#### ARTICLE

**∂** OPEN ACCESS

Check for updates

Routledge

Favlor & Francis Group

# Policy response to COVID-19 in Senegal: power, politics, and the choice of policy instruments

Valéry Ridde<sup>a,b</sup> (b) and Adama Faye<sup>b</sup>

<sup>a</sup>CEPED, IRD-University of Paris, ERL INSERM SAGESUD, Paris, France; <sup>b</sup>Institute of Health and Development (ISED), Cheikh Anta Diop University, Dakar, Senegal

#### ABSTRACT

The objective of the paper is to understand how Senegal formulated its policy response to the COVID-19 pandemic. The response was rapid, comprising conventional policy instruments used previously for containing Ebola. The policymaking process involved several agencies, which resulted in significant leadership and coordination problems. In addition, community participation and engagement with relevant scientific communities were limited, despite their recognized importance in fighting medical crises. Instead, international donors had a significant influence on the choice of policy tools. The paper contributes to contemporary thinking on the autonomy of policy instruments-the idea that preferences for policy instruments are stable, independent of the particular policy problems being addressed and goals being pursued-which has recently been applied to policies in Africa. The study calls for a review of how academics, civil society, and decision-makers must collaborate to design public policies and policy tools based on evidence and context, not only politics.

#### **ARTICLE HISTORY**

Received 2 September 2021 Accepted 23 March 2022

#### **KEYWORDS**

Design; policy instrument; health policy; evaluation; Senegal; COVID-19

#### 1. Introduction

Most African states realized the magnitude of the COVID-19 pandemic early on by observing what was happening in China and Europe (Bonnet et al. 2021). Senegal, which saw its first case of COVID-19 on March 2, 2020, organized meetings to plan its response as early as January 2020 (Diouf, Bousso, and Sonko 2020). Around the world, there are multiple governmental responses to deal with the pandemic. Numerous studies in Africa have previously modeled their potential effects and the reality of their effectiveness (Cabore et al. 2020; Lai et al. 2020; Li et al. 2020). Other studies attempted to understand the social acceptability of these measures in Senegal (Ridde et al. 2020) and worldwide (Lazarus et al. 2020). Indeed, political science research has long shown

CONTACT Valéry Ridde 🐼 valery.ridde@ird.fr 🔁 CEPED, IRD-University of Paris, ERL INSERM SAGESUD, Paris, France; Institute of Health and Development, Cheikh Anta Diop University, Dakar, Senegal

© 2022 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/ licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. the importance of the coherence of governmental measures and choices to promote their acceptability and effectiveness (Sandström et al. 2020).

Understanding the effectiveness and acceptability of these measures requires understanding how they were formulated, i.e. "*policy formulation ('designing')*" (Howlett and Mukherjee 2018), of which empirical studies in Africa remain rare (Jones, Gautier, and Ridde 2021; Kadio, Dagenais, and Ridde 2018). The literature on policy-making often refers to two approaches: a rather rational and top-down process dominated by "*highlevel bureaucrats*" (Cohen and Aviram 2021), or a more incremental approach where policy content and processes are muddling through and ambiguous (Ridde 2009). Policy design remains an ever-changing concept where the role of context and actors is central (Cairney 2021a). The role of networks or coalitions of actors, especially during formulation (Béland and Howlett 2016), has been widely analyzed in public action studies (De Leeuw 2001; Sabatier and Weible 2014). In addition, the role of evidence and science in these processes is increasingly being explored, including the influence of international actors in an international aid context (Fillol, Kadio, and Gautier 2020).

In Senegal, the few studies of policy design are still very descriptive (Touré and Kane 2019). They borrow little from the concepts of public policy analysis and particularly that of instruments (Ridde 2021). However, Lavigne, Delville, and Schlimmer show, in a recent special issue in which Senegal is absent, how the use of instruments (Lascoumes and Le Galès 2007) can be fruitful in helping us understand policies in Africa (Lavigne Delville and Schlimmer 2020). One article in this dossier concerns the health sector in Benin. It shows perfectly the role, in the context of a country dependent on international aid, of policy instruments that are sometimes imposed by Northern actors on national leaders but are also the result of negotiation and compromise (Soriat 2020). The coordinators of this dossier note that "these works do not make the theoretical and analytical question of instruments a central issue and do not explicitly position themselves in relation to the debates underway on the sociology of public action" (Lavigne Delville and Schlimmer 2020). The inefficient use of instruments in analyses in Africa could be explained by the fact that some call for "questioning the universality of concepts and tools of public policy analysis" (Artigas 2014).

In the context of the COVID-19 pandemic, studies show that, in an emergency, the approach has often been to formulate policies in a directive and vertical manner, rapidly, with little involvement of civil society and sometimes scientists, and without wanting to break with past solutions (Cairney and Wellstead 2020; Cambon et al. 2021; Loewenson et al. 2020; Paul, Brown, and Ridde 2020; Rajan et al. 2020). However, there is a lack of empirical knowledge to understand how this has played out in African countries concerning this new pandemic.

Thus, the objective of this research is to describe and understand how the national response to the COVID-19 pandemic has been formulated in the health sector in Senegal.

## 2. Context

The national response is understood to be the set of actions undertaken by the government to fight the COVID-19 pandemic in the health sector. We did not include efforts



Figure 1. Evolution of the leading state measures in response to COVID-19 in Senegal. Source: https://www.covid19afrique.com.

in other sectors (economy, education, etc.) in our study. The aim of this paper is not to analyze each of the measures individually, but rather to understand how the State has formulated its national preparedness, response, and contingency plans from a holistic perspective. We are interested in the "*tool mixes, rather than individual tool choices*" (Howlett and Mukherjee 2018). These measures are equivalent to the concept of policy instruments (Howlett 2011). We depict the first measures decided by the government at the beginning of the pandemic in Figure 1 (Y-axis: # COVID-19 cases; X-axis: time).

In Senegal, the State allocated 4.3% of its general budget to the health sector in 2018 compared to 9% in 2004 (https://data.worldbank.org). In 2016, the country had 1,083 physicians and 1,426 state-qualified nurses compared to 1,813 doctors and 1,992 nurses in 2019 (MSAS 2021).

The analysis of the dynamics of the actors and the network is at the heart of this research. It is important to understand the major stakeholders involved in the design (Table 1). At the supra-sectoral level, the country's presidency holds the inter-ministerial crisis unit, and the general secretariat of the government holds the High Council for Global Health Security "One Health." At the health sector level, the two main actors are the National Epidemic Management Committee (NEMC) and the Health Emergency Operations Center (HEOC). Before the COVID-19 pandemic, Senegal had response structures to deal with health disasters, such as NEMC and its regional, departmental, and local committees. The NEMC was set up in May 2016 after the Ebola epidemic. Its tasks are to ensure strategic coordination regarding diseases with epidemic potential (monitoring, supervision, evaluation). These missions were reiter-ated in the February 2020 COVID-19 response preparedness plan. The HEOC was set up in March 2018. As a result of the COVID-19 pandemic, its missions have changed to coordinate "*the response to any health event of national or international scope*," to liaise with national bodies, and to coordinate the response of the Ministry of Health and Social Action (MSAS). Its main role is case management, and the person responsible is called the incidence manager. The two main departments of MSAS are the Directorate of Prevention (DP), which is responsible for epidemiological surveillance and vaccination; and the Directorate of Planning, Research, and Statistics (DPRS) which is responsible for data management and evaluation of interventions. The private sector is concerned with the laboratory structures for COVID-19 tests (Institut Pasteur, IRESEFF), and the many development partners in the technical advice and financing of the response (WHO, World Bank, EU, etc.). Civil society and, in particular grassroots community organizations, are not really part of the actors involved (but concerned, see below) as it is essentially focused on governmental actors (Table 1).

