Qualitative Analysis of Remote Consultations (QuARC): A study of technology-enhanced consultations in diabetes, cancer and heart failure

Sara E Shaw, PhD¹
Deborah Cameron, M.Litt²
Joe Wherton, PhD¹
Lucas M Seuren, PhD¹
Shanti Vijayaraghavan, FRCP³
Satyajit Bhattacharya, FRCS³
Christine A’Court, MD¹
Joanne Morris, PhD³
Trisha Greenhalgh, FMedSci ¹

¹ Nuffield Department of Primary Care Health Sciences, University of Oxford
² Faculty of Linguistics, University of Oxford
³ Barts Health NHS Trust, London, UK

AUTHOR FOR CORRESPONDENCE
Dr Sara Shaw
Nuffield Department of Primary Care Health Sciences, Radcliffe Observatory Quarter, Woodstock Road, Oxford OX2 6GG, UK
sara.shaw@phc.ox.ac.uk
ABSTRACT

Background
Remote video consulting is promoted by policymakers as a way of delivering healthcare efficiently to an ageing population with rising rates of chronic illness. As a radically new service model, it brings operational and interactional challenges in using digital technologies. In-depth research on this dynamic is needed before remote consultations are introduced more widely.

Objective
The aim of this study is to identify and analyse the communication strategies through which remote consultations are accomplished, and to produce guidance for patients and clinicians to improve the communicative quality of remote consultations.

Methods
In previous research we have collected and analysed two separate datasets of remote consultations in an NIHR-funded study of clinics in East London using Skype™ and a Wellcome Trust-funded study of specialist community heart failure teams in Oxford, using Skype™ or Facetime™. The QuARC (Qualitative Analysis of Remote Consultations) study will combine datasets and undertake detailed interactional micro-analysis of up to 40 remote consultations undertaken by senior and junior doctors and nurse specialists, consulting with adults with diabetes, women who have diabetes in pregnancy, people consulting for post-operative cancer surgery and community-based patients having routine heart failure reviews, along with up to 25 comparable face-to-face consultations. Drawing on established techniques (e.g. conversation analysis), analysis will examine the contextual features in remote consultations (e.g. restricted visual field), combined with close analysis of different modes of communication (e.g. speech, gesture, gaze).

Results
Findings will address the current gap in knowledge about how technology shapes the fine detail of communication in remote consultations. Alongside academic outputs, findings will inform the coproduction of information and guidance about communication strategies to support successful remote consultations.

Conclusions
Identifying the communication strategies through which remote consultations are accomplished and producing guidance for patients and clinicians about how to use this kind of technology successfully in consultations is an important and timely goal since roll out of remote consultations is planned across the NHS.

KEY WORDS
Remote consultations, communication, language, linguistics, cancer, diabetes mellitus, heart failure
INTRODUCTION

BACKGROUND
Health services face rising costs due to increasing disease prevalence, high DNA (‘did not attend’) rates and poor patient engagement, resulting in poor health outcomes and greater use of emergency care.[1, 2] Most outpatient models fail to reliably provide responsive care when patients need intervention. The search is on for new and affordable ways of delivering care, particularly for those with chronic illness. Current policy places considerable faith in digital technologies and their potential to deliver more efficient, effective, patient-centric care.[3-6] Digital technology plays a significant (though varied) role in health system plans to reconfigure hospital services, and transform the delivery of health services.[7] Attending regular clinics can be expensive, physically challenging and inconvenient for patients.[8] Remote consultations (using Skype™ or similar applications) have the potential to fundamentally change the way in which patients interact with clinicians. But the online environment is known to produce subtle alterations in the dynamics of human interaction, with a potential risk that clinical clues will be missed or the clinician-patient dynamic altered adversely.[9] [10] As a radically new service model, it also brings operational and interactional challenges, including providing technical support, training staff and patients in using digital technologies and avoiding potential for misunderstandings when (potentially sensitive) information is transferred remotely.

