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Patients' and physicians' experiences with remote consultations in primary care, during the covid-19 pandemic: a multi-method rapid review of the literature.

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Table 1 Results of successively expanding the search string till the time newly identified papers potentially eligible on abstract review was ~1% of the total papers found by the search.

Search Strings	Number of Publication (Duplicate removed)	Number of publications selected by two reviewers on title review	New publications selected by two reviewers on abstract review	Percentage of Publications eligible
PubMed				
Search 1: ((Patients OR Primary Care OR General Practice) AND (COVID OR COVID-19 OR Coronavirus OR SARS-COV-2 OR Pandemic) AND (Video Consult* OR Telephone consult* OR Online Consult*) AND (Barriers OR Facilitators OR Attitudes) AND (Mixed Methods OR Qualitative OR quantitative OR Survey OR Questionnaire OR Interview* OR Focus group* OR Multi Methods))	112	53	25	22.3%
Search 2: ((Patients OR Primary Care OR General Practice OR Family clinician) AND (COVID-19 OR COVID OR Coronavirus OR SARS-COV-2 OR Pandemic) AND (Video Consult* OR Telephone consult* OR Online Consult* OR Telehealth OR Telemedical OR Telecare OR Telemedicine) AND (Barriers OR Facilitators OR Attitudes OR Challenges) AND (Quantitative OR Qualitative OR Mixed Methods OR Survey OR Questionnaire OR Interview* OR Focus group* OR Multi Methods))	599	150	42	7.0%
Search 3: ((Patients OR Primary Care OR General Practice OR Family clinician OR Family Physician*) AND (COVID-19 OR COVID OR Coronavirus OR SARS-COV-2 OR Pandemic) AND (Video Consult* OR Telephone consult* OR Online Consult* OR Telehealth OR Telemedical OR Telecare OR Telemedicine OR Digital Health OR "mHealth" OR Connected Care) AND (Barriers OR Facilitators OR Attitudes OR Challenges OR Factors) AND (Quantitative OR Qualitative OR Mixed Methods OR Survey OR Questionnaire OR Interview* OR Focus group* OR Multi Methods))	879	213	21	2.4%

