

Health Service Research

Primary care preparedness for the SARS-CoV-2 pandemic: a survey of NHS GPs

Caitlin Pilbeam^{1,†,⊕}, George Edwards^{1,*†,⊕}, Sarah Tonkin-Crine^{1,2,⊕},
Meriel Raymond^{1,⊕}, Oliver Van Hecke^{1,⊕}, Nina Gobat^{1,⊕}

¹Nuffield Department of Primary Care Health Sciences, Radcliffe Observatory Quarter, Woodstock Road, Oxford OX2 6GG, United Kingdom, ²NIHR Health Protection Research Unit in Healthcare Associated Infections and Antimicrobial Resistance, University of Oxford, Oxford, United Kingdom

[†]Co-first authors.

*Corresponding author: Nuffield Department of Primary Care Health Sciences, Radcliffe Observatory Quarter, Woodstock Road, Oxford OX2 6GG, United Kingdom. Email: george.edwards@phc.ox.ac.uk

Abstract

Background: Primary care manages a significant proportion of healthcare in the United Kingdom and should be a key part of the SARS-CoV-2 pandemic response.

Aim: To assess preparedness for the SARS-CoV-2 pandemic by understanding GPs' perception of their ability to manage current and future service demand, set-up of triage processes, and training in Covid-19 infection prevention and control procedures.

Design and setting: Cross-sectional survey of practicing GPs in the United Kingdom, with 2 rounds of data collection early in the pandemic.

Methods: Online survey, scripted and hosted by medeConnect Healthcare, comprising 6 closed prompts on 7-point Likert scales, and an optional free-text component. Quantitative data were analysed using descriptive statistics. Free-text data were analysed thematically.

Results: One thousand two GPs completed each round; 51 GPs completed free-text responses in March, and 64 in April. Quantitative data showed greatest confidence in triage of Covid-19 patients, and GPs were more confident managing current than future Covid-19 demand. GPs' responses were more optimistic and aligned in April than March. Free-text data highlighted that GPs were concerned about lack of appropriate personal protective equipment and personal risk of Covid-19 infection in March, and unmet needs of non-Covid-19 patients in April. In both rounds, GPs expressed feeling overlooked by government and public health bodies.

Conclusion: Guidance to support general practice clinicians to manage future waves of Covid-19 or other health emergencies must be tailored to general practice from the outset, to support clinicians to manage competing health demands, and mitigate impacts on primary care providers' wellbeing.

Lay Summary

The SARS-CoV-2 pandemic has posed significant challenges for the health services in the United Kingdom and abroad. A Doctors Association UK poll published in early March 2020 found that only 1% of 800 GPs believed the NHS was well prepared for the SARS-CoV-2 pandemic. We surveyed 1,002 GPs across the United Kingdom to gauge how well prepared they felt to cope with the challenges posed by Covid-19. We conducted surveys in March and April 2020, an important time early in the pandemic with rapid changes and uncertainty. We found that GPs were more confident about their ability to manage Covid-19 patients, and do so safely, in April. GPs were most confident that they would be able to triage Covid-19 patients but were concerned about future Covid-19 demand. GPs expressed frustration about a lack of personal protective equipment in March. In

Key Messages

- GPs' responses to the survey were more optimistic in April than March 2020.
- GPs were most confident in triage of Covid-19 patients.
- GPs were least confident in their ability to manage future Covid-19 patients.
- GPs' primary concerns were different in March and in April.
- In both samples GPs expressed feeling overlooked by government.
- Primary care clinicians need timely and tailored guidance during pandemics.

April, GPs' primary concern was that patients with other health concerns were not being seen. In both samples, GPs expressed feelings of being overlooked by the government. Primary care needs tailored guidance from as early as possible in a health crisis to support clinicians to manage the competing demands of responding to emergency situations, maintain usual care and their own wellbeing.

Key words: Covid-19, general practitioner, mixed methods, preparedness, primary care, survey

Introduction

Covid-19 was declared a pandemic by the World Health Organisation on 11 March 2020. The first cases were identified in England on 31 January 2020,¹ rising steeply between mid-April and early May,² and subsequently slowing. As of 1 August 2021, the United Kingdom has experienced 5,920,267 cases and 130,047 Covid-19 deaths.² Described as “arguably the greatest challenge [the NHS] has faced since its creation,”³ the public health response to Covid-19 is rapidly evolving as further data on the clinical and epidemiological features of the SARS-CoV-2 virus become available. Covid-19 brings considerable new pressures, particularly regarding health system capacity and risk to healthcare workers themselves,⁴ and additional burden of patients with chronic symptoms following Covid-19.

