

Use of a pharmacy-based GP video consultation service: a mixed methods study

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Background: Little is known about private general practice appointment services offered via video. This study aimed to explore which patients are using a video pharmacy-based general practitioner (GP) appointment service, including patterns of use, reasons for using the service, and satisfaction with the service.

Methods: Descriptive statistics and parametric and nonparametric tests were used to conduct a retrospective cross-sectional analysis of routinely collected data on consultations, and postconsultation questionnaires. Interviews were conducted with patients and GPs.

Results: A total of 7,928 consultations were included in the analysis. More than half of appointments were booked for the same day, with lunchtime appointments being popular. The most common health condition was respiratory conditions, and 9% of consultations were used by patients using the service more than once. At least one prescription was issued in over half of all consultations. Overall, satisfactions of consultations were high.

Conclusions: The characteristics of those patients using the video consultation service match data on who uses online services in general practice. This study shows that some patients are willing to pay to use this private service because they feel it is more convenient, NHS services do not have capacity to see them at the time they need, or they do not have access to regular GP services.

Lay summary

Over recent years, improvements in technology have made video and telephone general practitioner (GP) appointments more popular, and the Covid-19 pandemic has increased the need for these. There are lots of companies offering private GP appointments over video, but we do not yet know much about these, or why some people choose them over traditional GP appointments. This research aimed to find out which groups of people chose to use one private service that offers GP appointments over video in pharmacies, and why they chose to use it. The service has medical equipment (such as blood pressure monitor and camera) that can be used during the video GP appointment. Information was collected about 7,928 appointments in the time the study looked at, and 10 GPs that provide appointments, and 9 patients that used the service were interviewed to find out how they felt about it. Patients using this service were satisfied with their appointment, and were satisfied with the Doctor they saw. Reasons they chose to use the service included that they could be seen quicker than their normal GP, or at a time that was more convenient to them.

Key words: general practice, pharmacy, remote consultation, telemedicine

Introduction

There are an increasing number of private providers of video consultations offering patients access to a general practitioner (GP) operating outside of national health services.^{1–3} They offer rapid access to care at low cost^{4,5} and flexible working options for GPs.⁶

Evidence about the use of video consultation shows that it provides patients with convenience and access.^{7,8} It is not known if these same drivers apply for those patients choosing to pay for a video consultation with a GP. There is no evidence about whether these services augment existing general practice services by offering rapid access or create more work in the long term for the patient's general practice⁹ by leading to further investigations and treatments that must be actioned within the health service.

The Covid-19 pandemic saw increased reliance on remote consultation in general practice settings to avoid face-to-face contact,¹⁰ including video consultations.^{10,11} During the

Covid-19 pandemic there was increased use of pulse oximeters and thermometers to support consultations conducted remotely.¹² Research has shown that whilst examination via video with patients using diagnostic equipment is possible, patients find it challenging¹³ and some groups of patients may find it more difficult than others.¹²

We examined a private video consultation service where consultations are conducted within the pharmacy. The service provides diagnostic equipment situated with the patient in the consulting room. To understand how patients use private general practice services we examined who used the service, how, and their reasons for this. We obtained views and experiences of GPs and patients using the service.

Methods

This was a retrospective cross-sectional analysis of routinely collected data and an interview study with GPs and patients.

Key messages

- Patients are willing to pay for private video GP consultations.
- They offer convenient and quick opportunities for healthcare.
- Patients report good levels of satisfaction with the service.

See [Box 1](#) for information about the service. Ethical approval was obtained from the Biomedical and Scientific Research Ethics Sub-Committee of the University of Warwick (reference number: BSREC 112/19-20).

Data collection

We used anonymous data from consultations in 242 pharmacies, between 3 December 2019 and 3 June 2020.

Consultation data for each patient included age, sex, clinical reason for consultation, booking date and time, appointment date and time, appointment duration, pharmacy region, number of prescriptions issued and whether patient was referred onto another service, or needed another consultation. The service also collected noncompulsory postconsultation information from patients on whether the pharmacy was their usual pharmacy, satisfaction with the pharmacy, and satisfaction with the doctor.

We added additional questions to this questionnaire for the period 3 December 2019 to 3 June 2020.

