The Global Maternal and Neonatal Sepsis Initiative: a call for collaboration and action by 2030



Significant progress has been made in reducing maternal and neonatal mortality in the past 15 years, but additional improvements will require a comprehensive approach that targets all causes of maternal and newborn mortality.¹ Further reduction of maternal and newborn deaths is a priority for achieving the Sustainable Development Goals and for implementing the UN Global Strategy for Women's, Children's and Adolescents' Health, and is also critical for two strategic plans—Every Newborn: An Action Plan to End Preventable Deaths (ENAP) and the Strategies toward Ending Preventable Maternal Mortality (EPMM).¹

As part of this comprehensive approach, it is impossible to neglect the importance of infection as an underlying and contributing cause of maternal and newborn mortality. Deaths due to infection occur mainly through sepsis—a potentially life-threatening condition caused by a dysregulated host response to infection and organ dysfunction.2 Infections cause about 11% of maternal deaths, and are also a significant contributor to many deaths attributed to other conditions.3 The risk of early neonatal sepsis increases in the event of maternal infection.4 Early neonatal sepsis causes about 8% of all neonatal deaths, but the proportion of late neonatal deaths due to sepsis is four times higher. Deaths from maternal and neonatal sepsis expose broader health determinants and underlying issues of quality of care including infrastructure constraints, inconsistent use of preventive measures, delayed diagnosis, and poor management of infection and its complications. 1,6

Considering the importance of effective prevention, identification, and management of maternal and neonatal sepsis in reducing maternal and newborn deaths, WHO and Jhpiego have launched the Global Maternal and Neonatal Sepsis Initiative. This initiative consists of a broad programme of work that will be delivered through a collaborative and innovative approach combining research, innovation, service delivery programming, and advocacy. Working at the global, national, and health-care facility levels, the Initiative will identify strategic opportunities to increase and strengthen the response to maternal and newborn sepsis. The panel summarises the Initiative's

vision, goals, priority areas of work, and objectives. The Initiative has received extensive support from the International Federation of Gynecology and Obstetrics, the International Confederation of Midwives, the International Pediatric Association, the Global Sepsis Alliance, and the Surviving Sepsis Campaign, in collaboration with the Society of Critical Care Medicine and the European Society of Intensive Care Medicine.

An early output of the Initiative is the new WHO definition of maternal sepsis, which reads as follows: "Maternal sepsis is a life-threatening condition defined as organ dysfunction resulting from infection during pregnancy, child-birth, post-abortion, or post-partum period". The new maternal sepsis definition was developed on the basis of a review of existing definitions (including the 2016 Third International Consensus Definitions for Sepsis and Septic Shock²) and through an international technical consultation. This process indicated that there are several definitions currently in use, which affects the identification of maternal sepsis

Panel: The Global Maternal and Neonatal Sepsis

Initiative—vision and goals

Vision

The Global Maternal and Neonatal Sepsis Initiative will contribute to the Sustainable Development Goals by developing solutions able to reduce maternal and newborn deaths related to sepsis.

Goal

Accelerate the reduction of preventable maternal and neonatal deaths related to sepsis.

Objectives

- Raise awareness about maternal and neonatal sepsis among health-care providers, policy makers, and the public
- Assess the burden and management of maternal and neonatal sepsis at the global scale
- Develop and test effective strategies to prevent, detect, and successfully manage maternal and neonatal sepsis

Priority areas of work

- Strengthening health programmes
- Research, development, and evidence generation
- Innovations
- Global advocacy

Published Online February 16, 2017 http://dx.doi.org/10.1016/ S2214-109X(17)30020-7 cases. Standardising the definition and bringing it in line with the current understanding of sepsis in the adult population was considered a mandatory step to improve the assessment of the burden of maternal sepsis.

This year, the Initiative will launch a maternal and neonatal sepsis global mobilisation and awareness campaign, which will culminate in the week of Sept 13, 2017, with the Global Maternal Sepsis Study. During that week, a massive coordinated data collection effort will take place to assess the burden and current management of maternal and neonatal sepsis in hundreds of health facilities in approximately 50 countries around the world. The new maternal sepsis definition and potential identification criteria will be tested and validated in this large global study. That effort will be followed by the implementation of other specific projects and programmes targeting the prevention and successful management of maternal and newborn sepsis.