#### 3. Method

Theoretical framework: Our research is part of the field of public policy analysis and, in particular, their planning, formulation, or design (Sabatier and Weible 2014). The study of planning is part of approaches to the historicity of public policies (Laborier and Trom 2003) and their instruments (Lavigne Delville and Schlimmer 2020). It examines power issues [at the heart of the study of health policies in Africa (Walt 1994)] and the role of science (Cairney 2012) as described for the COVID-19 pandemic (Zaki and Wayenberg 2020).

#### 3.1. Methodological strategy

We conducted this qualitative research project using the single case study methodological strategy (Yin 2012). The case is the national response and its various policy instruments. The level of analysis is the central level of government, specifically the Ministry of Health and Social Action (MOHSA), which is driving the national response (Table 1).

Population and qualitative sampling: The population under study are those concerned and involved in the formulation of the COVID-19 health response. We made an *a priori* list of stakeholders based on our knowledge of the formulation process (Brugha and Varvasovszky 2000). As the data were collected, we proceeded with qualitative sampling by seeking internal diversity within the groups concerned to have a plurality of perspectives (Patton 2002). In April 2021, two authors and two research assistants, experts in qualitative methods and specifically trained for this study carried out data collection in Dakar.

The data is based primarily on individual interviews, but sometimes small group discussions were necessary to accommodate the availability of individuals. Most of the interviews were digitally recorded. In total, we met with 34 people, 29 of whom were interviewed individually and five in a group discussion. The distribution of people was as follows: central administrative authorities (n = 8); donors (n = 5); regional/departmental administrative authorities (n = 4); regional and district chief doctors (n = 7); academics and experts (n = 3); and members of community-based organizations and NGOs (n = 7).

# 330 🛞 V. RIDDE AND A. FAYE

Actors	Attachment	Acronym, examples	Role in the national response
Inter-ministerial crisis unit	Presidency	General Secretariat of the Presidency	Multi-sectoral coordination of the management of the epidemic
High Council on Global Health Security "One Health"	Presidency	HCNSSM	Coordination of the National One Health Platform
National Epidemic Management Committee	Health	NEMC	Coordination of International Health Regulations (IHR) actions Strategic Organization of the management of the epidemic (preparedness and response)
Emergency Health Operations Center	Health	HEOC	Operational coordination of the different units
Directorate General of Health	Health	DGH	IHR Focal Point Coordinator appointed by the Minister
Planning, Research and Statistics Directorate	Health	DPRS	Planning the response Organization of partners Health data management
Director of Prevention	Health	DP	Organization of epidemiological surveillance and vaccine strategy
Private sector	NA	Institut Pasteur, IRESEFF	Reference laboratory
Laboratory Management	Health	DL	Organization and equipment of laboratories
Directorate of Disease Control	Health	DLM	Organization of inpatient (epidemic treatment centers: ETC) and outpatient care Organization of the PECADOM (Home-based care)
Mental Health Division	Health	DSM	Coordination of
Directorate of Social Action		DAS	psychosocial care
Human Resources Department	Health	HRD	HR recruitment; training
Infrastructure, Equipment and Maintenance Department	Health	DIEM	Oxygen availability in ETCs and buffer zones Availability of beds
Directorate of Public Health Facilities	Health	LIFO	Organization and supervision of ETCs Buffer zone supervision
Technical and financial partners	Global Health Actors	WHO, USAID, ENABEL, World Bank, EU	Technical and financial support

Table 1. Main actors involved in the response at central level.

# 3.2. Data analysis

During the data collection, daily reports from the two research assistants and exchanges with the researchers allowed for the emergence of initial real-time analyses and specific content for further analysis. The assistants' data analysis report provided feedback from the researchers. Based on these reports and the recordings of the interviews, the researchers carried out a thematic content analysis taking into account the conceptual dimensions that emerged throughout the research team's discussions. The overall preliminary report written by the researchers was shared by email with key national decision-makers. It was presented in June 2021 at a workshop organized by the Ministry of Health (MOH) and attended by about 20 people from the central level bureaucrats, academics, and donors, many of whom had been met during the study. The discussions made it possible to strengthen the validity of the content of the analyses and to finalize the report of the findings. The study was authorized by the National Health Research Ethics Committee of Senegal. Many of the people interviewed and quoted in the rest of the article are trained as physicians but speak of their experience as bureaucrats. They also practiced for a long time as district health managers. Thus, for confidentiality reasons, these people will be named as doctors or physicians without specifying their roles and their administrative departments.

## 4. Results

#### 4.1. Drafting a response plan

In January 2020, at the start of the epidemic, Senegal immediately embarked on drafting a preparedness and response plan. Response planning resulted in several plans (Table 2). These health sector plans are part of the national economic and social resilience programme launched by the government in April 2020. It has a projected budget of 1,000 billion CFA francs with support for the health sector, amounting to 64.4 billion, or 6.44%. The national evaluation of March 2021 finally shows a mobilization of 112 billion for the health sector. For all the resources of the national response, 773 billion had been obtained by the end of March 2021, 84% of which came from international donors (including loans), 13% from the State, and 6% came from individuals or national companies (de suivi Comité 2021).

On March 2, 2020, when the first case of COVID-19 appeared in Senegal, a new response plan (the contingency plan) had to be launched, to the tune of 20 billion (increased to 64 billion). While the first case occurred on March 2, 2020, on March 4, "we started preparing a plan ... when the first case occurred we said we needed a plan ... but we found out that the funds requested from partners for preparedness were not going to be enough at all" explains a doctor at the heart of the design.

The period covered by the national preparedness plan was until July 2020 because "we thought we had the possibility of limiting the spread like the Ebola experience, we had a very good system which meant that we did not have any cases, that is what history has remembered" says a doctor. However, another doctor uses the example of the national public laboratory whose absence was highlighted during the last Ebola crisis. This deficit has still not been resolved during the COVID-19 pandemic since the State still depends on private laboratories (e.g. Institut Pasteur): "the system is held hostage, that was the case during Ebola, and it has come back with COVID."

Several procedure manuals have been developed. The first one was with the support of a private company (*Vital Strategies*) in its first version for the pandemic response (and its standard operating procedures that the NEMC would have been slow to validate: health security, community deaths, prison environment, etc.). The second manual by the HEOC was on the management of simple cases at home. In addition, protocols have been written on sampling, self-isolation of contacts, patient transport, etc. (Sarr et al. 2021). In August 2020, another US consulting firm (*Abt Associates*) facilitated

	Specific objectives	Period	Amount (F CFA)
National preparedness and response plan	<ul> <li>Ensure early detection of IDOC-19-related infections;</li> <li>Ensure rapid isolation and management of suspected and confirmed cases of IDOC-19 infection;</li> <li>Strengthen infection prevention and control measures in health facilities and in the community;</li> <li>Intensify risk communication on IDOC-19 infection and community participation in preparedness and response;</li> <li>Ensure coordination of preparedness interventions in response to a potential outbreak of HIV-related infection with CODIV-19</li> </ul>	February–July 2020	1,440,584,650
Multisectoral contingency plan. Phase 1	<ul> <li>CODIV-19.</li> <li>Ensure early detection of COVID- 19 infection;</li> <li>Ensure rapid isolation and management of suspected and confirmed cases of COVID- 19 infection;</li> <li>Provide psycho-social support to patients and affected persons as soon as possible, taking into account the specific needs of persons at risk (children, pregnant women, elderly persons);</li> <li>Strengthen infection prevention and control measures in health facilities and the community;</li> <li>Intensify communication on the risks of COVID-19 infection and community participation in the response;</li> <li>Ensure coordination of the response to the COVID- 10 or idemic</li> </ul>	March–August 2020	96,331,215,444
Multisectoral contingency plan. Phase 2	<ul> <li>Strengthen surveillance for early detection of Covid-19 cases;</li> <li>Ensure proper management of simple and severe cases of Covid-19;</li> <li>Provide psycho-social support to patients, affected persons and vulnerable groups;</li> <li>Intensify risk communication and community engagement;</li> <li>Ensuring the continuity of health and social services in a Covid-19 context;</li> <li>Strengthen coordination, monitoring and evaluation of interventions.</li> </ul>	September 2020–February 2021	13,679,383,879
wave of COVID-19		2020–February 2021	2,091,047,000

and funded, through the MSAS DPRS, the production of an experience capitalization guide.

