

# “Not a perfect situation, but...”

## A single-practice survey of patient experience of phone consultations during COVID-19 Alert Level 4 in New Zealand

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### ABSTRACT

**AIM:** To explore patients' experiences of virtual consultations during the COVID-19 Alert Level 4 lockdown in New Zealand.

**METHOD:** A single-practice retrospective phone survey exploring patients' satisfaction with the phone consultation process during Alert Level 4 lockdown.

**RESULTS:** Of 259 eligible patients, 108 (42%) participated in the survey. Overall satisfaction with phone consultations was high, with a median score 9 out of 10 (95% CI 9–9). Participants were highly likely to recommend phone consultations to others, with a median score of 9 (95% CI 7–9). This was consistent across age groups, ethnicities and socioeconomic groupings. Men were less satisfied with phone consultations than women, with a 2 point (95% CI -3--1) lower median score than women, but they were not less likely to recommend phone consultations. Most participants found phone consultations to be convenient and time-saving and considered not seeing the doctor to be acceptable in the context of the lockdown. Few participants experienced technical difficulties over the phone. Issues of communication and appropriateness of consultations to the medium of the phone were raised.

**CONCLUSION:** This single-centre study demonstrates the acceptability of phone consults for most patients presenting to general practice during a pandemic. These findings need further exploration in broader general practice settings and non-pandemic contexts.

Virtual consultations by telephone or video in general practice settings, enabled by smart-phone and video-conferencing technology, have become more common over recent years. Research from United Kingdom shows that a virtual consultation with a “telephone-first” approach, whereby general practitioners (GPs) provide same-day phone consultation and patients are only seen in person when

required, resulted in fewer face-to-face consultations with improved consultation timeliness, with most patients reporting increased or the same convenience and either easier or no difference in communication with their doctor. Patients were evenly divided across (1) preferring the old system and (2) preferring telephone-first or being unsure,<sup>1,2</sup> and patients were equally satisfied with virtual consultations.<sup>3</sup>

Evidence on whether virtual first consultations save time and money for general practice is mixed,<sup>3-5</sup> with fewer same-day face-to-face appointments but an increase in face-to-face GP visits over the following two weeks.<sup>3</sup>

Virtual consultations may be unsuitable for patients with new health problems, confusion or polypharmacy and those of an older age.<sup>6</sup> Lack of telephone access, poor internet connectivity and the perceived impact on the doctor–patient relationship are also barriers to virtual consultations.<sup>6</sup> However, there are also barriers for accessing face-to-face consultations in New Zealand, including finances and limited general practice opening hours.<sup>7</sup> In 2013, 13% of New Zealand households did not have access to a landline and 20% did not have internet access. A lower prevalence of mobile phone access was seen in the elderly, rural communities, people living in lower decile areas and those with lower incomes.<sup>8</sup>

Virtual consultations have been introduced in New Zealand general practices over recent years<sup>9</sup>, but no published literature on the use or acceptability of virtual consultations in New Zealand was found.

The SARS-CoV-2 (COVID-19) pandemic resulted in worldwide lockdowns as countries feared catastrophic health and economic repercussions.<sup>10</sup> In response to increasing COVID-19 numbers in New Zealand, in late March 2020 the Royal New Zealand College of General Practitioners requested that all general practices provide most consultations by phone or video.<sup>11</sup> Shortly thereafter New Zealand entered COVID-19 Alert Level 4 lockdown, which imposed significant movement restrictions for the whole community.

This study aimed to explore patients' experiences of virtual consultations during the COVID-19 Alert Level 4 lockdown in New Zealand. At one urban Dunedin general practice, 79% of patient contacts during the initial two-week period of Alert Level 4 studied had virtual phone consultations.<sup>12</sup> We investigated patients' satisfaction with phone consultations at this general practice during Alert Level 4 lockdown as a trainee intern group project.

## Methods

### Study design

This was a retrospective cross-sectional survey of patient experience of phone consultations during Alert Level 4 lockdown from 24 March to 24 April 2020.

