

# Learning from the pandemic shift of outpatient services to a remote footing: **a rapid evaluation study**



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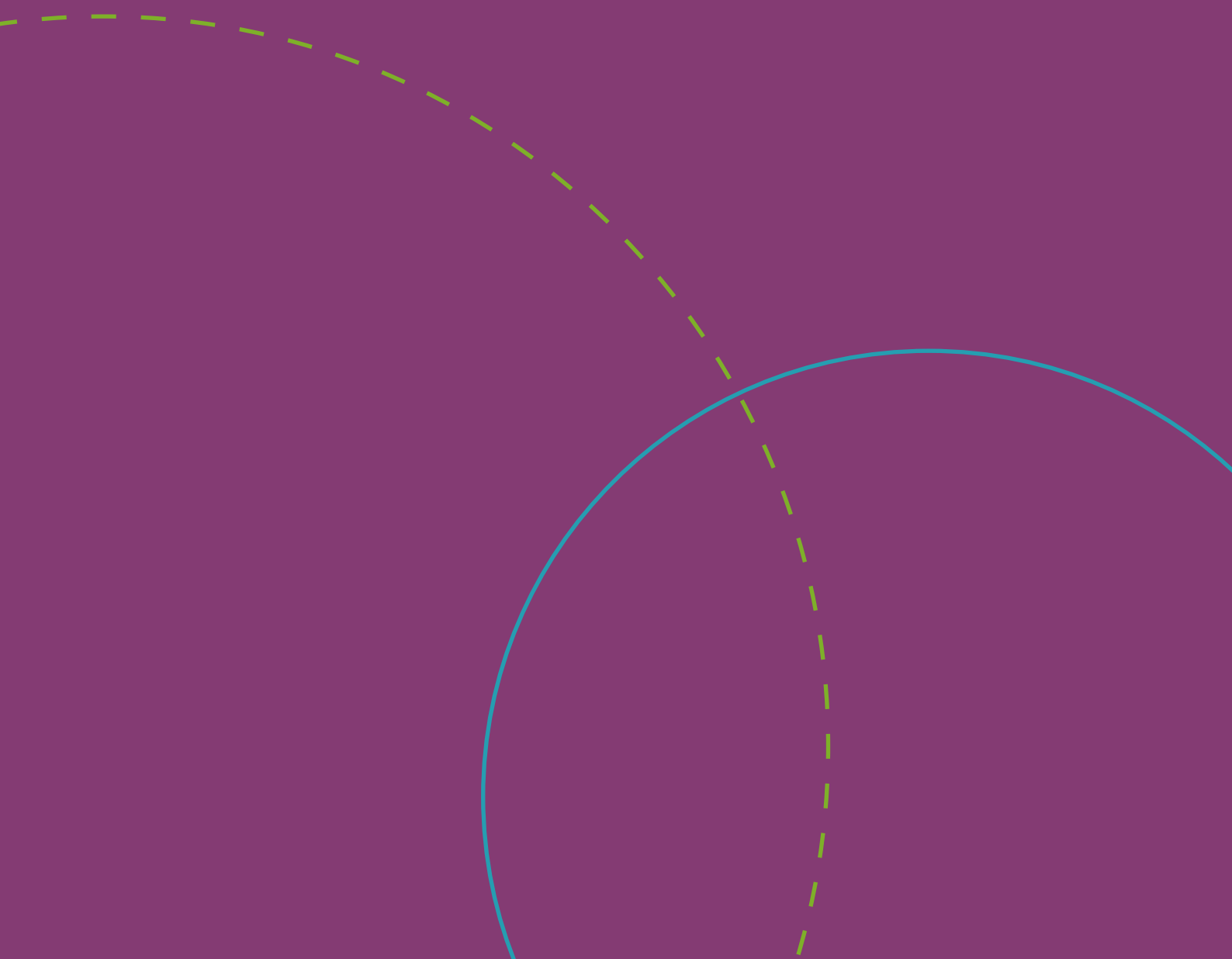
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# Contents

- 03 Executive Summary
  - 07 Introduction and study aims
  - 08 Methods
  - 12 Emergent themes
  - 17 Quantitative Data Analysis
  - 22 Using the literature to address the key questions
  - 35 Implications for policy and practice
  - 39 Acknowledgments
  - 40 References
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# Executive summary

## Context

The purpose of this study was to explore the experience of University Hospitals Birmingham (UHB) and Birmingham Women's and Children's (BWC) NHS Foundation Trusts in using remote outpatient consultations during the pandemic and, by applying learning from formal research evidence together with qualitative and quantitative analysis of local experience, develop insights for their use in future.

## Methods: *what we did*

This report draws on three key sources:

- A pragmatic literature review covering academic and 'grey' literature relating to remote consulting
- Qualitative interviews with a selection of BHP staff engaged in the implementation and use of remote outpatient consultations.
- Quantitative analysis of data on the use of remote consultations across two of BHP's provider trusts (University Hospitals Birmingham NHS Foundation Trust and Birmingham Women's and Children's NHS Foundation Trust) between March 2020 and September 2021 and April 2019 and March 2022 respectively.

## Implications: *what we found*

While the shift from face-to-face to remote consultations occurred quickly in both UHB and BWC trusts and reached around half of all consultations at its peak, the shift does not appear to have sustained. During late 2020 and into 2021, the proportion of consultations delivered remotely has, to some extent, fallen back from pandemic lockdown levels and the similarity of this trend across the two trusts is striking. Clinical specialties adopted remote consultations in different ways, although overall the vast majority of remote consultations in both trusts have been delivered by telephone rather than video.

Based on synthesis of the different strands of project fieldwork, the following implications are suggested for future outpatient policy and practice:

- 1. What worked and was considered acceptable in an emergency may not hold good longer term**, and people's expectations will likely shift as the potential for 'return to normal' emerges. Quantitative data suggest that the proportion of remote outpatient consultations has, to some extent, fallen back from pandemic lockdown levels. At this stage it is not clear what the new equilibrium level of remote consultation might or should be, or how far this change has been informed by analysis of patient and carer preferences, or an exploration of staff's reasons for making this shift. Careful strategic and operational attention will be needed to make the most of this transformational opportunity.
- 2. There is a need for a deeper understanding of patient and carer experience**, which will likely have been shifting along with the stages of the pandemic. The issue of patient

choice is important in respect of format of outpatient consultation and does not appear to have been prominent in national and local planning of outpatient services during the pandemic, for understandable safety and resource planning reasons. If remote consultations eventually become mainstream, the degree to which patients should be able to choose their preferred consulting modality and how that choice can be enabled will become a significant issue. It is also likely that a choice-based, multi-modality service will present implementation challenges.

**3. A critical issue is the development and application of criteria to be used when determining what format of outpatient consultation will suit the needs and preferences**

High propensity for remote consulting	Low propensity for remote consulting
<p><b>Patient factors</b></p> <ul style="list-style-type: none"> <li>• Known to clinical team</li> <li>• Perceived technological capability and access</li> <li>• Significant travel to hospital</li> <li>• Minimise loss of education or work opportunities</li> <li>• Patient desire for remote consultation</li> </ul> <p><b>Clinical factors</b></p> <ul style="list-style-type: none"> <li>• No requirement for physical examination</li> <li>• Stable disease and/or high confidence in patient self-management</li> <li>• Clinician preference for digital consulting</li> </ul>	<p><b>Patient factors</b></p> <ul style="list-style-type: none"> <li>• Vulnerable patient or family</li> <li>• Evidence of digital exclusion</li> <li>• Absence of cost factors relating to visit to hospital</li> <li>• Consultation involves confidential discussion not possible at home</li> <li>• Physical obstacles (eg hearing impairment)</li> <li>• Patient desire for face-to-face consultation</li> </ul> <p><b>Clinical factors</b></p> <ul style="list-style-type: none"> <li>• Requires physical assessment</li> <li>• First or particularly significant appointment</li> <li>• Unstable disease and/or poor ability to self-manage condition</li> <li>• Clinician resistance to digital consulting</li> </ul>

**Figure 1: Proposed framework for aligning patients to mode of consultation**

of individual patients, and categories of patients. This ‘cohorting’ of patients will need to be managed at specialty or sub-specialty level and probably within a set of organisational (or Integrated Care System, or perhaps wider NHS) overarching principles. A combination of patient choice and proactive selection by clinicians will be needed to mitigate risks of increased inequalities. We propose a possible framework for this – see figure 1 overleaf.

- 4. A more in-depth and nuanced understanding of clinicians’ preferences for the format of outpatient consulting will be needed** (and is the subject of an extension study currently under way). This will include exploring reasons for wishing to use (or not use) phone or video consulting, developing training and development for all staff involved in outpatient services, applying national professional and other guidance and doing this in an equitable manner that takes account of patient preferences and choice. Judgements will need to be made about what degree of clinician choice of consultation format will be accommodated within new care pathways. It is possible that the preferences of patients and staff may conflict, representing a cultural challenge that will need to be managed within the providing organisations.
- 5. There is a time-limited opportunity to build on the pandemic experience of using remote**

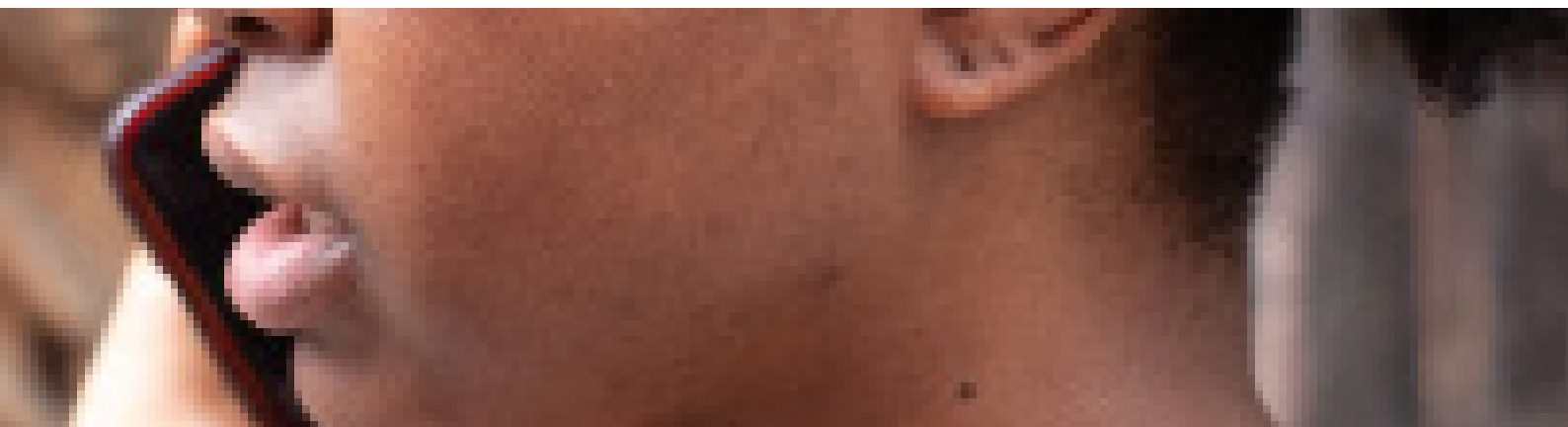
**consultations and incorporate this into new outpatient care pathways.** There is potential to extend other innovations such as remote monitoring and technology-supported self-management, patient wearables, patient portals and the use of remote diagnostic hubs. Indeed, it may be too limited to consider outpatient consulting modalities in isolation from these other opportunities. However, a 're-imagining' of ambulatory care in this way would represent a significant programme of service transformation. Evidence from this evaluation study suggests that some 'organisational slack' and tailored support would be a pre-requisite of successful implementation of such change.

