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ARTICLE

France's response to the Covid-19 pandemic: between a rock and a hard place

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Abstract

France is one of the European countries hardest hit by the Covid-19 pandemic. The pandemic brought into light structural weaknesses of the health system, including its governance and decision-making process, but also provoked changes that helped to improve its resilience. We analyse the French experience of Covid-19 in 2020 by critically reviewing major policy measures implemented during the first two waves of the pandemic. France has struggled to find the right balance between the rock of economic and social damage caused by containment measures and the hard alternative of a rapidly spreading pandemic. The response to the first wave, including a full lock-down, was an emergency response that revealed the low level of preparedness for pandemics and the overly hospital-centred provision of health care in France. During the second wave, this response evolved into a more level strategy trying to reconcile health needs in a broader perspective integrating socio-economic considerations, but without fully managing to put in place an effective health strategy. We conclude that to achieve the right balance, France will have to strengthen health system capacity and improve the cooperation between actors at central and local levels with greater participatory decision-making that takes into account local-level realities and the diversity of needs.

Keywords: Coronavirus; France; health governance; policy measures

1. Introduction

In France, the first three cases of Covid-19, directly connected to the Wuhan region of China, were reported on 24 January 2020 and the first fatality on February 15. As of mid-November 2020, France had one of the highest rates of prevalence in Europe, with more than 2 million Covid-19 cases or around 32 reported cases per 1000 inhabitants (French Public Health Agency, 2020a). As many other countries in the world, France was unprepared when the pandemic hit: there were not enough masks nor tests, and in addition many public hospitals were on strike. The policy response that was adapted as the situation unfolded has been to build a national consensus around strong measures. While it is too early to make a full assessment of the economic, social, health and psychological impacts of the Covid-19 policy in France, it is possible to identify some strengths and weaknesses of the measures introduced since the beginning of the pandemic. At the time of writing this article, France was under a second national lock-down, which was deemed necessary for saving the hospital system, but threatens the future of many small businesses.

The Covid-19 pandemic brought into light the fragilities but also the strengths of the French health system. On the one hand, France benefits from a universal health insurance system, a

centralized presidential regime with a strong public administration, which in theory means that rapid and country-wide decisions can be made. France also has a relatively high number of health care professionals and hospital beds compared to many other European countries. On the other hand, the French system is complex, and the coordination between the different parts of the care system is known to be weak, making it harder to take a joined-up response involving primary and social care providers and hospitals. Moreover, just before the pandemic hit, the public health system had been affected by months-long protests and strikes by hospital personnel demanding more resources.

In this paper, we analyse the French experience of Covid-19 by critically reviewing major policy measures put in place during the first wave and the second wave of the pandemic (between February and December 2020). We focus on health policy measures and available information on their impact by drawing on recent data, articles, policy reports and official evaluations of the COVID-19 policy in France. In the first section, we present the policy response to the first wave of the pandemic, which peaked during March–April 2020 in France. We describe the public health measures, organization of prevention, tests and health care during the initial emergency phase. The second section sets out the alterations over time, in particular concerning the testing strategy and health care provision between the two waves, and during the second wave as of today (mid-December 2020). The final section provides a discussion of these measures. We conclude that for achieving the right balance between containing the spread of the virus and limiting the economic damages, France will have to strengthen health system capacity and improve the cooperation between health actors at central and local level with greater participatory decision-making that takes into account local-level realities and the diversity of needs.