### Practice characteristics

The patients surveyed attended a single urban-Dunedin general practice of approximately 2,500 patients. Forty-seven percent of the practice population lived in the lowest two quintiles for socioeconomic deprivation (quintiles 4–5) in New Zealand<sup>13</sup> and 80% identified as New Zealand European. Prior to COVID-19, the majority of patient contacts were in person. As the practice did not have the experience with, or hardware available for, video consultations, all virtual consultations during Alert Level 4 were provided by telephone.<sup>12</sup>

### Recruitment

Figure 1 outlines the recruitment process. Through review of electronic appointment books in the practice's patient management system (MedTech), patients were identified as having had a phone consultation during the study period. General practice staff sought patient permission to pass contact details to the researchers. Patients were not contacted if they were under 16 years old, did not speak English as their first language, resided in aged residential care, had a hearing impairment, were deceased at the time of survey or were no longer enrolled at the practice. Initial contact by text and email had poor response rates; switching to phone contact halfway through recruitment improved response rates. The research team then telephoned patients to participate in the survey.

### Questionnaire development

The survey was developed to assess patient satisfaction with phone consultations compared to usual face-to-face consultations (Table 1). Question development was informed by the literature to align with other telehealth studies.<sup>1-3</sup> We developed positively and negatively worded versions of some of the questions, using a modified version of alternate forms variability.<sup>14</sup> This was to control for responder bias and the tendency of participants to give

positive answers. Individual interviewers alternated between version one and version two in sequential interviews.

### Data collection

Data were collected between 8 and 19 June 2020. Phone questionnaires were administered with a pre-determined script (Appendix 1) by 11 researchers. An electronic survey was available, but no participants took this option. Qualitative responses were transcribed verbatim by the interviewers and coded (Appendix 2). Patients' medical details were not enquired about.

### Analyses

*Quantitative analysis.* Frequencies, percentages with exact 95% confidence intervals (CI) and Likert-scale median scores, with interquartile ranges and binomial 95% CI for medians, were reported. No formal sample size calculation was performed, as this was a student project undertaken with limited resources in a constrained time-period. The realised power of the study is communicated through the widths of the confidence intervals provided. The responses to the alternative versions of questions 3a to 3i (Table 1) were compared to investigate for response bias. Question 3b was excluded from analysis, as hearing impairment was an exclusion criterion for participation. Associations between Likert-scale variables of participant satisfaction and likelihood to recommend phone consultations were examined by patient demographic characteristics for the 102 participants with no missing data. Associations were examined using quantile regression due to response skewedness.

*Qualitative analysis.* A general inductive thematic analysis was undertaken. One member of the research team coded the ideas and topics to form a set of themes that best reflected the ideas and information entailed in the responses.<sup>15</sup> The coding process and model of themes were reviewed and validated by two other team members.

Stata (Version 15) and NVivo programmes were used for data analysis. This study was approved by the University of Otago ethics committee HD20/038.

## Results

Three hundred and twenty patients were identified as having had phone consultations during the study period. The general practice contacted 259 eligible patients (given the exclusion criteria), of whom 122 agreed to have contact details given to the researchers, with 108 final participants in the survey, producing an overall response rate of 42%. Of the 259 eligible patients who had had phone consultations, 28 (11%) had only a landline, 116 (45%) had only a mobile phone and 115 (44%) had both mobile phones and landlines. The proportions among those participating were similar, with 15 (14%) only having a landline, 49 (45%) only a mobile phone and 44 (41%) having both.

Participation by mode of initial contact is shown in Figure 1. Only 7/91 patients (8%) contacted initially by text, and 7/25 patients (25%) contacted by email, participated in the survey. By contrast, 94/143 patients (66%) contacted initially by telephone participated. Demographic characteristics of participants were similar across different modalities of initial contact.

The median age of participants was 54 years old, with a range of 16–88 years old. Participants were largely European with smaller populations of Māori and other ethnicities, which is consistent with the practice as a whole. Comparing the 108 eligible participating patients with the 151 eligible patients who did not participate, more eligible women than men participated (75/157 (48%) of eligible women compared with 33/102 (32%) of eligible men). Otherwise, the groups were similar by age group, ethnicity and deprivation (Table 2).