- 6. It is vital that changes to outpatient care are planned and implemented in partnership with others across an integrated care system,** including with primary, community and social services colleagues, for similar changes have occurred in all health and care settings and solutions should be streamlined wherever possible. Transformation of hospital outpatient care needs to be co-designed with patients and carers as service users. Furthermore, extensive engagement of clinical and other staff will be required to explore and address their concerns about and aspirations for outpatient care. This needs particularly to include GPs who refer into the outpatient service and who may help communicate changes to patients.
- 7. It will be important to measure experience of and outcomes from different forms of outpatient consultation.** Patient-reported outcome measures will be helpful here, alongside analysis of dimensions of inequality in how consultations are accessed and experienced. There will be a need for ongoing assessment of staff experience and views of consultation effectiveness. Such data will help inform further development of outpatient care and reinforce or revise new ways of working and be useful for comparing outpatient care patterns and outcomes within and across integrated care systems.
- 8. There will be many operational issues to address as new outpatient care pathways are developed,** and will likely include: the implications of a mix of consultation formats for consultant and other clinician job plans; changes to the roles of administrative, nursing and allied health professional staff in outpatients; adaptation of medical records procedures, taking into account current variability in the maturity of the administrative architecture; communications with patients; training and development of staff; ethical issues including confidentiality and safeguarding; and how commissioners will procure and pay for different approaches to outpatient consulting.

# Next steps

We propose the following next steps based on this evaluation study:

- More engagement with clinicians about their experience of remote consulting and their views on how it may appropriately be utilised in outpatients, for nationally mandated proportions of outpatient consultations to be undertaken remotely are unlikely to be useful or accepted. A follow-on Birmingham Health Partners research study is already under way to explore clinicians' views of remote consulting within BHP which should help with this process.
- Guidelines should be drawn up at trust level to help clinicians determine suitability of patients for remote consultations. These could draw on the approach proposed for 'cohorting' in this paper as well as other sources of guidelines. However, high level guidelines will need to be augmented with a more detailed appraisal and agreement at specialty level.
- Trust level monitoring of outpatient modalities should be put in place, and there are good opportunities for sharing and discussion across BHP. This will allow management to understand in real time whether goals for outpatient consulting modality are being met. It is important that monitoring captures any differential experiences between segments of the population served, for example, as defined by ethnicity, socio-economic group, age, disability and gender.
- Carefully tailored communications with patients will be needed to set out the options available for different modes of consultation and what actions they can take if they wish to change the consultation format to which they have been assigned
- A broader discussion will be needed in the local Integrated Care System (ICS) about the transformation of outpatient and wider ambulatory care of which remote consultation is but one part. In particular, it is important that local general practitioners (the source of and partners in much outpatient activity) are engaged in the design of future models of care and associated guidelines.



# Introduction and study aims

The rapid introduction of remote consultations in outpatient settings was one of the notable features of the adaptation of the NHS to the COVID-19 pandemic. For the purposes of this report, remote consultations include both on-line video and telephone modes of communication but exclude direct clinician-patient email traffic.

This phenomenon has been mirrored in two of the trusts that form a part of Birmingham Health Partners (BHP)<sup>1</sup> with the proportion of outpatient consultations carried out remotely reaching between 36-46% across the two trusts at its peak during the period of this study. While this proportion has subsequently declined over the course of the pandemic, it is likely that the use of remote consultations will remain a feature of outpatient care in the medium and longer term and form part of plans for service development and innovation.

Over two years of pandemic conditions, NHS organisations, practitioners, and patients have gained considerable learning about the use and experience of remote consultations. The purpose of this study was to explore the experience of University Hospitals Birmingham and Birmingham Women's and Children's NHS foundation trusts in introducing or extending the use of remote outpatient consultations during the pandemic and, by applying learning from formal research evidence, develop insights to optimise their use in future.

The study aimed to address the following questions:

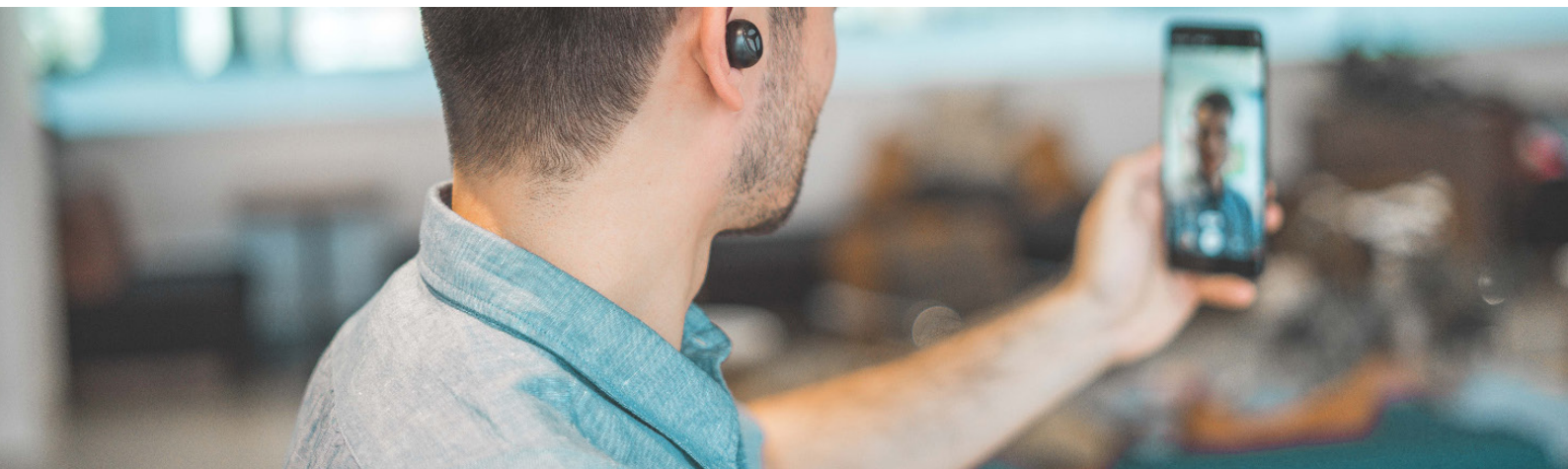
- What does published evidence reveal about the risks and benefits of different forms of remote consultation?
- What do we know about the effectiveness of remote consulting in specific service contexts, e.g. mental health, adult medicine, paediatrics, complex needs, etc.?
- What do we know about how a virtual approach works (or not) for under-served and disadvantaged groups?
- Is there evidence from patient experience data that offers insights into how virtual consultations are working (or not) for different patient groups?
- What additional impacts beyond patient care might result from the extensive use of virtual consultations, for example on workforce productivity, job satisfaction and training?
- What evidence-based measures might be used to track how virtual consultations are working over the medium and longer term for patients, professionals, wider teams and organisations?
- How might Birmingham Health Partners' organisations use this analysis to ensure that maximum value is gained from remote approaches, to avoid repeating mistakes made by others, or missing out on opportunities for innovation?

This report sets out answers to these questions generated by a mixed-method evaluation comprising: a literature review; interviews with a range of personnel across Birmingham Health Partners to understand the experience of implementing and operating remote consultations; an analysis of quantitative data relating to their uptake within two local NHS foundation trusts; and workshop discussion with key clinical and managerial stakeholders. The themes emerging from the interviews (Section 3), informed by quantitative analysis

**1:** Birmingham Health Partners comprises Birmingham Women's and Children's NHS Foundation Trust, The Royal Orthopaedic Hospital NHS Foundation Trust, University Hospitals Birmingham NHS Foundation Trust, the University of Birmingham, Aston University, Sandwell and West Birmingham Hospitals NHS Trust, and the West Midlands Academic Health Science Network

(Section 4) have been used to develop a set of key questions and subsequently insights have been organised to be of most practical help to BHP trusts as they plan the future organisation of outpatient care (Section 5).

An extension to this project is under way which is exploring the views and experiences of remote consultations among consultant-level doctors. This extension project builds on the broad themes identified in this report.



## Methods

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The qualitative aspects of this evaluation project received ethical approval from the University of Birmingham's Research Ethics Committee in August 2021 (Approval ERN\_13-1085AP42). An extension to the ethical approval was sought and granted for the quantitative elements of the project in September 2021.

### Literature Review

A search of the bibliographic databases Embase, HMIC, Medline, Scopus, Social Policy & Practice and the Social Science Citation Index was undertaken by the Health Services Management Centre (HSMC) Knowledge and Evidence Service. The databases were searched using a combination of agreed title and abstract words, as listed in Figure 2, and included the use of both truncation and adjacent search strategies. Search parameters included limiting the search to the UK and only including material from 2016 onwards. In addition, weekly database alerts were set up on both Medline and HMIC to capture latest publications, for forwarding to the research team undertaking thematic analysis of the literature.



Searches of grey literature (material not published by commercial publishers, and including government reports, working papers, policy analyses and blog posts) were undertaken on a regular basis on both Google and Google News, using the same search terms set out in Figure 2. In both cases, the searches were limited by date, going only from the last time the searches had been undertaken. Additional services of grey literature were run on PubMed, Google Scholar and NHS Evidence.

The main search of research literature identified 1689 papers which reduced to 1478 once duplicates were removed. These were assessed for eligibility based on title and abstract (see Figure 2). Of the 268 eligible, we reviewed 54 full text articles which were included in this review, along with 86 papers identified during weekly update searches by the HSMC Knowledge and Evidence Service between July and December 2021. In addition, we identified 91 grey literature publications, bringing the total number of included publications in this pragmatic evidence review to 231.

Search terms		
virtual triage\$	teleconsult\$	mhealth\$
virtual online consult\$	tele\$	livi
virtual medical consult\$	technology enhanced consult\$	gp online consult\$
virtual gp\$	skype\$	examination via video\$
virtual critical care\$	skype health consult\$	email\$
virtual consult\$	remote triage\$	email triage\$
virtual clinic\$	remote primary health care	email consult\$
virtual assess\$	consult\$	electronic consult\$
video-telemedicine\$	remote primary care consult\$	e-health\$
video-consult\$	remote first\$	ehealth\$
video\$	remote consult\$	econsult\$
video triage\$	remote assess\$	digital-first\$
video consult\$	referral\$	digital consult\$
video call access\$	phone\$	consult\$
video assess\$	phone triage\$	circuit\$
VC\$	phone consult\$	cell\$
triage\$	phone assess\$	camera\$
telephone\$	online health consult\$	babylon\$
telephone triage\$	online health	attend anywhere\$
telephone consult\$	nhs video clinic\$	assess\$
telemedicine consult\$	nhs video call\$	appoint\$
telemedical consult\$	MS Team\$	accurx\$
tele-consult\$	mobile\$	whatsapp\$
	m-health\$	Zoom\$

**Figure 2:** Search terms used in literature review

It was notable that literature was variable in its focus and comprised a mix of broad evaluations together with small, speciality-based studies, making generalisation difficult. As some researchers have concluded, there is a risk of a bias towards positive studies in the historic literature (Greenhalgh, T. et al. 2016). Unsurprisingly, a significant number of evaluations have emerged that were carried out during pandemic conditions. It is likely that this literature will continue to expand, and that not all of it has been captured in this report.

## Semi-structured Interviews

Semi-structured interviews were undertaken remotely with 16 respondents across University Hospitals Birmingham NHS Foundation Trust, and Birmingham Women's and Children's NHS Foundation Trust. Interviewees were purposively selected to obtain a range of perspectives in terms of patient groups served (e.g. adults and children, long-term and more episodic relationships between clinicians and patients) and professional roles (e.g. medical and other clinical professions and managerial staff).

All interviewees received an information sheet by email or in person and were given adequate time to decide about participation and ask questions about the process. Participants signed a consent form prior to the interview and were advised that they were allowed to withdraw from the study at any time and given information about how to find out more about the study or to raise any concerns about its conduct. In some cases, more than one respondent was interviewed at the same time.

Interviews were undertaken remotely for 30-60 minutes and were informed by a topic guide but with latitude for the interviewee to explore issues more broadly, within the specific aims of the study that were explained. This flexible approach allowed joint 'sense making' (Weick, 1995) of a phenomenon where context - an unexpected global pandemic - is very important. Full contemporaneous notes of all interviews were taken, and these were anonymised and stored in compliance with the General Data Protection Regulation (GDPR) 2018 and Data Protection Act 2018.

