

Considering social inequalities in health in COVID-19 response: insights from a French case study

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Summary

The COVID-19 pandemic highlighted the impact of social inequalities in health (SIH). Various studies have shown significant inequalities in mortality and morbidity associated with COVID-19 and the influence of social determinants of health. The objective of this qualitative case study was to analyze the consideration of SIH in the design of two key COVID-19 prevention and control interventions in France: testing and contact tracing. Interviews were conducted with 36 key informants involved in the design of the intervention and/or the government response to the pandemic as well as relevant documents ($n = 15$) were reviewed. We applied data triangulation and a hybrid deductive and inductive analysis to analyze the data. Findings revealed the divergent understandings and perspectives about SIH, as well as the challenges associated with consideration for these at the beginning stages of the pandemic. Despite a shared concern for SIH between the participants, an epidemiological frame of reference dominated the design of the intervention. It resulted in a model in which consideration for SIH appeared as a complement, with a clinical goal of the intervention: breaking the chain of COVID-19 transmission. Although the COVID-19 health crisis highlighted the importance of SIH, it did not appear to be an opportunity to further their consideration in response efforts. This article provides original insights into consideration for SIH in the design of testing and contact-tracing interventions based upon a qualitative investigation.

Lay summary

The COVID-19 pandemic has highlighted the importance of social inequalities in health (SIH) and the disproportionate burden of the pandemic and its consequences related to socioeconomic status, ethnicity and race, among other determinants of health. Public health interventions are likely to increase SIH when they are not considered in the design phase. Through a qualitative case study, we analyzed the design of one of the first local initiative providing testing and contact tracing offer to the general population in the Île-de-France region (Paris region, France) in response to the COVID-19 pandemic. This article discusses the uncertainty and challenges associated with consideration for SIH in the intervention design. It explores the diverse understandings of SIH among the actors and the complexities of cross-sectoral partnerships addressing SIH in times of health crisis. Despite a consensual concern for this issue among the respondents, an epidemiological frame of reference dominated the intervention design. It resulted in a model in which consideration for SIH appeared as a complement, with a clinical goal of the intervention: breaking the chain of COVID-19 transmission.

Keywords: social inequalities in health, COVID-19, testing, contact-tracing

INTRODUCTION

The COVID-19 pandemic context brought inequalities to the forefront (Marmot and Allen, 2020). Numerous international studies have measured the extent of inequalities associated with the COVID-19 pandemic

(Bambra et al., 2020). They reveal racial and ethnic (Baqui et al., 2020; Kirksey et al., 2021), socioeconomic (Niedzwiedz et al., 2020) or territorial inequalities in mortality associated with COVID-19, including in France (Mangeney et al., 2020). Merging with pre-existing social inequalities, the COVID-19 pandemic

further emphasized the global issue of social inequalities in health (SIH) (Marmot and Allen, 2020). Given this, the COVID-19 pandemic context could have provided a window of opportunity for acting on SIH. According to Kingdon, a window of opportunity is an opportune moment seized by political entrepreneurs, particularly during major events such as a pandemic, when it is possible to consider the implementation of a solution to tackle a major problem (Kingdon, 1995). Testing and contact tracing have been central interventions in the pandemic response. Different studies have shown the impact of social deprivation (Vandentorren et al., 2022) or ethnicity (Benitez et al., 2020) on the testing rate which was, except in certain cases, higher among socioeconomically privileged populations. In France, the spring 2020 lockdown policy also caused differential and cumulative effects on certain population groups (Bajos et al., 2020). Public health interventions are likely to increase SIH if their design does not consider population needs (Ridde et al., 2008; Guichard et al., 2019). Two rapid reviews of the literature demonstrated that the consideration of SIH in the design of infectious diseases control interventions is typically rare (Mathevet et al., 2021; Ost et al., 2022). Interventions following the proportionate universalism principle are effective in limiting or reducing SIH from an equity perspective. The principle of proportionate universalism is that the intervention is implemented universally, for all, but that certain activities are specifically tailored to the particular needs of sub-groups of the population, taking into account the social gradient in the distribution of the health problem being addressed (Carey et al., 2015). To support stakeholders to better take equity into account, and in particular implementors, the Reflex-ISS tool was developed based on a review of the literature and applications in Canada (Guichard et al., 2019).

In France, testing and contact tracing interventions have been generalized as ‘specific measures to control the epidemic risk’ (Castex, 2020) by the commission in charge of developing the national strategy for ending lockdown, which came into effect on 11 May 2020. Summarized by the three-step motto ‘test, trace, isolate’, the national strategy was based on: (i) testing (analyzing samples to identify infected persons); (ii) contact tracing (searching for individuals who have been in contact with positive cases); (iii) isolation (keeping infected persons away from non-infected ones). This study aimed to analyze how SIH were considered in the design of SARS-CoV-2 testing and contact tracing interventions.

METHOD

Design

We conducted a qualitative case study focusing on a pilot intervention that was part of COVID-19 response efforts in France. We focused on CoviTCT

(renamed to preserve anonymity, referring to: Covid Testing and Contact Tracing) as it was one of the first interventions providing SARS-CoV-2 testing and contact tracing, as well as isolation assistance (which was not central to our case study) to the general population on the Île-de-France region (including the city of Paris). Initially carried out by the regional public hospital institution, the intervention design began in April 2020 and extended over the following weeks. The analysis focused on the period corresponding to the first and second waves of COVID-19 infections, from March to December 2020.

Sampling strategy

An exploratory phase (September to November 2020) consisting of a media articles review, gray literature review and analysis of available documents enabled us to identify the key actors of CoviTCT’s design. Using a purposeful sampling strategy, we followed the principle of internal and external diversification (Pires, 1997). We reached an internal diversification by targeting a variety of actors involved in the design of CoviTCT in its central and local sites (Figure 1), which also reflected a form of diversification through their geographical locations and catchment areas.