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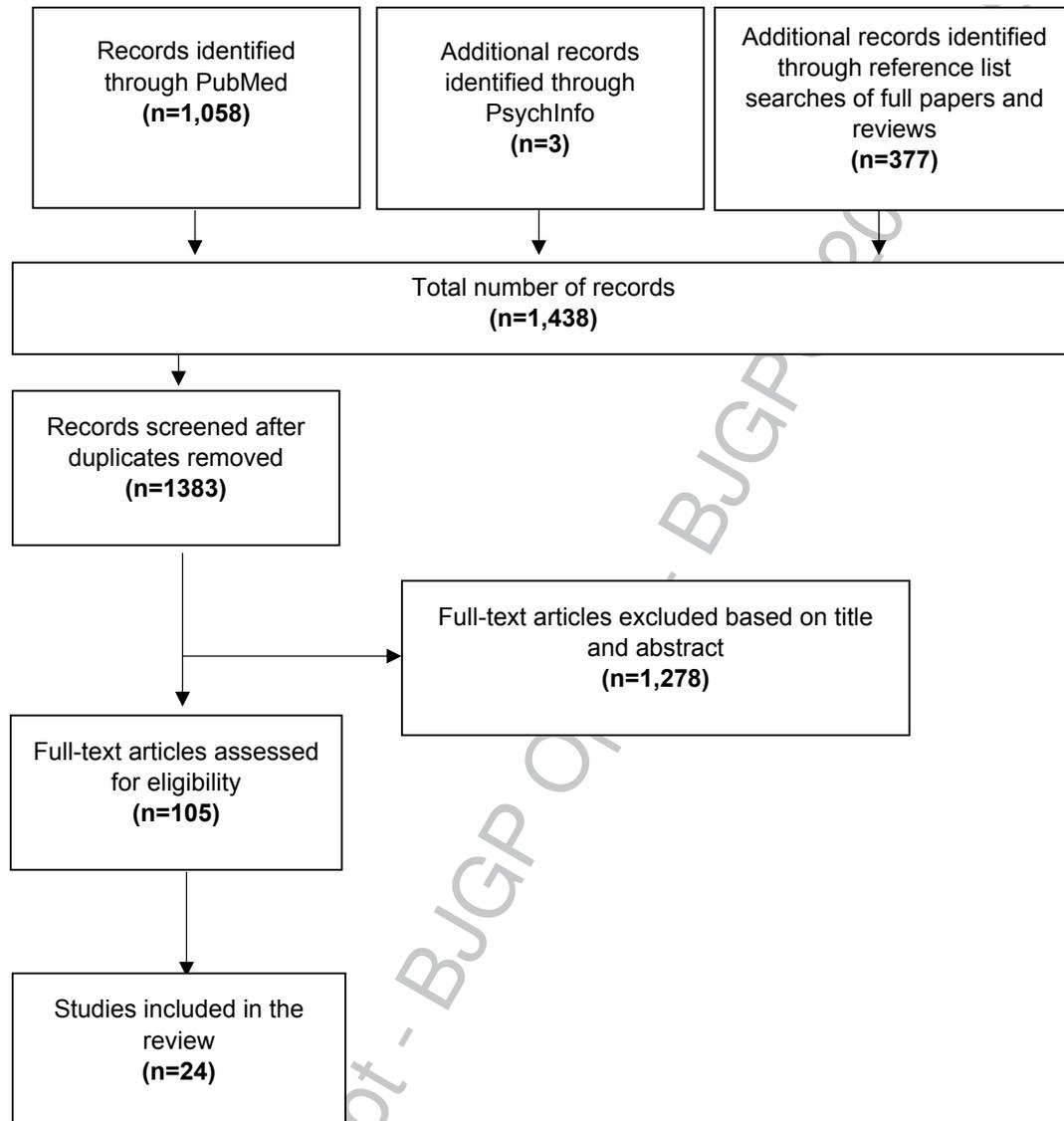
<p>Search 4: ((Patients OR Primary Care OR General Practice OR Family clinician OR Family Physician* OR General Practitioner) AND (COVID-19 OR COVID OR Coronavirus OR SARS-COV-2 OR Pandemic) AND (Video Consult* OR Telephone consult* OR Online Consult*OR Telehealth OR Telemedical OR Telecare OR Telemedicine OR Digital Health OR "mHealth" OR Connected Care OR Virtual clinic OR Virtual Medicine OR Video visit) AND (Barriers OR Facilitators OR Attitudes OR Challenges OR Factors OR Perceptions) AND (Quantitative OR Qualitative OR Mixed Methods OR Survey OR Questionnaire OR Interview* OR Focus group* OR Multi Methods))</p>	1058	236	12	1.1%
PsyInfo				
<p>Search 4: ((Patients OR Primary Care OR General Practice OR Family clinician OR Family Physician* OR General Practitioner) AND (COVID-19 OR COVID OR Coronavirus OR SARS-COV-2 OR Pandemic) AND (Video Consult* OR Telephone consult* OR Online Consult*OR Telehealth OR Telemedical OR Telecare OR Telemedicine OR Digital Health OR "mHealth" OR Connected Care OR Virtual clinic OR Virtual Medicine OR Video visit) AND (Barriers OR Facilitators OR Attitudes OR Challenges OR Factors OR Perceptions) AND (Quantitative OR Qualitative OR Mixed Methods OR Survey OR Questionnaire OR Interview* OR Focus group* OR Multi Methods))</p>	1061	237	0	0.0%

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Table 3. Quantification of advantages and issues				
Advantages and issues	Number of papers (telephone consultations)	Number of papers (video consultations)	Number of papers (both video and telephone consultations)	Total number of papers
Advantages				
Advantages – PCPs				
Reimbursement for previously 'free' services	1	-	4	5 ^{23,26,34,35,36}
Remote consultations enable better monitoring of cases	3	-	1	4 ^{15,17,21,33}
Increased appointment adherence	1	-	1	2 ^{21,28}
Increased involvement by family members and insights into patient's home environment	-	-	1	1 ²¹
Patients feel empowered to discuss more personal issues via remote consultation	1	-	-	1 ²¹
Advantages – Patients and PCPs				
Convenience	9	2	-	11 ^{16,17,18,20,21,24,25,29,33,35,36}
Reduced risk of COVID-19	3	-	-	3 ^{13,14,24}
Issues				
Issues – PCPs				
Difficulty in making clinical decisions	3	1		4 ^{13,15,31,33}
Lack of motivation/support	-	-	3	3 ^{17,35,36}
Changes to consultation type	2	-	-	2 ^{13,27}
Issues – Patients				
Concerns about privacy	3	-	1	4 ^{20,25,29,32}
Monetary concerns	3	-	-	3 ^{20,24,29}

