

Estimates of the Potential Impact of the COVID-19 Pandemic on Sexual and Reproductive Health In Low- and Middle-Income Countries

The novel coronavirus (SARS-CoV-2) that causes COVID-19 has spread rapidly since emerging in late 2019, leading the World Health Organization (WHO) to declare the disease a global pandemic on March 11, 2020. Governments around the world have had to quickly adapt and respond to curb transmission of the virus and to provide care for the many who have been infected. The strain that the outbreak imposes on health systems will undoubtedly impact the sexual and reproductive health of individuals living in low- and middle-income countries (LMICs); however, sexual and reproductive health will also be affected by societal responses to the pandemic, such as local or national lockdowns that force health services to shut down if they are not deemed essential, as well as the consequences of physical distancing, travel restrictions and economic slowdowns.^{1,2}

The COVID-19 pandemic is already having adverse effects on the supply chain for contraceptive commodities by disrupting the manufacture of key pharmaceutical components of contraceptive methods or the manufacture of the methods themselves (e.g., condoms), and by delaying transportation of contraceptive commodities.³ In addition, equipment and staff involved in provision of sexual and reproductive health services may be diverted to fulfill other needs, clinics may close and people may be reluctant to go to health facilities for sexual and reproductive health services. Many governments are restricting people's movements to stem the spread of the virus, and providers are being forced to suspend some sexual and reproductive health services that are not classified as essential, such as abortion care, thus denying people this time-sensitive and potentially life-saving service.^{4,5} For example, the country lockdowns in Nepal and India have forced clinics operated by Marie Stopes International—the largest provider of family planning services in India outside of the public sector—to close.⁴ Without concerted action, access to essential sexual and reproductive health services, and the quality of any care that is provided, will likely decline.

Previous public health emergencies have shown that the impact of an epidemic on sexual and reproductive health often goes unrecognized, because the effects are often not the direct result of the infection, but instead the indirect consequences of strained health care systems, disruptions in care and redirected resources.¹ Moreover, responses to epidemics further exacerbate gender-based and other health disparities.^{6–8} Evidence from the Ebola virus outbreak in 2013–2016 in Western Africa shows the negative, indirect effects that such crises can have on sexual and reproductive health. According to an analysis of data from Sierra Leone's

Health Management Information System, decreases in maternal and newborn care due to disrupted services and fear of seeking treatment during the outbreak contributed to an estimated 3,600 maternal deaths, neonatal deaths and stillbirths—a quantity that approaches the number of deaths directly caused by the Ebola virus in the country.⁹ Other studies found that Ebola outbreaks resulted in sharp declines in contraceptive use and family planning visits in Guinea, Liberia and Sierra Leone.^{10,11} Evidence of the long-term impact of the Ebola epidemic are mixed. Results of some studies indicate that contraceptive use and family planning visits had returned to or exceeded pre-epidemic levels six months¹¹ to two years¹⁰ after the epidemic; however, in Guinea, the number of antenatal care visits and facility deliveries had not recovered to prior levels after six months, suggesting that the epidemic had sustained effects on the country's already inadequate level of care.¹¹

The lessons from the Ebola outbreak exemplify the harmful impacts that can result from an epidemic in the absence of focused responses from governments to protect the gains made in sexual and reproductive health (e.g., contraceptive use, method availability) in LMICs over the past several decades.¹² In this comment, we present an analysis illustrating what is at stake if government actions and provision of resources during the COVID-19 pandemic do not ensure that essential sexual and reproductive health services continue. These findings can provide guidance to policymakers and donors, and highlight the importance of recognizing sexual and reproductive health needs during the pandemic response and recovery periods.

Impacts of the Pandemic on SRH Outcomes

We present two scenarios of how the COVID-19 pandemic could disrupt sexual and reproductive health service provision in LMICs, and illustrate the impact of these changes on the number of unintended pregnancies, unsafe abortions, and maternal and newborn deaths. We use data from the 2019 Adding It Up study of sexual and reproductive health care provision in 132 LMICs in Africa, Asia, Eastern and Southern Europe, and Latin America and the Caribbean, which together had 1.6 billion women of reproductive age.¹³ The study included estimates of current coverage of essential sexual and reproductive health services—derived using the most recent available data from such national surveys as Demographic and Health Surveys and Multiple Indicator Cluster Surveys—and estimated the health impact and cost of meeting all need for contraception and more than 80 essential pregnancy-related and newborn care interventions.¹⁴

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Impacts were estimated following the Adding It Up methodology, details of which are available elsewhere.¹⁴ Briefly, using the most recent data for each country on contraceptive need and method use, we estimated the annual number of unintended pregnancies by multiplying the number of women using a contraceptive method by the age- and method-specific use-failure rates, and multiplying the number of women with unmet need for contraception by the pregnancy rate for women with an unmet need.¹⁴ We then adjusted these age-specific estimates of unintended pregnancy so that the total number of unintended pregnancies aligned with an external model-based estimate for each country.¹⁵ To estimate the effect of health services on cause-specific maternal and newborn deaths, we used national data on service coverage levels together with information on effectiveness of interventions from the Lives Saved Tool, a mathematical modeling tool that estimates the effects of service coverage change on mortality in LMICs.¹⁶ The data used in this analysis are annual estimates, and the reference year is 2019.

