



LAUNCH & SCALE SPEEDOMETER

REPORT

IMPACT OF COVID-19 ON MATERNAL & CHILD HEALTH
SERVICES IN ETHIOPIA AND INDIA

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TABLE OF CONTENTS

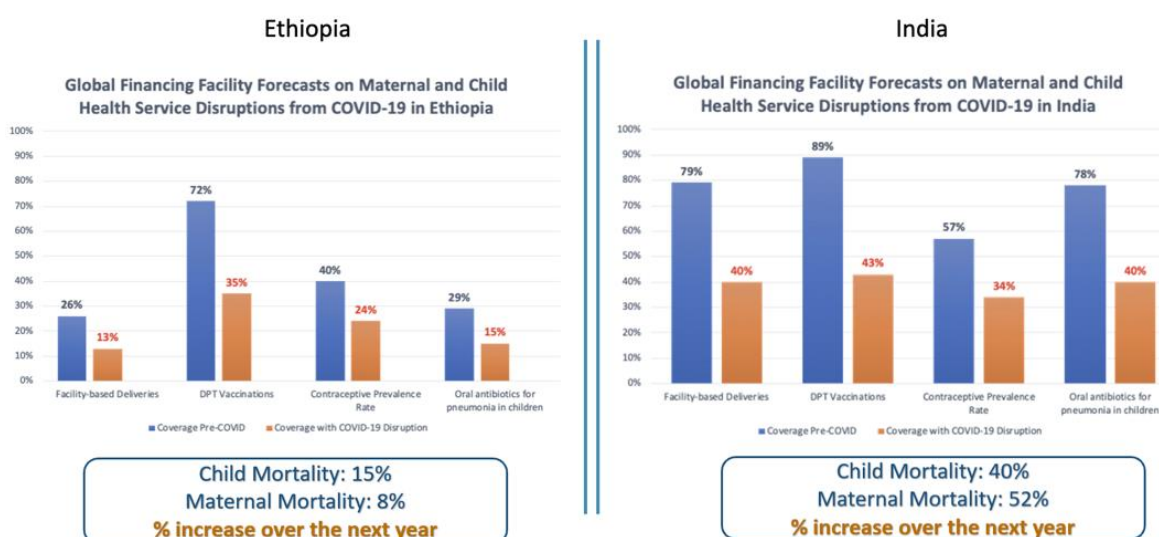
Executive Summary.....	2
Introduction	5
Methods.....	7
The Ethiopian Case	7
The Indian Case	10
Key Findings	13
Recommendations	15
Conclusion.....	17
Appendix I. Global Financing Facility Forecasts on Maternal and Child Health Service Disruptions in India and Ethiopia	18

EXECUTIVE SUMMARY

The COVID-19 global pandemic has directly created significant global health and economic challenges and also disrupted access to essential health services and technologies. This is especially urgent for maternal, newborn, and child health (MNCH) services, which rely on global supply chains as well as local health system capacity, especially in fragile settings. In order to better characterize and analyze the impact of COVID-19 on MNCH in diverse health systems, we analyzed grey and white literature, conducted key informant interviews with public and private sector stakeholders, and tracked the evolving COVID-19 disease burden from April to September 2020 in India and Ethiopia. We selected India and Ethiopia as two middle-income countries with different health system structures and very different burden of disease from COVID-19. From this research we identified and prioritized challenges to accessing care for the MNCH population, noted changes during the COVID-19 pandemic, and developed recommendations to urgently address barriers and challenges.

We organized our findings using the Global Financing Facility (GFF) framework describing critical supply and demand side factors affecting MNCH services. The COVID-19 pandemic is projected to have dire consequences in both India and Ethiopia, with forecasts from GFF predicting increases of 15% for child mortality and 8% for maternal mortality in Ethiopia, and 40% for child mortality and 52% for maternal mortality in India (see Figure 1).

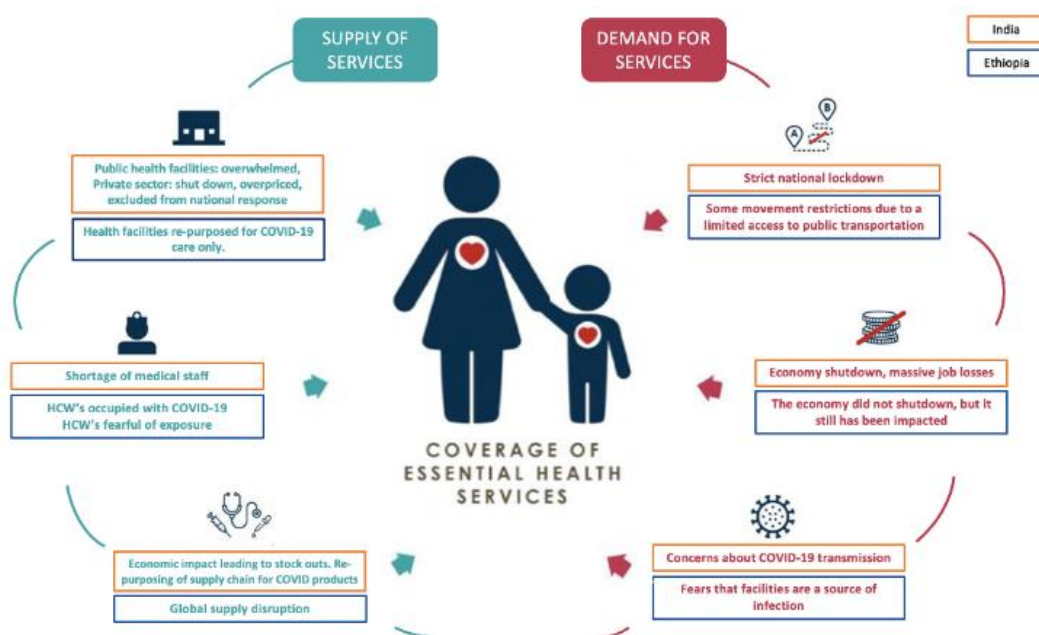
Figure 1. Forecasts from Global Financing Facility