Physician missing appointments	1	-	-	1 ¹⁶
Issues – Patients and PCPs				
Lack of confidence in, and access to, the technical skills/ technology required for remote consultations	8	1	6	15 ^{14, 16, 17, 20, 21, 23, 24, 25, 28, 29, 30, 33, 34, 35, 36}
Loss of non-verbal communication and patient-physician rapport	6	2	1	9 ^{13, 16, 17, 20, 21, 24, 25, 33, 36}
Loss of physical and visual assessment of symptoms	5	2	1	8 ^{13, 16, 17, 20, 21, 25, 31, 36}
Face-to-face required for complex issues	6	3	-	9 ^{14, 16, 17, 21, 25, 29, 34, 31, 35}
Communication barrier due to language / hearing difficulties	4	-	1	5 ^{14, 20, 21, 34, 36}
Insufficient consultation time	1	1	1	3 ^{21, 25, 29}
Advantages / Issues				
Advantages/Issues – PCPs				
Attitudes towards future use of remote consultation	3	1	2	6 ^{17, 21, 31, 33, 35, 36}
Workload increased / decreased	5	1	-	6 ^{13, 14, 15, 17, 21, 25}
Advantages/Issues – Patients				
Changes in difficulty booking appointments and waiting times	3	-	-	3 ^{20, 24, 36}
Advantages/Issues- Patients and PCPs				
Satisfaction level with remote consultation	5	2	1	8 ^{16, 22, 25, 29, 31, 32, 33, 35}
Consultation Preferences	-	3	2	5 ^{25, 29, 31, 35, 36}

Figure 1 PRISMA flowchart



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ABSTRACT (250 / 250 words)

Background: During the COVID-19 pandemic, many countries implemented remote consultations in primary care to protect patients and staff from infection.

Aim: The aim of this review was to synthesise the literature exploring patients' and physicians' experiences with remote consultations in primary care, during the pandemic, with the further aim of informing their future delivery.

Design & setting: Rapid literature review.

Method: We searched PubMed and PsychInfo for studies that explored patients' and physicians' experiences with remote consultations in primary care. To determine the eligibility of studies, we reviewed their titles and abstracts, prior to the full paper. We then extracted qualitative and quantitative data from those that were eligible, and synthesised the data using thematic and descriptive synthesis.

Results: A total of twenty-four studies were eligible for inclusion in the review. Most were performed in the United States of America (n=7, 29%) or Europe (n=7, 29%). Patient and physician experiences were categorised into perceived 'advantages' and 'issues'. Key advantages experienced by patients and physicians included: 'Reduced risk of COVID-19' and 'Increased convenience', while key issues included: 'a lack of confidence in / access to required technology' and a 'loss of non-verbal communication', which exacerbated clinical decision making.

Conclusion: This review identified a number of advantages and issues experienced by patients and physicians using remote consultations in primary care. The results suggest that, while remote consultations are more convenient, and protect patients and staff against COVID-19, they result in the loss of valuable non-verbal communication, and are not accessible to all.

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BACKGROUND

COVID-19, also referred to as 'SARS-CoV-2', or 'Coronavirus', is a novel respiratory virus with an estimated mortality rate of 0.01-0.1%.¹ COVID-19 is not the first discovered *Coronavirus*;² however, COVID-19 is of contemporary relevance, due to its ability to spread and cause severe disease (between November 2019 and November 2021, over 5 million people died globally from the disease, and the situation has been declared a 'global pandemic' by the World Health Organisation).³

COVID-19 is transmitted through droplets, emitted when sneezing, coughing, or speaking, and can enter through the eyes, nose, or mouth.⁴ To protect individuals, and the health services that treat them, several social distancing and disease prevention measures have been implemented by governments the world over (with a view of abolishing these, once immunity through vaccination and improvements in treatment are developed).⁵

Among the measures implemented, face-to-face consultations for primary care appointments have been discouraged in most countries.⁶ This has led to a radical change in the delivery of primary care, with visits increasingly being conducted via remote consultation.⁶ In the USA, for example, 46% of patients used telephone consultations in 2020, which was considerably higher than 2019, when only 11% reported using telephone consultations.⁷ Similar patterns have been observed in the UK, where less than 50% of appointments were face-to-face in 2020 (it was over 80% in 2019),⁸ with the majority replaced by telehealth (although providers are also being encouraged to increase the number of video consultations they perform).^{9,10}

While remote consultations have been beneficial in protecting patients and physicians from COVID-19 during the pandemic, there is uncertainty about their future use, as well as the extent to which patients and primary care physicians (PCPs) are satisfied with them. The aim of this review, therefore, was to synthesise data on patients' and PCPs experiences with remote consultations, in the primary care setting, and to subsequently inform future research and policy in this area.

METHOD

Search strategy and study design

Due to resource restrictions (i.e. staff availability, funding, etc.), we performed a rapid review of the literature. Rather than running a single search with the full list of search terms, therefore, we performed an initial search (see Table 1), using a narrow selection of search terms (guided by the PICOS framework – see Supplementary table S1), which we expanded, successively, by adding a small number of additional search terms (to each PICOS component), from a pool of search terms identified through the previous literature, until only a very small number of newly identified papers were eligible for inclusion in the review.