2. Policy response to the first wave: We are at war!

The news regarding the fact that an unknown coronavirus had appeared in China, even when it arrived in Italy, did not have much effect in France, where political attention was on the strikes against a planned pension reform and on forthcoming local elections. The early communications of the government were to assure the population that the probability of the virus spreading in France was low. However, following the rapid spread of the virus in France towards the end of February, the government, totally unprepared for a pandemic, decided to give a strong policy response by treating this new virus as a national enemy. The policy was largely defined by the number of cases on the national territory and its spreading rate (French Public Health Agency, 2020b). The measures against the pandemic were integrated into a national plan with four stages driving the stringency of actions as a function of its spread. The first stage consisted of 'stopping' the introduction of the virus on the national territory (from 23 February 2020). In practice, this meant that, towards the end of February, people were advised to limit international travel. Travel restrictions initially concerned mainly China and the countries where the virus was already highly prevalent, but the management of international travel and quarantine measures was incoherent. Initially, in February, people coming from the Wuhan region in China were put into quarantine for 14 days in the south of France in holiday facilities. But when the virus arrived in Italy, the policy was to recommend that people who had arrived from Italy or been in contact with people from Northern Italy self-quarantine at home for 14 days, without any coercive measures. The second stage (reached on 29 February 2020 with the identification of several clusters in France) consisted of limiting the spread of the virus on the national territory. The first national restrictions were the ban of large public meetings (8 March 2020), and of all visits to residential nursing homes (11 March). The third stage (reached on 14 March) consisted of reducing the effects of the pandemic on the hospital system, and led to a national lock-down for nearly two months.

On 12 March 2020, President Macron announced in a solemn speech that the Nation was 'at war', using a war terminology close to that of President Hollande after the terrorist attacks in

Paris in November 2015. Macron set two priorities: saving lives 'at all costs' by stopping the spread of the virus; and saving the Nation's economy.

The government imposed a set of social restriction measures, including, from 14 March 2020, closures of all schools and universities and all other public places, except essential shops. But, backed up by the scientific committee, the first round of the municipal elections on 15 March was maintained. Between 13 and 15 March, the declared incidence of Covid-19 has doubled. Consequently, the President announced a restrictive total lock-down policy from 18 March onwards. All employers were asked to put in place teleworking for their employees. Only people providing essential services (including health, medical research, production of essential goods, etc.) were allowed to go to work. Otherwise, a written justification was required for going out (only for getting food, medical reasons or short recreation activities of a maximum of one hour and in the residential area). Those who did not respect the rules were fined up to €450 (minimum of €135) and, after four fines, six months of prison. The conditions of the lock-down became progressively stricter with the closure of open food markets, parks, forests, beaches, and an intensification of police controls to enforce the stay-at-home policy. The lock-down, which was lifted in a progressive manner between 11 May and early June 2020, was considered as 'successful' in limiting the number of Covid-19 cases, but it had a very high economic and social cost, only partly measured up until now, as we will discuss later.

2.1 A strong central response that overlooked local situations and actions

The Covid-19 policy was piloted at the national level directly by the government with the support of a scientific committee, consisting of experts mainly in epidemiology and medicine. The scientific committee advised in particular on the policy for limiting the spread of the pandemic and the number of hospitalizations without equally considering the negative consequences of different measures on other health problems, social life and economy. An emergency legislation was adopted on 23 March 2020 to introduce a state-of-health emergency which allowed the government to take exceptional measures without any parliamentary procedure until July 2020. Decision-making at the local level was severely restricted; the State Council ruled in April that municipalities and local authorities (*départements*) were not allowed to take any decisions different from the national emergency legislation (French State Council, 2020).

This top-down health governance ignored the significant variations between regions in terms of local epidemiological situation and clusters, health care needs, health workforce and care configuration (French Public Health Agency, 2020b). Health professionals in some regions complained about the slow reaction of the administration to their needs and suggestions (Bergeron *et al.*, 2020). The crisis also revealed the structural weaknesses in health governance (Pittet *et al.*, 2020). It highlighted in particular the bureaucracy in the relations between the Ministry of Health and its local organs (especially the Regional Health Agencies, ARS), the structural weaknesses of these for supporting local logistics and supply, and the difficulties, at the local level, of articulating health (managed by ARS) and social care policies (managed by local authorities). Moreover, the lack of clear communication on the measures introduced and the arbitrary nature of some restrictions in particular concerning visits in nursing homes were highly criticized. The speed of political decisions meant also a lack of consultation with concerned actors and transparency on the decision-making process. The aftermath of the first lock-down, which ended on 11 May 2020, was characterized by demands for greater accountability for the government's actions during the first wave of the pandemic. Three committees were set up to investigate the management of the Covid-19 pandemic by the government and its impact on major democratic rights by the National Commission on human rights, the Senate and the National Assembly. Between the two waves, some power over the Covid-19 policy was finally shifted to local authorities. In particular, prefects were given the authority to adopt necessary measures based on the local epidemiological situation.