Notes of interviews were subject to content analysis (Hsieh and Shannon, 2005) with key themes identified. As themes emerged during interview fieldwork, they were purposefully explored during subsequent interviews. Interview data provided insights into the experience of introducing and operating remote outpatient consulting and served to identify important questions and issues facing BHP trusts as implementation and use of this approach to outpatient care matures. These questions allowed the authors to subsequently interrogate and distil the evidence retrieved in the literature review, focusing on aspects of remote consultations deemed to be of most use to BHP. The development of key questions was assisted by a discussion with the evaluation project reference group in November 2021. This reference group comprised senior members of the BHP executive team.

## Quantitative Data Analysis

Quantitative data on outpatient consultations were extracted and analysed for patients attending University Hospitals Birmingham NHS Foundation trust and Birmingham Women's and Children's NHS Foundation Trust both before and during the COVID-19 pandemic. The following methods were used:

### **University Hospitals Birmingham NHS Foundation Trust**

Data were extracted from all booked outpatient clinics across the different hospital sites between March 2020 and September 2021. The consultation type was identified as that recorded at the time of booking, recognising that for some appointments this may have been different from that which actually occurred.

Data for each patient were extracted to identify age (aggregated into seven groups), sex, ethnicity (aggregated into six groups according to the census classification) and deprivation status. Consultations were categorised into face-to-face, telephone, video call or other. Descriptive statistics were produced and the chi-square test was used to compare patient characteristics for the different consultation types. The Fisher's Exact test was used in the

case of small numbers.

### **Birmingham Women's and Children's NHS Foundation Trust**

Data were extracted on completed outpatient consultations across Birmingham Children's Hospital (BCH) and Birmingham Women's Hospital (BWH), excluding the Covid swab clinic and the BCH Clinical Decisions Unit, for the period April 2019 to March 2022. Appointment type was taken from the identified field within the patient administration system (PAS) which defines consultation media type as face-to-face, virtual (i.e. video) or telephone. Data did not include the Mental Health Division of the Trust.



# Emergent themes

Six overarching themes emerged from the qualitative interviews and are explored below.

These themes were used as the basis for interrogating the findings of our literature review, which in turn informed the overall project synthesis and development of implications for policy and practice. Where quotes from interviewees have been used to illustrate the themes, these have been taken from the contemporaneous interview notes.

## Motivation for adoption of remote consultations

Use of remote consultations had been explored in both trusts (UHB and BWC) prior to the pandemic, stimulated by a desire for patient convenience - BHP includes major regional centres so some patients have significant travel to reach outpatient clinics - and better use of clinical resources, for example so that highly specialist consultants do not have to travel to join consultations at outlying hospitals.

The emergence of the COVID-19 pandemic led to NHS England and Improvement (17 March 2020 letter) mandating the use of remote outpatient consulting across the NHS in primary and secondary care except for clinically unavoidable attendance and essential on-site diagnostics, the latter generally taking place after a remote triage consultation to assess need.

*"It's amazing what you can do when you're told to get on with it"*

Interviewee 11

Patient demand for face-to-face consultations dropped significantly during the early months of the pandemic, as it was perceived by staff that patients considered hospital settings as an infection risk. As discussed later in this report, how and the extent to which patient views about medium of consultation have been sought, or choice offered, is less clear.

## Impact of the consultation medium on the consultation process

Remote outpatient consultations are reported to have led to changes in the interaction between clinicians and patients. For example, patients may treat the consultation as less important.

*"A lot of patients forget that they've got a phone call...they are in Starbucks"*

Interviewee 6

Conversely, clinicians may be forced into more formal and less interactive modes as the remote medium requires more rigid forms of conduct, especially where more than one clinician is involved.

*"It's the doctor's turn, now it's the physio's turn...or else it gets a bit messy"*

Interviewee 5

It was also suggested that remote consultations may impact on the quality of the interaction.

*“When you wait outside in the clinic you have a little time to prepare...you take stock”*

Interviewee 6

While some patients may feel more relaxed talking to their specialist from home and consider the consultation to be an easier experience, there had also been some reported anxiety among patients that the remote clinical assessment is based solely on the information that they provided without an on-site physical assessment by a clinician.

Parents of child patients may on occasion decide to leave the young person at school and handle the remote consultation themselves. Where this is a vulnerable child, there was a particular concern that this could result in exclusion of the patient’s perspective.

*“[A remote consultation] pushes the child out...[If the child is in the consultation] you can’t ignore them”*

Interviewee 8

*“You can’t see a child come to harm on the end of a telephone”*

Interviewee 13

There was also a perception that some at-risk families might think they can ‘get away’ with things at a remote consultation which was one reason why some clinical teams had reverted to bringing children in for a face-to-face consultation.

*“It made it very difficult. We couldn’t completely trust what parents were saying”*

Interviewee 5

The remote technology appeared to allow for easier provision of multi-professional consultations as colleagues could gather without travelling, and there was a perception that multi-disciplinary team meetings were hence easier to arrange.

## Impact on patients and patient care

Significant benefits for patients from remote consultations had been identified in certain contexts including being less disruptive for patients in terms of missing work, school etc; less travel, especially for regional specialty services; less cost (lost work, car parking and public transport costs); and reduced exposure to potential COVID-19 infection.

Some disbenefits identified by interview respondents included: costs of data and mobile phone minutes may impede access; technology itself may affect access or consultation quality as some patients struggle with the technology or may suffer from connection issues due to the inadequate hospital or home broad band. These technology-related issues were considered to be significant in some circumstances:

*“[Digital poverty] is a real barrier”*

Interviewee 13

Issues relating to the possible lack of confidentiality of a remote consultation were also raised; in particular for some patient groups such as LGBTQ+ or people with mental health problems who may feel that their privacy is compromised by a consultation at home. Negative impacts of reduced face-to-face contact on social engagement, particularly for older patients, were also noted.

*“Patients often say to me [a hospital visit] is like a day out for me”*

Interviewee 9

Overall, the importance of choice of consultation mode for patients or their relatives was highlighted.

*“Parent feedback is that the majority want a mixture [of consulting types] and are reluctant for all consultations to be virtual”*

Interviewee 5

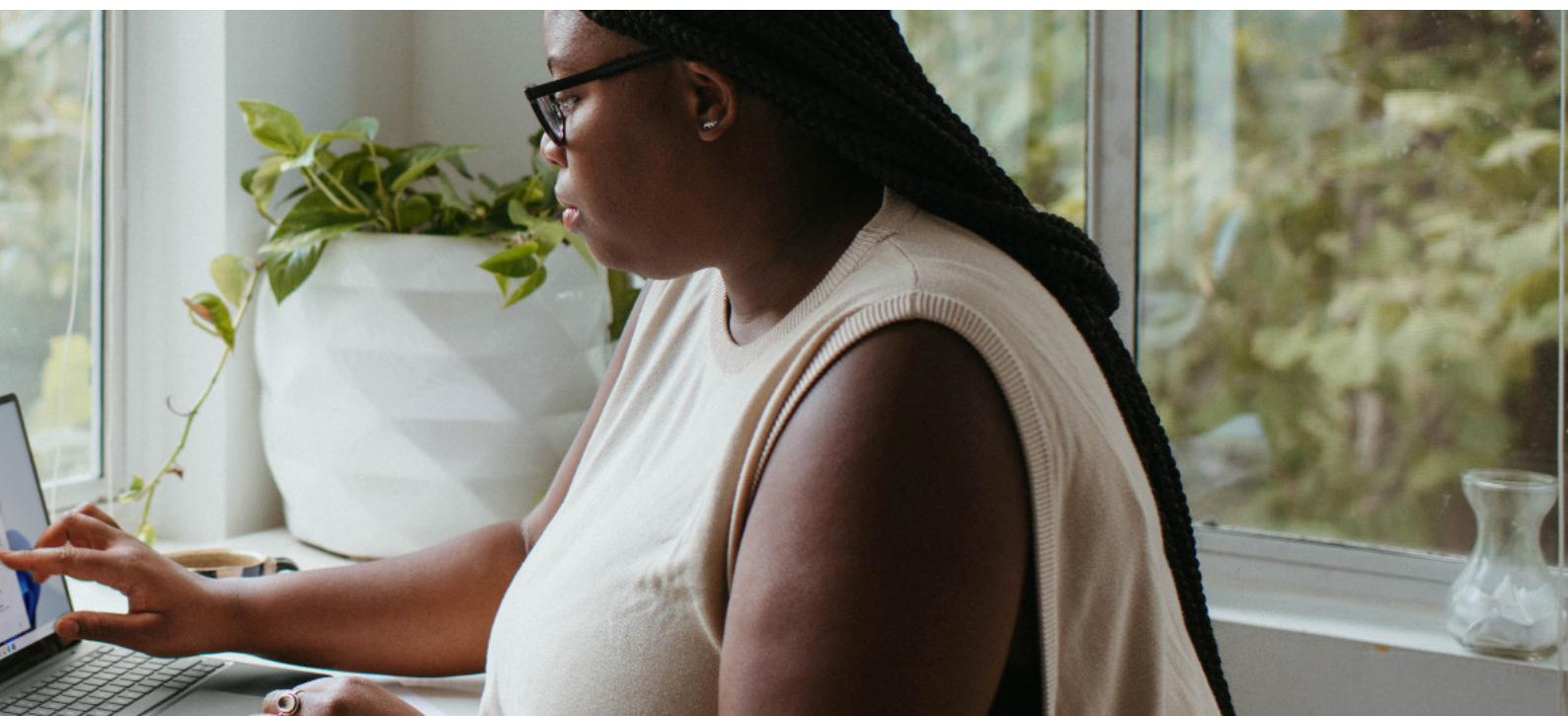
While there was no suggestion that the shift to remote consultations had resulted in systematically negative impacts on the quality of patient care, some interviewees suggested that there may on occasion be risks of delayed diagnosis due to the lack of a face-to-face interaction.

*“I was utterly horrified by what I had missed by seeing someone remotely... there is something very fundamental about seeing my patients face-to-face”*

Interviewee 2

*[There may be some patients] falling through the net who will re-present later with more florid disease”*

Interviewee 4



## Impact on staff

Interview respondents reported varying degrees of enthusiasm for remote consultations among trust staff.

*“So there is a difficulty in converting people across... and I find it hard to articulate [benefits] at times”*

Interviewee 2

*“So there is a difficulty in converting people across... and I find it hard to articulate [benefits] at times”*

Interviewee 10

There was a perception that older clinicians might sometimes be less likely to adopt remote consulting, and that frustration with the infrastructure supporting this format added to reticence on the part of some colleagues. Infrastructure issues that were highlighted included: lack of available clinic space in which to conduct remote consultations; connection issues; administrative processes; and record-keeping, especially where systems were not yet electronic.

Some interview respondents noted that some staff perceived that they could fit more remote consultations into a given clinic session compared to face-to-face.

*“[Remote consultation] has added to my productivity and I will retain it”*

Interviewee 7

In contrast, other respondents suggested that staff workloads had increased due to the rise in remote consultations. This was not restricted to clinical staff delivering the consultation – for example, the increased workload of medical secretaries and administrators who have had to reset clinic templates and send out individual meeting links to patients was highlighted.

*“[My workload has] definitely been impacted adversely. You would think it is quicker but for some reason it isn’t...it is much easier to get behind in a remote clinic”*

Interviewee 4

In some cases, a remote consultation had required an additional follow up face-to-face appointment where it had been necessary to carry out a physical examination or teach self-care techniques to patients whereas previously this would have been completed in one face-to-face consultation.

## Impact on inequalities in health

An adverse impact on current inequalities was identified by some interview respondents as a significant risk of remote consultations. There was a particular concern about patients experiencing digital exclusion, for example the cost of data, access to laptop or iPad, and a lack of WiFi. It was also noted that the remote consultation format may work less well for people with learning disabilities, autism, sensory impairments, dementia and other communication challenges. As noted earlier, there can be safeguarding concerns associated with remote consultation for at-risk patients and their families. An aspect of remote consulting that can be positive from an equalities' perspective is that accessing interpreting services is often easier than with face-to-face clinics.

## Patient selection for remote consultations

After the initial phase of the pandemic, work had been undertaken in both trusts to select those patients for whom remote consultation was considered likely to be successful and to maintain face-to-face consultations for those where remote consultation may pose problems. This process of selecting patients was sometimes referred to as 'cohorting', and varied by clinical specialty, influenced by a range of patient and clinical contextual factors. Factors tending towards remote consulting were reported to include the extent to which the patient is in good control of their disease; the patient and/or their carer is well-educated in disease management; no physical intervention is required; and the patient is perceived to be able to handle technology.

