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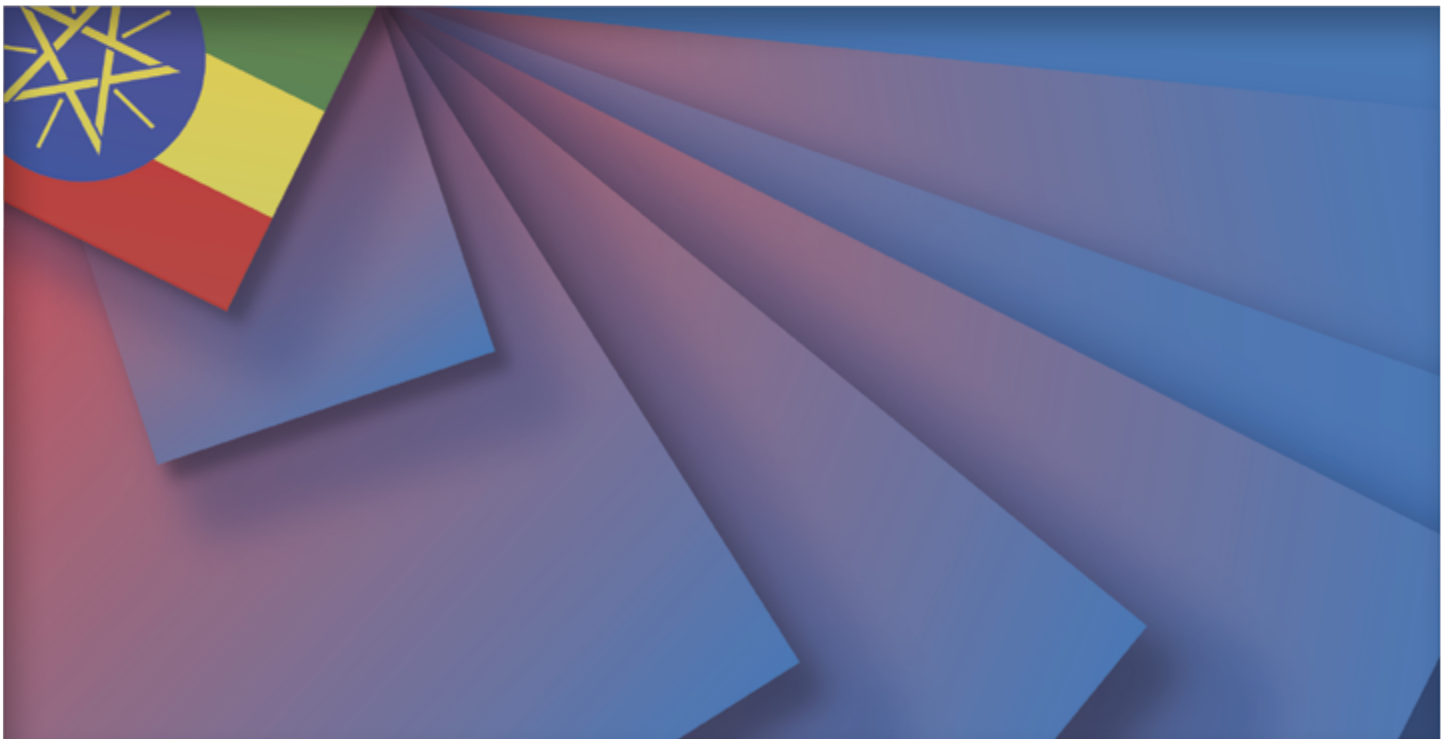

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Executive summary

The COVID-19 pandemic has influenced national priorities in Ethiopia. It has had profound implications for nearly every aspect of health and resulted in unprecedented shocks for the country's health system. Using the Astana Framework as a basis *(1)*, this country case study examines primary health care (PHC) in Ethiopia in the context of the COVID-19 pandemic through 2020 and early 2021. The study draws on peer-reviewed and grey literature relevant to PHC and the COVID-19 pandemic.

Ethiopia used a whole-of-government approach, backed by media campaigns and multisector action, to achieve strong community engagement and a positive public response during the first few months of the pandemic. This ensured compliance with preventive and safety policies introduced to manage the transmission of COVID-19. However, the emergency response failed to consider the potential impact of the pandemic on essential services. As a result, essential health services – including primary care and preventive, promotive and curative services – were interrupted and the demand for services fell sharply at all levels. Moreover, the initial gains achieved in public/community engagement and positive outcomes were only short-lived. In the midst of the pandemic, community resistance, denial, hesitation, misconception, defensive attitudes and rejection of recommended measures became widespread.

