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A grounded theory-based qualitative approach for examining local implementation of public health policies during crises

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ABSTRACT

Background: COVID-19's emergence questions the agility of health policy deployment in a context of urgency. This exceptional pandemic offers a unique Implementation Science study opportunity. It reveals how actors adapt, coordinate, and mitigate an unknown global threat to safeguard populations from an initially mysterious virus. Limited research has explored how involved players act and adapt their practices to fulfil health protection missions during a global health crisis. Bridging the gap between public policy expectations and achievements requires a methodology for stakeholder identification and implementation practice description.
Objective: Focusing on COVID-19 management in France's second-largest region, we investigate ministerial recommendation implementation and the emergence of new links, coordination modes, and practices.
Methods: Due to the novel subject, we adopted grounded theory. Initial documentary data collection identifies stakeholders for subsequent interviews. Open-ended coding of collected discourse enables content analysis.
Results: Findings reveal a crisis-driven re-evaluation of stakeholder relationships. This research identifies three levels of implementation of health policies at the local level (administrative, organizational and operational) and reveals different types of coordination specific to each of these levels. Our results provide insights on how to better coordinate and implement healthcare policies in a period of crisis. Recommendations include real-life simulations of large-scale crises.
Conclusion: Our work establishes a methodological foundation for analysing coordination dynamics. Future research could compare these findings with other unpredictable health emergencies, such as episiotomic veterinary health crises.

- The first step of the method is to analyse the guidelines of health policy implementation during the Covid-19 crisis and to identify the main stakeholders in charge of the local health policy implementation.
- The second step consists of interviewing these stakeholders using a co-constructed sample and structural coding of their speech to reveal the forms of coordination between stakeholders.

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Resource availability:	A videotelephony app (Microsoft Teams software)

Introduction

Our study [1] aims to identify how the implementation of the health policy to fight against the Covid-19 virus was carried out locally, in particular by re-examining the relationships between the stakeholders in charge of this implementation. A review of the literature showed that it is still particularly difficult for research in health management to identify with precision the inter-organizational levels of implementation of health policies, the involved actors and the modes of coordination adopted, especially at the local level [2]. Therefore, the objective of this article is to identify more precisely the ways in which health policies are locally implemented by analysing the actors' coordination. We would like to elaborate on a few points about the context, because it has an impact on the type of methodology chosen. In social science research, the difficulty of identifying key stakeholders and collecting their discourse may require some ingenuity to collect certain data. In France, the organisation of health is characterised by a high degree of territorialisation, based on the de-concentration of State power in health policy to the regions. The Regional Health Agencies (RHA) are in charge of the implementation of the health policy in their region. They coordinate and steer health and medico-social policy in the area in which they operate. Although the RHA's operating procedures and relations with other stakeholders are well established, they were disrupted by the Covid-19 crisis. This crisis required new processes to be very quickly developed, as the existing ones had not been designed for such an intense and global health situation. Added to this was the lack of knowledge of the consequences of the early phase of the crisis that required constant adjustments. This resulted in the involvement of new stakeholders and the creation of new links to tackle the challenges of securing the health of the population and organising medical care for a very large number of people infected with the virus, with high tension on the material and human resource context. The objective of our study was to identify more precisely the ways in which health policies are locally implemented by analysing actors' coordination.

Our work aims to contribute to knowledge on implementation science. Our theoretical contribution concerns the identification of the appropriation or adaptation of ministerial recommendations by the stakeholders in charge of managing the health crisis which is a challenge for the implementation science as explain in section 1. To meet this challenge, we propose a qualitative methodology, based on a case study presented in section 2, to identify stakeholders in charge of implementation in a health emergency context and to gather information on how they appropriate ministerial recommendations. Applying this method allows us to identify three levels of implementation of health policies at the local level (administrative, organizational and operational), which must be considered in order to bridge the gap between the expectations and achievements of public health policies, as set out in section 3. We then conclude with a discussion of the contributions of this work, its limitations and the avenues it opens up.