### Survey results

Overall satisfaction with the phone consultation process was high, with a median score of 9 out of 10 (95% CI 9–9) and interquartile range of 8–10. Participants were also highly likely to recommend phone consultations to others, with a median likelihood score of 8 out of 10 (95% CI 7–9) and interquartile range of 6–10. Table 3 presents the other survey findings.

Most participants did not see the practicalities of being involved with phone

Figure 1: Study participant's recruitment process.

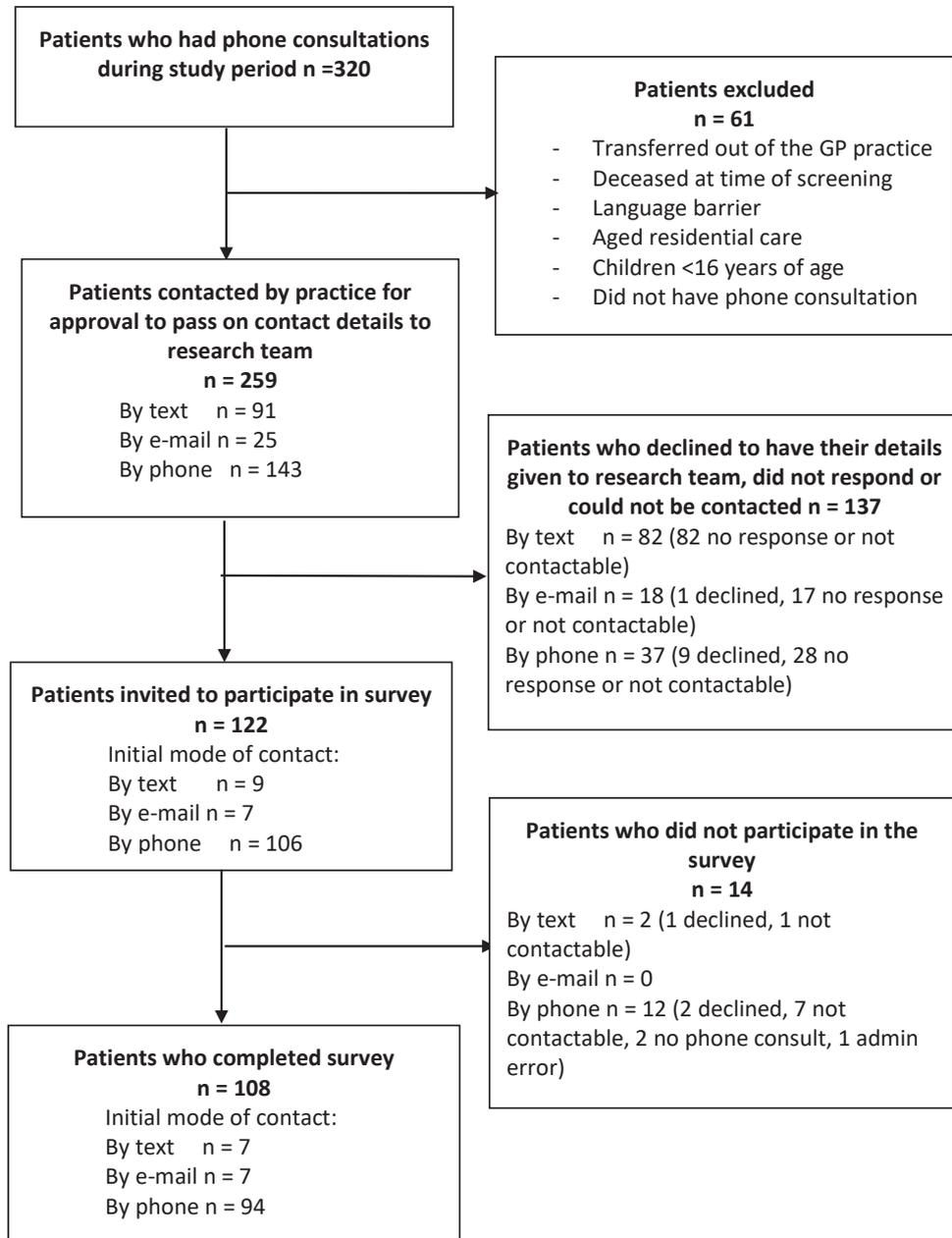


Table 1: Survey questions.