The exact combination and order in which search terms were added to the search string were determined by running multiple searches in PubMed, with the combination providing the largest number

of results being the one selected for the expansion at each stage (for transparency, the individual searches and number of results received for each is available from Open Science Framework: <https://osf.io/6b3yq/>).

After each expansion, title and abstract review was performed for the combination that received the most results. This process of identifying the optimal combination of search terms, expanding the search string, and performing title and abstract review, was continued until the number of new publications eligible on abstract review was <1% of the total (see Table 1). The major assumption with this method was that, if successive expansions yielded diminishing numbers of potentially eligible publications, and the most recent expansion yielded a relatively small addition to the pool, stopping the expansion at this point was unlikely to lead to a major loss of information. This search strategy has previously been described by Duffy and colleagues, who found that 92% of papers were identified prior to reference list searches (i.e. 60 of 65 papers were identified through the database searches alone).¹¹

To minimise the risk of excluding eligible studies not available on PubMed, the final search was repeated in PsychInfo (see Table 1), and the reference lists of selected publications were hand-searched by both reviewers (PV and RK). All searches were performed on June 6th, 2021.

<Table 1>

Inclusion / exclusion criteria

Publications were included in the review if they: 1) explored patients and / or PCPs attitudes / experiences with remote consultations in primary care, 2) used a qualitative, quantitative, mixed-methods or multi-methods research design, and 3) were published after 2019 (i.e. once the pandemic began), in a peer-reviewed journal. Publications were excluded if they: 1) were not available in English, 2) were conducted before 2020 (i.e. before research into the use of remote consultations, during the COVID-19 pandemic, began), 3) were not published in a peer-reviewed journal and, 4) did not involve either patients and / or PCPs.

Screening procedure

All publications were assessed for eligibility by two reviewers (PV and RK). Each reviewer assigned papers a score of 1 ('eligible') or 0 ('not eligible'), based on their title. Any paper that received a combined score of 1 (considered eligible by one reviewer) or 2 (considered eligible by both reviewers) underwent abstract review. As with title review, each paper that underwent abstract review was assigned a score of 1 or 0 by both reviewers, and underwent full paper review if they received a combined score of 1 or 2. Unlike title and abstract review, papers that underwent full paper review were only accepted for inclusion if they received a score of 2 (i.e. considered eligible by both reviewers); papers that received a score of 1 underwent discussion between the two reviewers, until a decision was made, while papers that received a score of 0 were not discussed and were excluded from the review.

Data Extraction

Qualitative and quantitative data regarding the experiences of PCPs and patients were extracted from selected papers, by one reviewer (PV), with a proportion (i.e. 20%) checked by a second reviewer (RK). Data on the Author, Year of publication, Country of origin, Population (i.e. Patients or PCPs), Sample Size, Study Design, and Type of analysis, were also extracted. All data were extracted using customised Excel templates (for transparency, the raw data extracted is available in Tables S3, S4 and Open Science Framework: <https://osf.io/6b3yq/>).

Data Analysis

Qualitative data on the experiences of PCPs and patients were analysed (separately) using thematic synthesis.¹² In the first instance, two authors (RK and PV) coded a proportion (n=4, 33%) of the studies, using line-by-line coding. A coding framework was subsequently developed and applied to the remaining transcripts (n=8, 67%) by one of the authors (PV). Several further codes were subsequently added to the framework as new transcripts were analysed (previously coded transcripts were then revisited to check for the presence of newly identified codes). Finally, superordinate themes, themes and subthemes were then developed, by two authors (PV + RK), through an iterative process of comparing, re-examining, grouping and re-grouping the codes until consensus was achieved (the data were coded and analysed in Excel; the number of studies in which subthemes were identified was also reported, to help assess the extent to which they might be important).

Quantitative data were analysed using narrative synthesis. One author (PV) extracted the quantitative data from the relevant studies, and grouped them according to the subthemes derived from the thematic synthesis. An iterative process of grouping and re-grouping the quantitative data into subthemes was then performed, by both authors (PV and RK), until agreement was achieved. Quantitative data that could not be grouped under an existing subtheme were reviewed, and discussed by both reviews; new subthemes for these codes, specifically, were then developed and added to the framework.

Rigour

Interpretive validity was achieved through the inclusion of a second reviewer (RK), who confirmed that relevant data were extracted by the first reviewer (PV). Similarly, reliability of data interpretation (i.e. theoretical validity) was maintained through the inclusion of a second reviewer (RK), who reviewed and discussed the interpretations of / with the first reviewer (PV).