It was perceived that individual clinician preferences towards remote consulting may have influenced when it was used, and whether video or phone was adopted as the preferred mode of remote consultation. A comprehensive and systematic overall process for agreeing cohort parameters did not yet appear to have been developed in either trust (or was not recognised by respondents). However, some specialities had developed formal or informal decision guides to assign patients to remote or face-to-face appointments.

*"If you are receiving a diagnosis you may want face-to-face"*

Interviewee 9

However, patient feedback received also suggested that there was a risk that some assumptions about the relative suitability for remote consultations may be challengeable.

*"Just because we are young doesn't mean we're happy to use our smart phones for therapy'...these sorts of approaches are often implemented with broad brush strokes rather than nuance. And nuance is important here."*

Interviewee 10



# Quantitative Data Analysis

In this section, an overview is given of the trends in outpatient consultations at UHB and BWC over the period 2019 to 2021, with a focus on format of the consultation, and a range of other dimensions that have a particular bearing on the potential impact on inequalities, such as age, ethnicity, and locality of residence.

This analysis of patterns of remote as opposed to face-to-face consultations across Birmingham Health Partners, along with the themes from our informant interviews, provides the context for our interrogation in section 5 of the wider research literature on remote consulting.

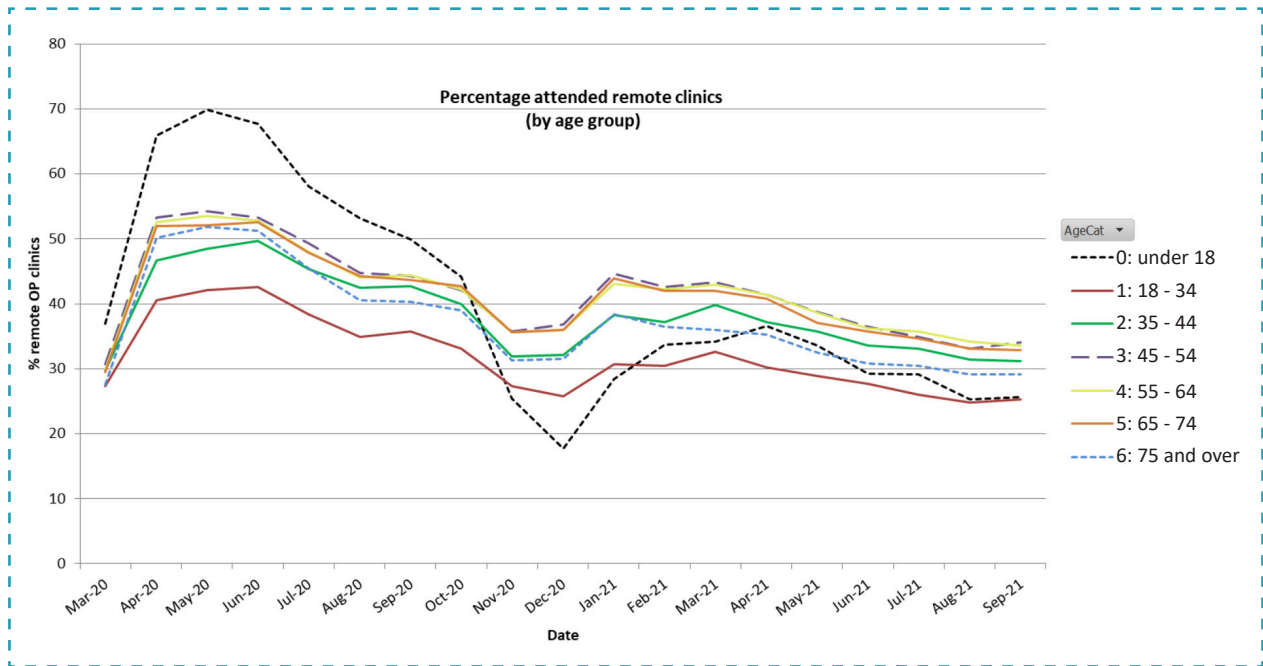
Quantitative outpatient data for both UHB and BWC were collected by in-house analytical teams during the pandemic period and descriptive statistics prepared. Full results of this analysis are to be published separately but key findings are summarised here and used to inform the overall assessment of how remote consulting worked within the two trusts during the pandemic and now appears to be developing for the longer term.

## University Hospitals Birmingham NHS Foundation Trust

Outpatient data were collected for the period March 2020 to September 2021 representing the majority of the pandemic period. Analysis found:

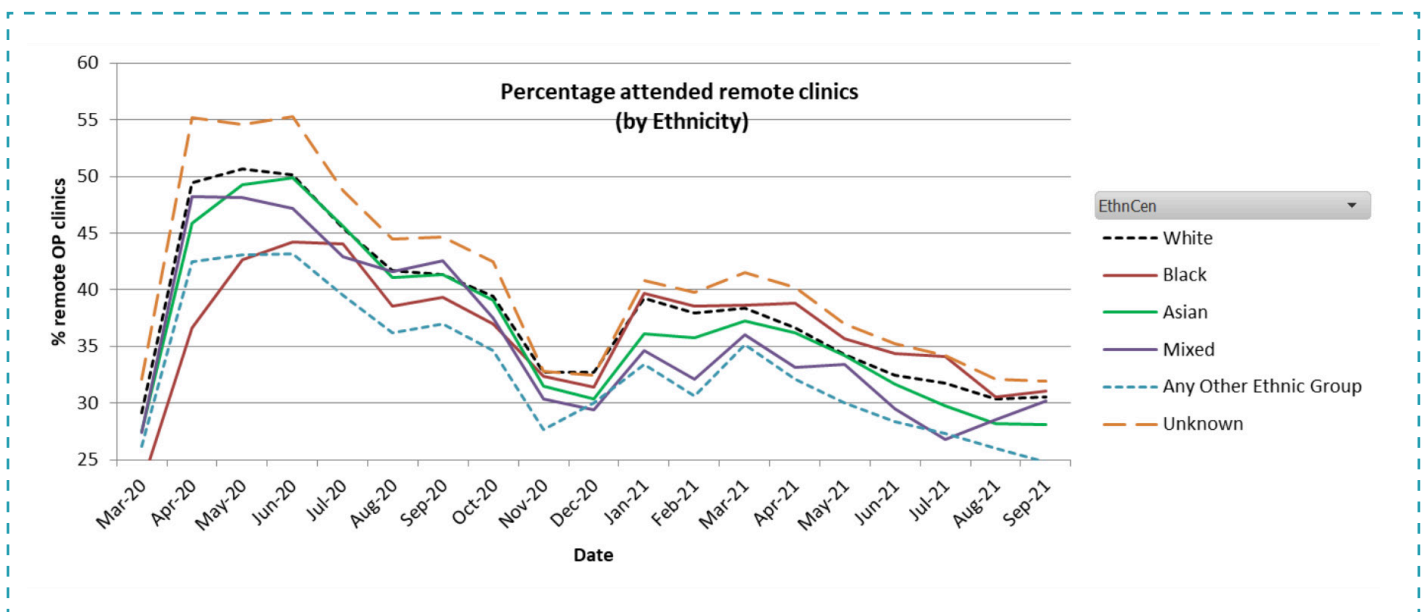
- Over the four hospitals that comprise UHB 38% of outpatient appointments were held in a remote format in 2020-21 compared to 14% in the previous year. However, this masks variation between the hospitals (with a range of 36% to 39.4% remote consultations).
- Over the period studied the use of remote consultations peaked shortly after the start of the pandemic and then fell back steadily towards the pre-pandemic level.
- The large majority of remote consultations were carried out by telephone with only 0.91% of total appointments carried out using video (hospital range 0.27% to 1.25%).
- There was also significant variation in the use of remote consultations by specialty. In one clinical specialty, telephone consulting was highest at 86% and, for video, another specialty was highest at 5.6%.
- Remote consultations were associated with fewer 'did not attends' compared to face-to-face (8% and 13% respectively). A slightly higher proportion of remote appointments were for follow up consultations rather than first consultations compared to face-to-face appointments (82.5% and 80% respectively).
- In terms of patient characteristics, females were slightly more likely to attend face-to-face appointments compared to males (62.8% and 60.7% respectively) and males were more likely to have a video consultation than females for most of the study period.

- Overall patients aged under 18 were the most likely to attend a remote appointment, peaking at 70% of all appointments in May 2020 before dropping to less than 20% in December 2020 and stabilising at 30% for 2021. Older patients were least likely to have a remote consultation. This pattern at UHB is illustrated in Figure 3.



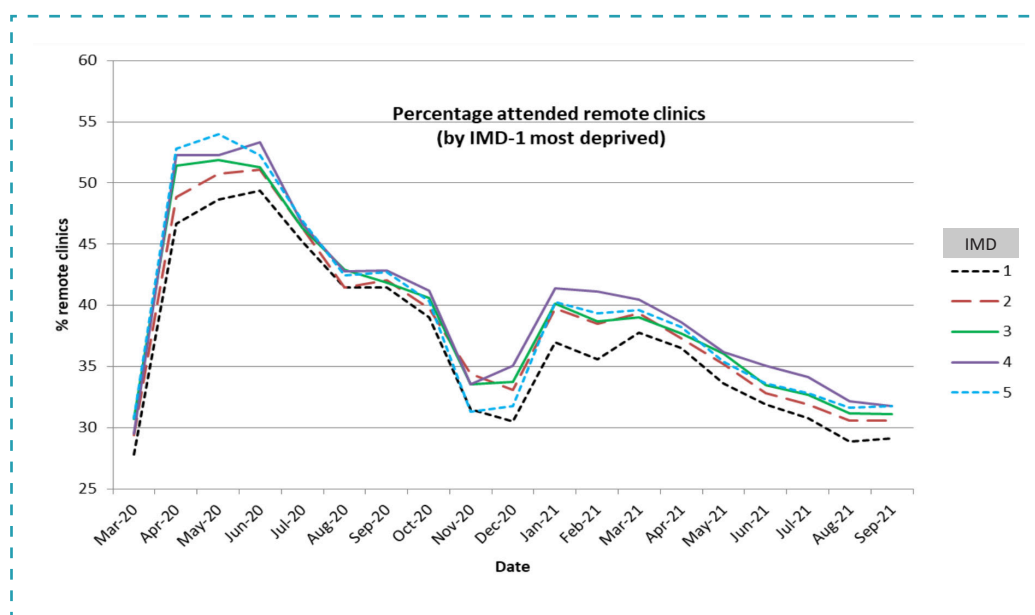
**Figure 3:** Proportion of outpatient appointments attended remotely by age group in University Hospitals Birmingham NHS Foundation Trust

- Patients of unknown ethnicity were most likely to have a remote appointment. At the start of the pandemic, black patients were least likely to have a remote consultation but over time became most likely (Figure 4).



**Figure 4:** Percentage of outpatient clinics attended by ethnicity in University Hospitals Birmingham NHS Foundation Trust

- Overall, patients from most the deprived areas were least likely to have remote consultations or video consultations, although there was inconsistency across the group of hospitals. This is illustrated by the analysis of UHB outpatient activity in Figure 5.



