

Ensuring Maternal, Newborn, and Child Health Commodity Availability During the 2019 Novel Coronavirus Pandemic

Abridged Version

Distribution and dispensing considerations for public sector supply chain and MNCH program stakeholders in low-and-middle-income countries

SUMMARY AND OVERVIEW

In many low- and middle-income countries (LMICs), the 2019 novel coronavirus (COVID-19) has challenged efforts to ensure access to and availability of quality maternal, newborn and child health (MNCH) services and essential MNCH commodities. This summary is an abridged version of a [comprehensive document](#)¹ that outlines ideas and considerations for LMICs as the COVID-19 pandemic continues to affect global health supply chains and MNCH service provision. The comprehensive document provides greater clarity on priority MNCH medicines and supplies, considerations for health care worker needs, and an annex containing detailed commodity information, including dosage, packaging, and supply chain information.

In this document, MNCH program managers and supply chain leads will find:



An overview of how MNCH commodity needs may have shifted during the COVID-19 pandemic



Alternative options for dispensing and distribution of MNCH commodities during COVID-19



A set of actions and considerations to help stakeholders prioritize next steps



EVOLVING MNCH COMMODITY NEEDS IN THE CONTEXT OF COVID-19

Since the initial outbreak of COVID-19, LMIC health supply chains have been forced to adjust to new demands, including changes in patient consumption dynamics, upstream supply shocks, and the need to ensure that health care workers have access to appropriate personal protection equipment (PPE). Maintaining MNCH service and commodity availability at health facilities remains critical because without them, women and children may suffer, and even die, from preventable causes. However, COVID-19 has worsened existing challenges in many LMICs. When surveyed, LMIC health care providers cited the following concerns:

- Reduced access to antenatal care and fewer associated outpatient visits¹
- Reduced skilled birth attendance in primary health care and referral/hospital settings¹
- Fewer outpatient visits for childhood illnesses, including pneumonia, diarrhea, and malaria²

¹ <https://www.ghsupplychain.org/ensuring-maternal-newborn-and-child-health-commodity-availability-during-covid-19>

Decreased contact with the health system on the part of patients requires government stakeholders and decision-makers to adjust their supply chain strategies. These strategies may need to accommodate new and different MNCH health service utilization trends and account for supply chain delays. In many cases, this need translates into something that is not new—essential MNCH commodities should always be available in primary health care facilities and hospitals. However, reduced MNCH outpatient visits may also necessitate that Ministries of Health (MOHs) employ alternative strategies that leverage existing community health platforms and multi-month dispensing options for certain MNCH commodities.



ALTERNATIVE DISTRIBUTION AND DISPENSING APPROACHES FOR MNCH COMMODITIES IN THE CONTEXT OF COVID-19

Ensuring the availability of quality MNCH services and commodities in primary health care facilities remains critical for the health of women and children. COVID-19 has affected changes within the MNCH landscape, and health systems need to adapt to meet the new landscape. LMICs may leverage community health platforms or other alternative approaches to care to alleviate COVID-19 related challenges; however, adapted service delivery models may require some supply chain adjustments. The next section provides detailed MNCH distribution and dispensing options that may prove useful during the pandemic.



Community distribution options for pregnancy-related commodities

In the context of COVID-19, pregnant women may forgo ANC or opt for community health worker home visit options where possible to avoid contact at health facilities. In these cases, LMICs may consider adjusting policies during the COVID-19 pandemic to allow for multi-month and/or advanced dispensing of certain medications and supplements to limit the necessity of face-to-face out-patient visits. Not all MNCH medicines are appropriate for such alternative methods of distribution but below are some potential options for consideration.

- **Hypertensive diseases of pregnancy**, including eclampsia and pre-eclampsia, are the second leading cause of maternal death in LMICs³. MNCH program managers may want to evaluate whether multi-month dispensing, or community-based management is appropriate, for example:
 - **Low-dose aspirin** is a clinical intervention to assist in preventing severe pre-eclampsia.
 - Daily **calcium supplementation** may be recommended to reduce the risk of pre-eclampsia⁴.
- **Additional vitamin supplementation for pregnancy** may be provided through community-based distribution or multi-month distribution mechanisms. Daily oral **iron and folic acid supplementation** is recommended for pregnant women to prevent maternal anemia, puerperal sepsis, low birth weight, and preterm birth.⁴
- **For Intermittent preventive treatment of malaria in pregnancy (IPTp)**, IPTp has been successfully used in community-based settings, and countries may want to consider further leveraging community-based programs.^{5,6} Health care workers in facilities and in the community should directly observe SP administration.⁷



Promoting clean and safe delivery during the COVID-19 pandemic

For pregnant women, deliveries at home and/or those attended by skilled and non-skilled providers outside facilities may increase the risk of complications and are generally not recommended. To maintain the gains in facility-based births, health facilities must observe COVID-19 infection prevention protocols and continue to reach out to pregnant women during ANC to plan for facility-based births. Declining rates of facility-based ANC and labor and delivery services may prompt MOHs to consider stop-gap, home-based options to improve birth outcomes, where appropriate.

