

RESEARCH ARTICLE

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Financial issues in times of a COVID-19 pandemic in a tertiary hospital in Mali

Valéry Ridde^{1,2}  | Abdourahmane Coulibaly³ | Laurence Touré⁴ |
Mouhamadou Faly Ba² | Kate Zinszer^{5,6} | Emmanuel Bonnet⁷ |
Ayako Honda⁸

¹UMR 196, CEPED, The French National Research Institute for Sustainable (IRD), Université Paris Cité, Paris, France

²Institut de Santé et Développement (ISED), Université Cheikh Anta Diop, Dakar, Senegal

³Faculty of Medicine and Odontostomatology, University of Sciences, Techniques and Technologies, Bamako, Mali

⁴MISELI, Bamako, Mali

⁵School of Public Health, University of Montreal, Montreal, Quebec, Canada

⁶Centre de recherche en santé publique (CRéPS), Université de Montréal et CIUSSS du Centre-Sud-de-l'Île-de-Montréal, Montreal, Quebec, Canada

⁷UMR 215 Prodig, French National Research Institute for Sustainable (IRD), Aubervilliers, France

⁸Research Center for Health Policy and Economics, Hitotsubashi Institute for Advanced Study (HIAS), Hitotsubashi University, Tokyo, Japan

Correspondence

Valéry Ridde, UMR 196, CEPED, The French National Research Institute for Sustainable (IRD), Université Paris Cité, Paris F-75006, France.

Email: valery.ridde@ird.fr

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Abstract

Background: This study examines how the functioning of healthcare providers during the COVID-19 pandemic was affected by the government financing response, which was shaped by existing healthcare financing systems.

Methods: The study applied a single case study design at a tertiary hospital in Bamako during the 1st and 2nd waves of the COVID-19 pandemic. Data were gathered through 51 in-depth interviews with hospital staff, participatory observation, and reviewing media articles and hospital financial records.

Results: The study revealed the disruptions experienced by hospital managers, human resources for health and patients in Mali during the early stages of the pandemic. While the government aimed to support universal access to COVID-19-related services, efforts were undermined by issues associated with complex public financing management procedures. The hospital experienced long delays in transferring government funds. The hospital suffered a decrease in revenue during the early stages of the pandemic. Government budgets were not effectively used because of complex, non-agile procedures that could not adapt to the emergency. The challenges faced by the hospitals led to the delays in the staff payments of salaries and promised

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bonuses, which created potential for unfair treatment of patients. Excluding some COVID-19 related items from the government funded benefit package created a financial burden on people receiving services. The managerial challenges experienced in the study hospital during the first wave continued in the second wave.

Conclusions: Pre-existent issues in healthcare financing and governance constrained the effective management of COVID-19-related services and created confusion at the front line of healthcare service delivery.

KEYWORDS

COVID-19, finance, hospital, Mali, public management

Highlights

- During the early stages of the COVID-19 pandemic, the study hospital in Mali experienced significant delays in the transfer of government funds.
- Consequently, hospital staff experienced delays in the receipt of salaries and promised bonuses.
- Issues associated with the delay in the transfer of government funds to the hospital resulted in the potential for unfair treatment of patients.
- The health financing system and governance can constrain hospital resilience during times of crisis.

1 | BACKGROUND

Health systems in many African countries have suffered due to low public spending and health care users incur high out-of-pocket (OOP) costs when accessing care.¹ In 2017, 15 million people in Africa fell into poverty as a result of health spending.¹ In African countries where health service usage is based on people's ability to pay, there are concerns about equitable access to COVID-19 related services.² However, few studies have been undertaken to investigate how the existing healthcare financing context has affected healthcare service delivery and access to healthcare services during the COVID-19 pandemic.^{3,4}

Many health systems in West Africa are fragile and unable to withstand large shocks.⁵ In Mali, for example,⁶ the health system is poorly financed by government,⁷ there are a number of issues associated with health system governance,⁸ and the country was poorly prepared for the arrival of epidemics and pandemics, as seen with Ebola (15, 16),^{9,10} Lassa¹¹ and, more recently, COVID-19.^{5,12} In West Africa, health financing issues often impact on healthcare facilities and front-line healthcare providers, who are at the centre of healthcare service delivery. For example, insufficient resources have caused irregularities in the payment of bonuses and per diem allowances to health facility staff.^{13,14}

In response to COVID-19, by the end of February 2021, countries in the Economic Community of West African States (ECOWAS) had mobilised funding of \$158 billion, 42% of which was used on public health interventions and health systems.¹⁵ In May 2020, WHO encouraged the suspension of user fees for essential and other services

for all levels of healthcare providers in order to ensure equitable access to needed healthcare services during the pandemic.^{16,17} Consequently, many West African countries, including Mali, mobilised government funding to treat COVID-19 patients free of charge when they tested positive to COVID-19 and were treated in hospitals. Concurrently, while many West African countries developed cash transfer programs for households, few measures were available to COVID-19 patients who were asked to stay at home.¹⁸⁻²¹

With the health financing challenges already faced by West African countries prior to the COVID-19 pandemic, it is important to examine how those challenges affected the response to the pandemic and the resilience of health systems.⁴ This article examines the role of financial issues in the response to the pandemic in a tertiary hospital in the Malian capital, Bamako. The analysis focuses on the key actor groups in healthcare service delivery, both providers and recipients of the services, during the first two waves of the pandemic.