The current evidence base on remote consultations is sparse but has begun to develop.[11-20] A 2015 review identified 27 published studies of the use of Skype™ and similar technologies in clinical care, all but one of which reported positive benefits.[12] Most of these studies, and those published since (e.g. [8, 17, 21-24]), are brief descriptions of small pilot-stage projects or use experimental methods (especially randomised controlled trials) to compare the remote option with traditional face-to-face encounters. Many of these studies focus on the use of Skype™ to support remote consulting, with fewer examining other options (e.g. FaceTime, WhatsApp or purpose built applications[25]). A small number examine combinations of technologies (e.g. use of Skype plus texting[26] or use of remote consultations plus monitoring[27]). Across these studies, despite reported benefits (e.g. in terms of increased access for patients[9, 28-30] particularly those with complex needs,[31] patient and clinician satisfaction with the remote option,[23, 32-35] potential time/cost savings,[8, 36, 37] improvement in self-management skills,[38] and improved compliance to treatment and/or clinical outcomes[17, 22, 24, 31, 39-43]) small sample sizes (e.g. five patients) and high losses to follow-up prevent any unqualified conclusion that remote consultations are ‘effective’.
In many published studies technical and communication issues are mentioned but are not explored in any depth. A number of studies have focused on the patient-provider relationship and concluded that it appears similar when comparing remote consultations with usual face-to-face care.\cite{44} One study focused in more depth on the strength of the relationship between patients, caregivers and healthcare professionals when behavioural health care was provided for adolescents with poorly controlled type 1 diabetes mellitus \cite{45} They concluded that the therapeutic relationship was similar to clinic-based care (on the basis of both adolescent and parent reporting by survey) and that the relationship or care provided was largely unaffected by remote consulting. The research did not include close examination of communication or the role of technology.

There is recognition in the literature of the potential effects of remote consulting on satisfaction, adherence and compliance, health and clinical status, recall and understanding and psychological well-being in the context of health care consultations.\cite{46, 47} There is currently limited published research that explores such potential effects. There is extensive evidence focusing on communication and interaction in health care consultations highlighting how communication is shaped by wide ranging factors such as patient preferences and available time;\cite{48-50} patient and clinician ethnicity, gender, behaviour and orientation to patient-centred care;\cite{50-53} interpretation (e.g. of parental requests for further information);\cite{54} non-verbal communication\cite{55} and the use of technology (e.g. Electronic Patient Records).\cite{56-58} To our knowledge, there are no studies reporting the impact of remote consulting technology on communication and interaction in medical consultations. We found two studies that examined the quality of communication in the context of telemedicine consultations, one with primary care providers and patients consulting with specialists across a range of conditions using modular video/audio systems at either end,\cite{59} the other with older patients requiring pulmonary medicine consultations and using a live two-way audio and video conferencing service.\cite{60} Findings from both papers suggested that the use of telemedicine influences communication, with doctors more likely to dominate telemedicine consultations. To our knowledge, there have been no papers examining quality of communication in the context of Skype\textsuperscript{TM} or similar web-based media. Studies beyond the medical literature highlight the ways in which such media might alter interaction, for instance by subtly de-synchronising communication.\cite{61, 62} There are questions about whether technical failures (e.g. connecting but hearing no sound), new communicative foci (e.g. ‘talking heads’, showing digital objects) or new types of greeting (e.g. the opening sequence of a video meeting) or interruption (e.g. a family member entering the room) impact the consultation.\cite{62-68} This evidence has yet to be considered in relation to remote medical
consultations. We do not yet know how different communication strategies, modes of communication (speech, bodily conduct, gaze and posture) and/or the material properties of the technology shape and constrain interaction in remote consultations.