While Ethiopia responded promptly at the beginning of the COVID-19 outbreak by effectively mobilizing resources and key stakeholders and partners at local, national, regional and international levels, this led to weakening of and disruption to PHC services. Moreover, many – if not all – of the initial gains and achievements were unsustainable and temporary. The disruptions to essential services, in turn, impacted Ethiopia's ability to respond. This suggests the need to strengthen PHC to develop feasible and effective strategies to integrate the COVID-19 response into the PHC framework at all levels of the health care system.

Introduction and national context

Socioeconomic context

Of Ethiopia's population of more than 112 million people, 83% live in rural areas *(2)*, with annual per capita income measured at US$ 850 in 2019 *(3)*. Ethiopia ranks low on the Human Development Index (HDI) at 173 out of 189 countries. Life expectancy at birth was 66.6 years in 2019 *(4)* and around 24% of the population lived below the poverty line in 2015 *(5)*.

The COVID-19 pandemic has had a considerable impact on industries, markets and individual income. In April 2020 more than half of households reported that their income was either reduced or had totally disappeared due to the pandemic *(6)*. Ethiopia has also faced significant humanitarian risks linked to the unprecedented impacts of the pandemic and this has had implications for vulnerable people, including homeless people, urban poor and those working in informal sectors of the economy (which comprises up to 65% female workers) *(7)*.

Ethiopia is suffering from inter-ethnic tensions, conflicts, violence and internal displacement. Indeed, across Africa, Ethiopia experienced the largest internally displaced populations in 2020 and 2021, with the majority of this displacement due to war and ethnic conflicts *(8)*. Thousands of refugees from neighboring South Sudan, Somalia, Eritrea and Sudan are also hosted in Ethiopia, while an average of 10 000 Ethiopian migrants per month returned from Saudi Arabia before COVID-19 *(9)*.

With inadequate shelter; access to safe water, sanitation and hygiene (WASH) facilities; basic health services; and supply of critical non-food items, the population's vulnerability to COVID-19 increased. Furthermore, such tension and displacement, combined with the challenges in addressing fragility, has affected the country's efforts to respond to the pandemic.

Health care context

The health system is organized into three tiers, with health care delivery structures divided across primary, secondary and tertiary levels *(10)*. The PHC level consists of a primary hospital, health centres and health posts organized under a single entity called the PHC unit (PHCU). Health posts (in villages) are staffed by local full-time salaried female workers and they provide essential promotive and preventive services. Health centres provide promotive, preventive, curative and rehabilitative outpatient and inpatient care with a capacity of 10 beds for emergency and delivery services. Primary hospitals provide comprehensive promotive, preventive, curative and rehabilitative outpatient care, basic emergency surgical procedures and comprehensive emergency obstetric care, with a minimum capacity of 35 beds *(11)*.

Ethiopia has made important strides towards improving health care quality by employing policy tools and mechanisms such as health care financing and structural reforms. For example, the community-based health insurance (CBHI) scheme launched in 2011 with the aim of reducing catastrophic costs and inflated out-of-pocket payments and of increasing health care utilization. However, Ethiopia spends a low proportion of its gross domestic product (GDP) (3.3%) on health care compared with the global estimate of health expenditure (9.9%). Households contribute more than one-third (35.5%) of current health expenditure, which is higher than the global figure (18.1%) *(12)*.

Despite improvements in health service coverage, Ethiopia has very low health care utilization rates compared with other countries. Only 10% of people with illness obtained treatment from any health facility in 2016, and disparities were observed in the utilization of health care between rural and urban settings, which ranged from 9.5% in rural areas compared with 14% in urban areas *(13)*.

Ethiopia has long-standing experience with implementing PHC strategies to address the social determinants of health. A key priority of the National Health Policy *(14)* is the promotion of multisectoral action to provide effective and long-lasting solutions for determinants such as food security, water access, and sanitation, which led to various types of social inequality *(1)*. Within the country's health care system, public health emergency management (PHEM) is organized from the federal to the district level *(10)*, although PHEM has had limited scope and potential as active engagement has been lacking from sectors beyond health care. The Policy also mentions that there are issues related to accountability, communication, and resources for the proper functioning and sustainability of such mechanisms. Even though there have been many encouraging efforts, the multisectoral approach has faced many limitations and weaknesses. One basic challenge relates to confusion around roles across sectors and poor commitment from different sectors. The lack of sustainability might also be due to the absence of a clear legal framework to govern the multisectoral approach *(15)*.

COVID-19 and the purpose of the study

The first case of COVID-19 was confirmed in Ethiopia on 13 March 2020. As of 4 March 2021, there were 161 974 confirmed cases and 2391 confirmed deaths, with a transmission scenario classified as "community transmission" *(16)*. A PHC strategy based on the Astana Declaration was often overlooked within the pandemic response – primary services were not necessarily sufficiently supported to conduct surveillance or to undertake community-based care with sufficient confidence in infection prevention and control and effective referral mechanisms *(17–20)*.