- Local site A covered socioeconomically diverse districts of the North of Paris, from wealthy neighborhoods to deprived neighborhoods.
- Local site B covered an area of the Seine-Saint-Denis department, one of the poorest in the metropolitan France, containing a large proportion of immigrant populations.
- Local site C covered some southern districts of Paris, including wealthy and upper middle class neighborhoods.

Actors from sites A and B were the primary target participants for the study given the focus on SIH. Site C was explored in less depth but included as part of our diversification strategy and also because it was closely linked to the central site of CoviTCT.

Key actors involved in the broader governmental response to the pandemic were also interviewed to provide a better understanding of the general context in which CoviTCT was designed. We used a snowball strategy for participant recruitment over the course of the study.

Data collection

Between November 2020 and May 2021, we collected a variety of press content, gray literature and documents ($n = 15$; Appendix 1). Between December 2020 and May 2021, the first author conducted semi-structured interviews, averaging 40 min in

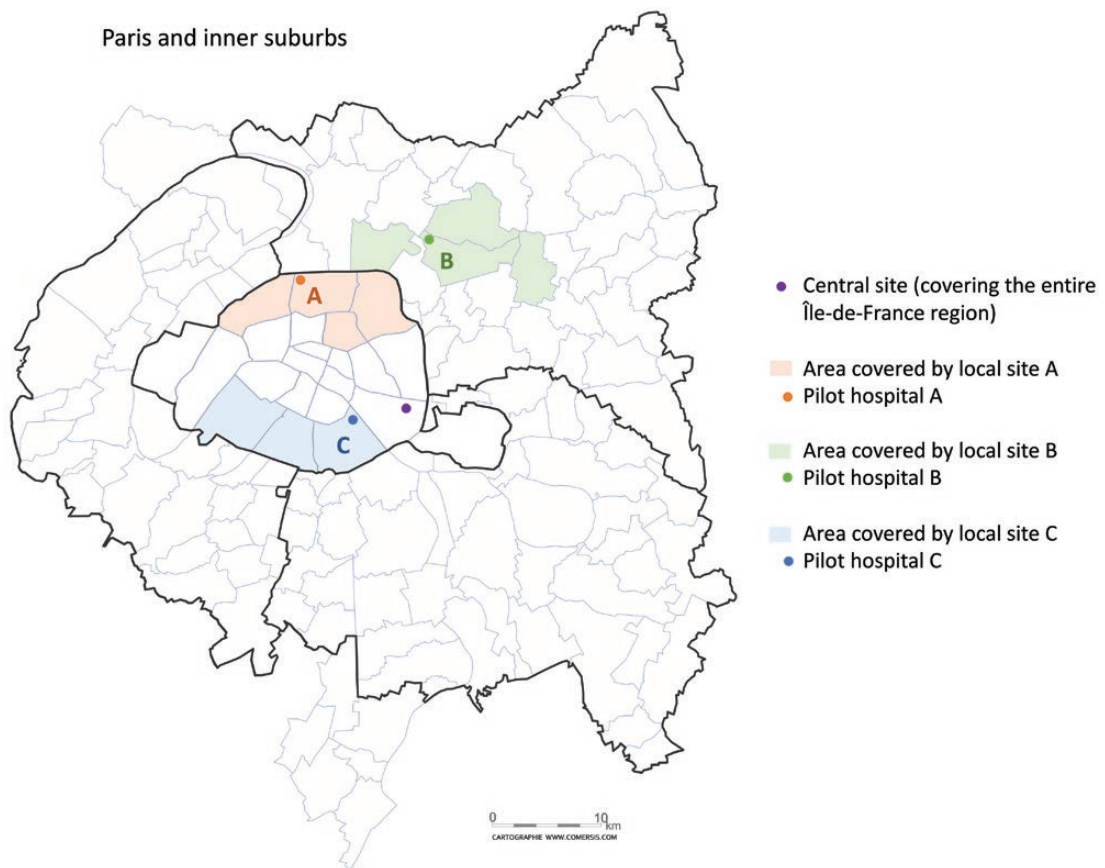


Fig. 1: Principal CoviTCT sites of investigation (Paris and inner suburbs) © Z. Richard, Ceped, IRD, 2021 | Source: ©comersis.com.

length, until the point of empirical saturation. At times, the interviews were conducted with the second and last authors. We interviewed 21 women and 15 men of all ages (between ~20 and 65 years old) who were mostly health care workers, often key actors in the central and local sites (public hospital physicians for the central and local sites (public hospital physicians for sites A and C). We also interviewed public health professionals from diverse public agencies, humanitarian professionals, members of civil society's organizations (CSOs) among others (e.g. students involved in the pandemic response as volunteers or young professionals). The interviews were conducted following a conceptual framework providing three planning dimensions with respect to SIH: Reflex-ISS (Guichard et al., 2019). In an equity perspective, this health promotion tool intends to facilitate the consideration of SIH in each stage of public health interventions (from planning to evaluation). Our research focuses on the first stage, identified as design, of a public health intervention. Beyond the focus on SIH,

interviews also included an open discussion regarding their trajectory, how they perceived their work, or their thoughts regarding the pandemic and SIH. We contacted 53 individuals via email, phone or LinkedIn messages. We carried out 33 interviews (with 36 key informants in total) between the 11 November 2020 and 24 April 2021, 19 of whom were involved in the design of CoviTCT (Figure 2).

Due to the pandemic context, 23 interviews were conducted remotely and 10 in-person. Given their active involvement with the pandemic, many of them had limited time and mental availability. Three of the respondents were met with twice as they had to end the first interview due to professional commitments. The use of videoconference and phone calls to conduct remote interviews allowed for flexible adjustment to respondents' schedules (Spagnolo et al., 2020), despite the technical challenges and the difficulty of collecting non-verbal data (Reñosa et al., 2021). These interviews were audio recorded and fully transcribed.

