Nepal: a primary health care case study in the context of the COVID-19 pandemic

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Executive summary

COVID-19 brought challenges to the relatively recently federalized health system of Nepal, and immense physical, mental, economic and social strain on the population. The health system was overwhelmed by COVID-19 cases in the 18 months from the beginning of the outbreak in January 2020, with the delivery of essential health care services hugely impacted due to significant capacity and resource constraints.

Primary health care (PHC) is regarded as a core pillar of the health care system as well as an essential foundation for both the global response to COVID-19 and for future disease outbreaks. Using the Astana framework (1) as a point of reference, this case study analyses PHC in Nepal through the lens of the COVID-19 response between January 2020 and June 2021. Evidence is drawn from a review of existing COVID-19 policies, guidelines and published literature, and secondary data analysis.

Effective strategies were used by the government to control COVID-19, including early initiation of a national policy response, rapid mobilization of response structures, expansion of laboratories and of intensive care beds, and the introduction of telemedicine services and vaccinations. Policies were implemented by federal, provincial and local governments despite constraints, while health workers showed resilience and motivation to serve to the best of their ability.

However, while all three tiers of government made efforts to tackle the pandemic, coordination between local, provincial and federal government was challenging, as was multisectoral action between public and private hospitals. Community engagement was demonstrated in several districts, but unclear roles and inadequate support were key reported challenges. Although communities aided in identifying individuals exposed to COVID-19 and in the establishment and management of quarantine centres, engagement efforts were constrained at a general level due to stigma around positive cases.

The first wave of the pandemic in 2020 had a moderate impact in terms of mortality and morbidity; however, the second wave in 2021 had a severe impact. Government policies allowing cross-border movement, large religious gatherings and crowded political rallies, and reopening of most public places, may have contributed to the spread of COVID-19. As a consequence of the surge in cases, Nepal’s health system became overstretched and patients were unable to access hospital care or basic medical supplies such as oxygen.
The COVID-19 pandemic revealed key challenges facing the health system in Nepal, which was pushed to its limits between January 2020 and June 2021. Gaps were evident in public health infrastructure, human resources, logistics and supply chain management, laboratory facilities and in the capacity to treat patients during a health emergency. Furthermore, the pandemic revealed a need to strengthen mechanisms to facilitate smooth and efficient coordination between the three tiers of government. Efforts to build a resilient health system could be considered that are founded in investment in PHC and a focus on human resources, health infrastructure and community engagement.
Introduction and national context

Primary health care (PHC) is regarded as a core pillar of the health care system. As such, it provides an essential foundation for the global response to COVID-19 as well as for future disease outbreaks. Using the Astana PHC framework (1) as a point of reference, this case study analyses PHC in Nepal in the context of the COVID-19 pandemic between January 2020 and June 2021.

Evidence is drawn from a desk review of existing COVID-19 policies, guidelines, situation reports, peer reviewed literature, grey literature and secondary data analysis. The study also draws from media reports relating to COVID-19 (captured from 1 January to 31 August 2020) and a review of COVID-19 policy (implemented between January and December 2020). The expertise and experience of the research team in supporting the government response to COVID-19 also informed the analysis.

Country context

Nepal is a low-income country with a population of 29.1 million, 15% of whom live below the poverty line of US$ 1.90 per day. Nepal ranked 142 of 189 countries in the 2020 Human Development Index, with a life expectancy at birth of 70.8 years and a Multidimensional Poverty Index rating of 0.074. The country recorded a gross national income (GNI) per capita of US$ 3457 in 2017, while 5.6% of gross domestic product was spent on health in 2020 (2).

Nepal is in the early years of implementing federalism, with a system consisting of three tiers of government: the federal government, seven provincial governments and 753 local governments. The delineated structures have begun to take ownership and to provide health services. This spans basic health services delivered through health posts and PHC centres at the community level, and through district hospitals at the district level. Tertiary referral hospitals at the provincial and federal levels coordinate with local government to deliver basic health services. Health services are challenged by a lack of trained human resources, insufficient supplies and medicines, and a poor referral system. Loosely regulated private health facilities concentrated in urban areas contribute to filling the service delivery gap. As such, Nepal faced the COVID-19 pandemic when the country’s health system was already fragile and facing various challenges.

COVID-19 trends

The first case of COVID-19 in Nepal was detected in January 2020 and the second case confirmed two months later on March 2020 (3). The number of reported COVID-19 cases was higher among men than women. A greater proportion of cases and deaths were observed in the districts bordering India, as well as in the highly populated districts in Bagmati, Gandaki and Lumbini provinces (4). To delay and prepare for the first wave of the pandemic, the
federal government initiated strict movement restrictions from 24 March to 21 July 2020. Although the movement restrictions were successful in limiting the number of cases, it caused economic hardship for some of the population. A surge in cases followed, which reached a peak in October 2020, before cases gradually declined. A more aggressive second wave in April 2021 prompted the government to impose further movement restrictions that began on 29 April. This measure was introduced late, however, leaving hospitals and PHC centres overwhelmed by COVID-19 cases.

