face-to-face appointments. This would require a further period of redefining systems and embedding those technologies into everyday use whilst enabling appropriate training for clinicians in their use. Engagement with service users would also be necessary to gauge their opinions. This might include the development of appropriate online resources and may take respondents to 'integration of change' on the change curve, and improvement in morale.

Conclusion

Analysis of responses in the technology domain of the APCP survey concluded an inescapably swift and challenging change in practice for clinicians, patients and their families. However, for many respondents, they embraced the change and would like to continue some form of digital service delivery as part of a hybrid model into the future. Public Health departments across the four countries of the UK continue to encourage social distancing and a 'virtual first' approach which will require an ongoing commitment to sustainable and flexible delivery of services.

Priorities for Supporting Future Digital Paediatric Physiotherapy are presented in Table 2.

Table 2: Priorities for Supporting Future Digital Paediatric Physiotherapy	
1	Prioritisation of clinical access to appropriate software and hardware with essential training in new platforms is required to develop future treatment delivery that safeguards the wellbeing of staff whilst promoting hands-on clinical skills central to their professional identity.
2	Prioritisation of online/ web resources to enable members to manage effective and efficient telehealth working practices as well as access to appropriate continuing professional development.
3	Prioritisation of development of effective strategies for professional/ clinical support of members working remotely and protocols for supervision, team meetings and appraisals.
4	Prioritisation of development of well-being tools to address concerns linked to digital and remote service provision changes.

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