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Navigating through uncertainty and controversy: lessons from the COVID-19 crisis. A longitudinal qualitative study among French general practitioners at the epicenter of a scientific controversy in Marseilles (I)

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## **Introduction**

The emergence of a new deadly virus such as COVID-19 acts as a reminder that uncertainty is a feature of modern societies (1). In France, as in many other countries, the uncertainty regarding the virus during the early months of the pandemic was coupled with heated public arguments on many aspects of the authorities' handling of the crisis: the best ways to use the limited number of diagnostic tests available, whether the general lockdown was put in place too late, and whether uniform confinement was the correct strategy. These debates stem from the absence of the ideal type of solution usually sought for medical problems: an efficient vaccine or effective medical treatment. It is therefore not surprising that one of the most heated debates to have surfaced in the first stages of the pandemic, was over whether a cure for COVID had been found in the form of the drug hydroxychloroquine. This debate, and the “social life” of this drug, epitomise the issues pertaining to uncertainty that the medical world faces during epidemic outbreaks.

Hydroxychloroquine became global news in March 2020, when US President Donald Trump publicly touted its efficacy. Since then, debates around this drug have mainly been framed in terms of the decline in trust in science and the spread of fake news. But this sort of framing does not help understand why such a debate can emerge at that particular moment of the epidemic. As with many scientific issues, such as vaccines (2) reducing the debate to a confrontation between science on one side and, on the other, an illiterate public and anti-science actors, tends to overlook the rationality behind people's apparently misguided behaviour. In the case of hydroxychloroquine, this common explanation reducing complex attitudes to degrees of ‘scientific literacy’ is challenged by the fact that many doctors in developed countries (and in France in particular) prescribed this drug during the early phases of the pandemic (3). How can we explain the fact that so many people with very advanced medical training agreed (at least partly) with the ramblings of Donald Trump? The attitude of

practising doctors towards hydroxychloroquine constitutes an ideal site to explore the issues they face in contexts of epidemic outbreaks and the relationship between their practice, scientific research and authorities' recommendations. This is particularly apparent in France, the epicentre of the worldwide debate on hydroxychloroquine (4).

In France, hydroxychloroquine made the front pages in March 2020 and remained one of the main themes of the media coverage of COVID during the following month-and-a-half (5). This media sequence was sparked by the publication of a clinical trial purporting to show the spectacular effect of using hydroxychloroquine in combination with azithromycine (6). This study sparked a worldwide debate – and gave Donald Trump so much hope. It was conducted by a team led by the person who would become the main defender of this drug: Didier Raoult. This infectious disease physician is the director of the Institut Hospitalo-Universitaire Méditerranée Infections (IHU), a public research and treatment facility dedicated to infectious diseases located in Marseille.

The debate touched upon crucial questions relative to how doctors should act in the face of scientific uncertainty(7) (8) (9): should practising doctors be the ones making the judgement call for their patients, and what degree of certainty must be reached before action should be taken in times of crises? (10),(11) In their defense of the use of hydroxychloroquine, Didier Raoult and other experts put forward their moral obligations as doctors to care for their patient and the cognitively superior knowledge they develop at patients' bedside. This approach was presented as well tailored to the urgency of crises, as opposed to the unethical and scientifically dubious nature of randomized trials and 'big data'. But do these discourses fit the actual experience of practicing physicians? What do practicing physicians' attitudes towards hydroxychloroquine tell us about the issues they face in times of epidemic outbreaks and how they manage to solve them?

In this longitudinal qualitative study based on 66 interviews with 50 GPs in Marseille. We shed light on the difficulties faced by French general practitioners (GPs) confronted to the outbreak of COVID and the resources at their disposal to solve them. We will focus in particular on how they solved the question of whether to prescribe hydroxychloroquine. Drawing on the sociology of the relationship of general practice with uncertainty, we show what kinds of problems this prescription was believed to solve. This helps understand the limits to the persuasive power of official guidelines and GPs' resistance to evidence-based medicine. (12),(13,14)

## **METHODS**

### Study design

We conducted a longitudinal qualitative study among general practitioner using semi-structured interviews. Semi-structured interviews were chosen because they are an efficient way of collecting exploratory data and allows for freedom of expression of the participants.