We invite health-care providers, health facilities, professional associations, researchers, concerned stakeholders around the world to join our efforts. We aim to establish a worldwide coalition of organisations, entities, health facilities, and other stakeholders committed to reducing the burden of maternal and newborn sepsis. As we move forwards together, implementation of effective strategies for the prevention and management of maternal and neonatal sepsis will be scaled up and evaluated through the network of collaborating facilities and partners. Lessons learned will be used to inform governments and organisations in order to ensure that maternal and neonatal sepsis will no longer be an obstacle to achieving the Sustainable Development Goals by 2030.

The Global Maternal and Neonatal Sepsis Initiative Working Group

UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction, Department of Reproductive Health and Research, WHO, 1211 Geneva 27, Switzerland bonetm@who.int

We gratefully acknowledge the contributions of participants in the technical consultation (in alphabetical order): Edgardo Abalos (Centro Rosarino de Estudios Perinatales, Argentina); Aniekan Abasiattai (University of Uyo Teaching Hospital, Nigeria); Linda Bartlett (Johns Hopkins University, USA), Fernando Bellissimo Rodrigues (University of São Paulo, Brazil); Arri Coomarasamy (University of Birmingham, UK); Maria Fernanda Escobar Vidarte (Fundación Valle del Lili, Colombia); Carlos Füchtner (International Federation of Gynecology and Obstetrics, President Elect): Asmae Khattabi (National School of Public Health, Morocco): David Lissauer (University of Birmingham, UK); Zahida Qureshi (University of Nairobi, Kenya); Sadia Shakoor (Aga Khan University, Pakistan); Claudio G Sosa (Latin American Center for Perinatology, Women and Reproductive Health (CLAP), Uruguay); and Jos van Roosmalen (VU University, The Netherlands). We are also grateful to Sabaratnam Arulkumaran (St George's, University of London, UK) and Julia Hussein for their input into this Comment. Special thanks are due to all of the respondents to our online survey. The Maternal and Neonatal Sepsis Initiative Secretariat: Rajiv Bahl, Mercedes Bonet, A Metin Gülmezoglu, Cynthia Pileggi Castro, João Paulo Souza (WHO, Switzerland); Elizabeth Kizzier, and Jeffrey Smith (Jhpiego, USA). We declare no competing interests.

© 2017 World Health Organization; licensee Elsevier. This is an Open Access article published under the CC BY-NC-ND 4.0 IGO license which permits users to download and share the article for non-commercial purposes, so long as the article is reproduced in the whole without changes, and provided the original source is properly cited. This article shall not be used or reproduced in association with the promotion of commercial products, services or any entity. There should be no suggestion that WHO endorses any specific organisation, products or services. The use of the WHO logo is not permitted. This notice should be preserved along with the article's original URL.

- 1 Chou D, Daelmans B, Jolivet RR, Kinney M, Say L; Every Newborn Action Plan (ENAP) and Ending Preventable Maternal Mortality (EPMM) working groups. Ending preventable maternal and newborn mortality and stillbirths. BMJ 2015; 351: h4255.
- 2 Singer M, Deutschman CS, Seymour CW, et al. The third international consensus definitions for sepsis and septic shock (Sepsis-3). JAMA 2016; 315: 801–10.
- 3 Say L, Chou D, Gemmill A, et al. Global causes of maternal death: a WHO systematic analysis. Lancet Glob Health 2014; 2: e323–33.
- 4 Chan GJ, Lee AC, Baqui AH, Tan J, Black RE. Risk of early-onset neonatal infection with maternal infection or colonization: a global systematic review and meta-analysis. PLoS Med 2013; 10: e1001502.
- Oza S, Lawn JE, Hogan DR, Mathers C, Cousens SN. Neonatal cause-of-death estimates for the early and late neonatal periods for 194 countries: 2000-2013. Bull World Health Organ 2015; 93: 19–28.
- 6 Bhutta ZA, Das JK, Bahl R, et al. Can available interventions end preventable deaths in mothers, newborn babies, and stillbirths, and at what cost? Lancet 2014; 384: 347-70.
- 7 WHO. Statement on maternal sepsis. http://www.who.int/ reproductivehealth/publications/maternal_perinatal_health/ maternalsepsis-statement/en/ (accessed Feb 15, 2017).