Transparency

For transparency, this review was registered with PROSPERO (Reference: CRD42021256566), was written in accordance with PRISMA guidelines (see <https://osf.io/6b3yq/>) and the data have been made publicly available on Open Science Framework: <https://osf.io/6b3yq/>.

RESULTS

Database and reference list searches

In total, 1,438 papers were identified through the database and reference list searches. After removing duplicates (n=55), 1,383 papers were eligible for title and abstract review, of which 105 passed and underwent full paper review. A total of 24 papers were subsequently deemed eligible and were included in the review. An overview of the selection process is provided in Figure 1.

Figure 1 Here

Study Characteristics

Table 2 presents a summary of the studies included in the review (a detailed overview of each study is provided in the appendix – See Supplementary table S2). The majority of studies were performed in either the United States (n=7, 29%),^{21,22,23,29,34,35} or Europe (n=7, 29%),^{13,15,16,17,18,28,36} used a quantitative design (n=12, 50%),^{19,22,23,26,27,29,31,32,33,34,35,36} and explored the experiences of PCPs, only (n=16, 67%).^{13,14,15,17,18,19,21,23,25,26,27,28,31,33,34,36}

<Table 2 Here>

Data Analysis (Qualitative and Qualitative results)

Two major themes were identified within the data, namely: the ‘perceived advantages’ and ‘perceived issues’ with remote consultations. These were further differentiated into those perceived by PCPs, those perceived by patients, and those perceived by both (see Figure 2 for an overview of the coding framework, and Table 3 for a comprehensive list of the number of studies for which each advantage and issue was identified). In some cases, one population perceived advantages or issues with remote consultations, that they believed benefitted / affected the other population, but not themselves (e.g. PCPs perceived advantages and issues with remote consultations, which they believed benefitted / affected patients, but not PCPs). As these statements were not verified (i.e. not reported by the group they were reported to affect / benefit), they were coded according to the group that reported them, and the specific group to which the advantage / issue related was specified (e.g. if it were the PCP who stated that a specific quality of remote consultations was an advantage / issue for patients, and there were no data to support this from patients themselves, then this was coded as a PCP perception, not a patient perception, and specific in the label for the subtheme). There were no cases where advantages and issues were perceived by both groups (i.e. patients and physicians) and were said to affect only one group (e.g. patients). There were, however cases where specific advantages and issues were perceived by both and reported to affect both. These were simply coded as “both”.

The following provides a description of each of the advantages and issues identified (examples of quantitative results and patient and PCPs quotes can be found in the appendix in Tables S5A and S5B, respectively).

Figure 2 Here

<Table 3>

Perceived advantages with remote consultations for PCPs (only)

Reimbursement for previously 'free' services

Several studies (n=5) found that reimbursement of remote consultations, during the COVID-19 pandemic, was an advantage reported by many PCPs, who indicated that they had previously provided these services for free.^{23,26,34,35,36} PCPs endorsing this also indicated that it would be important for governments and insurance providers to continue reimbursing them for these consultations, should they be required to continue delivering them at this level in the future.

Remote consultations enable better monitoring of cases

Several papers (n=4) also found that PCPs felt that remote consultations enabled better monitoring of cases, as patients suffering from a chronic condition, such as diabetes, could quickly and easily adjust their medication over the phone, without having to wait for a face-to-face appointment to become available.^{15,17,21,33}

Increased appointment adherence

Another key advantage of remote consultations, reported in several papers (n=2), was that they often resulted in higher appointment adherence, compared to face-to-face consultations, with patients missing fewer appointments with telephone and video visits.^{21,28}

Increased involvement by family members and insights into patient's home environment

In one paper, PCPs reported that another advantage of remote consultation was that it enabled them to see their patients home environment.²¹ Moreover, PCPs indicated that they could interact with the patient's family members, who could help facilitate the consultation (e.g. for translation purposes, where the patients first language was not English), reducing the need to arrange translation services.²¹

Patients feel empowered to discuss more personal issues via remote consultation

One study also found that PCPs commented that, in some cases, telephone consultations helped patients to articulate their symptoms more clearly, and that face-to-face consultations could sometimes be intimidating, especially when patients are sharing sensitive information.²¹

Advantages with remote consultations for both PCPs and patients.