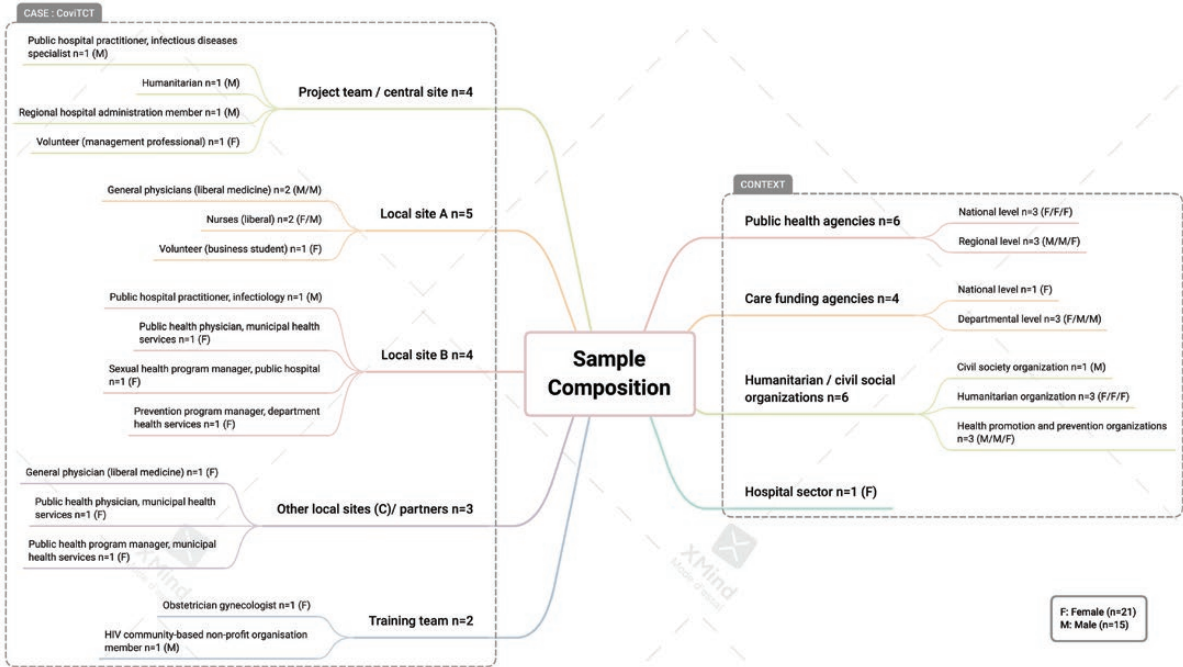


Fig. 2: Details of the sample composition.

Analytical strategy

The consistency of the findings was checked by data triangulation. We applied an inductive–deductive analysis strategy. As part of the inductive analysis, interview transcriptions were read multiple times and annotated to reflect the words of participants. This inductive analysis fostered the emergence of original elements with regards to sociological profile and trajectory of the respondents, their discourses and representations. As part of the deductive analysis strategy, the dataset was processed by MaxQDA software. The themes emerging from the inductive analysis were regrouped around the three dimensions of intervention planning according to Reflex-ISS: (i) problems and needs analysis; (ii) objectives, rationale and design of the intervention; (iii) cross-sectoral partnerships and participation of the target population (Guichard et al., 2019). In the next section, the results are presented following the deductive structure of our analysis, in the order of the three dimensions of intervention planning of Reflex-ISS. The titles reflect the main elements that emerged inductively in each of these dimensions.

RESULTS

Tackling SIH in the context of an outbreak: emergency and ambivalences *SIH taking a back seat to the health emergency*

Despite respondents' intense workload due to the pandemic response at the time of the interviews,

they made themselves available and demonstrated concern for SIH. However, SIH were rarely mentioned spontaneously by the respondents despite the explicit mention of our questioning, and none of the reviewed documents mentioned SIH. The urgency of the pandemic situation appeared to be the main concern, which resulted in narratives of haste and positive tension that seemed to inhibit critical reflection. In most of the discussion, consideration of SIH appeared to be secondary, sometimes as inappropriate, as if urgency had overshadowed the SIH challenges. For instance, a general practitioner stated that the health crisis context was incompatible with action that was proportionate to the needs of population sub-groups.

Behind diverse perceptions of SIH: the specters of poverty and exclusion

The interviews revealed the diverse representations of SIH in participants' responses. Migrant populations, particularly those living in collective accommodations, appeared as the prevailing representation for SIH, regardless of the actors' professional background. Rather than discussing SIH, participants more often focused on populations in situations of poverty and/or social exclusion. They frequently used an interchangeable vocabulary: populations 'in a vulnerable situation', 'in difficulty' or 'in a precarious situation'. At times, some actors asked about the meaning of

‘social inequalities in health’, suggesting that this topic remained confusing within the medical and humanitarian health fields.

The actors had different perceptions of SIH which appeared to be related with factors such as their domain of expertise, location of usual professional activities and epidemic response experience. The actors’ comprehension of SIH can be situated on a continuum ranging from a biomedical (focusing on the virus, universal strategy of action) to a health promotion vision (focusing on SIH: strategy based on the social determinants of health, consideration for the social gradient of health through proportionate universalism). Private medicine professionals expressed more a biomedical vision. Public medicine professionals or humanitarian professionals tended to focus more on a health promotion vision of SIH, as well as public health professionals. Regarding the location, professionals working in central Paris mostly demonstrated a biomedical comprehension of SIH, while professionals acting in the north suburb of Paris and specific popular or priority neighborhoods showed a more health promotion comprehension of SIH. Lastly, actors having a significant epidemic response experience (particularly in epidemic highly associated with SIH like tuberculosis or HIV), expressed a health promotion vision of SIH. Actors that had a little or no experience in the epidemic response focused more on a biomedical understanding of SIH.

A consensus: the unequal dimension of the pandemic

Respondents agreed on the unequal dimension of the COVID-19 pandemic. For several participants, this could be linked to a humanitarian sensitivity and experience. Various participants also expressed a keen interest in public health issues, and/or their concern for inequities resulting from field experience in COVID-19 response efforts.

