



BRIEF: OPERATIONALIZING MANAGEMENT OF SICK YOUNG INFANTS WITH POSSIBLE SERIOUS BACTERIAL INFECTION (PSBI) WHEN REFERRAL IS NOT FEASIBLE IN THE CONTEXT OF EXISTING MATERNAL, NEWBORN, AND CHILD HEALTH PROGRAMMES

Background

Globally, an estimated 300,000 newborns die from serious infection each year.¹ Approximately 10% of newborn infants develop signs of possible serious bacterial infection (PSBI) and require antibiotics. Most of these deaths could be averted by preventive measures, timely careseeking, treatment with appropriate antibiotics, and follow up.

The greatest burden of neonatal deaths associated with serious infection occurs in South Asia, Sub-Saharan Africa, and Latin America, where there are an estimated 6.9 million cases of PSBI each year.² Key studies in South Asia and in Africa indicate that up to two thirds or more of families do not accept referral for hospitalization of a young infant with PSBI.³

Where referral is not possible for young infants with PSBI, the World Health Organization (WHO) recommends outpatient treatment by trained health care providers. While this is a recent development in the field of newborn health, the compelling local evidence from many countries demonstrates that simplified, outpatient treatment is a safe, effective, lifesaving alternate intervention when hospitalization is not possible.

This brief provides an overview of the new operational guidelines by WHO and a list of key resources.





New Guidelines

In September 2015, the WHO released a new guideline for managing PSBI in young infants when referral is not feasible.³ The guideline recommend simplified, outpatient treatment of young infants with PSBI in settings where hospitalization and referral is not feasible for the family. It provides clinical guidance on simplified antibiotic regimens that are both safe and effective for outpatient treatment of clinical severe infection.

The new recommendations for outpatient treatment using simplified antibiotic regimens can increase access to treatment of PSBI in sick young infants when referral is not accepted or not feasible and can reduce inequity in access to care. The recommendations will enable many young infants with PSBI who cannot reach hospital care to receive lifesaving care at primary health care facilities. The intention of the simplified regimens was not to challenge the standard of care (hospitalization for PSBI), but to provide safe, alternative outpatient regimens for managing PSBI when hospitalization is not possible. Implementation of these guidelines can be done in a safe and effective manner in low-resource settings as demonstrated by implementation research in seven countries in Africa and Asia (Bangladesh, Democratic republic of Congo, Ethiopia, Malawi, Nigeria, India and Pakistan). See a list of key references on the back page.



What is possible serious bacterial infection (PSBI) in young infants?

A young infant is classified as having PSBI or Very Severe Disease when any one or more of the following signs is present:

- Not able to feed since birth or stopped feeding well (confirmed by observation)
- Convulsions
- Fast breathing (60 breaths per minute or more) among infants less than 7 days old
- Severe chest in-drawing
- Fever (38 °C or greater)
- Low body temperature (less than 35.5 °C)

World Health Organization Guidelines

Managing possible serious bacterial infection (PSBI) in young infants when referral is not feasible available at: www.who.int/maternal_child_adolescent/documents/bacterial-infection-infants/en/

Operationalizing management of sick young infants with possible serious bacterial infection (PSBI) when referral is not feasible in the context of existing maternal, newborn, and child health programmes available at: www.who.int/maternal_child_adolescent/documents/psbi-implementation/en/



Operationalizing Guidelines

Operational guidance was developed by WHO and key partners such as UNICEF, USAID, and Save the Children in order to help countries integrate these recommendations into their health systems. It is first recommended to conduct a situation analysis to inform operationalizing management of sick young infants with PSBI where referral is not feasible. The guidance includes integrating recommendations into 1) routine care of sick young infants at primary health care facilities and 2) undertaking activities in the community to empower and engage mothers and families to improve maternal and newborn health, with focus on preventive essential care and identification of danger signs. The integration of management for sick young infants with PSBI where referral is not feasible should also include activities to support and strengthen implementation of interventions across the continuum of care at community, primary, and referral health care facilities. The operational guidelines provides a framework for planning with eight steps.

Want to learn more?

Join the PSBI Community of Practice to learn more about managing young infant sepsis

The Health Research Program at USAID and the Coordinating Implementation Research to Communicate Learning and Evidence (CIRCLE) Project invite global experts, researchers, implementers and policy makers to join a Community of Practice focused on PSBI where referral is not feasible. The purpose of this effort is to foster technical exchange, collaboration, learning, capacity building, and resource mobilization.