**OUR RESEARCH ON REMOTE CONSULTATIONS TO DATE**

The QuARC project described in this paper builds on previous research by our team, especially the DREAMS (Diabetes, Review, Engagement and Management via Skype) study funded by the Health Foundation from (2012-2014), the VOCAL (Virtual Online Consultations – Advantages and Limitations) study funded by the National Institute for Health Research Health Services & Delivery Research programme from 2015-2017; and the OTQS (Oxford Qualitative Telehealth Study) funded by the Wellcome Trust as part of a wider programme of research undertaking studies of assisted living solutions (SCALS) from 2015 to 2020.

VOCAL was a multi-level qualitative study of remote (“Skype” and similar) consultations involving macro-level data (on national policy and industry strategy relating to remote consultations), meso-level data (on organisational tasks and processes) and micro-level data (video-taped consultations). Combined with DREAMS (an earlier, smaller study in the same setting) findings show that remote consultations appear to be safe, effective and convenient for patients who are preselected by their clinicians as ‘suitable’ (although such patients represent a small fraction of clinic workloads), and are associated with improved DNA rates, reduction in A&E attendance, improvements in blood glucose control, increased patient satisfaction and lower patient-borne costs.[19, 69]

OTQS is a qualitative case study exploring telehealth and video-consulting in patients with heart failure in the context of a large, UK-wide randomised controlled trial. To-date a significant finding has been that most patients are judged “unsuitable” for remote consultations by clinicians or preferred to be seen face-to-face (in part because heart failure patients have frequent comorbidity and often frailty, making their care complex and the course of their condition unpredictable). Despite these issues, there are remote consultations that patients and clinicians describe as “successful”, in which much of the focus is on lifestyle aspects of the condition (e.g. questions about exercise tolerance and sleep quality which indicate both physiological status and functional consequences) and medication compliance. We have observed successful discussions about medication, including a nurse identifying and correcting a misunderstanding of what dose of medication to take. We have also observed heart failure nurses successfully talking patients and/or relatives through self-examination of ankle oedema, blood oxygen testing and blood pressure.
The combined dataset from VOCAL and OTQS recordings offers opportunities for addressing questions about communication and quality of care in remote consultations. Preliminary analysis of the videos and transcripts across both studies suggests that remote consultations have advantages (e.g. patients generally feel satisfied and many prefer consulting in the comfort of their own home with family around them; clinicians who regularly use Skype™ or similar media are keen on this medium), but that they are different (e.g. compared to the equivalent face-to-face encounter the overall length is shorter (even taking account of the small amount of ‘technical talk’ at the beginning, e.g. ‘can you see me?’ or ‘is the video on?’), and the flow of conversation is less natural).[18] In remote and face-to-face consultations clinicians did more talking and exerted more control. One difference that was statistically (and probably clinically) significant was that both parties sometimes needed to state things explicitly in a remote consultation that remained implicit (and/or obvious to both parties) in a traditional face-to-face encounter. We also observed several examples of technical failure (including human error e.g. forgetting passwords) that significantly interfered with the quality of the consultation, with patients (or staff) not always sufficiently skilled or confident to undertake the necessary ‘troubleshooting’ to achieve and maintain the video connection.

To summarise, the existing evidence suggests that there is great potential for the use of virtual media tools (like Skype™) for remote communication between patient and clinician. However, while studies are broadly positive, the select nature of samples, small sample sizes, and high losses to follow-up raise questions about conclusions that the technology is ‘effective’. The research literature specifically on remote consultations is currently limited. The contribution of virtual media to consultations in health care has been studied mainly using experimental methods (especially randomised controlled trials), which have generally focused on evaluating the outcomes of the technology. There is extensive evidence focusing on communication and interaction in medical encounters (e.g. Stivers and colleagues[70], Stevenson[50] and Robinson[71]) but none that examine the detail of interaction when consultations take place remotely. Evidence from studies beyond the medical literature highlighting the ways in which Skype™ and similar media might alter interaction (e.g. de-synchronising communication) has yet to be considered in relation to remote consultations. In short, there is a significant knowledge gap in relation to the fine detail of communication in remote consultations. Addressing this gap, and producing guidance for patients and clinicians about how to use this kind of technology successfully in consultations, is an important and timely goal since roll out of remote consultations is planned across the NHS.
METHODS

AIMS
To identify and analyse the communication strategies through which remote consultations are accomplished and produce guidance for both patients and clinicians to improve the communicative quality of remote consultations.