Political commitment and governance of PHC

Health is a fundamental right according to the Constitution of Nepal. A commitment to health existed long before the recent shift to federalization, with Nepal making impressive headway in health since signing the Alma-Ata Declaration in 1978 (5). In 1991, PHC became a pillar of the national health policy and later formed the foundation of efforts to achieve universal health coverage (UHC) (6–8). The Federal Government has since adopted PHC as one of its core approaches to dispense policy, with the aim to provide equitable and quality health services for all (9). This focus has been accentuated due to the unprecedented impacts of COVID-19.

Federalism was expected to provide a responsive and resilient health system, assigning constitutional power for health to the three tiers of government (10). While health is a shared responsibility, clarity on concurrent functions and roles at each level has yet to be realized. The National Health Policy 2019 (11) decentralized PHC services to improve coverage by upgrading PHC centres to primary hospitals in 753 local governments; and health posts to PHC centres in 6684 municipal wards. On paper, the Ministry of Health and Population (MoHP) is responsible for planning, quality assurance, research, controlling outbreaks and managing specialized hospitals; the Provincial MoHP oversees provincial health offices and hospitals that provide specialized care, develop local health strategies and manage drug supply (12); and local governments are primarily responsible for delivering basic health services. Yet, in reality, the progressive health system has faced overlaps in functions and lacks coherence between policies and devolved powers to effectively address the needs of disadvantaged groups. There is concern that poor coordination has hampered effective utilization of available resources, and that the constitutionally mandated ‘3Cs’ approach – coordination, cooperation and co-existence – has been undermined (10).

Significant environmental, demographic and epidemiological transitions have taken place simultaneously, which have impacted health programmes and outcomes. Consequently, COVID-19 has added further strain to an already fragile health system. Strong leadership and political commitment could help to advance health within the federalized context and to strengthen and sustain well-functioning PHC to respond to future pandemics (13).
PHC funding and allocation of resources

Health care is primarily financed through revenue collected for health services; external development assistance in the form of financial aid, grants and loans; and substantial (56% of total health expenditure) out-of-pocket payments by the public (10). Although health programmes exist that prioritize access for the poor, resource allocation under the decentralized government is at times inequitable because it does not consider varying health care needs at the local level. Health funding from local taxes, subsidies and donations are not pooled in an integrated manner at provincial and local level and allocated to match local health needs (10).

Furthermore, several functions are decentralized, including resource planning and procurement of essential drugs and commodities, and yet most local governments do not have adequate expertise and experience to deliver these functions (10). Capabilities are also lacking at the local level to develop a health financing plan that prioritizes health care for communities in need of financial protection and that enables effective monitoring of health budgets and expenditures (10, 14).

Nepal’s experience during the COVID-19 pandemic between January 2020 and June 2021 reinforced that public funds alone are insufficient. Therefore, there are opportunities to develop and execute public–private partnerships for health care delivery at different levels of government. Additionally, the lack of a health financing strategy increases the risk of under- and over-spending and inefficient use of allocated resources, and consequently of interruptions to service delivery that affect marginalized groups in particular. Regulatory and support mechanisms are also needed to ensure a minimum quality of care by public and private providers (10, 14).

Community engagement and stakeholder partnerships

Over the years, government health policies and programmes have emphasized community engagement in service provision and the management of health facilities, with responsibility cutting across the three tiers of government (15). At the local level, Health Facility Operation Management Committees (HFOMC) include women, female community health volunteers (FCHVs) and members from marginalized groups. The Health Sector Gender, Equality and Social Inclusion (GESI) Strategy also aims to enhance community engagement, especially with disadvantaged groups (16).

While evidence exists of community mobilization for service delivery and changing health behaviour, there is less evidence of meaningful engagement in decision-making. In this regard, mechanisms such as HFOMC are crucial as they can enable community representation in the management of health services and direct engagement in planning and resource allocation. At the same time,
although the government has implemented social audits to engage citizens in health governance and to promote accountability and trust between service providers, community representatives and the public, this approach has not been practiced optimally (15, 17).

### How primary care and essential public health functions are responding to COVID-19

Nepal faced unprecedented challenges when dealing with COVID-19, with the impacts felt at system, community, household and individual levels (18). This section outlines key observations on how Nepal's PHC system responded to COVID-19 between January 2020 and June 2021 while continuing to deliver non-COVID health services.

