Commitment to Action from Professional Health Associations

This International Joint Statement is endorsed by the American Academy of Pediatrics (AAP), Council of International Neonatal Nurses (COINN), the International Council of Nurses (ICN), American College of Obstetricians and Gynecologists (ACOG), the International Federation of Gynecology and Obstetrics (FIGO), American College of Nurse-Midwives (ACNM), International Pediatric Association (IPA) and the International Confederation of Midwives (ICM).

Background

Complications of prematurity and low birthweight are now the leading cause of neonatal deaths worldwide. In November 2015, The World Health Organization (WHO) issued recommendations for the care of preterm infants, including kangaroo mother care (KMC), defined as care of preterm infants carried skin-to-skin with the mother and exclusive breastfeeding or feeding with breastmilk. Although the WHO preterm guidelines apply to all settings, much of the evidence base for the recommendations comes from studies in health care facilities in low- and middle-income countries (LMIC).

It should be noted, however, that some evidence also exists for the benefits of KMC in preterm and low birthweight infants in high-income countries (HIC). Upon review of the evidence, we agree that KMC provides benefits to preterm and low birthweight infants in high, middle, and low income settings.

The Evidence

Mortality analyses from a 2014 Cochrane review (11 randomized controlled trials, or RCTs) and a 2016 meta-analysis by Boundy (16 studies) found a 33 percent and 23 percent reduction in mortality at latest follow-up when comparing KMC to conventional neonatal care. In both mortality analyses, all but two of the studies included were in LMIC.

WHO Recommendations on Kangaroo Mother Care, 2015

- Kangaroo mother care is recommended for the routine care of newborns weighing 2000 grams or less at birth, and should be initiated in health-care facilities as soon as the newborns are clinically stable.
- Newborns weighing 2000 grams or less at birth should be provided as close to continuous kangaroo mother care as possible.
- Intermittent kangaroo mother care, rather than conventional care, is recommended for newborns weighing 2000 grams or less at birth, if continuous kangaroo mother care is not possible.

For outcomes other than mortality, the Cochrane review found overall significant reductions in hypothermia, nosocomial infection, sepsis, and length of hospital stay, as well as increases in breastfeeding, attachment, and measures of infant growth, including gain in weight, length, and head circumference. Analyses for non-mortality outcomes largely consisted of RCTs from LMIC.
The 2016 Boundy review found overall significant reductions in neonatal sepsis, hypothermia, hypoglycemia, pain measures, respiratory rate, and hospital readmissions, with increases in exclusive breastfeeding, oxygen saturation, temperature, and head circumference. Analyses for non-mortality outcomes consisted of a mix of studies from LMIC and HIC. Looking at HIC only, the Boundy review found that KMC significantly increased the likelihood of exclusive breastfeeding as compared to conventional care.

With this review of evidence and the WHO recommendations in mind, we agree on the following principles:

- **KMC (intermittent and continuous) offers benefits to preterm/low birthweight infants in all settings.** The margin of benefit for morbidity and mortality gains, however, will vary by setting. The challenges to implementation will also vary by setting.

- **The extent of investment in KMC programs** should be guided by the evidence of benefit that KMC can offer in a given setting.

- **KMC is an effective and efficient complementary aspect of investing in and developing more advanced neonatal care,** including skilled nursing, appropriate staff: patient ratios, early detection and management of potentially serious bacterial infection, respiratory, and feeding disorders. Expanded skills of neonatal care must be developed in parallel to KMC services.

- **The decision to invest in KMC programming and scale-up** should be a careful consideration of quality, opportunity cost, financial cost, implementation barriers, and the substantial evidence supporting efficiency and efficacy of KMC compared to incubator care.

**Commitment to Action**

**Acceptance and promotion of KMC by professional associations is critical for its accelerated use to save newborn lives and improve outcomes globally.** Professional associations can mobilize to:

- Accept and endorse KMC as an important component of care for all preterm newborns and disseminate this statement to all members of its organization.
- Advocate for governments to include KMC as an important component of care for all preterm newborns in health agendas and policies.
- Advocate for and support investment in further implementation research in low-resource settings.
- Advocate for the incorporation of KMC into pre-service and in-service curricula for all health workers who care for newborns to increase understanding of proper KMC implementation and to address health worker perceptions that may be barriers to its use.
- Advocate for increased investments to improve service delivery infrastructure and capacity of human resources to increase utilization and coverage with KMC.
- Promote integration of KMC coverage and quality measures into standard medical documentation and routine HMIS.
- Work with providers to educate community leaders and families about the benefits of KMC and find mutually acceptable solutions to overcoming obstacles rooted in local cultural factors.

The listed professional associations support the Every Newborn Action Plan (ENAP) and its endorsement in 2014 as a World Health Assembly resolution. ENAP focuses on improving quality of maternal and newborn care, especially around the time of birth and care for small and sick newborns, including preterm infants, and
specifically supports KMC as the standard of care for small babies. This joint statement affirms the commitment to the implementation efforts of the Every Newborn Action Plan (WHA67.10) as well as the new Global Strategy for Women’s, Children’s and Adolescents’ Health, 2016-2030 (A69/A/CONF./2).