COVID-19 has demonstrated that trust, solidarity, and cooperation between people are essential elements of a successful pandemic response. It has also highlighted the importance of political leadership and determinants of health, as well as working with communities. Yet many countries have not used a PHC approach to address COVID-19, which – as conceptualized in the

Astana Declaration *(1)* – relies on three critical components: 1) primary care; 2) multisectoral collaboration, and 3) community engagement. Accordingly, this case study examines PHC in Ethiopia across these components in the context of the COVID-19 pandemic throughout 2020 and early 2021.

Existing published and unpublished/grey literature relating to COVID-19 in Ethiopia were identified in PubMed/MEDLINE, Scopus, POPLINE, CINAHL, and Google Scholar databases. In total, 99 documents were identified, of which 68 were included in the review. The data were analyzed thematically.

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

The government responded swiftly following the first confirmed case of COVID-19 in March 2020. The response was informed by international experiences and recommendations from the World Health Organization (WHO) for the setting up of governance and coordination mechanisms, and leadership and structural arrangements. The government endorsed a wide range of public measures as part of a whole-of-government approach to economic and emergency management to curb the spread of the virus.

Primarily, Ethiopia used the existing PHEM structure at all levels of the health system to accelerate its COVID-19 response. PHEM served as an opportunity to draw on lessons and inputs (human resources, response processes, and logistics) to establish a governance system for its pandemic response *(10)*. A key strength of the response was the expansion of services, involving a massive scale-up of health infrastructure, health workforce development, and an improved supply chain system for health commodities *(10, 21)*. A PHC structure that linked health care to the community, the health extension programme (HEP), and the establishment of community-based health care financing – though not fully implemented – was a key enabler *(22)*. The HEP is underpinned by the core principle of community ownership to promote health and empower the community to manage health problems specific to their needs *(10, 22)*.

At the same time, however, Ethiopia's health system grappled with weak governance, poor quality training for the health workforce, inadequate human resource management systems, limited laboratory capacity, and a lack of true community engagement in health affairs. Major challenges included insufficient financial resources for health, political instability and violence, and natural phenomena such as famine and desert locust infestations *(10)*.

After a five-month state of emergency was declared on 10 April 2020 *(20)*, the government employed both critical and technical responses to implement measures concerning quarantine, contact tracing, isolation and treatment of confirmed COVID-19 patients. More specifically, these measures included: 1) isolation of international passengers and suspension of international flights; 2) the enforcement of mandatory quarantine for 14 days for international travelers and known contacts of confirmed cases; 3) closure of all schools

and educational institutions *(23, 24)*; 4) a ban on public gatherings, including all religious, governmental, nongovernmental, commercial, political and social gatherings; 5) partial transport restrictions; and 6) postponement of the national election to June 2021.

Impacts on the delivery and uptake of essential services and PHC

Ultimately, the government's swift response to the initial outbreak of COVID-19 led to interruptions to many aspects of PHC functions *(25–31)*. Disruptions were felt across routine health care services and maternal and child health services (antenatal care, delivery, postnatal care, child immunizations, chronic illness care and follow-up) *(27,32)*. In most health facilities, tuberculosis (TB) programmes (diagnosis, treatment, and follow-up directly observed therapy [DOT] clinics), mental health services, neglected tropical disease (NTD) care and rehabilitation *(25)*, and outpatient visits were also interrupted. Moreover, several health campaigns – including for immunizations and other services *(32)*, and all mass drug administration campaigns for NTDs – were either cancelled or postponed. One report indicated that NTD care and treatment centres and rehabilitation services including orthopedic centers were closed or converted to COVID-19 treatment centers *(26)*. Another analysis argues that the interruption of these essential services (particularly child and maternal health services) could impede Ethiopia's progress towards achieving the Sustainable Development Goal (SDG) target of reducing neonatal and under-five mortality *(28)*.

The review of the literature consistently indicated that Ethiopia's health system at all levels, especially essential primary care services, did not withstand the shock of either closures or conversion to provide only COVID-19 services. A contributing factor was that the emergency response was planned and implemented swiftly without sufficient consideration for the impact it might have on essential primary care services. Review findings indicated that, at the beginning of the pandemic, the emergency response did not incorporate effective strategies to maintain essential primary care services.

Moreover, the media campaign and messages disseminated during the initial phase of the pandemic created widespread confusion and misunderstanding among health workers and other actors within the health system. Health communications, public information messages and media reports were dominated by the COVID-19 agenda, with some unintended consequences. For example, it was reported that members of the public incorrectly believed that routine health services had been stopped and that they should not visit health facilities for services other than those related to COVID-19 *(28)*.