In the United Kingdom, primary care manages 95% of all health system activity.³ During epidemics and health emergencies, high-quality primary care is essential to achieve an effective response and improve patient outcomes.^{5,6} Strengthening primary care is a central policy priority for improving population health, preparedness, and reducing vulnerability to both infectious and noncommunicable disease.^{7,8} With holistic values, a community focus, and GPs' broad training, primary care is thus well positioned to respond to diverse health emergencies amongst patients with complex comorbid conditions,⁷ and could be considered a cornerstone of emergency responses.⁹ An international survey study of primary care experts, which evaluated country-level primary care attributes and pandemic responses, found that countries which mobilized primary care early and effectively experienced lower Covid-19 mortality.¹⁰

On 3 February 2020, NHS England considered “the UK extremely well prepared for any potential outbreak of an infectious disease.”¹¹ However, a poll of 1,618 doctors in the United Kingdom, published in early March 2020, highlighted that just 1% of 800 GP respondents agreed that the NHS was well prepared for Covid-19.¹²

In this rapid, opportunistic study conducted early in the Covid-19 pandemic, we aimed to assess GP's preparedness for the SARS-CoV-2 pandemic by understanding their perception of their ability to manage current and future service demand, set-up of triage processes, and training in Covid-19 infection prevention procedures at this crucial stage early in the pandemic.

Methods

We conducted a rapid and opportunistic cross-sectional survey of UK GPs in the early phase of the Covid-19 pandemic. Data were collected twice: between 5–26 March and 14–29 April 2020. We refer to these as “March” and “April” rounds, respectively. The UK national lockdown was imposed on the 23 March meaning survey data are available both prelockdown and during lockdown.

Sampling and recruitment

We used a market research provider (medeConnect Healthcare, www.medeconnect.net), which is a division of Doctors.net.uk that hosts a monthly “GP Omnibus” online survey. Doctors.net.uk is a large network of over 240,000 doctors registered with the General Medical Council and practicing in the United Kingdom; medeConnect Healthcare recruit a sample of 1,000 regionally representative GPs from this network. All GPs registered with an “@doctors.net.uk” email address (freely available) are invited to participate each month in the GP omnibus survey. Responses are collected on a first come first served basis until each region has filled its quota. **Table 1** summarizes the characteristics of the survey respondents for this study.

Survey prompts

In early March, medeConnect approached the research team to offer a select number of prompts related to Covid-19 for inclusion in the GP Omnibus survey. To generate prompt domains for the survey, key priorities were elicited and prioritized from a small group of practicing GPs with existing links to the research team. Consensus priorities related to perception of ability to cope with demand; readiness for surge capacity through the establishment of an acceptable process for patient triage; and availability of personal protective equipment (PPE). Six prompts were proposed, with responses on a 7-point Likert scale anchored at “strongly disagree” and “strongly agree.” Item phrasing was refined by medeConnect staff, who are highly experienced in survey question development. Optional free-text comments were also invited: “Any further comments?” Full survey prompts are reproduced in [Appendix I](#).

Table 1. Characteristics of survey respondents.

Category	Label	March sample (5/3/20–26/3/20)		April sample (14/4/20–29/4/20)	
		N	%	N	%
		1,002	100	1,002	100
Country	England	848	84.6	841	83.9
	Scotland	78	7.8	82	8.2
	Wales	46	4.6	47	4.7
	Northern Ireland	30	3.0	32	3.2
English Region (% of all)	London	114	11.4	112	11.2
	South West	105	10.5	93	9.3
	South East	134	13.4	131	13.1
	West Midlands	89	8.9	92	9.2
	East Midlands	66	6.6	72	7.2
	East of England	96	9.6	96	9.6
	Yorkshire and Humber	90	9.0	89	8.9
	North East	40	4.0	42	4.2
	North West	114	11.4	114	11.4
	Practice size	Up to 5,000 patients	149	14.9	155
5,001–7,500 patients		193	19.3	189	18.9
7,501–10,000 patients		206	20.6	217	21.7
10,001–12,500 patients		176	17.6	161	16.1
12,501 patients or more		278	27.7	280	27.9
Gender	Male	543	54.2	543	54.2
	Female	448	44.7	449	44.8
	Other/prefer not to say	11	1.1	10	1.0
Age	35 or under	57	5.7	55	5.5
	36–45	403	40.2	398	39.7
	46–55	312	31.1	325	32.4
	56 or over	230	23.0	224	22.4
Location	Major conurbation (e.g. London, Glasgow)	173	17.3	169	16.9
	Large town/city (e.g. Nottingham, Cardiff)	154	15.4	142	14.2
	Medium town/city (e.g. Worcester, Dundee)	221	22.1	212	21.2
	Small town/city (e.g. Thetford, Omagh)	323	32.2	336	33.5
	Village/hamlet	123	12.3	136	13.6
	Other	8	0.8	7	0.7
Role	GP Partner/Principal	533	53.2	539	53.8
	Salaried GP	284	28.3	280	27.9
	Locum GP	184	18.4	182	18.2
	GP Registrar	1	0.1	1	0.1

Analysis

We used descriptive statistics to summarize and compare the quantitative results of each survey, and by the characteristics of GPs. Specifically, we used median and interquartile range (IQR) values and bar charts to summarize the response to each prompt. Analysis for March data was completed before April data collection was conducted. After the March analysis, we hypothesized that individual and collective responses to each prompt would become more positive in the second survey. Responses by the same individual to the same prompt in each sample, and different prompts in the same sample, were aligned using unique ID numbers and compared using a Wilcoxon sign rank test. To compare the median response to each prompt in March to those in April, we used a Mann–Whitney *U* test. To compare factors associated with variation in responses, we used a Kruskal–Wallis test and a post hoc Mann–Whitney *U* test. A *P* value of <0.05 was considered as statistically significant. We conducted analyses using Excel and SPSS version 25.