### Setting and participants

Between April 2020 and September 2020, we conducted sixty-six interviews with fifty general practitioners, sixteen of them were interviewed at the beginning of the study and were re-interviewed later to see the evolution of their thinking on the subject. All general practitioners worked in Marseilles urban area in the vicinity of the IHU. We used a purposive sampling to recruit the general practitioners, with application of principle of diversification on age, gender and medical practice location. The general practitioner was personally invited by phone call to take part in the study.

### Data collection

The interviews were carried out individually by five researchers (3 residents in General practice and 2 seniors GPs, all trained in qualitative methods, the first author being also a social scientist).

The participants provided verbal informed consent, all interviews were conducted by phone or in person, they have been recorded and anonymized. We developed a semi-structural interviewed guide, the topic discussed were based on the objectives of the study and were adjusted during the first interviews. Data were collected until the team determined saturation had been achieved. For the sixteen doctors who were re-interviewed a new interviewed guide was developed and the interview was conducted by a different researcher.

### Data analysis

All the interviews were transcribed in verbatim. Each interview was reviewed by 2 social scientists (R.L and J,W). We analyzed the transcripts in duplicate by means of constant comparative technique. Double inductive coding analysis was applied by using NVIVO software and content analysis by the investigators (R.L, J,W) for data triangulation. An open, axial and then selective coding was applied.

### Study rigor

We applied several strategies in this study to enhance its value. In first we achieved investigator triangulation, researchers with different backgrounds (sociologist, anthropologist, doctor) have participated. Two researchers independently analyzed the data. In this study we included general practitioners with different age, gender and place of practice to be representative of the population of Marseilles. Participants were not financially compensated

for their time. Our study was compliant to the consolidated criteria for reporting qualitative research (COREQ)

### Ethics approval

Before every interview each participant was informed orally and gave oral agreement. All the data of included participants were encoded and anonymized. This study was approved by the Medical Ethics Committee of the IHU Mediterranee-Infection. (N°2020-017)

## **RESULTS**

The participant demographics are summarised in **table 1**. The average duration of the interviews conducted in the first round was 41 minutes. The average duration of the interviews conducted in the second round was 24 minutes.

### *The uncertainties of an emerging disease*

To understand French GPs' practices during the first months of the epidemic, we must first understand the uncertainties brought about by COVID-19.

The first type of uncertainty relates to COVID's clinical expression, which did not facilitate a doctor's diagnostic process:

“The symptoms we didn't really know, it was a new disease” M1

“every day there were new symptoms (...) it's just the unknown of the disease” I1

The second type of uncertainty relates to the biological tests for SARS-CoV2 which lacked reliability and were difficult to access with an exception in Marseille

“We were lucky to be in Marseille, so it was very simple, as soon as I suspected that the patient could be Covid positive, I would tell him: it's very simple, you go to the IHU”. E3

***GPs felt excluded and frustrated by the place they were given in the first phase of the fight against covid-19***

The desire to avoid confronting GPs with so much uncertainty transpired through the initial official pathway of care for patients potentially affected by COVID, which in the first month avoided recourse to the GP.

This led to a feeling of exclusion among these doctors (15)

“There was no predefined role for the GP at all, who was completely excluded from the system.” M1

“We should have been the foot soldiers in the war against COVID and we were not” A1 (16)

"We should have been the first actors on the scene". K1

***Many recommendations, which did not always satisfy GP'S***

The case of COVID also illustrates why GPs are often dissatisfied by official guidelines which can only integrate a very limited number of parameters.

This phenomenon is particularly exacerbated in France, because patients' pathway of care is very centered on the relationship with one independent GP working mostly alone, rather than with medical collectives:

"I don't know... managing a disease that we don't know. Applying recommendations that we don't know if they've really been proven. It was a little ??? and the difficulty was that every day the recommendations changed, every day there were new symptoms.