#### Scaling up and managing critical emergency services

**Government response to the COVID-19 pandemic**

Following the emergence of COVID-19 in January 2020, the government activated the Infectious Disease Act 1964, swiftly revising it to give the federal government the sole power to delegate authority to provincial and local governments to control the spread of infectious disease. New structures were formed across the three tiers of government for early response (Fig. 1) and various policies, guidelines, directives and standard operating procedures (SoPs) were developed (Fig. 2).

Building on the foundation of the PHC system, the government developed the Health Sector Emergency Response Plan for COVID-19 in May 2020 (19, 27). Before this, several public health interventions were implemented, including movement restrictions, border closures, quarantine and isolation procedures, and social distancing measures. Despite these efforts, however, by March 2020 hospitals were overwhelmed and there was a critical shortage of intensive care beds and ventilators. Health facilities struggled to maintain both COVID-19 and non-COVID-19 services.
Figure 1. COVID-19 management and response structure

- **Federal Level**
  - Prime Minister
  - Direction Committee led by Deputy PM
  - Facilitation Committee led by the Chief Secretary
  - COVID-19 Crisis Management Centre (CCMC) led by Secretary, Office of the Prime Minister and Council of Ministers
  - Incident Command System, MoHP led by Secretary

- **Province Level**
  - Provincial CCMC

- **District Level**
  - District CCMC
  - Local CCMC
  - Local Level Coordination Committee

- **Local Level**
  - Local Level Coordination Committee

- **Ward Level**
  - Ward Level Coordination Committee

Source: Authors’ compilation (23).
How primary care and essential public health functions are responding to COVID-19

Figure 2. Timeline of COVID-19 policies and guidelines, January – November 2020

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 January</td>
<td>First confirmed COVID-19 case</td>
</tr>
<tr>
<td>17 March</td>
<td>Second confirmed COVID-19 case</td>
</tr>
<tr>
<td>14 May</td>
<td>First COVID-19 death</td>
</tr>
<tr>
<td>4 April</td>
<td>First local transmission</td>
</tr>
<tr>
<td>24 March</td>
<td>Nationwide movement restrictions</td>
</tr>
<tr>
<td>21 July</td>
<td>Directives regarding public health criteria during festivals</td>
</tr>
<tr>
<td>23 January - First confirmed COVID-19 case</td>
<td>Policies and guidelines on human resources for health management, management of COVID-19 and non-COVID-19 services, private lab testing, infection prevention and control, health services in quarantine, repatriation of Nepali citizens</td>
</tr>
<tr>
<td>14 May - First COVID-19 death</td>
<td>Guidelines regarding health care waste management, lab testing (amended), non-COVID-19 services, home quarantine</td>
</tr>
<tr>
<td>Directives and guidelines on air lifting COVID-19 patients, lab testing (amended), validation protocol for COVID-19 diagnostic items, dead body management (amended)</td>
<td></td>
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</table>
Movement and travel restrictions, and border checks

Amid concerns about community transmission, the government called for nationwide movement restrictions, effective from 24 March 2020 after the second COVID-19 case was confirmed. It halted the operation of businesses and the mobility of the population, cancelled all national and international flights, and closed major border crossings with India. However, complete closure of the borders with India was not possible as many Nepalese migrants working in India returned home (19–21). While the government established health desks to screen, test and quarantine returnee migrants at major entry points, there were management challenges. Limited testing facilities and minimal or no infection control measures at entry points and at quarantine and isolation centres fuelled the rapid spread of COVID-19 at community/household level (22).

Preparedness of the health system

The health system response to the pandemic was coordinated by the federal MoHP, with functions delineated at the provincial, district and local levels. System preparedness was largely based on past experience of responding to disease outbreaks and an earthquake in 2015. Realizing that responding to a pandemic of this scale was beyond the capacity of the health system and that a well-informed and coordinated approach was required, the government developed and executed a national health sector plan. With minimal stakeholder engagement, the government issued a policy directive to designate the provision of COVID-19 services to some health institutions that would later be reimbursed for the services provided. Based on capacity, initially six hospitals in the Kathmandu Valley and later 25 hospitals throughout the country were designated COVID-19 hospitals (23, 24). Such ad hoc decisions may have sidelined and delayed the provision of non-COVID-19 health services (25, 26).

Meanwhile, the government mobilized resources to increase adherence to public health measures, including the use of face masks, improved handwashing practices and social distancing. However, communities remained largely indifferent and continued to ignore the potential risk of transmission, particularly after the easing of movement restrictions (18). Case numbers continued to rise, and the health system struggled to deliver a timely response while facing a critical shortage in essential supplies such as personal protective equipment (PPE), oxygen and ventilators (19, 25, 26). Insufficient infrastructure, including test facilities and space for quarantine and isolation, and limited human resources with expertise in critical care were frequently reported throughout the country (25, 27).