Free-text responses were analysed thematically¹³ (51 in March, 64 in April); we excluded from analysis 10 responses in both March and April datasets as these commented directly on the survey (e.g. “thank you”; “useful”). We coded responses inductively in the first

instance to gain a comprehensive understanding of the dataset at each time point. We then deductively clustered all free-text responses thematically in line with the major domains of the survey to directly address the aims of the research, and provide further insight and context to the quantitative analysis and overall interpretation of results. Given the rapidly changing realities of the SARS-CoV-2 pandemic, and its public health and policy response during the time of data collection, we extended our analysis by considering our results in the context of key events related to Covid-19.¹⁴ These results are presented thematically, related to prompt domains: PPE and infection prevention and control (IPC) (prompts 4–6); triage (prompt 3); and Covid-19 management and demand (prompts 1–2).

Results

One thousand two GPs responded in each survey round; 752 respondents completed both surveys. There were minimal differences in characteristics between the March and April samples (see [Table 1](#) for full details). Responses to the March survey were received between 5 and 26 March 2020 (median 11, IQR 10–16). Responses to the April survey were received between 14 and 29 April 2020

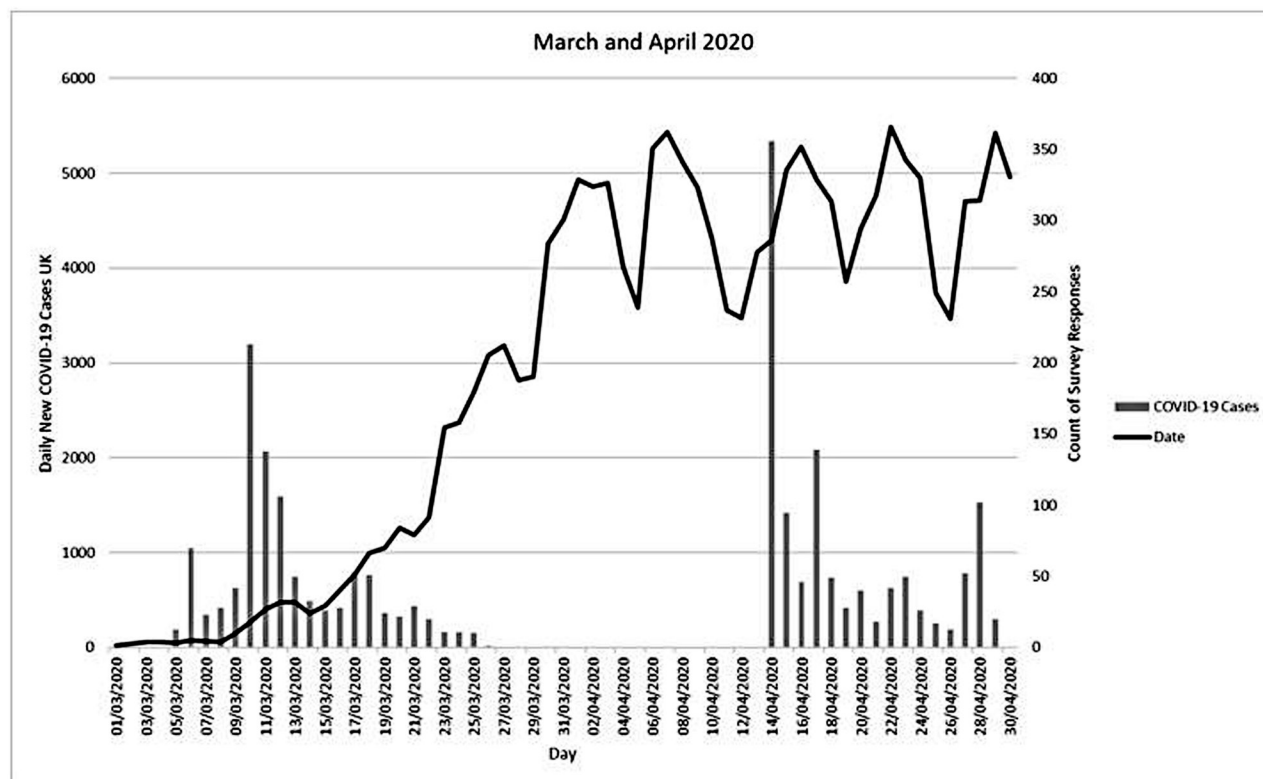


Fig. 1. Survey response count and new UK Covid-19 cases by day in March and April 2020. The survey was open from 5/3/20 until 26/3/20 and again from 14/4/20 to 29/4/20.

Table 2. Median and IQR for all prompts in both samples, and results of the Mann-Whitney *U* test for difference between the 2 samples.