**Figure 5:** Proportion of outpatient appointments attended remotely by deprivation classification in University Hospitals Birmingham NHS Foundation Trust

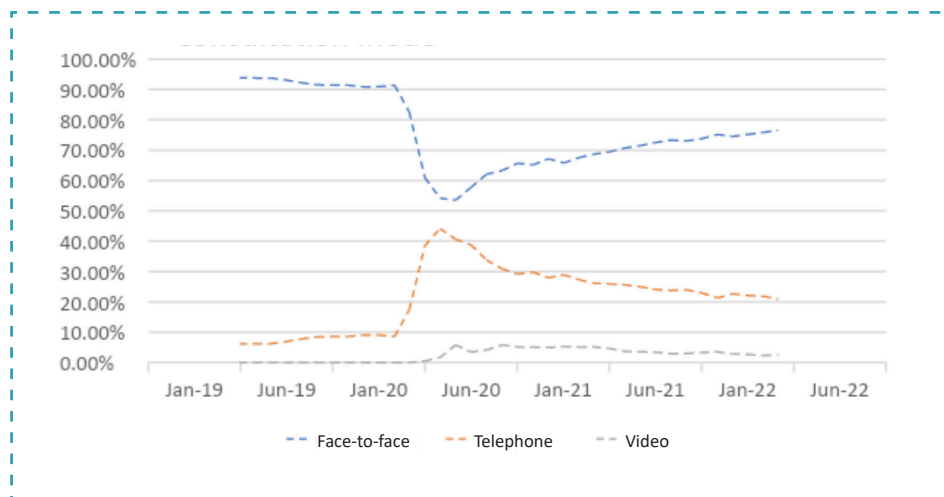


## Birmingham Women's and Children's NHS Foundation Trust

Data were collected for the period April 2019 to March 2022. Analysis of these data found:

- In the pre-pandemic period, face-to-face consultations in the trust accounted for between 90% and 94% of total consultations with telephone consultations accounting for almost all of the remainder (with an increasing trend towards telephone consultations unrelated to the pandemic). There were very small numbers of video consultations recorded in some specialties.

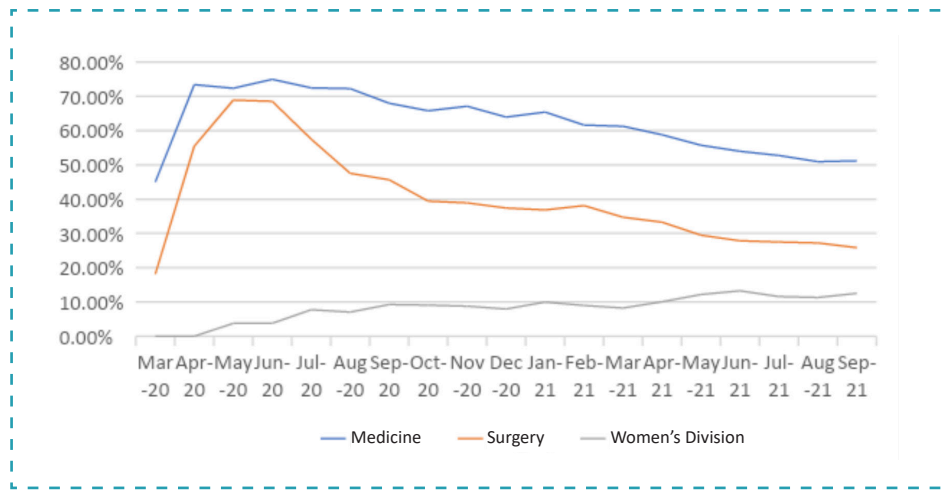
- From the outbreak of the pandemic in March 2020, face-to-face appointments dropped markedly, falling to a low point of 53.6% in June 2020. However, from this point there was a steady increase in the proportion of appointments delivered face-to-face. By March 2022 this had risen to 76.5%. A summary of the pattern of outpatient consultation mode across BWC is set out in Figures 6.



**Figure 6:** Proportion of outpatient appointments by consultation mode in Birmingham Women’s and Children’s NHS Foundation Trust

- The use of video consultations also increased within BWC, rising from 0.52% of all consultations in April 2020 to a high of 5.80% in September 2020 before falling to 2.54% in March 2022.
- There was significant variation between clinical divisions in BWC (see Figure 7) - and also between the clinical specialties that make up divisions - in terms of the use of remote consultation options. Some smaller specialties delivered all or nearly all of their appointments using telephone. Among larger specialties there was typically a greater reliance on face-to-face consultations with proportions closer to those of the pre-pandemic period. Most specialties made little or no use of video consultations. However, for a minority of specialties video was adopted at some scale (for example, in 2020 one specialty delivered 58.9% of total consultations using video and others between 30% and 50%).





**Figure 7: Proportion of consultations delivered remotely by Division in Birmingham Women's and Children's NHS Foundation Trust**

## Conclusions from quantitative data

Overall, the pandemic stimulated a significant shift in the medium through which outpatient consultations were delivered in both UHB and BWC. While the shift from face-to-face to remote consultations occurred quickly in both trusts (between March and June 2020), it did not prove to be sustained. Over time the proportion of consultations delivered remotely by both trusts reduced from the early pandemic peak and in many specialties and services was beginning to approach, although not reach, pre-pandemic levels by the end of the study period. It is also clear that specialties have adopted remote consultations in different ways and to varying extents, although overall the vast majority of remote consultations in both trusts have been delivered by telephone rather than video, something that is also evident from new research undertaken in general practice (Greenhalgh et al., 2022).

### Summary of quantitative analysis

- ✓ There was a swift and significant shift across both UHB and BWC from face-to-face to remote outpatient consultations as the COVID-19 pandemic emerged in spring 2020.
- ✓ The extent of this shift was remarkable across the two trusts, but in both organisations the extent of remote consulting varied depending on the clinical specialty.
- ✓ The vast majority of remote consultations were undertaken by telephone, with very little use of video consulting.
- ✓ As the pandemic progressed, there was a significant shift in both trusts away from remote consulting back to the face-to-face format.

# Using the literature to address the key questions

Following discussion with the evaluation project reference group, the themes identified through analysis of the interviews were developed into questions to use to interrogate the wider UK research literature. These questions reflect issues perceived to be most pertinent to Birmingham Health Partners organisations as they consider the future use of remote consulting and are set out in figure 8.

## Questions used to analyse findings from literature review

- What factors influence the acceptability to patients of remote consultations?
- What impact does remote consulting appear to have on clinical outcomes and quality?
- What factors help determine the appropriate selection of patients for remote consulting?
- How are health inequalities, including patient access, affected by remote consulting?
- How do remote consultations impact on staff workload, training and development?
- What issues do remote consultations raise for the organisation of outpatient services?
- What potential is there for wider innovation in outpatient care, when implementing remote consultations?

**Figure 8:** Questions used to analyse findings from literature review

## Question 1: What factors influence the acceptability to patients of remote consultations?

A majority of pre-pandemic studies reviewed (e.g. Bashi et al., 2017; Bellringer et al., 2017; Bhattacharyya et al., 2017; Brebner et al., 2004; Damery et al., 2021, Flodgren et al., 2015; Hanlon, et al., 2017; Kim et al., 2020; Lee et al., 2018; Mair et al., 2000; Kruse et al. 2017) show that patients are usually satisfied with their experience of remote consulting with a specialist, suggesting that this mode of consultation has broadly proved acceptable when it has been undertaken. Factors associated with this positive experience typically include convenience and cost savings for patients due to no travel and less time off work; better accessibility for some patients with impaired mobility; improved patient education; increased communication with health care practitioners; and support for patients to self-manage their long-term conditions. Studies undertaken across a range of clinical specialties during the pandemic have likewise broadly supported the proposition that remote consulting is acceptable to patients (for example, Johns et al., 2020, Cole et al., 2021, Efthymiadis et al., 2021, Khan et al., 2021, Lo, Herbert and Rodrigues, 2021).

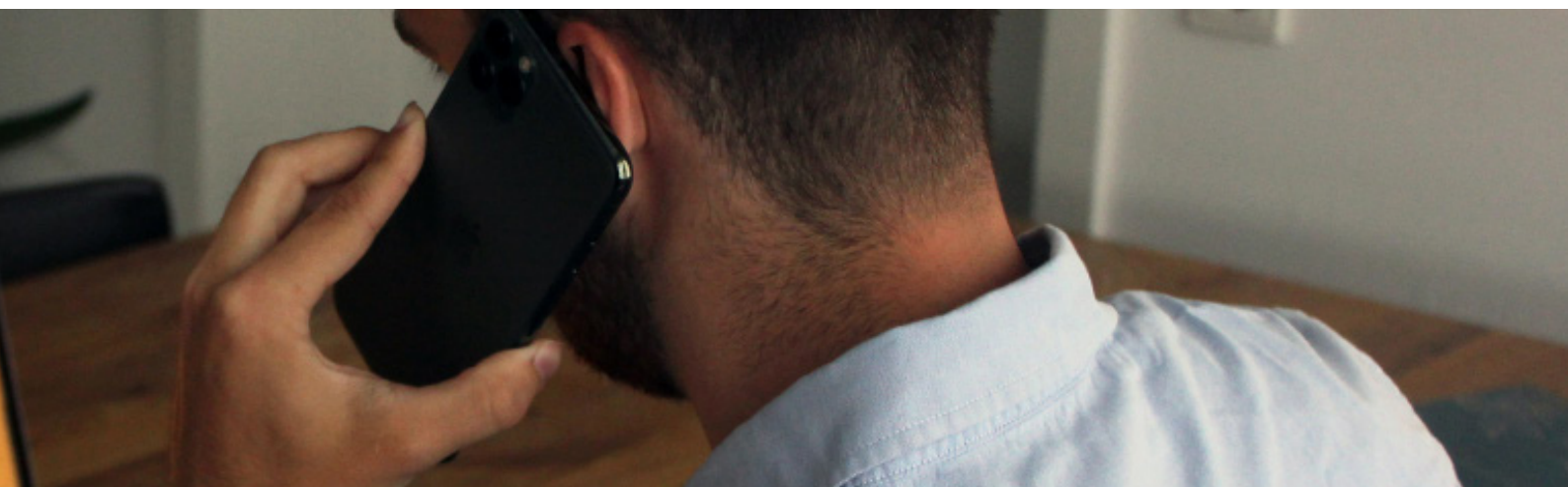
Some of these studies have explored patients' views in more depth than that provided by general measures of satisfaction (for example, Johns et al., 2020 and Khan et al., 2021). Such studies have elicited patient benefits that include: a lower risk of infection (this being associated with the time of pandemic); being able to have a relative with them (again, this being a particular benefit during pandemic restrictions); no travel or parking; not having to arrange care for other family members otherwise left at home; it being better for the environment; and requiring less time and preparation.

Conversely, a range of challenges identified by patients about remote consultations have included matters of service delivery such as sound quality, the video/picture effectiveness, device problems, and internet issues. Some, although not all, studies have also noted that some patients just prefer face-to-face appointments, suggesting a more fundamental issue with the mode of consultation (for example, Johns et al., 2020, Cole et al., 2021, Lo, Herbert and Rodrigues, 2021).

Overall, this review of evidence suggests high levels of patient acceptance of and satisfaction with remote consultation both before and during the pandemic. However, it should be recognised that views elicited during pandemic conditions may not necessarily be translated into a post-pandemic context – it is possible that remote consultations have been judged according to a different standard, namely good enough given the circumstances, and this may change over time. Additionally, studies varied in their findings as to what proportion of patients would have preferred a face-to-face consultation rather than the remote consultation that was received.

### **Factors influencing acceptability of remote consultations to patients – summary findings**

- Studies of remote consultations suggest that patients are usually satisfied with their experience of this form of consulting with a specialist.
- The benefits of remote consulting are particularly associated with convenience, saving time and cost, improved accessibility (for some not all patients), and greater engagement in self-management of care.
- There is a need for careful co-design of remote consultation approaches and criteria, in full partnership with patients and carers.



## Question 2: What impact does remote consulting appear to have on clinical outcomes and quality?

A review of evidence by Greenhalgh and colleagues (Greenhalgh et al., 2016), as part of their Virtual Online Consultations: Advantages and Limitations (VOCAL) study, drew broadly positive conclusions in terms of benefits (including clinical effectiveness and outcomes) but they cautioned that many studies were small in scale and that the lack of negative studies may represent a degree of publication bias (Greenhalgh et al., 2016). They also drew attention to a finding in many studies of a high loss of patients to follow up associated with video consulting which should be taken into account when considering effectiveness of the medium.

An example from the literature of studies highlighting the need for careful consideration of the context for effective remote consultations was Virani et al's study of elective orthopaedic care which analysed the effectiveness of telephone consultations compared to face-to-face consultation (Virani et al., 2021). This concluded that some aspects of care are well served by telephone consultation (such as making a working diagnosis, organising appropriate investigations and agreeing a treatment plan) but other aspects, such as giving a second opinion, are more likely to require a face-to-face consultation.