Comparing the experience in Ethiopia and India, during the period of April to September of 2020, we found several common factors affecting the provision of MNCH services, although in varying degrees. They are: 1) shortage and or redeployment of healthcare workers, 2) supply chain disruptions, and 3) public fears and concerns about COVID-19 transmission. India's aggressive response to the pandemic (i.e., an initial strict national lockdown), led to a massive disruption of MNCH services. On the demand side, the strict national lockdown in India led to movement restrictions and limited access to public transportation, and indirectly, mass job loss and an economic downturn. The economic challenges have increased financial barriers to quality private sector care. On the supply side, public health facilities in India are facing capacity constraints to serve COVID-19 patients, including shortage of public healthcare providers and critical care beds. Furthermore, fragmented infrastructure, especially in the private sector, has led to the shutdown of many facilities, unaffordable rates for services, and the referral of many COVID-19 patients to overburdened public healthcare facilities.

Ethiopia's response has focused on public health measures (i.e., house-to-house screenings, quarantine, mandatory masking orders, public awareness and education) that have also impacted the supply and demand factors of MNCH services, but to a lesser extent than in India. On the demand side, patients are being redirected and do not want or cannot go to a new facility (some facilities have shifted to focus exclusively on provision of care for COVID-19 patients). On the supply side health care workers are occupied with COVID-19, often working in shifts, and some of them are fearful of going to work - which leaves some health centers and posts unmanned or understaffed. Movement and transport restrictions between countries, within-country, and even between health facilities in a province or district, have meant that supply and logistic distribution of health products and information has been hampered. See figure 2 for an adaptation of the Global Financing Facility framework showing a summary of supply and demand factors affecting essential service use in India and Ethiopia.

Figure 2. GFF framework adapted to India and Ethiopia's findings



Based on this analysis, we offer specific recommendations to address critical barriers to accessing MNCH services due to the COVID-19 pandemic.

Recommendations to address critical barriers to accessing MNCH services due to COVID-19:

1. Strengthen virtual care and home/community-based care models to offset need for facility-based care as much as possible by:
 - a) supporting innovations that bring MNCH services closer to the end user (i.e. telemedicine, home-based ANC, door-to-door immunizations, conditional cash transfers), and
 - b) championing and integrating primary healthcare with community-based efforts (i.e. support implementation of integrative community care management (iCCM)).
2. Expand mechanisms for public and private sector coordination of resources and capabilities in more cohesive ways by:
 - a) incentivizing and fostering PPPs so they leverage each other, and collectively mount a more effective response to the unprecedented healthcare system challenges that the pandemic poses, and
 - b) using public sector financing as a catalyst to implement more cohesive system-wide solutions.
3. Create stronger public education and outreach efforts at the community level.
4. Identify and implement diverse approaches to provide financial security for women and children such as conditional cash transfers and prepaid financing/insurance models.

This research was undertaken as part of the Launch and Scale Speedometer, an initiative led by the Duke Global Health Innovation Center aimed at building the evidence base to understand the factors associated with and the speed of introducing and scaling global health interventions in order to accelerate their reach to those who need them the most.

Looking Forward

The COVID-19 situation in both India and Ethiopia is dynamic and likely to get worse before it gets better. Since the conclusion of our research in September 2020, the share of COVID-19 tests that are positive in Ethiopia has slightly decreased, while the numbers in India have improved significantly. As of January 31, 2021, the positive rate in Ethiopia has decreased from 10% to 9.1% and the positive rate in India has decreased from 7% to 1.9% since October 1, 2020.ⁱ Given this recent data, it is likely that there may be reduced impact on MNCH services in both countries, especially in India which seems to have the epidemic under control (positive rate <5%). This is a dynamic situation that needs to be monitored and followed over time.