Question	Content		Response
Q1	Was the need for the appointment related to COVID19? ( <i>If multiple appointments, first one during level 4 lockdown</i> )		Yes/No
Q2	Did you send a photo or video relating to your medical problem to your GP?		Yes/No
[If yes]	How did you send it?		By smartphone/By e-mail/Other
Q3	<i>Version 1</i>	<i>Version 2</i>	
a) Time	The phone consultation <b>saved time</b> compared to a face-to-face consultation	The phone consultation took <b>more time</b> than to a face-to-face consultation	Yes/No/ No difference
b) Disability	I have a disability that makes it <b>harder</b> for me to communicate over the phone than in person	I have a disability that makes it <b>easier</b> for me to communicate over the phone than in person	Yes/No/ Not applicable
c) Convenience	The phone consultation was <b>more convenient</b> than a face-to-face consultation	The phone consultation was <b>less convenient</b> than a face-to-face consultation	Yes/No/ No difference
d) Sensitive info	I feel <b>less comfortable</b> talking about sensitive personal information over the phone than in person	I feel <b>more comfortable</b> talking about sensitive personal information over the phone than in person	Yes/No/ No difference
e) Wait time	It was a <b>shorter wait</b> for a phone appointment, as compared to a face-to-face appointment	It was a <b>longer wait</b> for a phone appointment, as compared to a face-to-face appointment	Yes/No/ No difference
f) Technical	Technical aspects such as sound quality or cell phone reception <b>were a problem</b> during the call	Technical aspects such as sound quality or cell phone reception <b>were fine</b> throughout the call	Yes/No
g) Certainty	I was <b>confident</b> about how phone consultations worked	I was <b>uncertain</b> about how phone consultations worked	Yes/No
h) Privacy	It was <b>difficult</b> to find a private space to take the call	It was <b>easy</b> to find a private space to take the call	Yes/No
i) Couldn't see	It was <b>acceptable</b> that the GP and I could not see each other	It was <b>a problem</b> that the GP and I could not see each other	Yes/No
Q4	How satisfied with the <b>process</b> of the phone consultation were you on a scale from 1 to 10, where 1 is least satisfied and 10 is most satisfied?		Value 1–10
Q5	Why did you choose this number?		Verbatim text
Q6	Assuming it is medically appropriate, how likely are you to recommend a friend to use phone consultations on a scale of 1 to 10, where 1 is not at all likely and 10 is very likely?		Value 1–10

**Table 2:** Demographic characteristics of survey participants.

Characteristic		Participating patients	Eligible patients	Whole practice population <sup>†</sup>
		n (%)	n (%)	n (%)
Gender	Female	75 (69)	157 (61)	1213 (48)
	Male	34 (31)	102 (39)	1315 (52)
Age group (years)	16–24	9 (8)	26 (10)	279 (13) <sup>^#</sup>
	25–44	31 (29)	72 (28)	602 (28) <sup>#</sup>
	45–64	33 (31)	90 (35)	666 (31) <sup>#</sup>
	≥65	35 (32)	71 (27)	602 (28) <sup>#</sup>
Ethnicity	Māori	9 (8)	21 (8)	215 (9)
	Pacific	2 (2)	8 (3)	101 (4)
	Other	9 (8)	16 (6)	202 (8)
	European	85 (79)	206 (80)	2010 (80)
	No data	3 (3)	8 (3)	
Deprivation quintile	1	17 (16)	42 (16)	430 (17)
	2	12 (11)	29 (11)	379 (15)
	3	19 (18)	54 (21)	480 (19)
	4	30 (28)	55 (21)	531 (23)
	5	29 (27)	76 (29)	607 (24)
	No data	1 (1)	3 (1)	
Total		108	259	2,528

All percentages are column percentages within each characteristic. <sup>†</sup> Practice enrolled population at April 2020; <sup>^</sup> Patients aged 15–24; <sup>#</sup> Calculated as percentage of enrolled patients aged 15 and over.

consultations as problematic. When comparing the phone consultation to face-to-face consultations, most participants found that phone consultation took less (64%, (95% CI 54–73%)) or a similar amount (26% (18–35%)) of time; perceived the wait time for a phone consultation to be shorter (64% (54–73%)); and found phone consultations either more convenient (56% (46–65%)) or no different (19% (12–28%)). Similar proportions of participants thought that sensitive information was easier to disclose at face-to-face (31%, (23–41%)) and phone (29% (20–38%)) consultations, with 40% (20–38%) noting no difference.