Case investigation and contact tracing

A case investigation, tracing, testing and isolation approach was adopted early by the government in 2020. A guideline was developed and Case Investigation and Contact Tracing Teams (CIC TTs) comprising paramedics, nurses, laboratory workers and local representatives were mobilized and trained by all local governments (20, 28). With widespread community transmission, case investigation and contact tracing (CICT) became enormously challenging and the effectiveness of CIC TTs varied. Some local governments failed to implement
contact tracing due to inadequate resources, and there was weak coordination and communication between diagnostic labs and CICTTs. Unwillingness among the population to reveal their close contacts from fear of stigmatization also affected CICT efforts (9, 12). There was also a clear distinction in implementation of CICT between waves 1 and 2 – in wave 1 the local and provincial governments mobilized extensive resources for CICT while similar rigour was not applied in wave 2, despite a more aggressive outbreak.

Quarantine and isolation management

Quarantine management was the responsibility of local governments with technical guidance and resource support provided at the federal and provincial levels. The government introduced a quarantine policy in June 2020 which made 14 days of self-quarantine mandatory for everyone entering the country (20, 28). Managing quarantine and isolation centres was new for Nepal, however, and thus there was a lack of clarity on roles between different levels of governments, which all had limited capacity.

Many schools and other government buildings were converted to quarantine centres and the multisector collaboration to build quarantine and isolation centres at the local level was commendable. The actual running of the centres was problematic, however. Several challenges were reported in managing quarantine for returnee migrants from foreign countries (particularly India), including overcrowding and a lack of basic infection prevention measures (23, 26, 27). Similarly, isolation centres lacked physical facilities and human resources, and patients complained of receiving inadequate health care and daily essentials such as water and food (26, 29). With a shortage of isolation wards, the government introduced home isolation for people with mild COVID-19 symptoms and established hotline numbers to provide information, including telemedicine consultations to reduce the workload of staff within health facilities.

Management of the health workforce

Frontline health workers showed a great deal of resilience and motivation to serve, despite working under tremendous pressure with limited technical guidance and infrastructure and enduring discrimination from society (19, 29, 30).

The government initiated various mechanisms to support the overstrained health workforce, including the COVID-19 Human Resource Management Plan. Authority was decentralized for the redeployment of human resources at provincial and local levels, financing was provided to recruit additional workers and financial incentives were introduced for frontline workers managing COVID-19 cases. However, implementation of these strategies was constrained by poor coordination between government authorities at different levels, which resulted in delayed decision-making, communication and funding flows (22, 31) and ultimately demotivation among health workers.
Other approaches were also adopted, which saw health workers within a province deployed from one district to another and within municipalities from one health facility to another. Similarly, Nepal’s army deployed retired medical staff to help manage the surge in COVID-19 cases. A retired general of the Nepalese army was appointed to lead the COVID-19 Crisis Management Ordinance (which replaced the COVID-19 Crisis Management Committee) from August 2021.

**Rapid expansion of emergency services**

Within a short period, several initiatives were undertaken by the government to expand the delivery of emergency services. This included the expansion of laboratories (from one to 83 labs for processing polymerase chain reaction (PCR) tests), intensive care units (ICUs) and ventilator services, as well as the establishment of oxygen plants, a telemedicine platform for service delivery, an ambulance tracking system, an integrated information management platform for COVID-19, a referral management system, and quarantine and isolation centres. The rapid expansion of laboratories increased access to testing facilities, which contributed to early CICT efforts to contain the spread of the virus. Reforms in the Information Management Unit (IMU) assisted Incident Command System (ICS) operations and other ICS teams and entities of the MoHP by providing regular information to help them make informed decisions. The setting up of temporary COVID-19 hospitals and oxygen plants in public and private hospitals helped to meet the increased demand for oxygen (23).

**Vaccinations**

During the period under review, a large number of immunization centres and trained vaccinators were mobilized to roll out Nepal’s COVID-19 vaccine programme through the well-established PHC routine immunization system. Past experience of conducting national vaccination campaigns and community acceptance of vaccines enabled the safe and timely roll out of the COVID-19 vaccine.

By 16 August 2021, Nepal had procured around 50 million vaccine doses, some of which had been received and some had not. Overall, approximately 8.21 million vaccine doses had been administered by this date, with 16.5% of the total population having received their first dose and 12.2% their second dose (32). Yet this fell short of the government’s plan to vaccinate the 72% of its population who were eligible for the vaccine. The federal government continued its effort to procure more vaccines to fulfil the gap through bilateral dialogue and direct procurement (33). However, uncertainty remained at the time of writing regarding supplies and the shortage of vaccine doses, and challenges in swiftly vaccinating the entire eligible population. Moreover, there were media reports that vaccines were not provided equitably, and that the general public suffered while politicians and wealthy and influential people had access (32). Although the vulnerable elderly population were prioritized to receive their first dose, some experienced delays of more than five months for their second dose.
Preparedness for the second wave

Wave 1 in 2020 brought tough lessons for Nepal’s policy-makers on the need to invest in the health system. It underscored that multisector collaboration, community engagement and a pluralistic health system operated by the public, private and informal sector were essential for a resilient health system.