INTRODUCTION

Current global health challenges, like the COVID-19 pandemic, need effective, proven solutions or interventions to be rapidly scaled so they can reach the most vulnerable populations. New health interventions usually navigate a long and barrier-filled pathway, and are often delayed in reaching the end user, especially in many low- and middle-income countries (LMICs). The Launch & Scale Speedometer Initiative, seeks to identify and understand the causes of these delays, and conversely the various enablers to scale, so strategies can be developed to speed the introduction and scale of new essential health interventions (i.e. drugs, devices, diagnostics), without compromising patient safety or the integrity of health systems. Maternal, Neonatal and Child Health indicators (i.e. infant mortality, under-five-mortality, maternal mortality) are some of the most important indicators of a country's development. Thus, it was important that the Launch & Scale Speedometer Initiative examine and analyze how the pandemic impacted the launch and scale-up of essential MNCH interventions, and how different stakeholders adapted in their attempt to minimize the impact on MNCH services in Ethiopia and India.

As of October 1, 2020, the COVID-19 pandemic continues spreading around the world affecting the health of millions of people (> 35M infections), and also taking the lives of over a million people (1,031,629), it is also causing major disruption in the provision of essential health services.ⁱⁱ The disruption is due to factors affecting the supply and/or the demand for services (see Figure 1). According to the WHO's latest interim report, "Pulse survey on continuity of essential health services during the COVID-19 pandemic", ministry of health officials from 105 countries from the five WHO regions, report that the most frequently disrupted MNCH services include routine immunizations, via outreach services like mobile labs (70%) and through facility-based services (61%), family planning and contraception (68%), and antenatal care (56%).ⁱⁱⁱ

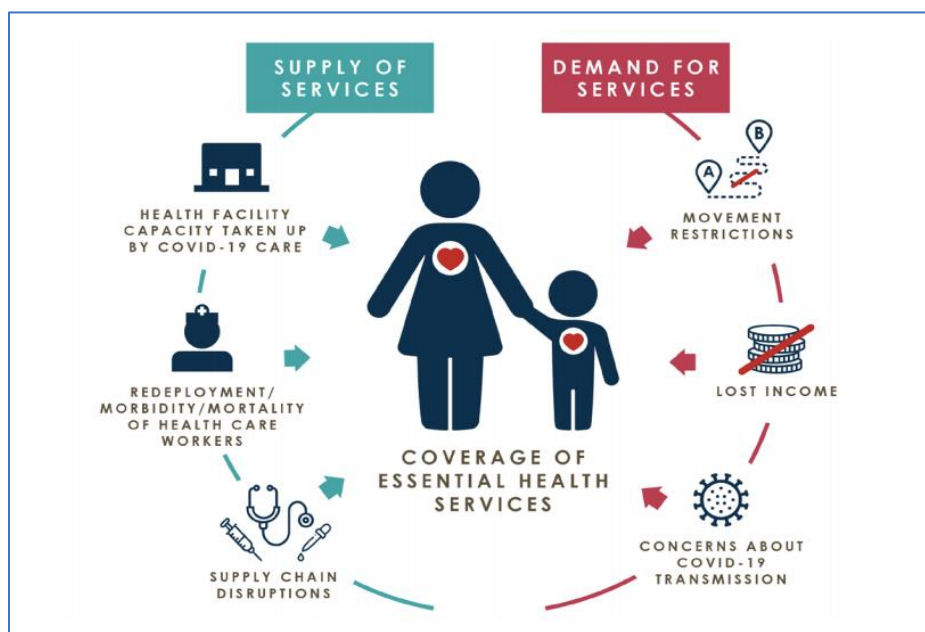


Figure 1. Factors Affecting the Use of Essential Health Intervention during COVID-19^{iv}

In this paper we provide a summary of our initial findings on the impact of COVID on MNCH interventions and services following a first round of key informant interviews with health leaders in India and Ethiopia, in addition to desk research on the topic, performed during the period of April to September 2020.

India and Ethiopia are two very different countries not only in size and population, but also in terms of healthcare systems: India with a population of over 1.3 billion, the second most populated country in the world, has a largely fragmented and decentralized health system, where each state and territory governs healthcare for its respective population.^{v,vi} While the central government has implemented various government-led nationwide health programs and policies, the private sector accounts for 70% of healthcare provision.^{vii} Ethiopia, on the other hand, has a population of around 110 million, and relies on a more centralized, cohesive and largely public sector-driven health system.

In both countries, COVID's impact on MNCH interventions and services reflects the way each country has responded to this pandemic. India's response was aggressive, with a strict national lockdown and shutdown of the economy which led to a massive disruption of the supply and demand of MNCH interventions and services. On the other hand, Ethiopia's "unconventional approach" did not involve lockdowns or economic shutdown, but focused more on addressing COVID through preventive measures of public awareness and education.^{viii} Our research found that the supply and demand of essential health interventions and services like MNCH were seemingly less affected in Ethiopia than in India.