Elements of literature review and topic's gap

Research into the implementation of public policies has highlighted a gap between expectations and results [3], leading to the use of the term 'implementation gap'. Implementation science is concerned more specifically with the way in which innovations, policies and practices are adopted and implemented in the healthcare sector. Organizational approaches have enriched the conceptual framework to shed light on the obstacles and levers for implementing healthcare policies. [4] Although research in this field has developed considerably since the 1990s [4–6], a number of gaps remain to be filled: identifying the organizational mechanisms that can accelerate the pace at which strategies are implemented, exploring interpersonal mechanisms, as intrapersonal mechanisms such as individual personality [7] have been largely overlooked [8]. Few studies have explored the interpersonal and inter-organizational mechanisms in a health emergency context, where agility is required and where the coordination of players is an important lever for implementation [9], as is innovation, as shown by studies in other contexts [10]. Studying the coordination between designers and implementers may also help to explain the differences observed in policy implementation. Top-down approaches are still largely dominant, even though there is a tendency to give more freedom (less directive approaches) to actors in the field to implement policies. Successful implementation is not the responsibility of the designers, but of the players on the ground, who are committed to implementing it at the local level. It is therefore at a local level that implementation is built through collaboration between local players [11,12]. Implementation science researchers have sought to develop models. The EPIS model (Exploration, Preparation, Implementation, Sustainment) developed by Aarons et al. [13,14] and the Expert Recommendations for Implementing Change (ERIC) process by Waltz et al. [15] developed on the basis of a compilation by Powell et al. [16] of 68 implementation strategies, reveal a relatively prescriptive (top-down) approach to implementation that is ill-suited to an urgent, fluid and unpredictable context where agility is required. Our study therefore aims to take a different look at the implementation of ministerial guidelines by focusing on the strategies and practices developed by the players in the field. Our project requires us to get as close as possible to the behaviour and practices of these players. So rather than trying to fit data with pre-existing concepts or theory adopting a deductive approach, an inductive process that generates interpretation and understanding that is primarily grounded in and driven by the data [17] is

better adapted to a crisis context whose evolution is unpredictable and hence the decisions relating to the measures to be put in place to protect the population.

Method details

This research model was developed as part of a research project on the implementation of health policy and the coordination of players in a health crisis context. It is based on qualitative methods which a number of researchers [18,19] and institutions [20] emphasise as being of interest for advancing research on implementation mechanisms. Qualitative research is important for theory development given the wealth of data that can be gleaned [8]. Work on health policy implementation science has successfully mobilised qualitative approaches [21]. According to Tashakkori, et Teddlie [22], qualitative methods are used to explore and understand in depth the reasons for the success or failure of implementation practices and strategies. They do not involve the prior selection of variables, unlike quantitative methods, which are used to test and confirm hypotheses based on an existing conceptual model and to gain an in-depth understanding of the predictors of successful implementation. The context of our study, a novel situation, naturally lends itself to the adoption of a qualitative approach. Adopting a grounded theory approach [23] is a pragmatic qualitative approach [24] that is particularly suited to our context. The central aim of this approach is to generate a theoretical explanation based on a careful inspection of the data and without any preconceived starting point. In many cases, grounded theory's emphasis on a purely inductive orientation may be at odds with IS's emphasis on the use of existing theories and frameworks, as highlighted by the QUALRIS group [20]. Furthermore, conducting research based on any methodological prescriptions of grounded theory, (e.g. for sampling) is very demanding and time-consuming. As a result, a comprehensive grounded theory approach is rarely seen in the implementation science literature. Thus, implementation science researchers who use this approach use a modified version that is described as "grounded theory lite" [25]. In the case of our study, the literature review enabled us to identify the categories of actors: their scale of intervention (local, regional, national) and their scope of intervention (administrative, organisational, operational) (Table 1). We then interviewed a sample of them and analysed their discourse using inductive coding. amongst the essential features and procedures of grounded theory that can be incorporated into a pragmatic approach are inductive coding techniques. Open-ended inductive coding allows the researcher to "open the enquiry" by examining the data to see which concepts best fit the data, without explanation or a pre-conceived framework [26]. The concepts and categories derived from open coding prompt the researcher to consider aspects of the research topic that have been overlooked or unanticipated [27]. The intermediate stages of coding in grounded theory, called axial or focused coding, build on open coding and generate a more refined set of key categories [28,29]. This is how we proceeded for this study while being attentive in our approach to the Consolidated criteria for reporting qualitative research (COREQ) [30].