2 | METHOD

2.1 | Study framework

The functioning of healthcare providers during the COVID-19 pandemic has been affected by the government financing response to the pandemic, which is underpinned by existing healthcare financing systems.²² Given that government spending on health is relatively low in Mali and there are issues associated with the governance of healthcare financing, this paper examines the impact of the government's financing response to COVID-19 during the first and second waves of the pandemic on the key actors in hospitals, that is, the hospital organisation, individual staff and patients. More specifically, from the hospital (organisational) perspective, the paper looks at changes in the hospital budget, and the process of billing and receiving reimbursement from the government for COVID-19 related services. For individual staff in hospitals, the effects on staff salaries and bonuses are investigated. From the patient perspective, the financial burden that patients experienced due to accessing COVID-19 related services is explored. Figure 1 presents the study framework adapted from our research protocol.²³

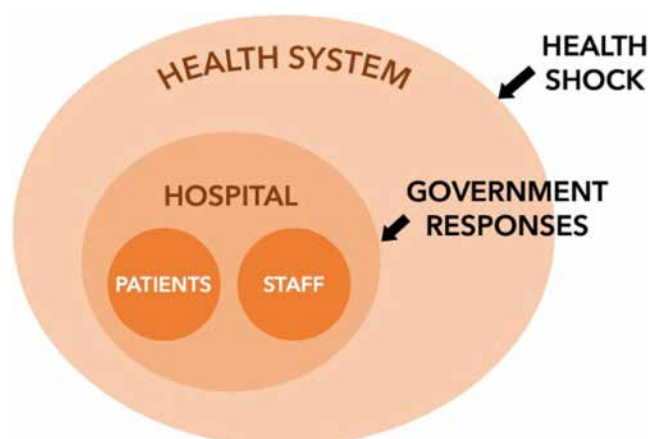


FIGURE 1 Conceptual framework. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

2.2 | Study design

The study applied a single, embedded case study design wherein a hospital providing care to COVID-19 patients is the case, and the experience of the hospital, its individual staff and patients are the units of analysis.²⁴ The study was undertaken as part of a multi-country study looking at the functioning of hospitals providing care to COVID-19 patients.²³ The study primarily uses a qualitative approach to address the study questions, with the data supplemented using quantitative information.

2.3 | Study site

Mali is located in West Africa and has a population of 19.1 million. In terms of the progress towards universal health coverage (UHC), in 2018, the health service coverage index was 42, which is lower than Sub-Saharan Africa average of 46, and the incidence of catastrophic health expenditure was estimated at 2.1% of the population.¹ Healthcare facilities charge user fees to patients, with exceptions for some services in the public sector. Mandatory health insurance has been gradually introduced since 2010 but has been resisted by civil servants.²⁵ Less than 5% of the population is covered by mandatory health insurance, employment-based health insurance or community-based insurance. The population coverage by any insurance mechanisms is higher in the capital, Bamako, with about 15% of the population covered.²⁶

Mali's health system suffers from low public spending on health. In 2019, less than 6% of the government budget was allocated to the health sector, lower than the Abuja target of 15%. Government health expenditure accounts for 24.9% of current health expenditure.²⁷ External sources of funding account for 33.5% of health expenditure, higher than the West and Central African average of 11%.²⁸ Out-of-pocket expenditure accounts for 31.4%. Less than 10% of health spending is funded by mandatory health insurance. The last (2015) National Health Accounts indicate that 35% of current health expenditure is spent at hospitals at national, regional and local levels, which has not changed since the 1980s.²⁹

Public hospitals receive a global budget from the government that is calculated on a historical basis. Hospital staff are employed as civil servants; however, hospitals can also recruit contract staff. User fees from patients are one of the main sources of income for public hospitals. In response to the COVID-19 pandemic, the government draughted a \$3.5 million national response plan, which included the provision of free COVID-19 related services, with costs covered by the government budget. However, the budget was not immediately available, which caused a delay in reimbursement for hospitals treating COVID-19 patients.

The case study was undertaken at a tertiary hospital in Bamako, the Malian capital. The hospital has autonomy in administrative and financial management, with a public service obligation as a referral hospital. Medical tents were used to accommodate the first COVID-19 cases. Subsequently, at the request of the government, the emergency department was extended to become the hospital's COVID-19 care site.

2.4 | Data collection

Qualitative in-depth interviews were conducted during the 1st wave of the pandemic (April to July 2020) and the 2nd wave (December 2020 to February 2021; see Figure 2) in the different departments of the hospital. A total of 51 interviews were conducted (8 doctors, 3 pharmacists, 19 paramedics, 21 support staff).

