



Newborn Care Supply Kits for Humanitarian Settings

MANUAL

FIRST
EDITION





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1st edition
2019

Inter-agency Working Group on Reproductive Health in Crises

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The neonatal period (from birth to 28 days) marks one of the most vulnerable periods in the life cycle. Globally, an estimated 2.7 million babies die within the first month of life every year, and another 2.6 million babies are stillborn. In conflict and emergency settings, the vulnerabilities of newborns increase while access to services decreases. As a result, the highest neonatal mortality rates are found in countries that have recently experienced a humanitarian crisis. Though important gains have been made in addressing sexual and reproductive health in humanitarian settings since the International Conference on Population and Development in Cairo in 1994, further attention is needed to ensure newborn needs are sufficiently and systematically addressed from the onset of a crisis response. Newborns everywhere have a right to this care.

The *Inter-agency Field Manual on Sexual and Reproductive Health in Humanitarian Settings (IAFM)*, originally published in 1999 and revised in 2010 and 2017, is the primary guidance document outlining sexual and reproductive health service provision, including maternal and newborn health, in a crisis response. It articulates the minimum standard in humanitarian sexual and reproductive health service provision, the Minimum Initial Service Package (MISP). The MISP details the life-saving activities, services, equipment, and drugs that health actors should prioritize in an acute emergency response. To support rapid implementation of the MISP, pre-packaged kits—The Inter-agency Reproductive Health Kits (RH Kits)—are available from UNFPA. They can be ordered from: <https://www.unfpaprocedure.org/products>.

To provide more detailed guidance on newborn care in emergencies, *The Newborn Health in Humanitarian Settings: Field Guide (Field Guide)* (<https://www.healthynewbornnetwork.org/resource/newborn-health-humanitarian-settings-field-guide/>) was developed to complement the *IAFM*. The *Field Guide* serves as a program management and advocacy tool rather than a clinical guide. To complement the RH Kits, which do not provide the full range of supplies, equipment and drugs to support implementation of priority newborn care services, The Newborn Supply Kits for Humanitarian Settings (Newborn Kits) were developed.

PRINCIPLES BEHIND NEWBORN KITS

- **The Newborn Kits are designed for use in the acute phase of an emergency**

The Newborn Kits are intended for use only in the early phase of an emergency. The kits are neither designed nor recommended for re-supplying existing equipment, supplies and drugs in health-care facilities. Difference must be made with consumable part of the kit, which is packed separately and can be re-supplied for replenishment. Kits contain essential health supplies, medical equipment and medicines for a specific population size for a three-month time period. Ordering through standard supply chains, based on need, should commence as soon as possible. The Kits are pre-packaged and standardized for global supply. They may contain items that are not appropriate for some settings.

- **Some Newborn Kits are designed for use only by qualified and trained health personnel**

The Newborn Kits are organized by levels of care, and the level of skill required for the use of each kit is detailed in this manual. Be sure to review carefully as some contents are only for qualified health providers of a particular skill level.

- **Ordering should be based on the findings from a situation analysis**

As outlined in the *Field Guide (Section 4.2)*, undertaking a situation analysis is critical to confirm that Newborn Kits are needed, which types are needed, how many are needed, and where they are needed. This will help inform adequate and appropriate ordering.

- **The Newborn Kits do not provide supplies to address all newborn needs**

The Newborn Kits do not contain all the supplies, medicine and equipment necessary to address every newborns' health needs. The Newborn Kits are complementary to the RH Kits, which provide additional supplies for maternal and neonatal care. The Newborn Kits should be ordered in conjunction with the RH Kits, which this *Manual* specifies per level of care. In addition, vaccines and diapers (nappies) should be locally procured.

- **The Sexual and Reproductive Health Coordinator should coordinate ordering of Newborn Kits as well as RH Kits**

The Coordinator of the Sexual and Reproductive Health Working Group should coordinate ordering of supplies among working group partners to avoid waste. The Coordinator should ensure complementary ordering of RH and Newborn Kits. Ordering of vaccines should also be coordinated.

OVERVIEW OF THE KITS

The Newborn Kits consist of three kits organized by levels of care: community, clinic or primary health facility and hospital. Each kit consists of several modules, which can be ordered separately. There are total of 10 different modules. Note, that modules called Clothes & Accessories and Malaria are the same for all three kits.

Resources, such as job aids and pictographs are included in relevant modules.

Community Newborn Kit

Part A: Family Care Kit

Module 1: Clothes and accessories

Part B: Community Health Worker Kit

Module 1: Medicines

Module 2: Medical Equipment

Clinic or Primary Health Facility Newborn Kit

Module 1: Medicines

Module 2: Consumables

Module 3: Medical Equipment

Module 4: Clothes and accessories

Module 5: Malaria

Hospital Newborn Kit

Module 1: Medicines

Module 2: Consumables

Module 3: Medical Equipment

Module 4: Clothes and accessories

Module 5: Malaria

Newborn Kit Can be ordered from UNICEF Supply Division in Copenhagen. Contact UNICEF Procurement Services at:

Procurement Services Centre

UNICEF Supply Division

Oceanvej 10-12

2150 Nordhavn

Copenhagen

Denmark

e-mail: psid@unicef.org

Fax: +45 3526 9421

Tel: +45 4533 5500

Or, contact UNICEF Country office.