Organizations are encouraged to endorse this statement and disseminate it through their communication channels.

REFERENCES


The drafting and review of this statement was supported by: Save the Children and USAID’s projects: Maternal Child Survival Program, Every Preemie-SCALE, and Applying Science to Strengthen and Improve Systems (ASSIST).
Managing possible serious bacterial infection in young infants 0–59 days old when referral is not feasible
Key points in this Joint Statement

- Infections are currently responsible for about one fifth of the world’s neonatal deaths
- Prompt identification and treatment of sick young infants having signs of possible serious bacterial infection (PSBI) is essential to reduce mortality and morbidity
- A new guideline is available to guide treatment of sick young infants with effective simplified antibiotic regimens in resource-limited settings when families do not accept or cannot access referral care
- Careful introduction and implementation of the guideline will increase access and adherence to treatment, and thus save lives
- Effective implementation of the guideline requires countries to strengthen their health systems to ensure high quality, accessible and family-friendly first-level facility care
- Ministries of health, international, regional and country-level medical professionals, including paediatric associations, have important roles in supporting the careful introduction and adaptation of this new guideline into policy and practice

Bacterial infection in young infants\(^1\) is one of the leading causes of preventable death and morbidity

Infections are responsible for more than 560,000, about one fifth, of the world’s annual 2.7 million neonatal deaths; up to 400,000 of these deaths were attributed to sepsis and meningitis and 160,000 to pneumonia in 2015 (1). In South Asia and sub-Saharan Africa about one quarter of all neonatal deaths are due to infections.\(^2\) Most young infant mortality is in low- and middle-income countries.

The World Health Organization (WHO) reference standard for sick young infants with PSBI\(^3\) remains referral to a hospital (2) for inpatient treatment with a 7- to 10-day course of ampicillin or benzylpenicillin plus gentamicin (3).

However, many sick babies are not recognized to have infection because of non-specific signs, such as being unable to feed or movement only when stimulated. Home visits in the first week after birth are recommended for care of the mother and newborn in order to counsel families, and to facilitate identification of danger signs and promote care seeking (4). They can be made by clinicians, midwives and other skilled providers including trained community health workers (CHWs).

Even when danger signs are detected, hospitalization and life-saving treatment may not be accessible, acceptable or affordable to families in settings with high newborn mortality. Key studies in South Asia (5,6,7) and in Africa (8,9) indicate that up to two thirds or more of families do not accept referral for hospitalization of a young infant with PSBI.

Context for new guideline

The new WHO guideline (Managing possible serious bacterial infection in young infants when referral is not feasible) (10) addresses care in settings where families with sick young infants do not accept or cannot access referral care, but can be managed in outpatient settings by an appropriately trained health worker.\(^4\)

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1. Unless otherwise specified, “young infant” refers to the period 0–59 days after birth, including the neonatal period.
2. Alliance for Maternal and Newborn Health Improvement (AMANHI), personal communication with WHO Department of Maternal, Newborn, Child and Adolescent Health, 2016.
3. See figure for definition.
4. “ Appropriately trained” refers to health workers based at primary health care facilities who are allowed by their governments to give injectable therapy.
The guideline offers primary care clinical guidance for resource-limited settings on the use of simplified antibiotic regimens that are both safe and effective for outpatient treatment of ‘clinical severe infection’ and ‘pneumonia’ (defined as fast breathing only) among infants weighing at least 1.5 kg. It also provides programmatic guidance on the role of CHWs and home visits in recognizing clinical signs of PSBI.

The PSBI guideline puts forward a systematic process for managing sick young infants:

**Identification:** Signs of illness in the young infant are recognized in the home by the family or by a CHW, or in a health facility by a health worker. The family then seeks care from a health provider who can manage PSBI.

**Assessment and classification:** The young infant is assessed according to clinical signs, and the illness is classified.

**Treatment:** The sick young infant with signs of infection is treated according to one of the recommended regimens:

- Young infants 7–59 days old with fast breathing as the only sign of illness should

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5. See figure for definitions.

6. These recommendations do not apply to infants with birth weight less than 1.5 kg; these infants must be treated in hospital.
be treated in an outpatient setting with oral amoxicillin7 twice daily for 7 days by an appropriately trained health worker. They do not need hospitalization.8

• Newborns 0–6 days old with fast breathing as the only sign of illness should be referred to hospital after receiving pre-referral treatment. Families should be counselled on the importance of referral. If the family does not accept or cannot access referral care, the infant should be treated with oral amoxicillin7 twice daily for 7 days by an appropriately trained health worker.

• Young infants 0–59 days old with clinical severe infection9 should be referred to hospital after pre-referral treatment. Families should be counselled on the importance of referral. If the family does not accept or cannot access referral care, the infant should be managed in outpatient settings by an appropriately trained health worker according to one of two recommended regimens.10
  — Option 1: Oral amoxicillin7 twice daily for 7 days plus injectable gentamicin11 once daily for 7 days.
  — Option 2: Oral amoxicillin7 twice daily for 7 days plus injectable gentamicin11 once daily for 2 days.