. » I1

« we do things without really knowing, we don't really know what to say to people, everyone is lost, we don't have explicit recommendations...". M1

“it was quite frustrating, because we were obliged to apply recommendations that we were not at all in tune with. Especially in terms of tests, (...) It didn't seem like good recommendations to us, but we had to apply them.” U1

In the case of COVID, GPs' tendency to consider official recommendation as just one of the many resources at their disposal seems to have been exacerbated by a distrust of public health authorities(17), (18). Some GPs even took liberties with these recommendations

"Recommendations is good but we also know that there is practice, there are the people we have in front of us and that we are obliged to modulate and that we cannot always be in line with the recommendations" J1

" Recommendations? Irrelevant ! ". H1

### *The debate around Didier Raoult and hydroxychloroquine*

On 25 February 2020, Didier Raoult published a video on YouTube, in which he downplays the seriousness of the virus and touts the efficacy of hydroxychloroquine both as a treatment and as a prophylactic

But the debate really caught on after the publication at the end of March of a study conducted by Didier Raoult and his colleagues purporting to show the effectiveness of hydroxychloroquine when taken in combination with an antibiotic (Azithromycin) as soon as the symptoms appear.

Initially the GPs were free to prescribe hydroxychloroquine in any context. But the decree published on 26 March explicitly placed boundaries around GPs' medical judgement. It stated that the drug could only be used for rheumatoid arthritis and lupus, and for the prevention of lucites.

Some doctors perceived recommendations as not allowing any guidance in the field and as an infringement of their freedom of prescription(19)

"So ... yes, first of all, I am extremely embarrassed and very angry about the fact that, as general practitioners, we are increasingly forbidden to prescribe; I find this absolutely unacceptable in terms of our professional ethics and medical practice. (...) that we are forbidden to prescribe, for example, hydroxychloroquine (...) that for me is intolerable." D2

### **How GPs solved their dilemmas**

Faced with the uncertainties of the initial phases of the COVID epidemic, GPs resorted to four ways to solve their problems.

#### ***A restrictive logic***

The first pathway favoured compliance with official recommendations, and this is consistent with the idea that official recommendations are meant to help doctors solve the problem of uncertainty. Most doctors have followed the national recommendations regarding COVID in general and hydroxychloroquine in particular (31/50). On an issue such as hydroxychloroquine, official recommendations can be boiled down to a general reaffirmation of some of the norms at the core of evidence-based medicine, including the fact that doctors should recommend a treatment only if there is a demonstrated effect documented by published research.

Some GPs were therefore embarrassed by this debate on the prescription of hydroxychloroquine.

“The rigorous scientific approach that we were required to follow and respect was that of the Haute Autorité de Santé, and not the untimely statements of Mr Raoult” B3

“And that's not medicine. You can't treat patients because you think a treatment will work.” C2

he risk-benefit balance for me is the basis of our intervention, and for me it was clear that it was unfavourable for my patients: unproven effectiveness versus known side effects.O2

### *Testing therapeutic solutions*

One particular problem with best practice recommendations is that most of the time they presuppose a strict separation between the diagnosis and the treatment. However, this does not take into consideration the fact that GPs routinely use treatments as diagnostic tools and/or see the stabilisation of the patient's situation as the priority before committing to a diagnosis.

In our interviews with GPs, they evoked prescribing other etiological treatments, mainly antibacterial drugs: antibiotics such as macrolides and cephalosporins without argument for a bacterial superinfection. A large group of general practitioners in Marseille (19 out of 50) reported prescribing hydroxychloroquine in our sample especially justified by the emergency crisis.

" I was rather on the side of Raoult for hydroxychloroquine because in the emergency, we were not going to do a randomised double-blind study before to treat our patients"  
H3

“When you are in wartime, you take care of yourself with what you can, you have to behave like in wartime, I had to treat my patients, didn't I? K2.

‘Test and treat, that's real medicine’. M2

### *Division of labor*

Another standard resource of GPs when dealing with uncertainty is the referral to specialists.

In the case of COVID, this strategy played in favour of hydroxychloroquine use in the epicentre of the controversy, Marseille. The specificity of the city was to offer two competing options to GPs. One of the assets of the IHU in Marseille was its ability to perform as many COVID diagnostic tests as necessary. This meant that, in a context where the availability of tests was rare and where many tests performed were unreliable, the IHU provided a solution to these problems for GPs.