How to calculate quantities of kits needed

Base the quantity and type of kit on the size of the population and the type of health facilities in place.

The assumptions are:

- 18% of newborns will be preterm¹
- 34% of pregnant women will have syphilis²
- 10% of newborns will have sepsis³
- 1% of newborns will have severe sepsis⁴

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- 1 Blencowe, H., Cousens, S., Oestergaard, M. Z., Chou, D., Moller, A. B., Narwal, R., Lawn, J. E. (2012). National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. *Lancet*, 379(9832), 2162-2172. doi:10.1016/S0140-6736(12)60820-4
 - 2 Emmanuel SK, Lado M, Amwayi S, Abade AM, Oundo JO, Ongus JR. Syphilis among pregnant women in Juba, Southern Sudan. *East Afr Med J*. 2010 May;87(5):192-8. PubMed PMID: 23057281.
 - 3 Cortese, F., Scicchitano, P., Gesualdo, M., Filaninno, A., De Giorgi, E., Schettini, F., Ciccone, M. M. (2016). Early and Late Infections in Newborns: Where Do We Stand? A Review. *Pediatr Neonatol*, 57(4), 265-273. doi:10.1016/j.pedneo.2015.09.007
 - 4 Mitra, D. K., Mullany, L. C., Harrison, M., Mannan, I., Shah, R., Begum, N., . . . Baqui, A. H. (2018). Incidence and risk factors of neonatal infections in a rural Bangladeshi population: a community-based prospective study. *J Health Popul Nutr*, 37(1), 6. doi:10.1186/s41043-018-0136-2

- 11.5% of newborns will be severely ill requiring advanced care
- 0.6% of newborns will have meningitis⁵
- 10% of newborns will require resuscitation; 6% will require bag and mask ventilation⁶
- 4% of a population will be pregnant at any given time⁷
- 10 cases per 100,000 livebirths will have neonatal herpes⁸

Note: The Newborn Kits are periodically reviewed. For general feedback and feedback on kit contents, please send to: info.iawg@wrcommission.org. For feedback on quality, packaging, shipping, and procurement, please send to: supply@unicef.org.

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- 5 Hazardous materials, such as batteries will be packed and shipped separately.
 - 6 The Inter-agency Reproductive Health Kits for Crisis Situations: Manual, which details the RH Kit contents, can be found on www.unfpa.org and www.iawg.net.
 - 7 WHO recommendation: “Daily chlorhexidine (7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine) application to the umbilical cord stump during the first week of life is recommended for newborns who are born at home in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births). Clean, dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of chlorhexidine in these situations may be considered only to replace application of a harmful traditional substance, such as cow dung, to the cord stump.” See: http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649_eng.pdf
 - 8 The anticipated 300 deliveries are at the PHC/clinic level only and do not capture deliveries at the community level.

Context: Community Newborn kit is designed to be used at community level. It consists of two parts. **Part A: Family Care Kit** is to be distributed to pregnant women. **Part B: Community Health Worker (CHW) Kit** is to be used by CHWs. Both parts (A & B) contain illustrative user instructions and easy-to-use educational materials for essential newborn care.

Target Population and period of use: 10,000 people for 3 months

Assumptions: Part A: Family Care Kit is designed based on the assumption, that in 3 months period, in a population of 10,000 people with crude birth rate of 40, there will be one hundred deliveries and another one hundred women will be in the last trimester of pregnancy (from week 28 till birth); To ease the calculation, this kit consists of 100 individual packages to be distributed directly to 100 women, who are in labor, or the last trimester of pregnancy. Where possible, the distribution must be aligned with the antenatal care (ANC) visits. **Part B: CHW Kit** is designed based on the assumption, that there will be 10 CHWs for a population of 10,000.

Complementary RH Kit:⁹ The Community Newborn Kit is complementary to the RH Kit 2. Note, that RH Kit part 2B contains additional supplies for birth attendants, including a flashlight, plastic apron, and poncho; these are not included in the Community Newborn Kit and can be ordered separately from UNFPA. The sexual and reproductive health (SRH) Coordinator should ensure proper complementary ordering of kits to avoid duplication.

⁹ The *Inter-agency Reproductive Health Kits for Crisis Situations: Manual*, which details the RH Kit contents, can be found on www.unfpa.org and www.iawg.net.