Option 1 has more available evidence, but little difference in key outcomes was observed between the two options when data were reviewed. The choice of option 1 versus option 2 will be dependent upon a particular health system’s ability to provide 7 versus 2 days of injectable antibiotics.

• Young infants 0–59 days old who have any sign of critical illness should be given pre-referral treatment and referred to hospital.

Putting the new guideline into action
This new guideline must be implemented within the context of national health strategies. It requires integration into a continuum of care across levels of the health system, and within the available intervention packages of services, consistent with the Every Newborn Action Plan.12 Additional research will potentially contribute to improving the care for this vulnerable group.

National policy development will require:
✔ advocacy for and dissemination of the PSBI guideline to ensure that policy-makers are aware of and are committed to implementation about the new recommendations;
✔ key stakeholder discussions leading to adoption and the adaptation or revision of existing national guidelines or protocols, to suit the local context;
✔ distribution of the national guidelines to all relevant parties;
✔ creating and supporting a sustained enabling environment for applying the recommendations, including supporting health care practitioners in new practices.

Implementation will require:
✔ integrating the new recommendations into national standards of care and service packages;
✔ adapting guidelines and training materials (including those for the Integrated Management of Childhood Illness [IMCI] and basic teaching) for health facility workers and CHWs;
✔ training and refresher training;
✔ providing and distributing commodities (e.g. essential antibiotics, appropriate syringes, thermometers and weighing scales);
✔ investing in creating demand and empowering families and communities to identify illness and seek timely care from an appropriate provider;

12 For information on the Plan, see https://www.everynewborn.org/.

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7 50 mg/kg per dose of oral amoxicillin.
8 Follow-up for young infants receiving daily gentamicin injections for 7 days should be daily; young infants receiving two injections of gentamicin should be followed up on day 2 and day 4. Young infants with only fast breathing should be followed up after completing 3 days of treatment, i.e. on day 4.
9 See figure for definition.
10 Individual countries are expected to adapt the recommendations to suit the local social, cultural and economic contexts.
11 5–7.5 mg/kg (first week of life for low-birth-weight infants 3 mg/kg) of injectable gentamicin.
✔ strengthening referral mechanisms and pathways between communities, first-level health facilities and referral-level health facilities;
✔ investing in strengthening quality and accessibility of care at first-level and at referral facilities;
✔ mapping of the situation as regards home visits for newborns, and strengthening the community platform as a first step in areas with difficult access;
✔ investing in supportive supervision, monitoring and evaluation;
✔ conducting implementation research to determine how best to implement and to scale-up managing PSBI in young infants when families cannot access referral care.

Governments, professional bodies, civil society and development partners must work together to:
✔ facilitate policy dialogue and orientation meetings at national and sub-national levels;
✔ establish early implementation sites to create a learning platform for implementing the new guideline in preparation for scaling-up;
✔ share experiences and materials of early adopter countries;
✔ facilitate documentation and exchange between countries with experience and countries with needs;
✔ develop a pool of qualified consultants/experts to support countries;
✔ ensure the availability of infant-friendly formulations of injectable gentamicin and oral amoxicillin;
✔ strengthen referral systems from the community to first- and referral-level health facilities;
✔ develop and support an implementation guide, emphasizing integration with existing programmes, and update relevant pre-service curricula and training materials;
✔ use PSBI implementation as an opportunity to re-double existing quality assurance and safety activities;
✔ mobilize resources.

References
process of development of this statement

A technical consultation on issues related to the implementation of the WHO guideline, *Managing possible serious bacterial infection in young infants when referral is not feasible*, was jointly organized by WHO, Save the Children (SC) and the United States Agency for International Development (USAID) in London in December 2015. During this consultation a draft of this Joint Statement prepared by WHO and UNICEF was reviewed by staff from SC, USAID, the International Pediatric Association (IPA), representatives of national paediatric associations and other experts. The experts declared no conflicts of interest. A revised version was widely distributed for further input from WHO and UNICEF country and regional office staff, SC, USAID, IPA, PATH and representatives from ministries of health; their comments were incorporated into the final version. This Joint Statement will be reviewed and updated three years after publication.

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Cover photo: Dr Shamim Qazi
JOINT STATEMENT

International WHO Recommendations on Interventions to Improve Preterm Birth Outcomes

A Commitment to Action from Professional Health Organizations

This International Joint Statement was reviewed and endorsed by the Council of International Neonatal Nurses (COINN), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO), and the International Pediatric Association (IPA). This statement was also reviewed and endorsed by the American Academy of Pediatrics (AAP), the American College of Nurse-Midwives (ACNM), and the American Congress of Obstetricians and Gynecologists (ACOG). This statement was developed by USAID’s Every Preemie-SCALE project and the Global Alliance to Prevent Prematurity and Stillbirth (GAPPS).

Background

The Council of International Neonatal Nurses (COINN), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO), and the International Pediatric Association (IPA) are the lead international professional organizations supporting global efforts to improve preterm birth outcomes. Their missions share common themes of improving the health of mothers and newborns worldwide, particularly for the most vulnerable, such as preterm newborns. Along with national professional organizations, these international professional organizations promote evidence-based, effective practice that can improve preterm birth outcomes around the world.