“in a crisis you are in total uncertainty, I thought the organisation was very impressive” D2.

“They all went to Raoult to get tested” B3

"I think it was quite mediatised that we didn't have tests (...) in fact, if the patients wanted to, living in Marseille, they could access to the IHU "B2

However, when coming to the IHU, patients would be offered treatment with hydroxychloroquine. For doctors who were convinced by the arguments in favour of hydroxychloroquine, delegation of the patient's care was therefore a very satisfying solution.

“I find it quite relevant that there is a team of specialists who offer this (treatment) under supervision” D2.

For doctors who were still undecided on the subject, it could also appear as an acceptable solution because they trusted that doctors at the IHU would make an informed judgment on whether or not treatment was warranted and would follow their patients satisfactorily (being specialists of infectious diseases).

I have always successfully referred my patients to the IHU before covid, why would I stop with covid? (..) After giving them my cautious position (basically I don't know so much....) if they wanted to go to the IHU for treatment in particular I wasn't trying to dissuade them, I didn't think it was a loss of chance for my patient to be seen by infectiologists” D2

But for GPs who did not believe in hydroxychloroquine, the fact that the IHU provided such a crucial service meant that they had to balance not testing against the possible risks of hydroxychloroquine and their patients' ability to refuse it. In our interviews, several such doctors described this exact situation and their decision to refer their patient to the IHU.

“for me the most important thing was to diagnose everyone, moreover at the IHU they were monitored and often received a medical check up with often a low dose scan and an electrocardiogram” P2

But more importantly, many told us that their patients went straight to the IHU without consulting them first, because they wanted to be tested.

"the patients usually knew about it so we had a lot of patients who went there by themselves but we never referred them there." B1

"they all went to Raoult (IHU) to be tested" B3

### ***Uncertainty explored and shared with the patient***

The main way of coping with the uncertainties surrounding COVID was via discussions with patients. Physicians increasingly face patients who make specific requests or even demands for treatment, based on their own search for information and experiences.

Overall, we found that most general practitioners sought to ‘normalise’ care with their patients by relying on the professional values traditionally attached to family medicine: to accompany, reassure, be at their patients’ side in this anxiety-ridden period, and support them in their decisions.

“I was lost myself. And I said to the patients: 'you don't know, but neither do I (...) I tried to be educational, to explain to the patients my choices, my speech and my position. But my concern was to explain the scientific approach to patients who had no scientific culture.”B3

“The role was to inform people as much as possible and then to reassure them” P2

« Patients were free to take the treatment or not” H3

“Some went to the IHU because they wanted the treatment” I3.

“If they wanted to be treated it was up to them” A3.

"We have a lot of recommendations from the authorities, but the main thing is to see what we can do with the patient (...) the important is to take charge of the conditions that are specific to him and to be able to adapt to him". H1

“give them the different options and a kind of decision tree that we take with them “  
J1

### *Evolution of the opinion of general practitioners in the case of hydroxychloroquine after the Lancet gate (June 2020)*

Sixteen general practitioners were re-interviewed 3 months later in order to see the evolution of their opinion on the prescription of hydroxychloroquine and thus to give a longitudinal aspect to our study.

In the face of new studies invalidating the use of hydroxychloroquine, and in the face of the continuing crisis and the need to find a treatment, doctors, whether they agree or disagree with Professor Raoult, are becoming more temperate in their comments.

"It is difficult to say, I am neither against nor for! We don't have any proof and the studies that have been carried out were not done within the framework of the IHU, so we can't judge (DR F2)".

"I was perplexed about chloroquine: neither for nor against, but basically we don't know anything about it.  
and in fact we still don't know anything about it! (DR C2) "

Nevertheless, many pointed to the media coverage of the study and the controversy it generated.

"I think that there was, in my opinion, an excess of media coverage of this story which made many people lose their minds a little bit (DR A2)".