Further, to obtain a holistic view of the experience of the hospital, individual staff and patients, 229 observations were carried out (106 in the COVID-19 inpatient wards, 35 in the COVID triage room, 25 in the COVID intensive care unit and the rest in other wards in the COVID building and elsewhere in the hospital).

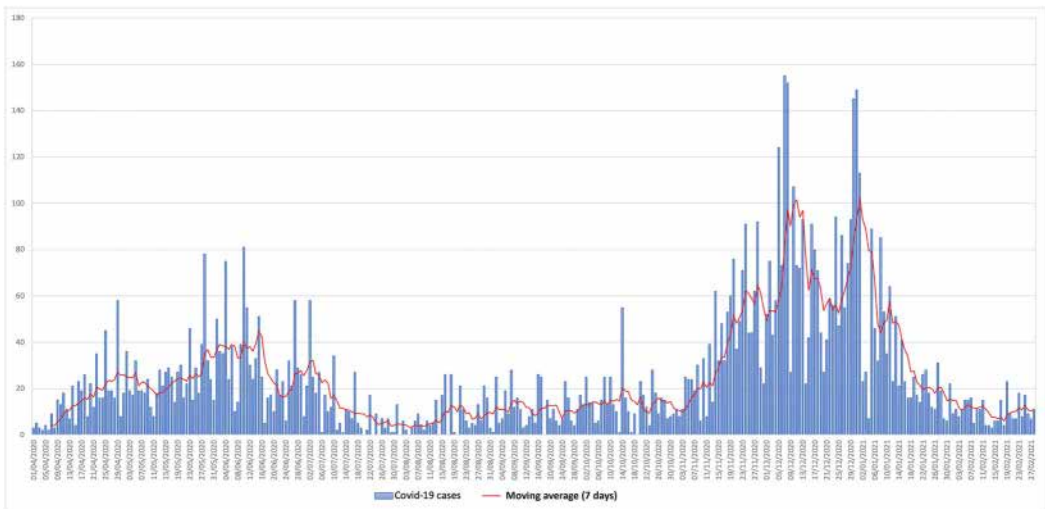


FIGURE 2 Daily number of COVID-19 cases from April 2020 to February 2021. Source: <https://www.covid19afrique.com>. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

Finally, a review of media articles and documentation from the financing department of the hospital was undertaken. Media articles referring to financial issues were systematically extracted from six key newspapers in Mali: three online newspapers (Maliweb.net, Maliactu.net, and ORTM.com) and three print newspapers (L'Essor, L'Indépendant, Le Journal du Mali). Data were extracted using the data collection template developed for the study. The articles were from the period from 1 January to 7 December 2020.

2.5 | Data analysis

All interviews were audio recorded with the consent of participants and the recordings were transcribed word-for-word. Manual qualitative data analysis of interviews, field notes from observations, and relevant media articles were guided by the principles of thematic analysis based on pre-identified and emergent themes, that is, using a deductive-inductive approach to coding.³⁰ The results of the research were presented to hospital management in April 2021 to confirm the validity of the data analysis. The hospital managers confirmed the findings of the analysis and provided additional information to support the findings, where necessary.

3 | FINDINGS

3.1 | The hospital experience—Delays in the government transfer of funds and reimbursement and decreased revenue

Since 2012, Mali has faced a fragile political and security context, resulting in a decrease in the government budget allocated to the study hospital. The hospital's projected expenditure for 2020 was 5.9 billion CFA, including 2.5 billion for hospital operations. The forecast revenue (mainly from user fees payments by patients) was 1.6 billion CFA (Personal communication).

In April 2020, 100 million CFA was allocated to the hospital by the government to cover expenses associated with providing COVID-19 related services in the first wave of the pandemic (70 million for bonuses, salaries and per

diem expenses and 30 million for medicines and medical equipment). However, the hospital estimated the quarterly requirements for COVID-19 to be 582 million CFA in the first wave of the pandemic.

The government asked for justifications for the first round of funding that we received. We sent these justifications but there was no Minister. We were therefore blocked at this level. There was no money to pay the [hospital] agents and the agents were already saying that they were going to stop taking charge of patient in the near future.

(Staff member, Technical unit)

In March 2020, before the allocated 100 million was received, the hospital purchased personal protective equipment (PPE), including gloves and masks, and spent 5 million CFA to set up triage tents for COVID-19 patients. In addition to the 100 million, in October 2020, the Health Ministry granted the hospital 131 million CFA via the National Treasury. The funding was provided to compensate for revenue shortfalls due to the pandemic and allow for the purchase of drugs, reagents for the laboratory, and equipment for the medical imaging department. The total amount of funding allocated by Ministry of Health to the hospital before the second wave was close to 600 million CFA. However, the funding did not cover disbursements already made by the hospital. In addition, there were issues with the use of these funds because they were held by Treasury and not transferred to the hospital's account (except the 100 million that was directly transferred to hospital account from the Health Ministry). Accessing the funding involved a further, complex public financial management procedure, wherein the funds are only made available to the public treasury after an administrative order. For direct expenses (payment of bonuses, fuel, etc.), disbursements are made by the hospital through the hospital administrator appointed by the Ministry of Economy and Finance. The unspent funds are returned to the Treasury by the hospital at the end of the budget year in accordance with public expenditure procedures. For indirect expenditure, such as the payment of services provided by suppliers, the hospital issues a payment request for the treasury to pay the supplier by direct transfer. For public procurement procedures, the hospital issues a financial request for the treasury to pay contractors. The payment request passed through the financial system at the Ministry of Economy and Finance. Additionally, the allocated funds could not be used to cover services provided during the 2nd wave of the pandemic as the budget for FY 2020 had to be used by the end of December 2020. As a result, the funds were retained by the Treasury.