There is evidence of the effectiveness of remote consulting in the management of patients with chronic illnesses. For example, a 2015 Cochrane review noted similar health outcomes for patients with long-term conditions receiving remote monitoring or videoconferencing compared with in-person or telephone reviews (Flodgren et al., 2015).

A 2020 review of telemedicine carried out for the OECD concluded that, with regards to safety and effectiveness: it can improve glycaemic control in diabetic patients; reduce mortality and hospitalisation due to chronic heart failure; be effective in managing pain and increasing physical activity through telerehabilitation; is an effective way to improve mental health especially through cognitive behavioural therapy; is as effective as usual approaches to nutrition and physical activity, and can improve care for respiratory diseases such as asthma and COPD (Hashiguchi, 2020). It should be noted, however, that the definition of telemedicine used in this review included remote telemonitoring via devices and technology as well as remote outpatient consultations.

With regards to remote consultations in mental health services, a study during the pandemic (Olwill et al., 2021) reported that psychiatrists found greater difficulty in assessing patients, reducing confidence in their diagnosis. Positives included psychiatrists reporting more flexibility in their working day which was deemed to save time. These findings were echoed in a study of remote consultations for mental health conditions during the pandemic in Wales (Johns et al., 2021). A thematic review of 325 research papers relating to telepsychiatry services found consistent diagnostic reliability, satisfactory clinical outcomes and patient satisfaction, but noted clinician reluctance and lack of professional guidance to be key barriers (Sharma and Devan, 2021).

In paediatrics, a study based in Birmingham Children's Hospital (Lo et al., 2021) initiated a triage process for referrals and allocated patients to either telephone or face-to-face consultation, with the former group subject to a clinical review at the end of consultation. In all cases, the telephone consultation was considered adequate by the clinicians so that the child did not require another early follow up appointment (the proxy measure used for adequacy). A study of clinicians' views within Great Ormond Street Hospital for Children found that video consultations were preferred to telephone consultations in terms of assessing clinical signs, making a diagnosis and training patients/parents. However, in all of



these aspects face-to-face consultations were preferred to video consultations (Akintomide et al., 2021).

### **Impact of remote consultations on clinical outcomes and quality– summary findings**

- Remote consulting is clinically effective where there has been careful selection of patients for this format, attention to context and action to mitigate inequalities.
- Remote consulting is particularly appropriate to the management of care for people living with long-term conditions and when linked with remote monitoring of symptoms.
- Limitations of remote consulting typically include initial outpatient assessment appointments, visits where there is a need for complex diagnostic tests, and when a physical examination is required.

### **Question 3: What factors help determine the appropriate selection of patients for remote consulting?**

A clear message from the literature reviewed is that a key aspect of the implementation of remote consultations is the appropriate selection of patients for this medium. We refer to this selection process as ‘cohorting’ whereby patients are allocated to either remote or face-to-face modalities based on a structured review by a health professional of particular characteristics or needs. Some studies of remote consultation reported on factors that make such a consultation more or less suitable, however, no systematic approach to ‘cohorting’ has been found in this review. One example of an approach to patient selection comes from the General Medical Council in a flowchart which proposes factors to be weighed up when deciding whether remote consulting is appropriate (General Medical Council 2020). An example from our evidence review of how patient selection for remote consulting can be approached was set out in a NIHR-funded research study into video consultations in three settings within a London NHS trust by Shaw et al (Shaw et al., 2018) where they identified specific exclusion criteria in operation: no 3G access at home, lack of familiarity (by patient or carer) with the relevant technology, clinical inappropriateness (e.g. need for direct physical examination), inability to give informed consent, and comorbidity preventing participation (e.g. severe visual impairment). Non-English speakers were accepted where a translation service existed or where family members were willing to translate.

Shaw et al also found that remote consulting appeared to work best for patients with long-term conditions where: the clinician and patient had a pre-existing relationship of mutual trust; co-ordination of care across specialties was not required; the need for close physical examination could be excluded in advance; there were barriers to the patient travelling to the hospital; both the patient and health professional were confident and competent with technical issues; and/or there was a pressing clinical need to have repeated contacts with the patient.

Other studies reached conclusions about patient characteristics or environment deemed appropriate for remote consultations. For example, Lo and colleagues’ previously mentioned study (2021) described a triage process where the clinical background of a patient was assessed prior to deciding on consultation format. Factors leading to a face-to-face

consultation included an essential physical examination or the viewing of radiological images. These researchers suggested that families would want to meet their clinician at least once and had adapted their protocol for outpatient care so that all new consultations were face-to-face (Lo et al., 2021).

An example of the importance of specialty-specific adaptation of any remote consultation patient selection criteria can be found in Khan et al's 2021 study of gynaecology outpatients where they found that remote consultations worked best for patients attending for issues relating to menopause, fertility and endometriosis follow up, and was least acceptable to gynaecology-oncology patients. Overall, they found the requirement for follow up was higher for telephone consultations compared to face-to-face consultations. This may have been because, during pandemic conditions, no filtering of patients had occurred and patients required physical examination or investigations.

The nuanced nature of the selection of an appropriate mode of consultation has been explored within general practice, with a wide range of clinical, sociocultural and technical issues playing out differently for patients. Relevant issues identified include visual impairment, technological competence and the extent to which a relationship between clinician and patient is already established (Greenhalgh and Rosen, 2021).

Remote consultations appeared to have had a mixed effect on safeguarding, but published evidence appears to be sparse. It was noted in interviews for this evaluation that remote consulting can offer the clinician a view of the home environment of the patient, however it was also noted that the patient may not feel comfortable making a disclosure as others may be listening (unbeknown to the clinician) in the background. Challenges in a remote context of observing non-verbal communication between paediatric patients and their parent would likely make it more difficult for the clinician to pick up any safeguarding concerns. The Royal College of Paediatrics and Child Health (RCPCH) advocates for a low threshold for converting the consultation from remote to face-to-face if there are any safeguarding concerns, given that this would also allow for a physical examination (RCPCH, 2020).

### **Appropriate selection of patients for remote consultation – summary findings**

- Appropriate selection of patients for remote as opposed to face-to-face consultation is vital and needs clear and agreed criteria at both organisational and individual clinical specialty level. Other patient-related factors that may make remote consultations less successful (for example, hearing and visual impairment) are likely to apply across specialties and need to be taken into account.
- Where there are safeguarding concerns, a remote consultation may not be appropriate and careful attention given to local policies.

## Question 4: How are health inequalities, including patient access, affected by use of remote consulting?

The expansion in use of remote consultations spurred by the COVID-19 pandemic has led to renewed interest in exploring whether it may replicate or exacerbate existing inequalities in access to health care appointments and services, echoing the 'inverse care law' devised by Tudor-Hart (1971). Barriers to effective remote consultations that affect young people include poverty that inhibits the purchase of IT equipment or internet and phone lines; lack of a private safe space at home in which to attend a consultation; living with learning disabilities; having sensory or communication impairments, and experiencing language barriers (Young Peoples' Health Special Interest Group 2020).

Remote consulting for patients who do not speak English as a first language can pose considerable difficulties as the use of non-verbal communication is limited in the remote format. However, translation services may be able to be provided more easily and cost-effectively on a remote basis than in person, sometimes improving patient experience especially where careful attention is given to how interpreting services will operate with the remote consulting technology (Cole et al., 2021).

A qualitative study (Healthwatch UK, 2021) of remote GP consultations asserted that people can be digitally excluded for reasons including: affordability of technology; disabilities; language barriers; having to rely on family members to make appointments; low digital literacy; and not understanding the range of options for accessing services remotely or face-to-face. This report set out five principles for post-pandemic digital healthcare:

- maintain traditional models of care alongside remote ones, and support people in making choices appropriate to their needs,
- invest in support programmes to give people the necessary skills,
- clarify people's rights in respect of access to remote care and monitor to identify and address disadvantage,
- encourage providers to be proactive about inclusion by recording people's support needs and
- commit to digital inclusion by treating the internet as a universal right.

A 2020 report from National Voices, Healthwatch UK, Traverse and PPL called, 'The Dr will Zoom you now' (National Voices et al., 2020), comprised rapid qualitative research into patients' opinions of remote medical consultations during the pandemic. This resulted in practical advice for both patients and health care professionals in optimising remote consultations:

- offering a precise time window for appointments,
- ensuring the patient has a safe and private place to make the call and
- proactively checking the confidence of the patient using the remote consulting medium.

The complexity of remote consulting might be expected to increase for some patients living with multi-morbidity, as they are more likely to live in areas with high levels of deprivation and be more likely to experience digital poverty. In general practice however, analysis of tele-first approaches to triage and care have shown that it is not per se multimorbidity that affects access to a GP through this method, but more likely the degree of efficient organisation of the general practice (Saunders and Gkousis 2022). There may be advantage to be gained from remote consulting by some people with multiple morbidities (McLean et al., 2014; Aminisani et al., 2020, Lee et al., 2020), for they often require input from various, often disconnected, health professionals and specialties and remote consulting has the

potential to provide a more conducive environment for collaborative, multidisciplinary care. For example, an interprofessional care model adopted in Canada enabled some elderly patients to be managed in the community rather than an inpatient setting (Pariser et al., 2019).

In similar vein, remote consultations have the potential to be effective and accessible for people living with dementia and their carers if there is careful engagement with them by health and social care professionals in planning for a consultation. This might include careful planning of the consultation including tailored advice to be given; the use of non-verbal prompts for patients and carers to describe problems, particularly for new health concerns; and ensuring that the person with dementia is able to express a preference for consultation format where possible. Check-up calls for reassurance are considered suitable for a remote format but identifying and addressing new physical needs is more difficult without a face-to-face appointment and examination (Tuijt et al., 2021).

Painter et al (2021) noted the level of uptake of remote consulting within mental health services during the pandemic, yet expressed concerns raised by staff for longer term therapeutic relationships, albeit there appeared to be greater 'willingness to disclose'. Research in Wales (Johns et al, 2021) found that remote mental health service delivery through video conferencing was perceived to be 'highly satisfactory, well-accepted and clinically suitable for many patients, and provides a range of benefits to NHS patients and clinicians.' (Johns et al., 2021).

Interventions such as an electronic tablet and mobile phone loan schemes have been shown to increase accessibility to remote consulting, yet again raise the concerns about digital exclusion for some (Healthwatch 2021). The development of digital hubs where patients can attend to access video consulting as piloted in North-West London (NHS England, 2020) is another model of remote care that has promise. Furthermore, a study of remote outpatient appointments for rheumatology patients during the pandemic, reported that people with mental health difficulties, a need for urgent care, and socio-economic disadvantage experienced particular barriers to access (Sloan et al., 2021).

### **How are health inequalities, including access, affected by remote consulting – summary findings**

- There are significant barriers to remote consultation that are associated with poverty and other dimensions of inequality and access.
- There is an important body of work from patient-led organisations that offers vital insights into when, where and how remote consultations can prove effective whilst attending to inequalities.
- Remote consultations can, with appropriate preparation and support, work well for groups sometimes assumed to be ineligible, for example people living with dementia, non-English speakers, and those with complex long-term conditions.

## Question 5: How do remote consultations impact on staff workload, training and development?

### Impact on staff

Remote consultations appear to bring both benefits and difficulties to clinicians using this approach for outpatient care. Benefits can include fewer 'did not attend' patients; less overrunning of clinics; and more flexibility for consultants in their working day (Olwill et al., 2021). Hosting and participating in multidisciplinary team meetings and case conferences on a remote basis can also save travelling time. Difficulties reported in the literature include problems with IT equipment and bandwidth (both for the professional and patient); having to take time for planning and mitigating accessibility issues such as hearing impairment; and holding a greater degree of clinical risk in respect of issues such as not being able to undertake a physical examination, attend fully to any safeguarding concerns, or be sure as to who might also be listening in to the consultation off-screen.

Some of the factors reported in respect of patient experience also impact on staff perceptions of remote consulting, for example, it being harder to undertake a holistic assessment or diagnosis, frustrations with technology, lack of IT and digital skills, and challenges establishing a trusting clinician-patient relationship will accrue to staff as well as patients. Conversely, fewer 'no show' patients, less over-running of clinics, and more opportunity for sharing patient education and self-management resources offer benefits to staff as well as patients.