Content: Part A: Family Care Kit:

Item (CNB)	Quantity per kit	Notes	Indication
Module 1: Clothes and accessories			
Blanket, baby, approx. 50 x 75 cm.	100		
Cap, newborn, cotton	100		
Romper suit, newborn, cotton	100		
Socks, baby, size newborn, cotton	100		
Towel, approx. 60 x 80 cm, cotton	100		For drying
Wrap, for baby carrying (kangaroo wrap), cotton, approx. 50cm x 3m	100		For kangaroo mother care (KMC)
Resources			
Pictograph, Breastfeeding, for mothers	100		

Part B: Community Health Worker Kit:

Item (CNB)	Quantity per kit	Notes	Indication
Module 1: Medicines			
Chlorhexidine digluconate gel 7.1% (4% base), 20g.	100	See footnote ¹⁰ as well as enclosed job aid.	To prevent sepsis and umbilical cord infections
Tetracycline hydrochloride, eye ointment, 1%, tube, 5g	300		To prevent neonatal conjunctivitis (chlamydia/ gonococcal). 100 for CHW and 200 to be distributed directly to mothers
Zinc oxide, ointment, tube, 100g	100		To prevent diaper dermatitis
Clean Delivery kit, Part A: Individual Delivery Package (UNFPA), single kit	100	Each kit includes, soap, clear plastic sheet, plastic bag for placenta disposal, device for cutting umbilical cord, umbilical cord tape, examination gloves.	
Gloves, examination, latex, powder-free, size medium, box of 100	10	A total of 1000 gloves	

10 WHO recommendation: “Daily chlorhexidine (7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine) application to the umbilical cord stump during the first week of life is recommended for newborns who are born at home in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births). Clean, dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of chlorhexidine in these situations may be considered only to replace application of a harmful traditional substance, such as cow dung, to the cord stump.” See: http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649_eng.pdf

Item (CNB)	Quantity per kit	Notes	Indication
Module 2: Medical Equipment			
Bag, shoulder	20	2 bags per each CHW	For keeping and carrying medical equipment
Scale, infant, spring, tubular, for use up to 5kg with 25g precision	10		
Sling, for use with scale, 80cm x 80cm	30	3 per CHW	
Thermometer, clinical, digital, 32 – 43° C	10		
Timer, for respiration	10		To determine respiration rate when acute respiratory infection is suspected
Resources			
Job aid, chlorhexidine, generic pictograph	10		
Generic pictograph, tetracycline hydrochloride, for families	210	10 for CHW and 200 for mothers	
Job aid, essential newborn care, generic pictograph	10		
Pictograph, Breastfeeding support, for health workers	10		

Remarks

Clothes or blankets for babies should be procured locally wherever possible. Locally procure reusable diapers. Local products are often less expensive and familiar to mothers and caregivers.

Context: The Clinic or Primary Health Care (PHC) Kit must be used at healthcare facility level together with the Inter-agency Reproductive Health Kit 6 (Parts A and B).

The kit is designed for:

- Essential newborn care for uncomplicated live births
- Newborn resuscitation
- To stabilize newborns with serious infections prior to referral
- To care for preterm babies at the clinic or primary health care level

The kit is to be used by trained personnel: midwives, nurses, medical doctors. The kit contains illustrative user materials and easy-to-use educational materials to be distributed among mothers and caregivers.

Target population and period of use: For one facility serving a population of 30,000 for 3 months

Assumptions The kit contents are based on the assumptions that, for a population of 30,000 people, with a crude birth rate of 40, 300 deliveries will occur in a 3-month period. Of these 300 newborns, 18% may be preterm and/or low birthweight and 20% of latter may develop complications.¹¹

Complementary to RH Kit:¹²

The Clinic or Primary Health care Newborn Kit is complementary to the RH Clinical Delivery Kit 6, which includes supplies for labor and delivery.

11 The anticipated 300 deliveries are at the PHC/clinic level only and do not capture deliveries at the community level. The anticipated 1,500 deliveries are at the hospital level only and do not capture deliveries at the PHC and community levels.

Note: Module equipment of primary health care kit requires, but does not include neonatal blood monitoring system, due to the fact that currently available devices have a shelf life of 9 and 12 making them inappropriate for kit bundling. These can be ordered directly from supply division. Distinction must be made between 2 types: Hand-held, glucose photometer HemoCue Glucose 201+, starter set. and HemoCue Glucose 201 RT set. The latter cannot be used in critically ill neonates.

Content:

Item (PHC)	Quantity per kit	Notes	Indication
Module 1: Medicines			
Amoxicillin dispersible tablet, 250mg.	3,000	To be reserved for completion of antibiotic therapy upon discharge	To treat local bacterial infection
Ampicillin (as sodium salt), powder for IV/IM injection, 500mg	400		To treat severe bacterial infection
Benzathine benzylpenicillin, powder for IM injection, 900mg, 5mL vial (equivalent to 1.2 million IU)	150		To treat asymptomatic congenital syphilis
Benzylpenicillin (as sodium or potassium salt), sterile powder for IV/IM injection, 600mg vial (equivalent to 1 million IU)	50	Use within 90 minutes of opening vial	To treat severe bacterial infection/ pneumonia and symptomatic congenital syphilis

12 The *Inter-agency Reproductive Health Kits for Crisis Situations: Manual*, which details the RH Kit contents, can be found on www.unfpa.org and www.iawg.net.