All respondents agreed that different socio-economic factors may increase the vulnerability of some populations to the risk of infection of SARS-CoV-2. Most participants identified different attributes of housing (e.g. size, number of people living there) as factors that increase the risk of infection. They mentioned the likelihood of increased virus transmission among the household members and barriers to certain control and prevention measures (e.g. ability to isolate). They also pointed out financial insecurity as preventing access to personal protective equipment. A few participants mentioned barriers arising from language and health literacy challenges in terms of understanding the purpose and directions of the different control and prevention measures.

The challenging operationalization of addressing SIH during a health crisis Biomedical epidemiology framework, pragmatism and adaptations in a context of urgency

The design of CoviTCT began in April 2020. It took place in a context of scientific uncertainty regarding the virus and its modes of transmission, in addition to a scarcity of testing given material and resource constraints. Anticipating the gradual ending of the lockdown restrictions and increased transmission, a hospital physician with specialization in infectious and tropical diseases with extensive humanitarian experience, led efforts to organize teams that would visit potential patients’ homes for testing and counseling. It resulted in the transfer of a model previously implemented in Haïti for the cholera epidemic.

The primary objective of the intervention was to ‘*break the chains of [COVID-19] transmission*’ [Slideshow: presentation (CoviTCT), partners meeting of 14 April 2020] by implementing a *case targeted intervention* intended for the general population of the Île-de-France region. This strategy called for the deployment of the intervention around confirmed and suspected cases of COVID-19. The first stage, detection, illustrates the strength of the epidemiological argument and the central position of the virus in the strategy: the intervention was based on transmission hotspots. When a hotspot was confirmed, the intervention of field teams were then deployed for mass testing with the objective of controlling its spread (Beaudevin et al., 2021). Such a detection strategy appeared to be at odds with a SIH reduction approach:

‘I had put forward proposals, as I said about the mobile units, to reach the most vulnerable groups in order to re-establish certain inequalities and to reach the groups that were not going to access the system. [...] I think my proposal was perhaps a little surprising and then what I understood was that it didn’t work like that, so they didn’t see how it was going to be done. It was, for them I think my suggestion was a bit abstract’.—CoviTCT partner, AIDS non-profit organization

Yet, actors involved in the first stages of CoviTCT’s design said their intent was to differ from the criticized top-down, uniform and coercive governmental response strategies to the epidemic implemented at the time (Cambon et al., 2021). The proposal was designed as ‘pragmatic’, trust-based and ‘contextualized’. CoviTCT included a social component aimed at making this strategy compatible with a diversity of social situations and therefore improving its acceptability. Mobile teams were rolled out to conduct home

visits. They were responsible for testing at home, delivering a kit consisting of masks and hydroalcoholic gel, and fostering a partnership with the COVID-19 cases to identify and organize their isolation plan based on an assessment of their living environment. As it turned out to be necessary in some cases, they could resort to humanitarian or local social services to provide some social support (e.g. accommodations, delivery of groceries and medication) during the period of isolation. While the medical provision standard of CoviTCT was clearly defined, the design of the intervention left room for a significant amount of improvisation. This was especially true with regards to the social component, which was associated with the ability of the field teams to adapt and improvise, which were less discussed and formalized.

‘We adapted completely to this family context and with that, our team improvised in some ways, so they had their baselines for isolation, they had their baselines for advice and procedures to follow up on transmission and to make sure that it was cut off as quickly as possible and therefore, to isolate this outbreak. And so, as a result, they were improvising according to the contexts’.—Project team member

The centralized design of CoviTCT made it possible to provide a general framework that was common across all sites. Due to the urgency of the situation in terms of time and health risks, CoviTCT became active in less than a week after the beginning of its planning. The process was refined through the experimentation of different models, that was done concurrently during its implementation. The local sites developed and experimented with an operational model that was adapted to their context, which resulted in important differences between the sites in terms of how SIH were considered.

Diversity of attempts and approaches to addressing SIH in the intervention

There were important differences between the Parisian sites (A and C) and suburban site (B) regarding the way SIH were considered in the design of their respective operational models. This may be related to the socio-economic contrast of the territories with the most deprived (site A, and B to a lesser extent) to the wealthiest (site C). Initially focused on home visits, the local site A opened a testing center in October 2020, although this required a doctor’s referral until December 2020. After this date, the site’s team the team bypassed these restrictions and encouraged mass testing of the population before possible holiday gatherings. In keeping with a medical vision of caregiver—care receiver relationship,

trust was emphasized as the main factor of adherence to the intervention at this site. Interestingly, it was not always recognized that socio-economic determinants could be an issue regarding intervention implementation.

‘I think that a fairly simple [public health intervention] model, everyone adheres to it. And it’s not because it’s a person in a more precarious situation that they won’t adhere to it. What works is that people trust us. [...] It makes no difference whether they are in a precarious position or not’. General physician, local site A (Paris)

Conversely, the former coordinator of local suburban site B outlined the team’s ‘real desire to get closer to the people and to reach a population that is particularly vulnerable in comparison with private urban medicine’. As COVID-19 cases were frequently refusing home visits, the operational model of this site was quickly adapted. To foster improved accessibility and acceptability of the intervention, a testing and contact tracing alternative was developed in various centers within a municipal health network, urban private practices and a local public hospital. Patients could present without an appointment, unlike in sites A and C. The actors involved in the design of the model of site B demonstrated a critical reflection on CoviTCT and their own action regarding SIH. During his interview, the initiator of site B pointed out a ‘very clear lack of perception of deprivation in the department’ among the team that designed CoviTCT’s centralized outline. He insisted on the need to adapt the intervention model to the socioeconomic local context. Another team member regretted the non-use of proportionate-universalism approaches and stated that:

‘Basically [CoviTCT], while having noted and followed a logic that was a little bit different [...] doesn’t replace some 20 to 30 years of history of public health in France’. General and public health physician, local site B (excerpt from a conference, January 2021)