2.2 Prevention and testing policies driven by the absence of protective materials and tests

France was slow in implementing the first preventive measures such as official advice on hand hygiene and respiratory etiquette. It is only after the detection of the first transmission cluster on the French territory on 17–24 February 2020 (a religious gathering in Mulhouse) that regular communication on hand hygiene, social distancing and, later on, the importance of self-isolation was started. However, announcements about if and when to use masks were incoherent during the first months of the pandemic. Without openly admitting a scarcity of masks, the government initially declared that masks were not useful for everyone (and could be even dangerous if not used properly) and must be reserved for health care workers and other professionals at high risk of contamination as well as for infected patients. Finally, following a declaration from the Academy of Medicine, in early April, suggesting that a widespread use of masks in the general population was necessary (French Academy of Medicine, 2020), the government's communication started to shift. By July 2020, when masks became easily available, the use of face masks became compulsory at a national scale in all closed public spaces; this was later extended to outdoor places on most of the French territory by September 2020.

In fact, since the H1N1 pandemic in 2009, when the government was accused of over-reacting by massively stocking masks and vaccines, the policy of consecutive governments has been to reduce the national reserve of masks. Ironically, in 2018, after an inspection of the national stock showing that a large part of the reserve consisted of expired masks, the French Public Health Agency recommended to the General Director of Health to destroy and replace the stocks acquired in the 2000s. About 250 million surgical masks were destroyed in 2019 and another 350 million were to be destroyed in early 2020 (Borowczyk and Ciotti, 2020). The Ministry of Health considered that the national reserve was too big, since the responsibility of storing protective materials (including masks) had been transferred to individual health care facilities and to self-employed physicians. Most of the health care professionals outside hospitals were ill-equipped to protect themselves in March, and they had to wait several weeks before having access to masks. Some health professionals, such as physiotherapists or dentists, were not considered as pivotal at that stage and were unable to work until the end of the first lock-down.

In the first weeks of March, when the number of patients with Covid-19 symptoms was still low (under 7000), each suspected case was tested (French Public Health Agency, 2020b), but this policy soon became impossible to maintain as numbers grew given the limited stock of tests. Consequently, systematic testing was quickly limited to individuals with Covid-19 symptoms who were hospitalized and hospital professionals. More than 70% of the tests during the first wave (March–April 2020) were carried out in hospitals (French Public Health Agency, 2020c). Testing capacity in the community remained very low during the first wave and tests were only allowed upon a medical prescription reimbursed at 60% of the tariff set by the social health insurance (SHI).

The testing policy only changed in May to prepare the exit from the national lock-down (French Ministry of Health, 2020a). By then the government had massively increased the national production of tests and face masks and secured importations. In order to increase the testing capacity, all private and public laboratories (including those for research and veterinarian labs) were requested to support public laboratories. The research laboratories had been asking for authorization to provide Covid-19 tests since mid-March, but somehow their proposition to support testing did not get heard until May 2020 (Borowczyk and Ciotti, 2020). The end of the lock-down was accompanied by systematic testing of health professionals in the community, elderly and vulnerable individuals and, progressively, of any person who wished to be tested. PCR tests have been fully reimbursed by the SHI since the end of the lock-down, and since the end of July, there is no need for a prescription to have a test free of charge. By mid-September, laboratories had started to struggle to meet the rapidly increasing demand for tests. Despite the high number of tests provided (around 1 million per week), without any guidelines for prioritising high-risk

groups, this strategy resulted in long waiting times both for having a test and obtaining the results, and thus largely hindered the possibility of quick contact tracing and isolation of patients, although situations differed between regions.