Item (PHC)	Quantity per kit	Notes	Indication
Chlorhexidine digluconate, gel, 7.1% (4% base), 20g.	300	See footnote ¹³ as well as enclosed job aid.	To prevent sepsis and cord infections
Gentamicin (as sulfate), sterile solution, for IM/IV injection or IV infusion, 10mg/mL, 2mL ampoules	1,200		To treat severe bacterial infection
Glucose, sterile solution for IV infusion, 10%, 500mL bottle	600		To manage hypoglycemia
Paracetamol, rectal suppositories, 125mg	150		To manage fever
Paracetamol, oral liquid, 120mg/5mL, bottle, 60mL	300		To manage fever
Phenobarbital, elixir, 15mg/5 mL/ or equivalent of Phenobarbital 30mg. tablets	15		To treat seizures
Phenobarbital sodium, sterile solution for IM injection, 30mg/mL, 1mL ampoule	150		To treat seizures
Sodium chloride solution for infusion, 0.9%, 200mL.	150		Replenishment of fluids, to treat dehydration
Sodium chloride, solution for injection, 0.9%, 10mL ampoule	900		Flushing IV line after medication administration
Tetracycline hydrochloride, eye ointment, 1%, tube, 5g	300		To prevent neonatal conjunctivitis (chlamydia/ gonococcal)

13 WHO recommendation: “Daily chlorhexidine (7.1% chlorhexidine digluconate aqueous solution or gel, delivering 4% chlorhexidine) application to the umbilical cord stump during the first week of life is recommended for newborns who are born at home in settings with high neonatal mortality (30 or more neonatal deaths per 1000 live births). Clean, dry cord care is recommended for newborns born in health facilities and at home in low neonatal mortality settings. Use of chlorhexidine in these situations may be considered only to replace application of a harmful traditional substance, such as cow dung, to the cord stump.” See: http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649_eng.pdf

Item (PHC)	Quantity per kit	Notes	Indication
Phytomenadione (vitamin K1), 10 mg/ml, 1ml. ampoule	300		Important: needs to be diluted in sterile saline to provide recommended dose of 1mg/0.5ml. To prevent vitamin K deficiency bleeding (hemorrhagic disease of the newborn)
Water, for injection, 10mL ampoule	1,500		To reconstitute injectable medicines
Zinc oxide, ointment, tube, 100g.	300		As protective barrier to promote healing of nappy rash

Module 2: Consumables

Cannula, IV, short, 24 G, sterile, single use (yellow)	300		
Cup feeding, newborn	30		For feeding expressed breastmilk
Cup with lid	30		For storing and cleaning of feeding cup
Gel, ultrasound, 250mL	30		
Gloves, examination, latex, powder-free, size: medium, single use, box of 100	9	900 gloves in total	
Infusion set, paediatric, 60 drops/mL, 120-140 cm, filter 15-20 micron, needle 23 G x 1", sharp airway	150		
Lancet, blood, sterile, disposable	1,200		
Needle, disposable, 21 G, sterile, box of 100	7	700 needles in total	
Needle, disposable, 25 G, sterile, box of 100	22	2200 needles in total	
Partograph	350		For labour progress records
Sanitizer, alcohol-based for hands, 60%, bottle with pump, 500mL	10		

Item (PHC)	Quantity per kit	Notes	Indication
Scalp vein infusion set 23 G (0.60mm)	150	Extra needles to accompany the infusion set	
Swab, anti-septic, for skin preparation, 6cm x 3cm, box of 100	10	1000 swabs in total	
Syringe, hypodermic, luer, 2-part, 2mL, sterile, disposable	1,750		
Syringe, hypodermic, luer, 2-part, 5mL, sterile, disposable	750		
Syringe, hypodermic, luer, 3-part, 1mL, sterile, disposable	300		
Tape, medical adhesive, 2.5cm x 5m, roll	90		
Test strip, rapid plasma reagin (RPR), for syphilis	300	For testing mothers	
Test strip, for urine, multi-purpose (ketones, Ph, blood, glucose, protein), 10 detections	1,200	For testing mothers	
Tube, feeding (nasogastric), CH 5, 40cm, disposable, sterile	150		
Tube, feeding (nasogastric), CH 6, 40cm, disposable, sterile	150		
Tube, feeding (nasogastric), CH 8, 40cm, disposable, sterile	200		