Prompt topic	March 2020	April 2020	<i>P</i> value for difference between March and April	<i>Z</i>
	Median (IQR)	Median (IQR)		
Management of current patient demand	4 (2–5)	6 (5–6)	<0.001	–20.284
Management of future patient demand	2 (1–4)	5 (4–6)	<0.001	–22.918
Effectiveness of triage system	5 (3–6)	6 (5–6)	<0.001	–17.123
Sufficiency of IPC training	3 (2–5)	4 (3–5)	<0.001	–13.746
Ability to follow IPC guidelines	4 (2–5)	5 (3–6)	<0.001	–11.859
Ability to access appropriate PPE	3 (1–5)	5 (3–6)	<0.001	–12.376

A higher number (in columns 2 and 3) corresponds to a more positive attitude.

(median 17, IQR 14–20). Figure 1 details the dates of survey responses against the number of new Covid-19 cases on that day.

Quantitative data

For all prompts, respondents were overall more positive in April compared with March 2020 (Table 2, $P < 0.001$). Of the 752 individuals who responded to both surveys, responses demonstrated greater agreement and positivity than in March ($P < 0.001$). See Table 2 for responses to each prompt.

In March, 44% of GPs sampled agreed that their practice was able to manage current Covid-19 demand. Fifteen percent agreed that their practice would be able to continue to manage Covid-19 demand in the next 3 months. In April, the corresponding figures were 82% and 55%, respectively. In both samples, GPs felt that they were better placed to manage current than future Covid-19 demand ($P < 0.001$).

In March and April, the majority of GPs considered that their practice had an effective system of patient triage for Covid-19 (March 58% of 1,002, April 87% of 1,002).

In March, 25% of our GPs considered they had been provided with sufficient training in Covid-19 specific IPC practices, and this increased to 50% of GPs in April. Of those surveyed, 38% reported being confident in using PPE in March and 61% in April.

Access to PPE was low, with 29% GPs agreeing that they had sufficient access to PPE in March and 51% agreeing in April.

There was little variation in responses by geographic, demographic, and practice characteristics. One exception was in responses to prompt 6 about the availability of PPE by nation. In March, GPs in Northern Ireland were overwhelmingly negative about easy access to PPE; 27/30 (90%) disagreed and 22/30 strongly disagreed that they had easy access to PPE. In comparison, 495/848 (58%) respondents in England, 50/78 (65% in Scotland) and 37/46 (80%) in Wales

Table 3. Responses to prompt 6 (ability to access appropriate PPE) by nation.

Prompt 6: PPE		Median (IQR)	Number in disagreement (%)
March	England	3 (1–5)	495/848 (58)
	Scotland	2 (1–5)	50/78 (64)
	Wales	2 (1–3)	37/46 (80)
	Northern Ireland	1 (1–2)	27/30 (90)
April	England	5 (3–6)	321/841 (38)
	Scotland	4 (4–6)	16/82 (20)
	Wales	4 (2–5.5)	19/47 (40)
	Northern Ireland	3.5 (1.5–6)	16/32 (50)

felt similarly. This may have been related to practice size, as smaller practices gave less positive responses to prompts 6, and 21/30 GPs in Northern Ireland were from smaller practices (<7,500 patients). In April, all nations were more positive, especially Northern Ireland and Scotland (see Table 3).

Free-text data

In March, those who left free-text comments (51 of 1,002) were predominantly concerned with the lack of PPE and uncertainty around Covid-19 itself. In April, respondents (64 of 1,002) overwhelmingly commented on the wider unmet need of non-Covid-19 patients and non-Covid-19-related ill health; particularly cancer, chronic conditions, and mental health. GPs who contributed free-text comments represented the full range of geographic locations and practice sizes surveyed, and we did not find responses to vary significantly according to these aspects.

PPE and IPC

In March, the majority of comments emphasized ongoing lack of PPE. Many GPs expressed doubt that PPE would continue to be available, or that it was sufficiently protective: “PPEs given are insufficient both in quality and quantity.” (Participant:120055, 20/03/2020) Some GPs also noted lack or delays in PPE training.

GPs highlighted the practical issues and risk of infection associated with PPE deficit, but also feelings of fear, anger, and being forgotten:

We have not been issued fluid resistant masks, only cheap useless surgical ones. If we are going to be doing tests we are less protected than staff currently doing it in test pods. A disgrace. We are frightened by this. (Participant:166359, 10/03/2020)

GPs managing Covid-19 patients with either no or inappropriate PPE expressed worry that this could result in a significant reduction in primary care capacity. They emphasized that these inadequacies are “dangerous and an insult to primary care workers,” (Participant:281534, 12/03/2020), “will result in our staff numbers being depleted quickly,” (Participant:115842, 21/03/2020) and that without PPE primary care “will need to stop all face-to-face patient contact.” (Participant:135444, 22/03/2020) Some GPs attributed insufficient PPE and training to a worrisome “lack of consideration given to us by the government regarding Covid-19.” (Participant:109077, 10/03/2020)

In April, PPE was less frequently mentioned as a key issue, though some GPs were still pursuing better access and expressed similar feelings of anger and fear. Some GPs stated that the current “main supply issue is tests to diagnose Covid-19,” (Participant:265843, 24/04/2020) for both patients and primary care staff. “Lack of

testing, lax social isolation policy and lack of effective PPE” (Participant:173265, 23/04/2020) were seen to come together to make IPC particularly difficult in primary care contexts.

