

CONTINUUM OF CARE FOR THE PREVENTION OF PRETERM BIRTH, MANAGEMENT OF PRETERM LABOR AND DELIVERY, AND CARE OF THE PRETERM AND SMALL NEWBORN

The continuum of care matrix outlines key interventions for the prevention of preterm birth (PTB), the management of preterm labor, and care for the preterm or small newborn across two continuums—from the household/community to the health center and hospital, and from pre-pregnancy and pregnancy through labor, delivery and care of the preterm newborn.

Every year approximately 15 million babies, or one in ten, are born prematurely (< 37 weeks of gestation) and more than one million babies die due to complications of PTB. Prematurity is the leading cause of newborn deaths in the first four weeks of life and the leading cause of death among children under five globally. Countries in Africa and Asia account for over 60 percent of global preterm births. At the same time, low birth weight (LBW)—babies born weighing less than 2.5 kg—is a major contributor to newborn deaths around the world.

There is a growing body of evidence to support the effective management of preterm birth across the spectrum of care from prevention, to the management of preterm labor, to quality postnatal care for the preterm or small newborn. In order to increase newborn survival in the coming decades, stakeholders must work together to significantly increase coverage of evidence-based preterm birth and low birth weight interventions by translating evidence into action at and below the national level, increase prioritization of PTB and LBW interventions within national and global policies, protocols, and initiatives, and strengthen capacity and performance for improved service delivery at facility and community levels.

Building the enabling environment for improved maternal and newborn health along the continuum of care is a shared responsibility among families, communities, civil society organizations, religious groups, professional associations, the private sector and governments.

The preterm birth agenda is complex and multifaceted. There are multiple points during a woman's reproductive life when specific services can reduce her risk for preterm birth (pre-pregnancy and pregnancy); respond to imminent early birth protecting both the mother and the newborn (labor and delivery); improve the chances of survival for early and small newborns (immediate postnatal period); and, again, reduce the mother's risk for subsequent preterm births (later postpartum period).

This preterm continuum of care matrix is a comprehensive listing of evidence-based services and interventions. Interventions for care of women in preterm labor and those targeting care of the preterm/LBW newborn are aligned with the *2015 WHO Recommendations on Interventions to Improve Preterm Birth Outcomes*. The matrix provides an organized framework for the large number of evidence-based interventions along the pathway to care for non-pregnant and pregnant women, and mothers and preterm or LBW newborns. It can be used to initiate dialogue and coordination among stakeholders supporting maternal, newborn and reproductive health programs at the country level, identify gaps on the pathway to care, and guide the prioritization of services in response to preterm birth.