Preterm babies are prone to serious illness or death during the intrapartum and neonatal period. With appropriate treatment and care, survival of preterm newborns can be improved, while reducing the risk of lifelong disability and poor quality of life. Complications of prematurity are the single largest cause of neonatal death and currently the leading cause of death among children under 5 years. Therefore, global efforts to reduce child mortality demand urgent action to address preterm birth.

Based on review of the available evidence, the listed professional organizations agree that infant death and morbidity following preterm birth can be reduced when key interventions are applied within a continuum that integrates management of women at risk of imminent preterm birth with adequate postnatal care of preterm infants. Childbirth and newborn care are based on a foundation of essential maternal and newborn care, upon which specialized care is built to address complications as they arise. This joint statement affirms the commitment of professional organizations to implement World Health Assembly resolutions: the Global Strategy for Women’s, Children’s and Adolescents’ Health (A69/A/CONF./2) and the Every Newborn Action Plan (WHA67.10).

WHO Recommendations on Interventions to Improve Preterm Birth Outcomes

The listed professional organizations support the 2015 WHO Recommendations on interventions to improve preterm birth outcomes. The WHO Recommendations highlight ten evidence-based maternal and newborn care specialized interventions that can be provided during pregnancy, labour and delivery, and the postpartum period for preterm newborns that are at high risk of morbidity and mortality. The document provides specific
recommendations for the management of imminent preterm birth and preterm infants, and is intended to inform the development of health-care protocols and policies related to interventions to improve preterm birth outcomes. It is not intended to provide a comprehensive practical guide for the management of preterm labour and preterm infants. Feeding and infection management recommendations are made in separate WHO recommendations. Recommendations on interventions to prevent and reduce the risk of preterm birth or modify risk in at-risk pregnant women are also outside the scope of these recommendations.

In certain low-resource settings, maternal and newborn health-care services remain inconsistent and inadequate, thus compromising the safe use and effectiveness of preterm birth interventions. Basic essential newborn care (indicated resuscitation, appropriate feeding, thermal management, hygiene/infection prevention) underpins survival of all newborns. The technological context of care must be considered and potentially improved prior to instituting more specialized interventions to critically ill neonates. For example, the ability to appropriately monitor oxygen saturation and cardiorespiratory status is recommended and encouraged for respiratory interventions, such as supplemental oxygen, continuous positive airway pressure (CPAP) or ventilator support, in less developed medical settings as some beneficial interventions also have the potential to lead to harm. A careful interplay of health interventions and the level of available care are critical to ensure that the recommended interventions have the intended effect.

The following issues should be considered before applying the WHO Recommendations:

- Local protocols should be developed that integrate the management of women at risk of imminent preterm birth and preterm infants within a continuum, with due consideration for contextual factors that influence preterm newborn survival;
- Careful attention should be paid to dating of pregnancy with the best method available during early antenatal care visits;
- Health-care staff should be trained on how to determine the best estimate of gestational age and clinical features of imminent preterm birth;
- Local arrangements should be made to ensure ample and consistent supplies of antenatal corticosteroids (dexamethasone or betamethasone), magnesium sulfate and antibiotics (macrolide or penicillin);
- Consideration should be given to all aspects of the quality of maternal and newborn care at the health-care facility level; and
- Clear referral pathways for women at risk of imminent preterm birth should be established within the health-care system.

Commitment to Action

The WHO Recommendations promote high quality of care and improved outcomes by providing guidance on the delivery of evidence-based interventions related to preterm birth. In this regard, national professional associations have an important and collaborative role to play in assisting countries in an ongoing process to update their policies, programme materials and activities to support the safe and effective implementation of these new recommendations, including the following actions:

- Engage national obstetric, paediatric, family medicine, nursing and midwifery associations to update their members on the new WHO Recommendations and the evidence basis for each recommendation (e.g. at annual meetings, through newsletters, in continuing medical education sessions);
- Develop local protocols that integrate the management of women at risk of imminent preterm birth and preterm infants within a continuum, with due consideration for contextual factors that influence preterm newborn survival;
• Review/update guidelines, pre-service educational materials and in-service training materials to ensure that materials reflect the new WHO Recommendations;
• Work with and support national planning and strategy processes, ensuring alignment with the Every Newborn Action Plan and the Global Strategy for Women’s, Children’s and Adolescents’ Health;
• Promote the use of existing platforms and develop new approaches to strengthen health worker skills and staffing numbers to implement the WHO Recommendations (e.g. continuing medical education, pre- and in-service training);
• Promote quality improvement approaches and processes for health care during pregnancy, labour and delivery, and the postpartum period with a focus on overcoming key health system and care barriers;
• Use maternal and perinatal death audits in facilities to identify outdated practices that may be harmful and plan for actions to improve adherence to WHO Recommendations;
• Strengthen availability and quality of a minimum set of data to support clinical decision-making, programme management and quality improvement efforts including tracking simple process of care and outcome indicators aimed at improving preterm birth care and outcomes;
• Improve health literacy of families and increase provider and community awareness of the signs of threatened preterm birth, and the importance of early care seeking and referral to the appropriate level of care;
• Review and update facility and community health worker referral pathways for women at risk of imminent preterm birth, and following birth, to improve access to the appropriate level of care for pregnant women and preterm newborns; and
• Support these recommendations through the design and implementation of programmes with a strong evaluation component, and engage in research on new/refined interventions and implementation strategies and approaches specific to the local context.