In the first of our two hypothetical scenarios, we estimated the impact that a 10% decline in the proportion of women receiving sexual and reproductive health services would have on unintended pregnancy and maternal and newborn mortality over a 12-month period. Although the changes to service provision could be greater than that, a 10% proportional decline illustrates the major effect a conservative reduction in service coverage might have. We assumed the net demand for contraceptives and the need for pregnancy-related and newborn services would not change; we did this both to simplify the analysis and because no data exist on the change in demand for services during this pandemic. Likewise, we estimated each outcome independently, and did not account for potential synergistic effects, such as the increased demand for pregnancy-related and newborn health services that would result from a decline in contraceptive use and an increase in the number of unintended pregnancies. This illustrative scenario is, there-

*We assumed that the 10% proportional decline would be the same for services for the following modern contraceptive methods: oral contraceptive pills, the injectable, the patch, the ring, emergency contraceptive pills, male and female condoms, the lactational amenorrhea method, fertility awareness-based methods, the IUD, the implant, and other supply methods, such as spermicide foam and diaphragm.

†The impacted services were the following interventions: care for miscarriage at 14–27 weeks' gestation, postabortion care for abortion complications needing comprehensive emergency obstetric care, management of ectopic pregnancy, tetanus toxoid immunization, malaria prevention with insecticide-treated bed net and intermittent preventive treatment in pregnancy, malaria treatment during antenatal care, hypertensive disease case management during antenatal care, delivery in a health facility, delivery in a basic or comprehensive emergency obstetric care facility, management of severe preeclampsia and eclampsia, antibiotics for preterm premature rupture of membranes, maternal sepsis case management, immediate newborn care, newborn resuscitation, kangaroo mother care, treatment for low birth weight and prematurity, treatment of newborn local infections and treatment of newborn sepsis with injectable antibiotics or full supportive care.

‡Major obstetric complications were severe preeclampsia, antepartum hemorrhage, obstructed labor, eclampsia, maternal sepsis case management and postpartum hemorrhage. Major newborn complications were asphyxia, sepsis and infection, congenital syphilis and complications from preterm labor.

fore, likely a conservative estimate of the potential effects of sexual and reproductive health service disruptions. In addition, although we focused on provision of contraceptive, pregnancy-related and newborn care, there are other sexual and reproductive health services that would likely be affected but were not included in these estimates, including treatment for HIV and other STIs.

We estimate that a 10% proportional decline in use of short- and long-acting reversible contraceptive methods* in LMICs due to reduced access would result in an additional 49 million women with an unmet need for modern contraceptives and an additional 15 million unintended pregnancies over the course of a year (Table 1, page 75). Even a modest decline of 10% in coverage of pregnancy-related and newborn health care† would have disastrous implications for the lives of women and their newborns: An additional 1.7 million women who give birth and 2.6 million newborns would experience major complications‡ but would not receive the care they need. This would result in an additional 28,000 maternal deaths and 168,000 newborn deaths.

The second illustrative scenario concerns women's ability to obtain safe abortions. Because of pandemic-related travel restrictions and closures of clinics that provide safe abortion services, people may have to turn to unsafe abortions—defined by WHO as those performed by persons lacking the necessary skills, or in an environment that does not conform to minimal medical standards, or both.¹⁷ In this scenario, we assumed that 10% of safe abortions would instead be unsafe. For simplicity, we further assumed that no change would occur in the outcome of pregnancies, so that the overall number of abortions and live births would remain the same.

We estimate that if countrywide lockdowns forced clinics to close or if abortion was considered a nonessential service so that 10% of women who would normally have a safe abortion instead resorted to an unsafe method, an additional 3.3 million unsafe abortions would occur in LMICs over the course of a year (Table 1). Such an increase in unsafe abortion would, in turn, result in an additional 1,000 maternal deaths.