The budget was allocated for use by 11 December... The budget – when you don't manage to use it all, at the end of the year, the funding gets cancelled.

(Staff member, Finance department)

When the 2nd wave of pandemic commenced in early December 2020 (Figure 2), the hospital had no specific funding from the government to treat COVID-19 patients, although the estimated resource requirements were sent by the hospital to the Ministry of Health in December 2020.

There were cases at the time, and we didn't have a franc at the hospital or anything. So how were we going to do it?

(Staff member, Finance department)

In addition to the complex procedures involved in public financing, the shared decision-making authority held by the Ministry of Health and Treasury over the allocation of government resources appeared to be the underlining cause of the delay in transferring the funds committed to the hospital. Any budgetary decisions had to be negotiated between the hospital, Ministry of Health and Treasury since the beginning of the COVID-19 crisis, as evidenced by the newspapers: *'expenses was made without consulting or agreement from Michel Hamala Sidibé, Mali's Minister of Health and Social Affairs'* (Nouveau Reveil, 04/2020) and that *'the boss of the Finance Ministry should mobilise resources'*

(L'indépendant 05/2020). Indeed, at the end of April 2020, a heated debate took place between the Minister of Health and the Prime Minister (also the Minister of Economy and Finance) on the management of these COVID-19 funds (Info Matin, 04/2020).

The lack of resources at the hospital due to the delay in the transfer of government funding affected the services provided to patients. For example, the hospital catering service was halted for several days because of payment arrears of three to 4 months.

In the meantime, the Hospital Director was pushing the Secretary General of the Ministry of Health, the Secretary General of the Ministry of Health was pushing his counterpart in the Ministry of Finance. They jostled for a while and finally managed to resolve the whole situation. In the meantime, we had a three-day stoppage. Three days without food and water (for the hospital). At that time, only the Director was still drawing on these resources [COVID extra budget] and had connections to everything so that people[staff and patients] could eat.

(Staff member, Technical unit)

The pandemic and a reduction in patients accessing hospital services during the first wave of the pandemic resulted in hospital revenue reducing to about half normal levels, according to hospital officials. The hospital finance department database shows that normal hospital revenue was approximately 100 million CFA per month prior to the commencement of the COVID-19 pandemic but dropped to 48 and 50 million CFA respectively in March and April 2020. Additionally, the reduced revenue resulted in a decrease in the rebates going to staff (normally 30% of profits).

In normal times, we receive rebates of around 200,000 francs per quarter, but in the first quarter of COVID we received around 70,000 francs.

(Staff member, Finance department)

Box 1 provides empirical expressions of the challenges and coping strategies of actors facing the difficulties of accessing drugs during this epidemic.

BOX 1 Between adaptations and payments to get drugs.

To ensure that the drugs prescribed by doctors, but which were not available in the hospital pharmacy, could be obtained by patients, the hospital management used hospital resources to purchase drugs without waiting for reimbursement from the State.

We were told that we could even buy medicines outside (the hospital) if necessary. The State would normally pay for them, but the hospital's funds could be used to buy medicines and the State would reimburse the hospital later. If there were prescribed medicines that don't have here, specialities, for example, the doctors may need them at some point so, if they prescribed them, and we could buy them outside the hospital.

(Pharmacy team member)

Delayed care for COVID patients was often linked to the lack of availability of certain drugs in the hospital pharmacy, particularly speciality drugs.

This (lack of certain drugs) delayed care. For example, if, at 11 pm; we were asked to provide a drug that was unavailable in the hospital pharmacy, the patient would have to wait until the next morning to get the treatment.

(Pharmacy team member)

Patients admitted to the triage unit pay for treatment while waiting to have their COVID positive status confirmed by the diagnostic testing. Drugs are often unavailable at the hospital pharmacy due to stock-outs; in this case, the patient's relatives travel to the city to purchase prescribed drugs.

Q: Do you sometimes run out of medicines or other products etc.?

A: Sometimes, some products are out of stock

Q: And what do you do when there are shortages of these products?

A: We replace the product and, if necessary, the family pays for the product at another pharmacy. The patient pays if the product is needed and we can't find a supplier.