2.3 Health care provision centred on Covid-19 patients, neglecting the needs of other patients

During the early days of the pandemic, all suspected cases of Covid-19 were referred to hospitals which were the main actors in treating Covid-19 patients. There was not an immediate reconfiguration of services in hospitals, and the role of primary care physicians in the prevention and management of Covid-19 cases was not clear at all. Eventually, a care pathway for Covid-19 patients was defined at the national level, recommending that, in the absence of any complication, patients should contact their regular doctor, preferably through online consultations. Teleconsultations were already encouraged and reimbursed in France under certain conditions. During the pandemic, they were strongly supported by the SHI fund, which declared that all online consultations (including care not related to Covid-19 and by non-physician providers) would be reimbursed at 100% (instead of 70% normally). Consequently, the use of telemedicine increased exponentially to account for 11% of all consultations in March and almost 30% in April, in comparison to 1% before the sanitary crisis (SHI, 2020a, 2020b). Persons with any signs of complications of Covid-19 were asked to call emergency mobile services which organized transfers to hospitals. However, there was no dedicated number for these calls, which particularly complicated the access to emergency services for people with other health problems (stroke, heart attack, etc.). This is still the case in December 2020.

An analysis of care pathways of Covid-19 people hospitalized during the first wave showed that the majority (74%) were treated in conventional wards and discharged back home, 19% died, 7% were treated in rehabilitation units or in intensive care units (ICU). It is worth noting that, after adjustment for age and sex, hospital mortality decreased over time during the first wave (March–June 2020) and is expected to be further decreased during the second wave. This can be explained by an improvement in the management of patients by hospital teams with better knowledge of the disease and shorter delays in response (Courtejoie and Dubost, 2020).

The Ministry of Health produced guidelines to organize hospital care pathways that separated Covid-19 cases (including suspected cases) from other patients and encouraged hospitals to set up direct admission procedures for suspected Covid-19 patients whenever possible, in order to bypass emergency departments to preserve them from infection (French Ministry of Health, 2020b). Hospitals also developed and expanded, albeit with different speed, online consultations and monitoring, following the recommendations and supported by a new fee schedule (French Ministry of Health, 2020c).

In the hospital sector, the emergency 'White Plan' was launched early March 2020 at the national level, and meant that most hospital care was cancelled or rescheduled to spare capacity for the influx of Covid-19 patients. In early March, there were about 5400 resuscitation beds in France as well as 5800 intensive care beds (French Ministry of Health, 2020d). In the early days of the pandemic, while public hospitals were flooded and under high tension, private clinics in the same regions were underutilized and waiting for patients, although some lent their nursing staff to public hospitals. In some regions, instead of mobilising local capacity, patients were transferred by medical trains and helicopters to less affected regions, including neighbouring countries. The military and volunteers from the national medical care reserve were brought in to help overwhelmed hospitals. The resuscitation capacity pushed up to 8000 beds quickly by April 2020 with temporary authorizations given to both public and private hospitals and a regional centralized allocation of patients (AP-HP, 2020).

During the first wave, little attention was given on maintaining care for non-Covid-19 patients (Borowczyk and Ciotti, 2020). In May, the SHI observed a significant drop in all types of medical consumption, and started a campaign for resuming care for other patients, especially chronically

ill, by supporting tele-consultations. This also helped self-employed health professionals working in the ambulatory sector who experienced a significant loss of income due to reduced demand for care. Despite the efforts deployed by hospitals, the admissions for acute events (such as stroke or acute myocardial infarction) are estimated to have dropped by 30–40% during the lock-down. Data from the first two trimesters of 2020 also suggest that it is impossible to catch up with the delayed diagnostic and preventive services (Dubost *et al.*, 2020).

Ironically, the SHI fund had to cover the lost income because of low activity both for health professionals in the ambulatory sector and for hospitals which reduced their overall activity. In May, the government also offered financial bonuses for the health care staff working in hospitals and in care homes who participated in the handling of the crisis, but forgot those who worked at patients' home.

