

# ***Impact of the COVID-19 Pandemic on Adolescent Sexual and Reproductive Health in Ethiopia***

## **Data and Methods Appendix**

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## Data

For the analyses presented in *Impact of the COVID-19 Pandemic on Adolescent Sexual and Reproductive Health in Ethiopia*, we followed a similar methodology to Riley et al. 2020,<sup>1</sup> except that our analysis is specific to the Ethiopian context. First, we assessed whether there were changes in the following aspects of sexual and reproductive health service delivery for adolescents after the onset of the COVID-19 pandemic: provision of modern contraceptive care, receipt of at least one antenatal visit during pregnancy, delivery with skilled health personnel, postabortion care and safe abortion care.

To do this, we obtained data from four different data sources: Private Provider #1, Private Provider #2, Ethiopia's District Health Information System 2 (DHIS2) and the Performance Monitoring for Action (PMA) platform. Descriptions of these data are provided in the main body of the report.

The DHIS2 and private provider data were broken down into the following service categories: modern contraceptive care, antenatal visits, births attended by skilled personnel, postabortion care visits and safe abortion care visits. Adolescents were defined as those aged 15–19. Most categories involved women only, but men's visits for external condoms are included and cannot be disentangled. Not all data for each service category from each source were specific to 15–19-year-olds, but adolescent-specific data were available from at least two data sources for each service delivery category. We used PMA data from the 2020 survey round to understand the proportion of adolescents who reported using public vs. private facilities to access sexual and reproductive health services, so that we could combine all three service provision data sources create an estimate of national changes in service provision. In addition, we used previous rounds of PMA data to calculate trends in the rate of modern contraceptive use among adolescents from 2014 to 2020.

For the data from DHIS2 and Private Provider #1, we aimed to assess changes in service provision by comparing the number of visits in 2019 to the number observed in 2020 and calculating the percentage change between the two points in time. For Private Provider #2, we compared the projections for 2020 to the observed numbers of visits in 2020 and calculated the percentage change. It should be noted that we excluded services provided through certain programs of Private Provider #2, as these data were also represented in the DHIS2 data.

### **Combining service delivery data to estimate overall change**

According to the 2020 PMA Ethiopia survey, approximately 70% of adolescents accessed their current or most recent modern contraceptive method from a public facility, and 30% obtained care at a private facility. We decided to weight the private providers for which we had data equally in our analysis. Therefore, DHIS2 data were weighted to represent 70% of adolescent visits and Private Provider #1 and Private Provider #2 15% each.

### **Estimating the impact of COVID-19 on adolescent sexual and reproductive health**

The methodology for the main Adding It Up study is described elsewhere.<sup>2,3</sup> In brief, the annual number of unintended pregnancies was estimated based on data on the numbers of women using a contraceptive method, age- and method-specific contraceptive failure rates, the numbers of women with an unmet need for contraception and the pregnancy rate for women with an unmet need. This number was then adjusted to align with an external model-based estimate.<sup>4</sup> Next, national data on service coverage levels and information on the effectiveness of interventions were used to estimate the effects of health services on cause-specific maternal and newborn deaths.

In this study, we used the main Adding It Up methodology to estimate the impact that our observed declines in the proportion of adolescents receiving sexual and reproductive health services likely would have had on unintended pregnancy and maternal and newborn mortality in the year after the onset of the COVID-19 pandemic. Contrary to the main Adding It Up study, our analysis did not use all age-specific rates and instead restricted inputs specifically to adolescents aged 15–19. As in Riley et al. (2020),<sup>1</sup> we assumed that the net demand for contraceptives and the need for pregnancy-related and newborn services among adolescents in Ethiopia did not change.

## References

1. Riley T et al., Estimates of the potential impact of the COVID-19 pandemic on sexual and reproductive health in low- and middle-income countries, *International Perspectives on Sexual and Reproductive Health*, 2020, 46:73–76, <https://doi.org/10.1363/46e9020>.
2. Sully EA et al., *Adding It Up: Investing in Sexual and Reproductive Health 2019*, New York: Guttmacher Institute, 2020, <https://www.guttmacher.org/report/adding-it-up-investing-in-sexual-reproductive-health-2019>.
3. Darroch JE, *Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017—Estimation Methodology*, New York: Guttmacher Institute, 2018, <https://www.guttmacher.org/report/adding-it-up-investing-in-contraception-maternal-newborn-health-2017-methodology>.
4. Bearak J et al., Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019, *Lancet Global Health*, 2020, 8(9):e1152–1161, [https://doi.org/10.1016/S2214-109X\(20\)30315-6](https://doi.org/10.1016/S2214-109X(20)30315-6).