3.2 | The experience of individual healthcare providers—Delays in promised bonuses and salaries

Long before the pandemic, the hospital had a shortage of all categories of staff. With many trainees abandoning their positions at the onset of the pandemic, during the 1st wave, the delivery of COVID-19 care relied heavily on interns, medical students and trainee nurses, who volunteered to work on the COVID-19 ward. Contracts for those providing COVID-19 care were short-term, of only three or 4-months duration.

Those responsible went to all departments looking for volunteers. I gave my name and then I started.

(Nurse, COVID-19 Unit)

In addition, the hospital management took the decision to re-deploy (permanent) hospital civil servant staff members. In June 2020, seven civil servant doctors and 22 privately contracted doctors worked with COVID-19 patients. The monthly salaries for COVID-19 ward staff were 400,000 CFA (610 EUR) for short-term contract doctors and 250,000 CFA (381 EUR) for short-term contract nurses, which are approximately twice the salaries usually paid to staff in those roles in the public service. In addition, bonuses were paid to medical civil servants (10,000 CFA (15 EUR) per day for category A doctors and nurses; 9000 CFA (14 EUR) for category B nurses, and 8000 CFA (12 EUR) for other categories of staff). Under non-COVID circumstances, doctors receive on-call bonuses of 4000 CFA (6 EUR) per day and nurses receive 2000 CFA (3 EUR). These COVID-19 salaries and bonuses resulted in a certain enthusiasm for hospital staff to provide COVID-19-related services.

Why did they all try to go and serve in the COVID zone? ... It's because they are better paid than us.

(Nurse, Paediatric department)

The allocation of staff to COVID-19 wards created tension and frustration in those who applied to work on the COVID-19 ward but were not selected to do the work, including trainees who had been volunteering at the hospital for a long time. In addition, the allocation of clinical staff to delivery of COVID-19 related services resulted in shortages in staff providing non-COVID-19 services.

With the majority of civil servant doctors being assigned to COVID, it's the young doctoral students who are doing the follow-up [on non-COVID-19 patients]. That's where the problem [of shortages] comes from. It is serious now.

(Nurse, General medicine department).

Although the salaries and bonuses offered for COVID-19 work were sufficiently attractive to hospital staff to encourage them take up positions on COVID-19 wards, there were long delays in the payment of the salaries and bonuses (of up to 3 months in the first wave, and 6 months in the second).

Our situation [of the delayed salaries and bonuses] is demotivating.

(Nurse, COVID-19 Unit)

These delays in payment were attributed to the administrative procedures at the Treasury, which remain cumbersome, and which have not been resolved during the pandemic. The delays in salary and bonus payments seem to have occurred not only the study hospital but in many other hospitals in the country.

The staff decided to organise a strike over the payment delays. The media reported it as a '*corona strike*' (Info Matin, 09/2020). However, the strike was not very effective. In fact, many doctors did not follow strike orders and services were maintained while nurses and other staff went on strike. Many of those who were on strike were replaced with new staff. Some of the leaders of the strike were contract workers and were dismissed without receiving all of the payment that was due to them.

All those who were on duty came. We betrayed ourselves. It was one month after the strike that we were paid. Of the three months [working with COVID-19 patients], people were only paid for two. On the other hand, the civil servants got paid for the whole three months.

(Stretcher-bearer, Hospital services department)

Some [of those who striked] did not get everything [they were owed]. But those who came back to work on the same day got paid all of the arrears.

(Nurse, COVID-19 Unit)

In December 2020, when the 2nd wave began, the accumulated arrears of salaries and bonuses varied between three and 6 months, depending on the staff category. These arrears were the subject of daily discussions among staff, who could not comprehend how such a situation had occurred. Some people received payment, but not in full, and this concerned both medical professionals and others.

It's the last month of this contract that has been paid. There are still 5 months of delays.

(Security guard)

Many contract nurses accepted work on the COVID-19 ward, not simply for financial reasons, but because they felt taking the job could open the door to permanent employment, as job security is considered to be very important in the field of nursing.

The first [reason for accepting employment on the COVID ward] is the fact that I was hearing behind the scenes that contract nurses recruited under COVID would be directly recruited into the civil service after the epidemic was over.

(Nurse, COVID-19 Unit)

However, at the end of the first wave, the dismissal of several contract staff took place at the request of the Ministry of Health, and against the advice of the hospital, which wished to maintain adequate staff numbers to cope with a possible new wave of the pandemic.

At the end of August, some former contract workers were also dismissed without being paid owed salaries. We went three months without salaries.

(Physician, COVID-19 Unit)

However, at the beginning of the second wave, some of the people who had been laid off after the first wave had to be recalled to work to treat the increasing number of COVID-19 patients. Some hospital staff refused to return to the COVID-19 ward due to their experience of unpaid salaries and bonuses during the first wave of the pandemic.

Since December 2020, the hospital had started to ask dismissed nurses to come back, but many refused. This was also the case for social workers. Two officers refused to come back.

(Stretcher bearer, Services department)

The management challenges of the first wave were not fully resolved when the second wave commenced. The delay in government funding to the hospital (described in the previous section) made contracting, management and payment of hospital staff difficult and created a complex situation with professional hierarchies and union action in the midst of the pandemic.