Triage

There were few free-text comments specifically relating to triage. In March, 1 GP mentioned that their practice had “a good triage system but patients are likely to overwhelm it.” (Participant:276355, 11/03/2020) Having mostly moved to remote triage and consultation, in April GPs predominantly expressed worries about the impact on patients. This included accessibility, inability to refer to secondary care, patients not attending when needed, and meeting increased mental health demand.

Whilst “moving to telephone triage and video/photo consultations has improved access (especially access times for some),” some GPs worried that this “worsened access for non-IT-literate and shielded patients.” (Participant:83953, 22/04/2020)

Multiple GPs highlighted that “no non-urgent referrals are being accepted” in secondary care (Participant:97053, 14/04/2020), including mental health services, and these referrals would be reviewed only “after the worst of the Covid-19 situation.” (Participant:89970, 14/04/2020) GPs expressed that lack of “diagnostics are a big issue,” (Participant:100082, 22/04/2020) especially with increased non-Covid-19 demand emerging, as chronic conditions are “time sensitive.” (Participant:240247, 28/04/2020)

Impacts are further compounded when patients do not attend referrals that are made:

I have seen a few cases of patients not attending hospital for injuries that needed immediate treatment, or refusing referral to hospital for tests or treatment (e.g. of worsening angina) due to fears of catching Covid-19 in hospital, which makes me feel very concerned about the long-term impact on the crisis on chronic disease management and cancer diagnosis. (Participant:166778, 18/04/2020)

Patients not seeking medical help in the first place was also noted as a potential issue: “A lot of those with mental health issues are not presenting as much now.” (Participant:87692, 19/04/2020) Increased mental health demand was of particular concern: “Much of the cover related to telephone triage is not related to infections but about the social/psychological effect of the virus—especially anxiety.” (Participant:240247, 28/04/2020) Some GPs felt unable to meet patient need appropriately: “My telephone calls mainly relate to mental health or were from elderly patients requesting visits which we were unable to provide.” (Participant:109077, 17/04/2020)

Covid-19 management and demand

In March, GPs did not mention demand frequently, yet expressed concerns about anticipated future demand and patient expectations: “The system may be fine BUT [sic] no confidence it can match demand without public education.” (Participant:240247, 13/03/2020)

Some GPs felt that guidance for primary care was minimal, and that there simply was “not enough support given to GP practices.” (Participant:171439, 17/03/2020) Some suggested that alternatives should have been provided for practices that were unable to implement certain measures to meet patient demand, 1 GP writing: “We don’t have a separate room in the surgery where we can isolate the patients with suspected Covid-19.” (Participant:289874, 12/03/2020)

From early on in the response, GPs already expressed feeling strained and unsupported:

GPs have not been given appropriate advice [about] what to do with patients. Yesterday [I] tried to refer a patient in [to the hospital] with respiratory distress and ambulance personnel shouted at me. Was advised to call 111 but was on hold for one hour. There is no direct contact line for GPs with current demand on 111 service. (Participant:252923, 13/03/2020)

In April, guidance and ways of working seemed more settled and coordinated: “*in some areas, practices are working together so patients actually attend only a few sites if they have possible Covid-19 symptoms.*” (Participant:243761, 23/04/2020) However, some GPs continued to express concern that guidance is inappropriate for primary care, and again highlighted the apparent indifference of government bodies towards primary care. There were worries that some measures, particularly hot/cold hubs, “*will lead to increased spread of the disease and death of clinicians, [...] we are truly lions led by donkeys.*” (Participant:288544, 14/04/2020)

Discussion

Summary of findings

Overall, GPs’ quantitative and free-text responses were both more optimistic and more aligned in April than March, suggesting that there was less ambiguity and more consensus later in the Covid-19 response. Responses broadly exhibit a shift from GPs predominantly concerned for staff safety in March, to wider patient safety and wellbeing in April, including unmet needs and burden of non-Covid-19 ill health, and longer-term impacts of the pandemic. At both time points, GPs expressed feeling let down and overlooked by government.

Quantitative data showed that GPs were satisfied with triage systems and felt more able to deal with current than future Covid-19 demand at both time points. Management of Covid-19 patients was infrequently raised as an issue in free-text comments. Quantitative data revealed that GPs felt that they did not have adequate access to training in IPC or PPE use practices. PPE access was poor and confidence in using PPE low at both time points but had improved by the second survey.

Strengths and limitations

Our study reports on GPs’ experiences of working in the United Kingdom early in the SARS-CoV-2 pandemic. One key strength of our study is the large, regionally representative sample of GPs surveyed, and the capacity to compare the responses by the same individual at 2 time points, one before a lockdown began in the United Kingdom and one after.

The free-text element of the survey enabled us to capture the specific concerns of GPs beyond those included in the specified prompts.

However, as O’Cathain and Thomas¹⁵ note, the analysis of free-text answers is limited in that these data are “neither strictly qualitative nor quantitative.” Importantly, there is often “a lack of attention to context, and a lack of conceptual richness because the data on each case often consist of a few sentences or less.” Indeed, as the free-text question was open-ended and not specific, a proportion of responses offered no useable data as they commented on the survey itself; and as the free-text question was optional, there was a disappointingly low response rate. These represent lost opportunities to collect richer, more comprehensive data. Nevertheless, these limitations informed and were addressed through our data analysis strategy of using first an inductive and then deductive approach, described above.