To address gaps in human resources, key partners such as WHO, the United Nations Children's Fund (UNICEF), and the United States Agency for International Development (USAID) supported the government in forecasting (based on simulations) needs; mapping workforce; and recruiting, training and deploying health workers to respond to the crisis *(25, 33)*. Initially, a lack of willingness and readiness among the health workforce to work with COVID-19 patients was a

contributing factor to the interruptions to essential services. Health workers were concerned about the risk of acquiring the virus in hospitals and were reluctant to provide even essential services during the pandemic. This suggested a lack of clear guidance, protocols and policy on how to provide essential services in the context of COVID-19.

A high prevalence of stress, anxiety, distress, depression and suicide attempts *(34–37)* among health workers was reported. In addition, health workers perceived and experienced considerable social stigma and discrimination from communities and lost social support *(36, 39)*. The emergency response did not include psychosocial support for health workers which contributed to workers feeling demotivated. Zewdie et al. *(39)* reported that a significant number of health workers considered changing their careers and used absenteeism from work as a coping strategy to reduce their risk of infection.

Eventually, the government was able to offer a risk allowance for those health workers who directly engaged in COVID-19 care and services such as treating COVID-19 patients and working in quarantine and isolation centres. The government also introduced more comprehensive life insurance packages and coverage to protect health workers.

Fear of COVID-19 transmission among health professionals was partly due to inadequate supplies of personal protective equipment (PPE), especially in rural health facilities *(26, 27)*. There is no evidence of regulation of the exemption of vulnerable health workers due to factors such as age or co-morbidities, which might have created more fear among them. Due to acute workforce shortages, the government recruited new volunteers, retired medical staff, and college students to support the pandemic response.

At the community level, health workers and health facilities such as health posts and health centers suspended their routine services and instead were mobilized to engage in community outreach and awareness-raising activities on COVID-19. Health extension workers (HEWs) devoted their full time to community mobilization and the implementation of COVID-19 safety protocols at the household level and in different settings. However, this shift of focus by HEWs and PHCU staff towards COVID-19 outreach services at the expense of facility-based care was driven by a lack of proper coordination and clarity on how to respond to the pandemic without affecting routine health services. In reality, the increased HEW engagement in community mobilization and education did not relate to staffing limitations at the PHCU level, but rather to the lack of clarity and direction among PHCU staff and leadership on how to ensure that both community and facility care activities were performed simultaneously and in a coordinated manner.

In terms of public attitudes, one study reported that some women expressed that they would prefer to die at home than visit a health facility to give birth, which reflected heightened fear about COVID-19 in the community *(27)*.

Due to restrictions on public transportation and a reduction in the number of passengers permitted, transportation costs increased and became unaffordable

for some people, especially pregnant women. In addition, the inability to purchase a facemask was also a barrier to visiting a health facility, including pregnant women *(27)*. The COVID-19 protocols mandated a "no mask, no service" policy for all types of services, including health and social services, which pushed people towards prioritization of facemasks (i.e., for school children) and mask-sharing. Households experienced stress and social stigma if any family member was suspected of having COVID-19 *(27)*, while the fear of being tested and taken for quarantine, treatment and isolation discouraged people from seeking essential services at health facilities.

Finally, health facility managers and leadership diverted their attention and resources towards COVID-19 response efforts and failed to provide adequate guidance to sustain essential services. Relatedly, there was a shift in health system resources towards prevention and control of COVID-19, which caused a shortage in supplies such as essential drugs and PPE, both crucial for routine service provision *(26, 27)*. Frontline health workers described how patients were not willing to receive services of any kind when health personnel did not wear proper protective items such as gloves *(27, 33)*. The pandemic also affected health workers' behavior towards their patients, with reports of some becoming disrespectful towards their patients, less receptive, and lacking the willingness to provide essential care during the pandemic. The quality of maternal health services during the pandemic was perceived to be poor *(27)*.

Patient referral and transfer

The pandemic compromised patient referral and transfer between facilities at all levels due to the absence of a functioning system in the context of COVID-19 *(26)*. Even for emergency conditions, health workers reported that people were unwilling to accept referrals to a higher-level facility. Most patients preferred to receive care from health facilities closer to them (i.e., via HEWs), and the level of fear may have increased according to the hierarchy of the health care facility, with greater fear felt within a hospital setting than lower-level PHCUs. Further study is required to explore the complex underlying factors contributing to this public fear.