In this context, relations between administrative staff and other categories of staff became tense, with a number of nurses criticising hospital administrative staff for having lack of transparency, especially regarding salaries and bonuses. The poor relationship even led to suspicions of corruption.

We thought that the management had eaten [taken] their share.

(Staff trade union representative, Services department)

In fact, hospital financial officers reported that delays in payment were due to errors in the documentation that was sent by the hospital to the Treasury and payment was delayed until the errors were corrected. To ensure that the hospital's financial records complied with the procedures defined by Government for the management of public funds, oversight was provided. Consequently, when there was an error with the hospital documentation, it could be held at another level to await further information or clarification of contents. The documentation was also required to be processed by the National Budget Directorate before being sent to the Treasury (National Treasury Directorate).

The combination of all these delays has an impact on processing the payment.

(Staff member, Finance department)

The strain of the pandemic was exacerbated by the tensions between administrative staff and other hospital staff, particularly nursing staff, which was caused by a combination of financial need for medical supplies, delays in payment of salaries and bonuses, and delays in the receipt of government funding.

This could cause problems between the nursing staff and us [Finance Department]. They have other ideas about us, and they think that we, at our level, are deliberately delaying [the payments] or neglecting our work [which impacts on payment]. When I say "we", I also mean the hospital management.

(Staff member, Finance department)

3.3 | The patient hospital experience of COVID-19—Financial burden and unfair treatment

The arrival of the pandemic and the requirement to wear of masks, although necessary for infection control, had an impact on patients coming to the hospital during the first wave. In addition to the usual price of consultation (1500 CFA), doctors asked patients not wearing masks to buy one in the private pharmacy opposite the hospital. The hospital pharmacy charged 300 CFA but the pharmacy on the street charged about 50–100 CFA per mask. Further, there were press reports that masks that were supposed to be given away as part of the government operation 'one Malian, one mask' were being sold on the street (Wagadu, 02/21).

As with many countries in West Africa, patient carers (i.e., family members, relatives and friends accompanying patients to health facilities) are essential supports in hospitals, as human resources at the hospital are scarce.^{31,32} Infection control measures, which required COVID-19 patients to be isolated, made it difficult for patient carers to enter the hospital building, creating tension between the hospital and patients. Many carers gave money to the hospital staff, hoping that the patients would receive quality services and better care at the hospital:

After a doctor helped a man to give some things to the man's (sick) father who was located in the red zone [the COVID-19 building], the man slipped some money into the doctor's back pocket.

(Participatory observation, Research team member)

Differences in the healthcare received by patients occurred during the first waves of the COVID-19 pandemic, resulting in certain people, or acquaintances and family members of some hospital staff, receiving favoured treatment. Regardless of a patient's clinical condition, patients with networks, and some famous artists, often had privileged accommodation, such as VIP rooms in the COVID-19 unit, better care conditions, and received treatment without any charge for value-added services. In contrast, those without contacts in the hospital were sometimes neglected, which was especially noticeable in the second wave of the pandemic.

This patient, who no one came to see, even though their urinary catheter bag was full of urine, no one wanted to take care of them.

(Participatory observation)

Moreover, it seems that racial discrimination also occurred.

Two to four Chinese people came here, and we don't mix them with the blacks. They are put aside. If whites come, we put them in three-bed rooms. The Arabs are also put aside.

(Nurse, COVID-19 Unit)

Unlike for patients in the COVID-19 care unit where everything is free, patients admitted to the pre-screening unit pay for medication, examinations and blood tests before the screening results are delivered. For example, a person from a town two hours from the hospital was asked by a doctor at the screening hospital to have a scan in a private clinic at the cost of 90,000 CFA.

Chest X-ray machines were often used in diagnosis during the second wave of the pandemic due to long delays in obtaining biological test results, which was less of an issue in the first wave. Biological test were analysed at a national laboratory outside the hospital. The use of X-rays was not included in Mali's COVID-19 care protocol, but use of the X-ray machine in the second wave shows the hospital's ability to adapt to the situation. During the time spent waiting for the results (of scans and/or biological tests), patients incurred multiple expenses, for medicines, etc., with some people reporting bills of more than 35,000 CFA. An example of a patient who was finally declared COVID-19 positive is shown in Box 2.

BOX 2 Scanning and triage in hospital.

A: Yes, we paid all the expenses. We arrived here in the evening. As soon as we arrived, the doctor who was there asked us to go and do a scan. He asked us to go to clinic X for the scan. The doctor said that it would be quick. He asked us to wait for the result. But the man who did the scan said to wait until tomorrow morning. We insisted and it was at 0:00 (midnight?) that we got the result. When we came back here (the hospital?), the doctor said that our patient was positive for COVID.

Q: Did the triage workers tell you that the scan could be done here at the hospital or maybe that the one at the hospital was broken?