Box 1. Additional information on the remote general practice service

- Operating within 315 pharmacies during pharmacy open hours, located across the UK England ($n = 294$), Wales ($n = 2$), Scotland ($n = 12$).
- Offering consultations outside of NHS services and paid for by the individual.
- A consultation costs £49 per appointment with monthly or annual plans available for unlimited GP consultations.
- Consultation room has an internet-enabled computer, alongside diagnostic equipment.
- Diagnostic equipment available for the patient to use: blood pressure monitor, thermometer, pulse oximeter, close examination camera, and stethoscope.
- Patients are instructed how to use the equipment with resulting data sent directly to the clinician during the consultation.
- Service is staffed by 16 active clinicians (15 GPs, 1 pharmacist).
- Appointments booked by patients online.
- In store pharmacists are trained to support patients if they need assistance during the consultation.
- Any prescriptions issued during the consultation are automatically issued to the pharmacy for collection by the patient at the end of the consultation.

- Whether the consultation helped the patient the way they wanted it to,
- The reason they chose to use the service,
- How likely they would be to use the service again.

For questionnaire see [Supplementary Material 3](#).

We conducted semistructured interviews with GPs and patients. Patient participants were a convenience sample recruited from those who completed the postconsultation questions, and indicated they were happy to be contacted for further, related research. Patients had used the service on at least 1 occasion. Interviews focussed on experiences and views of the video consultations. Topic guides were devised by drawing on those used in previous studies of remote consulting,^{14,15} and were designed as a guide or an aid for researchers, whilst adopting an inductive approach following the lead from patients about what is relevant to them. See [Supplementary Material 4](#) for topic guide. Interviews were audio-recorded and transcribed.

Data analysis

Quantitative data were cleaned and recategorized. Consultations were categorized according to whether they were pre-Covid-19 or during Covid-19 and whether patients had used the service more than once in the study period.

Reason for consultation as given by the patient was categorized using the World Health Organisation (WHO) ICD-11 framework.¹⁶ Information on all categorisations can be found in [Supplementary Material 1](#).

We obtained descriptive statistics (age, gender, and region) and applied a combination of parametric and nonparametric tests.¹⁷ Linear regression was used to determine whether rating of the pharmacy or rating of the doctor (independent variables) were more influential on overall satisfaction of the consultation (dependent variable). Information on which tests were used can be found in [Supplementary Material 1](#). All data were analysed using SPSS version 27.

Interview data were analysed thematically using framework analysis¹⁸ and applying a matrix.

Results

Full results can be found in [Supplementary Material 2](#) and patient characteristics can be found in [Table 1](#). There were 7,928 consultations during the study period, consisting of 7,545 individual patients (the remainder of consultation were individuals used the service again within the study period). Interviews were conducted with 10 GPs and 9 patients. Interview participant characteristics can be found in [Table 2](#). Of all pharmacy consultations during the study period 80.7% (6,400/7,928) were before the Covid-19 pandemic and 19.3% (1,528/7,928) were during the Covid-19 pandemic.

Table 1. Characteristics of patients using the service during the study period (2019–2020).

Gender	Frequency	Percent
Female	4,432	55.9
Male	3,494	44.0
Missing	2	0.1
Age groups		
Under 18	405	5.1
18–24	1,807	22.8
25–34	2,177	27.5
35–44	1,285	16.2
45–54	999	12.6
55–64	707	8.9
65 or over	548	6.9
Region consultation held in		
East Midlands	563	7.1
East of England	1,035	13.1
London	3,382	42.7
North West	286	3.6
Scotland	724	9.1
South East	809	10.2
South West	445	5.6
Wales	66	0.8
West Midlands	364	4.6
Yorkshire and The Humber	254	3.2

Consultation data

Female patients comprised 56% (4,432/7,928) of consultations. The mean age of patients was 36.2 (SD = 16.2 years, age range = 5–99 years). Pharmacies in London were most frequently used for consultations (43%, 3,382/7,928).

Available appointments were booked as 15-min slots. Booked appointments ranged from 09:00 AM to 20:45, with most common slot being 13:15. 53% of appointments were booked for the same day (4,214/7,928), and 22% were booked for the next day (1,364/7,928). Mean consultation length was 12 min (SD = 6.2 min).

A total of 9% (742/7,928) of consultations were repeat consultations during the study period (defined by patients using the service more than once, not necessarily for the same health condition). Of patients that used the service more than once in the study period, 20% (165/844) saw the same clinician. The most common health conditions patients used the service for were respiratory conditions 28%, 2,227/7,928), genitourinary system issues (7%, 587/7,928), medication requests (6%, 488/7,928), and diseases of the ear or mastoid system (5%, 430/7,928).