Item (PHC)	Quantity per kit	Notes	Indication
Module 3: Medical Equipment			
Doppler apparatus, pocket-type	3		To monitor foetal heartbeat
Resuscitation bag, with mask	9	Includes 2 mask sizes: preterm, newborn, and infant up to 3 months (up to 10 kg)	
Scale, baby, electronic, 10kg	3	Battery and electricity operated	
Stand, for IV, 2 hooks on 5 castors, adjustable from 115 - 210cm, epoxy-coated steel	6		
Suction device, reusable	9		To remove fluids from a newborn's nasal and oral cavities
Tape measure, tailors, fibreglass, 1.5m	30		
Thermometer, clinical, digital, 32 - 43° C	20		
Timer, for respiration	6		To determine respiration rate when acute respiratory infection is suspected
Module 4: Clothes and accessories			
Blanket, baby, approx. 50 x 75cm	100		
Cap, newborn, cotton	100		
Socks, baby, size: extra small, cotton	100		
Towel, cotton, approx. 60 x 80cm	100		For drying
Wrap, for baby carrying (kangaroo wrap), cotton, approx. 50cm x 3m	100		For Kangaroo Mother Care (KMC)

Item (PHC)	Quantity per kit	Notes	Indication
Module 5: Malaria Module			
Artesunate, powder for injection 60mg with 2 solvents (sodium chloride 5mL & sodium bicarbonate 5% 1mL)	150		To treat severe malaria
Malaria rapid test (cassette), detection <i>P. falciparum</i> , 25 determinations	6	For a total of 150 determinations	Malaria rapid diagnosis
Needle, disposable, 21 G, sterile, box of 100	3	300 needles in total	
Syringe, hypodermic, luer, 2-part, 5mL, sterile, disposable	300		
Resources			
<i>Guidelines for the Treatment of Malaria</i> . Latest edition		Included with the Malaria Module only	
<i>Management of Severe Malaria: A Practical Handbook</i> . Latest edition		Included with the Malaria Module only	
<i>Newborn Health in Humanitarian Settings: Field Guide</i> . UNICEF/Save the Children, 2018.	10		
Job aid, glucose 10%			
Job aid, Chlorhexidine digluconate, gel, 7.1%, for cord care			
Pictograph, breastfeeding support, for health workers			

Remarks

Medicines, consumables, equipment, clothes and accessories and the malaria module can be ordered separately in different quantities.

Clothes or blankets for babies should be procured locally wherever possible. Locally procure reusable diapers. Local products are often less expensive and familiar to mothers and caregivers.

Context: The Hospital Newborn Kit is for use in hospitals together with the Inter-agency Reproductive Health Kits 11 (Parts A and B) and 12. The kit contents can be used for:

- Prevention and treatment of newborn infections
- Newborn resuscitation
- Care of preterm newborns with complications at the referral level

The kit is to be used by trained health personnel: midwives, nurses, medical doctors. Kit content is applicable to most hospital settings. In addition, annex A includes a list of materials recommended for advanced newborn care, which can be ordered as needed from UNICEF Supply catalogue.

Target population and period of use: For one referral facility serving a population of 150,000 for 3 months

Assumptions: The kit contents are based on the assumptions that 1,500 deliveries will occur in 3-month period for a population of 150,000 people with crude birth rate of 40, of which 18% may be preterm and/or low birthweight and 20% of the latter may develop complications.¹⁴

Complementary RH Kit:¹⁵ The Hospital Newborn Kit is complementary to the Referral Emergency Obstetric Kit (11A, 11B, and 12) of the Inter-agency Reproductive Health Kits in Crisis Situation, which contain supplies for comprehensive emergency obstetric care, including blood transfusion.

14 The anticipated 1,500 deliveries are at the hospital level only and do not capture deliveries at the PHC and community levels.

15 The *Inter-agency Reproductive Health Kits for Crisis Situations: Manual*, which details the RH Kit contents, can be found on www.unfpa.org and www.iawg.net.

Note: Module equipment of hospital newborn kit requires but does not include adult and neonatal blood monitoring system, due to the fact, that currently available devices have a shelf life of 9 and 12 making them inappropriate for kit bundling. These can be ordered directly from supply division. Distinction must be made between 2 types of neonatal blood glucose monitoring device: Hand-held, glucose photometer HemoCue Glucose 201+, starter set. and HemoCue Glucose 201 RT set. the latter cannot be used in critically ill neonates.

For adult blood glucose meter, please as well order directly with supply division: Photometer, HemoCue Glucose

Content:

Item (Hospital)	Quantity per kit	Notes	Indication
Module 1: Medicines			
Aciclovir, sterile powder for IV solution, (as sodium salt), 250mg vial	30		To prevent herpetic conjunctivitis
Amoxicillin (as trihydrate), powder for oral suspension, 125mg/5mL, bottle, 100mL	150	To be reserved for completion of antibiotic therapy upon discharge	To treat bacterial infection
Amoxicillin, dispersible tablets, 125mg	3,000	To be reserved for completion of antibiotic therapy upon discharge	To treat bacterial infection
Ampicillin (as sodium salt), powder for IV/IM injection, 500mg vial	7,000		To treat severe infection
Benzathine benzylpenicillin, powder for IM injection 900mg, 5mL vial (equivalent to 1.2 million IU)	250		To treat asymptomatic congenital syphilis
Benzylpenicillin (as sodium or potassium salt), sterile powder for IV/IM injection, 600mg vial (equivalent to 1 million IU)	500	Use within 90 minutes of reconstitution	To treat severe bacterial infection/ pneumonia and symptomatic congenital syphilis