PREVENTION OF PRETERM BIRTH AND LOW BIRTH WEIGHT					
	PRE-PREGNANCY	PREGNANCY	LABOR & DELIVERY	IMMEDIATE POSTPARTUM CARE	LATER POSTPARTUM CARE
COMMUNITY/HOUSEHOLD	<ul style="list-style-type: none"> Delayed marriage/childbearing among adolescents Prevention of partner violence Family planning to prevent unintended pregnancies and to promote birth spacing Optimize pre-pregnancy weight/dietary advice and/or nutritional education 	<ul style="list-style-type: none"> Community-based ANC Early determination of last menstrual period (LMP) and estimated due date (EDD) at first antenatal care (ANC) visit Prevention of harmful traditional practices Social and cultural norms to promote early care Counseling on reduced maternal workload Identification/management of partner violence Balanced protein/energy supplementation Marine oil supplementation Zinc supplementation Cessation of tobacco use, substance abuse, and alcohol 	<ul style="list-style-type: none"> Identification of pregnancy complications and referral to care 	<ul style="list-style-type: none"> Prompt referral to health facility if newborn appears premature or small 	<ul style="list-style-type: none"> See pre-pregnancy actions at the community and household level
HEALTH CENTER	All of above PLUS <ul style="list-style-type: none"> Diagnosis & management of infections including HIV Routine childhood immunizations including for adolescents Mental health/depression assessment and referral 	All of above PLUS <ul style="list-style-type: none"> Focused ANC including screening & management for maternal infections (TB, malaria, Group B strep (GBS), genital tract infections/STIs including HIV) Maternal immunization Anemia screening/treatment High risk pregnancy screening and referral: <ul style="list-style-type: none"> Chronic disease (e.g. diabetes) Hypertensive disease in pregnancy Hypothyroidism Short cervical length Prior preterm birth Multiple pregnancies Pregnant adolescents Antepartum hemorrhage Preterm pre-labor rupture of membranes (PPROM) Imminent spontaneous preterm birth 	<ul style="list-style-type: none"> Verify EDD Identification of pregnancy complications If maternal condition leading to prematurity is identified, transfer to hospital care 	<ul style="list-style-type: none"> Confirm gestational age (GA) at birth Nutrition counseling Postpartum family planning counseling and provision of services 	All of above PLUS <ul style="list-style-type: none"> Follow-up of women who delivered prematurely to medically manage any conditions that predisposed her to prematurity
HOSPITAL	<ul style="list-style-type: none"> Counseling and services for all of above 	All of above PLUS <ul style="list-style-type: none"> Management of women at higher risk of preterm birth Preterm induction of delivery performed only when medically indicated 	<ul style="list-style-type: none"> Management of complications Refer to Management of Labor & Delivery, and Care of the Preterm or Low Birth Weight Newborn 	All of above PLUS <ul style="list-style-type: none"> Provision of permanent or long-term FP methods (e.g. Tubal Ligation, Long Acting Reversible Contraception) 	<ul style="list-style-type: none"> Identification and management of new onset chronic diseases Diagnosis & management of infections

MANAGEMENT OF PRETERM LABOR & DELIVERY			
	PREGNANCY	LABOR & DELIVERY	IMMEDIATE POSTPARTUM CARE
COMMUNITY/HOUSEHOLD	<ul style="list-style-type: none"> Community health education including signs and symptoms of preterm labor Recognition of complications and signs of preterm labor and immediate referral 	<ul style="list-style-type: none"> If possible, referral to health facility for care IF UNABLE TO TRANSFER: skilled birth attendant in home Clean birth practices Early basic obstetric and newborn care and referral to health facility for management 	<ul style="list-style-type: none"> Immediate postpartum care for the mother and referral to health facility for follow up and management of obstetric complications Continuation of immediate essential newborn care and referral/transfer to facility for preterm or small newborn
HEALTH CENTER	<ul style="list-style-type: none"> Establish gestational age Respectful maternity care Education / recognition of signs of preterm labor and obstetric conditions leading to prematurity Identification and early treatment of high-risk conditions (pre-eclampsia, PPRM, antepartum hemorrhage, preterm labor) Immediate referral to hospital for care Monitor fetal condition Antibiotics for PPRM Maternal nutrition and hydration Woman to remain recumbent en-route to hospital 	<ul style="list-style-type: none"> Ongoing monitoring of fetal condition Provision of basic emergency obstetric and newborn care Transfer to hospital for comprehensive emergency obstetric and newborn care 	<ul style="list-style-type: none"> Early management of maternal postpartum complications with basic emergency obstetric and newborn care Transfer to hospital for emergency postpartum care See Care for the Preterm or Low Birth Weight Newborn
HOSPITAL	All of above PLUS <ul style="list-style-type: none"> May use tocolytic agents to suppress labor for time required to administer ACS Begin ACS for women 24 to <34 weeks gestational age and at high risk for imminent preterm birth, provided certain conditions are met Magnesium sulphate for women with gestational age <32 weeks and likely to give birth within 24 hours Managing and treating the high-risk complications leading to prematurity 	<ul style="list-style-type: none"> Ongoing monitoring of fetal condition Comprehensive emergency obstetric and newborn care Routine delivery by caesarean section to improve newborn outcomes is not recommended 	<ul style="list-style-type: none"> Management of postpartum care for the mother See Care for the Preterm or Low Birth Weight Newborn