## **DISCUSSION**

### **Main results and comparison with literature**

#### **Restrictive logic**

The 'restrictive logic' has been best described by Rosman: 'drug prescribing becomes a practice practiced with reserve or parsimony' and in line with recommendations for good practice (20). But interestingly, compliance with official recommendations was often presented as the product of coordination with other GPs (often via local professional networks) rather than as resulting directly from consulting official documents.

#### **Restorative logic**

A survey conducted among 470 doctors found that around 20 per cent have prescribed a drug outside of its marketing authorisation and that 70 per cent of the time the treatment had been hydroxychloroquine (21). This way of conceiving pharmacological treatment corresponds to Rosman's logic of 'instant repair' through drugs. Indeed, a number of constraints beyond knowledge and uncertainty bear on the doctor-patient interaction: the need to establish and maintain the relationship with the patient; the need for legitimacy; and the management of the consultation in a context where patients expect a quick improvement of their situation. In this context, providing patients with a prescription often constitutes a solution to a complicated problem. International comparisons of prescription practices suggest that using drugs as a tool to respond to the patient's complaint seems to be particularly popular among French GPs .

### *Uncertainty explored and shared with the patient*

This reflects the process of empowerment (26), through which patients have strengthened their willingness and ability to take effective care of themselves and their health. In response to, or in parallel with, patient empowerment, GPs in particular have developed patient-centred care, defined as ‘care that is respectful of and responsive to individual patient preferences, needs, and values’ and that ensures ‘that patient values guide all clinical decisions’ (27).

Medical consultations can be encounters where forms of lay and expert knowledge meet. On controversial or highly uncertain objects such as in the case of COVID and as already observed in our work on chronic Lyme disease, which focused on the recognition of the patient’s diagnostic activity, the patient’s perspective is reinforced (28). This was particularly striking when it came to the issue of hydroxychloroquine. We found that whether patients asked for this treatment or not bore significantly on the unfolding of the consultation and, more importantly on whether the doctor would prescribe it. This was especially striking for GPs in Marseille. Our interviews suggest that patient demand for testing and hydroxychloroquine was one of the major determinants of whether the GPs sent their patients to the IHU.

### **‘Professional prudentialism’**

In recent years, French sociologists have taken a great interest in how general practitioners deal with the prevalence of uncertainty in their daily practice, arguing that this is a key element of general practice. There are a number of reasons for this: two different diseases can be difficult to distinguish because their sets of symptoms are very similar; symptoms appear differently from one person to the other; the boundary between being healthy and being sick is often blurry; and recommending a treatment implies taking into consideration the medical idiosyncrasies of each individual as well as their psychological and socioeconomic situation

(Bloy, 2008; Jutel and Nettleton, 2011). Furthermore, GPs are aware of the limits of their own knowledge (Bloy, 2008; Fox, 1988).

GPs' professional ethos reflects the prevalence of uncertainty and the imperative to take into consideration a great diversity of potentially contradictory factors (Dodier, 2007; Löwy, 2007). French sociologist Florent Champy has coined the term 'professional prudentialism' to describe this type of professional ethos also found among architects (Champy, 2018a). (22,23) Because doctors, just like architects, are faced with problems that are too complex with high level of uncertainty to be solved by the mechanistic application of abstract rules, their practice is characterised by a form of practical wisdom. It implies that particular attention is to be paid to the concrete aspects of the situation, to its singularity and complexity (Champy, 2018: 83).

GPs' particular form of professional prudentialism emphasises the importance of interaction with patients as well as the past experience of doctors in their practice (Bloy, 2010; Dodier, 2007). Thinking about GPs' practice in terms of this professional ethos rather than in terms of the extent of their medical knowledge sheds light on a number of important phenomena, such as the liberty doctors can take with official recommendations and some of the resistance faced by evidence-based-medicine in the medical world (Champy, 2018; Dodier, 2007; Löwy, 2007; Urfalino et al., 2002). Indeed, 'professional prudentialism' entails a certain distance towards all sources of information: each one can only be just one of many elements taken into consideration. Because best practice recommendations can only integrate a very limited number of parameters, they are often seen as unsatisfactory and can easily be seen as contradicted by GPs' past experience (Bloy, 2010; Champy, 2018; Dodier, 2007). This strand of research helps shed light on a number of aspects of GPs' experience of the COVID epidemic.

