

Impact of Maternal and Child Health (MCH) Handbook in the Healthcare System

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The establishment of the United Nations (UN) 2030 Agenda for Sustainable Development Goals (SDGs) highlights good health (Goal 3) and gender equality (Goal 5) as fundamental objectives for reducing global maternal and child mortality¹. In order to address growing concerns of maternal and infant mortality among low-income countries, it is vital that future technologies produce cost-effective interventions that primarily strengthen the 'continuum of care' and ensure that mothers and newborns have adequate access to health care facilities with strong maternal and child health services^{2,3}. The maternal and child health (MCH) handbook is one such innovation that will be an effective and critical solution for the future of global health⁴.

The MCH handbook was first produced in Japan in 1947 in the form of a 20-page handbook, operating as a home-based health record and knowledge tool on health registration, maternal/neonatal/infant care, and proper delivery practices⁵. Throughout their development, MCH handbooks have equipped mothers with the knowledge to make informed decisions about their child's health and their own health⁶. MCH handbooks are first given to pregnant women who maintain them at home as a reference and take them to hospital/physician appointments to record the services delivered or received⁷. Today, the MCH handbook is implemented in over 50 countries and has evolved into a cost-effective tool for supporting mothers throughout the antenatal and postnatal periods while maintaining the continuum of care and strengthening health systems^{8,9}.

This framework is essential for maternal and child health because in developing countries, poor health education and a lack of continuity in maternal healthcare among women and their children contribute to inadequate usage of existing maternal and child health services and subsequent declines in maternal and child mortality rates³. As outlined by the UN SDGs, health literacy plays a vital role in improving poor maternal birth outcomes and mortality in developing countries where healthcare access is readily available¹.

The MCH handbook addresses a key element of strengthening health systems by providing a comprehensive approach to health promotion and high-quality reproductive health care. In Asian countries, where MCH handbooks have

primarily been implemented, they have been instrumental in reducing maternal and child mortality by promoting health education⁵. In Vietnam, implementation of the MCH handbook was shown to increase knowledge of infant care through exclusive breastfeeding practices among expectant mothers⁸. In Indonesia, a survey by Osaki et al reported that 70.9% of children whose mothers owned a MCH handbook received adequate immunizations compared to 42.9% of children without a MCH handbook⁷. Similarly, since 2012 in Kenya, the MCH handbook has played a vital role in doubling HIV screening among infants through management of maternal pregnancy, parturition, and postpartum care throughout infant development¹⁰. Lastly, a meta-analysis of MCH handbook effectiveness by Nakamura et al reported that pregnant mothers who used a MCH handbook were more likely to practice safe birthing methods or seek delivery in health-care facilities compared to mothers who did not own a MCH handbook¹¹. Moreover, mothers with MCH handbooks showed a strongly significant increase in knowledge of proper antenatal care, healthy food choices during pregnancy, and increased immunization of tetanus¹¹. Overall, the global implementation of the MCH handbook holds great potential for improving maternal health knowledge and increasing health-seeking practices to reduce maternal and infant mortality⁴.

The MCH handbook has also demonstrated economic and research value. In Cambodia, the integration of the MCH handbook was praised for its simplicity and cost-effectiveness¹². Where different organizations and institutions have developed a variety of health records addressing individual health concerns (e.g. immunizations, growth charts, birth control), the overproduction and overlap of these records has led to excessive costs and inconvenience for mothers¹¹. Qualitative studies have demonstrated that when maternal and child records are kept within a single source and properly updated, women were more likely to use it as a reference for childrearing and their own health, thereby maintaining the continuum of care from perinatal to infant care¹². The handbook is therefore acceptable and feasible for implementation given its simplistic design and aggregation of multiple health knowledge tools and health records.

Based on this evidence, our recommendation is for the MCH handbook to be implemented as part of a global framework for eliminating preventable maternal and child mortality through the UN SDGs. Across the globe, various organizations have supported integration of the MCH handbook: international supporters such as the UN Children's Fund, the World Bank, the Asian Development Bank, the European Union, and the WHO; non-governmental organizations such as Save the Children and World Vision; and professional organizations such as the USAID and the Global Alliance for Vaccines and Immunization, both of which endorsed MCH handbooks for promoting immunization and strengthening health systems⁷.

The implementation of the MCH handbook will seek to develop a self-sustaining source of health education provided by health professionals. Increased health literacy and knowledge can improve physician–patient interactions in clinical settings and improve the overall quality of health care in a system¹². The use of illustrations and visuals allows the MCH handbook to convey useful information in regions with low literacy rates or barriers of cultural attitudes, knowledge and beliefs about maternal and child health¹³. Additionally, the handbook’s adaptability within a health system opens up opportunities to improve other health services, such as integrated management of infant/youth illnesses and implementation of birth registration⁷. Overall, the MCH handbook holds strong potential to encourage birth/pregnancy registrations, to promote the use of maternal and child health services, to maintain medical records, to develop self-sufficiency among mothers in the absence of health care services, and to be used as a health educational resource^{4,7}.

Global implementation of the MCH handbook carries unique challenges, despite successful implementation in various developing countries. Primarily, budgetary restrictions, lack of human capital, and poor awareness among the research and global health communities continue to prohibit successful integration of the MCH handbook framework on a global scale. Thus, international collaboration is necessary to gather stakeholders and policymakers with the goal of producing a standardized format of the MCH handbook across national and international health systems¹⁴. Additionally, more research is needed to understand the effect of the MCH handbook on maternal knowledge and practices during pregnancy¹¹. Future evaluations should seek to improve coverage and accessibility in regions offering the MCH handbook, to revise the contents for increasing understanding and uptake among low literacy populations, and to conduct cost-benefit analyses and economic evaluations examining the cost-effectiveness of the MCH handbook⁴.

The MCH handbook demonstrates that health promotion through sustainable technologies can be used to address global health challenges. Aligning with the UN Sustainable Development Goals, the MCH handbook is a powerful and unique tool that addresses the sustainable development of health systems through education of expectant mothers leading to improvements in birth planning, birth outcomes, and maternal mortality. Incentivizing the implementation and sustainable development of the MCH handbook on a global scale as well as collaboration between stakeholders will drive global reductions in maternal and child mortality.

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