Table 4. UK Covid-19 policy developments.

Date	Policy development
17 March 2020	“Next steps on NHS response to Covid” (letter from NHS England and Improvement)—the first letter detailing tailored advice for GPs, directing them to free up capacity and roll out remote appointments. ¹⁶
27 March	GPs issued with comprehensive guidance for primary care regarding IPC procedures, PPE, management and segregation of Covid-19 symptomatic/nonsymptomatic patients, remote working, home visits, and others. ¹⁷⁻²¹
28 March	Regulations temporarily suspended to fast-track PPE supplies (nationally short at this time); ²² easing administrative requirements and barriers for imports to allow GP practices (and others) to buy their own PPE.
29 March 10 April	Public Health England publishes new online guidance setting out principles to help support health workers and the public in managing their mental health. ²³ A cross-governmental plan is agreed, focussing on ensuring that essential PPE supplies are delivered to NHS and care staff, so all frontline workers can do their jobs safely and PPE is not wasted; priority areas urgently requiring PPE include GP surgeries, care homes, hospices, and community care organizations. ²⁴
25 April	The NHS releases an information campaign to encourage the public to seek care and treatment when necessary (for non-Covid-related conditions and concerns e.g. stroke, heart attack, cancer, maternal and mental health), in order to avoid long-term health risks due to patients’ hesitancy in getting treatment, from their GP or other services, for fear of Covid-19 and worries of being a burden on the NHS. ²⁵
27 April	The UK government announces that “the NHS is open” and that they will “begin the gradual restoration of [non-Covid] NHS services starting with the most urgent” (e.g. cancer and mental health services) ²⁶ to address unmet needs and further tackle why fewer people are coming to the NHS when they need to.
29 April	“Second phase of the NHS response to Covid-19” (letter from NHS England and Improvement)—to minimise potential harm and reduce the scale of the anticipated postpandemic surge in demand, recommends that urgent clinical services step up non-Covid-19 care, and asks organisations to make judgements on capacity for routine nonurgent elective care; directs primary care to support communities and care homes, make secondary care referrals “as normal,” and “provide as much routine and preventative work as safely possible” (e.g. vaccinations, screening). ²⁷

Only UK GPs with doctors.org.uk accounts could participate in the study. Although a regionally representative sample of 1,000 GPs from a large network of doctors, the sample may not include the range of GP viewpoints. The survey design provides a broad overview of the issues raised, but cannot provide specific explanation of the answers given, the patterns observed, or reasons for changes over time. Further, as this survey was conducted early in the pandemic, it would be of great interest to repeat this survey now and future, to offer further points of comparison.

Comparison with existing literature

Our survey is the first in the United Kingdom to survey multiple prompts across 2 time points at a crucial period early in the pandemic. A single-question online poll in early 2020 found that 1% of 800 GP respondents agreed that the NHS was well prepared for Covid-19.⁷ In March, surveyed GPs expressed that they felt unsupported by government and national public health bodies in relation to guidelines for patient management; and access to and training in the use of PPE. It seems likely that policy developments from the UK government eased these concerns (see Table 4).

In April, the concerns of surveyed GPs shifted to the unmet needs of non-Covid-19 patients. A global online survey of 202 healthcare professionals (37% primary care physicians) from 47 countries, found overall that there were severe reductions in access to routine care for chronic diseases (diabetes, chronic obstructive pulmonary disease, hypertension, and mental health in particular).²⁸ We found similar concerns, especially for patients requiring referral to mental health services.

A recent BJGP Open collection²⁹ examines how international primary care systems responded to Covid-19. An accompanying commentary focussing on high-income countries emphasizes how Covid-19 has both necessitated fast-paced progress but also caused profound disruptions in primary care.³⁰ These have included a move to telemedicine that both increase accessibility to services for some users but reduces accessibility to services for others; and improved coordination of Covid-19 services but disruption to chronic disease management. These tensions were echoed in the findings of our survey.

Much emphasis and coverage of the Covid-19 pandemic in the United Kingdom has predominantly focussed on the pressures on and efforts of secondary care. This narrative does not adequately acknowledge the work of primary care, which seemed to represent a “hidden frontline” in the crisis.¹⁰

Implications for research and practice

Our survey suggests that GPs felt consistently overlooked and not adequately supported by government and public health bodies in a critical period early in the first wave of the Covid-19 pandemic in the United Kingdom. This may be linked to the focus on secondary care. As such, it is likely that the response did not fully benefit from primary care services and capacity. Indeed, these early stages of the pandemic were crucial in shaping how the pandemic unfolded locally, and also have important longer-term consequences for those working in primary care and managing the primary care response.