Table 4 shows associations between participant experience responses and differing demographic groups. Men showed evidence of lower overall satisfaction with phone consultations than women, with a median Likert score two points lower (95% CI -3 – -1) than for women. Despite that, men were as likely to recommend phone consultations to others as women were. No other evidence of differences was seen. Adjusting these associations for the other demographic variables provided similar findings.

### Thematic analysis

Participants were asked to comment on the overall satisfaction rating they gave for phone consultations. General inductive thematic analysis of the responses identified 29 separate ideas and topics, which were refined to a model of four themes (Figure 2): communication, consultation procedure, convenience and preference. The preference theme comprised three subthemes: comfort, lockdown and suitability of issue for phone consultation.

#### Theme 1: communication

Many aspects of communication were discussed by participants—good verbal communication made for a good experience. Communication was good when GPs seemed confident, took time to explain concepts and had pre-existing relationships with patients.

*“We have been with the same GP who knows us well, so it was easy to communicate despite being over the phone.”*

Barriers to effective communication included lack of visual cues, accents and hearing difficulties.

*“They can’t see how much of a stress you are under over the phone.”*

*“Would have preferred to be in person so they could see and ascertain what the problem is rather than try to explain it over the phone”*

#### Theme 2: consultation procedure

Participants talked about how their experiences of phone consultations were procedurally different to face-to-face consultations. Sometimes reference was made to the phone consultation being more efficient or convenient, but some found it to be off-putting and unsatisfying.

*“[The GP was] equally as thorough but asked more questions as I couldn’t see her.”*

*“It was kind of weird at first, not really used to the idea of consultation over the phone.”*

#### Theme 3: convenience

A key positive of phone consultations was convenience, because of both reduced wait times and no travel times.

*“Loved not having to wait.”*

*“...very grateful for the convenience of fitting into the doctor’s busy schedule.”*

One participant expressed the opposite opinion. She was not given a specific time for a phone appointment and found it less convenient than a face-to-face appointment.

*“With [face-to-face] appointments [I am] better able to allocate time and be free for an appointment.”*

#### Theme 4: preference

Participants all expressed preferences for different consultation styles. Many expressed a blanket preference for face-to-face consultations, but others only stated a preference in certain situations. This theme can be further broken down into the sub-themes of comfort, lockdown and suitability of the issue for phone consult.

##### Comfort

Most participants were more comfortable with discussing issues in person, as they felt more at ease. One patient described face-to-face consultations as “more relaxing.” There was overlap with this subtheme and the communication theme, as a good

**Table 3:** Survey results for practicalities of phone consultation and comparison with face-to-face consultation.

Phone consultation practicalities		n*	% (95% CI)
Reason for consultation	COVID-19	16	15 (9–23)
	Other	92	85 (77–91)
Photo or video sent to GP during consultation	Yes	3	3 (1–8)
	No	105	97 (92–99)
Technical issues during the call <sup>#</sup>	Yes	7	7 (3–13)
	No	99	93 (87–97)
Understanding of how phone consultations worked <sup>^</sup>	Confident	86	80 (72–87)
	Uncertain	21	20 (13–28)
Ease to find a private place for virtual consultation <sup>+</sup>	Easy	103	96 (91–99)
	Difficult	4	4 (1–9)
Acceptability not being able to see the doctor during the consultation <sup>+</sup>	Acceptable	90	84 (76–90)
	Problem	17	17 (10–24)
Comparison to experience with face-to-face	Preference		
Shorter wait time for consultation appointment	Face to Face	11	10 (5–17)
	No difference	28	26 (18–35)
	Phone	69	64 (54–73)
Consultation took less time	Face to Face	11	10 (5–17)
	No difference	28	26 (18–35)
	Phone	69	64 (54–73)
Convenience of consultation <sup>^</sup>	Face to Face	27	25 (17–34)
	No difference	21	19 (12–28)
	Phone	60	56 (46–65)
Comfort disclosing of sensitive information <sup>^</sup>	Face to Face	34	31 (23–41)
	No difference	43	40 (31–50)
	Phone	31	29 (20–38)