The first stage: a grey document review to map the key stakeholders involved in responding to the health crisis

The first step was to identify actors involved in deploying organisational responses to the health crisis. To do this, we carried out a review of various written and video documentation (press articles, text of health authorities in the media, the Ministry of Health press bulletins, free available ministerial documents, expert interviews in the media, health authority reports, etc.) writing notes when reading and listening in order to list the mentioned stakeholders and their role in the crisis management and the associated risks in France. This information was collated in a table (Table 1) to provide a map of the involved actors. This allowed us to identify three main categories of stakeholders: national, regional and local ones and three technical scopes of intervention (administrative, organizational and operational). Our case study focuses on the Auvergne-Rhône-Alpes region (both at regional and local levels). It is the 2nd largest region in France and chronologically the 1st affected by the health crisis with the cluster located at Sillingy (in Haute-Savoie) on 7 February 2020, which was the beginning of the health crisis in France. In the process, we noted the emergence of new categories of stakeholders who had to take operational decisions to deal with the situation in a sphere (health) in which they had previously no significant involvement. This is the case of local authorities, for example. Our actors list has grown steadily. We then contacted these different categories of stakeholders from the region Auvergne-Rhône Alpes to present our research project and express our wish to interview them.

Second stage: interviews of 23 stakeholders involved in the implementation of public health policies to face the COVID-19 crisis

We started by contacting 15 individuals. During the interviews, the interviewees helped us to identify 12 other people to contact. This snowball sampling method (co-constructed sample) allowed us to access more easily the final sample. This is an illustration of the use of the co-construction approach on a specific part of the research design, which is sample constitution. We contacted 27 individuals in this region who were representative of the various stakeholders. Twenty three people agreed to undergo a semi-structured interview over the period of July 2021 to January 2022 (Table 2). The interview grid included four main themes: presentation of the interviewee and his/her background (1), consequences of the health crisis on his/her activities (measures and actions, management and changes in practices, evolution of links with other stakeholders) (2), articulation and coordination with other stakeholders and implementation of national measures as well as the place given to the local level (tools, dialogue, arrangements) (3), lessons learned from the health crisis in terms of practices and for the future (4). The interviews were conducted face-to-face whenever possible. Given the very tight schedule of the interviewees during this period and the geographical distance, part of the interviews was conducted by videoconference via Microsoft Teams software without inducing any difficulty [31]. No technical problems were faced when conducting the interviews. The interviewees were perfectly at ease, which confirming the research on and interest of this methodology

Table 1
Coding grid of the categories of stakeholders based on grey document review.

Coding categories	Coding Sub-Category
Levels of implementation	National Regional Local
Technical scopes of intervention	Administrative Organisational Operational

		Levels of implementation		
		National	Regional	local
Technical scopes of intervention	Administrative			
	Organisational			
	Operational			

Table 2
Sample [1].

In	Categories	Interviewee (function)	Duration	Date of interview
1	Medical territorial organisation	Hospital practitioner President of the Economic, Social and Environmental Council	1h07	July 2021
2	Health care facilities	EHPAD* Director	1h14	Oct. 2021
3	Nursing staff	Coordinating nurse	1 h	Oct. 2021
4	Doctor	EHPAD Coordinating and occupational physician	53 mn	Nov. 2021
5	ARS Regional Strategy and Pathways Department	Regional Director of Health Agency	45 mn	Nov. 2021
6	ARS Departmental Delegation	Departmental Director	1h20	Nov. 2021
7	ARS Departmental Delegation	Departmental Director	22 mn	Dec. 2021
8	Elected official local authorities	Vice-president of the Departmental Council in charge of territorial health	1 h	Nov 2021
9	Hospital management Direction of care Regional hospital	Director of Care	1 h	Oct. 2021
10	Management of a medical establishment for follow-up care and rehabilitation	Director of the Institution	51 mn	Nov. 2021
11	Hospital Centre Direction	Director of the Institution	29 mn	Dec. 2021
12	Public health and University Medicine Department	Director of Public Health Department - CHU[1]	1h10	Dec. 2021
13	Service of the State	Representative of the State	1h10	Jan. 2022
14	Medical and territorial health care organisation	Doctor and President of the Territorial Professional Health Community	36 mn	Dec. 2021
15	Hospital management (regional structure)	Vice Director	32 mn	Dec. 2021
16	Head of Department University Hospital Centre	CHU Doctor	36 mn	Dec. 2021
17	Doctor (University Hospital Centre- CHU)	CHU Doctor	28 mn	Dec. 2021
18	CHU nursing staff	Unit Senior Manager	46 mn	Dec. 2021
19	CHU nursing staff	Service Senior Manager	50 mn	Nov. 2021
20	CHU nursing staff	Service Manager	52 mn	Nov. 2021
21	CHU nursing staff	"Covid-19" Nurse	58 mn	Dec. 2021
22	National Health Insurance Fund (CNAM#)	Information System Programme Director	36 mn	Jan. 2022
23	Departmental fire and rescue service	Fireman	26 mn	Jan. 2022