Cross-sectoral ‘partnerships’ during a health crisis: between distrust and collaboration *From hypercentralization to the multiplication of actors*

At the very beginning of the outbreak, CoviTCT’s design was characterized by its hypercentralization. The general approach of the intervention was first designed by a few influential members of the regional public hospital institution, following which a variety of actors

from different sectors became gradually involved. The implementation of the intervention was made possible by the massive mobilization of volunteers, including several hundred students and young professionals. Most of the volunteers joined the field teams after a theoretical training on interculturality, motivational interviewing and non-judgmental attitude. The training was developed by an association dedicated to fighting HIV/AIDS with extensive experience in addressing SIH. The COVID-19 cases' participation in the intervention took the form of a partnership between cases and field teams, nurtured by a relationship based on trust. Case participation remained limited to the interaction with field teams as part of the contact tracing process or organization of isolation, with no involvement of the cases in the design of the intervention itself.

The profiles of the actors varied depending on the sites. The influence of the initiator of each site appeared to be instrumental in the (re)mobilization of actors, as well as the presence of networks that existed before the pandemic. The public hospital doctor who initiated CoviTCT gathered former humanitarian colleagues, as well as hospital colleagues. Over time and following the intention not to adopt a hospital-centered approach, CoviTCT was increasingly taken over by physicians practicing private medicine (i.e. covered by the social health insurance scheme) in urban centers. In sites A and C, the private general practitioners who initiated the sites mobilized the local multi-professional health communities. As a result, both sites relied on the involvement of a majority of private medical and paramedical health professionals. The public hospital doctor who initiated site B relied on public municipal and territorial health network. In this more deprived territory, this network was already mobilized for other infectious diseases (tuberculosis, HIV/AIDS). Consequently, the main actors involved were municipal health actors, hospital professionals as well as urban private medical professionals who were mobilized via their representative organization.

A similar expansion dynamic was observed with regards to the organizations known as 'partners' of the intervention. Local public services, as well as CSOs were involved according to needs. The summer of 2020 was also associated with the increase, in number and power, of key actors involved in the deployment of testing and contact tracing government strategies. This dynamic brought together many intersectoral partners including medical NGOs and CSOs, municipalities, public social and/or health services. Participants appreciated this multi-actor and decentralized collaboration, as it was considered a valuable opportunity to try an alternative governance structure, different to the traditional silos of the health system. Respondents also emphasized the complexities of bringing cross-sectoral

partnerships to fruition due to chronic resource shortages, power imbalances and persistent misunderstandings between the partners, including SIH.

Complexities of cross-sectoral partnerships

Respondents mentioned various barriers to mobilizing cross-sectoral partners. Despite their attempts, the North Paris team was unable to mobilize social workers due to a lack of human resources, administrative complexities and fears related to the pandemic situation.

While other examples of mobilization of cross-sectoral collaborations have proven successful, the equitable dimension of the collaborations is questionable. Not all actors held the same position within the intervention. Professionals from the medical or paramedical fields were predominant in the intervention design. On the contrary, other actors, such as CSOs and social workers, mainly focused on operational aspects (i.e. intervention implementation), and were often excluded in the design or planning stages of the intervention.

Lastly, there were important differences in understanding and the vision of SIH between different professions. For example, between private medical practice and public hospital medicine:

We had set up this [local site B] as a purely public health operation, the financial dimension did not interest me and did not catch my attention. And I faced this first thing which was that the private general practitioners [...] wanted guarantees that their patients would not escape them. Like it was not normal for patients seen in a private practice to be cared in a municipal health center. And I fell off my chair because I thought, 'How can such considerations arise while we are in the middle of a health crisis and people are dropping like flies'—Hospital infectious diseases specialist, local site B

However, these divergences did not prevent valuable collaborations. The collaborations experienced between hospital medicine and private urban medicine were regularly mentioned in participants' discourse as one of the successes of CoviTCT. In contrast, they shared more reserved opinions on certain (non) collaborations, such as those between the medical and public health sectors in certain respects. Forms of diffidence and misunderstanding persisted at the expense of addressing SIH. For instance, a general physician of local site A contested the scientific basis and refused to take part in an intervention addressing SIH promoted by a regional public health institution:

The difficulty is that I never knew how [the interventions in priority neighborhoods were] done. Was it done on a scientific basis or on a political basis?

Table 1: List of the main insights per design dimension

Problems and needs analysis	<ul style="list-style-type: none"> • Despite an important concern for the unequal dimensions of the pandemic, inequalities appeared secondary to the pandemic emergency. • CoviTCT's actors did not share a consensual understanding of SIH, which were often equated to poverty and social exclusion.
Objectives, rationale and design of the intervention	<ul style="list-style-type: none"> • CoviTCT's design planning was expedited by the health emergency. • CoviTCT was based on a biomedical epidemiological approach which prevailed during the intervention design. • The social component of the intervention supported its clinical activities by addressing certain inequalities. • The approach to address SIH took different forms depending on the site of the intervention.
Cross-sectoral partnerships and participation of the target population	<ul style="list-style-type: none"> • Actors from the (para)medical fields designed CoviTCT. • Multiple cross-sectoral actors were gradually involved in the intervention. • Challenges regarding cross-sectoral partnerships hindered collective action to tackle SIH.

Because it is a priority district of the city and we see that it is necessary to go and do it there to show that people are not forgotten? Political.—General physician, local site A

DISCUSSION

Critical insights on the consideration of SIH in designing CoviTCT and COVID-19 response efforts

This case study highlighted some of the challenges of addressing SIH in the design of COVID-19 response efforts in the Île-de-France region, France (Table 1). Findings revealed diverse understanding and visions of SIH among CoviTCT's actors, as well as the complexities of mobilization and cross-sectoral partnerships. CoviTCT was rooted in and took place in a context of an organizational crisis (Bergeron et al., 2020) of a 'weak' French public health system (Gaudillière et al., 2020), and a rapidly changing and uncertain COVID-19 environment (Berger et al., 2021). Our findings emphasized an intervention design relying on the mobilization of existing configurations of actors, strategic and operational models: a phenomenon widely observed in decision-making processes in crisis contexts (Graham and Zelikow, 1999).