By the time wave 2 began in April 2021, public, private and community stakeholders had worked in partnership to establish quarantine and isolation centres and to strengthen the delivery of critical care in hospitals. Several policy directives and guidelines were issued and updated in line with emerging evidence. However, deficiencies remained in the national response to wave 2, particularly with regards to critical care beds in hospitals, the referral system, and the shortage of drugs and oxygen (12, 29, 31).

Limited epidemiological projections and use of information in preparing for wave 2 also resulted in a poor response. Government decisions to allow border crossings and to ease restrictions on gatherings of large numbers of people for ceremonies, coupled with political leaders defying public health guidelines to hold large political rallies, appear to have escalated the spread of COVID-19 in 2021 (31). The health system struggled to cope with the rise in cases: hospitals were full, demand for beds and oxygen could not be met, referral mechanisms were dysfunctional, and non-COVID-19 services were almost halted in many districts (34).

Maintaining essential services

The COVID-19 pandemic had a tremendous effect on the capacity of the health system to deliver essential services, particularly during the government-imposed movement restrictions (34).

Government-issued policy directives and guidelines recommended the separation of COVID-19 and non-COVID-19 care, with different entry and exit points, physical spaces and human resources at health facilities. However, COVID-19 affected health-seeking behaviour and also the practices of health service providers (35, 36). Many hospitals halted regular outpatient clinics and, in some cases, inpatient services were halted too due to uncertainties and fear of COVID-19 transmission (25). Health workers had inadequate information and skills to manage cases and infection prevention measures were lacking in some health care settings. Risks around transmission of COVID-19 in the family further increased institutional vulnerability to continue to provide essential healthcare (25, 37).

Regular government programmes such as national immunization campaigns were severely affected by COVID-19 between January 2020 and June 2021, with many children deprived of routine immunizations especially during extended movement restriction periods. Again, poor coordination, overlapping functions and authority among the three tiers of government, and lack of proactive planning were identified as reasons for the interruption in regular
health services (17, 26). The spread of infection among health workers also interrupted the delivery of essential health services (30, 38), including for communicable diseases, noncommunicable diseases, mental health, and for sexual, reproductive, maternal, newborn, child and adolescent health (SRMNCAH) (35, 36). It should be noted, however, that responses were adopted to ensure that the most vulnerable population had continued access to essential health care services.

**SRMNCAH services**

SRMNCAH services were adversely affected during waves 1 and 2 of COVID-19 due to fear – many pregnant and postnatal women avoided visiting health facilities for regular check-ups and health workers did not deliver routine health services (36). Compared to the months prior to the onset of the pandemic in January 2020, maternal deaths (ante and intrapartum) and postpartum deaths increased by 50% and 9%, respectively, in the initial eight months of COVID-19 and movement restrictions in Nepal (32).

To minimize disruption, the government developed a national preparation and response planning strategy and an interim guideline to continue to provide SRMNCAH services (23). Various innovative approaches were introduced as part of this strategy, such as mapping SRMNCAH partners and service providers, establishing a patient helpline, teleconsultation services for antenatal and postnatal care and door-to-door delivery of maternal and family planning services (10). Communication materials such as flyers, public service announcements, TV broadcasts and radio announcements were also disseminated that focused on COVID-19 and reproductive health.

**Mental health**

Mental health problems relating to stress and anxiety, loss of sleep, fear of death, loneliness and violence rose during waves 1 and 2 of the pandemic. This was due to a lack of social interaction, negative and stressful news, and misinformation (23). Instances of social stigma and discrimination increased towards certain ethnic groups, suspected positive cases and health service providers. In response, the government, in coordination with community-based organizations, initiated psychosocial counselling services that were targeted at COVID-19 patients in home isolation and their family members. However, there was an absence of evidence-based interventions to tackle mental health problems during crises such as COVID-19 (22).

**Managing referral systems for appropriate distribution of service load**

An effective referral mechanism is critical to coordinate health care provision across different levels of service delivery. There was an early realization of the need for effective referral mechanisms, which led to the development of referral guidelines across the three tiers of government. The guideline directed COVID-19 hospitals to consult and follow the decision of the Health Emergency Operation Centre (HEOC) and the MoHP to refer COVID-19 patients with moderate symptoms
to Level-1 COVID-19 hospitals, and severe and critical cases to Level-2 COVID-19 hospitals. To ease referral services, key interventions were also introduced to aid coordination and communication among hospitals, to improve the ambulance tracking system, and to ensure timely information-sharing on critical cases and efficient distribution of cases through call centres.