**Highlights of Recommended and Non-Recommended Practices to Improve Preterm Birth Outcomes**

**FOR WOMEN AT RISK OF IMMINENT PRETERM BIRTH**

**Recommended**

- Antenatal corticosteroids (ACS) from 24 to 34 weeks in eligible women, provided certain conditions are met: accurate gestational age assessment, identification of imminent birth, no clinical evidence of maternal sepsis, adequate childbirth care is available (including the capacity to recognize and manage preterm labour and birth), and the preterm newborn can receive adequate care (including resuscitation, thermal care, feeding support, infection treatment and safe oxygen use);
- Antibiotics for preterm prelabour rupture of membranes; and
- Magnesium sulphate (MgSO4) for fetal neuroprotection <32 weeks if preterm birth is likely within 24 hours.

**Not recommended**

- Tocolysis for the purpose of improving neonatal outcomes;
- Antibiotics for preterm labour with intact membranes; and
- ACS in women with confirmed chorioamnionitis likely to deliver preterm.

**FOR PRETERM NEWBORN**

**Recommended**

- Thermal protection to include kangaroo mother care/skin-to-skin contact when infant weighs 2,000 g or less and is clinically stable;
• Monitoring oxygen saturation and cardiorespiratory status when using any respiratory intervention (including supplemental oxygen, CPAP or ventilator support) is advisable. The ability to provide this level of care should be considered in the decision to use respiratory interventions;
• CPAP for preterm infants with respiratory distress syndrome (RDS);
• Surfactant for preterm infants with RDS in facilities meeting minimum criteria; and
• Start oxygen therapy with 30% oxygen or air (if blended oxygen is not available) during resuscitation and ventilation of preterm infants born <32 weeks and titrate per defined criteria.

Not recommended
• Prophylactic surfactant before diagnosis of RDS; and
• Starting 100% oxygen during ventilation of preterm infants born ≤32 weeks.

The WHO Recommendations, the supporting evidence review, and a summary policy brief are available at: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/preterm-birth-guideline/en/

Additional Supporting Organizations
Additional organizations that may wish to endorse this statement are encouraged to add their organization’s name to the list of supporters.

REFERENCES
Table 1. Summary list of WHO Recommendations on interventions to improve preterm birth outcomes

<table>
<thead>
<tr>
<th>Maternal Interventions</th>
<th>Recommendations</th>
<th>Strength of recommendation and quality of the evidence*</th>
</tr>
</thead>
</table>
| **Antenatal corticosteroids to improve newborn outcomes** | 1.0. Antenatal corticosteroid therapy is recommended for women at risk of preterm birth from 24 weeks to 34 weeks of gestation when the following conditions are met:  
- gestational age assessment can be accurately undertaken;  
- preterm birth is considered imminent;  
- there is no clinical evidence of maternal infection;  
- adequate childbirth care is available (including the capacity to recognize and safely manage preterm labour and birth);  
- the preterm newborn can receive adequate care if needed (including resuscitation, thermal care, feeding support, infection treatment and safe oxygen use). | Strong recommendation based on moderate-quality evidence for newborn outcomes and low-quality evidence for maternal outcomes |
| 1.1. For eligible women, antenatal corticosteroid should be administered when preterm birth is considered imminent within 7 days of starting treatment, including within the first 24 hours. | Strong recommendation based on low-quality evidence |                                                                                                                                               |
| 1.2. Antenatal corticosteroid therapy is recommended for women at risk of preterm birth irrespective of whether a single or multiple birth is anticipated. | Strong recommendation based on low-quality evidence |                                                                                                                                               |
| 1.3. Antenatal corticosteroid therapy is recommended in women with preterm prelabour rupture of membranes and no clinical signs of infection. | Strong recommendation based on moderate-quality evidence for newborn outcomes and low-quality evidence for maternal outcomes |                                                                                                                                               |
| 1.4. Antenatal corticosteroid therapy is not recommended in women with chorioamnionitis who are likely to deliver preterm. | Conditional recommendation based on very low-quality evidence |                                                                                                                                               |
| 1.5. Antenatal corticosteroid therapy is not recommended in woman undergoing planned caesarean section at late preterm gestations (34-36+6 weeks). | Conditional recommendation based on very low-quality evidence |                                                                                                                                               |
| 1.6. Antenatal corticosteroid therapy is recommended in women with hypertensive disorders in pregnancy who are at risk of imminent preterm birth. | Strong recommendation based on moderate-quality evidence for newborn outcomes and low-quality evidence for maternal outcomes |                                                                                                                                               |

* For recommendations related to maternal Interventions, the rating of the quality of evidence applies to both the maternal and newborn outcomes where the quality of the evidence for the two is not separately presented.