Further, in literature detailing anxiety and poor psychological wellbeing in primary care providers, during previous and current epidemics,^{31,32} it is imperative that the wellbeing of these individuals and systems be prioritized from the outset in order to avoid potentially long-term issues/impacts. In future epidemic or pandemic scenarios, primary care should play an important and larger role in healthcare provision as early as possible, and have appropriate,

adequate, and timely support, guidance, and resources. These calls resonate internationally, reflected in a study of international primary care systems’ experiences early in the pandemic through the online *Global Forum on Universal Health Coverage and Primary Health Care*.³²

Conclusions

Overall, GPs’ responses were more positive and more aligned in April than March. This may be linked with policy and guidance developments, differences in available information, time to plan, and greater understanding of the challenges posed by Covid-19 for primary care providers. Concern shifted from inadequate resources and guidance to respond effectively to Covid-19 in March, to unmet needs related to non-Covid-19 ill health and demand in April. This latter issue persists. Guidance which can address these concerns at this key, rapidly changing time early in a pandemic or epidemic is essential in future health emergency responses. During future waves of Covid-19 and other health emergencies, this would enable primary care in the United Kingdom to balance competing demands and responsibilities dynamically, and help maintain long-term resilience of primary care providers and responses.

Supplementary material

Supplementary material is available at *Family Practice* online.

Funding

No funding was awarded for this specific study. GE is supported by the National Institute for Health Research (NIHR) Community Healthcare MedTech and In Vitro Diagnostics Co-operative. NG and STC are funded by RECOVER (Rapid European COVID-19 Emergency Response research), an EU Horizon 2020 research and innovation programme under grant agreement number 101003589. STC is supported by funding from the NIHR Health Protection Research Unit in Healthcare Associated Infections and Antimicrobial Resistance at the University of Oxford in partnership with Public Health England (PHE). CP is funded by the UKRI/NIHR 2019-nCoV Rapid Response Call (Grant No. NIHR200907). MR is a GP In-Practice Fellow funded by the NIHR. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health and Social Care or Public Health England. The sponsor had no role in study design, data collection, data analysis, data interpretation, writing of the report, or the decision to submit the paper for publication.

Authors’ contributions

NG, GE, STC, and OVH contributed to the planning of the study. Quantitative analysis was carried out by GE, free-text analysis was carried out by CP. CP, MR, and GE drafted the manuscript. All authors contributed to the final draft of the manuscript. NG is responsible for overall content as guarantor. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted.

Ethical approval

None required.

Conflict of interest

None declared.

Data availability

The data underlying this article will be shared on reasonable request to the corresponding author.