\*108 total responses unless indicated; <sup>+</sup> 107 total responses; <sup>#</sup> 106 total responses; <sup>^</sup> Caution with interpretation as there was a significant difference in responses to this in different versions of the survey.

**Table 4:** Patient experience responses by survey participant demographic characteristics.

Survey question	Characteristic		Median Likert score (95% CI)	Unadjusted difference in median Likert score (95% CI)	P value
Satisfaction with phone consultation	Gender	Female	10 (8–10)	reference	<0.001
		Male	8 (8–9)	-2 (-3--1)	
	Age group	16–24	8(8–10)	reference	0.240
		25–44	9.5 (8–10)	1 (-1–3)	
		45–64	9(8–10)	1 (-1–3)	
		65+	8 (8–10)	0 (-2–2)	
	Ethnicity	European	9 (8–10)	Model did not converge	
		Māori	10 (8–10)		
		Pacific	8 (8–8)		
		Other	8 (8–10)		
	Deprivation Quintile	1	8 (7–9)	reference	0.090
		2	9 (8–10)	1 (-1–3)	
		3	9 (8–10)	1 (-1–3)	
		4	9 (8–10)	1 (0–2)	
		5	10 (8–10)	2 (1–3)	
Likelihood to recommend phone consultation to a friend	Gender	Female	8 (8–9)	reference	1.000
		Male	8 (7–8)	0 (-2–2)	
	Age group	16–24	8 (6–9)	Reference	1.000
		25–44	8 (7–10)	0 (-3–3)	
		45–64	8 (8–10)	0 (-3–3)	
		65+	8 (5–9)	0 (-3–3)	
	Ethnicity	European	8 (8–9)	reference	0.916
		Māori	9 (7–10)	1 (-2–4)	
		Pacific	7.5 (7–8)	-1 (-7–5)	
		Other	7.5 (5–10)	0 (-3–3)	
	Deprivation quintile	1	8 (7–10)	reference	0.453
		2	8 (7–10)	0 (-3–3)	
		3	10 (8–10)	2 (-1–5)	
		4	8 (6–9)	0 (-2–2)	
		5	8 (5–10)	0 (-2–2)	

relationship between patient and GP could overcome this preference:

*“[the GP] put me at ease and made me feel comfortable.”*

#### **Lockdown**

The circumstances of lockdown influenced what patients considered to be an appropriate consultation. Many only considered phone consultations to be acceptable during lockdown.

*“We all had to [do a phone consultation instead of face-to-face].”*

*“Not a perfect situation but didn’t have a problem with it.”*

#### **Suitability of an issue for phone consultation**

Participants felt that some medical issues were better suited to a phone consultation than others, and this suitability (or lack thereof) determined whether they were happy with the use of a phone consult. Multiple components fed into this suitability, including complexity/simplicity, disability, medication, mental health, need for a physical examination, ability to remember details, sensitivity of topics and the need for visual cues.

*“Phone only appropriate when non-complex condition and no risk.”*

*“Easier to talk about sensitive information over phone”*

*“I don’t think the doctor could assess properly over the phone due to the nature of my condition”*