The most common multiple visits were for mental health disorders. The most common multiple visit for the same health condition was for respiratory conditions (20%, 90/443). A total of 378 of all consultations were for mental health and 85 (23%) of these consultations were by patients with multiple visits). Furthermore, of all multiple visits that were for the same problem, 14.5%, 64/433 were for mental health. For diseases of the nervous system (comprised mainly of headache or nerve pain conditions) 17% of all consultations for this (11/65) were multiple visits.

Table 2. Qualitative participant characteristics using the service (2019–2020).

GP characteristics				
ID number	Gender	Age range	Ethnicity	Years since qualified
GP1	Male	25–34	Pakistani	3
GP2	Female	35–44	Indian British	2
GP3	Male	35–44	White British	4
GP4	Female	35–44	White British	14
GP5	Male	55–64	Indian	15
GP6	Female	45–54	Pakistani	19
GP7	Male	25–34	Indian	>1
GP8	Male	35–44	Pakistani	8
GP9	Male	45–54	Indian	13
GP10	Male	25–34	Bangladeshi	4
Patient characteristics				
ID number	Gender	Age	Ethnicity	
P001	Male	71	White British	
P002	Female	67	White British	
P003	Male	58	White British	
P004	Male	75	White British	
P005	Female	48	White African	
P006	Female	26	Asian, Japanese	
P007	Male	59	White British	
P008	Female	61	White British	
P009	Female	42	White British	

One prescription was issued in 42% (3,357/7,928) of consultations, and no prescriptions were issued in 45% (3,529/7,928) of consultations. 10% (757/7,928) of consultations resulted in 2 prescriptions being issued. A mean of 0.74 prescriptions were issued per consultation. The most prescriptions were issued to the over 65s with a mean of 1 prescription per consultation. Eighteen to twenty-four year olds were issued with the least prescriptions at 0.54 prescriptions per consultation.

Patients that felt the consultation helped them had a mean number of prescriptions of 0.83, and patients that felt the consultation did not help them had a mean number of prescriptions of 0.26 ($F(2) = 17.447, P < 0.001$). The higher the number of prescriptions, the higher the rating of the doctor ($r = 0.043, P = 0.021$).

Questionnaire

As the questionnaire was not compulsory denominators vary for each element. Experience was rated by 5,001 patients, and approximately 2,700 answered the remaining questions in the questionnaire, although this number varied by question. Furthermore, of data on consultations conducted during Covid-19, some variables were not collected. For example, no data were available on rating of satisfaction with the Pharmacy. Full statistical information is available in [Supplementary Material 2](#).

The most common reasons given by patients for using the consultation service were “the timing of the appointment was more convenient than with my usual GP” (17.7%, 1,404/7,928) and “I could book an appointment with the

consultation service before my usual GP could see me" (15.4%, 1,221/7,928). When comparing reasons for use before and during Covid-19, the largest difference between the 2 time points was for "I could book an appointment with the consultation service before my usual GP could see me" ($X^2 = 69.030$, $P = <0.000$), with significantly more patients selecting this reason before Covid-19 than during Covid-19.

Other reasons were "I am not registered locally with a GP" (6.9%, 552/7,928), "the price of a consultation is reasonable" (6%, 479/7,928), "the location of the appointment was easier to get to than getting to my usual GP" (5.6%, 446/7,928), and "for the diagnostic equipment that is available" (0.7%, 53/7,928).

The mean satisfaction rating for consultations was 9.22/10 (with a score of 1 reflecting dissatisfaction and 10 reflecting complete satisfaction). Of those that answered the question, 64.6% (3,230/5,001) rated the consultation as 10/10, whilst 0.4% (36/5,001) rated it as 1/10. 59.8% (1,629/2,724) would be very likely to use the service again, and 35.6% (971/2,724) would be likely to use it again. 93.6% (2,595/2,771) respondents felt that the consultation helped them in the way that they wanted it to. There was no significant difference when looking at whether patients would be more likely to use the service again, comparing before and during Covid-19 ($X^2 = 6.690$, $P = 0.82$) or for whether patients felt the consultation helped them in the way they wanted it to when comparing before and during Covid-19 ($X^2 = 5.689$, $P = 0.58$).