* EHPAD: French acronym equivalent to: Hospital for dependent Elderly People.
# In French *Caisse Nationale d'Assurance Maladie*.
[1] University Hospital Centre, in French, Centre Hospitalier UniversitaireCHU).

Table 3
Emerging coding categories from floating reading.

Categories	content of the category
Actors	institutional, health, status, scope of intervention, etc.
Links	administrative, organizational, professional,
Resources	human, information, material, expertise,
Objectives	implementation of ministerial guidelines, defence of ethical values, etc.
Instruments	information system, steering system, space for consultation, exchange, decision

[32–34]. After obtaining formal consent from the interviewees the interviews were recorded. The 1021 min of interviews were fully transcribed and anonymized. A detailed content analysis based on manual coding of the discursive data was carried out following Saldaña's recommendations [35].

We proceeded with the coding in two stages for a structural coding to conduce in-depth analysis [36]. We carried out an initial double coding (two researchers) that had been discussed based on the framework of implementation science by identifying the main categories of codes from a floating reading (Table 3) : actors (institutional, health, status, scope of intervention, etc.), links (administrative, organizational, professional), resources (human, information, material, expertise), objectives (implementation of ministerial guidelines, defence of ethical values, etc.), instruments (information system, steering system, space for consultation, exchange, decision). Each coding category was discussed to achieve consensus and stabilization of coding as recommended.

In a second step of coding, we refined the coding around the operational, organisational and administrative levels (see Table 4 for the final coding diagram). The interviewees also provided us with documents to complement their comments, which we analysed to enrich our analysis adding comments in our final coding grid. We coded manually the first 15 interviews and after that, the others. We did not identify new categories and subcategories to add. According to the method recommended by Guest and colleagues [37] to assess the level of saturation of the qualitative data, we reached it before the end of all our interviews but anyway we made the last interviews.

Results and discussion

The proposed method allows us to identify the different actors and modes of coordination of the local implementation of health policies in the context of a health crisis. By making it possible to identify the actors involved in the implementation of public health

Table 4
Coding diagram.

Administrative relations between state institutions (ministries, HRA) and public service operators (administrative institutional level)	
Administrative coordination of health operators	-Status and territorial scale of stakeholders (national, regional, local) -Nature and background of the relationships: old relationships active/inactive relationships, new relationships, relationships to be built -Coordination mechanisms: coordination unit, task force, steering groups
Crisis communication	-Information providers, instruments and media for dissemination -Degree of harmonization of messages in terms of consistency, clarity and precision -Targets of the information (quality of targeting), -Frequency of release, delay in release in relation to ministerial announcements -Informational assistance (interpretation, explanation)
Administrative steering	-Definition of rules, standards, -Compilation and feedback on organizational coordination difficulties and operational actions
Organizational relationships (organizational level)	
Nature of relationships and organizational links	-Included/excluded stakeholders, coordinating stakeholders, pivot stakeholders -Prescribed relationships, constructed relationships (formal or informal networks of stakeholders), -Type of links: partnership, contractual… -Resources (material, immaterial including expertise, agility)
Mutual knowledge / coordination	-Level of mutual knowledge of the stakeholders and their scope of action
Action goals	-Interpretation, adaptation, adjustment of guidelines
Horizontal coordination tools	-Shared information system or information sharing -Consultation space, co-piloting, concerted actions, working groups, meetings… -Resource sharing (concerted redeployment)
Operational management (operational level)	
Clinical and Professional Coordination	-Local adaptation of practices and tools, -Articulation and adjustment of actions of medical and care staff within or outside the organization -Affirmation of values
Management of resources	-Mutual adjustments of resources: human resource management (staff planning, staff distribution), materials management (masks, gowns, respirators, beds), management and re-allocation of patient flows (logistics)
Management of information	-Monitoring and follow-up of the activity