However, waves 1 and 2 highlighted Nepal’s struggle to implement effective referral systems for appropriate distribution of service load. Due to fear of transmission, health workers referred COVID-19 patients from one hospital to another (19, 30, 39). Between January and May 2020, public health facilities were overburdened with high referrals of COVID-19 cases from private hospitals (19, 40). Many hospitals struggled to manage human resources and testing, while referrals in rural areas were further constrained by harsh geographic terrain that hampered emergency ambulance services. Although the government issued guidelines that re-emphasized prior consultation between health facilities for referral, a lack of coordination persisted, which resulted in confusion and chaos among patients and care providers (19, 29, 39).

COVID-19 has intensified arguments to strengthen referral mechanisms based on effective communication for care and coordination between hospitals during times of crisis.

**How multisectoral policy and action are responding to COVID-19**

Historically, government health policies and action plans have promoted a multisector approach for preparedness and response to public health emergencies (19, 27, 28, 39).

At the operational level, multisectoral coordination committees exist with representation from relevant line ministries, external development partners, nongovernmental organizations (NGOs) and the private sector (in some cases) for programme implementation. The COVID-19 preparedness and response efforts during waves 1 and 2 actively sought multisector coordination, especially at local level under the leadership of local mayors.

At the federal level, on 1 March 2020, a High-level Oversight Committee was formed led by the Deputy Prime Minister with the aim to deliver coordinated, multisectoral policy and response to COVID-19. With the same intent, on 8 April 2020, COVID-19 Crisis Management Centres (CCMCs) were formed and made operational at provincial, district and local levels. These structures across different levels of government secured the participation of key ministries, including Defense, Home Affairs, Federal Affairs and General Administration (MoFAGA), the MoHP and the Ministry of Industry, among others. The CCMCs also formed four subcommittees at the federal level (Medical Operations Group, Logistical Operations Group, Security Operations Group, and Media and IT Operations) to help operationalize the multisectoral efforts.
Additionally, the Incident Command System (ICS) was activated, led by the Secretary of the MoHP with three subcommittees led by senior officials. The ICS covered Coordination and Monitoring (national and international coordination, response monitoring), Operations (information and communication, logistics, procurement and supply) and Information Management and Communication (integrated data, public communication). At the local level, multisector support was mobilized for border management, quarantine and isolation centres, CICT, enforcement of public health measures at population level, management of returnee migrants and other rapid actions. These coordination mechanisms were well received by policy-makers, service providers and the public, but constant change in guidelines, lack of clarity on the channelling of funds for implementation and poor monitoring created inefficiencies in some locations.

Federalization: an opportunity for multisector coordination at local level

The restructuring of Nepal’s health system in the federal context presented a unique opportunity for multisectoral coordination at the local level, as all sectoral entities – i.e., health, education, agriculture – sit within the local government. As part of the COVID-19 response during the period under review, a multistakeholder committee was formed with clear responsibilities to prioritize health within their respective sector policies.

District CCMCs rose to the occasion for joint response and monitoring

All members of the district CCMCs, including members of civil society, collaborated to manage health desks at border entry points, and to identify and transport people to holding and quarantine centres (27). The CCMCs facilitated smooth communication within their respective provinces, districts and municipalities for swift management of people crossing the border. A joint monitoring and supervision mechanism was also initiated by stakeholders to check adherence to safety standards in health facilities and isolation centres.

Health clusters remain important coordination hubs

Health clusters at national, provincial and district levels are used to engage with bilateral, multilateral and international NGO stakeholders in responding to disasters. The national-level health cluster, led by the MoHP and co-led by WHO, was promptly activated at the beginning of the pandemic to collaborate with various international organizations. This cluster met on a weekly basis throughout both waves in 2020 and 2021, providing a platform to identify needs, pool and track resources, and collate information to guide decision-making (27).
How communities are responding to COVID-19

Major areas of support coordinated by the national health cluster and working with multiple partners included: integrated response planning, strengthening information systems and research, logistics management including procurement and supply, case management support, management of quarantine and isolation centres, coordinated response at provincial and local levels, community engagement, continuation of basic health services and use of evidence in decision-making. Likewise, the provincial health clusters, led by Provincial Health Emergency Operation Centres along with partners, were activated as cases surged and community transmission was observed. In addition, reproductive health subclusters were formed by the MoHP to coordinate the delivery of services (41).

The health clusters worked together at different levels to facilitate communication between partners for the logistical supply of COVID-19 and non-COVID-19 PHC services, and to train health workers to adopt revised guidelines on PHC service delivery.

The private sector

It became evident during waves 1 and 2 that private and public partnership was critical to deliver essential health services during times of crisis. Two key documents, the Health Sector Emergency Response Plan COVID-19 and Interim Guidance for RMNCH Services in the COVID-19 Pandemic, explicitly mentioned engaging with the private sector, NGOs and the community for a coordinated response to the surge in demands, including in filling human resource gaps in public facilities (28, 41).