COVID-19 Data for India and Ethiopia (as of October 1, 2020)^x

Country	Confirmed Cases (total)	Deaths (total)	Confirmed deaths /million people	Daily Tests/10 00people	Positive Rate	Population total
Ethiopia	76,098	1,205	10.48	0.06	10%	110 million
India	6.39 m	99,773	72.30	0.85	7%	1.3 billion

METHODS

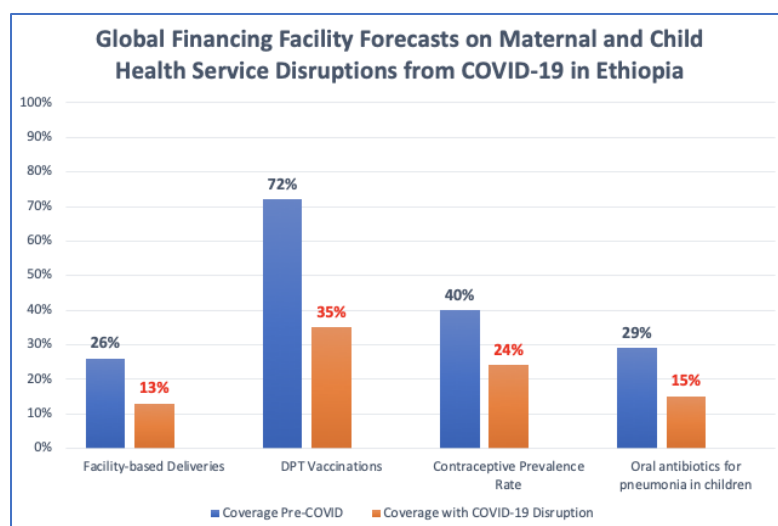
Our primary methods of research were desk reviews of white and gray literature and virtual key informant interviews (16 from Ethiopia and 17 from India). The Speedometer team reached out to stakeholders based on pre-identified key domains in India and Ethiopia and used a convenient sampling approach and snowball sampling to identify additional interviewees. The goal of these interviews was to identify and summarize the national and subnational ecosystems for the launch and scale-up of essential MNCH health interventions (such as drugs, devices, and diagnostics), including their scale-up pathways, barriers, and enablers. Due to the global pandemic, we added questions to collect information on the impact of COVID-19 on the supply and demand of MNCH interventions and services, which is presented in this paper.

THE ETHIOPIAN CASE

COVID-19 has had a deleterious effect on the health and economies of countries all over the world. Ethiopia has not been spared, though the country's COVID-19 caseload has been low compared to countries like the US or India. As of October 1st, 2020 Ethiopia, reported 76,098 total cases, 1,205 total deaths, 10.48 deaths per million people and 39,965 active cases---low numbers for a country of 110 million people.^x These numbers may represent an undercount given that testing is concentrated in urban areas, with around 70% of tests in Oromia, Amhara, and Addis Ababa.^{xi} Furthermore, Ethiopia has low testing numbers at 0.08 daily tests per 1,000 (compared to the 2.42 and 0.73 per 1,000 in the US and

India respectively).^{xii} Nevertheless, Ethiopia has been hailed as a darling of sorts, seemingly having done a lot of things right in the fight against COVID-19, with protective measures taken as early as January of 2020.^{xi} By the time Ethiopia had its first reported case in March, the government decided to forgo a nationwide lockdown (by default an economic shutdown) to safeguard the many Ethiopians dependent on the informal economy and Ethiopia's growing but still vulnerable national economy.^{xiii} Instead, in a collaborative effort with the Ministry of Health, the Public Health Institute, and others, Ethiopia quickly ramped up preventative public health measures: quarantine and follow up for travelers, a mandatory masking order, communication and advocacy efforts via phone, daily briefings and even postponing elections scheduled for August.^{xiv,xv,xvi}

Despite success in curbing infection rates and the direct impact of COVID-19, adapting to the indirect effects of the virus has been difficult. Of particular concern is the effect that COVID-19 has had on access to essential maternal and child health services. In Ethiopia, health-seeking behavior has declined due to multiple supply and demand factors impacting the delivery of health services. Early analysis on the impact of COVID-19 based on input from stakeholders in the Ethiopian health sector, showed a decrease of 12% for first antenatal visit attendance, and a decrease of 35% for under-five pneumonia treatment.^{xvii} Healthcare providers in Ethiopia have also reported a decrease in the already low numbers of women going to hospitals to give birth.^{xviii,xix} Forecasts from the Global Financing Facility suggest that if current trends continue, facility-based deliveries would drop from 26% to 13%, leaving around 240,000 women without access to a birth facility. The coverage of DPT vaccinations for children would also drop from 72% to 35%, leaving over 3 million children without their DPT vaccine, and the contraceptive prevalence rate (CPR) would decrease from 40% to 24%, meaning that 2.25 million more women would not be able to receive family planning services. If all MNCH services follow a similar disruption, it is estimated that child mortality would increase by 15% and maternal mortality by 8% within the next year.^{xx} These findings have been further supplemented by insights from various stakeholders in Ethiopia who shared their experiences and learnings in real-time.



Learnings from Ethiopia Key Informant Interviews

As of September 22, 2020, we have spoken with 16 stakeholders who are working in the MNCH field in Ethiopia. Our stakeholders included officials from the Ethiopian Ministry of Health, the Ethiopian Pharmaceutical Supply Agency, physicians, public health advocates, and leaders from global health organizations, including Jhpiego, John Snow Inc, and Hamlin Fistula.

In these interviews we explored the impact of COVID-19 on access and use of MNCH services. Stakeholders reported that facility censuses were low and health-seeking behavior had declined due to COVID-19. Various supply and demand factors were attributed (see table 1).