A: No, they didn't say anything. They asked all the patients to go to the clinic for a scan. Several patients were there. Everyone was going to the clinic. Nobody told us that the hospital's scanner had broken down. I didn't even know they had a scanner here.

Q: How much did the scan cost?

A: We did the scan for 90,000 CFA. After the scan, we bought a lot of medicine. The patient had blood samples taken several times. I think three or four times. I bought medicine on four occasions, the smallest amount I paid was 20,000 CFA. My brother bought more, and I haven't counted my sister's purchases. In total, I think we spent more than 300,000 CFA while waiting for a COVID diagnosis.

(Carer, Triage Unit)

Once in triage or the COVID-19 management building, patients were required to have their biological test results to decide whether they were positive and so hospitalised, or negative and discharged. COVID-19 testing was undertaken through a single, central facility in Bamako, which caused significant issues. During the second wave, the facility seemed to have been overwhelmed by the number of tests to be carried out.

Yes, it takes a long time. I have two patients who have been waiting for their results for six days.

(Staff member, Testing centre in Bamako)

For more than two weeks, there have been no results. We have sought a partnership with a private laboratory. This laboratory will do the analysis, otherwise XXX [the testing centre in Bamako] rarely gives the results of the control tests.

(Physician, COVID-19 Unit)

The inefficient management of the centralised testing centre had negative consequences on the care of COVID-19 patients due to delays in providing care or unnecessarily long hospitalisation, as a result of long delays in obtaining test results, or simply the lack of results.

Patients were tested [PCR] more than 4 or 5 times. Patients could count the number of times they were tested, and some refused to be tested again after having been tested several times without success.

(Participatory observation)

In addition, the delay in obtaining PCR testing results also instigated practices aimed at obtaining test results more quickly.

You go to see these people and tell them that you want to have the results quickly. You by-pass the normal circuit and there is a price for that.

(Physician, COVID-19 Unit)

Similar practices were observed in the COVID-19 unit of the hospital. For example, when patients gave 'gifts' to get the results of tests:

Ah, that's good. It's encouraging. It makes things easier, no?

(Physician, COVID-19 Unit)

A consequence of these delays was the introduction of free rapid diagnostic tests in the hospital. Initially, rapid tests were only intended for primary healthcare centres. Delivery of PCR test results improved in the middle of the second wave, according to health workers.

4 | DISCUSSION

The study hospital in Mali was under severe resource constraints even prior to the COVID-19 pandemic. The study highlighted the disruptions experienced by the hospital managers, human resources for health and patients in the early stages of the pandemic. The history of the health system¹⁶ and the context of this Sahelian country, which has been in political and security crisis for many years, contribute to explaining the underlying causes of the disruptions during the pandemic.³³ Indeed, the health system has been underfunded for a long time which has led to patients being required to pay user fees at the point of service.⁷ The situation has worsened since the 2012 political turmoil. The government faces severe recurrent budgetary challenges, which impacts on the ability to secure and pay for human resources for health. In 2021, Mali's health budget was approximately 150 billion CFA (less than EUR 230 million). Domestic government health expenditure as percentage of government expenditure has been below 6% since 2006. Consequently, the pandemic added challenges to the existing problems faced by the Malian health system.

4.1 | Financing response by government

A resilient health system requires three financing strategies to be implemented during health shocks: (1) ensuring that sufficient and stable funds are available to meet needs; (2) adaption of purchasing, procurement, and payment systems; and (3) support of universal health coverage and reduction of barriers to accessing health services.³⁴ In Mali, in response to the COVID-19 pandemic, the government prioritised funding for COVID-19 testing and treatment and provided these services to patients free of charge. To increase the availability of COVID-19 testing, the government also undertook the bulk procurement of PCR testing materials. While the government aimed to support universal access to COVID-19-related services by adapting healthcare purchasing functions (i.e., government allocated public funding for COVID-19 services and did not require patients to pay user fees), the efforts were somewhat undermined by issues associated with the implementation of the policy measures. For example, the hospital experienced long delays in the transfer of funds from the Ministry of Health due to issues with the management of public funding and the coordination between the Ministry of Health and Treasury, as discussed in the findings section.

4.2 | Governance and public financial management

As mentioned previously, healthcare financing issues in Mali are caused by low public spending on health and high reliance on external funding for health, which appears to impact on the government's ability to mobilise sufficient domestic resources in times of crisis.³⁵ Moreover, rigidity in the use of public funding constrains the response to crises, as seen in Mali since the beginning of the security crisis in 2012.^{36,37} This rigidity was exemplified in the challenge for Treasury to meet the needs of the Ministry of Health and for the Ministry of Health to release additional funding to the hospital in a timely manner. Studies on health systems³⁸ and health systems resilience in the face of the COVID-19 pandemic show the importance of agility in the allocation of funds, which largely depends on the regulations associated with public financial management.³⁴ The present study confirms that low agility and poor adaptability in public financial management challenges the use of available resources by healthcare providers in Mali. While this study focused on hospital management, a subsequent study is necessary to better understand whether, and in what way, the management of public funding is at the root of the problems between the Ministry of Health, hospital management and the Treasury.