The mean pharmacy rating was 9.07/10, with 61.2% (1,504/2,457) of respondents rating it 10/10. The mean rating of the doctor was 9.61/10, with 78.6% (2,229/2,836) rating them 10/10. Both pharmacy rating and doctor rating are significant predictors of overall satisfaction of the consultation. The rating of the doctor (coefficient = 0.740, $P < 0.001$) was found to be 3.5 times more influential than rating of the pharmacy (coefficient = 0.212, $P < 0.001$) in determining satisfaction. There was not a significant difference in satisfaction rating during the Covid-19 period when compared with before ($u = 184,007$, $P = 0.464$). The more items prescribed, the higher the satisfaction rating ($r = 0.062$, $P < 0.001$).

The longer the wait time for an appointment, the lower the satisfaction with the consultation ($r = -0.064$, $P < 0.001$). More minutes between booking and having the appointment, for same-day appointments was associated with lower satisfaction ($r = -0.055$, $P = 0.001$).

Patients that had multiple visits had significantly higher level of satisfaction than those who used it once ($u = 1,040,926.5$, $P < 0.001$). More visits during the study period were linked to higher level of satisfaction ($r = 0.58$, $P < 0.001$). The longer the consultation, the lower the satisfaction rating ($r = -0.066$, $P < 0.001$).

Interviews

Patients described reasons for using the service: appointments were available quicker than at their general practice, or at a more convenient time. For some it was more accessible with some patients not registered locally with a general practice.

If I tried to book an appointment with the GP, they would only offer me one in one months time and the state I was in I really did not want to wait a month (Male, 75).

But it was just easier for me otherwise going, you know, going to finding a GP and then having to register with that

particular GP and then not even want to take me on, right? So all of that it was easier for me to go down this route (Male, 58).

Patients reported that it was more accessible during the pandemic than NHS services during this time, and lessened potential for infection from GP waiting rooms.

Well, it makes them even more advantageous, obviously. And you know the factor of not having to sit in a waiting room (Male, 75).

Patients compared the service with the NHS and felt that their experience was comparable to that with their usual GP, in relation to the quality of the service they received, and their confidence in the Doctor's skills.

The Doctor has been very good. One thing I have appreciated, the doctors on the service seemed to be, you know, just as good as the doctor I go and see. So certainly that is important (Male, 59).

Patients that had used the available diagnostic equipment described how it provided reassurance.

It didn't feel any less thorough than an NHS consultation and it was reassuring to have the oxygen level taken so you knew that you know your blood level hadn't dropped the oxygen in your blood had dropped too or anything like that (Female 42).

The consultation happening in the pharmacy allowed for quick access to prescriptions which was particularly important for patients that used the service due to an urgent need for medication.

...he said obviously I'll write you a prescription for the pharmacy so as soon as you've finished your consultation you sort of zip along the counter and there's your prescription (Female, 67).

The only concern regarding pharmacies centred on lack of waiting area space and a lack of space in the consultation room.

...where would those people be sitting and waiting? (Female, 48).

GPs working for the service were positive about their experience and reported benefits. They perceived benefits to their career; widening their skill set and exposing them to patients that they otherwise would not have contact with (such as patients that do not attend NHS appointments).

and also to work in a new field of medicine is exciting (GP, male, 35–44, 4 years since qualified).

GPs also discussed the flexibility in terms of time and location of appointments that consulting in this way presented compared with more traditional methods of delivering appointments.

Yeah. So, I think the benefits for a GP, of course you're using remote technology, it's, do you know, it's well versed

it's, doctors, GPs can work from home, it's more flexible. Like, do you know, with this portfolio careers, it, it's been more, it fits in with most GPs lifestyle (GP, male, 35–44, 8 years since qualified).

GPs described that the diagnostic equipment allowed a more thorough and reassuring examination of patients, removed some of the concerns previously experienced with remote consulting, and improved the experience for patients.

generally it works, it works very well. And I think it adds so much to the consultation that I think, you know, you're, you're actually able to do so much and you realise the information that you would have gathered if you were there. The equipment allows you to gather so much of that and make a, make a decision that you feel confident about to be honest (GP, male, 25–34, 4 years since qualified).

Discussion

A higher proportion of patients were female, and in a younger age group. Patients scheduled appointments as soon as possible and had a preference for lunchtime appointments. 9% of all consultations were used by patients that used the service more than once in the study period, with the most common multiple visits being for mental health conditions, and the most common repeat visit for the same problem was respiratory conditions. There was evidence that patients sought continuity of care with 20% of patients using the service again, seeing the same GP. Consultation duration was a median of 12 min which is comparable with an NHS GP consultation. Over half of consultations lead to a prescription being issued. Being issued a prescription made it more likely patients reported the consultation helped them.