More generally, the health crisis provoked by the Covid-19 highlighted the need for accelerating the structural reforms to strengthen the health system, in particular, the need for improving the working conditions of health workers in hospitals and nursing homes (Milon *et al.*, 2020). It also underscored the need for improving local coordination of care provision. At the end of May, the Ministry of Health started a national consultation involving all stakeholders for improving care organization and remunerations ('*Ségur de la santé*') (French Ministry of Health, 2020e). The Prime Minister announced a €6 billion investment package for the health sector over five years. But, despite the agreement on the need to improve the working conditions of caregivers (especially nurses and elderly care providers) who have been on the frontline, the immediate investment in salaries was very weak, a small wage increase of less than €100 per month for nurses working in hospitals, with a promise of a similar further increase in 2021.

3. Policy response to the second wave: blowing hot and cold

During October 2020, the government came under increasing pressure to take 'strong action' as a result of a rapid increase in the number of positive Covid-19 cases (around 10,000 cases per day early October, 20,000 cases mid-October and 40,000 cases per day at the end of October) and hospitalizations (from around 4000 at the beginning of October to around 17,000 at the end of the month) (French Public Health Agency, 2020d).

Hard-pressed by the scientific committee and hospital doctors, the central government took over again the reins of the Covid-19 policy, and first imposed restrictive measures at local levels, without always consulting local authorities, then re-established the state-of-health emergency in mid-October (to last at least until mid-February 2021). During September and October, most attention was given to negotiating restrictive measures, which included the closure of bars, cafés and sport clubs, etc. On October 14, a night curfew was introduced from 9pm to 6am first in Paris and eight other large cities. This curfew hit the restaurant and entertainment sectors hard, as they were still struggling to recover from the first lock-down. Despite all these measures, the number of cases continued to increase, and a national lock-down was announced on 4 November 2020, for one month. As in the first lock-down, all shops and services had to close, except those considered as essential. This time, however, considering the negative impact of school closures on education and on children's well-being, nurseries, primary, middle and high schools remained open. Also, following the plaints of families and health professionals on the negative effects of isolating fragile older people, visits in nursing homes were allowed, under strict sanitary protocols. The loneliness and isolation experienced by elderly people in nursing homes during the first lockdown had led to substantial suffering for them and their families. Moreover, it appears that these restrictive measures, without enough attention to hygiene and protection of personnel working in these places, were ineffective. More than a third of all Covid-19-related deaths occurred in nursing homes during the first wave (INED, 2020), not counting the additional deaths that occurred because some older people lost the will to live. Another important difference compared to the first lock-down is that, this time, the government

allowed for more flexibility for work activities, which were encouraged to continue. All public services (post offices, public gardens, municipal services, etc.), food markets and some hotels for business trips kept operating. Working remotely from home was highly encouraged but employees who had a certificate from their employer were allowed to commute to their workplace. The cost of one month of lock-down for the government was initially estimated to be about €6 billion. Faced with the anger and depression of small businesses provoked by the new lock-down, the government increased the supportive measures with a cost of about €20 billion (French government, 2020).

3.1 A strong deployment of tests without targeting, quick tracing and effective isolation

Despite the increasingly high number of tests carried out (from about 200,000 tests per week in May to more than 1 million per week from September onwards), this has not been accompanied by effective tracing and isolation measures over the summer and in autumn. The lack of an effective strategy for targeted testing with quick tracing and effective isolation explains the congestion of testing services and high diffusion rates of the virus in October–November 2020. A new strategy was devised in October proposing to prioritize individuals to test (those with symptoms or a medical prescription and contacts of positive cases), with dedicated plots in labs. This was combined with the introduction of new rapid antigenic tests, free of charge for all the population. Pharmacies were given the authorization to carry out these tests in November 2020 (SHI, 2020c). While this helped to reduce the pressure on tests, the lack of effective measures for isolating asymptomatic people who were tested positive reduced the efficacy of testing.

3.2 More reactive health services with better coordination between public and private hospitals

By October 2020, the resuscitation bed capacity had been increased to 10,000 beds while stocks of resuscitation drugs were renewed (French Ministry of Health, 2020f). Nurses working in different hospital departments received quick training to intensive care techniques to support the ICU teams, although this created tension in some places since permanent ICU staff questioned the efficiency of this training.