CARE OF THE PRETERM OR LOW BIRTH WEIGHT NEWBORN			
	LABOR & DELIVERY	IMMEDIATE POSTPARTUM CARE	LATER POSTPARTUM CARE
COMMUNITY/HOUSEHOLD	<ul style="list-style-type: none"> Be prepared for preterm birth, special needs for mothers and early/small newborns 	<ul style="list-style-type: none"> Clean birth practices Recognition of preterm or small newborn Essential care for small babies Chlorhexidine for cord care at home births - single application for newborn >28 weeks and <37 weeks Prompt referral to health facility 	<ul style="list-style-type: none"> Household sanitation High frequency follow up care Prompt referral for newborn problems
HEALTH CENTER	<ul style="list-style-type: none"> Be prepared for preterm birth, special needs for mothers and early/small newborns 	<ul style="list-style-type: none"> Confirm GA at birth Eye care, vitamin K and clean dry cord care Essential care for small babies Antibiotics and immediate referral for newborns with danger signs For newborns <32 weeks and/or <1500 gms immediate transfer to advanced care Continuous skin to skin contact for newborns ≤2000 gms Intermittent skin to skin contact is recommended for newborns ≤2000 gms if continuous skin to skin is not possible 	<ul style="list-style-type: none"> Ongoing essential care for preterm and small babies Infection prevention Linkages to community providers for home-based small baby checks Continuous skin to skin contact for newborns ≤2000 gms Monitor for new onset of newborn problems and refer if more advanced care is required Monitor for developmental milestones
HOSPITAL	<ul style="list-style-type: none"> Be prepared for preterm birth, special needs for mothers and early/small newborns 	All of above PLUS <ul style="list-style-type: none"> During ventilation of preterm babies born ≤32 weeks gestation, recommended to start oxygen therapy with 30% oxygen or air (if blended oxygen is not available), rather than with 100% oxygen Oxygen concentration should be guided by blood oxygen saturation levels after initial resuscitation Transfer extreme newborns (<28 weeks) and/or small newborns (<1200 gms) to advanced care 	All of above PLUS <ul style="list-style-type: none"> Management and treatment of preterm and small infant with complications in a special newborn care unit CPAP with oxygen titration using blender and pulse oximeter for Respiratory Distress Syndrome (RDS) Monitored oxygen use to minimal required Support for transfer to local care and follow up once newborn is stable
TERTIARY or REFERRAL HOSPITAL	<ul style="list-style-type: none"> Be prepared for preterm birth, special needs for mothers and early/small newborns 	All of above PLUS <ul style="list-style-type: none"> Neonatal intensive care for extreme preterm newborn (<28 weeks) and/or small newborns (<1200 gms) Unstable newborns ≤2000 gms at birth, or stable newborns <2000 gms who cannot be given continuous skin to skin contact, should be cared for in a thermo-neutral environment with radiant warmer or incubator 	All of above PLUS <ul style="list-style-type: none"> Continued advanced care for extremely premature newborns <28 weeks and/or small newborns (<1200 gms) Surfactant for RDS with intubation/ventilation in facilities meeting minimum criteria Continuous/intermittent skin to skin contact ≤2000 gms Support for transfer to local care and follow up once newborn is stable

EVERY PREEMIE SCALE

Every Premie—SCALE is a five-year USAID award designed to support *practical*, *catalytic*, and *scalable* approaches to expand the uptake of preterm birth (PTB) and low birth weight (LBW) interventions in 23 USAID priority countries in Africa and Asia. Every Premie is implemented by a consortium of partners: Project Concern International (PCI) leads community capacity building and mobilization activities, the Global Alliance to Prevent Prematurity and Stillbirth (GAPPS) leads evidence and knowledge sharing, program learning, and implementation research activities, and the American College of Nurse-Midwives (ACNM) leads health provider capacity building and performance improvement activities. To learn more about Every Premie, please visit our website at www.everypreemie.org.



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