Factors that were important to patients were the ability to make an appointment at short notice and held as soon as possible. GPs liked the flexibility and convenience of delivering remote consultations. A low proportion of patients chose the service because of the diagnostic equipment available, however GPs reported finding the option to use diagnostic equipment reassuring. The Covid-19 pandemic affected why people used the service with speed of appointment and time slot for the appointment being important for more people than pre-pandemic.

Strengths and limitations

The use of anonymized data meant we could not assess the socioeconomic status of patients. We were limited to the data that is collected by the provider, and though we were able to add questions relating to satisfaction these were limited. There was a high proportion of missing data on questions about overall consultation satisfaction, and ratings of pharmacy and doctor. This reduced the denominator for the experience and satisfaction element of the study with the risk of self-selection bias and positively skewed findings. The sample for the interview study was a convenience sample which limits transferability of findings. GP participants were employees of the service and this might have influenced their responses despite their participation being confidential.

This study started pre-Covid-19 and our data collection included the first few months of the pandemic. This was a

strength in allowing us to capture the impact of the pandemic and associated changes to delivery of healthcare, and a limitation as it disrupted data collection and results should be considered in this context. The service provided an online only option during the pandemic which was not included in our analysis as it was outside the study plan.

Comparison with existing literature

The characteristics of those patients using the video consultation service are similar to those who have been reported using online services in general practice, being younger and female.^{19,20} Previous research on video consultation has demonstrated that patients want convenience and easy access, something that patients favoured about the service explored in this study.^{7,21} Time to next appointment was demonstrated to be an important factor for the patients in our study and research has been demonstrated as the most important factor for patients rather than consultation type.²²

As in our study, GPs working in services providing online consultations have reported better work-life balance and benefit from working in an innovative service.^{19,23} The GPs in this study reported that the availability of diagnostic tools was reassuring, and this fits with previous research where GPs have reported satisfaction with video consultation but concerns about the lack of physical examination.²⁴

We reported that the most common reason to reconsult was for a mental health condition. Online only services have been demonstrated to suit patients with mental health conditions and our findings fit with these previous observations.¹⁹

Previous studies have indicated the possibility that remote consulting leads to higher rates of prescribing^{4,25–27} and patients in this study were satisfied to receive a prescription and obtain it in same premises. However, in this study we found that prescription rates were lower than in routine general practice consultations, with 0.74 prescriptions per consultation in the current study, compared with 0.95 in NHS consultations.²⁸

Implications for research and/or practice

There is a potential role for these new services in providing rapid care to patients, when NHS services are not able to provide these at the time and place most needed by patients. However, consideration must be made for the associated limitations of this type of service which include the cost (potentially making such services inaccessible to some), and the need in some cases for face-to-face care.

This study shows that patients pay for a video consultation with a GP when they want a quick appointment at a convenient time. Future research should consider whether it is the communication medium that drives choice or whether it is the gaining of access to a GP regardless of how this happens. In this study, patients have travelled to the pharmacy to obtain rapid access and so the remoteness of the consultation is not the key driver of use. Uptake and delivery of video consultation in general practice increased during the Covid-19 pandemic, but still remains at low levels despite the increased need for remoteness.²⁷ Reasons given for this are the variable suitability depending on patient condition and need, and the limited value over and above a telephone consultation.²⁹ Separating the need or desire for access from the need or desire for remoteness will help in designing and planning services that work for patients and GPs.

The availability of private services that act as an adjunct to state funded general practice may have impact on resource use in state funded services by referring patients back to their registered GP should referrals or further investigations be needed. Further research is needed to examine the impact of private general practice services on health systems.¹⁰

Conclusions

Video consultation from a pharmacy setting with a GP provides an easy to access, service to patients who are willing and able to pay. The drivers for use included access and ease of collecting prescriptions. GPs working for the service appreciated the flexibility it provided, with the availability of diagnostic equipment a positive. More information is needed about the impact on mainstream general practice services.

Supplementary material

Supplementary material is available at *Family Practice* online.

Funding

No sources of funding are reported for this study. Medicspot; the provider of the private pharmacy-based video GP consultation service supplied the data for independent analysis, and contributed £442.80 towards transcription costs.

Ethical approval

Ethical approval was obtained from the Biomedical and Scientific Research Ethics Sub-Committee of the University of Warwick (reference number: BSREC 112/19-20).

Conflict of interest

None declared.

Data availability

The dataset for this study is available on request from corresponding author.

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