Despite all the investment in hospital services, the emergency plan for hospitals was re-activated on 29 October 2020, and enabled again hospitals to deprogram non-essential care. However, this time, hospitals have been instructed to maintain a certain amount of non-Covid care, with indicative targets, albeit with some local variations. The need to maintain a certain level of hospital care locally favoured the collaboration between public and private hospitals, which are normally competitors. Public–private collaborations have become more fluid in the second wave, since the networks of public and private physicians, developed during the first wave, were mobilized quickly this time (Ehkirch, 2020; Racapé, 2020). These networks allowed the referral of Covid-19 and/or other patients from public to private hospitals. Some private hospitals also opened their operation rooms to public surgeons for routine surgery.

Another area where visible progress has been made is the utilization of telemedicine across settings. For example, in order to monitor patients at home and reduce hospital admissions, a new application (Covidom) was launched by the Parisian hospitals (https://www.covidom-idf.fr) in collaboration with ambulatory physicians. Initiated during the first wave to reduce visits to emergency services, it is now available to all physicians and hospitals in the Ile-de-France region, free of charge, to monitor jointly Covid-19 patients and their contacts at home.

3.3 An extensive effort for tackling the economic impact of Covid-19

At the same time as the first restrictions in March 2020, the government pledged to support both the French economy and citizens through the crisis. The president announced that no one would

be left behind and that no business would go bankrupt because of the restrictive measures, 'whatever it may cost'. The key measure introduced was the generalization of a temporary 'partial unemployment allowance' for all those that cannot continue working or not fully, the cost being entirely supported by the state. During the first wave, some targeted aids were allocated to the most deprived populations. Firms and self-employed professionals were allowed to delay their payments of social and fiscal charges, a measure aiming at preventing massive lay-offs by shifting charges from employers to the public budget. In May 2020, a second medium-term support plan was adopted with the objective of preserving production capacity. State-guaranteed loans were provided to support strategic economic sectors particularly hit by the sanitary restrictions, such as aviation, vehicle construction, wineries, tourism, culture, with the objective of reaching the level of economic growth of 2019 by the end of 2022. In early September, a strategic longer-term plan for economic recovery (*France Relance*) was announced with a fiscal package of €100 billion, which will support innovative projects for ecological transition, green technologies, productivity improvement, and territorial and social cohesion. More recent measures in November targeted those sectors particularly affected by the second lock-down (bars and restaurants, which will remain closed until at least the end of February 2021, entertainment, etc.), young people and the most deprived populations.

Estimating the total cost of the pandemic remains hazardous, since more economic difficulties are expected to come when the support schemes will have receded, whilst the economic recovery plan may not yet have deployed its growth effects. So far, it is established that the social security deficit for 2020 will be the highest in history, twice as much as that of 2010 after the financial crisis (Cette and Cohen, 2020), despite the fact that many measures have exceptionally been provided by the state budget. While these measures helped employment in the private sector to rebound in the third quarter of 2020, many sectors were far from recovering, even before the second national lock-down in November. In September 2020, it was estimated that 305,600 jobs have been lost since the beginning of the year (INSEE, 2020). Moreover, data show that low-wage earners and young people suffered far worse than others in terms of Covid-19-related job losses during the first half of 2020, and the poorest part of the population accumulated debt while the higher income groups have been saving (Bounie *et al.*, 2020; Brun and Simon, 2020). The 2020 policy response to the Covid-19 pandemic in France is summarized in Table 1.

4. Discussion

In this paper, by presenting different measures and available information on their impact, we aimed to contribute to a common understanding of the costs and benefits of different strategies against the Covid-19 pandemic. France has been struggling to find the right balance between the rock of economic and social damages caused by strict containment measures and the hard alternative of mounting deaths and pressure on the health care system. Since the first wave of the pandemic, it moved from a hospital-focused emergency response to a more levelled strategy trying to reconcile urgent care needs with a long-term broader perspective integrating social and economic considerations. Policy responses during the first wave, including the strict national lock-down, were emergency responses that revealed the low level of preparedness for pandemics, and the highly hospital-centred care provision in France.