Recommendations for Policymakers

Clearly, disastrous consequences for women and their families in LMICs are possible if core sexual and reproductive health services are reduced or deemed nonessential during the pandemic. The first of our hypothetical scenarios assumed a 10% proportionate reduction in sexual and reproductive health services; however, partners at the frontline of the response have predicted a decline of up to 80%,¹⁸ meaning that the impact of the pandemic could be far greater than we estimate. Conversely, our estimates sought to quantify the pandemic's effects over the course of a year, so if the shock to the health system is relatively brief (e.g., a few months), efforts to quickly improve services could mitigate some of the potential harms. However, failure to act and prioritize sexual and reproductive health

TABLE 1. Potential annual impacts of a 10% proportional decline in use of sexual and reproductive health care services resulting from COVID-19–related disruptions in 132 low- and middle-income countries

Disruption in essential SRH care	Impact
10% decline in use of short- and long-acting reversible contraceptives	48,558,000 additional women with an unmet need for modern contraceptives 15,401,000 additional unintended pregnancies
10% decline in service coverage of essential pregnancy-related and newborn care*	1,745,000 additional women experiencing major obstetric complications without care 28,000 additional maternal deaths 2,591,000 additional newborns experiencing major complications without care 168,000 additional newborn deaths
10% shift in abortions from safe to unsafe†	3,325,000 additional unsafe abortions 1,000 additional maternal deaths

*The 10% reduction in service coverage encompasses changes in access for some interventions (e.g., delivery in a facility) and changes in the content or quality of care for others (e.g., provision of magnesium sulfate for eclampsia treatment). †Unsafe abortions are those performed by persons lacking the necessary skills, or in an environment that does not conform to minimal medical standards, or both. Notes: Service changes are presumed to be the average change over a year, and impacts are on an annual basis. See footnotes in text for analytic details regarding contraceptive methods, essential pregnancy-related and newborn care, and major complications. SRH=sexual and reproductive health. Source: reference 13.

during the recovery phase—which may be quite lengthy—would allow these effects to become entrenched and would reverse gains made during the past several decades. Regardless of magnitude or duration, these impacts may be felt most acutely among disadvantaged and neglected groups, including adolescents, those in humanitarian settings, people who identify as LGBTQI, people experiencing gender-based violence, those living with HIV, incarcerated populations, individuals with disabilities and people of lower socioeconomic status.^{8,19}

To avert this potential sexual and reproductive health crisis, LMIC governments and their partners (i.e., donors and nongovernmental organizations) should take swift, decisive action. First, they should define and promote sexual and reproductive health care—including safe abortion, contraceptive services, and maternal and newborn care—as essential. This will allow people to travel for sexual and reproductive health services—even in areas under stay-at-home orders or with travel restrictions—without fear of legal consequences. Second, alongside private-sector actors, governments and their partners should strengthen national and regional supply chains—by taking such steps as prepositioning commodities and identifying alternative suppliers—to make sexual and reproductive health medications and supplies more accessible to providers and patients. Third, to improve access to sexual and reproductive health services, they should make contraceptives available without a prescription; decentralize distribution of contraceptives, drugs and other supplies from the national to regional level (to prevent bottlenecks); deliver services at people’s home when possible; and facilitate multimonth dispensing of sexual and reproductive health pharmaceuticals.^{1,20} Fourth, they should adopt innovative models of

care, such as telehealth, and prevent diversion of resources and staff away from sexual and reproductive health services. Finally, governments and their partners should address the unique needs of vulnerable and marginalized populations, who often face preexisting barriers to care that are exacerbated during a crisis.⁸ These actions will not only mitigate the impact of COVID-19 in the short term, but also provide benefits over the longer term, as innovations are adopted and institutionalized.

As the largest donor for sexual and reproductive health programs globally, the United States has a significant role to play in preventing the looming threats to sexual and reproductive health that we have described. The U.S. Congress can help prevent these adverse health outcomes by appropriating additional funding for global maternal health and family planning programs—such as those administered by UNFPA²¹—to respond to likely increases in unmet need for sexual and reproductive health services due to the pandemic; such efforts, moreover, should address the needs of marginalized populations. To enable health facilities to provide all necessary services, Congress should remove policy restrictions and pass the Global Health, Empowerment, and Rights Act, which would reverse the Mexico City policy (also known as the “global gag rule”) that prohibits foreign nongovernmental organizations from providing abortion referrals, counseling or services. Finally, Congress should fund additional global programs and support policies that alleviate pressure on health systems, expand access to sexual and reproductive health services globally and promote gender equality.¹⁹

Outbreaks are inevitable, but catastrophic losses for sexual and reproductive health are not. By learning from prior epidemics, putting in place critical resources and sys-

tems, and ensuring the provision of essential sexual and reproductive health services, we can prevent health system disruptions that would have devastating, lasting effects on individuals, families and the global community.

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