The urgency to act without delay rushed the design process and led to its initial centralization around medical and paramedical professionals. The intervention design was similar to the general dynamics of the pandemic response in France. The lack of pandemic preparedness (Bergeron et al., 2020) resulted in an overrepresentation of medical elites compared to public health professionals and institutions (Rozenblum, 2021). There was little room for co-creation or the structuring of collective action around the consideration of SIH in the design of the intervention. The actors faced widespread challenges in the design of public health interventions such as power inequities

(Friel et al., 2021) and difficulties regarding intersectoral action (Bilodeau et al., 2018; Friel et al., 2021). Among CoviTCT's actors, SIH was mostly related to situations of great poverty or exclusion, notably migrant populations, at the extreme end of the social gradient in health which correlates position in the social hierarchy with health condition of individuals. These findings reflect the challenges associated with the historic lack of understanding of social determinants of health and SIH within the French healthcare system (Fassin et al., 2000, Aïach, 2008). Medical training and the professional culture often overlook these concepts (Jourdan et al., 2012) and has previously raised concerns about continued discrimination (Carini-Belloni and Vuattoux, 2020).

The analysis of public policies (Béland et al., 2010) invites us to dwell on the representations of the problem and problematization (Bacchi, 2016). Initially designed and implemented to address a severe medical humanitarian emergency (cholera) in Haiti, the intervention was urgently transferred to France to fight against COVID-19 despite the differences regarding the diseases and national contexts. For Ridde and Guichard, 'the way in which the causes of health inequalities are understood and socially constructed will influence not only the decision to take action but also the methods of action' (Ridde and Guichard, 2008). This translocation highlights CoviTCT's links with humanitarian approaches, social medicine and social epidemiology all widely developed in southern countries. Even so, centered on the virus and contaminations, around the COVID-19 positive patients, the model of CoviTCT participated in (re)producing a predominant clinical framing (Benford and Snow, 2000) of the pandemic situation. The similar intervention deployed to fight cholera in Haiti was considered to have a predominantly biomedical public health approach (Ridde, 2021). In CoviTCT, when there was consideration for SIH, it was as an element complementing the clinical epidemiology strategy of the intervention and supporting its

ultimate clinical achievement: breaking the chains of transmission.

Despite the focus on Paris for this case study, these findings echo that of the broader response to the COVID-19 pandemic globally. Health promotion and its objective of reducing SIH appeared to have been mostly neglected (Cambon et al., 2021; Ndumbe-Eyoh et al., 2021). Our use of the Reflex-ISS tool (Guichard et al., 2019) and a public policy analysis approach emphasized that, while the pandemic was the occasion for a ‘rediscovery’ of the SIH issue (Kawachi, 2020), it did not constitute a window of opportunity (Kingdon, 1995) favorable for their consideration. Our findings have highlighted the need to improve the understanding and working on SIH during ‘routine’ periods. It appeared paramount to promote SIH consideration in crisis situations, when standard operating procedures take precedence (Graham and Zelikow, 1999). Recent innovations such as the plan to fight SIH adopted by the Île-de-France regional health agency show that in the pandemic context, SIH have become the major priority for action within certain public health institutions. The COVID-19 crisis has not only demonstrated that a collective and formalized fight against SIH was crucial, but also that it was possible.

Investigating SIH consideration in intervention design: strengths and limitations

Our investigation provides methodological and theoretical insights on the use of Reflex-ISS as a research tool in health promotion research in the COVID-19 pandemic context. The use of the Reflex-ISS tool as a basis for data collection made it possible to focus the interviews on elements directly related to CoviTCT’s design and on the consideration of SIH. Participants’ tendency to focus on action narratives not centered on SIH suggested that this approach may be preferable in crisis situations. However, the semi-structured interviews based on Reflex-ISS constrained the participants’ discourse while the pandemic context was not optimal for reflective considerations on the design of emergency interventions. It sometimes put respondents in an uncomfortable position by urging them to focus on topics or aspects that appeared difficult to grasp in a health crisis situation. Also, the design and implementation appeared to be intertwined in the context of COVID-19 outbreak and difficult to distinguish at the operational level. From this standpoint, the temporality of our investigation also represented a limitation. It began in September 2020 to June 2021, several months after the initial design we were investigating. The initial design was likely subject to poor recall for various key respondents, given the time delay from when they were interviewed to the time period of interest.

These different points highlight the importance of using an analytical approach with an inductive dimension. Our hybrid approach to analysis enabled us to complete the deduction based on the Reflex-ISS tool. If we had limited ourselves to the components of the Reflex-ISS tool (i.e. deductive approach), our analysis would have emphasized negative aspects (e.g. respondents’ lack of consideration for SIH). The inductive analysis made it possible to analyze the rich empirical material in the respondents’ own words and provide more nuance on respondents’ accounts and understanding of SIH. For instance, it allowed us to perceive the staggering urgency weighing on the actors; the clinical framing of the pandemic among the actors; or the determinants of the barriers to consideration of SIH in the design of the intervention. From an epistemic point of view, this allowed the Reflex-ISS framework to be mobilized as a conceptual framework versus a normative framework.

Lastly, the discussion of these results from public health and political science perspectives fostered a holistic understanding of the design process which is not only the result of individual decisions. This approach made it possible to consider the pandemic conjuncture and, at a broader scale, structural socio-political dynamics that influenced CoviTCT’s design.

CONCLUSION

Our research emphasized the numerous challenges of tackling SIH in context of the COVID-19 pandemic. A collective vision and intersectoral action against SIH did not occur during the initial design of CoviTCT, and instead, a biomedical approach prevailed (Cambon et al., 2021). This biomedical approach to public health interventions and the omission of SIH in the initial design has been common in France (Aïach and Fassin, 2004).