References

1. Department of Health and Social Care. CMO confirms cases of coronavirus in England. <https://www.gov.uk/government/news/cmo-confirms-cases-of-coronavirus-in-england>. doi:<https://www.gov.uk/government/news/cmo-confirms-cases-of-coronavirus-in-england>
2. UK Government. UK Coronavirus Dashboard. Accessed August 17, 2021. <https://coronavirus.data.gov.uk/>
3. NHS England and NHS Improvement. Important and Urgent – Next Steps on Nhs Response To Covid-19: 17 March. Published 2020. Accessed May 11, 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/urgent-next-steps-on-nhs-response-to-covid-19-letter-simon-stevens.pdf>
4. Adams JG, Walls RM. Supporting the Health Care Workforce during the COVID-19 Global Epidemic. *JAMA - J Am Med Assoc*. 2020;323(15):1439-1440.
5. Bitton A, Ratcliffe HL, Veillard JH, Kress DH, Barkley S, Kimball M, Secci F, Wong E, Basu L, Taylor C, et al. Primary Health Care as a Foundation for Strengthening Health Systems in Low- and Middle-Income Countries. *J Gen Intern Med*. 2017;32(5):566-571.
6. Redwood-Campbell L, Abrahams J. Primary health care and disasters - The current state of the literature: What we know, gaps and next steps. *Prehosp Disaster Med*. 2011;26(3):184-191.
7. Kraef C, Juma P, Kallestrup P, Mucumbitsi J, Ramaiya K, Yonga G. The COVID-19 Pandemic and Non-communicable Diseases—A Wake-up Call for Primary Health Care System Strengthening in Sub-Saharan Africa. *J Prim Care Community Heal*. 2020;11(1):1-3.
8. MacInko J, Starfield B, Erinoshio T. The impact of primary healthcare on population health in low- and middle-income countries. *J Ambul Care Manage*. 2009;32(2):150-171.
9. Dunlop C, Howe A, Li D, Allen LN. The coronavirus outbreak: the central role of primary care in emergency preparedness and response. *BJGP Open*. 2020;4(1):bjgpopen20X101041.
10. Goodyear-Smith F, Kinder K, Mannie C, Strydom S, Bazemore A, Phillips RLJ. Relationship between the perceived strength of countries' primary care system and COVID-19 mortality: an international survey study. *BJGP open*. 2020;4(4):1-13.
11. Department of Health and Social Care. Coronavirus public information campaign launched across the UK. GOV.UK. Published 2020. Accessed May 11, 2020. <https://www.gov.uk/government/news/coronavirus-public-information-campaign-launched-across-the-uk>
12. The Doctors' Association UK. PRESS RELEASE: CORONAVIRUS, THE REAL VIEW FROM THE FRONTLINE. <https://www.dauk.org/>. Published 2020. Accessed May 11, 2020. <https://www.dauk.org/news/2020/03/02/2020-3-3-press-release-coronavirus-the-real-view-from-the-frontline/>
13. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(0):77-101.
14. Dunn P, Allen L, Cameron G, Alderwick H. COVID-19 Policy Tracker. The Health Foundation. Accessed September 3, 2020. <https://www.health.org.uk/news-and-comment/charts-and-infographics/covid-19-policy-tracker>
15. O'Cathain A, Thomas KJ. "Any other comments?" Open questions on questionnaires - A bane or a bonus to research? *BMC Med Res Methodol*. 2004;4(25):1-7.
16. Stephens S, Pritchard A. NHS Covid Letter. [england.nhs.uk](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/20200317-NHS-COVID-letter-FINAL.pdf). Published 2020. Accessed May 11, 2021. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/20200317-NHS-COVID-letter-FINAL.pdf>
17. Rawaf S, Allen LN, Stigler FL, Kringos D, Quezada Yamamoto H, van Weel C. Lessons on the COVID-19 pandemic, for and by primary care professionals worldwide. *Eur J Gen Pract*. 2020;26(1):129-133.
18. Kanani N, Derby G. GP Preparedness Letter. [england.nhs.uk](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0264-GP-preparedness-letter-14-April-2020.pdf). Published 2020. Accessed May 11, 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0264-GP-preparedness-letter-14-April-2020.pdf>
19. RCGP. RCGP Guidance for General Practice. RCGP. Published 2020. Accessed May 11, 2021. <https://www.rcgp.org.uk/-/media/Files/Policy/A-Z-policy/2020/covid19/RCGP-GP-guidance-march-2020.ashx?la=en>
20. NHS England and NHS Improvement. Guidance and Updates for GPs: highest clinical risk patients. NHS England and NHS Improvement website. Published 2020. Accessed September 3, 2020. <https://www.england.nhs.uk/coronavirus/publication/guidance-and-updates-for-gps-at-risk-patients/>
21. Department for Business Energy & Industrial Strategy. Regulations temporarily suspended to fast-track supplies of PPE to NHS staff and protect companies hit by COVID-19. Published 2020. Accessed October 27, 2021. <https://www.gov.uk/government/news/regulations-temporarily-suspended-to-fast-track-supplies-of-ppe-to-nhs-staff-and-protect-companies-hit-by-covid-19>
22. Department of Business Energy and Industrial Strategy. Regulations temporarily suspended to fast-track supplies of PPE to NHS staff and protect companies hit by COVID-19. GOV.UK. Published 2020. Accessed September 22, 2020. <https://www.gov.uk/government/news/regulations-temporarily-suspended-to-fast-track-supplies-of-ppe-to-nhs-staff-and-protect-companies-hit-by-covid-19>
23. Department of Health and Social Care. New advice to support mental health during coronavirus outbreak. Accessed August 17, 2021. https://www.gov.uk/government/news/new-advice-to-support-mental-health-during-coronavirus-outbreak?utm_source=6030a355-bc47-42d5-acc5-8499a6f38573&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate
24. Department of Health and Social Care. Covid-19: Personal Protective Equipment (PPE) Plan. Published 2020. Accessed August 5, 2020. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/879221/Coronavirus_COVID-19_-_personal_protective_equipment_PPE_plan.pdf
25. NHS England. Help us help you: NHS urges public to get care when they need it. [england.nhs.uk](https://www.england.nhs.uk). Published 2020. Accessed September 3, 2020. <https://www.england.nhs.uk/2020/04/help-us-help-you-nhs-urges-public-to-get-care-when-they-need-it/>
26. Department of Health and Social Care. Health and Social Care Secretary's statement on coronavirus (COVID-19): 28 April 2020. GOV.UK. Published 2020. Accessed September 3, 2020. <https://www.gov.uk/government/speeches/health-and-social-care-secretarys-statement-on-coronavirus-covid-19-28-april-2020>
27. Stephens S, Pritchard A. Second Phase of NHS Response to COVID-19 letter. [england.nhs.uk](https://www.england.nhs.uk). Published 2020. Accessed September 3, 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/second-phase-of-nhs-response-to-covid-19-letter-to-chief-execs-29-april-2020.pdf>
28. Chudasama YV, Gillies CL, Zaccardi F, Coles B, Davies MJ, Seidu S, Khunti K. Impact of COVID-19 on routine care for chronic diseases: A global survey of views from healthcare professionals. *Diabetes Metab Syndr Clin Res Rev*. 2020;14(5):965-967.
29. Allen LN, Dambha-Miller H. COVID-19 and international primary care systems: Rebuilding a stronger primary care. *BJGP open*. 2020;4(4):19-21.
30. Huston P, Campbell J, Russell G, Goodyear-Smith F, Phillips RLJ, van Weel C, Hogg W. COVID-19 and primary care in six countries. *BJGP open*. 2020;4(4):1-6.
31. Desborough J, Dykgraaf SH, Phillips C, Wright M, Maddox R, Davis S, Kidd M. Lessons for the global primary care response to COVID-19: a rapid review of evidence from past epidemics. *Fam Pract*. 2021;(vi):1-15.
32. van Hout D, Hutchinson P, Wanat M, Pilbeam C, Goossens H, Anthierens S, Tonkin-Crine S, Gobat N. The experience of European hospital-based health care workers on following infection prevention and control procedures for COVID-19. *medRxiv*. Published online 2020. doi:10.1101/2020.12.23.20248793