Strategies to resume and sustain essential services

Recognizing the consequences of essential services disruption, the MoH engaged in several consultations with the Secretariat of the National COVID-19 Taskforce and other stakeholders to urgently resume and maintain routine and essential services including regular health programmes such as immunizations and NTD services *(40)*. The MoH and Regional Health Bureaus communicated that these essential services must be resumed while protecting against COVID-19 as well, which led to the re-opening of health facilities at all levels. Health campaigns were conducted with engagement from multiple sectors and wide-ranging efforts around social mobilization, alongside community and stakeholder engagement for planning (consultative micro-plan development plus adaptions to district and COVID-19 contexts, coordination, and implementation) *(32)*.

Once routine health services had resumed, resources (i.e., PPE) that were initially meant for the COVID-19 response were redistributed to sustain essential health services. Some (financial) resources were also re-allocated back to essential services. However, for health workers, there remained a critical shortage of PPE that impacted routine services. A study indicated that, among surveyed health care providers in hospitals, 31% had access to gloves, 27.4% to facemasks, 15.9% to goggles, 14.5% to shoes and 14.2% to aprons *(36)*. The government's new industrial parks strategy envisaged the establishment of manufacturing hubs to produce PPE for domestic and overseas markets *(41)*, and efforts to produce facemasks locally were also encouraged.

That COVID-19 services were initiated and operated vertically and separately from routine services meant that the resumption of essential care caused a weakening of the COVID-19 response. Although there may have been consideration for integrating COVID-19 services into existing PHC services to provide a mixed care model – in part due to the high level of transmissions in remote areas and the feasibility (or lack thereof) of transporting cases to central COVID-19 care and treatment centres – no clear policy and guidance existed on how to integrate these services, and there was confusion on how to sustain COVID-19 and non-COVID-19 health care simultaneously.

Some programmes, such as those for vulnerable populations (i.e., chronic illness care), introduced COVID-19 screening and testing before providing essential care to patients, while health development partners integrated COVID-19 activities into their existing projects *(42)*. Health facilities also implemented different safety techniques, such as patient tracks according to a triage system (pre-triage). Within this system, track one in health facilities provided a full range of services for COVID-19 patients only; track two provided COVID-19 services as well as routine care services in health facilities with greater infrastructure and capacity; and track three continued routine care services in health facilities *(25)*. Other strategies were implemented alongside these measures, such as establishing a "fever clinic"; screening patients for fever and cough; limiting patients and visitors to the hospital environment; enforcing the use of facemasks (both patients and health workers) and setting up handwashing facilities; re-arranging patient flows and inpatient beds to increase distancing between beds; and reducing the number of beds per room *(34, 43)*. Health education on COVID-19 was included in routine essential service provision at health facilities, reaching a large number of patients and carers across the country *(43)*.

Support from health and development partners to resume and continue essential services

To maintain access to quality essential health services, key partners such as UNICEF, USAID, the John Snow, Inc. (JSI) and WHO supported the government to develop national guidelines on how to provide essential and routine care in the context of COVID-19. Specifically, WHO assisted the MoH to develop and rollout its Implementation guide for non-COVID-19 essential health services in Ethiopia *(29)*. Several other partners, nongovernmental organizations (NGOs)

and donors provided essential drugs and supplies (e.g., emergency health kits, transportation/vehicles, PPE), as well as technical support to health workers at different levels. This technical support covered the tracing campaign for the immunization programme; capacity-building for community volunteers; training frontline health workers on COVID-19 safety, surveillance, quarantine and isolation; deploying technical support staff; and ensuring commodities to support health services for women, children, and youth *(42, 44, 45, 46)*.

How multisectoral policy and action are responding to COVID-19

During the initial response to the pandemic, the government quickly mobilized and brought together a wide range of stakeholders across government sectors (health, education, transport, agriculture, security, justice and the military) plus the private sector, influential individuals, political leaders, religious leaders and scholars, member of the diaspora, NGOs and other key partners. However, the level of engagement and influence of this multisectoral approach was weak in practice *(33, 47)*.

Stakeholder and multisector engagement was most effective at the lower response level, both in practice and in terms of inclusiveness. For instance, at the district/Kebele level, COVID-19 Taskforces were established to include all existing formal and informal institutions and sectors. The Taskforces had representatives from government sectors, religious institutions, community groups and networks (e.g., the Women's Health Development Army, women's groups and youth groups.), which enabled them to cascade down the COVID-19 safety protocols and policy promptly at the community and household level. The multisectoral approach also supported the activities of some health campaigns, such as immunizations (measles campaign), awareness-raising activities to prevent communicable disease transmission (e.g., diarrhoeal diseases and intestinal parasites trachoma prevention) and the promotion of global handwashing day during the pandemic.