At the end of December 2020, a national workshop was organized by the MOH to review the epidemiological situation and the response to better adapt it to the context of the second wave. This workshop led to the drafting of a specific action plan which sets out and adjusts the steps planned in phase 2 of the contingency plan. No objective is specified in the plan, but it includes a list of activities, costs, and monitoring indicators. Risk communication and community engagement have 9.1% of the budget, while logistics and resource mobilization has 46% (treatment center, oxygen, respirators, etc.).

#### 4.2. Coordination challenges

The preparedness plan was coordinated by the Directorate of Prevention (DP) with the NEMC. But, "when the disease arrived, we changed the person in charge... as the response is managed by the HEOC, it is the team leader" recalls a doctor and therefore, "it is there that the DPRS took over the planning at the request of the Minister." The DPRS thus became responsible for coordinating the formulation of the contingency plan. However, actors in the MOH know that the DPRS and the HEOC (since its creation after Ebola) do not really communicate with each other. Thus, there were "some coordination concerns between these two entities" recalls one respondent. The handover between the PD and the HEOC was not "well-tolerated, which created a blockage," thus requiring the DPRS to enter the scene. Overall, the people we met during our study seemed satisfied with the process. The planning was "done in a timely manner ... and people came to the Directorate," showing how important this process was considered at the central MSAS level.

At the central level, the analysis of the report of the inter-action review (CNGE 2020) and the actors we met highlighted, at the beginning of the response, the lack of coordination of an inter-sectoral approach and the verticalization of the processes. Indeed, in the development of the plans, "the limit is the participation of other actors, multisectoral collaboration, and the non-participation of other One Health actors," said one person. The reason for this is perhaps to be found in the fact that it was "drawn up in a hurry;" in fact, "in a rush, we forgot about the multisectoral approach, it didn't even cross our minds," says a manager. Another official reminds us of the challenges of intersectoral involvement in the context of this planning where "the President asked us for a plan within 48 hours:"

"The first case appeared on a Tuesday or Wednesday; on Thursday, we were told we needed a plan, quickly. There was not even a convocation; we called all the directors around a table to say that we must produce a plan for the President of the Republic who asks us for a plan in urgency. We worked on Friday, Saturday, Sunday internally at the Ministry. And it's true that, since it wasn't official, we were in a Ministry of Health approach. We even went through it; we spent the night in the office to be able to produce a plan. We finished the night of Sunday to Monday, at 5 o'clock in the morning and at 8 o'clock we went to present the plan. Since it was an internal activity, the multisectoral activity was not taken into account. When we left, the President validated the plan, and we had to start the implementation. We did not plan with the sectors but internally at MSAS. Then this plan was shared so that the partners could decide."

During these days/nights of contingency planning, each department developed the activities to be carried out as group work. The traditional partners in health (WHO, Enabel, World Bank, etc.) supported the MSAS in this planning, the basis of which was the preparedness plan which "did not meet all the concerns, so we went from a preparedness plan of almost 1 billion to a plan of 20 billion." It was the "WHO areas" that inspired the writing of the plan. A doctor who took part in the process even said that "we took the objectives that were in the WHO guide, it was tacked on." It was "copy and paste," he recalls, "if it's the WHO guide that says it, ah, let's use it."

Stakeholders mention the challenges of coordination between the Ministry's departments at the central level regarding equipment purchases, for example for PPE (personal protective equipment) at the beginning of the pandemic: "the HEOC had ordered its PPE, the NSP (national supply pharmacy) had its PPE, and we didn't know who the source was... whereas normally it was the PNA that should have ordered... so this created duplication of expenses," says a doctor. This situation created a "clash," between NSP and HEOC. What happened with the PPE also seems to have happened with "the vehicles between the NHS (National Hygiene Service) which received two allocations at the same time."

#### 4.3. Knowledge use

The only research activity included in the plan concerns a study on "community perceptions of public health social measures related to Covid19 in Dakar, Tambacounda, Diourbel, Kolda, and Matam" for 20 million F CFA. In addition, the Open Society Initiative for West Africa funded the action research (10 million), and national financial support from MSAS for this research never came (Niang et al. 2020).

The research did not really influence the thinking, but "everyone did their own science," i.e. came with their own prior tacit knowledge or individual research related to their area of expertise. A preliminary analysis, shared by the World Bank on the response in other countries that were facing the pandemic before Senegal, would have been shared. However, we were unable to obtain the document. It should also be noted that the Scientific Council created to support decisions has never been convened, apparently because its role is too similar to that of the NEMC. Similarly, the place of community organizations and the community approach seems to have been forgotten. Indeed, the community health unit of the MSAS was not invited to participate in the planning process, nor were academics specializing in these issues, "I came to tell them ... but I was not associated with it, despite this approach," says one of these academics. Overall, therefore, civil society has had little involvement in the formulation of the response.

Thus, there were "many important components in the drafting of a contingency plan that was absent," says a physician long involved with the NEMC. He names, for example, the absence of the HEOC, the DP, or the Directorate-General for Health (DGH, which heads the NEMC) in the planning process. These absences seem to be explained less by the fact that they forgot to be invited to participate than by their refusal to participate for reasons of power and personal conflicts. In the end, unlike the DP, the HEOC was represented at these meetings until the "end of the drafting of the contingency plan."

# 4.3.1. Planning for needs or resources?

In planning, each department sometimes overreached and made demands beyond their needs. This gave rise to "long discussions," for example, between the management of the various hospitals and the Ministry's General Directorate of Hospitals "as there was money insight, as soon as it was said, everyone came up with their wishes," explains one doctor, another clearly evoking "sharing the cake." Everyone came with "their problems," with their needs for oxygen, a resuscitation room, a scanner in a level three hospital, respirators for an infectious diseases department without resuscitators to use them, hundreds of respirators ("where are we going to put them" since human resources to intubate patients are rare), etc. Indeed, "we were expecting money, we really thought that COVID would be international aid, we were going to mop up these funds… people were really thinking in terms of development," recalls one person who participated in the planning.

In addition, "the medical regions were absent from this central planning," apart from the Dakar region. This is why, says another person, "ownership was not very ... thing ... at the level of the regions ... they did not feel very involved, the plan was too centralized." It was only on Saturday that the actors realized that they should have invited the chief medical officers of the 14 regions and not just the one in the Dakar region. In compensation, each regional chief medical officer (MCR) received a phone call so that they could send their "draft plan," according to one person present at the debates. Then, the outline of a text was submitted to them so that the MCRs could send in their needs, following this outline, during this planning weekend. Thus, they were able to send their proposals, and "their concerns were taken into account even if it was in a hurry," says a doctor from the Ministry. He even remembers that the last region that sent in its plan did so at 4 a.m. on Sunday night.