O'Cathail et al (2020), in a review of evidence on teleconsultations, suggested that the face-to-face outpatient encounter is typically viewed by professionals as the 'gold standard'. Greenhalgh et al (2016 p5) in a review of evidence on video consulting note that: 'clinicians resist technologies which (in their opinion) interfere with good clinical practice and the exercise of professional judgement'. Other reviews of studies of remote consultations (e.g. Haig-Ferguson et al., 2019) point to the finding within some projects of patients apparently tending to be more satisfied with and accepting of teleconsultations than health care professionals. One such study was of neonatal nurses counselling parents after discharge from hospital (Gund et al., 2013) where it was noted that it was harder to motivate the nurses to accept and use the technology, compared than the parents.

Kumaran et al (2021) reported on a study of surgeons' experience of telemedicine in surgical consultations during the COVID-19 pandemic, with an emphasis on general surgical consultations. Seventy per cent of the respondents had never used telemedicine before the COVID-19 pandemic, three-quarters of the respondents found difficulty in assessing patients preoperatively and a significant proportion were worried about confidentiality and data security. Other concerns expressed were difficulty in building a rapport (which echoes with findings in primary care, see Burn et al 2021 described below) and the absence of a legal framework to support surgeons as the mode of consultation changed. Despite some concerns, most of them were however in favour of using telemedicine in the future. A small study from Plymouth Hospitals, reported by NHS Providers, noted the following in respect of staff views of remote consultations: staff were overall less keen than patients; staff and patients preferred video over phone; there was a need for changes to working practices, and the organisation of workflow; they were having to manage clinical risk differently; and views varied depending on specialty and type of activity or care in the outpatients department, meaning that specialty level plans were considered important (Nash and Gadd, 2021).

There is also learning to be gained from the experience of the shift to remote consultations

in general practice, including in respect of how practitioners experience the consultation, and associated relationship with their patients. A study of the narrative accounts from a sample of GPs and practice managers in the UK about their experiences of the rapid shift to remote consulting from March 2020 onwards explored how professionals' roles and identities might be changing as new forms of service provision emerged in the UK and overseas in response to the Covid-19 crisis, and considered how far such changes might be sustained, or be appropriate, for the longer term. A significant concern raised by the GPs in this study was the perceived impact on the patient-clinician relationship of a move to remote working, a threat to continuity of care, and an associated worry about clinicians' wellbeing as a result of this different way of practising (Burn et al., 2021). Other impacts of remote consulting on primary care clinicians, such as back ache and isolation, have been reported (Rosen and Leone 2022).

## Training and development

Shaw et al (2018) undertook an in-depth ethnographic of virtual on-line consultations in 3 clinical specialties in Barts Health NHS Trust, funded by NIHR. They identified the following in relation to specific new roles for clinical staff: patient triage (assessing suitability for remote consulting, what we call 'cohorting' in this report); patient set-up (making sure technology worked and supporting patients to use it); and medical documentation in the new format. The latter could include the sharing of patient information and links before or during the consultation and drawing together test results with the account of the consultation.

Greenhalgh et al (Greenhalgh, T., 2016) assert that 'Telephone consulting, it seems, requires considerable skill and judgement, perhaps because of lack of visual cues' and they go on to ponder that remote (phone) consultations may be more linear in their content, form and progression, with less opportunity for patients to raise issues spontaneously. O'Cathail et al (O'Cathail et al., 2020 p11) similarly note that 'health care staff should be encouraged and supported in using teleconsultations to diversify their practice'. This emphasises the point that a shift to a different form of outpatient encounter represents a significant service, organisational and professional practice change. As such, a move from face-to-face to remote consulting, or a hybrid of the two, will likely require the use of change management, quality and service improvement methodologies, and an overarching digital technology strategy with alongside evaluation (O'Cathail et al., 2020).

Remote consulting appears to have a mixed effect on medical education, with reduced opportunities to practise clinical examination and non-verbal communication skills highlighted as major concerns (Mulvihill et al., 2020). The Medical Schools' Council of the United Kingdom has written a guideline for the effective use of remote consulting in medical education. It emphasises the importance of informed patient consent, adequate supervision and the importance of secure internet connection and having a private area for taking medical histories and carrying out examinations remotely (Medical Schools Council, 2020).

Before the COVID-19 pandemic, medical schools and postgraduate medical education had provided limited instruction on remote consulting. A qualitative study looking at remotely supervised medical students undertaking remote consultations during the COVID-19 pandemic found that the students thought that this modality was educationally acceptable and valuable (Darnton et al., 2021). Students reported improved history-taking skills and appreciated the experience as they knew that remote consulting would likely become mainstream. Additionally, students felt that they had been able to strengthen their relationship with senior doctors through supervised remote consultations.

Remote consulting may have more educational benefit in specific areas of training, such as for laboratory-based diagnosis and management, for example dealing with abnormal blood tests (Lee et al., 2018). Additionally, there is evidence of the effectiveness of remote consultations for training medical students in certain clinical specialties, such as dermatology (Boyers et al., 2015).

An exercise in Scotland designed to increase the understanding and use of video consultations by allied health professionals demonstrated that significant gains in confidence and knowledge among that staff group could be achieved through educational webinars. Follow up at eight weeks post webinar identified that 75.5% of attendees were using video consultations, although this cannot be directly attributed to the webinars (Holdsworth et al., 2020).

### **Impact of remote consultations on staff workload, training and development – summary of findings**

- There appears to have been more research into patient preferences for remote consulting, and less into those of staff beyond enthusiastic adopters, resulting in possible publication bias.
- There are real and pressing concerns to address about the nature of the remote consultation, including the establishment of clinician-patient trust, and ensuring a holistic approach.
- Careful involvement of clinical and other staff in the co-design of future outpatient care criteria and protocols is vital, including exploration of clinicians' preferences for remote consulting.
- Training needs related to remote consulting may have been overlooked due to the pandemic emergency and now need to be attended to, in the wider context of medical and other clinical education. This should include (but not be limited to) the understanding and identification of clinical risks in a remote setting



## Question 6: What issues do remote consultations raise for the organisation of outpatient services?

Remote consulting needs to be embedded within existing complex clinical and organisational routines (Shaw et al., 2018), which these authors map out in detailed flow charts. The sense of ceremony, supported by role identities adopted by staff and patients, in outpatient settings was identified as long ago as the 1970s (Strong, 1979).

Practical issues are raised by a move to remote or hybrid outpatient consultations. For example, there must be a suitable clinical space for the health care professional to undertake these appointments with appropriate lighting, positioning of the webcam and privacy. There must also be an emergency plan that can be enacted if an immediate safeguarding concern is identified (Johns et al, 2020). Furthermore, there is a need to plan and arrange any pre-work needed before the outpatient appointment, such as weighing the patient, undertaking blood and urine tests, asking them to have medications available, checking the ability of the system (and professional) to email or message over links and other advice, before or after appointment (Gupta et al., 2021). All of this needs to connect smoothly with wider administrative and clinical processes in outpatient services, such as scheduling, letters to patients and GPs, collation of diagnostic test results, availability of medical records, and follow-up appointments.

Shaw et al note (Shaw et al., 2018): ‘the lack of ‘organisational slack’ – limited resources, fixed protocols and distributed roles and responsibilities – was a major barrier to the collaborative and adaptive efforts needed to embed virtual consultations as business as usual.’ In other words, making the change to remote or hybrid clinics is resource intensive and there is rarely capacity for this work. The work will go well beyond the development of new standard operating procedures and entail significant and ongoing change management support.

Studies and policy analysis by national bodies such as Healthwatch UK (2021) and National Voices et al (2020) have sought to offer practical tips for staff as well as patients, in respect of optimising the use of remote consulting. These highlight the importance of co-design of approaches to remote consulting, something that was likely impossible to do in the rapid and urgent shift to virtual working in spring 2020, yet will be possible and needed as hospitals, managers and clinicians work with patients and other partners to plan for remote or hybrid outpatient clinics for the longer post-pandemic term. It should be noted that co-design is work that requires significant time, resource and careful skilled facilitation.

Wherton et al (Wherton et al., 2021) reported on research in Scotland about that country’s experience of remote consulting, both before and during the pandemic. They concluded that extensive national-level groundwork before the pandemic allowed many services to rapidly increase the use of video consultations during the pandemic, supported by a strong strategic vision, a well-resourced quality improvement model, dependable technology, and multiple opportunities for staff to try out the video option. Wherton et al observe that Scotland provides an important case study from which other countries might learn (although the large geographical spread and low population density in parts of Scotland may have provided a context advantageous to the spread of remote consultations).

Other organisational issues that are relevant to the continued use (or not) of remote consulting include the way in which the NHS, through its Integrated Care Systems, will pay for remote as opposed to face-to-face consultations, as activity-based payments are reintroduced. Shaw et al (Shaw et al., 2018) discussed issues of commissioning and payment in their study of the use of video consulting within Barts Health in London, noting the need for a national approach, to avoid local providers having to each negotiate a tariff for remote



consultations with their commissioner. They also advocated the value of considering a capitated funding approach to outpatient services to allow local flexibility in the organisation of outpatient care.

### **Issues raised by remote consultations raise for the organisation of outpatient services – summary of findings**

- Remote consulting needs to be carefully planned and co-designed (with patients and staff) for the longer term as part of overall outpatient care pathways at both organisational and specialty levels.
- There is practical evidence-based advice on remote consulting from pre-pandemic research, which is important to draw upon alongside pandemic-focused studies.
- ‘Organisational slack’ will be needed for planning longer term hybrid and innovative outpatient care.

## Question 7: What is the potential for wider innovation in outpatient care, when implementing remote consultations?

Calls to reimagine the wider organisation of outpatient care in the UK predate the COVID-19 pandemic, as in the work of Castle-Clarke and Edwards (Castle-Clarke and Edwards, 2018). Their proposed design principles for outpatient services are instructive in the context of this evaluation of evidence on remote consultations:

- Interventions should be clinician-led with team support
- Use data to inform new ways of working
- Renegotiate the tariff locally

Be clear about the job that needs to be done and remove steps that do not add value. Some studies have explored the implementation of remote consulting as part of wider innovations in service delivery that may in themselves support its successful use. In particular, incorporating a significant degree of patient/carer remote monitoring of health and symptoms, and making effective use of technology as part of a self-management approach.

An oft-reported constraint on remote consulting is the requirement for diagnostic interventions to provide necessary information to support the consultation. Advances in technology have enabled remote monitoring of physiological parameters and, while the literature on remote monitoring is beyond the central scope of this review, there is research evidence that generally supports the notion that remote monitoring can be effective (particularly for chronic disease) and that it may be an effective additional innovation to support remote consultations (Hashiguchi, 2020).

An alternative strategy to replacing hospital-based diagnostics with remote monitoring has been to re-evaluate the necessity of some diagnostic interventions altogether. Evaluations of medical abortions for pregnancies at less than 12 weeks’ gestation found that providing this service without a routine ultrasound was safe, effective and was acceptable to the patients (Reynolds-Wright et al., 2021).

There are significant logistical and operational challenges that need to be overcome for remote consultations to be implemented effectively. The cost and complexity of integrating teleconsultations into existing health care pathways is likely to be significant (O’Cathail et al., 2020). Shaw et al’s (2018) in depth study of the implementation of remote consulting in three services across one NHS trust identified far-reaching and complex changes to operating procedures and roles within the outpatient department that were required. Shaw et al (Shaw et al., 2018) developed a checklist for implementing video consulting with five key recommendations aimed at clinicians and managers:

- introduce the service slowly and incrementally with direct involvement of the clinical team,
- allow plenty of time for discussion with staff and patients,
- work in collaboration with your ICT department and technical support teams,
- ensure you understand patients’ lives and how the technology relates to the management of their health condition, and
- support flexible use, fitting the service around patient needs.

Changes to the format of acute trusts’ outpatient care need to take account of, and where possible dovetail with, those taking place in general practice, primary care and community health services. The pandemic shift to remote consulting has happened in all sectors of care, and there is huge potential for shared learning, and the development of collaborative solutions, and new care pathways for the future.