Positioning a SIH reduction approach as a complement to dominant biomedical strategies can mitigate some of the inequitable effects of an intervention. However, it will be insufficient to address their systemic and structural (i.e. upstream) nature. The experience of the COVID-19 pandemic highlights the crucial need of promoting and formalizing SIH reduction approaches. Socio-environmental developments suggest that pandemic events will increase in the coming years. From a dual perspective of social justice and epidemiological coherence, the COVID-19 pandemic has highlighted that SIH need to be considered as the basis of infectious diseases response, regardless of the emergency context.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest regarding the research, authorship and publication of this article.

ETHICS APPROVAL

The ‘Comité d’Évaluation de l’Éthique des projets de Recherche Biomédicale (CEERB) Paris Nord’ (IRB: 00006477) has reviewed and approved the research project in 2020.

REFERENCES

- Aiach, P. (2008). Conclusion. In *Lutter contre les inégalités sociales de santé*, par Pierre Aiach, Presses de l’EHESP, pp. 271–79. <https://www.cairn.info/lutter-contre-les-inegalites-sociales-de-sante--9782859529840-page-271.htm>
- Aiach, P. and Fassin, D. (2004) [The origins and foundations of social inequalities in health]. *La Revue du Praticien*, 54, 2221–2227.
- Bacchi, C. (2016) Problematizations in health policy: questioning how “problems” are constituted in policies. *SAGE Open*, 6, 215824401665398, <https://doi.org/10.1177/2158244016653986>
- Bajos, N., Warszawski, J., Spire, A., Martin, C., Meyer, L., Lydié, N. (2020) Les inégalités sociales au temps du COVID-19. *IRESP, Questions de santé publique*, n 40: 12.
- Bambra, C., Riordan, R., Ford, J. and Matthews, F. (2020) The COVID-19 pandemic and health inequalities. *Journal of Epidemiology and Community Health*, 74, 964–968, <https://doi.org/10.1136/jech-2020-214401>
- Baqui, P., Bica, I., Marra, V., Ercole, A. and van der Schaar, M. (2020) Ethnic and regional variations in hospital mortality from COVID-19 in Brazil: a cross-sectional observational study. *The Lancet. Global Health*, 8, e1018–e1026, [https://doi.org/10.1016/S2214-109X\(20\)30285-0](https://doi.org/10.1016/S2214-109X(20)30285-0)
- Beaudevin, C., Berlivet, L., Boudia, S., Bourgain, C., Cassier, M., Gaudillière, J. -P. et al. (2021) ‘Test, test, test!’: scarcity, tinkering, and testing policy early in the COVID-19 epidemic in France. *Medicine Anthropology Theory*, 8, 1–31, <https://doi.org/10.17157/mat.8.2.5116>
- Béland, D., Henry Cox R., (éd) (2010). *Ideas and Politics in Social Science Research*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199736430.001.0001>
- Benford, R. D. and Snow, D. A. (2000) Framing processes and social movements: an overview and assessment. *Annual Review of Sociology*, 26, 611–639.
- Benitez, J., Courtemanche, C. and Yelowitz, A. (2020) Racial and ethnic disparities in COVID-19: evidence from six large cities. *Journal of Economics, Race, and Policy*, 3, 243–261, <https://doi.org/10.1007/s41996-020-00068-9>
- Berger, L, Nicolas, B., Valentina, B., Itzhak, G., Hansen, L.P., Christopher, J. et al (2021) Rational policymaking during a pandemic. *Proceedings of the National Academy of Sciences*, 118, <https://doi.org/10.1073/pnas.2012704118>
- Bergeron, H., Borraz, O., Castel, P., Dedieu, F. (2020). *Covid-19: une crise organisationnelle*. <http://journals.openedition.org/lectures>. Première édition. Les Presses de Sciences Po. <http://journals.openedition.org/lectures/44142>
- Bilodeau, A., Laurin, I., Giguère, N. and Potvin, L. (2018). Understanding the challenges of intersectoral action in public health through a case study of early childhood programmes and services. *Critical Public Health*, 28, 225–236, <https://doi.org/10.1080/09581596.2017.1343934>
- Cambon, L., Bergeron, H., Castel, P., Ridde, V. and Alla, F. (2021). When the worldwide response to the COVID-19 pandemic is done without health promotion. *Global Health Promotion*, 28, 3–6, <https://doi.org/10.1177/17579759211015129>
- Carey, G., Brad, C. and De Leeuw, E. (2015) Towards health equity: a framework for the application of proportionate universalism. *International Journal for Equity in Health*, 14, 81, <https://doi.org/10.1186/s12939-015-0207-6>
- Carini-Belloni, B. and Vuattoux, A. (2020). Déjouer l’invisibilisation des discriminations. *Emulations - Revue de sciences sociales*, 35–36, 153–167, <https://doi.org/10.14428/emulations.03536.11>
- Castex, J. (2020). *Plan de préparation de la sortie du confinement*. Premier Ministre, Paris, France.
- Fassin, D., Grandjean, H., Kaminski, M., Lang, T., Leclerc, A. (2000). *Introduction. Connaître et comprendre les inégalités sociales de santé*. In *Les inégalités sociales de santé*, par Didier Fassin, Hélène Grandjean, Monique Kaminski, Thierry Lang, et Annette Leclerc, 13–24. *Recherches*. La Découverte. <https://www.cairn.info/les-inegalites-sociales-de-sante--9782707132475-page-13.htm>
- Friel, S., Townsend, B., Fisher, M., Harris, P., Freeman, T. and Baum, F. (2021) Power and the people’s health. *Social Science & Medicine*, 282, 114173, <https://doi.org/10.1016/j.socscimed.2021.114173>
- Gaudillière, J-P, Izambert, C., Juven, P-A. (2020) *Pandémopolitique. Réinventer la santé en commun*. La Découverte. <https://www.decitre.fr/livres/pandemopolitique-9782348066153.html>
- Graham, A, Zelikow, P. (1999). *Essence of Decision: Explaining the Cuban Missile Crisis*. 2e éd. Longman. https://catalogue-bibliotheque.sciencespo.fr/discovery/fulldisplay/alma991002125549705808/33USPC_SPO
- Guichard, A., Tardieu, E., Nour, K., Lafontaine, G. and Ridde, V. (2019) Adapting a health equity tool to meet professional needs (Québec, Canada). *Health Promotion International*, 34, e71–e83, <https://doi.org/10.1093/heapro/day047>
- Jourdan, D., O’Neill, M., Dupéré, S. and Stirling, J. (2012) Quarante ans après, où en est la santé communautaire? *Sante Publique*, 24, 165–178.