- Impact of COVID-19 on supply factors:
 - Healthcare workers are occupied with COVID-19 and working in shifts to stay on the same team making for a limited number of available health workers
 - Healthcare workers are fearful of going to work, which is leaving healthcare centers and posts unmanned or understaffed.
 - Significant impact on the MNCH supply chain. Movement restrictions from country to country, in-country, and between health facilities, have meant that supply and distribution of health products and information have been hampered.
 - Of particular concern, is the flow from the global supply chain, especially as some global manufacturers are diverting to COVID-19 products or experiencing production delays. To circumvent some of the supply chain disruptions within country, the Ministry of Health has distributed a larger than usual number of commodities to facilities. This means that facilities have more than enough product on hand, but also increases the risk of products expiring at the facility level, as there is no mechanism to return unused commodities or transfer them to a facility in need.
 - COVID-19 has exacerbated and highlighted gaps in the health sector, including the limited number and restricted availability of highly specialized providers, such as pediatricians and obstetricians.
- Impact of COVID-19 on demand factors:
 - There are fears that facilities are a source of infection, stopping people from seeking needed care.
 - Some patients are being redirected to new facilities, and they do not want or cannot go to the designated facility. This is the result of some facilities changing their services available, to focus on the provision of care for COVID-19 patients and ceasing essential routine health services.

- Restricted travel is making it difficult for people to travel, as the government has limited the capacity of public transportation.

To address these supply and demand challenges and areas of concern, stakeholders emphasized the need to increase health facility visits for the MNCH population, and to take measures to ease the fears of patients and providers. Stakeholders suggested that the government provide clear communication about the protective measures at health facilities, designate certain facilities for MNCH care only, and provide continuous support and protective gear to healthcare workers. Additionally, some stakeholders saw the situation with COVID-19 as an opportunity to ramp up telemedicine services, especially given restricted travel and the concentration of health experts in urban areas. Some stakeholders advocated for more capacity building and innovative strategies (i.e. measles mass vaccination campaign moving from clinics to home visits, using the appropriate measures to reduce exposure to COVID-19), including but not limited to house-to-house visits and increasing contact with more skilled providers at the lowest health post level (with strict preventative measures).

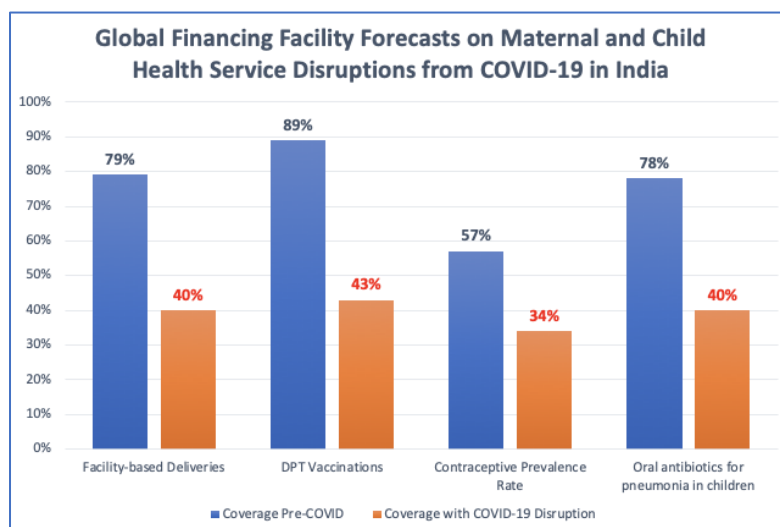
THE INDIAN CASE

The COVID-19 pandemic has caused significant negative health and economic impacts in India, with the country accounting for over 13% of the global COVID-19 cases.^{xxi} As of October 1st, 2020, India has reported 6.39 million total cases, 99,773 total deaths, 70.65 deaths per million people, and 942,217 active cases.^{xxii} Due to the decentralized nature of the healthcare system in India, the distribution of the COVID-19 impact varies across states. The majority of cases in India are located in densely populated urban areas, with Maharashtra state (capital, Mumbai) accounting for nearly 1.2 million total COVID cases.^{xxiii, xxiv} There is uncertainty whether this data is a true reflection of what's happening on the ground throughout the country. States are not required to follow the national guidelines when recording COVID-attributed deaths, leading to growing concern that the recorded COVID-19 mortality data is severely underestimated.^{xxv} Over 65% of the total COVID-19 mortality data has been reported from only 4 of the 29 states (14%), Maharashtra, Tamil Nadu, Karnataka, and Delhi, where the death registration has reported a 100% accuracy and have captured all deaths. While much of the response has been dependent on each state's governing body, the central government has led several protective measures to curb the widespread impact of COVID-19. On March 24, 2020, India enforced a nationwide lockdown, almost two months after the first initial reported case and the WHO declared COVID-19 a public health emergency.^{xxvi, xxvii} Restrictions have been relaxed in three phases as of June 2020. Additional tactics included prohibiting international flights, efforts to boost public healthcare infrastructure, and mass media campaigns to promote personal hygiene measures and social distancing.^{xxviii}