### **Implications for research and practice,**

By identifying doctors' practices during COVID, we hope to have shown the limits of systematically? explaining attitudes that are different from the scientific consensus by a lack of knowledge or understanding. The study of medical work is therefore helpful to understand attitudes and behaviours that deviate from the scientific norms in general, including those of the lay public. Focusing on the practices of general practitioners in the context of the healthcare system in France shows that a different form of explanation exists: a more sociological one (see, for instance: Pescosolido, 1992; Urfalino et al., 2002) that puts scientific knowledge in the context of the practices in which they are mobilised and the problems people try to solve. Indeed, GPs' work entails drawing on the type of knowledge published in academic journals and compiled to formulate best-practice recommendations. But it also relies on other types of knowledge, such as past experience, knowledge of the situation of the patient and knowledge arising within the interaction with the patient. This is even more the case in contexts in which new infectious diseases have emerged, such as COVID, where academic medical knowledge was initially scarce.

At this stage of our research, we have not been able to identify the precise phenomena leading some GPs to endorse hydroxychloroquine as a treatment, others to suspend their judgement and the rest to reject it. But this initial exploration suggests that patients play a crucial role in this process, which leads us to our final point. In the absence of an effective drug, we have seen, at least in some instances, a form of leveling of knowledge, with some physicians sharing their uncertainties and powerlessness with their patients. In France, as a result of the recent process of institutionalisation of general practice as a 'proper' specialty within the French university system, general medicine has put forward two fundamental

principles: the will to integrate the patient in the decision-making process (patient-centred care approach), and to rely on robust knowledge (evidence-based medicine). The COVID crisis has uncovered the potential conflicts between these two principles.

Table 1  
**The participant Demographics (N=50)**

General practitioner	Locality	Sex	Age,years	Years as a fully qualified GP	Mode of practice	First series*	Second series**
Dr A2	13002	H	60-70	> 40	Liberal	X	X
Dr B2	13001	F	30-40	1-10	Mixed	X	X
Dr C2	13014	F	30-40	1-10	Liberal	X	X
Dr D2	13015	H	60-70	11-20	Salaried	X	X
Dr E2	13016	F	50-60	21-30	Salaried	X	X
Dr F2	13012	H	50-60	21-30	Liberal	X	X
Dr G2	13008	F	60-70	31-40	Liberal	X	X
Dr H2	13009	H	50-60	21-30	Mixed	X	X
Dr I2	13010	F	30-40	1-10	Mixed	X	X
Dr J2	13006	F	50-60	11-20	Liberal	X	X
Dr K2	13005	H	60-70	21-30	Liberal	X	X
Dr L2	13011	H	40-50	11-20	Salaried	X	X
Dr M2	13013	H	40-50	21-30	Liberal	X	X
Dr N2	13003	F	50-60	21-30	Liberal	X	X
Dr O2	13004	F	30-40	1-10	Liberal	X	X
Dr P2	13007	H	20-30	1-10	Liberal	X	X
Dr A1	Martigues	H	50-60	1-10	Liberal	X	
Dr B1	13008	H	50-60	31-40	Liberal	X	
Dr C1	13003	F	30-40	1-10	Liberal	X	
Dr D1	13008	H	30-40	1-10	Liberal	X	
Dr E1	13014	F	50-60	21-30	Liberal	X	
Dr F1	Ceyreste	F	60-70	31-40	Liberal	X	
Dr G1	13009	F	30-40	1-10	Liberal	X	
Dr H1	13007	F	30-40	1-10	Liberal	X	
Dr I1	13013	F	30-40	1-10	Liberal	X	
Dr J1	Marignane	F	50-60	21-30	Liberal	X	
Dr K1	13013	H	40-50	11-20	Liberal	X	
Dr L1	Martigues	H	30-40	1-10	Liberal	X	
Dr M1	Aix-en-Pce	F	30-40	1-10	Liberal	X	
Dr N1	Chateauneuf-les-martigues	H	50-60	21-30	Liberal	X	
Dr O1	Septèmes-	F	30-40	1-10	Liberal	X	