Initially, private laboratories were not utilized for PCR tests as government labs were meeting the demand for testing. As COVID-19 cases started to increase exponentially, however, private labs were assessed for their readiness to provide PCR tests and memoranda of understanding (MoU) were signed with private labs. The government also entered into an MoU with certain private hospitals to provide COVID-19 care free of charge to patients. As part of these MoUs, an agreed unit cost was reimbursed to private labs and hospitals. However, some issues were experienced in making COVID-19 services free to patients and in reimbursing service providers. For example, some private hospitals and labs were reportedly charging patients high costs for services in an attempt to secure higher reimbursements from the government. Such issues may have been avoided with enhanced coordination and communication, timely monitoring and enforcement of regulatory mechanisms, and the operationalization of a shared platform to manage issues as they emerged.
How communities are responding to COVID-19

Community engagement was an important response strategy adopted not only for implementation of measures but also in planning and decision-making, especially at local level.

The government developed several plans to engage the community for COVID-19 preparedness and response (24, 28, 42, 43). Community-based networks, organizations, leaders and volunteers including FCHVs were urged to disseminate information, promote healthy behaviours and maintain social cohesion by combating stigma and discrimination around positive cases of COVID-19 (28). In addition, volunteer mobilization guidelines encouraged the formation of Corona Prevention Volunteer Teams to provide special attention to the health care needs of senior citizens, children, those who were chronically ill, pregnant and lactating mothers, and people living with disability (43). These volunteer teams supported the CICTTs and the local municipalities to raise community awareness, to conduct contact tracing and referrals, to monitor safety measures in quarantine and isolation centres, to create an enabling environment to repatriate individuals returning home and to support suspected cases and those undergoing COVID-19 treatment (43). Local governments were expected to manage health insurance, food allowances and the supply of safety items for these volunteer teams.

In addition to these measures, directives from the MoFAGA asked for ward committees and FCHVs to be mobilized. As members of local CCMCs and/or health clusters, these community stakeholders were involved in collecting information about returnees from abroad and requesting them to quarantine (24), monitoring patients in home isolation and supporting in the distribution relief packages (16, 44). Community members and civil society engaged with local governments as part of CICT efforts, in managing quarantine and isolation centres, and in facilitating transportation and treatment of patients (45). Overall, community engagement in response planning and implementation contributed significantly to the effectiveness of the COVID-19 response during waves 1 and 2.

Relief packages

The COVID-19 Prevention, Control and Treatment Fund was established in July 2020, generating individual and institutional contributions that were channelled towards COVID-19 response and relief efforts. The government, with other stakeholders, initiated a relief package to provide basic food items to marginalized groups such as daily wage earners. Guidelines to identify families in need of relief were developed, encouraging engagement in the process from civil society and humanitarian organizations and with flexibility to adapt the guidelines to the local context.

Despite escalating social tension and movement restrictions, some communities participated in identifying and registering families in need of relief; in other communities the lists were prepared by local leaders, which created controversy and accusations of bias for some (44). However, as with other interventions,
information was not readily available for the effective distribution and monitoring of relief packages and the delivery mechanism would have benefited from a coordinated and more transparent approach (27).

As part of a wider relief package, on 17 July 2021 the government’s central bank (Nepal Rastra Bank) announced that it would implement financial measures to address the economic impact of COVID-19. This included an extension on loan repayment deadlines, refinancing and reduced interest rates for the productive sector (18). To facilitate implementation of the relief package, businesses were categorized based on the impact of COVID-19.

Risk communication and media mobilization

At the national level, behaviour change messages were developed in multiple languages to effectively engage with communities to promote public health safety measures, to encourage quarantine and isolation to prevent transmission, and to reduce stigma and discrimination (25, 27). At the local level, FCHVs, Nepal Scouts, children’s clubs and youth were trained by partners in the health cluster – including in municipalities and the health office – to disseminate messages to households and families. The CCMCs engaged with religious leaders to assess and dispel the stigma and discrimination faced by COVID-19 positive households within their communities. A large network of radio stations, social media platforms, telecommunication and print media were also engaged in disseminating messages (25, 27). Mechanisms to seek feedback and clarify community concerns were established, facilitated by volunteer groups such as Nepal Scouts and through Q&A sessions during district-level media briefings (27). The swift and timely mobilization of various communication channels and social media improved the reach of behaviour change messages to diverse groups.

Poor infrastructure, lack of information and low literacy (particularly in rural areas), made full adherence to public health measures difficult, however (27). For example, barring family members from funeral rituals with insufficient information provided on the need for such measures resulted in concealment of COVID-19 cases in some communities. Some volunteer organizations supported communities by facilitating arrangements when deaths occurred within households and communities (45).