Given the urgency of this pandemic, the central government has prioritized COVID-19 within national public health efforts, resulting in major re-allocations of healthcare infrastructure, including transferring healthcare providers and changing the service offerings of public healthcare facilities, in some cases to administer only COVID-19 care.^{xxix} Across the private sector, that dominates India's healthcare system and has nearly double the number of hospital beds compared to the public sector, underlying fragmentation and lack of regulatory standards, along with inconsistent enforcement has further exacerbated issues of access and affordability.^{xxx,xxxi,xxxii} While many private hospitals have offered healthcare services, and private health companies have offered their manufacturing capabilities and personnel to support the government's public health response, the private sector's highly fragmented infrastructure lacks the cohesive system needed to manage population health and mitigate the COVID-19 spread.^{xxxiii,xxxiv} The pandemic has also potentiated indirect and directly adverse consequences that have disrupted the provision of essential maternal and child health services.^{xxxv,xxxvi} Most notably, while the implementation of a stringent lockdown by the central government decelerated community spread, this strategy inadvertently contributed to the decline in uptake and provision of MNCH services.^{xxxvii,xxxviii,xxxix} During the lockdown period, there was a 49.8% reduction in hospitalization for pregnant women, compared to the same period during the previous calendar year in Western India. Other estimates indicate that the number of children immunized fell by 1.5 million during the lockdown, compared to the same period last year.^{xxxvii}

Forecasts from the Global Financing Facility estimate the continuation of severe disruption of MNCH essential services in India as a result of COVID-19.^{xxxiv} Models indicate that facility-based deliveries could see a drop from 79% to 40% leaving around 4.7 million women without access to a birth facility, the coverage of DPT vaccinations for children will drop from 89% to 43% leaving over 27 million children without access to their DPT vaccine, a drop of the contraceptive prevalence rate (CPR) from 57% to 34% meaning that close to 40 million more women would not have access to family planning services, and a drop of oral pneumonia antibiotics for children resulting in around 22 million children without treatment for pneumonia. If all MNCH services follow a similar disruption, child mortality would increase by 40% and maternal mortality by 52% within the next year.^{xxxiv}

We have supplemented these findings with key insights described as follows from interviews with various stakeholders in India.



Learnings from India Key Informant Interviews

As of October 1st, 2020, we have interviewed 17 key stakeholders who work in India's health sector and MNCH field to better understand how COVID-19 has impacted MNCH services in India. We spoke with individuals working in the private sector, consultants from the public sector, clinical and public health researchers, leading organizations such as Clinton Health Access Initiative and the Bill and Melinda Gates Foundation, and many more. Many stakeholders expressed their concern over how India's fragmented healthcare system might adversely impact public and private MNCH essential innovations and services, from both a supply and demand perspective (See Table 1.). While the Government of India employed several tactics to mitigate the spread of COVID-19, these efforts have not been ubiquitously implemented across the public or the private sector.

- Impact of COVID-19 on supply factors:
 - Many public health facilities were designated for only COVID-19-related care. The relatively limited supply of highly skilled medical specialists and critical care beds were focused on COVID patients. Thus, with the public system concentrating on COVID care, many non-COVID patients requiring essential care were neglected. Concurrently, some private sector healthcare facilities had to close during the lockdown, further limiting options for routine care. Adding to the existing challenges of a burdened public health system, some private facilities that have reopened are charging unaffordable rates for their services, and are referring many COVID-19 patients to public healthcare facilities, thus triggering a backlash against the private sector and a sentiment that the private sector is taking advantage of the public. Not surprisingly, the relationship between the public and private health sectors has become further strained.
 - In rural settings, the economic impact has reduced the number of unregulated, informal private providers and small private medical product suppliers, leading to more frequent stock outs of essential medicines
 - COVID-19 has also disrupted the introduction of life-saving innovations in India. With an urgent need for personal protective equipment (PPE), the manufacturer that was once approved to produce Every Second Matters for Mothers - Uterine Balloon Tamponade (ESM-UBT) kits for postpartum hemorrhage, has now been designated by the central government to manufacture PPE for the country. This impeded the momentum of introducing ESM-UBT nationwide.
- Impact of COVID-19 on demand factors:
 - Many care-seeking populations have experienced massive job losses and cannot afford to pay for private health facilities.
 - Due to limited transportation availability from movement restrictions, rural communities had limited access to the affordable, public healthcare facilities.

These insights indicate COVID-19 has brought much disruption to MNCH services, increased existing health inequities, and impeded the progress of MNCH-related outcomes India.

Stakeholders expressed concern over the decentralized system and encouraged solidarity between private and public health sectors. They suggested using public sector financing as a catalyst to build a more cohesive blended health system, with stronger public-private partnerships expanding access and increasing health system capacity as a whole. Many interviewees suggested that telehealth services have become a preferred method for various patients in the private sector. Increased access to these services would alleviate infection fears, decrease volume in strained public health facilities, and expand outreach to rural populations. Others suggested mass health promotion campaigns to encourage people to continue to see providers for health concerns.