OBJECTIVES
1. To analyse a multi-modal dataset of up to 40 remote consultations with diabetes, cancer and heart failure patients and their clinicians (and compare these with a sub-set of up to 25 audio-recorded face-to-face consultations), using a combination of ethnographic and micro-analytic approaches to investigate in detail how interaction is affected by mediation via Skype™ or similar applications.

2. To generate findings on the detailed dynamics of communication and interactions in remote consultations and bring patients and clinicians who have been involved in remote consultations together for a consolidating learning workshop to gather feedback and develop/refine resources;

3. To develop provisional guidance for patients and clinicians on conducting remote consultations (provisional in the sense that study design does not allow conclusions to be drawn across all clinical areas).

RESEARCH QUESTIONS
1. What are the (often implicit or unspoken) communication strategies through which technology-mediated consultations for diabetes, cancer and heart disease are successfully accomplished?

2. How do patients and clinicians address misunderstandings in technology-mediated consultations, and what strategies are more effective?

3. What can we learn from detailed linguistic analysis of real life remote consultations to guide other clinicians and patients interested in or actively using Skype™ and other social media?

OVERVIEW OF STUDY DESIGN
The National Institute for Health Research and Wellcome Trust separately funded studies to collect data on remote consultations with doctors and nurses. This study will combine multi-modal data (video, audio and screen capture at both 'ends' of a remote consultation) from these two (independently conducted) studies of up to 40 remote consultations and, comparing these with a sub-set of up to 25 face-to-face consultations, analyse the interaction using techniques designed for the fine-grained analysis of verbal and non-verbal interaction. This powerful technique has yet to be applied to remote consultations, partly because of the logistical difficulties of obtaining high-quality video and audio data at both ends of the consultation.

THEORETICAL/CONCEPTUAL FRAMEWORK

Findings from our own and others research highlight important interactional differences between remote and face-to-face consultations (see above) and indicate that the mode of communication can alter the interpersonal dynamics between patient and clinician.[18, 19] [10] To examine the significance of this we will make use of both long-established techniques developed for the micro-analysis of face-to-face and telephone conversation[72, 73] and insights from recent work on mediated and multi-modal interaction using both verbal and visual channels (e.g. video-conferencing, vlogging, courtroom videolinks[62, 67]). We will use two complementary theoretical approaches that see communication as a dynamic interaction that emerges moment-by-moment, and look beyond the traditional patient/clinician dyad to examine the role of technology in shaping interaction.

First, we will use the 'ethnography of communication' (an approach that aims to produce systematic and richly contextualised descriptions of the communicative genres, events and practices that are observed in a particular culture[74]) to identify the key features of remote consultations, and attend systematically to the contextual factors (e.g. lack of spatial proximity, restricted visual field) that may be producing differences with face-to-face. Our focus will be on 'communicative competence',[75] i.e. how participants in remote consultations deploy their tacit understanding of a particular communicative event, and what competencies are needed to maximise the benefits of the encounter.

Second, we will use discourse analysis to guide fine-grained examination of the patterning of interaction at a ‘micro’-level (i.e. how consultations are managed by participants moment by moment). Discourse analysis encompasses a number of approaches.[76] We will draw on concepts and techniques from several of these, including Conversation Analysis (which focuses on the
resources used by participants in talk to create/maintain order and coherence[77-79]), interactional sociolinguistics (which focuses on the use of context-specific frames and schemas to negotiate meaning in interaction[80]) and multimodal discourse analysis (which focuses on the interaction of different modes and channels of communication—e.g. verbal and visual—to produce meaning, especially in mediated environments[10]).