4.3 | Salaries and bonuses

Challenges in government funding had consequences for funds management at both the hospital and individual healthcare provider levels. This study confirms that there are ongoing challenges in the management of salaries and bonuses for contract workers, and in the practice of gift-giving by patients to healthcare professionals. Contract workers and other volunteers play important roles in healthcare in West African health systems, which suffer from scarce human resources for health^{31,32} so management of these groups is very important. In a context of human resource scarcity, the challenges of relying on contract workers and volunteers to respond to a pandemic are emphasised, as seen previously in Guinea with the Ebola epidemic³⁹ and in other studies on the COVID-19 pandemic in Mali.⁴⁰

The importance of having sufficient human resources for health to enable resilience in hospitals under stress has been argued.³⁴ Indeed, during the COVID-19 pandemic, it is crucial to ensure sufficient financial resources are available to guarantee an adequate number of human resources for health are rapidly available in hospitals.⁴¹ In Mali, these conditions do not seem to have been met due to administrative challenges in paying workers adequately and on time. The strike attempted by staff reflected these challenges and the imbalance in the power relationship between various categories of staff, which should be the subject of future research.

4.4 | Equity in access to COVID-19 services

Following the WHO recommendations to abolish user fees for healthcare during the pandemic,⁴² COVID-19 treatment was provided free of charge at hospitals, but only after patient COVID-19 tests confirmed infection, and user fees for non-COVID services remained. Although free COVID-19 treatment was welcomed by patients, a variety of issues constrained equitable access to healthcare services during the early stages of the pandemic in Mali.

One issue, discussed in the findings section, was the practice of patients, and/or their families, providing 'gifts' to individual healthcare providers in an attempt to receive better services. This practice can be understood in a society where the anonymous patient does not get the attention they need, and has been well-studied for a long time in the region,^{8,32,43} and in Mali, in particular.^{44,45} While further, careful examination from a socio-cultural perspective is required, the practice could affect equitable access to healthcare services in that those who can afford to provide better gifts may have access to better services. It is important to further investigate the socio-economic differences in those accessing COVID-19 testing and care in the setting of Mali.

4.5 | Learning from the experience in Mali

Whether and the extent to which Sub-Saharan African countries with past experience of epidemics and pandemics, such as Ebola, have been able to use the experience in the response to the COVID-19 pandemic varies. Nigeria, for example, was able to learn from its experience of the Lassa epidemic to create a well-funded national institute that was staffed with qualified human resources and implement an effective strategy of preparedness and anticipation of health shocks such as COVID-19.⁴⁶

This study presented the account from the frontline of healthcare service delivery during the early stages of the COVID-19 pandemic in Mali. Further study is necessary to thoroughly investigate the underlying causes of the challenges experienced at the case-study hospital so that other hospitals and the health administration in Mali will be able to prepare for future health shocks. Such investigation may include examination of how public funding has been managed in Mali and what needs to be done to better respond during health shocks.

5 | CONCLUSION

The COVID-19 pandemic has revealed several critical issues associated with healthcare financing and governance in the health system in Mali. These issues existed even before the pandemic constrained the effective management of hospitals delivering COVID-19 related services and created confusion at the front-line of healthcare service delivery. There is a need to reflect on hospital operations and human resource management in Mali and learn from the COVID-19 experience so that hospitals are better able to respond to future health crises. Further examination of the management of public finances and the process of transferring government funds to hospitals is necessary to understand how best to create a supporting environment in which hospitals and hospital staff can deliver quality services and where patients can access needed services in times of crisis.⁴⁷

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

ETHICS STATEMENT

This research received approval from the National Ethics Committee for Health and Life Sciences of Mali (No. 120 MSAS/CNESS).

ORCID

Valéry Ridde  <https://orcid.org/0000-0001-9299-8266>

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AUTHOR BIOGRAPHIES

Valéry Ridde Université Paris Cité, IRD, Inserm, Ceped, F-75006 Paris, France and Institut de Santé et Développement, Université Cheikh Anta Diop, Dakar, Sénégal.

Abdourahmane Coulibaly Faculty of Medicine and Odontostomatology, University of Sciences, Techniques and Technologies, Bamako, Mali.

Laurence Touré MISELI, Bamako, Mali.

Mouhamadou Faly Ba Institut de Santé et Développement, Université Cheikh Anta Diop, Dakar, Sénégal.

Kate Zinszer School of Public Health, University of Montreal, Montréal, Québec, Canada and Centre de recherche en santé publique (CRePS), Université de Montréal et CIUSSS du Centre-Sud-de-l'Île-de-Montréal, Montréal, Quebec, Canada.

Emmanuel Bonnet PRODIG, French National Research Institute for Sustainable Development, 32 Avenue Henri Varagnat, 93140 Bondy, France.

Ayako Honda Graduate School of Economics, Hitotsubashi Institute for Advanced Study (HIAS), Hitotsubashi University, Tokyo, Japan.

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