(continued on next page)
<table>
<thead>
<tr>
<th>Maternal Interventions</th>
<th>Recommendations</th>
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</tr>
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<tbody>
<tr>
<td><strong>Antenatal corticosteroids to improve newborn outcomes (continued)</strong></td>
<td>1.7. Antenatal corticosteroid therapy is recommended for women at risk of imminent preterm birth of a growth-restricted fetus.</td>
<td>Strong recommendation based on very low-quality evidence</td>
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<td>1.8. Antenatal corticosteroid therapy is recommended for women with pre-gestational and gestational diabetes who are at risk of imminent preterm birth, and this should be accompanied by interventions to optimize maternal blood glucose control.</td>
<td>Strong recommendation based on very low-quality evidence</td>
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<td>1.9. Either intramuscular (IM) dexamethasone or IM betamethasone (total 24 mg in divided doses) is recommended as the antenatal corticosteroid of choice when preterm birth is imminent.</td>
<td>Strong recommendation based on low-quality evidence</td>
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<tr>
<td></td>
<td>1.10. A single repeat course of antenatal corticosteroid is recommended if preterm birth does not occur within 7 days after the initial dose, and a subsequent clinical assessment demonstrates that there is a high risk of preterm birth in the next 7 days.</td>
<td>Conditional recommendation based on moderate-quality evidence for newborn outcomes and low-quality evidence for maternal outcomes</td>
</tr>
<tr>
<td><strong>Tocolytics for inhibiting preterm labour</strong></td>
<td>2.0. Tocolytic treatments (acute and maintenance treatments) are not recommended for women at risk of imminent preterm birth for the purpose of improving newborn outcomes.</td>
<td>Conditional recommendation based on very low-quality evidence</td>
</tr>
<tr>
<td><strong>Magnesium sulfate for fetal protection against neurological complications</strong></td>
<td>3.0. The use of magnesium sulfate is recommended for women at risk of imminent preterm birth before 32 weeks of gestation for prevention of cerebral palsy in the infant and child.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
</tr>
<tr>
<td><strong>Antibiotics for preterm labour</strong></td>
<td>4.0. Routine antibiotic administration is not recommended for women in preterm labour with intact amniotic membranes and no clinical signs of infection.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
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<td>5.0. Antibiotic administration is recommended for women with preterm prelabour rupture of membranes.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
</tr>
<tr>
<td></td>
<td>5.1. Erythromycin is recommended as the antibiotic of choice for prophylaxis in women with preterm prelabour rupture of membranes.</td>
<td>Conditional recommendation based on moderate-quality evidence</td>
</tr>
<tr>
<td></td>
<td>5.2. The use of a combination of amoxicillin and clavulanic acid (&quot;co-amoxiclav&quot;) is not recommended for women with preterm prelabour rupture of membranes.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
</tr>
<tr>
<td><strong>Optimal mode of delivery</strong></td>
<td>6.0. Routine delivery by caesarean section for the purpose of improving preterm newborn outcomes is not recommended, regardless of cephalic or breech presentation.</td>
<td>Conditional recommendation based on very low-quality evidence</td>
</tr>
<tr>
<td><strong>Thermal care for preterm newborns</strong></td>
<td>7.0. Kangaroo mother care is recommended for the routine care of newborns weighing 2000 g or less at birth, and should be initiated in health-care facilities as soon as the newborns are clinically stable.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
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<tr>
<td></td>
<td>7.1. Newborns weighing 2000 g or less at birth should be provided as close to continuous Kangaroo mother care as possible.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
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<td>7.2. Intermittent Kangaroo mother care, rather than conventional care, is recommended for newborns weighing 2000 g or less at birth, if continuous Kangaroo mother care is not possible.</td>
<td>Strong recommendation based on moderate-quality evidence</td>
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</tbody>
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(continued on next page)
<table>
<thead>
<tr>
<th>Maternal Interventions</th>
<th>Recommendations</th>
<th>Strength of recommendation and quality of the evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thermal care for preterm newborns (continued)</strong></td>
<td>7.3. Unstable newborns weighing 2000 g or less at birth, or stable newborns weighing less than 2000 g who cannot be given Kangaroo mother care, should be cared for in a thermoneutral environment either under radiant warmers or in incubators.</td>
<td>Strong recommendation based on very low-quality evidence</td>
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<td>7.4. There is insufficient evidence on the effectiveness of plastic bags/wraps in providing thermal care for preterm newborns immediately after birth. However, during stabilization and transfer of preterm newborns to specialized neonatal care wards, wrapping in plastic bags/wraps may be considered as an alternative to prevent hypothermia.</td>
<td>Conditional recommendation based on low-quality evidence</td>
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<tr>
<td><strong>Continuous positive airway pressure for newborns with respiratory distress syndrome</strong></td>
<td>8.0. Continuous positive airway pressure therapy is recommended for the treatment of preterm newborns with respiratory distress syndrome.</td>
<td>Strong recommendation based on low-quality evidence</td>
</tr>
<tr>
<td></td>
<td>8.1. Continuous positive airway pressure therapy for newborns with respiratory distress syndrome should be started as soon as the diagnosis is made.</td>
<td>Strong recommendation based on very low-quality evidence</td>
</tr>
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<td><strong>Surfactant administration for newborns with respiratory distress syndrome</strong></td>
<td>9.0. Surfactant replacement therapy is recommended for intubated and ventilated newborns with respiratory distress syndrome.</td>
<td>Conditional recommendation (only in health-care facilities where intubation, ventilator care, blood gas analysis, newborn nursing care and monitoring are available) based on moderate-quality evidence</td>
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<td>9.1. Either animal-derived or protein-containing synthetic surfactants can be used for surfactant replacement therapy in ventilated preterm newborns with respiratory distress syndrome.</td>
<td>Conditional recommendation (only in health-care facilities where intubation, ventilator care, blood gas analysis, newborn nursing care and monitoring are available) based on moderate-quality evidence</td>
</tr>
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<td>9.2. Administration of surfactant before the onset of respiratory distress syndrome (prophylactic administration) in preterm newborns is not recommended.</td>
<td>Strong recommendation based on low-quality evidence</td>
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<td>9.3. In intubated preterm newborns with respiratory distress syndrome, surfactant should be administered early (within the first 2 hours after birth) rather than waiting for the symptoms to worsen before giving rescue therapy.</td>
<td>Conditional recommendation (only in health-care facilities where intubation, ventilator care, blood gas analysis, newborn nursing care and monitoring are available) based on low-quality evidence</td>
</tr>
<tr>
<td><strong>Oxygen therapy and concentration for preterm newborns</strong></td>
<td>10.0. During ventilation of preterm babies born at or before 32 weeks of gestation, it is recommended to start oxygen therapy with 20% oxygen or air (if blended oxygen is not available), rather than with 100% oxygen.</td>
<td>Strong recommendation based on very low-quality evidence</td>
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<td>10.1. Use of progressively higher concentrations of oxygen should only be considered for newborns undergoing oxygen therapy if their heart rate is less than 60 beats per minute after 30 seconds of adequate ventilation with 30% oxygen or air.</td>
<td>Strong recommendation based on very low-quality evidence</td>
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JOINT STATEMENT
Improving Quality of Maternal and Newborn Care in Low- and Middle-Income Countries

