The COVID-19 pandemic threatens to disrupt the provision of essential services due to barriers to the supply and demand for services. Mathematical models indicate that large service disruptions in Angola have the potential to leave 842,400 children without oral antibiotics for pneumonia, 890,100 children without DPT vaccinations, 146,600 women without access to facility-based deliveries, and 243,600 fewer women receiving family planning services. As a result of disruptions in all essential services, child mortality in Angola could increase by 11 percent and maternal mortality by 10 percent over the next year. Maintaining essential health services during the COVID-19 pandemic is critical to prevent these severe outcomes and protect the gains made over the past years in reducing maternal and child mortality.
to seek health care\(^{(5)}\). During the 2014-2015 Ebola outbreak average health care utilization declined by 18 percent, but declines were larger for maternal and child health services; for example, facility-based deliveries dropped by 28 percent\(^{(1)}\)\(^{(6)}\)\(^{(7)}\). In past economic crises, household income declines resulted in decreases in the use of health care services, and these were more extreme for children as compared to adults\(^{(8)}\). Preserving essential health care services is therefore especially important for protecting the health and well-being of mothers and children.

### Factors Affecting the Use of Essential Health Interventions during the COVID-19 Pandemic

**Potential Impact of COVID-19 Disruptions to Essential Health Services**

Modeling estimates using the Lives Saved Tool (LiST) model show that COVID-19-related disruptions could leave many women and children without access to essential services and result in increased maternal and child morbidity and mortality (see methods box). If declines in service utilization similar to those observed in other epidemics occur in Angola, as many as 842,400 fewer children would receive oral antibiotics for pneumonia and 890,100 fewer would receive DPT vaccinations\(^{(9)}\). There would also be 146,600 fewer facility-based deliveries and 243,600 fewer women would access family planning services.

**Examples of How Disruptions in Essential Services Would Lead to Fewer People Receiving Services**

<table>
<thead>
<tr>
<th>Service</th>
<th>Current coverage</th>
<th>Coverage if services disrupted</th>
<th>Fewer people receiving services due to disruptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral antibiotics for pneumonia in children</td>
<td>59%</td>
<td>30%</td>
<td>842,400</td>
</tr>
<tr>
<td>DPT vaccine* for children</td>
<td>59%</td>
<td>28%</td>
<td>890,100</td>
</tr>
<tr>
<td>Facility-based delivery</td>
<td>46%</td>
<td>23%</td>
<td>146,600</td>
</tr>
<tr>
<td>Contraceptive prevalence rate (CPR**)</td>
<td>16%</td>
<td>10%</td>
<td>243,600</td>
</tr>
</tbody>
</table>

* Diphtheria, pertussis (whooping cough), and tetanus vaccinations.
** CPR includes both modern and traditional methods and is calculated for married women only.

The interventions in the table above are illustrative of how disruptions can lead to fewer people receiving services. If the coverage of all essential maternal and child health interventions in Angola decreased in a similar way, the result would be a 11 percent increase in child mortality and a 10 percent increase in maternal mortality over the next year. Evidence also suggests that the breakdown in primary care service provision during an epidemic can lead to longer-term increases in indirect mortality. In West Africa the Ebola epidemic has continued to have an effect on utilization of essential services, likely due to the lack of trust in the health care system\(^{(10)}\).

### A Call to Action

Preserving essential health care services is critical to prevent avoidable losses of maternal and child lives during the COVID-19 pandemic and to protect progress in reducing maternal and child mortality achieved over recent years (see box for useful resources). Therefore, strategies to maintain essential health services need to be part of Angola’s response to the COVID-19 pandemic.
Methods

The impact of the decline in the coverage of essential services on child and maternal deaths was estimated using Lives Saved Tool (LiST). LiST is a mathematical model that allows for calculating the impact of changes in a wide range of evidence-based maternal and child health and nutrition interventions on maternal and child mortality, and on various other morbidity- and nutrition-related outcomes. More information on the tool can be found at www.livesavedtool.org.

The impact estimates presented in this brief are based on an analysis by researchers at Johns Hopkins University Bloomberg School of Public Health. Based on the estimates of the service coverage reductions observed during the Ebola epidemic, the authors calculated plausible reductions in the utilization of 68 essential maternal and child interventions due to the COVID-19 pandemic. Reductions ranged from 10% to 52%. The researchers at Johns Hopkins University used LiST to calculate maternal deaths and deaths of children under the age of 5 resulting from those reductions. Analyses were conducted individually for 81 countries and then aggregated to generate global estimates of maternal and child mortality increases. The data presented in this brief are the country-level data used by the authors to generate the global estimates. Estimates are for the scenario with the highest service reductions (scenario 3) under the assumption that disruption in essential services will last 6 months.

The graph comparing the difference between the child (under 5) mortality rate following current trends and under the service disruption scenario was generated by extrapolating the current trend in the under-5 mortality rate (USMR) from 2010 to 2018, to 2019, to establish the baseline of USMR in 2019. The data on USMR was extracted from the World Development Indicators (WDI) database. Then, two estimates for 2020 were generated: one as the linear continuation of the trend through 2020, and another, as a change in the current trend due to service disruptions. The latter was calculated by dividing the 2019 baseline for under-5 deaths plus additional deaths resulting from service disruptions (estimated using the LiST model following the Johns Hopkins team’s approach) by the estimated number of live births in 2020. The number of live births was extrapolated to 2020 using the trend in live births between 2010 and 2018. Live births between 2010 - 2018 were calculated by dividing the child deaths data extracted from the WDI by the USMR, and then multiplying the number by 1,000.

The table of total service reduction due to disruption (for 4 interventions) was calculated by multiplying the percentage point decrease in service coverage by the relevant population – women (15-49), children (0-59 months) or live births – for each intervention. The resulting number was divided by two to reflect the assumption that disruption in essential services will last for 6 months (rather than a full year). The percentage point decrease in coverage is the difference between the baseline coverage of the intervention, and estimates of reduced service coverage due to disruption used by the Johns Hopkins University team.