Register here communities.harppnet.org/psbi/

Framework to operationalizing the guidelines – 8 steps:

1. Planning, organization, and coordination is necessary for operationalizing management of sick young infants with PSBI where referral is not feasible in the context of existing MNCH programmes, and ensuring necessary policies are in place.
2. Plan for human resources to operationalize management of sick young infants with PSBI in primary health care facilities and communities.
3. Plan how the supply chain will provide medicines and supplies for management of sick young infants with PSBI across each level of the health system.
4. Plan how management of sick young infants with PSBI will be operationalized as part of routine service delivery in primary health care facilities and in referral facilities.
5. Plan strategies for working with individuals, families, and communities (IFC) to operationalize management of sick young infants with PSBI at primary health care facilities and to engage and empower mothers and families to provide essential newborn care and seek care for newborn illness.
6. Plan the supervision of management of young infants with PSBI in primary health care facilities; supervision of community health workers making home visits; and supervision of other community activities to support essential newborn care and care-seeking for newborn illness.
7. Plan the monitoring and evaluation for operationalizing management of sick young infants with PSBI. The recommended M&E Framework for demonstration sites includes a recommended minimal set of indicators to understand how well a programme functions.
8. Undertake costing of operationalizing management of sick young infants with PSBI in the context of existing maternal newborn and child health programmes, and secure financing.



Published Studies Presenting the Evidence

- African Neonatal Sepsis Trial (AFRINEST) group. Simplified antibiotic regimens compared with injectable procaine benzylpenicillin plus gentamicin for treatment of neonates and young infants with clinical signs of possible serious bacterial infection when referral is not possible: a randomised, open-label, equivalence trial. *Lancet*. 2015 May 2;385(9979):1767-1776. doi: 10.1016/S0140-6736(14)62284-4.
- African Neonatal Sepsis Trial (AFRINEST) group. Oral amoxicillin compared with injectable procaine benzylpenicillin plus gentamicin for treatment of neonates and young infants with fast breathing when referral is not possible: a randomised, open-label, equivalence trial. *Lancet*. 2015;385:1758-1766. doi: 10.1016/S0140-6736(14)62285-6.
- Bang AT et al. Effect of home-based neonatal care and management of sepsis on neonatal mortality: field trial in rural India. *Lancet*. 1999; 354(9194): 1955–61.
- Baqui AH et al. And Projahnmo Study Group in Bangladesh. Safety and efficacy of alternative antibiotic regimens compared with 7 day injectable procaine benzylpenicillin and gentamicin for outpatient treatment of neonates and young infants with clinical signs of severe infection when referral is not possible: a randomised, open-label, equivalence trial. *Lancet Glob Health*. 2015 May;3(5):e279-87. doi: 10.1016/S2214-109X(14)70347-X.
- Mir F et al. Simplified antibiotic regimens for treatment of clinical severe infection in the outpatient setting when referral is not possible for young infants in Pakistan (Simplified Antibiotic Therapy Trial [SATT]): a randomised, open-label, equivalence trial. *Lancet Glob Health*. 2017;5:e177-e185. doi: 10.1016/S2214-109X(16)30335-7.
- Zaidi AK et al. Community-based treatment of serious bacterial infections in newborns and young infants: a randomized controlled trial assessing three antibiotic regimens. *Pediatr Infect Dis J*. 2012;31:667-72. doi: 10.1097/INF.0b013e318256f86c.

Access these and more resources at Healthy Newborn Network:

www.healthynewbornnetwork.org/issue/treatment-of-possible-severe-bacterial-infection

References

¹ WHO and Maternal and Child Epidemiology Estimation Group (MCEE); 2018 available at data.unicef.org

² Seale AC, Blencowe H, Manu AA, et al. Estimates of possible severe bacterial infection in neonates in sub-Saharan Africa, south Asia, and Latin America for 2012: a systematic review and meta-analysis. *Lancet Infect Dis*. 2014;14(8):731-741.

³ World Health Organization Guideline: Managing Possible Serious Bacterial Infection in Young Infants When Referral Is Not Feasible. Geneva: WHO; 2015.

https://www.ncbi.nlm.nih.gov/books/NBK321136/pdf/Bookshelf_NBK321136.pdf

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