Crucial measures were also put in place as part of the COVID-19 response that took account of gender, equity and human rights (23). The MoHP did its best to include these components within its COVID-19 communication strategy, for example: most visual productions included sign language, while presentations and public service announcement were delivered in local languages to reach neglected and vulnerable groups.
Engaging communities to achieve behavioural change to prevent transmission was a major challenge. In the early days of the pandemic, infected individuals were segregated and deprived of access to treatment. Returnee migrants from India and other countries faced discrimination in the community and health workers were perceived as a source of infection. In response, the MoHP engaged celebrities to disseminate messages to counter these misconceptions.

A further challenge related to the circulation via social media of information about false and ineffective remedies to treat COVID-19, which provided false hope to communities. In some locations, community-led initiatives to educate the public on COVID-19 were discontinued due to negative comments received from community members.

In general terms, reliance on messages developed at the national level and limited tailoring of messages to the local pandemic context to address community concerns may have undermined the effectiveness of the behavioural change communication strategy.

**Conclusion and lessons learned**

The challenges experienced from January 2020 to manage the COVID-19 pandemic exposed the vulnerability of Nepal’s health system. The country’s PHC network played a key role in the response but maintaining essential services was a major challenge. The pandemic increased the population’s vulnerability to hunger and poverty, thus weakening Nepal’s efforts to attain the Sustainable Development Goals.

Nonetheless, the federal government swiftly enacted various policies, plans and guidelines and coordinated with provincial and local governments for timely implementation. It also executed a multisector response to COVID-19 through the formation of CCMCs and the mobilization of existing emergency response structures. All levels of government provided leadership to strengthen response measures.

When the health system became overburdened as cases surged, the smooth delivery of other essential health services was severely impacted. The government introduced key measures in response: increasing laboratory facilities and ICU beds, establishing a platform for telemedicine services, and coordinating the prompt roll out of vaccines with priority given to frontline workers. The government focused on strengthening health system capacity to implement critical public health measures such as tracing, testing, isolation and treatment. It also allocated resources to strengthen coordination mechanisms, risk communication and community engagement, which led to raised awareness among the population and the delivery of locally tailored response mechanisms.
Conclusion and lessons learned

Despite such efforts and innovations, Nepal’s health system experienced challenges. The pandemic highlighted a need to improve coordination across the three tiers of government, strengthen procurement and supply of medical essentials, improve care coordination and referral management and improve efficiency of information management and the use of data in decision-making.

There is an opportunity to examine strengths and gaps so that a forward-thinking plan can be developed to overcome the ongoing crisis as well as future pandemics. Nepal’s experience between January 2020 and June 2021 has underscored the need for effective and sustained investment to build a resilient health system. Interruptions in essential health services during the pandemic may have long-term consequences. Therefore, careful attention is needed to avoid a dual epidemic from COVID-19 and an increase in preventable long-term morbidity and mortality as a result of halts to routine health care.

This case study reinforces the priorities that have already been identified in existing policies and plans to strengthen the health system. These priorities especially relate to the equitable distribution of the health workforce, medicines supply, lab facilities and access to the health information system. The case study further draws attention to other aspects of the health system that may require strengthening to manage future crises, including to:

- enhance local leadership capacity to prioritize, coordinate and manage human resources, infrastructure and essential medical supplies;
- improve communication channels for collaboration and for joint planning, monitoring and problem-solving;
- invest in preparing and nurturing a strong volunteer base who can be mobilized readily during a crisis;
- support the use of local volunteers to reach communities and to ease tensions, for example around safe burial practices;
- establish a human resource management strategy with explicit plans on how to mobilize and motivate human resources during a crisis;
- establish a coordinated national- and local-level preparedness plan with clear roles and responsibilities and an appropriate funding mechanism to provide clarity;
- design and implement an effective triage plan to treat COVID-19 and non-COVID-19 patients separately and to avoid the PHC system being overwhelmed;
- ensure there is a functional referral system between different tiers of care; and
- establish a system to synthesize the available evidence and to support and promote local-level research and surveillance to guide decision-making.
References


This case study was developed by the Alliance for Health Policy and Systems Research, an international partnership hosted by the World Health Organization, in collaboration with the WHO Regional Office for South-East Asia (SEARO) and WHO country offices. In 2015, the Alliance commissioned the Primary Health Care Systems (PRIMASYS) case studies in twenty low- and middle-income countries (LMICs) across WHO regions. This case study builds on and expands these previous studies in the context of the COVID-19 pandemic, applying the Astana PHC framework considering integrated health services, multisectoral policy and action and people and communities. This case study aims to advance the science and lay a groundwork for improved policy efforts to advance primary health care in LMICs.