Item (Hospital)	Quantity per kit	Notes	Indication
Caffeine citrate 10mg/ml, oral liquid, equivalent to Caffeine anhydrous 5mg/ml, 1ml ampoule	1,250		To treat or prevent apnoea
Cefotaxime (as sodium salt) sterile powder for injection, 500mg vial	1,250		To treat bacterial infection
Ceftriaxone, sterile powder for solution, for deep IM/slow IV injection, 250mg vial	400		To treat bacterial infection
Chlorhexidine digluconate, gel, 7.1% (4% base), 10mL	1,500		To prevent sepsis and cord infections
Cholecalciferol (vitamin D3), oral drops, 10 micrograms/drop, 14,400 IU/mL (equivalent to 400 IU/drop)	1,200	Dose: for the mother, give between 1-2 drops	
Cloxacillin (as sodium salt) powder for oral liquid, 125mg/5mL, bottle, 100mL	2,500		To treat bacterial infection
Cloxacillin, sterile powder for IM/IV injection, 500mg vial	250		To treat bacterial infection
Gentamicin (as sulfate), sterile solution for IM/IV injection or IV infusion, 10mg/mL, 2mL ampoules	1,000		To treat severe bacterial infection
Glucose, sterile solution for IV infusion, 10%, 500mL.	3,000		To manage neonatal hypoglycemia
Paracetamol, rectal suppositories, 125mg	250		To manage fever
Phenobarbital, elixir, 15mg/5mL or equivalent of Phenobarbital 30mg. tablets	75		To treat seizures
Phenobarbital sodium, sterile solution for IM injection, 30mg/mL, 1mL ampoule	750		To treat neonatal seizures
Sanitizer, alcohol-based for hands, 60%, bottle with pump, 500mL	200		
Sodium chloride infusion, 0.9% 200mL.	750		Replenishment of fluids, to treat dehydration

Item (Hospital)	Quantity per kit	Notes	Indication
Sodium chloride injection 0.9%, 10mL ampoule	12,500		Flushing IV line after medication administration
Tetracycline hydrochloride eye ointment, sterile, 1%, tube 5g.	1500		To prevent neonatal conjunctivitis (chlamydia/ gonococcal)
Phytomenadione (vitamin K), sterile solution for injection, 1mg/0.5mL, 0.5mL ampoule	1,500		To prevent vitamin K deficiency bleeding (newborn hemorrhagic disease)
Water, for injection, 10mL plastic ampoule	1,500		To reconstitute medications
Zinc oxide, ointment, tube, 100g.	1,500		To prevent diaper dermatitis
Module 2: Consumables			
Cannula, IV, short, 24 G, sterile, single use (yellow)	4,500		
Cup, feeding, newborn	150		For feeding expressed breastmilk
Cup with lid	150		For storing and cleaning of a feeding cup
Gel, ultrasound, 250mL	150		
Gloves, examination, latex, powder-free, size: medium, single use, box of 100	75	7,500 gloves in total	
Infusion set, pediatric, 60 drops/mL, 120-140cm, filter 15-20 micron, needle 23 G x 1", sharp airway	3,000		
Lancet, blood, sterile, single use, pack of 200	35	7000 in total	
Needle, 19 G x 1.5" (1.1 x 40 mm), sterile, disposable, box of 100	132	13,200 in total	
Needle, 22 G x 1 1/4" (0.7x30mm) sterile, disposable, box of 100	15	1,500 in total	
Needle, 25 G x 5/8" (0.5 x 16 mm), sterile, disposable, box of 100	85	8,500 in total	

Item (Hospital)	Quantity per kit	Notes	Indication
Partograph	1,600		
Prongs, nasal, oxygen, neonate, single use	100		
Stopcock, 3-way, sterile, disposable	625		
Swab, anti-septic, for skin preparation, 6 cm x 3 cm, box of 100	100	10,000 swabs in total	
Syringe, hypodermic, luer, 2-part, 10mL, sterile, disposable	500		
Syringe, hypodermic, luer, 2-part, 5mL, sterile, disposable	13,200		
Syringe, hypodermic, luer, 3-part, 1mL, sterile, disposable	3,500		
Tape, medical adhesive, 2.5cm x 5m, roll	1,000		
Test strip, rapid plasma reagin (RPR), for syphilis	1,500	Testing of mothers	
Test strip, for urine, multi-purpose (ketones, Ph, blood, glucose, protein), 10 detections	3,600	Testing of mothers	
Tube, feeding (nasogastric), CH 5, 40cm, disposable, sterile	150		
Tube, feeding (nasogastric), CH 6, 125cm, disposable, sterile	500		
Tube, feeding (nasogastric), CH 8, 40cm, disposable, sterile	400		
Module 3: Medical Equipment			
Doppler apparatus, pocket-type	15		To monitor foetal heartbeat
Flowsplitter, for oxygen concentrator	10		