- **Clean birth kits to prevent maternal and newborn infection.** As mentioned above, there is a potential that women will decline to give birth in the facility due to fears of COVID-19 and this may prompt MOHs to consider home-based options, including advanced distribution of **clean birth kits**. The most basic clean birth kits contain **soap, plastic sheet, razor blade, cord ties, alcohol swabs, and gauze** and have been employed in low-resource settings to support and promote clean birth practices.⁸ More information can be found in the comprehensive User's Guide. Where clean birth kits are under consideration, countries may opt for home-based distribution to minimize the need for women to come into the facility.
- **Chlorhexidine digluconate 7.1% (gel or aqueous solution) for newborn cord care:** In the context of COVID-19, advanced and community distribution of chlorhexidine with use instructions may be appropriate in many contexts to prevent infection in newborns. Notably, mothers and families must be instructed to only apply chlorhexidine to the tip of the cord, the stump, and around the base of the stump to ensure proper use and safety for the newborn.
- **Oral Misoprostol for PPH prevention and treatment:** There are concerns that advanced distribution of misoprostol for PPH for home births may disincentivize facility-based care; however, studies do not support this claim.⁹ In settings with high home birth rates, which are likely compounded by COVID-19, advanced distribution of oral misoprostol for PPH may offer a workable approach. MOHs will need to consider their distribution strategy, including distribution timing during pregnancy, what cadre will be dispensing, and administration methods.



Community-based care and advanced distribution for treatment of childhood diarrhea and pneumonia

Pneumonia and diarrhea are common preventable causes of childhood mortality, and their treatments—oral antibiotics and a combination of ORS and zinc, respectively—are effective, affordable, and widely available in public and private sectors. Community dispensing of these products has been studied extensively and is considered safe and effective.¹⁰

- **ORS and zinc for treatment of childhood diarrhea:** Community-based and advanced distribution of **ORS and zinc** is appropriate and may be useful during the COVID-19 pandemic in LMIC settings.
- **Amoxicillin DT for infections, including childhood pneumonia** is an effective and easily administered antibiotic for childhood pneumonia and is appropriate for community distribution by trained community health workers.¹⁰



MNCH SUPPLY CHAIN ACTIONS AND CONSIDERATIONS

As COVID-19 continues to shift MNCH and supply chain dynamics, MNCH policy makers and supply chain stakeholders will have the opportunity to revise and adapt existing policies and processes to maintain full supply of essential MNCH commodities during the COVID-19 pandemic. Some opportunities are highlighted below for consideration:

- **Forecasting and supply planning:** Changing dispensing practices may impact consumption patterns, and supply chain managers will need to monitor data and trends regularly. In instances where multi-month dispensing occurs, supply chain managers may observe sharp increases and decreases in consumption; however, overall consumption will ultimately remain the same.

Supply chain managers may consider carrying out more frequent reviews of MNCH supply plans during the pandemic as reported pharmaceutical manufacturing days, travel restrictions and airport shut-downs have impacted MNCH commodity lead times throughout the pandemic and require increased lead time for order shipments and delivery.

- **Procurement and sourcing:** Due to the abovementioned extended lead times, procurement agents should continue to monitor product availability and lead times from key suppliers. In addition, countries may consider diversifying supplier bases to help mitigate the risk of stockouts that may arise due performance challenges by routine suppliers.
- **Leveraging multiple data sources and information systems:** COVID-19 has negatively impacted reporting rates and supply chain managers will need to supplement routine data with additional validation. Actions may include:
 - Adjustments to min/max levels to reflect longer procurement and distribution timelines.
 - Regularly evaluate country stock levels at different points in the supply chain to determine if stock redistribution of MNCH commodities is appropriate or helpful in maintaining stock in all places where services are being provided.
 - Review HMIS data to supplement existing LMIS-based consumption data as HMIS data may act as an “early warning” for changes in service delivery and associated consumption patterns.
 - Contact high volume or trusted hospitals, health centers and warehouses to validate data when there is uncertainty. These facilities may provide early evidence of changes in health service provision and commodity consumption patterns and will allow supply chain managers to validate data and make strong, data-informed decisions.
- **Ensuring health care worker safety:** Keeping health care workers safe and healthy will help ensure that MNCH services remain available during the COVID-19 pandemic. The availability of appropriate PPE coupled with recommended processes and procedures will help prevent the spread of COVID-19 between health care providers and women receiving maternity services. Table 2 of the comprehensive User’s Guide outlines PPE required for maternity care provider. Health care workers in facilities and community health platforms should have access to appropriate PPE when they are diagnosing and treating children. Please refer to the more comprehensive User’s Guide for additional information¹¹.