KEY FINDINGS

With the information gathered, there is no doubt that COVID-19 has impacted the supply and demand of MNCH services in both India and Ethiopia. And while it is still too early to measure the real magnitude of the impact, we can learn much from both of these contexts about what is happening now and the way forward. I

India's response to the pandemic has been very aggressive; strict lockdowns were instituted which shut down the economy. This, along with the widespread fear of contracting the virus, has led to a significant disruption of the supply and demand of MNCH services. In Ethiopia, the response has been less radical, and focused on broad public education and prevention strategies, in line with a lower burden of disease. Though the government has restricted travel, there has been no lockdown, and this has lent itself to a less dramatic disruption of MNCH services. Table 1 describes the factors that have disrupted MNCH services from a supply and demand perspective in India and Ethiopia.

Table 1. Supply and Demand Factors of MNCH Service Disruption		
	Ethiopia	India
Supply		
Health facility capacity taken up by COVID-19 care	Some public facilities have shifted to focus on the provision of care for	Many public health facilities have been designated for COVID-19-related care.

	<p>COVID-19 patients and essential health services are not being provided</p> <p>Patients are thus being redirected to different public facilities than they usually seek care from, which may pose transport or access barriers, as well as some patients choosing the alternative of no-care!</p>	<p>Many private sector healthcare facilities had shut down during the lockdown, further limiting options for patients seeking routine care.</p> <p>Many private facilities have excluded themselves from the national response to COVID-19, leading to their referral of all COVID-19 patients to an already overwhelmed public health system.</p> <p>Some private providers have increased their rates, and are charging unaffordable prices.</p>
Redeployment / Morbidity / Mortality of Healthcare workers	<p>Healthcare workers are occupied with COVID-19, working in specific shifts with the same team, some of them are fearful of going to work which is leaving healthcare centers and posts unmanned or understaffed.</p>	<p>Shortage of medical specialist staff and intensive care unit beds resulted in the refusal of care for non-COVID patients</p>
Supply Chain Disruptions	<p>COVID-19 has had an unprecedented impact on the MNCH supply chain. Movement restrictions from country to country, in-country, and within health facilities, have meant that supply and distribution of health products and information have been hampered. To circumvent some of the supply chain disruptions, the Ministry of Health has distributed a larger than usual number of commodities to facilities potentially confronting problems of overstocking, increasing the possibility of supplies expiring at the facility level (there is no mechanism in place to return commodities to the MoH).</p>	<p>Economic impact has reduced the number of unregulated, informal private providers and small private medical product suppliers, leading to stock outs of essential medicines.</p> <p>Manufacturer of Every Second Matters for Mothers - Uterine Balloon Tamponade kits for postpartum hemorrhage, has now been designated by the central government to manufacture PPE for the country.</p>
Demand		
Movement restrictions	<p>Some movement restrictions from country to country, in-country, and within health facilities, due to a limited access to public transportation.</p>	<p>Strict National lockdown limited the movement of the public.</p> <p>Rural communities have limited access affordable, public health care, attributed to geographic barriers from movement</p>

		restrictions and limited access to public transportation.
Lost income		Massive job losses leading to inability to afford the price of quality private sector care.
Concerns about COVID-19 transmission	Fears that facilities are a source of infection.	

RECOMMENDATIONS

The data from the literature and what we are hearing from voices on the ground highlight key gaps and action steps to curb the effects of COVID-19 on MNCH services. Through our synthesis and analysis of this data we were able to determine evidence-informed solutions and recommendations that could mitigate the severity of health and economic impacts from COVID-19 (see table 2 for key recommendations).

Table 2. Key Recommendations to Mitigate MNCH Service Disruption in Ethiopia and India	
Ethiopia	
<ul style="list-style-type: none"> Strengthen primary healthcare by championing community-based efforts, empowering and utilizing community health workers who are a key cornerstone in ensuring the continuity of MNCH services during difficult times 	
<ul style="list-style-type: none"> Increase government support for innovations that bring MNCH services closer to the end user (i.e. telemedicine, home-based ANC, door-to-door immunizations, conditional cash transfers) 	
<ul style="list-style-type: none"> Segregate health services (i.e. COVID facilities, non-COVID facilities) which would allow and secure the provision of MNCH essential services with a reduced risk of exposure to COVID, reduce the widespread fear among users and healthcare providers, and hopefully increase use. 	
India	
<ul style="list-style-type: none"> Expand and strengthen partnerships between the public and private sectors through regulations, enforcement, financing, traditional and new forms of PPPs. 	
<ul style="list-style-type: none"> Use public sector financing as a catalyst to a more cohesive blended system and harmonious public-private approaches 	
<ul style="list-style-type: none"> Expand integration of telehealth services within public health facilities 	
<ul style="list-style-type: none"> Increase access for rural populations through stronger partnerships with private sector by increasing provider workforce 	
<ul style="list-style-type: none"> Increase funding for ASHA workers as they provide the foundation for essential MNCH care 	