A Commitment to Action from Health Care Professional Associations

This International Joint Statement was reviewed and endorsed by the Council of International Neonatal Nurses (COINN), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO), and the International Pediatric Association (IPA).

The statement was developed by the United States Agency for International Development’s Applying Science to Strengthen and Improve Systems (ASSIST) with support from the Every Preemie-SCALE project, the American Academy of Pediatrics (AAP), the American College of Nurse-Midwives (ACNM), the American College of Obstetricians and Gynecologists (ACOG), Global Alliance to Prevent Prematurity and Stillbirth (GAPPS) and Save the Children’s Saving Newborn Lives project.

Background

While major progress has been made over the past two decades to improve mortality outcomes in women and newborn—major disparities remain in survival rates around the time of birth for mothers and infants born in high-, middle- and low-income countries. A significant gap continues to exist between actual and achievable health care outcomes, primarily because effective interventions are not implemented for every patient, every time. While access to and use of services for childbirth care has increased globally, and in some countries beyond expectations, the quality of care remains an impediment to accelerating the pace of reductions in preventable maternal and newborn mortality and stillbirths worldwide. The evidence for what to do to close the disparities gap has been known for years but there has been limited success in understanding how to implement these interventions.

Health Care Professional Associations (HCPAs) have the opportunity to play a fundamental role in ending preventable deaths among all women and newborns in their countries and worldwide. They are well-positioned to act as advocates and champions to influence health policy around key maternal and newborn priorities, set national standards of care, support the development, revision and dissemination of evidence-based clinical practice guidelines, provide continuous medical education and capacity-building and implement quality improvement mechanisms. The joint statement calls to action HCPAs to commit themselves to assume a critical leadership role to improve care of mothers and newborns to end preventable mortality.

Global Framework to Improve Quality of Care for Mothers and Newborns

To accelerate the pace of reducing preventable maternal and newborn mortality and stillbirths, the World Health Organization (WHO), in collaboration with partners, has developed a conceptual framework (Figure 1) to improve quality of care (QoC) in the delivery of safe, effective, timely, efficient, equitable, and people-centered maternal and newborn care around the childbirth period.

WHO defines quality of care as “the extent to which health care services provided to individuals and patient populations improve desired health outcomes” and sees a future where “every mother and newborn receives quality care throughout pregnancy, childbirth and postnatal period”. The WHO QoC quality standards around the time of birth operationalize eight domains to achieve high-quality maternal and newborn health (MNH) services and highlight the interplay of health system factors and evidence-based care. Each domain is operationalized by quality standards which are annotated with specific quality statements and supported by measures that can track the essential inputs, outputs and outcomes associated with quality care (Figure 1).
International HCPAs, jointly with national HCPAs working in the area of MNH fully support this QoC Framework and join the global community and countries to dramatically reduce preventable maternal and newborn deaths and stillbirths worldwide.