Convenience

Several studies reported that PCPs and patients found remote consultations to be more convenient than face-to-face appointments.^{16,17,18,20,21,24,25,29,33,35,36} For example, in one study, 47% of patients indicated that they saved over 30 minutes with remote consultations, compared with face-to-face.³⁵

Reduced risk of COVID-19

Reduced risk of infection to PCPs and patients was cited as an advantage of remote consultations in three studies.^{13,14,24} For example, in one study, a physician commented that patients prioritised reducing infection risk, especially where patients who were suffering from chronic conditions.¹⁴

Issues with remote consultations for PCPs (only)

Difficulty in making clinical decisions

Several papers (n=4) reported that PCPs sometimes found making clinical decisions were more difficult to make when conducting remote consultations.^{13,15,31,33} A quantitative paper, for example, found that 64% of PCPs felt that remote consultation negatively affected their judgement in making decisions.³³ In the qualitative literature, PCPs explained that difficulty making clinical decisions is exacerbated because they heavily depend on the patient's ability to communicate their symptoms (as they are unable to see / feel them).¹³

Lack of Motivation/Support from policy regulators

In some studies (n=3), PCPs reported that they were required to implement remote consultations, and received little-to-no support to do so.^{17,35,36} In addition, a number of studies (n=2) found that PCPs felt that there was a lack of guidelines and system infrastructure.^{35,36} For example, in one study, 67% of PCPs felt there was a lack of appropriate Current Procedural Terminology codes for the documentation of remote consultation visits.³⁵

Reduced presentation of specific cases

Two papers found that PCPs were encountering fewer patients for specific types of illness.^{13,27} For example, in one study, a PCP reported they were seeing fewer patients with chronic illnesses, such as diabetes, and stated that these were being managed less effectively, compared with the past¹³

Issues with remote consultations for patients (only)

Concerns about privacy

Several quantitative and mixed methods studies (n=4) found that patients expressed concerns regarding the security and privacy of their conversation with the physician.^{20,25,29,32} In the qualitative literature, patients explained that concerns mainly related to the fact that many telemedicine visits took place in the home environment, where family might overhear.²⁰

Monetary concerns

Several studies (n=3), particularly those conducted in the USA, found that patients had reservations about whether telemedicine consultations, which tend to be shorter, should be charged the same as face-to-face visits.^{20,24,29} Moreover, two studies found that patients also pointed out that telemedicine visits, which required subsequent face-to-face visits, were charged twice, increasing the total cost.^{20,24}

Physician missing appointment

One qualitative study found that nursing staff and caregivers of patients discussed issues with telephone consultations, and stated that doctors 'do not always attend appointments and sometimes call outside of the agreed time or not at all'.¹⁶ For caregivers or nurses who do not live with the patients, this was reported to be a significant cause of inconvenience.¹⁶

Issues with remote consultations for both PCPs and patients

Lack of confidence in, and access to, the technical skills/ technology required for remote consultations

Lack of confidence in, and access to, the technical skills/technology required for remote consultations was the single most frequently coded issue identified in the extant literature (n=15).^{14,16,17,20,21,23,24,25,28,29,30,33,34,35,36} In the quantitative literature, one study found that over 90% of patients reported that they had the necessary technology for remote consultation in the USA, of which 20% reported that they had difficulty connecting to it³⁵. In a separate study, 26% of patients felt that using teleconsultation was too complicated,³⁰ and in yet another 30% expressed that they had technical issues before or during the visit.²⁹

In the qualitative literature, these technical challenges were mainly observed in older adults. Both patients and PCPs acknowledged that using a computer was more difficult for older adults.^{14,16,17,20,21,24,28,30}

In addition to technological knowledge, several studies (n=9) found that PCPs also expressed that the lack of access to technology was another issue, especially to patients living in rural areas, including poor connection, bad reception, poor audio quality, and video calls dropping out.^{14,16,17,20,21,24,25,28,30} A quantitative study, conducted in the USA confirmed this finding, reporting that 12% expressed issues related to sound, 35% had video issues, and 40% were not able to connect.²⁹

Two quantitative papers also stated that 25-50% of patients have difficulty using their device and/or video telehealth platform.^{30,35} Moreover, PCPs in qualitative literature had varying technology problems, highlighting the importance of technology while conducting remote consultation, such as lack of mobile phones to call.^{14,16,17,20,21,24,25,28,30}

Loss of physical and visual assessment of symptoms

Loss of physical and visual assessment of symptoms was reported to be an issue in eight studies.^{13,16,17,20,21,25,31,36} A quantitative paper found that 38% of PCPs stated the inability to conduct a physical examination to the degree required, and that 16% of PCPs felt that assessing physical health status was a challenge (4% could not hear them properly during a video consultation visit).³⁶ PCPs in a qualitative study pointed out that skin rashes were extremely difficult to treat, due to patient's inability

to explain them.²¹ The qualitative literature suggests these issues appear to be related to emerging or growing physical problems, which are more difficult to communicate over the phone.