At the same time, another plan was asked by the central management to be drawn up: an investment plan. A first plan to revive the emergency services, presented at the level of 3,000 billion, would have been "too slapdash" and therefore never circulated. It was indeed difficult to "straighten the bar" in the face of the inflation of the budget requested, recalls a person involved. Then, another plan aligned with the timeframe of the Emerging Senegalese Plan (ESP) in 2035 was formulated, but it too was "much too heavy, we said we had to prioritize." A final investment plan was therefore drafted in line with the Health Investment Plan (HIP), which has a five-year timeframe, 2020–2024. A version of the latter plan proposes a budget of 1,378 billion CFA francs, but the public and shared version announce a budget of 574 billion CFA francs, 64% of which is for infrastructure (MSAS 2020).

## 4.3.2. Leadership and political challenges

Important leadership issues between departments have emerged, although they are not new. One person takes the examples of the four essential actors in the fight against epidemics (not counting the Pasteur Institute, which has a "*direct* relationship with the *Presidency*"), which are the HEOC, the DP, the NSP, and the EMS (Emergency Medical Service). There have been significant disputes between these services ("the EMS and the HEOC, disaster, they do not talk to each other"), especially since the creation of the HEOC (which is only activated in times of crisis, therefore from March 2, 2020, for the COVID-19), which has taken over many prerogatives previously under the responsibility of the DP (for example surveillance in times of crisis or the management of responses in international epidemics). These controversies concerned the management of purchases and equipment, the integration of activities, but also the information and data management system. For example, "the HEOC makes its information system with the doctors in the ETC (epidemic treatment centers) ... the DP at the district level manages with the district doctors (MCDs), two parallel information systems which are merged in a certain way at the central level." How can these conflicts and challenges be explained? "First of all, there are personal problems, which everyone knows... preexisting to COVID... they were each in their own corners with a physical distance now COVID has brought them closer together... so it exploded... they no longer had the choice of working together, and this created a boom," says a doctor. But, beyond that, there is still a problem of organization and management because "*a head office has to be organized*." However, in the organizational context, the situation was such that "everyone was floating." The Ministry's high authorities do not seem to have wanted to make the coordination processes between services more fluid and organized in an epidemic context. One ministry executive is quite evident in his analysis:

"What didn't work well was in the coordination, the functional linkages between the NEMC, the HEOC and the Cabinet in decision making. We saw decisions being made without that reporting relationship being respected. For example, when there were the first cases, the Cabinet had the information while those at the operational and district level, who were treating the patients, did not yet have the information."

Political issues and the desire of some "career technicians" not to make too many waves, certainly explain the challenges of decision-making. Thus, in Senegal, "the management of this epidemic has shown more individual problems, relational problems than technical problems," says a doctor.

# 5. Discussion

The national health sector's response to the COVID-19 pandemic in Senegal (and elsewhere in West Africa) was rapid and intense (Bonnet et al. 2021). At the same time, as in Tanzania at the beginning of the epidemic (Carlitz, Yamanis, and Mollel 2021), it was diluted by national contexts that shaped it in response to power issues and organizational challenges.

Indeed, this response to the pandemic confirms that power issues are at the heart of public action, design analysis (Howlett 2019), and health policy analysis (Walt 1994). It is all the more true in contexts of emergency and global responses to epidemics (Friel et al. 2021). This is, of course, nothing new, as health policy and systems research has long shown (Walt 1994; Walt and Gilson 2014) how critical it is to analyze these responses to epidemics in terms of these power issues (Cairney and Wellstead 2020). As is often the case in public policies and the role of power (Peters 2018), the challenge of coordination was prevalent both between departments within the MOH and when it

was necessary to engage in an intersectoral approach with other ministries. Thus, the emphasis on actors and the distribution of power in public policy, explicated by Lemieux (1995) and other political scientists, finds its full analytical relevance here (Friel et al. 2021; Harris et al. 2020). We have seen how the political and symbolic power of the bio-medicalization of public health still at work in Africa (Druetz, Zongo, and Ridde 2015), was predominantly present in the response to the crisis in Senegal. The politicization of the pandemic has been highlighted elsewhere in Africa, such as in Malawi, where there is a "*popular perception that leaders are politicizing the pandemic*" (Yamanis, Carlitz, and Mollel 2021).

Moreover, the Senegalese experience confirms the long-standing trend of increased intervention by NGOs and other health consultancies (Lee and Goodman 2002; Walt 1994), particularly in the current fight against the COVID-19 pandemic (Sturdy et al. 2021). This was already the case for Ebola in West Africa (Coltart et al. 2017). The role of WHO and its normative power, sometimes without the time for discernment and adaptation of proposals, was highlighted in this study. In this context of reproduction of history or the solution proposed by the international community, the study recalls the usual and widely known challenges in the region of planning processes poorly adapted to the national context and reproducing what is proposed by international organizations or consultants (Erikson 2019). On the other hand, the study confirms the fragile place of civil society in the preparation of the response and the choice of instruments, as in many other countries in the world during this pandemic (Cambon et al. 2021; Rajan et al. 2020).

As seen in the internal struggles within the MOH to lead the response to the COVID-19 pandemic, the epidemic is not far from revealing a departmental organization with characteristics of the very old organized anarchy, including uncertain preferences, ambiguous goals, fluctuating participation, and unclear technology (Cohen, March, and Olsen 1972). These characteristics are obviously at the heart of pandemics (Berger et al. 2021; Cairney 2021b), especially for SARS-CoV-2, about which very little is yet known in 2020 and 2021 but which is not an alien virus (Paul et al. 2021). Indeed, the formulation of the response has sometimes oscillated between the two approaches in Senegal demonstrating the complexity of the process between planning, on the one hand, and responding to a crisis in a context of political pressure on the other.

The first approach was a process described as "designing" by M. Howlett and Mukherjee (2018). It was rational in appearance (Friedberg 2009) where actors trained mainly in the biomedical approach proposed instruments ("design") based on reasoning from their training and past experiences as well as a learning organization (e.g. Ebola in Senegal), as in Tanzania (Yamanis, Carlitz, and Mollel 2021) but unlike in Italy (Capano 2020). These actors formed an epistemic community (a subsystem of the problem stream to use Kingdon's concept) which plays a role in policy emergence (Béland and Howlett 2016; Kingdon 1995). They could also be part of a group of people influencing the choice of solutions (the problem here being clear with COVID-19). Researchers (Voss and Simons in particular) have proposed to make this process explicit by using the concept of "instrument constituencies" whose heuristic scope will have to be verified in Senegal by specifying that,

"The members of instrument constituencies were distinct and stayed united because of their common 'fidelity' not to a political agenda or problem definition but rather to their advocacy of a particular instrument or a particular combination of instruments as a superior technique of public governance" (Béland and Howlett 2016).

The second approach is a less rational and incremental process ("designing") where the drifts known in aid-dependent countries (Lavigne Delville and Aghali 2010; Walt 1994), as was the case in Ebola (Hubmann 2021) of planning based on expected resources and not actual needs, to capture resources in a context of "*The predominant influence of donor-driven development policy design*" (Brinkerhoff and Brinkerhoff 2013). This limited rationality must be understood in a context of uncertainty and ambiguity specific to all epidemics (Berger et al. 2021), even if Senegal had some experience and had a few months to prepare since the first case appeared in China.