The major focus and priorities of multisectoral action were the COVID-19 response, economic resilience and maintenance of essential health services through a whole-of-government approach *(24, 42)*. Multisectoral actors were motivated to protect their respective sectors while promoting the health of their employees and the community in the context of COVID-19 *(42)*.

The whole-of-government approach considered the complex socioeconomic and health impacts of COVID-*19* and was intended to address factors that increase vulnerabilities to the virus, such as poor WASH practices, unemployment, gender-based violence and school closure. To this end, all sectors from the WASH, economic development, women's and children's affairs, security, health, and education were represented by council members in the COVID-19 Taskforces at different levels. The multisectoral approach was comprehensive, inclusive, and pro-poor.

Impacts of COVID-19 interventions and restrictions on broader social determinants of health

The government implemented strict measures following the initial outbreak of COVID-19 in March 2020, allowing economic activities to continue safely for those relying on day-to-day earnings. However, as the pandemic progressed, these restrictions were relaxed and implementation of the pandemic response was weakened.

The decision to lift restrictions was taken to balance the dilemma between the long-term vulnerability for the population and the need to protect health and livelihoods *(24)*. In general terms, the government adopted a strategy of swift but short-lived action to manage the unintended vulnerability of households and communities *(48)*. Ethiopia managed the multifaceted consequences of restrictive measures on civil and public services by taking progressive measures such that essential and core activities continued but with containment measures and public servants working from home *(25)*.

Strategies and mechanisms to promote multisectoral collaboration

Many strategies and mechanisms were implemented throughout 2020 and early 2021 as part of a multisectoral and whole-of-government approach to manage the pandemic.

Decentralized essential services: health services, such as immunization and TB treatment, were decentralized to nearby health posts (staffed by female HEWs) and patients were oriented and linked to these facilities. However, this meant that higher-level skills were required from health personnel, such as delivery care, that would normally be provided within hospitals.

Temporary immunization centres: temporary clinics were set up near communities to avoid disruption to immunization programmes. As health managers and leaders became more educated about the virus, activities were implemented to integrate the COVID-19 response into PHC services, for example through infection prevention packages introduced in health facilities. Various community-based youth and social networks were also engaged to sensitize the community about COVID-19 and the importance of continuing immunization services. With some health facilities transformed into COVID-19 care centres, the country organized temporary immunization clinics in village administration offices to avoid dropping out from the immunization programme.

Engagement of community and private stakeholders: community engagement generated some funds that contributed to the total budget for COVID-19 prevention. Public–private partnerships (PPPs) and the engagement of private health facilities in the pandemic response were also reported as best practices *(49)* to meet the gaps and limitations in service provision experienced within the government/public health system.

The role of community members in PPE provision: local communities – which included higher education institutions, private companies, technical colleges and research institutions – played a key role in producing PPE such as facemasks and sanitizer. Local industrial parks also served as hubs to produce PPE for the domestic and overseas markets *(41)*. Amid the outbreak in June 2020, Ethiopia announced that over 67 companies would start facemask production, while higher education institutions supplied facemasks at a subsidized cost to students and staff through their own production systems.

Repurposing manufacturers: The government undertook impactful repurposing initiatives to boost the production of medical equipment and supplies. For instance, some textile and garment manufacturers installed capacity to produce and supply facemasks with support from the government. However, several challenges limited the success of such initiatives, including the availability of inputs and raw materials, lack of foreign currency, logistics, mass distribution infrastructure and sustainability.

New oxygen plants: COVID-19 significantly increased the demand for oxygen supplies and the health system faced a critical challenge to maintain the supply as transmission rates grew. Local solutions were initiated in response, such as medical schools and university-based referral hospitals (e.g., Ambo University) establishing oxygen plants to meet the demand from both within their facilities as well as to supply the local market. Some local industries known for the production of different gases were repurposed to produce oxygen for local markets. Thus, COVID-19 served as an opportunity to develop oxygen production to close the gap in the public system.

A pro-poor COVID-19 approach: multisectoral action was implemented via pro-poor, people-centred activities, such as providing financial and social support for poorer people who may be more affected by movement restriction measures. The government established an independent bank account to manage COVID-19 funds, which will be used for later support, resource management and corruption prevention.

Promoting equity: democratic and transparent participatory action was used to reduce economic and (health) information disparities in the community. With improved involvement of various community leaders as a result of social mobilization efforts, groups who were more vulnerable to the virus and a source of infection (e.g., people living on the streets) were protected and provided with financial and material support. The multisectoral action also enabled the government and its partners to identify and reach out to other risk groups such as merchants, drivers and travellers entering Ethiopia.