One study that demonstrated the commonality of experience across secondary care and primary care is that undertaken by Mairead Murphy, Chris Salisbury and colleagues at Bristol (2021) who very swiftly commenced study of remote consulting in general practice at the start of the pandemic. Murphy et al analysed and described trends and published findings, concluding that the key driver for the shift was social distancing and infection control, early adoption and adherence started to wane as the pandemic sustained and clinicians found the approach exhausting and not appropriate for all patients. Clinicians’ confidence varied significantly in respect of use of the remote format – and they highlighted a need for practice, and training (Murphy et al., 2021). Indeed, in primary care, there is an emerging debate about the future organisation of care, and how remote and face-to-face approaches might be melded, along with more self-management and monitoring of conditions (Rosen R, 2020).

### **Potential of remote consultation implementation for wider innovation in outpatient care – summary of findings**

- Remote consulting presents an opportunity for more radical re-imagining of outpatient care.
- Remote monitoring, telehealth and other technological innovations have a potentially significant role to play in enabling outpatient care transformation.
- It is vital that planning of such innovations takes place in collaboration with primary care, community health services and local diagnostic hubs, as remote consulting has grown across all sectors.
- Planning for future remote, face-to-face and hybrid consulting approaches should be considered as major change and quality improvement work and there is a window of opportunity as the pandemic recedes before a general societal ‘return to normal’.

# Implications for policy and practice

Whilst the pandemic led to a swift and considerable shift of outpatient consulting from face-to-face to remote format, there were still more than half of consultations undertaken face-to-face in both UHB and BWC during the time of lockdowns and other pandemic restrictions.

Our interpretation of published research, together with local stakeholder interviews and analysis of outpatient service patterns in two BHP trusts appear to point to greater enthusiasm on the part of patients for remote consulting, with clinicians seeming less certain of its benefits in comparison with face-to-face appointments. More seems to be known in the research literature about patients' experience of remote consulting than that of clinicians. This is in part likely due to more research having been undertaken on patients' experience and preferences, although where studies have examined both professional and patient perspectives, the results often point to reticence on the part of clinicians, missing the in-person consultation, the opportunity to develop a higher degree of rapport and trust, undertake a physical examination, and attend to a more holistic range of 'signals' and clinical or social signs. In response to this, a follow-up study of the views of consultant-level doctors in the two BHP trusts is underway and will be reported on separately.

There also seems to be more evidence emanating from what might be considered 'enthusiast' teams or services, and less examination of the experience of reluctant or non-adopters of the remote consulting approach. Likewise, there appears to be less research evidence about the wider impact on the organisation of outpatient care across a hospital and/or its wider local health system. These are areas for future research, and it will be interesting to observe how and why health trusts vary (or not) in how they recover their outpatient consulting practice post-pandemic, and what is retained from the experience of a rapid pivot to remote working in 2020. There are important issues of professional culture, the management of change and the rather patchy implementation of digital infrastructure across the NHS that are likely affecting shifts in patterns of consulting.

Based on a synthesis of the findings of the stakeholder interviews, literature review and quantitative analyses of patterns of outpatient clinic practice in UHB and BWC trusts, the following are suggested as implications for future policy and practice in planning and organising outpatient care.

- 1. What worked and was considered acceptable in an emergency may not hold good longer term**, and people's expectations will likely shift as the potential for 'return to normal' emerges. Quantitative data on local outpatient practice suggest that the proportion of remote outpatient consultations has, to some extent fallen back from pandemic lockdown levels. At this stage it is not clear what the new equilibrium level of remote consultations might or should be, or how this change has been informed by analysis of patient and carer preferences, or indeed staff's reasons for enabling this shift.
- 2. There is a need for a deeper understanding of patient and carer experience**, which will likely be shifting along with the stages of the pandemic. The issue of patient choice is important in respect of the mode of outpatient consultation and does not appear to have been prominent in national and local planning of outpatient services during the pandemic (perhaps due to understandable concerns regarding infection control). As criteria are developed for future 'cohorting' of patients into different forms or options of outpatient consultation, policy on patient choice will need to be established and agreed.

**3. A critical issue for the future planning and organisation of outpatient care is the development and application of criteria to be used when determining the mode of outpatient consultation** will suit the needs and preferences of individual patients, and categories of patients. This ‘cohorting’ of patients will need to be managed at specialty or sub-specialty level but probably within a set of organisational (or Integrated Care System, or perhaps wider NHS) overarching principles. This process would be supported by agreement between primary and secondary care as to what information is required at the point of referral to help ensure the appropriate mode of consultation is selected (for example, the existence of factors such as deafness).

A combination of patient choice and proactive selection by clinicians will be needed to mitigate risks of increased inequalities from a shift to new forms of consultation. We propose here a possible framework for selecting patients for remote or face-to-face consultation (Figure 9):

High propensity for remote consulting	Low propensity for remote consulting
<p><b>Patient factors</b></p> <ul style="list-style-type: none"> <li>• Known to clinical team</li> <li>• Perceived technological capability and access</li> <li>• Significant travel to hospital</li> <li>• Minimise loss of education or work opportunities</li> <li>• Patient desire for remote consultation</li> </ul> <p><b>Clinical factors</b></p> <ul style="list-style-type: none"> <li>• No requirement for physical examination</li> <li>• Stable disease and/or high confidence in patient self-management</li> <li>• Clinician preference for digital consulting</li> </ul>	<p><b>Patient factors</b></p> <ul style="list-style-type: none"> <li>• Vulnerable patient or family</li> <li>• Evidence of digital exclusion</li> <li>• Absence of cost factors relating to visit to hospital</li> <li>• Consultation involves confidential discussion not possible at home</li> <li>• Physical obstacles (eg hearing impairment)</li> <li>• Patient desire for face-to-face consultation</li> </ul> <p><b>Clinical factors</b></p> <ul style="list-style-type: none"> <li>• Requires physical assessment</li> <li>• First or particularly significant appointment</li> <li>• Unstable disease and/or poor ability to self-manage condition</li> <li>• Clinician resistance to digital consulting</li> </ul>

**Figure 9: Proposed framework for aligning patients to mode of consultation**

This framework sets out some broad and pragmatic criteria that might be used to indicate how remote consultation could effectively be used (or avoided) once pandemic-related issues of infection control become less important. Other frameworks for considering when and how to use remote consulting exist. One example, is the decision tool for doctors produced by the GMC (General Medical Council, 2020) and another is the far more comprehensive PERCS framework that considers a multitude of different factors that might be taken into account in considering remote consultations (Greenhalgh et al., 2021). It is likely that clinical factors will need to be debated and agreed in more detail at a specialty level (for example what counts as ‘unstable disease’).

Local circumstances will also dictate what diagnostic tests and images are required in advance to support the consultation and where these may be obtained. If tests and images are required but are only available on the same site as the consultation, then the utility of a remote consultation may be undermined. However, as we discuss in point 5 below, the ‘reimagining’ of outpatient care, including the greater use of remote modes of consultation

is likely to be supported by the provision of dispersed access to diagnostics.

The framework also addresses patient and clinician preferences about the mode of consultation. However, these are also normative considerations which need to be subject to debate. For example, to what extent should any benefits of remote consultations be denied to patients on the grounds of clinician preference?

Experience in general practice suggests that non-clinical reception staff may play a significant role in applying triage policies regarding face-to-face or remote consultations, which can prove stressful and requires significantly more training in communication skills (Rosen and Leone 2022).

- 4. A more in-depth and nuanced understanding of clinicians' preferences for the mode of outpatient consulting will be needed** as managers and clinical teams plan outpatient services for the medium and longer term, This is the subject of an extension study currently under way. This will include exploring reasons for wishing to use (or not use) phone or video consulting, understanding the local practical issues associated with undertaking remote consulting, developing appropriate training and development for all staff involved in outpatient services, accessing and applying national professional and other guidance on outpatient care, and facilitating clinical teams in the process of adopting such guidance in an equitable manner that take account of patient preferences and choice. Judgements will need to be made about what degree of clinician choice of consultation format will be accommodated within new outpatient care pathways.
- 5. There is a time-limited opportunity to build on the sudden and significant experience of extensive use of remote consultations during the pandemic** and to incorporate telephone and video consulting into new outpatient care pathways, based on careful use of evidence-based guidance appropriate to patient needs, preferences and clinical conditions. There is also an opportunity to pilot and adopt other innovations such as remote monitoring and technology-supported self-management within outpatient care, patient wearables, patient portals and the use of remote diagnostic hubs. This will be a significant programme of change and quality improvement and will require some 'organisational slack' and tailored support yet holds the promise of innovation in outpatient care that has been long debated and rarely implemented. If this opportunity is not quickly grasped within clinical specialties and across organisations, it may be lost; there are clear signs that patterns of outpatient care are already 'slipping back' to where they were pre-pandemic.
- 6. It will also be vital that changes to outpatient care are planned and implemented in partnership with other organisations and health and care professions across an integrated care system**, and including with primary and community services colleagues, for these changes have been occurring in all health and care bodies, and the solutions will need to be coordinated and streamlined wherever possible. Transformation of outpatient care in hospitals needs to be planned and co-designed with patients and carers, and organisations that represent their interests within the NHS. Furthermore, extensive engagement of clinical and other staff within hospitals will be required, to explore, understand and accommodate their concerns and aspirations about different forms of consultation.
- 7. Careful attention will need to be given to measuring experience of and outcomes from different forms of outpatient consultation.** Patient-reported outcome measures would be helpful here, alongside analysis of dimensions of inequality in how consultations are accessed and experienced. There will be a need for ongoing assessment of staff

experience and views of consultation effectiveness. Such data will help inform further development of outpatient care, and to reinforce or revise new ways of working. Furthermore, it will be important to use local data and evaluation to compare outpatient care patterns and outcomes with those of other NHS organisations and integrated care systems.

**8. There will be many practical and managerial issues to address as new outpatient care pathways are developed and implemented**, and not all will be anticipated at the outset. Issues are likely to include: the implications of a mix of consultation formats for consultant and other clinician job plans; changes to the roles of administrative, nursing and allied health professional staff in outpatients; adaptation of medical records procedures, taking into account current variability in the maturity of the administrative architecture; communications with patients before and after consultations; training and development of staff about different and a mix of consultation formats; ensuring that ethical issues associated with remote consulting are addressed (including in the context of confidentiality and safeguarding); and the ways in which commissioners will procure and pay for different approaches to outpatient consulting.

Our exploration of outpatient consultations trends and experience during the COVID-19 pandemic in two trusts within Birmingham Health Partners, in the context of the wider evidence base, has highlighted the significant changes that occurred, the issues raised, and the potential for change and innovation in outpatient care longer term. Data on local consultation trends points to a significant 'return to normal' as the NHS emerges from the pandemic, with face-to-face consultations again becoming the norm, arguably without sufficient exploration of what matters most to patients and to staff, and what might be the optimum approach to consulting in future. Furthermore, there is a real risk of missing a unique opportunity to draw on experience of sudden and unplanned changes in care delivery to apply these lessons to a more radical reform of how at least some outpatient care might be delivered longer term.

A mixed economy of remote (phone and video) and face-to-face consulting will likely be required and will pose a range of operational challenges. There will need to be careful attention to unintended losses, such as vital social engagement for some patients in attending in-person and the building and sustaining of trusting clinician-patient relationships. It should also be noted, that as Sara Shaw concluded in her and colleagues' major pre-pandemic study of video consultations for NIHR:

*'even when a virtual consultation service has been established, many patients will either be unsuitable for this option or choose not to use it, so the assumption that face-to-face clinics will soon be replaced by virtual ones is probably premature'. (Shaw et al, 2018)*

Despite such caveats, this evaluation study has revealed the significant potential for innovation and change in the modes of outpatient consultation across Birmingham Health Partners' trusts. In particular, the importance of better understanding patients' and carers' experiences of different consultation formats has been highlighted, along with the need to understand clinicians' preferences. Most critically, the wider literature, - along with local analysis of outpatient data, - point to the need to develop clear and agreed criteria for how best to select patients, and offer them choice, for format of outpatient care, whilst attending constantly to the nuances of how consultation formats impact on different dimensions of inequality.



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