France experienced a gradual decline in the priority given to the prevention of pandemics over the past decade, ironically following the criticisms levelled at the management of H1N1 influenza. This has resulted in particular in the reduction of strategic reserves of masks and probably an overall loss of vigilance, since the other emerging coronaviruses and Ebola have been contained outside France. In the early days of the Covid-19 pandemic, the policy response was very much focused on preventing hospitals from becoming overwhelmed without equal attention to the role of prevention and an effective strategy of testing, tracing and isolating for controlling the

Table 1. Key policy responses to Covid-19: from first to second wave

Elements of the policy response	February to May 2020 (first wave of the pandemic)	June to July 2020 (aftermath of the first lock-down)	August to November 2020 (onset of the second wave of the pandemic)
Management of the health crisis	• Piloted by the central government • Support of scientific and expert committees • Emergency legislation (state-of-health emergency) • Little focus on local situations	• Some decision power shifted to local authorities • Focus on accountability of the government	• Central government takes the reins • Re-establishment of the state-of-health emergency
Isolation	• Quarantine of people coming back from Wuhan region • Recommended self-isolation (14 days) of all other suspected or infected cases	• Recommendation for self-isolation of suspected or infected cases, no coercive measure	• Reduction of self-isolation duration from 14 to 7 days (still without coercive measure)
Restrictions on movement	• Limited to essential activities – first lock-down • Closures of borders (including with EU countries) • Visits to nursing homes fully suspended (until mid-April)	• Borders with EU countries opened on June 15 • Testing for people arriving from non-EU countries	• Night curfew since mid-October in most big cities • Second lock-down on 30 October • Visits to nursing homes maintained
Schools	• All schools (nursery, primary, secondary, high and upper) closed (online teaching)	• Progressive re-opening of nursery, primary and secondary schools but not all high schools	• Remained opened during lock-down (except online teaching for universities)
Masks	• Strong shortage issues • In priority for physicians • Not recommended in the general population	• Recommended in the general population and made compulsory in closed public places	• Generalization of their compulsory use in all public places inside and outside

(*Continued*)

Table 1. (*Continued.*)

Elements of the policy response	February to May 2020 (first wave of the pandemic)	June to July 2020 (aftermath of the first lock-down)	August to November 2020 (onset of the second wave of the pandemic)
Testing	• Strong shortage issues • Lack of systematic testing of suspected cases	• Large testing policy with full-coverage by the SHI (without prescription) • No priority populations	• Long waiting times in September • Dedicated plots in testing labs for priority populations (mid-October) • Antigenic testing authorized in November
Provision of health services for Covid-19	• Emergency White Plan in hospitals to re-organize care towards intensive care • Regional transfers of patients • Extensive financial coverage of Covid-19 treatment by the SHI (including 100% of teleconsultations costs)	• Stronger role of primary care physicians (involvement in contact tracing) • Financial bonuses for health professionals involved in dealing with the crisis	• Increase of resuscitation beds capacity • Re-activation of the hospital White Plan • Training of additional staff • More public–private hospital partnerships
Provision of health services for other patients	• Little focus on maintaining essential care for other disorders and care outside hospitals • Many health workers stopped working because of lack of protective equipment • Many care cancellation	• Focus on resuming care for conditions other than Covid-19	• Care cancellation in hospitals more limited than in the first wave • Care maintained outside of hospitals
Economic measures	• Extended partial unemployment allowance • Compensation funds for closed small/medium enterprises • Delays of social and fiscal charges for firms and self-employed professionals • Aids for precarious families and individuals	• Extension of measures of partial unemployment allowance • A support plan for key economic sectors (aviation and car industries, tourism, vinery, etc.)	• A long-term economic recovery plan of €100 billion with triple focus: ecological transition, productivity and revitalization of local economy • Specific aids for youth, precarious people and locked-down businesses

pandemic. Measures developed in an emergency also led to neglect other health and care needs, notably of non-Covid-19 patients, including the frail elderly (Milon *et al.*, 2020). Despite the important economic support measures put in place since the beginning of the crisis, the national lock-down in spring 2020, and a second one in November, have increased income inequalities and poverty in the population along with mental health problems. Recent surveys show an alarming increase in anxiety and depressive disorders in France, affecting disproportionately the most vulnerable populations (Gandré *et al.*, 2020).