<ul style="list-style-type: none"> • Increase health promotion campaigns throughout the pandemic to emphasize the need for routine MNCH care
Both Countries
<ul style="list-style-type: none"> • Incentivize and foster PPPs for a more resilient and blended health system that can respond more rapidly and effectively to a public health emergency like the COVID-19 pandemic
<ul style="list-style-type: none"> • Support innovations that bring MNCH services closer to the end user (i.e. telemedicine, home-based ANC, door-to-door immunizations, conditional cash transfers)
<ul style="list-style-type: none"> • Strengthen primary healthcare by championing and integrating it with community-based healthcare (i.e. support implementation of integrated Community Case Management (iCCM))

In Ethiopia, the situation with COVID-19 is an opportunity to shift the health system towards more community/ home-based services. Moreover, significant concerns over contracting the virus highlight the need to designate certain facilities for just MNCH care and for more transparency and communication around the safety measures that are being implemented. In India, the strategies to manage the impact of COVID-19 on access to MNCH services should include expanding and strengthening partnerships between the public and private sectors to maximize and leverage the existing resources throughout the country. These partnerships can be strengthened through stronger regulations, enforcement, and financing mechanisms. In particular, stronger partnerships would expand access to rural populations by increasing the number of providers based in this setting to help reduce the growing inequities these populations are facing. Public-Private Partnerships (PPPs) play an important role in the sustainability and security of global health; governments can explore ways to incentivize and foster those PPPs, so they leverage each other and collectively can respond better to the unprecedented challenges emergency situations like the COVID-19 pandemic can pose to the healthcare system and people's health. In both India and Ethiopia, it is imperative that governments support innovations that bring MNCH services closer to the end user. Examples of this include the use of telemedicine services, home-based antenatal care services, door-to-door immunizations, and conditional cash transfer programs (that will help reduce the economic impacts of the pandemic and will also generate demand for MNCH services).^{xi,xlii,xliii} Moreover, there is more work to be done to strengthen primary healthcare; countries and partners are urged to support the implementation of integrative strategies like Integrative Community Case Management (iCCM) by championing community-based efforts and empowering, investing in, and training community health workers who are a key cornerstone in ensuring the continuity of MNCH services during difficult times.^{xliii,xliv,xlv}

Furthermore, as MNCH services have been significantly impacted by COVID, the scale up of several MNCH interventions (i.e. drugs, diagnostics, devices) has been either stopped or slowed down. However, with the recommendation to bring more services closer to end-users, the pandemic could provide an entre for

new innovations that do just that. One example of this is Sayana Press (SP), an easy-to-administer three-month injectable contraceptive that has been approved for self-injection in some countries.^{xlvi} Innovations such as this could help to maintain the continuity of family planning services when women have limited access to clinicians. See Table 2 for our key recommendations.

CONCLUSION

The COVID-19 pandemic has posed a big challenge to nations around the world and their health systems, countries like India and Ethiopia have responded differently to the pandemic. These different responses have impacted the supply and demand of MNCH services in different ways.

To avoid preventable loss of lives for millions of women and children, it is essential to preserve and secure access to MNCH services. As India and Ethiopia respond to the rapid spread of COVID-19, efforts should be cognizant of the potential impact on MNCH care. Maintaining MNCH services should be prioritized, alongside COVID-19, to ensure women and children are living long, happy and healthy lives.

Looking Forward

The COVID-19 situation in both India and Ethiopia is dynamic and likely to get worse before it gets better. Since the conclusion of our research in September 2020, the share of COVID-19 tests that are positive in Ethiopia has slightly decreased, while the numbers in India have improved significantly. As of January 31, 2021, the positive rate in Ethiopia has decreased from 10% to 9.1% and the positive rate in India has decreased from 7% to 1.9% since October 1, 2020.^{xlvi} Given this recent data, it is likely that there may be reduced impact on MNCH services in both countries, especially in India which seems to have the epidemic under control (positive rate <5%). This a dynamic situation that needs to be monitored and followed over time.

APPENDIX I. GLOBAL FINANCING FACILITY FORECASTS ON MATERNAL AND CHILD HEALTH SERVICE DISRUPTIONS IN INDIA AND ETHIOPIA

MATERNAL AND CHILD HEALTH SERVICES	ETHIOPIA	INDIA
FACILITY-BASED DELIVERIES	13% decrease (240,000 women)	39% decrease (4.7 million women)
DPT VACCINATIONS	37% decrease (3 million children)	46% decrease (27 million children)
ORAL PNEUMONIA ANTIBIOTICS	14% decrease (1 million children)	38% decrease (22 million children)
CONTRACEPTIVE PREVALENCE RATE	16% decrease (2.5 million women)	23% decrease (40 million women)
CHILD MORTALITY	15% increase over the next year	40% increase over the next year
MATERNAL MORTALITY	8% increase over the next year	52 % increase over the next year

ⁱ Our World in Data. The share of daily COVID-19 tests that are positive. Retrieved February 5, 2021 from https://ourworldindata.org/coronavirus-data-explorer?zoomToSelection=true&time=2020-03-01..latest&country=IND~ETH®ion=World&positiveTestRate=true&interval=smoothed&perCapita=true&smoothing=7&pickerMetric=positive_rate&pickerSort=desc.

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