These gaps and relative lack of preparedness and coordination in a departmental organizational context are not unique to Senegal. They are shown by other African countries (Yamanis, Carlitz, and Mollel 2021), France (Or et al. 2022), and its organizational crisis (Bergeron et al. 2020). The design analysis of the control of COVID-19 in Italy shows that in the absence of preparation and experience in fighting an epidemic, inter-institutional conflicts were exacerbated, and they acted "in a very disoriented way" (Capano 2020). The Italian study shows that finally, in this context, it is the usual political processes that return to lead the formulation: "the historically rooted characteristics associated with designing and implementing policies – a country's policy style – and the normal political games associated with it will prevail" (Capano 2020). Senegal has not, however, replicated the history of social protection policy formulation in nearby Burkina Faso, where a situation of "non-design" was found to exist whereby the policy is simply composed of the sum of ongoing actions (Kadio, Dagenais, and Ridde 2018). The response to the pandemic in Senegal involved a genuine formulation and planning process guided by doctors long trained in these processes and inspired by the fight against Ebola. While the viruses are different, the people we met in this study sometimes felt that the answers were not. The solutions of the past (which are difficult to change) have therefore greatly influenced those of the present, thus confirming the concept of "path dependency" of public policies (Bardach 2000) and countering the criticism of the model of organized anarchy, which would not sufficiently take into account historical dimensions (Mucciaroni 2013). This influence of the past is a classic process in government choices regarding health policy instruments in Africa, as seen in the context of universal health coverage and new public management (Ridde 2021; Soriat 2020). In a context of strong official development assistance, despite the changes brought about over the course of history and their influence on public action, some confirm that this is rather a matter of "stability and duration" (Lavigne Delville and Schlimmer 2020). The historical analysis of cholera epidemics in Africa shows that "the lessons of the past seem difficult to learn" (Echenberg 2011). The head of UNAIDS confirmed in late August 2021 in an interview with RTS (Swiss Radio and Television) on the COVID-19 crisis that "The world has not learned the lessons of AIDS" (Luis 2021).

Beyond reflections on the universality of concepts in the study of public policy (Artigas 2014), we are here close to the current debate among political scientists on the autonomy of public policy instruments (Veselý 2021). It would be a matter of verifying

in subsequent research and thus contributing to the recent call for more conceptualization of the use of policy instruments in Africa (Lavigne Delville and Schlimmer 2020), whether the choices of actions selected to fight the COVID-19 pandemic by Senegalese officials are not explained by their "attitudes not only toward policy problems and policy goals but also toward the means by which these problems are to be solved and goals attained, and that these attitudes toward policy instruments are relatively stable over time and independent of particular policy issues" (Veselý 2021). The study notes the classic relationship between instruments, ideas, and actors, as Walt and Gilson (2014) showed in a review of the literature on the agenda-setting of health policies in low and middle-income countries. Do Senegalese officials have this permanence of conception of the means by which to act to fight epidemics? Is it a particular cognitive predisposition (Hill and Hupe 2014) fed by a specific history, notably linked to Ebola? Unlike HIV/AIDS, it seems that the history of epidemics shows "the government of Senegal has exacerbated risks of cholera through poor policy decision" (Echenberg 2011). Policy analysis in Korea suggests that the failures associated with the MERS epidemic have been taken into account by the government in the fight against the COVID-19 pandemic, with more transparency and openness (Moon 2020). Looking at the current development of research on instruments in policy formulation, this case study in Senegal suggests that none of the three types proposed by Bali and Halpin (2021) appears to have existed: routinizing, regularizing, or generating demand. Instead, we believe we are dealing with tools of the fourth type, i.e. "imposed" by the authority that fits "comfortably with a reactive and impositional governmental policy agenda style" (Bali and Halpin 2021). Future studies should seek to understand whether this is logical in the context of the COVID-19 crisis and the functioning of the Senegalese State, or whether this choice of imposed tools is surprising given the history of epidemics in the country and in Africa. Indeed, it should be remembered that "Senegal's emergence from the Ebola crisis unscathed is seen as a healing or national victory" (Moulin 2021). However, in light of the history of Ebola in Senegal (Desclaux, Diop, and Doyon 2017) and Tanzania (Yamanis, Carlitz, and Mollel 2021), this learning should not be overestimated. Indeed, despite global rankings of questionable scientific validity, the epidemiological data do not seem to prove that the country was more (in)efficient than others in the natural evolution of the epidemic. As of August 3, 2021, the case fatality ratio of the 55 member countries of the African Union is 2.5%, Senegal's is 2.2%, above that of Ghana (0.8%) or neighboring Guinea (0.9%), which has experienced much more significant challenges with Ebola (Africa CDC 2021).

Moreover, as it seems to be more the norm than the exception (Kadio, Dagenais, and Ridde 2018), science has not been of much help in formulating the response in Senegal, unlike Korea, which has "put 'science' over 'policy" (Moon 2020). This was also the case in South Africa at the beginning of the pandemic "Over time, as more and more pressure built, a larger and larger schism developed between the administration and the scientists advising it." (Harris 2021). The response in Senegal was primarily based on know-how and experience, and not so much on the state of scientific know-ledge about epidemic control interventions. If we understand policy design as "the application of knowledge about policy means gained from experience and reason to the development and adoption of courses of action expected to attain desired goals" (Howlett

and Mukherjee 2017), we understand that in the case of Senegal, the knowledge convened was essentially tacit and not very scientific, especially that of (biomedical) experts and not of civil society. No policy dialogue (Robert et al. 2020) or deliberation (Howlett 2019), beyond (biomedical) health experts seem to have been organized with civil society actors and academics during the process of formulating the response and choosing instruments. One may wonder why the multiple research studies in Senegal on the mobilization of Red Cross volunteers (Desclaux and Sow 2015) and the management of suspected cases (Desclaux et al. 2018) during the Ebola epidemic or the experience of civil society mobilization in the fight against HIV-AIDS (Carillon et al. 2021) have not been better taken into account when they were available, and often in French. The Ebola epidemic in West Africa has shown the importance of community involvement for the effectiveness of the response: "Effective community engagement benefits policymaking" (Coltart et al. 2017). However, several workshops and moments of reflection were organized during the process, from a reflective perspective, to understand what needed to be improved, notably through a broad review of the actions over several days with around a hundred people involved (CNGE 2020). Scientists were not really present in these workshops. Should this be interpreted as a lack of willingness on the part of decision-makers to look at science (social or public health), a low desire of researchers to share their studies with decision-makers in an accessible and action-oriented format and language as has been shown in Burkina Faso (Dagenais 2021; McSween-Cadieux et al. 2017), a lack of interactive knowledge transfer strategies as advocated by research (Langer, Tripney, and Gough 2016), or simply a lack of trust between these two worlds (decision-makers vs. researchers) in times of COVID-19 (Cairney and Wellstead 2020)? Yet, we know that to understand a problem like COVID-19 and find instruments to tackle it, "there is no single 'view" (Berger et al. 2021).

## 6. Conclusion

This analysis illustrates a relatively classic yet expected process for a public health policy in an emergency context of formulating the response to the COVID-19 pandemic. This formulation was highly centralized, biomedical, with little participation or intersectoral involvement and little influence from the world of science (Cambon et al. 2021). Coalitions of actors have influenced the nature of the policy instruments chosen to address the pandemic. One may wonder whether the set of shortcomings discussed in this study, contributes to the explanation of the evolution of the pandemic in the country, which seems to have a natural history not associated with government interventions whose implementation will need to be studied. As the country faced an unprecedented third wave of COVID-19 in 2021, it remains to be analyzed whether the choices of new instruments to counter it will follow the lessons learned from the design literature proposing that they should be coherent, consistent, and congruent (Howlett and Mukherjee 2018).