Item (Hospital)	Quantity per kit	Notes	Indication
Infusion pump, with accessories	20		
Light, examination, floor-type, flexible neck, 110-220V lamp, on castors	25		
Oxygen blender	15		
Oxygen concentrator set, flowrate up to 5L/m, visual/audible alarms	5		Oxygen therapy
Phototherapy unit, overhead, mobile, with accessories	6		Phototherapy
Protector, eye, neonatal phototherapy	6		Eye protection during phototherapy
Protector, gonad, neonatal phototherapy	50		To protect against chromatic radiant damage
Pulse oximeter, portable, battery operated, wrap-around, with accessories	5		
Resuscitation bag, with mask	25	Includes 2 mask sizes: preterm, newborn, and infant up to 3 months (up to 10 kg)	
Pump, suction, foot-operated	2		
Resuscitator, hand-operated, neonate, set	2		
Resuscitator, hand-operated child, set	2		
Airway guedel, sterile, single use, size 00,	2		
Airway guedel, sterile, single use, size 0	2		
Airway guedel, sterile, single use, size 1	2		
Airway guedel, sterile, single use, size 2			

Item (Hospital)	Quantity per kit	Notes	Indication
Airway guedel, sterile, single use, size 3	2		
Airway guedel, sterile, single use, size 4	2		
Scale, baby, mechanical, 10kg	15		
Stand, for IV, 2 hooks on 5 castors, adjustable from 115 - 210cm, epoxy-coated steel	50		
Stethoscope, neonatal	10		
Suction device, reusable	50		To remove fluids from a newborn's nasal and oral cavities
Tape measure, tailors, fibreglass, 1.5m	100		
Thermometer, clinical, digital, 32 - 43° C	50		
Timer, for respiration	50		To determine respiration rate when acute respiratory infection is suspected
Module 4: Clothes and accessories			
Blanket, baby	100		
Cap, newborn, cotton	100		
Socks, baby, size newborn, cotton	100		
Towel, cotton, approx. 60 x 80cm	100		
Romper suit, newborn, cotton	100		
Wrap, for baby carrying (kangaroo wrap), cotton, approx. 50cm x 3m	100		
Module 5: Malaria			
Artesunate powder for injection, 60mg with 2 solvents (sodium chloride 5mL & sodium bicarbonate 5% 1mL)	100		For treatment of severe Malaria

Item (Hospital)	Quantity per kit	Notes	Indication
Malaria rapid test (cassette), detection P. falciparum, 25 determinations	6	For a total of 150 determinations	For rapid diagnosis of Malaria
Needle, disposable, 21 G, sterile, box of 100	3	300 needles in total	
Syringe, hypodermic, luer, 2-part, 5mL, sterile, disposable	300		
Resources			
<i>Essential Care for Every Baby Action Plan, Provider Guide.</i> AAP, 2014.	10		
<i>Guidelines for the Treatment of Malaria.</i> Third edition WHO, 2015.	10	Included with the Malaria Module only	
<i>Management of Severe Malaria: A Practical Handbook.</i> Third edition. WHO, 2013.	10	Included with the Malaria Module only	
<i>Pictograph Breastfeeding support, for health workers</i>	10		
<i>Newborn Health in Humanitarian Settings: Field Guide.</i> UNICEF/Save the Children, 2018.	10		
<i>Pocket Book of Hospital Care for Children.</i> Second edition. WHO, 2013.	10		

Remarks

Medicines, consumables, equipment, clothing and accessories and the malaria module can be ordered separately in different quantities.

Clothes or blankets for babies should be procured locally wherever possible. Locally procure reusable diapers. Local products are often less expensive and familiar to mothers and caregivers.

Advanced Newborn Care

Advanced newborn care is difficult to establish in humanitarian crises situations but may be feasible in some settings. Adequate infrastructure as well as specialized, dedicated health workers are needed.

Items to be considered for advanced newborn care include:

1. Caffeine citrate, sterile solution for IV injection
2. Dexamethasone, injectable
3. Surfactant
4. Blades, for laryngoscope (0, 1)
5. Infusion pump, with accessories
6. Laryngoscope, neonate, set
7. Tubes, capillary, for centrifuge
8. Centrifuge, PCV
9. CPAP, bubble or standard
10. Incubator
11. Photometer

These can be ordered from the UNICEF supply catalogue: <https://supply.unicef.org/> Only order items if the hospital is sufficiently equipped with a dedicated space for advanced neonatal care and skilled providers trained in advanced neonatal care.