**Commitment to Action**

We, international HCPAs, jointly with national HCPAs from low-, middle-, and high-income countries, will pursue working partnerships to support global, national and local actions to implement WHO’s QoC Framework for Mothers and Newborns in contribution to the Global Strategy for Women’s, Children’s and Adolescents’ Health, 2016-2030. Specifically, we assume critical leadership and commit to the following actions to improve maternal and newborn care worldwide.

**At the Global and Regional Levels**

- Foster international partnerships between HCPAs and transfer knowledge, increase training opportunities, and build the organizational capacity and skills of professional associations to take a leadership role in improving maternal and newborn care in their respective countries;
- Provide leadership and support to HCPAs in low- and middle-income countries (LMICs) to advocate for and promote the QoC Framework and related evidence-based maternal and newborn care interventions;
- Support collaborative efforts to implement the QoC Framework and monitor mechanisms to improve maternal and newborn care around the time of childbirth;
- Work collaboratively to support this critical agenda to end preventable maternal and newborn deaths and stillbirths and track progress via meetings, journal articles and special reports;
- Produce and distribute resource materials on key issues affecting the professions, including practical tools for human resource development;
- Promote linkages with international and national academic institutions through existing networks to undertake research, and monitoring and evaluation the quality of maternal and newborn care.
At the National Level

Engage in advocacy

- Engage in dialogue with ministries of health and other major stakeholders to prioritize MNH in national health plans and policies and facilitate the creation of integrated national strategies on reproductive, maternal, neonatal and child health (RMNCH);
- Advocate to reach the highest attainable quality of care for every mother and newborn in keeping with Sustainable Development Goal 3 by focusing on the magnitude of the problem related to the quality of care contributing to poor maternal and newborn mortality;
- Advocate for universal access to quality MNH care, including high impact interventions, essential drugs and equipment to address equity gaps and improve coverage for excluded, marginalized and lagging populations;
- Improve legislation around safe maternity and childbirth being a basic human right so that “every woman has the opportunity to survive pregnancy and childbirth” and “so that every baby has the chance to Survive and Thrive”;
- Establish regular access to the press and media to influence public opinion and governments to adopt or adapt relevant MNH policies and serve as a knowledge hub for results dissemination as an important means of creating stakeholder buy-in and mobilizing resources toward maternal and newborn survival.

Support the development of policy and regulatory tools in collaboration with government

- Assist in the development of evidence-based standards of quality and excellence, including licensing, accreditation, certification standards and clinical protocols;
- Shape and support an appropriate scope of practice for each cadre of health worker to promote best use of each group’s expertise and improve availability of skilled MNH care;
- Support the development and implementation of legislation that enables competency-based MNH practices by all types of health professionals along the continuum of care.

Build professional knowledge, skills and competencies of care providers

- Identify knowledge gaps and needed competencies for maternal and newborn care providers and support training, upgrading of skills and provision of competency-based education within respective professional groups;
- Assist with developing and updating the education programs/curricula emphasizing best practices based on scientific evidence at all levels of education (pre-service, in-service and continuous professional development);
- Incorporate quality improvement into the education of all health care workers supporting MNH, at all levels and train and mentor leaders and providers to make quality improvement part of the culture of health care;
- Facilitate knowledge sharing through workshops, seminars, and technical and regulatory updates in their respective profession.

Support update, dissemination and use of clinical guidelines and protocols

- Develop and maintain strong partnership with international HCPAs in their respective profession to support sharing of important clinical updates at the national and local level;
- Support development, regular update and dissemination of evidence-based clinical practice guidelines, locally-relevant protocols and summary updates on the recent evidence for MNH;
- Integrate updated clinical practice recommendations in preservice, in-service and continuous professional development programs;
- Support care providers to access evidence-based literature by sharing information on recognized open access sources and securing institutional licenses for their members;
- Support training and skills-building of members of professional associations on searching and critically appraising the medical literature in terms of strength of evidence and applicability of the recommendations to their local health care settings.
At the Facility Level

• Support regular coaching and guide facility teams to establish internal improvement structures and processes and culture of safety;

• Support regular clinical supervision, Maternal and Perinatal Death/Near Miss Reviews, clinical audits and feedback among colleagues;

• Support members to identify essential gaps in maternal and newborn care and plan, implement, and continuously assess and refine interventions to address identified gaps;

• Promote the integration of maternal and newborn care indicators into the routine HMIS and facility level standard medical documentation;

• Support sharing successful improvement practices, including development and dissemination of evidence-based interventions that can be implemented or scaled-up.

At the Community Level

• Support awareness-raising among the public regarding maternal and newborn health issues to increase demand for high quality maternal and newborn care;

• Augment patients’ and the general public’s access to health information by developing and disseminating patient information materials to the members of HCPAs and/or directly to the public;

• Liaise between key stakeholders to generate effective outreach to communities to improve access to and equity of high quality maternal and newborn care.

Supporting Organizations

The Latin American and Caribbean Neonatal Alliance
Survive & Thrive Global Development Alliance

Organizations are encouraged to endorse this statement and disseminate it through their communication channels.

References


This joint statement affirms the commitment of professional associations to the implementation of World Health Assembly resolutions: Global Strategy for Women’s, Children’s and Adolescents’ Health (A69/A/CONF./2) and Every Newborn Action Plan (WHA67.10).