## **Discussion**

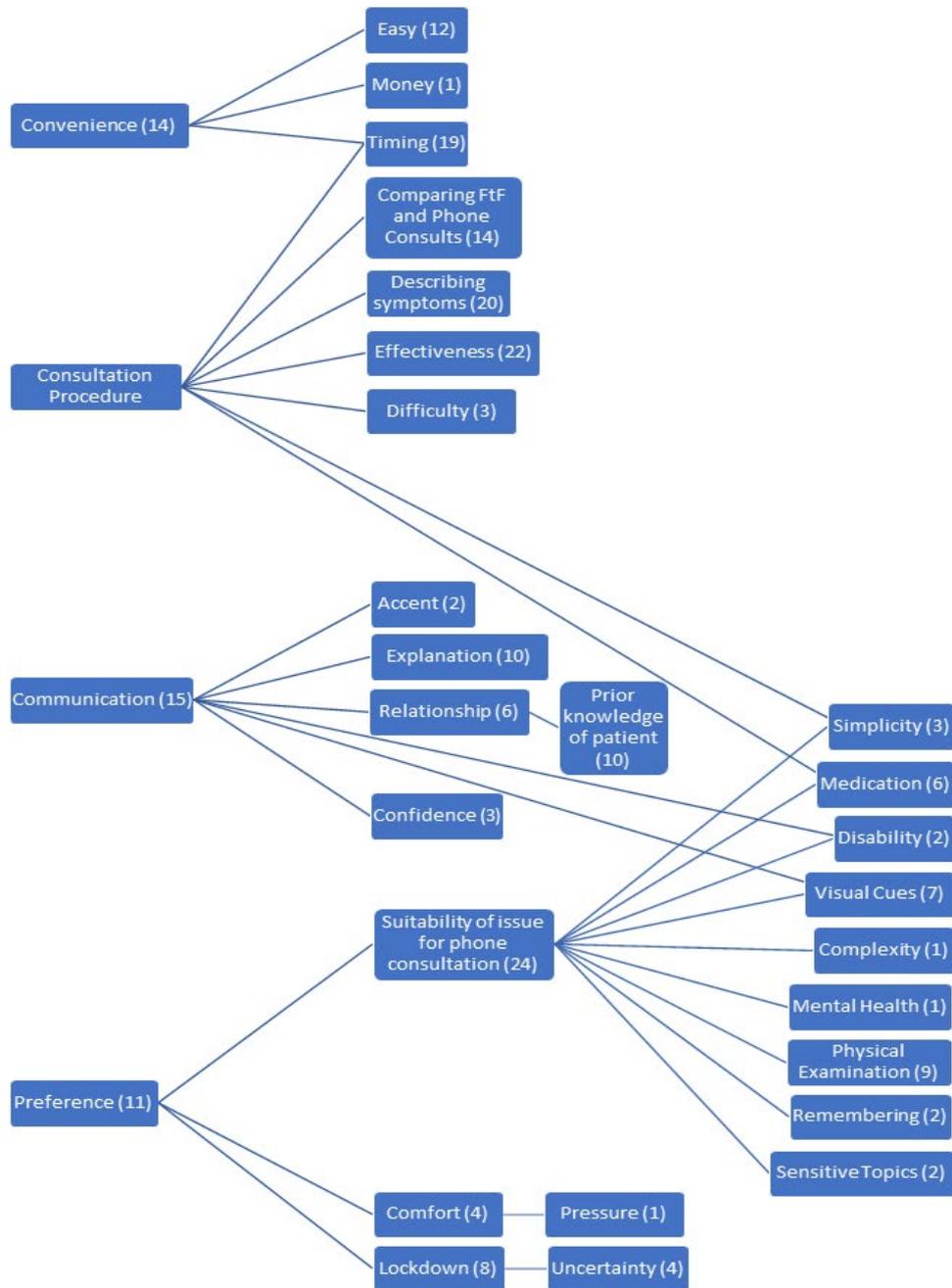
Most participants in this survey reported high satisfaction with phone consultations and would recommend phone consultations to others. This pattern was consistent across age groups, ethnicities and socioeconomic groupings. Although men’s overall satisfaction was slightly lower than women’s, they were as likely as women to recommend phone consultations to others. Most participants found phone consultations convenient and time-saving and considered not seeing the doctor to be acceptable in the context of the COVID-19 Alert Level 4 lockdown. A few participants experienced technical difficulties over the phone. Issues of communication and the appropriateness of consultations to the medium of the phone were raised.