SETTING
Data will be drawn from two independently conducted studies of remote consultations:

Setting 1
The VOCAL study (March 2015-July 2017), was undertaken with Barts Health, the UK’s largest acute trust. We studied two services, Diabetes and Pancreatic/Liver Cancer, both based in London boroughs characterised by high socio-economic deprivation and ethnic and linguistic diversity. Barts Health is under pressure to deliver services more cost effectively while responding to rising need and demand. Extending remote consultations is part of that plan. The Diabetes service (led by SV) has a tradition of ensuring that services are accessible and oriented to meeting the needs of the most vulnerable and serves a population with one the UK’s highest prevalence of type 2 diabetes in the 16-25 age group. Engagement with traditional health service models is low. Remote consultations, where clinically appropriate, appear to be acceptable allowing for a flexible model of care. Experience delivering remote consultations since 2012 suggests they are popular with patients and staff.

The Royal London HPB (Hepato-pancreato-biliary) Cancer service (led by SB) is a tertiary service to which patients often have to travel long distances when unwell. It provides contrasting demographic and clinical challenges to the diabetes example. Patients with pancreatic and liver cancer may live up to 200 miles away. They have a diverse demographic but have in common a life-threatening diagnosis, major surgery and a prolonged post-operative phase in which they have to cope with multiple physical, emotional and practical challenges. The service has been trialling remote consultations (largely for post-operative follow-up) since September 2015.

Setting 2
The OQTS study (on-going) is undertaken with the community-based, specialist nurse-led service funded by Oxford Health NHS Foundation Trust and working in liaison with the hospital-based heart failure service; local GPs; other community services (e.g. palliative care nurses); Integrated Locality
Teams (occupational therapy, physiotherapy, mental health); social services; and five locality based ambulatory assessment units providing emergency care for patients. The community heart failure nurses each have an active caseload of 100-120 patients, which they manage through a combination of community clinics, home visits and telephone management. A high proportion of patients are unable to get to clinic (due to frailty or tiredness) and home visits are time-consuming so the remote option is a viable alternative. The team remain keen to evaluate whether remote consultations can help them deploy their limited resource safely, efficiently and effectively without loss of patient or staff satisfaction. Some clinicians (particularly nurses) are sceptical as the functional and cognitive deficits in many heart failure patients present a challenge to remote consulting.

**Cross study sample**

We will include all of the remote consultations recorded in both studies. This currently gives a sample of 39 remote consultations (Table 1). We plan on collecting one more remote consultation in the heart failure service raising the overall total to 40.

<table>
<thead>
<tr>
<th>Table 1: Overview of cross study sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total recorded</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Cancer</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Heart failure</strong></td>
</tr>
</tbody>
</table>

The goal of sampling has been to capture the breadth of (patients and staff) experience of remote consultation. The lower number in cancer and heart disease is because there are greater practical
and ethical challenges to gaining informed consent and avoiding harm (particularly in the case of heart failure which often requires physical examination).

Within each sub-sample we have sought maximum variety in clinical, social, ethnic and personal circumstances. Exclusion criteria were: no 3G access (VOCAL) or no 3G or wifi (OTQS) at home, lack of familiarity with the relevant technology, clinical inappropriateness (e.g. need for physical examination), inability to give informed consent, and comorbidity preventing participation (e.g. severe visual impairment).

To enable comparison, we have collected 17 audio-recordings of matched face-to-face consultations across diabetes, cancer and heart failure to date and plan a further eight (giving a total of 25).

**Description of study dataset**

The core dataset of (currently 39, planned 40) video-recordings of remote consultations incorporates video, audio and screen capture at both 'ends' - clinician and patient - for each consultation, along with detailed transcriptions.

Both studies captured two video streams - what the clinician sees and does in the clinic, and what the patient sees and does at the remote site (the place where the patient consults from - typically living room at home). To-date, in 27 of the 39 consultations we have recorded the clinician's end of the consultation using a small digital camcorder, and used the same or equivalent technology for the patient end, to capture video and good quality voice recordings. In each of the consultations the camera's field of view captures as much as possible of the individual and their orientation towards the screen (e.g. a computer or tablet), as well as contextual detail in the room. This worked well in 'pilot phase' consultations. Once remote consultations became 'business as usual' it was harder for staff to find time to recruit participants and alert the research team to a planned consultation meaning that 12 recordings capture the clinic but not the patient end.