Loss of non-verbal communication and patient-physician rapport

In several studies (n=9),^{13,16,17,20,21,24,25,33,36} PCPs, echoed that the loss of non-verbal communication was an issue, reporting that some patients found it extremely difficult to express themselves during remote consultation. Patients also felt that telemedicine was impersonal, even if they knew the doctor.²⁰

Finally, three studies found that PCPs and patients felt disconnected, due to the loss of physical touch during the remote consultation.^{13,33,36} They believed it to be a significant part of the patient-physician relationship and building this bond with a new patient became even more difficult.¹³

Face-to-face required for complex issues

Face-to-face was usually required for complex issues and was a challenge reported in multiple papers exploring physician and patient perspectives (n=9).^{14,16,17,21,25,29,34,31,35} The quantitative literature helped quantify the extent of the problem. One paper reported that only half (50%) of PCPs felt remote consultations were suitable for the overall visit they had conducted,³¹ while another reported that 90% of patients in the U.S. did not recover from their illness by consulting remotely, and had to visit an urgent centre or were sent to medical centres for evaluation.²⁹

Results were similar for patients and their caregivers, who said they prefer face-to-face consultations over telephone consultations, as it gives them more confidence to express their symptoms clearly.¹⁶

Communication barrier due to language / hearing difficulties

Communication was an issue observed by both PCPs and patients in several studies (n=5).^{14,20,21,34,36} PCPs reported that some of the patients could not communicate as they did not speak the same language.^{14,21} The effect of language barrier differed for PCPs according to the social vulnerability of the area they served. One quantitative paper stated that providers in high-social vulnerability index areas were twice as likely to report language barriers as a concern.³⁴ In addition to language, one study found that patients with hearing difficulties also found it difficult consulting remotely.²⁰

Insufficient consultation time

In the quantitative literature, one study found that a small number of patients (7%) felt that the amount of time allocated to remote consultation was not sufficient.²⁹ In the qualitative literature, similar observations were made by PCPs. In one study, a physician explained that the reason why consultations were shorter was that there was less talking being done by the patient,²⁵ while another one felt patients wanted to spend less time on the phone.²¹

Advantages / issues with remote consultations for PCPs (only)

Attitudes towards future use of remote consultation

Two quantitative papers stated that 85-95% of PCPs believed that remote consultation should be continued in the future.^{19,33} However, a paper from Norway stated that only 49% of PCPs were motivated to continue video consultations post-COVID-19.³¹ Two studies (conversely) found that PCPs were worried that remote consultation could lead to PCPs' provision of on-demand care and lead to potential burnout.^{17,21.}

Workload increased / decreased

There were mixed views about the impact of remote consultations on workload for PCPs reported across the literature (n=6).^{13,14,15,17,21,25} Two studies found that PCPs were more structured in their working schedule, dividing their work between phone triage, consultation, and face-to-face consultation.^{15,17.} Conversely, other studies found that PCPs found splitting their day to be 'highly stressful'.^{13,14} For example, one paper stated that PCPs found balancing in-person and remote consultation schedules a bit hectic, which often resulted in PCPs running late for their visits.²¹

Advantages / issues with remote consultations for patients (only)

Changes in difficulty booking appointments and waiting times

A quantitative study found that 42% of patients raised concerns regarding the unavailability of physician appointments in a time of need.³⁰ These findings were partially echoed in the qualitative literature,²⁴ with one study contrasting, finding that patients reported ease of getting a remote consultation.²⁰

Advantages / issues with remote consultations for PCPs and patients

Satisfaction level with remote consultations

Across studies (n=8), a mixed reaction was observed concerning the satisfaction level with remote consultation.^{16,22,25,29,31,32,33,35} In Norway, 85% of the PCPs perceived that their patients were satisfied with video consultations.³¹ However, in a separate study conducted in the USA, 83% of PCPs believed they could not provide adequate care by only using virtual visits, and only 57% of PCPs were satisfied with the interpersonal patient connection established during telephone consultation.³⁵ These findings were echoed in the qualitative and mixed methods literature.^{16,25}

Consultation Preferences

Across the literature (n=5), PCPs and patients had diverse preferences regarding their primary care consultation.^{25,29,31,35,36} 96% of PCPs based in the U.S. indicated that they would like to continue virtual visits in the future, of whom 64% preferred Video consultation, and only 9% preferred telephone consultations.³⁵ In a separate study, 61% of PCPs specified that video consultation were better suited for follow-up than new disease.³¹

DISCUSSION

Summary

This review identified a range of advantages and issues with using remote consultations in primary care, during the COVID-19 pandemic. Some of the key advantages described by patients and PCPs were that remote consultations are more convenient than face-to-face appointments, and reduce the risk of patients and staff getting COVID-19, while some of the key issues included a lack of confidence in, and access to, adequate technology to facilitate remote consultations, and the loss of non-verbal communication between patients and PCPs.