- Kawachi, I. (2020) COVID-19 and the 'rediscovery' of health inequities. *International Journal of Epidemiology*, **49**, 1415–1418, <https://doi.org/10.1093/ije/dyaa159>
- Kingdon, J. W. (1995). *Agendas, Alternatives, and Public Policies*. Harper Collins College Publishers, New York, NY.
- Kirksey, L., Tucker, D. L., Taylor, E., White Solaru, K. T. and Modlin, C. S. (2021) Pandemic superimposed on epidemic: covid-19 disparities in Black Americans. *Journal of the National Medical Association*, **113**, 39–42, <https://doi.org/10.1016/j.jnma.2020.07.003>.
- Mangeney, C., N. Bouscaren, M. Telle-Lamberton, A. Saunal, V. Féron (2020). La surmortalité durant l'épidémie de Covid-19 dans les départements franciliens. *Focus santé en Île-de-France*. Observatoire régional de la santé, Paris. <https://www.ors-idf.org/nos-travaux/publications/la-surmortalite-durant-lepidemie-de-covid-19-dans-les-departements-franciliens.html>.
- Marmot, M. and Allen, J. (2020) COVID-19: exposing and amplifying inequalities. *Journal of Epidemiology and Community Health*, **74**, 681–682, <https://doi.org/10.1136/jech-2020-214720>
- Mathevet, I., Ost, K., Traverson, L., Zinszer, K. and Ridde, V. (2021) Accounting for health inequities in the design of contact tracing interventions: a rapid review. *International Journal of Infectious Diseases*, **106**, 65–70, <https://doi.org/10.1016/j.ijid.2021.03.010>
- Ndumbe-Eyoh, S., Muzumdar, P., Betker, C., Oickle, D. 2021. 'Back to better': amplifying health equity, and determinants of health perspectives during the COVID-19 pandemic. *Global Health Promotion*, mars, 17579759211000976. <https://doi.org/10.1177/17579759211000975>
- Niedzwiedz, C. L., O'Donnell, C. A., Dinesh Jani, B., Demou, E., Ho, F. K., Celis-Morales, C. *et al.* (2020) Ethnic and socioeconomic differences in SARS-CoV-2 infection: prospective cohort study using UK Biobank. *BMC Medicine*, **18**, 160, <https://doi.org/10.1186/s12916-020-01640-8>
- Ost, K., Duquesne, L., Duguay, C., Traverson, L., Mathevet, I., Ridde, V. *et al.* (2022) Findings from a scoping review. *Journal of Clinical Epidemiology*, **143**, 30–60, <https://doi.org/10.1016/j.jclinepi.2021.11.030>
- Pires, A. P. 1997. Échantillonnage et recherche qualitative: essai théorique et méthodologique. In *La recherche qualitative. Enjeux épistémologiques et méthodologiques. Classiques des sciences sociales*. 2941. J.-M. Tremblay, Chicoutimi, pp. 113–69. <https://doi.org/10.1522/030022877>
- Reñosa, M. D. C., Mwamba, C., Meghani, A., West, N. S., Hariyani, S., Ddaaki, W. *et al.* (2021) Selfie consents, remote rapport, and zoom debriefings: collecting qualitative data amid a pandemic in four resource-constrained settings. *BMJ Global Health*, **6**, e004193, <https://doi.org/10.1136/bmjgh-2020-004193>
- Ridde, V. (2021). *L'épidémie de choléra en Haïti: histoire d'un fiasco des Nations Unies et de la persévérance d'un (collectif) chercheur français*. <https://doi.org/10.48327/5R6A-5R79>
- Ridde, V., Guichard A. (2008). 4 – Réduire les inégalités sociales de santé: aporie, épistémologie et défis. In *Lutter contre les inégalités sociales de santé. Politiques publiques et pratiques professionnelles, par Christophe Niewiadomski et Pierre Aïach*, 290. *Recherche, santé, social*. Presses de l'EHESP. <https://www.cairn.info/lutter-contre-les-inegalites-sociales-de-sante--9782859529840-page-57.htm>
- Rozenblum, S. D. (2021). France's multidimensional COVID-19 response: ad hoc committees and the sidelining of public health agencies. In coronavirus politics, édité par Scott L. Greer, Elizabeth J. King, Elize Massard da Fonseca, et André Peralta-Santos. *The Comparative Politics and Policy of COVID-19*. University of Michigan Press, pp. 264–79. <https://www.jstor.org/stable/10.3998/mpub.11927713.17>
- Spagnolo, J, Lara, G., Mathieu, S., et Nicole Anne, D. (2020) Re-thinking global and public health projects during the COVID-19 pandemic context: considerations and recommendations for early- and not-so-early-career researchers. *Social Sciences & Humanities Open*, **2**, 100075, <https://doi.org/10.1016/j.ssaho.2020.100075>
- Vandentorren, S., Smaili, S., Chatignoux, E., Maurel, M., Alleaume, C., Neufcourt, L. *et al.* (2022) The effect of social deprivation on the dynamic of SARS-CoV-2 infection in France: a population-based analysis. *The Lancet Public Health*, **7**, e240–e249, [https://doi.org/10.1016/S2468-2667\(22\)00007-X](https://doi.org/10.1016/S2468-2667(22)00007-X)