Sample Order for a Population of 20,000 People

Overview

1. Number of affected people: 20,000
2. Facilities: 1 primary health centre located nearby and 1 referral hospital 20 km away. Both are poorly equipped, and the hospital does not have dedicated space for advanced newborn care.
3. Personnel: Health centre has 1 medical doctor, 2 trained nurses, and has trained a number of community health workers. The hospital has doctors and nurses, but none are specialized in neonatal care.
4. Observations: Not a malaria-endemic area. Clothes, blankets and accessories can be locally procured.

Order

Item	Quantity
Community Newborn Kit	
Part B: Community Health Worker Kit	2
Clinic/Primary Health Facility Newborn Kit	
Medicines	1
Consumables	1
Equipment	1
Clothing and accessories	0
Malaria Module	0
Hospital Newborn Kit	
Medicines	1
Consumables	1
Equipment	1
Clothing and accessories	0
Malaria Module	0

Reminder

The Community Newborn Kit (Part A and B) is sufficient for the estimated needs of 10,000 people for 3 months.

The Clinic/Primary Health Facility Newborn Kit is sufficient for the estimated needs of 30,000 people for 3 months.

The Hospital Newborn Kit is sufficient for the estimated needs of 150,000 people for 3 months.

Assess malaria endemicity and locally procure clothes and blankets where possible.

General

- Inter-agency Working Group on Reproductive Health in Crises. *Inter-agency Field Manual on Sexual and Reproductive Health in Humanitarian Settings*. IAWG, 2018. www.iawg.net
- Inter-agency Working Group on Reproductive Health in Crises. *Inter-agency Reproductive Health Kits for Crisis Situations*. 6th edition. UNFPA, 2018. www.unfpa.org
- Inter-agency Working Group on Reproductive Health in Crises. *Newborn Health in Humanitarian Settings: Field Guide*. Save the Children/UNICEF, 2018. www.iawg.net
- UNICEF. *Midwifery Kit*. UNICEF, 2016. <https://supply.unicef.org/s9902217.html> (under Medical Kits)
- WHO. *Interagency Emergency Health Kit 2011: Medicines and Medical Devices Needed to Treat 10,000 people for Approximately 3 Months*. WHO, 2011. www.who.int/medicines/publications/emergencyhealthkit2011/en/
- WHO. *Recommendations on Newborn Health. Guidelines Approved by the WHO Guidelines Review Committee*. WHO, 2017. http://www.who.int/maternal_child_adolescent/documents/newborn-health-recommendations/en/
- WHO. *Pocket Book of Hospital Care for Children*. Second edition. WHO, 2013. http://www.who.int/maternal_child_adolescent/documents/9241546700/en/
- WHO. *WHO Guideline on Syphilis Screening and Treatment for Pregnant Women*. WHO, 2017. <http://www.who.int/reproductivehealth/publications/rtis/syphilis-ANC-screenandtreat-guidelines/en/>
- WHO. *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience*. WHO, 2016. http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/anc-positive-pregnancy-experience/en/

Pharmacy Management

- JSI/WHO. *Guidelines for the Storage of Essential Medicines and Other Health Commodities*. John Snow, Inc./DELIVER in collaboration with WHO, 2003. <http://apps.who.int/medicinedocs/pdf/s4885e/s4885e.pdf>
- PATH. *Procurement Capacity Toolkit, Tools and Resources for Procurement of Reproductive Health Supplies*. PATH, 2009. <http://www.path.org/publications/detail.php?i=1652>
- UNHCR. *UNHCR Drug Management Manual 2006. Policies, Guidelines, UNHCR List of Essential Drugs*. UNHCR, 2006. <http://apps.who.int/medicinedocs/documents/s19720en/s19720en.pdf>
- USAID. *Logistics Handbook: A Practical Guide for Supply Chain Managers in Family Planning and Health Programs*. USAID/DELIVER. 2009. https://www.k4health.org/sites/default/files/The%20Logistics%20Handbook_JSI.pdf

Medicines

- UNHCR. *Essential Medicines and Medical Supplies Policy and Guidance 2013*. UNHCR, 2013. www.unhcr.org/527baab09.html
- UNICEF, WHO. *Sources and Prices of Selected Medicines for Children*. UNICEF/WHO, April 2010. [https://www.unicef.org/supply/files/SOURCES_AND_PRICES_2010\(2\).pdf](https://www.unicef.org/supply/files/SOURCES_AND_PRICES_2010(2).pdf)
- WHO. *Priority Life-saving Medicines for Women and Children 2012: Improving Health and Saving Lives by Ensuring access to Priority Medicines*. WHO, May 2012. http://www.who.int/medicines/publications/emp_mar2012.1/en/
- WHO. *WHO Essential Medicines List – Adults (18th edition) and Children (4th edition)*, WHO, 2013. www.who.int/medicines/publications/essentialmedicines/en/

International Medical Corps
Médecins Sans Frontières (MSF)
United Nations High Commissioner for Refugees (UNHCR)
United Nations Population Fund (UNFPA)
United Nations Children’s Fund (UNICEF)
Save the Children
World Health Organization (WHO)
U.S. Centers for Disease Control and Prevention (CDC)