## Acknowledgments

We would like to thank Antoine Raymond Ndiaye, Mansour Sane, Babacar Kane, Jean Augustin Diégane Tine and all the participants in the MSAS workshop. Special thanks to Lola

Traverson, Zoé Richard, and Heather Hickey for their meticulous proofreading of the text, which allowed us to improve it as well as the two reviewers.

#### **Disclosure statement**

This study was carried out as part of an evaluation financed by the World Bank.

#### ORCID

Valéry Ridde () http://orcid.org/0000-0001-9299-8266

#### References

- Africa CDC. 2021. Outbreak Brief 81: Coronavirus Disease 2019 (COVID-19) Pandemic, 10. Africa CDC, African Union.
- Artigas, A. 2014. "Politiques publiques «ailleurs»." In *Dictionnaire des politiques publiques*, 452–460. Presses de Sciences Po. doi:10.3917/scpo.bouss.2014.01.0452.
- Bali, A., and D. Halpin. 2021. "Agenda-Setting Instruments: Means and Strategies for the Management of Policy Demands." *Policy and Society* 40 (3): 312–333. doi:10.1080/14494035. 2021.1955489.
- Bardach, E. 2000. A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving. Chatham House Publishers Seven Bridges Press.
- Béland, D., and M. Howlett. 2016. "How Solutions Chase Problems: Instrument Constituencies in the Policy Process: Instrument Constituencies in the Policy Process." *Governance* 29 (3): 393–409. doi:10.1111/gove.12179.
- Berger, L., N. Berger, V. Bosetti, I. Gilboa, L. P. Hansen, C. Jarvis, M. Marinacci, and R. D. Smith. 2021. "Rational Policymaking during a Pandemic." *Proceedings of the National Academy of Sciences* 118 (4): e2012704118. doi:10.1073/pnas.2012704118.
- Bergeron, H. O. Borraz, P. Castel, and F. Dedieu. 2020. "Covid-19: Une crise organisationnelle." In *Http://journals.openedition.org/lectures*. Première éd. Les Presses de Sciences Po. http://journals.openedition.org/lectures/44142.
- Bonnet, E., O. Bodson, F. L. Marcis, A. Faye, E. Sambieni, F. Fournet, F. Boyer, A. Coulibaly, et al. 2021. "The COVID-19 Pandemic in Francophone West Africa: From the First Cases to Responses in Seven Countries." *BMC Public Health* 1–17. doi:10.1186/s12889-021-11529-7.
- Brinkerhoff, D. W, and J. M. Brinkerhoff. 2013. "Development Management and Policy Implementation. Relevance beyond the Global South." In *Routledge Handbook of Public Policy*, edited by E. Araral, S. Fritzen, M. Howlett, M. Ramesh, and X. Wu, 274–383. Routledge.
- Brugha, R., and Z. Varvasovszky. 2000. "Stakeholder Analysis: A Review." *Health Policy and Planning* 15 (3): 239–246.
- Cabore, J. W., H. C. Karamagi, H. Kipruto, J. A. Asamani, B. Droti, A. B. W. Seydi, R. Titi-Ofei, et al. 2020. "The Potential Effects of Widespread Community Transmission of SARS-CoV-2 Infection in the World Health Organization African Region: A Predictive Model." *BMJ Global Health* 5 (5): e002647. doi:10.1136/bmjgh-2020-002647.
- Cairney, P. 2012. Understanding Public Policy: Theories and Issues. Palgrave Macmillan.
- Cairney, P. 2021a. "The Politics of Policy Design." EURO Journal on Decision Processes 9: 100002. doi:10.1016/j.ejdp.2021.100002.
- Cairney, P. 2021b. "The UK Government's COVID-19 Policy: Assessing Evidence-Informed Policy Analysis in Real Time." *British Politics* 16 (1): 90–116. doi:10.1057/s41293-020-00150-8.

- Cairney, P., and A. Wellstead. 2020. "COVID-19: Effective Policymaking Depends on Trust in Experts, Politicians, and the Public." *Policy Design and Practice* 4:1, 1–14. doi:10.1080/25741292.2020.1837466.
- Cambon, L., H. Bergeron, P. Castel, V. Ridde, and F. Alla. 2021. "When the Worldwide Response to the COVID-19 Pandemic is Done without Health Promotion." *Global Health Promotion* 28 (2): 3–6. doi:10.1177/17579759211015129.
- Capano, G. 2020. "Policy Design and State Capacity in the COVID-19 Emergency in Italy: If You Are Not Prepared for the (un)expected, you can be only what you already are." *Policy* & Society 39 (3): 326-344. doi:10.1080/14494035.2020.1783790.
- Carillon, S., F. Hane, I. Bâ, K. Sow, and A. Desclaux. 2021. "La Réponse Communautaire à la Pandémie de Covid-19 au Sénégal: Un Rendez-Vous Manqué?" *Mouvements* 105 (1): 92–103. doi:10.3917/mouv.105.0092.
- Carlitz, R., T. Yamanis, and H. Mollel. 2021. "Coping with Denialism: How Street-Level Bureaucrats Adapted and Responded to COVID-19 in Tanzania." *Journal of Health Politics, Policy and Law* 46(6):989–1017. 9349128. doi:10.1215/03616878-9349128.
- CNGE. 2020. Rapport de la Revue Intra-Action (RIA) Nationale Multisectorielle de la lutte contre la pandémie liée au nouveau coronavirus (COVID-19) au Sénégal, 117. PFN-RSI.
- Cohen, N., and N. F. Aviram. 2021. "Street-Level Bureaucrats and Policy Entrepreneurship: When Implementers Challenge Policy Design." *Public Administration* 99 (3): 427–438. doi: 10.1111/padm.12755.
- Cohen, M. D., J. G. March, and J. P. Olsen. 1972. "A Garbage Can Model of Organizational Choice." *Administrative Science Quarterly* 17 (1): 1–25. doi:10.2307/2392088.
- Coltart, C. E. M., B. Lindsey, I. Ghinai, A. M. Johnson, and D. L. Heymann. 2017. "The Ebola Outbreak, 2013–2016: Old Lessons for New Epidemics." *Philosophical Transactions of the Royal Society B: Biological Sciences* 372 (1721): 20160297. doi:10.1098/rstb.2016.0297.
- de suivi Comité. 2021. Rapport public des activités du comité de suivi de la mise en oeuvre des opérations du fonds de riposte et de solidarité contre les effets de la COVID-19 (FORCE COVID-19), 301.
- Dagenais, C. 2021. "Research Use at the Ministry of Health in Burkina Faso: The Decision-Makers' Perspective." *Implementation Science Communications* 2 (1): 22. doi:10.1186/s43058-021-00126-9.
- De Leeuw, E. 2001. "Investigating Policy Networks for Health: Theory and Method in a Larger Organizational Perspective." In *Evaluation in Health Promotion: Principles and Perspectives*, edited by I. Rootman, M. Goodstadt, B. Hyndman, D. V. McQueen, L. Potvin, J. Springett, and E. Ziglio, 185–206. WHO Regional Publications. European Series, No. 92.
- Desclaux, A. M. Diop, and S. Doyon. 2017. "Fear and Containment. Contact Follow-up Perceptions and Social Effects in Senegal and Guinea." In *The Politics of Fear: Médecins Sans Frontières and the West African Ebola Epidemic*, edited by M. Hofman and S. Au, 209–234. Oxford University Press.
- Desclaux, A., M. S. Malan, M. Egrot, F. Akindès, and K. Sow. 2018. "Patients Négligés, Effets Imprévus. L'expérience Des Cas Suspects de Maladie à Virus Ebola." *Santé Publique* 30 (4): 565. doi:10.3917/spub.185.0565.
- Desclaux, A., and K. Sow. 2015. "«Humaniser» Les Soins Dans L'épidémie D'Ebola? Les Tensions Dans la Gestion du Care et de la Biosécurité Dans le Suivi Des Sujets Contacts au Sénégal." *Anthropologie et Santé* 11 (11). doi:10.4000/anthropologiesante.1751.
- Diouf, I., A. Bousso, and I. Sonko. 2020. "Gestion de la Pandémie COVID-19 au Sénégal." Médecine de Catastrophe-Urgences Collectives 4 (3): 217–222. doi:10.1016/j.pxur.2020.08.009.
- Druetz, T. S. Zongo, and V. Ridde. 2015. Le Retour de la Conception Biomédicale du Paludisme Dans Les Institutions Internationales. *Mondes en Développement* 2 (170): 41–58.
- Echenberg, M. J. 2011. Africa in the Time of Cholera: A History of Pandemics from 1817 to the Present. Cambridge University Press.
- Erikson, S. 2019. "Faking Global Health." Critical Public Health 29 (4): 508-516. doi:10.1080/ 09581596.2019.1601159.