The management of the health crisis showed some obvious flaws (Borowczyk and Ciotti, 2020; Pittet *et al.*, 2020). While strong central governance allowed, during the first wave, quick national measures to be put in place, especially for protecting the population from the negative economic effects of restrictive measures, the speed of centralized decision-making also meant a lack of consultation and transparency in the decision-making process. The lack of cooperation between major actors both at central and local level has reduced the capacity to put in place quick coordinated actions and share local solutions for containing the virus (Gay and Steffen, 2020). The government's communication, which oscillated between dramatization ('it's war!'), trivialization ('another little effort for a few months') and infantilization of the population, instead of factual and transparent communication, including on the debates preceding major decisions and divergences, weakened the public trust in the measures put forward.

However, the Covid-19 crisis also led to a considerable learning process in the health system. In the emergency, health care actors showed great resilience and innovation capacity. The hospital system, despite the ongoing strikes in February when the pandemic hit, showed a great capacity of adaptation, with quick training and mobilization of health workers. During the sanitary crisis, the public–private cooperation has been intensifying, thus removing traditional borders of these sectors, but also traditional boundaries between health professionals. The pandemic also encouraged more flexible and online care provision, both in the community and in hospitals. The rapid increase in telehealth solutions, including telemonitoring and online consultations, helped expanding access to care, reducing disease exposure for staff and patients, and reducing patient demand on hospitals. These innovations developed locally should be generalized in order to support and improve care provision beyond the actual pandemic.

5. Conclusion

The Covid-19 crisis revealed the structural weaknesses of the French health system including its governance and decision-making processes, especially the high level of bureaucracy, weak prevention culture and the lack of coordination between primary, social and hospital care providers. Weak prevention and primary care can explain a substantial part of the extremely rapid spread of the virus in French population during the first wave. The lack of coordination between nursing homes, hospitals and primary care providers has contributed to the high death toll in nursing homes.

Moreover, the level of bureaucracy involved in health decision-making, with a multiplication of central instances which overlooked local problems and the solutions that were developed, appeared to have hindered the implementation of effective policy measures (Bergeron *et al.*, 2020). This explains, at least in part, the slow ramp-up of tests during the first wave of the pandemic, the difficulties in putting in place an effective 'test-trace-isolate' strategy before the second wave, and the criticism raised against the implementation of the vaccination strategy today (Rouquet, 2020). The failure to assure an effective tracing-isolating strategy led France into a second lock-down and explains the need for ongoing restrictive measures in early 2021.

The Covid-19 crisis confronted policy makers with the quandary of how to reconcile conflicting priorities: controlling the spread of the pandemic, while guaranteeing the overall health, economic and social wellbeing of the population. Governments have to balance the benefits and costs of different measures which aim to reduce the burden of the Covid-19

pandemic. The policy responses to the crisis cannot be judged simply based on the number of Covid-19 cases and fatality rates today, because they will also have long-term consequences on people's income, health and wellbeing. The impact of restrictive measures should be measured against the need to protect the economy, people's jobs and social life and the unintended consequences of emergency measures on the health care needs of non-Covid-19 patients.

France will have to strengthen public health capacity to better manage the pandemic and assure a strong policy of prevention, testing, tracing and isolating, while implementing an effective strategy for vaccination, to avoid another lock-down before a large part of the population is vaccinated. For this, it is necessary to improve the cooperation between health actors at central and local level with an increased participation of local care providers, for adapting measures to local needs, and for identifying, supporting and generalising successful solutions developed locally. The unprecedented crisis provoked by the Covid-19 can and should be a lever for both transforming health care provision and improving the governance of public health.

Conflict of interest. None.

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