	Les-vallons						
Dr P1	Aubagne	F	60-70	31-40	Liberal	X	
Dr Q1	13008	H	40-50	11-20	Liberal	X	
Dr R1	Martigues	F	30-40	1-10	Liberal	X	
Dr S1	13013	H	30-40	11-20	Liberal	X	
Dr T1	La ciotat	H	50-60	21-30	Liberal	X	
Dr U1	Vitrolles	F	30-40	11-20	Liberal	X	
Dr V1	13011	H	30-40	11-20	Liberal	X	
Dr W1	Septèmes- Les-vallons	H	60-70	11-20	Liberal	X	
Dr A3	13001	F	30-40	1-10	Liberal	X	
Dr B3	13003	H	60-70	31-40	Liberal	X	
Dr C3	13004	F	30-40	1-10	Liberal	X	
Dr D3	13006	H	60-70	31-40	Liberal	X	
Dr E3	13007	H	50-60	21-30	Liberal	X	
Dr F3	13008	H	60-70	31-40	Mixed	X	
Dr G3	13009	F	40-50	11-20	Liberal	X	
Dr H3	13010	H	30-40	1-10	Liberal	X	
Dr I3	13013	F	30-40	1-10	Liberal	X	
Dr J3	13015	H	60-70	31-40	Mixed	X	
Dr K3	13016	F	40-50	11-20	Liberal	X	

Table 1 : The participant demographics (N=50)

\* For doctors from A2 to P2 the first interview period took place from March to May

\*\* For doctors from A2 to P2 the second interview period took place from June to August

**Table 1** (variante)

The participant Demographics (N=50)

Characteristic	n
Age, years	
20-30	1
30-40	20
40-50	6
50-60	12
60-70	11
SEX	
FEMALE	25
MALE	25
Years as a fully qualified GP	
1-10	19
11-20	11
21-30	11
31-40	8
>40	1

Mode of practice	
Liberal practice	42
Mixed activity	3
Salaried GP	5
Locality	
13001	2
13002	1
13003	3
13004	2
13005	1
13006	2
13007	3
13008	5
13009	3
13010	2
13011	2
13012	1
13013	5
13014	2
13015	2
13016	2
Martigues	4
Ceyreste	1
Marignane	1
Septèmes-les-vallons	2
La ciotat	1
Vitrolles	1
Aubagne	1
Aix-en-Provence	1

Themes	Verbatim
The uncertainties of an emerging disease	<p>“The symptoms we didn't really know, it was a new disease” M1</p> <p>“every day there were new symptoms (...) it's just the unknown of the disease” I1</p> <p>“We were lucky to be in Marseille, so it was very simple, as soon as I suspected that the patient could be Covid positive, I would tell him: it's very simple, you go to the IHU”. E3</p>
GP's felt excluded and	<p>“There was no predefined role for the GP at all, who was completely</p>

<p>frustrated by the place they were given in the first phase of the fight against covid-19</p>	<p>excluded from the system.” M1</p> <p>“We should have been the foot soldiers in the war against COVID and we were not” A1</p> <p>"We should have been the first actors on the scene". K1</p>
<p>Many recommendations, which did not always satisfy GP'S</p>	<p>“Too much information given, too much conflicting information” D2.</p> <p>“I don't know... managing a disease that we don't know. Applying recommendations that we don't know if they've really been proven. It was a little and the difficulty was that every day the recommendations changed, every day there were new symptoms. Every day there were new symptoms. » I1</p> <p>« we do things without really knowing, we don't really know what to say to people, everyone is lost We don't really know what to say to people, everyone is lost, we don't have explicit recommendations...". M1</p> <p>“it was quite frustrating, because we were obliged to apply recommendations recommendations that we were not at all in tune with. Especially in terms of tests, (...) It didn't seem like good recommendations to us, but we had to apply them.” U1</p> <p>"Recommendations is good but we also know that there is practice, there are the people we have in front of us and that we are obliged to modulate and that we cannot always be in line with the recommendations" J1</p> <p>"The recommendations: no interest". H1</p>
<p>The debate around Didier Raoult and hydroxychloroquine</p>	<p>“With Professor Raoult, we had to make up our own mind” F1</p> <p>“When you are in wartime, you take care of yourself with what you can, you have to behave like in wartime.” K2.</p> <p>“He (Pr Raoult) used known, validated molecules with identified side effects”. E2</p> <p>"So ... yes, first of all, I am extremely embarrassed and very angry about the fact that, as general practitioners, we are increasingly forbidden to prescribe; I find this absolutely unacceptable in terms of our professional ethics and medical practice. (...) that we are forbidden to prescribe, for example, hydroxychloroquine (...) that for me is intolerable.” D2</p>