Fillol, A., K. Kadio, and L. Gautier. 2020. "L'utilisation Des Connaissances Pour Informer Des Politiques Publiques: D'une Prescription Technocratique Internationale à la Réalité Politique Des Terrains." *Revue Française Des Affaires Sociales* 4: 103–127. doi:10.3917/rfas.204.0103.

Friedberg, E. 2009. La théorie des organisations et la question de l'anarchie organisée, 271-289.

- Friel, S., B. Townsend, M. Fisher, P. Harris, T. Freeman, and F. Baum. 2021. "Power and the people's health." *Social Science & Medicine* 282: 114173. doi:10.1016/j.socscimed.2021. 114173.
- Harris, J. 2021. "The Politics of Coronavirus Response in South Africa." In *Coronavirus Politics: The Comparative Politics and Policy of COVID-19*, edited by S. Greer, E. King, E. Massard da Fonseca, and A. Peralta-Santos, 580–599. University of Michigan Press. doi:10. 3998/mpub.11927713.
- Harris, P., F. Baum, S. Friel, T. Mackean, A. Schram, and B. Townsend. 2020. "A Glossary of Theories for Understanding Power and Policy for Health Equity." *Journal of Epidemiology* and Community Health. 74:548–552. doi:10.1136/jech-2019-213692.
- Hill, M. J, and P. L. Hupe. 2014. Implementing Public Policy: An Introduction to the Study of Operational Governance. 3rd ed. SAGE Publications.
- Howlett, M. 2011. Designing Public Policies: Principles and Instruments. Routledge.
- Howlett, M. 2019. The Policy Design Primer: Choosing the Right Tools for the Job. Routledge; Taylor & Francis Group.
- Howlett, M, and I. Mukherjee. 2017. *Handbook of Policy Formulation*. Edward Elgar Publishing. doi:10.4337/9781784719326.
- Howlett, M, and I. Mukherjee. 2018. "Introduction: The Importance of Policy Design: Effective Processes, Tools and Outcomes." In *Routledge Handbook of Policy Design*, edited by M. Howlett and I. Mukherjee, 3–19. Routledge; Taylor and Francis Group.
- Hubmann, M. 2021. "Chronicity of Disruptive Project Rhythms: The Projectification of the 'post-Ebola' Health System Rebuilding in Sierra Leone." *Time & Society* 30 (3): 379-401. doi:10.1177/0961463X211005207.
- Jones, C., L. Gautier, and V. Ridde. 2021. "A Scoping Review of Theories and Conceptual Frameworks Used to Analyse Health Financing Policy Processes in Sub-Saharan Africa." *Health Policy and Planning* 36 (7): 1117–1197. doi:10.1093/heapol/czaa173.
- Kadio, K., C. Dagenais, and V. Ridde. 2018. "De la Formulation D'une Politique Nationale à la Compilation D'actions de Protection Sociale: Un Cas de «Non-Design» au Burkina Faso." Revue Internationale de Politique de Développement 10.1: 10-11.
- Kingdon, J. W. 1995. Agendas, Alternatives and Publics Policies. 2nd éd. Harper Collins.
- Laborier, P., and D. Trom, éds. 2003. *Historicités de L'action Publique*. Presses Univ. de France.
- Lai, S., N. W. Ruktanonchai, L. Zhou, O. Prosper, W. Luo, J. R. Floyd, A. Wesolowski, et al. 2020. "Effect of Non-Pharmaceutical Interventions to Contain COVID-19 in China." *Nature* 585 (7825): 410–413. doi:10.1038/s41586-020-2293-x.
- Langer, L., J. Tripney, and D. Gough. 2016. The Science of using Science: Researching the Use of Research Evidence in Decision-Making.
- Lascoumes, P., and P. Le Galès. 2007. "Understanding Public Policy through Its Instruments." *Governance 20* (1): 1–14.
- Lavigne Delville, P, and A. Aghali. 2010. A cheval donné, on ne regarde pas les dents: Les mécanismes et les impacts de l'aide vus par des praticiens nigériens (Etudes et Travaux du LASDEL 83). LASDEL.
- Lavigne Delville, P., and S. Schlimmer. 2020. "Saisir L'action Publique en Afrique à Travers Les Instruments. Avant-Propos." *Revue Internationale de Politique Comparée* 27 (2-3): 9-32. doi:10.3917/ripc.272.0009.
- Lazarus, J. V., S. Ratzan, A. Palayew, F. C. Billari, A. Binagwaho, S. Kimball, H. J. Larson, et al. 2020. "COVID-SCORE: A Global Survey to Assess Public Perceptions of Government Responses to COVID-19 (COVID-SCORE-10)." PLOS One 15 (10): e0240011. doi:10.1371/ journal.pone.0240011.