For PC/laptop computers we used a commercially available screen capture software tool to record screen images showing on each party's computer screen as a video file. We used an encrypted USB device to run this software on laptops/computers and positioned a second digital camera for tablets and mobile devices.
We synchronised screen capture and video files into one using video editing software such that the video of the computer screen can be played exactly in parallel with a video of the patient looking at the screen and then align the patient and clinician 'ends' in a single editable file. These synchronised files allow us to zoom in and slow down events in order to examine interactions, judgements and interpretations,[81] the bodily conduct of (patient and clinician) participants, and the ways in which objects (e.g. mobile devices, patient records) come to gain significance at particular moments.[82] We have also transcribed consultations using ELAN, a specialized programme for transcribing and analyzing video and audio resources that has allowed us to capture verbal and non-verbal detail of interaction and to view this repeatedly (a requirement of linguistic analysis[56, 81]) and annotate audio and video streams at the level of a sentence, word, comment or any other linguistic feature.

Ethnographic data in the form of field notes from patients' homes and each of the clinics provides details of the patient's domestic support, material circumstances and cultural factors impacting on their self-management, as well as the physical circumstances in which the clinician makes the remote call, including use of additional technologies (e.g. electronic records).

ANALYSIS
Analysis is informed by ethnography of communication and discourse analysis (see above). We will initially focus on any differences across consultations: attending systematically to the contextual factors that may be producing any differences (e.g. restricted visual field), the 'communicative competence'[75] that participants in remote consultations deploy, and the competencies needed to maximise the benefits of the encounter. We will explore whether and how the affordances of the remote medium (i.e. the way it constrains and enables interaction) change the interactional structure and content of the consultation, and whether the spatial distance between participants — and the fact that patients are somewhere other than the institutional space of the clinic, often their domestic space — alters the social and power relationships.

We will examine the patterning of interaction at a micro-level — how consultations are managed by participants turn by turn and moment by moment — using a range of discourse analytic techniques. On the basis of work done so far,[18] the issues we think are likely to repay close analysis include: opening sequences (which have been shown to work differently in video environments[64, 83]); the management of turn-taking (which may be affected by the way technology constrains participants’ visual orientation to each other and to relevant objects,[62, 84]); the use of back-channelling and other displays of acknowledgment/active listening (verbal and potentially non-verbal, e.g. changes in
head position[85]); repair (how participants deal with interactional problems, including those whose source is the remote location or the technology itself[86]); the use of questions (including whether/how patients and clinicians use them[87]); and the expression of stance and affect (particularly when clinicians need to communicate complicated or sensitive information or make requests/ask questions that might embarrass a patient).

We will draw on field notes to understand the clinical, organisational, material and cultural context in which remote consultations take place.

**PROJECT MANAGEMENT AND GOVERNANCE**
The QuARC study will be based at the University of Oxford and include NHS partners in participating sites in Oxford and East London. The study is largely desk-based, involving a researcher with specialist experience in linguistics (LS) bringing together and analysing existing datasets. Meetings between team members will occur at least monthly by teleconference and 3-monthly face-to-face to share emerging findings and develop the analysis.

The programme will be supported by an independently chaired, inter-sectoral steering group with representation from health services, policymakers, lay members and external academics. We anticipate that this group will serve as an inter-sectoral discussion forum, a conduit to national policy, and a link with front-line clinical teams.