	<p>"Without getting into the political debate about chloroquine, that we had decrees to prescribe things. I think there was a limit to the freedom of prescription, which I find quite worrying... The doctor must retain his freedom to prescribe and his freedom to treat patients, and we have the impression that this has been prevented in this crisis. We feel that we have been prevented from doing so in this crisis." O1</p> <p>"It is a problem that general practitioners were not able to prescribe hydroxychloroquine" D3</p> <p>"In relation to Plaquenil, I was rather on the side of Raoult because in the emergency, we were not going to do a randomised double-blind study" H3</p>
<p>The IHU was an important asset for general practitioners in Marseille</p>	<p>"in a crisis you are in total uncertainty, I thought the organisation was majestic" D2.</p> <p>"They all went to Raoult to get tested" B3</p> <p>"I think it was quite mediated that we didn't have tests (...) in fact, if the patients wanted to, living in Marseille, they could access to the IHU "B2</p> <p>"I find it quite relevant that there is a team of specialists who offer this (treatment) under supervision" D2.</p>
<p>But the IHU could become a problem for others</p>	<p>"The rigorous scientific approach that we were required to follow and respect was that of the Haute Autorité de Santé, and not the untimely statements of Mr Raoult" B3</p> <p>"And that's not medicine. You can't treat patients because you think a treatment will work." C2</p> <p>"we follow the recommendations in these moments " O2</p>
<p>Horizontalization of the doctor-patient relationship</p>	<p>"I was lost myself. And I said to the patients: 'you don't know, but neither do I (..) I tried to be educational, to explain to the patients my choices, my speech and my position. But my concern was to explain the scientific approach to patients who had no scientific culture.'"B3</p> <p>"The role was to inform people as much as possible and then to reassure them" P2</p>

<p>The process of empowerment</p>	<p>« Patients were free to take the treatment or not” H3</p> <p>“Some went to the IHU because they wanted the treatment” I3.</p> <p>“If they wanted to be treated it was up to them” A3</p> <p>"We have a lot of recommendations from the authorities, but the main thing is to see what we can do with the patient (...) the important is to take charge of the conditions that are specific to him and to be able to adapt to him". H1</p> <p>“give them the different options and a kind of decision tree that we take with them “ J1</p>
<p>Evolution of the opinion of general practitioners in the case of hydroxychloroquine</p>	<p>"I don't think I changed my mind, at least not knowing if it really worked or not" (DR G2)</p> <p>"Not particularly no. Afterwards, there is nothing conclusive either. It's true that they use it in a massive and empirical way all over the world in some places. But Hydroxychloroquine, in my opinion and from what has been said, and maybe I'm wrong and if I am, please correct me, but there are no monstrous studies that have shown a gain in effectiveness?"(dr L2)</p> <p>"It is difficult to say, I am neither against nor for! We don't have any proof and the studies that have been carried out were not done within the framework of the IHU, so we can't judge (DR F2)".</p> <p>"I was perplexed about chloroquine: neither for nor against, but basically we don't know anything about it. And in fact we still don't know anything about it! (DR C2) "</p> <p>"Yes, completely. I maintain that. It was supervised, it was monitored. It was a good thing that it existed in Marseille. (DR K2) "</p> <p>"I think that there was, in my opinion, an excess of media coverage of this story which made many people lose their minds a little bit (DR A2)".</p>