- Lee, K, and H. Goodman. 2002. "Global Policy Networks: The Propagation of Health Care Financing Reform since the 1980s." In *Health Policy in a Globalising World*, edited by K. Lee, K. Buse, and S. Fustukian, 97–199. Cambridge University Press.
- Lemieux, V. 1995. L'étude Des Politiques Publiques, Les Acteurs et Leur Pouvoir. Les presses de l'Université Laval.
- Li, Y., H. Campbell, D. Kulkarni, A. Harpur, M. Nundy, X. Wang, and H. Nair. 2020. "The Temporal Association of Introducing and Lifting Non-Pharmaceutical Interventions with the Time-Varying Reproduction Number (R) of SARS-CoV-2: A Modelling Study across 131 Countries." *The Lancet Infectious Diseases*. 21: 193–202. doi:10.1016/S1473-3099(20)30785-4.
- Loewenson, R., K. Accoe, N. Bajpai, K. Buse, T. A. Deivanayagam, L. London, C. A. Méndez, et al. 2020. "Reclaiming Comprehensive Public Health." *BMJ Global Health* 5 (9): e003886. doi:10.1136/bmjgh-2020-003886.
- Luis, B. 2021. "Le monde n'a pas retenu les leçons du sida." Regrette la Directrice d'ONUSIDA. https://www.rts.ch/info/monde/12446472-le-monde-na-pas-retenu-les-lecons-du-sida-regrette-la-directrice-donusida.html
- McSween-Cadieux, E., C. Dagenais, P.-A. Somé, and V. Ridde. 2017. "Research Dissemination Workshops: Observations and Implications Based on an Experience in Burkina Faso." *Health Research Policy & Systems* 15 (1): 43.
- Moon, M. J. 2020. "Fighting COVID-19 with Agility, Transparency, and Participation: Wicked Policy Problems and New Governance Challenges." *Public Administration Review* 80 (4): 651–656. doi:10.1111/puar.13214.
- Moulin, A.-M. 2021. "Guérir en Afrique ou le Silence Qui Parle." In *Guérir en Afrique: Promesses et Transformations*, edited by A. Desclaux, A. Diarra, and S. Musso. L'Harmattan.
- MSAS. 2020. Plan D'investissement Pour un Système de Santé et D'action Sociale Pérenne 2020/ 2024, 43. Ministère de la Santé et de l'Action Sociale.
- MSAS. 2021. Cartographie Des Interventions en Ressources Humaines en Santé Dans le Contexte de la Pandémie de COVID-19 Etude de Cas du Sénégal, 49. MSAS.
- Mucciaroni, G. 2013. "The Garbage Can Model and the Study of the Policy-Making Process." In *Routledge Handbook of Public Policy*, edited by E. Araral, S. Fritzen, M. Howlett, M. Ramesh, and X. Wu, 320–328. Routledge.
- Niang , C. I. N. Diop, E. H. Sy, F. Cissé, A. Gning, and M. Thiam. 2020. Recherche Action Sur L'épidémie de covid19 à Touba, Sénégal. Résultats Préliminaires et Recommandations, 17. Ministère de la Santé et des Affaires Sociales.
- Or, Z., C. Gandré, I. Durand Zaleski, and M. Steffen. 2022. "France's Response to the Covid-19 Pandemic: Between a Rock and a Hard Place." *Health Economics, Policy and Law* 17 (1): 13–14. doi:10.1017/S1744133121000165.
- Patton, M. Q. 2002. Qualitative Research and Evaluation Methods. 3rd éd. Sage Publications.
- Paul, E., G. W. Brown, M. Dechamps, A. Kalk, P.-F. Laterre, B. Rentier, V. Ridde, and M. Zizi. 2021. "COVID-19: An 'Extraterrestrial' Disease?" *International Journal of Infectious Diseases* 110: 155–159. doi:10.1016/j.ijid.2021.07.051.
- Paul, E., G. W. Brown, and V. Ridde. 2020. "COVID-19: Time for Paradigm Shift in the Nexus between Local, National and Global health." *BMJ Global Health* 5 (4): e002622. doi: 10.1136/bmjgh-2020-002622.
- Peters, B. G. 2018. "The Challenge of Policy Coordination." Policy Design and Practice 1 (1): 1–11. doi:10.1080/25741292.2018.1437946.
- Rajan, D., K. Koch, K. Rohrer, C. Bajnoczki, A. Socha, M. Voss, M. Nicod, V. Ridde, and J. Koonin. 2020. "Governance of the Covid-19 Response: A Call for More Inclusive and Transparent Decision-Making." *BMJ Global Health* 5 (5): e002655. doi:10.1136/bmjgh-2020-002655.
- Ridde, V. 2009. "Policy Implementation in an African State: An Extension of the Kingdon's Multiple-Streams Approach." *Public Administration* 87 (4): 938–954. doi:10.1111/j.1467-9299.2009.01792.x.

- Ridde, V. 2021. "The Challenges of Universal Health Coverage in Sub-Saharan Africa: Permanence and Failures of New Public Management Instruments." In *Une Couverture Sanitaire Universelle en 2030*?, 1–50. Éditions Science et Bien Commun. https://scienceetbiencommun.pressbooks.pub/cus/.
- Ridde, V. B. Kane, I. Gaye, F. Ba, A. Diallo, E. Bonnet, Z. Traoré, and A. Faye. 2020. Acceptability of Government Measures Against Covid-19 Pandemic in Senegal: A Mixed Methods Study. Plos Global Public Health (in press). doi:10.21203/rs.3.rs-131071/v1.
- Robert, E., D. Rajan, K. Koch, A. Muggleworth Weaver, D. Porignon, and V. Ridde. 2020.
  "Policy Dialogue as a Collaborative Tool for Multistakeholder Health Governance: A Scoping Study." *BMJ Global Health* 4 (Suppl 7): e002161. doi:10.1136/bmjgh-2019-002161.
- Sabatier, P. A., and C. M. Weible, éds. 2014. *Theories of the Policy Process*. 3rd ed. Westview Press, A Member of the Persus Books Group.
- Sandström, A., C. Söderberg, C. Lundmark, J. Nilsson, and D. Fjellborg. 2020. "Assessing and Explaining Policy Coherence: A Comparative Study of Water Governance and Large Carnivore Governance in Sweden." *Environmental Policy and Governance* 30 (1): 3–13. doi: 10.1002/eet.1871.
- Sarr, S. C. Y. Ndiaye, Z. Sy, A. Diaw, I. Sonko, and T. Diaw. 2021. Exploration et Apprentissage Des Réponses, Des Preuves, Politiques et Systèmes Nationaux et Infranationaux de Riposte Contre la Covid-19 au Sénégal. Projet Catalysze, 36. MSAS.
- Soriat, C. 2020. "Bureaucratisation Par le Haut, Bureaucratisation Par le Bas. Diffusion et Réception D'un Instrument Managérial Dans le Contexte de la Santé au Bénin." *Revue Internationale de Politique Comparée* 27 (2-3): 111–136. doi:10.3917/ripc.272.0111.
- Sturdy, A. J., I. Kirkpatrick, N. Reguera, A. Blanco-Oliver, and G. Veronesi. 2021. "The Management Consultancy Effect: Demand Inflation and Its Consequences in the Sourcing of External Knowledge." *Public Administration*. 1–19. doi:10.1111/padm.12712.
- Touré, E. H. S. N., and H. Kane, éds. 2019. Pilotage Des Politiques Publiques au Sénégal de 1960 à 2012. L'Harmattan Sénégal.
- Veselý, A. 2021. "Autonomy of Policy Instrument Attitudes: Concept, Theory and Evidence." Policy Sciences 54 (2): 441–455. doi:10.1007/s11077-021-09416-4.
- Walt, G. 1994. *Health Policy: An Introduction to Process and Power*. Zed Press and University of Witwaterstand.
- Walt, G., and L. Gilson. 2014. "Can Frameworks Inform Knowledge about Health Policy Processes? Reviewing Health Policy Papers on Agenda Setting and Testing Them against a Specific Priority-Setting Framework." *Health Policy and Planning* 29 (suppl 3): iii6–iii22. doi:10.1093/heapol/czu081.
- Yamanis, T. (Nina), R. Carlitz, and H. A. Mollel. 2021. "Lessons from Tanzania." In *Coronavirus Politics: The Comparative Politics and Policy of COVID-19*, edited by S. Greer, E. King, E. Massard da Fonseca, and A. Peralta-Santos, 561–579. University of Michigan Press. doi:10.3998/mpub.11927713.
- Yin, R. K. 2012. Applications of Case Study Research. 3rd ed. SAGE.
- Zaki, B. L., and E. Wayenberg. 2020. "Shopping in the Scientific Marketplace: COVID-19 through a Policy Learning Lens." *Policy Design and Practice* 4:1, 15–32. doi:10.1080/25741292.2020.1843249.