**PATIENT AND PUBLIC INVOLVEMENT AND ENGAGEMENT**
Patients and their carers have been key to our research on remote consultations. We set up a dedicated Patients Advisory Group (PAG) in 2015, the main purpose being to incorporate patient feedback within our work. Patients have reviewed key documents and fed back experiences about remote consultation services. Members of the PAG felt that all patients should be offered the remote consultation option so that services would be available to all patients who chose it. This view was strongly and universally held. Implicit was the assumption that all patients – and clinicians – are au fait and confident with the technology and able to manage the (potentially very different) way of communicating online. This insight informed our decision to develop guidance to support patients and clinicians when communicating online (see below).

**ETHICS**
Approval for VOCAL and OTQS studies was gained from National Research Ethics Service Committee London – City Road and Hampstead (REC reference: 14/LO/1883) on 8th December 2014 and South Central – Berkshire Research Ethics Committee (15/SC/053) respectively. All participating staff and patients in both studies gave their informed consent to be audio-and video-recorded during consultations and for data to be used for research purposes.

RESULTS

We seek to place detailed, granular descriptions of communication in technology-mediated consultations in the public domain. We believe that the emerging field of remote consultations will benefit from our research (particularly given the current sparsity of high quality qualitative studies) and that our methodology may be taken up and applied by others interested in the interactional detail of remote consultations.

Our plan for dissemination is as much about contributions to the process as they are about end-outputs.[88] Hence, an important feature of the QuARC study will be the level of collective engagement by different stakeholders in the unfolding project. We already have a network of policymakers (e.g. NHS Digital), NHS Trusts (currently over 50) and patient/carer groups (e.g. Diabetes UK) interested in or already using remote consultations. Drawing on techniques successfully applied in health technology co-design,[89, 90] we will invite professional, clinical and service user representatives from across these sites to a series of co-design workshops and use a mix of presentations, video extracts and interactive tasks (e.g. card prompts) combined with narrative-based approaches (e.g. ‘storyboards’) to collaboratively develop draft guidance for clinicians and service users. Guidance will be refined and finalised remotely, producing resources for patients and clinicians that can support effective communication in remote consultations and help to avoid/resolve problems (e.g. regarding the technology and how this shapes or constrains clinical aims and outcomes).

CONCLUSION

The QuARC study is intended to deepen our understanding of how remote consultations work (and what makes them work more or less well), and benefit patients and clinicians (by offering practical guidance on maximising the effectiveness of remote consultations and avoiding/resolving any problems associated with mediation (either transactional problems which may interfere with the achievement of desired clinical aims and outcomes, or interpersonal problems which may affect the clinician-patient relationship).
One of the key findings of our work on remote consultations to date has been that whilst some clinicians are very keen to use this format, others are reluctant or opposed. One major benefit of having written, agreed guidance for both patients and clinicians is that the more reluctant clinicians will (we anticipate) be more confident to try this approach themselves. The written guidance could form the basis of local or national short courses and be submitted to Royal Colleges for consideration and endorsement. In this way, we believe we will slowly increase the number of clinicians willing to use the new technology – and support them to do so safely and appropriately. However, we offer a final note of caution. In our experience, both clinicians and patients come on board gradually. Some are early adopters while others are (for various reasons) more reluctant. What we are hoping for is to ‘shift the bell curve’ through the provision of systematic, evidence-based guidance thus helping to ‘normalise’ this new way of interacting.

CONFLICT OF INTEREST STATEMENT
We declare we have no conflicts of interest.

ACKNOWLEDGEMENTS
SS had the initial idea for the study. DC and SS refined the application for funding to NIHR, with input from TG, JW, SV, SB, JM and CA. In particular, DC and LA contributed methodological perspectives on the analysis of language and communication, and SV, SB and CA clinical perspectives on diabetes mellitus, cancer and heart failure respectively. SS and DC led on writing the protocol with input from all other authors. All authors have checked and approved the final manuscript.

This work is supported by the National Institute for Health Research (NIHR) Research for Patient Benefit, grant number PB-PG-1216-20012. SS and TG are part-funded from the National Institute for Health Research Biomedical Research Centre, Oxford, UK (grant NIHR- BRC-1215-20008).
REFERENCES