Our findings were consistent with previous studies in a non-pandemic setting, wherein most patients were satisfied with phone consultations.<sup>1-4</sup> A minority of patients in our study preferred to disclose sensitive information to their GP over the phone. Few participants sent photos or videos; this would likely have provided significant clinical value in some circumstances, but it would have required additional technical capabilities. The high satisfaction scores of participants with their phone consultation may have overestimated the acceptability because of the circumstances of lockdown and patients’ perceived lack of choice. Participants’ pre-existing relationships with their GPs were also likely to have influenced their satisfaction with phone consultations. Our small study did not indicate that phone consultations were less acceptable to the elderly, ethnic minorities or socioeconomically deprived patient groups.

There were caveats to patient satisfaction identified in patient comments in our study. Good communication skills were a vital determinant of positive patient experience during phone consultation. Barriers to effective communication, such as lack of visual cues, accents and hearing difficulties, are possible areas on which to focus future improvements. Face-to-face appointments should be prioritised when these barriers are present. The appropriateness of a phone consultation relates to the nature and complexity of the clinical problem. A repeat prescription over the phone may be convenient and require limited clinical assessment. Conversely, patients mentioned disabilities, mental health, need for physical examination, ability to remember details, sensitivity of topics and need for visual cues as possible drawbacks to phone consultations. A system in which both phone and face-to-face consultations are used depending on the nature of the consultation may prove optimal to patient experience.

A strength of our study is the use of both qualitative and quantitative data, which allow us to better understand the reasons for the patients’ satisfaction and recommendations. The external validity and generalisability to the wider population and other general practices of these results is uncertain. Our participant population was

Figure 2: Themes and sub-themes (number of quotes relating to individual nodes).



a subset of patients from a single general practice who, though representative of the Dunedin population,<sup>16</sup> were not demographically representative of the New Zealand population.<sup>17</sup> Our findings cannot be extrapolated to Māori nor Pacific patients across New Zealand. Women were overrepresented in our study sample. Interviewer bias was minimised with use of a pre-determined script and response bias minimised by using two opposite versions of the same questions. The small sample size in our study increased the risk of Type II error and not detecting real differences, and these risks are reflected by the wide confidence intervals reported. As we undertook a number of statistical tests, the chance of detecting false positive Type I error findings increased, and we tried to minimise this risk through reducing the sub-groups in some of our analyses. The relatively low response rate likely relates to how the patients were contacted: most patients who were contacted by phone agreed to participate, whereas most patients were not accustomed to communicating with the practice by e-mail, and the texting system used by the practice did not allow patients to text back responses, but rather asked patients to phone the practice, which few did. Phone consultations also require the ability to effectively communicate verbally, and those with hearing impairment were excluded. We also excluded children, those in aged residential care and those with language barriers. The shortened wait time of phone consults may have been overestimated as an artefact of lockdown, as fewer patients may have been seeking healthcare, which would have allowed greater appointment availability. We cannot evaluate patients who did not seek a GP consultation due to an inherent unacceptability of phone consultation. Previous studies on similar topics have made use of control groups (randomly selected patients

from regular GP consults) as a comparison for subjective measurements of satisfaction and convenience.<sup>1</sup> Lockdown precluded the comparison of routine face-to-face consultations, but in the first two weeks of Alert Level 4 lockdown, a similar number of patients contacted the practice studied in the same two weeks of the previous year.<sup>12</sup>

Given the high overall satisfaction with phone consultation within the context of an ongoing pandemic, we now have a simple strategy that can be implemented quickly and effectively during this pandemic and for future lockdowns. Although telephone consultations may continue to be a viable option after lockdown, caution should be taken extrapolating these data to a non-pandemic situation, as we are unsure of the extent to which the COVID-19 pandemic influenced participants' responses. Further multicentre research is needed to test the generalisability of these findings to the wider New Zealand population and to identify whether there are subgroups for which this is not acceptable. Addressing objective health outcomes and health professionals' satisfaction would also add value.

## Conclusion

This single-centre study demonstrates the acceptability of phone consults for most patients presenting to the general practice during a pandemic. A switch from face-to-face to virtual consultations is viable and acceptable within the context of a pandemic. These findings need further exploration in broader general practice settings and in a non-pandemic context.

## Appendices

- Appendix 1: [Phone administered survey standardised script](#)
- Appendix 2: [Tables for coding of responses](#)

**Competing interests:**

Nil.

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