Opportunities for empowerment and sustainability: hierarchical and interdependent planning practices were promoted, with bigger plans or blueprints developed first before sub-taskforces used these plans as a baseline to devise their own approaches in their respective sectors. This approach facilitated partner support from a material, technical and financial perspective.

In this way, the multisectoral approach led to capacity-building for effective planning, budgeting, matching funding and performance monitoring to ensure the wise use of scarce resources and effective intersectoral coordination.

Schools-based approach: schools and the education sector were critically important within the multisectoral approach. Students and teachers were involved as messengers to reach out to and disseminate COVID-19 information to larger segments and remote communities. Outreach activities such as house-to-house awareness-raising visits and contact tracing of suspected cases of COVID-19 were conducted with school engagement. Schools were also engaged to ensure safe settings and activities (e.g., hygiene facilities and appropriate physical distancing) when restrictions were lifted and schools were reopened.

Digital technology: as well as using traditional communication approaches such as written materials, leaflets and radio, Ethiopia used digital technology including social media platforms to disseminate information about COVID-19.

How communities are responding to COVID-19

Guided by risk communication and community engagement (RCCE) approaches, the government relied heavily on grassroots community mobilization, extensive media campaigns, and public awareness activities to engage communities in the pandemic response in 2020 and early 2021 *(41, 50)*.

At the district level, there was a dedicated focal person for RCCE within the broad COVID-19 Taskforce. But there was no such differentiation of tasks and roles at the community level. Instead, Command Post committees were established comprising many actors (health, women's affairs, religious leaders, and representatives from education, agriculture, and security/local militia). These committees were set up to guide and support community engagement for the effective adoption of COVID-19 safety protocols at the community and household levels.

The RCCE efforts utilized locally available communication resources as well as PHC platforms such as community volunteers, frontline workers, community groups, and networks to promote effective social and behavioral change necessary for COVID-19 prevention and control *(50)*. In the Ethiopian health system, communities are organized into a 1:5 network (one leader for the healthy development of five households, forming what is known as the Women's Health Development Army) *(51, 52)*. At the community level, the health system is also staffed by full-time frontline female workers (HEWs, of which there are two per village), who collaborated with health centre staff to play a role in leading and coordinating community engagement as part of the COVID-19 response *(24)*.

The Command Posts undertook similarly important community engagement and mobilization at the grass-roots level. In many cases, the Command Post consisted of up to seven subgroups who shared villages and households among

them to deliver house-to-house mobilization, sensitization, and education, and to monitor adherence to recommended measures. The Command Posts focused especially on ensuring appropriate WASH practices at the household level, instructing every household to place 20–25 litre jerry cans of water and soap in front of their compounds for handwashing. Members of the Command Post in villages regularly monitored the availability of water and soap.

Moreover, the Command Post committees monitored visitors to community members, notifying the COVID-19 Taskforce for possible follow-up, screening, quarantine or isolation as necessary. These committees were also heavily engaged in the enforcement of physical distancing, controlling crowds and any gatherings in their community, and they enforced mandatory facemask use in public places. As well as promoting handwashing by households, the committees also promoted handwashing on market days – anybody who arrived by any form of transport was required to wash their hands with soap and water before joining the market.

Strategies and mechanisms to promote community engagement

Ethiopia employed various strategies to promote community engagement around COVID-19 and support adherence to preventive and protective measures.

Engaging mobilizers and influencers to sustain essential care: PHC workers and specifically HEWs achieved great success in bringing key actors together swiftly at the grassroots level to advocate preventive and safety measures and to promote community resource mobilization. Key political figures including the Prime Minister and the Minister for Health – plus several high-level officials, religious leaders, celebrities and experts– engaged in message dissemination through mass media broadcasts *(41)*. Mainstream media and regional and local media were also engaged in awareness-raising campaigns. Partners such as WHO supported the training of media personnel to strengthen behavioural change interventions *(53)*. Frontline workers engaged school communities and utilized school settings for COVID-19 education.

Community capacity-building and orientation on COVID-19: Ethiopia was able to mobilize and collaborate with several national and internal partners to swiftly train and build the capacity of local communities and the community-level health workforce and volunteers *(24)*. Several HEWs received on-the-job orientation and training about the pandemic, interpersonal communication and community-based surveillance of cases. Programmes were also introduced for community sensitization and to train religious leaders and personnel working in infectious disease and animal health *(43)*. The country also re-oriented existing community-based programmes (i.e., the social protection programme and the productive safety net programme) to individual-based activities to avoid social contact *(24)*, while attempts were made to adapt COVID-19 messages to the livelihoods of rural communities in terms of safe agricultural practices (for example, *32*, *42*).