policies and their local levels of implementation and coordination, this method responds to a fundamental theoretical and practical issue in the implementation of public health policies whose local forms of implementation are poorly characterized. Mapping the involved actors on the basis of a grey literature review saves time in identifying the key stakeholders to be interviewed and their scope of action. This approach provides a chronological and dynamic overview of the categories of involved actors. For example, some of them, who initially had little (if any) involvement in the health policy implementation process, became more present. This is the case, for example, of local authorities and departmental fire and rescue services, which are stakeholders that appeared a little later in the implementation of ministerial directives. We also noticed the emergence of new forms of links between these different categories of stakeholders. The review of grey literature carried out in real time makes it easier to take cognisance of these developments.

In addition, the “snowball sampling” approach allowed us to identify less visible actors, thanks to the participation of the interviewees. Indeed, the actors who usually have little or no involvement in the implementation of the health policy formulated by the ministerial authority are more difficult to identify. The method used in our work is therefore based on the co-construction of the sample with the interviewees themselves. This makes it possible to identify the type of stakeholder who is usually less visible. This has the advantage, for the researcher, of gaining access to people who are more difficult to identify from the documentary review. This illustrates the pragmatic approach advocated in the literature on grounded theory [24]. Our study highlighted several levels of the local implementation of health policies that must be considered in the definition and construction of these policies. The Covid-19 crisis also revealed the existence of different types of coordination (systemic, organizational, functional, professional, normative and clinical) specific to each of these levels of local implementation of health policies that would have been more difficult to identify using another method. Concerning another aspect of our methodology, the use of remote video interviews provided flexibility in data collection and comfort for the interviewees, and we did not identify any particular problems with the quality of the data collected, which supports the results of studies carried out on this type of qualitative data collection method.

The sample of 23 interviewees was sufficient, as we reached saturation point during the coding of the seventeenth interview.

Conclusion, recommendations and limits

The results of our work highlighted the need to consider several levels of local implementation in the definition and construction of health policies and to adopt a more open approach including new stakeholders. The Covid-19 crisis also revealed the existence of different types of coordination (systemic, organizational, functional, professional, normative and clinical) specific to each of these levels of the local implementation of health policies. Knowledge of these forms of coordination of health stakeholders in the territories is essential because it also reveals all the identified dysfunctions expressed by the actors. Our case study revealed an incomplete global

coordination and a lack of knowledge by actors of others stakeholders potentially involved in the health policy implementation and/or of their perimeters of action. That is why it was not easy to identify actors to interview and why the co-construction of the sample had been relevant.

The pragmatic grounded theory approach adopted here enabled us to achieve our initial research objectives and proved effective in carrying out the research within a reasonable timescale.

Our results enabled us to formulate recommendations on the value of carrying out real-life simulations of large-scale crises so that each category of stakeholder was aware of the other stakeholders likely to intervene and be mobilised, and their scope of intervention, in order to be able to develop a high degree of organisational agility. The use of global health crisis simulations can help to develop a common global crisis management culture that is truly coordinated and decompartmentalized, and can also contribute to the development of an emergency literacy and the preparation of players. The aim is also to enable the players involved to take charge of the action within a framework that, while flexible, is nonetheless coordinated and, finally, to enable certain forms of social innovation to be expressed. In this way, genuine social learning can take place [38].

It would be interesting to reproduce this approach in other health crisis contexts (human or veterinary) to confirm or enrich our results based on the three levels of implementation of health policies at the local level (administrative, organizational and operational) and different types of coordination, but the type of unusual situations studied here are very scarce, and therefore, this is an important limit.

Related research article

L. Mériade, C.Rochette, F. Cassière, Local implementation of public health policies revealed by the Covid-19 crisis: the French case, *Implementation Science,* 2023, (forthcoming). Preprint: 10.21203/rs.3.rs-2154751/v1

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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