- **Coordinated evaluation of distribution and dispensing options:** MNCH service delivery and supply management are interdependent and will need to coordinate and consult with one another as any interim changes occur in response to the COVID – 19 context. Decisions on MNCH care and service models will be highly contextual, and changes in service utilization and upstream supply dynamics will require regular, on-going monitoring and assessment. MNCH and supply chain leads may consider developing a joint technical sub-committee to ensure that information on service models, utilization, and supply chain consumption is shared with relevant stakeholders.

CONCLUSION

The COVID-19 pandemic continues to have broad reaching effects on MNCH and seems to be affecting the availability of MNCH services and commodities. Creative solutions, including blended service delivery models and expanded community-based and home-based care, offer new ways to tackle COVID-19 related challenges, and health supply chains will need to respond to these new approaches.

REFERENCES

1. Semaan A, Audet C, Huysmans E, Afolabi B, Assarag B, Banke-Thomas A, et al. Voices from the frontline: findings from a thematic analysis of a rapid online global survey of maternal and newborn health professionals facing the COVID-19 pandemic. *BMJ Glob Health* [Internet]. 2020 Jun 24 [cited 2020 Jul 27];5(6). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7335688/>
2. UNICEF. UNICEF Bangladesh Response to the Coronavirus Disease (COVID-19) Pandemic [Internet]. UNICEF Bangladesh Response to the Coronavirus Disease (COVID-19) Pandemic. 2020 [cited 2020 Jul 29]. Available from: <https://covid19dash.unicefbangladesh.org/health.php>
3. Say L, Chou D, Gemmill A, Tunçalp Ö, Moller A-B, Daniels J, et al. Global causes of maternal death: a WHO systematic analysis. *Lancet Glob Health*. 2014 Jun;2(6):e323-333.
4. World Health Organization, editor. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016.
5. Mubyazi GM, Magnussen P, Byskov J, Bloch P. Feasibility and coverage of implementing intermittent preventive treatment of malaria in pregnant women contacting private or public clinics in Tanzania: experience-based viewpoints of health managers in Mkuranga and Mufindi districts. *BMC Health Serv Res*. 2013 Oct 1;13:372–372.
6. Okeibunor JC, Orji BC, Brieger W, Ishola G, Otolorin E 'Dipo, Rawlins B, et al. Preventing malaria in pregnancy through community-directed interventions: evidence from Akwa Ibom State, Nigeria. *Malar J*. 2011 Aug 5;10(1):227.
7. World Health Organization. Implementing Malaria in Pregnancy Programs in the Context of World Health Organization Recommendations on Antenatal Care for a Positive Pregnancy Experience [Internet]. Geneva, Switzerland; 2017 [cited 2020 Sep 15]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/259954/WHO-RHR-18.05-eng.pdf;jsessionid=A62BB790FEBC463ED48AA9339E30E4F1?sequence=1>
8. Lassi ZS, Fisher Z, Andraweera P, Cummins A, Roberts CT. Effectiveness of birthing kits for clean childbirth: a systematic review. *Int Health*. 2020 Jan 1;12(1):3–10.
9. Smith JM, Gubin R, Holston MM, Fullerton J, Prata N. Misoprostol for postpartum hemorrhage prevention at home birth: an integrative review of global implementation experience to date. *BMC Pregnancy Childbirth*. 2013 Feb 20;13:44.
10. World Health Organization, UNICEF. WHO/UNICEF Joint Statement: Integrated Community Case Management (iCCM) [Internet]. June 20212 [cited 2020 Aug 4]. Available from: https://www.who.int/maternal_child_adolescent/documents/statement_child_services_access_whounicef.pdf
11. UNICEF. UNICEF Guidance for Adaptations to Community Case Management of Childhood Illness in the Context of COVID-19 to Ensure Uninterrupted Provision of Life-saving Services [Internet]. 2020 Apr [cited 2020 Sep 15]. Available from: https://resourcecentre.savethechildren.net/node/17358/pdf/unicef_-_covid-adaptations_to_ccm.pdf