A digital health approach to mobilize and engage communities: Ethiopia had little experience in harnessing digital media to engage communities in COVID-19 due to poor internet connectivity, inadequate access to digital equipment and low digital literacy. However, as part of a concerted media campaign, Ethio-telecom sent out a series of text and short voice (mobile phone) messages to promote and remind the public of appropriate self-care hygiene measures *(42)*. In addition, the MoH, Regional Health Bureaus, research institutes and universities setup COVID-19 platforms on their websites (via their Facebook pages and official websites) to regularly update the public and local community about the situation in their respective areas. Local, regional and national toll-free interactive phone services (e.g., the number 8335) were introduced at all levels and the Emergency Operations Centre was equipped with toll-free services for the public as well.

Contextual and system factors that shaped community engagement

Community engagement around COVID-19 appears to have occurred in two phases: phase one following the first few months of the outbreak in 2020, and phase two as part of the response in the months that followed.

During the initial outbreak, the public was panicked, suggesting that the media potentially overreacted to the situation. Public engagement was very high but it may have been driven by emotions rather than evidence-informed decisions. Religious and community leaders were engaged to mobilize critical resources as part of rapid efforts to strengthen pandemic preparedness and response. Community members and businesses contributed infrastructure such as buildings, hotels, campuses and schools for COVID-19-related services; both in-kind and cash support was given to the poor who had been affected by the movement restrictions; and religious leaders instructed their followers to stay at home.

Through social mobilization efforts at national, regional and local levels, considerable resources were raised for the COVID-19 response. However, this response and widescale community engagement were not sustained over time as the pandemic worsened. A key challenge was that the mobilization efforts were not supported by a policy framework or sustainability planning, and lessons learned were not built into routine institutional capacity. Accordingly, successful initiatives were not harnessed and there were potentially missed opportunities to boost health care financing in resource-limited settings.

Active engagement of communities appeared to last only during the first three to six months of the outbreak in 2020. Indeed, several achievements were reversed: community contributions, participation and ownership dropped sharply *(36, 48)*. Over time, communities developed feelings of resistance and denial with regard to COVID-19 and the associated response, and consequently displayed maladaptive or defensive attitudes.

Political factors also played a role in the gradual decline in the social mobilization efforts. Effective community/public engagement in the COVID-19 emergency response was also affected by other factors, including conflicting public messaging, use of force during quarantine or treatment, increased risk tolerance levels in the community, reactive movement restriction policies and weak contact tracing.

Conclusions and lessons learned

To implement the emergency response in Ethiopia, the MoH led the mobilization of over 4.2 billion Ethiopian Birr (around US$ 120 million) from the government treasury. These funds were re-allocated from other sources and the private sector, while community members also contributed cash and in-kind resources to provide buildings, colleges and other facilities for COVID-19 services. Community members and the public were supportive and cooperative, including those community members who were worst affected by movement restrictions.

The government mobilized the workforce through the recruitment of volunteers and college students and deployment of retired medical staff. This improved treatment and testing capacities. Beginning with only a few hospitals, treatment clinics, and isolation and quarantine centres, capacity was increased by converting different facilities to provide COVID-19 services. Testing laboratories increased and universities and research institutes undertook efforts to guide policy and interventions. Nonetheless, there is an opportunity to improve the use of local research evidence to improve the responsiveness of response actions to local needs and priorities.

At the community level, the household and village-based approach to enforce and monitor adherence to national COVID-19 guidelines supported the COVID-19 response. Stringent actions were undertaken in early 2020 that achieved strong community engagement, a positive public response and compliance with preventive and safety policies. However, disproportionate attention was diverted to COVID-19. The pandemic dominated the public agenda, which led to strict enforcement of COVID-19 safety policy and protocols at all levels.

The emergency response also lacked strategies to maintain PHC services. Essential services (including for PHC and preventive, promotive and curative care) were interrupted. Service demand and uptake fell sharply at all levels of the health system.

Key contributing factors included an overemphasis on the COVID-19 response in health worker mobilization and media campaigns, fear and anxiety among health workers and the community, limited guidance on how to continue essential services, PPE shortages, and public transport restrictions.

Public responsiveness to messaging from health authorities waned before the pandemic reached its peak when widespread community transmission had begun. Response activities (except treating cases within hospitals), including public engagement and adherence to safety measures, were ceased as community engagement hit its lowest level. Communities demonstrated and expressed resistance, denial, hesitation, misconception and defensive attitudes, which undermined the measures put in place.

Critical factors that are likely to strengthen PHC include investments in trust between providers and the community, ongoing political commitment and leadership, adequate resourcing for public health infrastructure and health workforce and clear policy guidance and direction on how to integrate emergency responses with maintaining essential health services.

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This case study was developed by the Alliance for Health Policy and Systems Research, an international partnership hosted by the World Health Organization. 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.