This review identified a number of contradictions within the literature, with several aspects of remote consultations being discussed as both advantages and issues. For example, some PCPs stated that their workload had increased, while others reported that it had decreased. Such contradictions are likely due to differences in the settings in which the studies were performed, and the extent to which they were affected by COVID-19. For example, one country in which workload was said to increase was the USA²¹, which was the ninth most affected country in terms of cases per 100,000 people (hence, more patients may have been calling practices about their symptoms).³⁷

Several disparities in the perceived advantages and issues with using remote consultations in primary care were observed between patients and PCPs. For example, patients often reported that remote consultations were too short, and that they did not always have time to discuss everything they wanted to.¹⁶ By comparison, PCPs felt that the shorter duration of remote consultations enabled them to manage their time better, and believed that patients 'came to the point more quickly', without indulging in 'small talk'.²¹

Comparison with existing literature

The results of this review are similar to those published in a previous systematic review, which assessed the literature exploring patient and physician attitudes towards delivering primary care via electronic consultation, email, messaging, and video links, before the pandemic.³⁸ For example, Mold and colleagues similarly found patients had concerns about the privacy and security of e-consultations.³⁸ The present review, however, made several unique observations. For example, the present review observed that, in addition to privacy concerns, there were monetary concerns, and issues with PCPs missing appointments, which were expressed by patients. One potential explanation for these differences between the two reviews, is that, one focussed on e-consultations, while the other focussed on telephone and video consultations.

Implications for research and practice

This review has several implications for policy and future research. First, it suggests that patients and PCPs are generally satisfied with remote consultations, and believe them to be preferable for specific appointments, such as follow-up of a previous face-to-face appointment. Second, the present review suggests that further research is required in developing nations (e.g. Africa), where they tend to have different health systems to those available in developed countries. Finally, this review suggests several

situations where remote consultations should not be used, such as where the patient is presenting to the GP for the first time.

Strengths and limitations

This review has several strengths. First, it included both quantitative and qualitative research. Second, two reviewers reviewed the titles and abstracts of potentially eligible papers, minimising the chances that relevant papers were erroneously excluded. Finally, two reviewers coded and analysed the data, improving the reliability the findings.

This review also has several limitations. First, only two databases were searched. Second, only studies written in English were included. Finally, no formal quality assessment was conducted, and the results were taken at face value.

CONCLUSION

This review identified a number of advantages and issues experienced by patients' and physicians regarding the use of remote consultations in primary care. The results suggest that, while remote consultations are more convenient, and protect patients and staff against COVID-19, they result in the loss of valuable non-verbal communication, and are not accessible to all. The results, therefore, suggest there are specific situations in which remote consultations could be used in a post-pandemic world.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare

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Table 2 Summary of papers included in the review	
Design feature	Number of studies
Setting	
United States	7(29%) ^{21, 22, 23, 29, 34, 35}
Australia	4(17%) ^{24, 26, 27, 30}
United Kingdom	4(17%) ^{16, 17, 28, 36}
Belgium	2(8%) ^{13, 15}
Germany	1(4%) ¹⁸
Iran	1(4%) ³²
Italy	1(4%) ¹⁹
New Zealand	1(4%) ²⁰
Norway	1(4%) ³¹
Oman	1(4%) ¹⁴
Romania	1(4%) ³³
Not specified	1(4%) ²⁵
Population	
PCPs	16(67%) ^{13, 14, 15, 17, 18, 19, 21, 23, 25, 26, 27, 28, 31, 33, 34, 36}
Patient	5(20%) ^{16, 20, 29, 30, 32}
PCPs and Patient	3(13%) ^{22, 24, 35}
Sample size	
10-20	3(13%) ^{15, 21, 23}
21-100	7(29%) ^{14, 16, 17, 18, 22, 24, 28}
101-500	7(29%) ^{13, 19, 25, 27, 32, 33, 36}
Over 500	7(29%) ^{20, 26, 29, 30, 31, 34, 35}
Study design	
Quantitative Study	12(50%) ^{19, 22, 23, 26, 27, 29, 31, 32, 33, 34, 35, 36}
Qualitative Study	8(33%) ^{13, 14, 15, 16, 17, 21, 24, 28}
Mixed-Method Study	2(8%) ^{20, 25}
Multi-Method Study	2(8%) ^{18, 30}

Figure 2 Tree diagram

