

Medicines and Diagnostics for Community Case Management: Options for Selection

UNICEF Supply Division

2nd Edition, July 2016

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INTRODUCTION

The selection of medicines and diagnostics for use in Integrated Community Case Management (iCCM) programmes must take into consideration the needs of the target population (children), the interaction between the caregiver and the community health worker and the supply chain that will support interventions. Through the World Health Organization (WHO)/UNICEF Better Medicines for Children project, the UN Commission on Life Saving Commodities (UNoLSC): and other initiatives, UNICEF has advocated for the development and introduction of improved products to better fit programmes, some of which are relevant for iCCM. These are included in UNICEF's product range.

This briefing note details the iCCM products available through UNICEF and provides key references for further information.

1. AVAILABLE PRODUCTS

Please visit the [UNICEF Supply Catalogue](#) for further information about the products listed below.

a. Diarrhoea

Treatment:

WHO/UNICEF recommends oral rehydration and 1014 days of zinc supplementation in the clinical management of diarrhoea in children. Bundles of ORS and zinc have been successfully piloted by organizations such as Population Services International (PSI), and are now being promoted as mainstream products for both public and private sector markets.

UNICEF offers a range of ORS and zinc presentations, both separately and in bundles (co-packs). Active sourcing efforts by UNICEF has yielded additional suppliers of ORS/zinc co-packs from Africa in 2015 and there are plans for more suppliers coming on-board in 2016.

Short Description	UNICEF Cat. No.	Unit Cost (US\$) ¹
ORS low osm. 20.5g/1L CAR/100 (Non-flavoured)	S1561120	6.33
ORS low osm. 20.5g/1L CAR/100 (flavoured)	S1561130	7.22
Zinc 20mg scored tablets/PAC-100 (Blisters of 10x10)	S1580020	1.27–2.51
ORS (2x 1L) + Zinc co-pack (Each Co-pack contains 2 sachets of flavoured ORS/1 + 1 blister of 10 scored tablets of Zinc 20mg and a patient information leaflet)	S1580022	0.50–0.58
ORS (4x 0.5L) + Zinc co-pack (Each Co-pack contains 4 sachets of flavoured ORS/500ml +1 blister of 10 scored tablets of Zinc 20mg and a patient information leaflet)	S1580021	0.52–0.58

ORS one litre and 500ml is also available in packs of 10x100 as per table below

Short Description	UNICEF Cat. No.	Unit Cost (USD) ¹
ORS low osm. 20.5g/1L CAR/10x100 (Non-flavoured)	S1561121	62.65

¹ Prices are indicative. Ranges reflect a variety of prices in contracts.

ORS low osm. 20.5g/1L CAR/10x100 (Flavoured)	S1561131	77.79
ORS low osm. 10.2g/0.5L CAR/10x100 (Non-flavoured)	S1561140	60.55
ORS low osm. 10.2g/0.5L CAR/10x100 (Flavoured)	S1561132	75.65

Useful references:

- UNoLSC ORS and zinc technical reference team brief:
www.everywomaneverychild.org/images/content/files/trt/ZincORSAmoxicillin_Final.pdf
- Zinc Task Force: www.zinctaskforce.org
- CCM Central contains a wide range of recent documents on ORS and Zinc.
<http://ccmcentral.com/>

b. Malaria

- **Prevention:** *Long lasting insecticide treated nets (LLINs):* Sleeping under a net treated with an effective insecticide can reduce contact between mosquitoes and humans by providing both a physical barrier and an insecticidal effect. Population-wide protection can result in the large-scale killing of mosquitoes. It is recommended that malaria endemic countries protect all those at risk with LLINs or, where appropriate, indoor residual spraying (IRS).
- *Seasonal malaria chemoprevention:* In areas with highly seasonal malaria transmission in the sub-Saharan region of Africa, seasonal malaria chemoprevention (SMC) with monthly Amodiaquine + Sulfadoxine/Pyrimethamine (SP) for all children aged less than 6 years during each transmission season is recommended.

Short Description	UNICEF Cat. No.	Unit Cost(US\$)
LLIN, 190x180x150cm (LxWxH) Rectangular polyethylene mosquito net (bed net), 110–150 denier, treated with WHOPEs recommended insecticide. Colours: White/blue/green.	S0000986	2.09
LLIN, 190x180x150 (LxWxH) Rectangular polyester mosquito net (bed net), 75-100 denier, treated with WHOPEs recommended insecticide. Colours: White/blue/green	S0000982	1.99
Amodiaquine 150mg+ Sulfadoxine/Pyrimethamine 500/25mg tab/3+1/PAC-25	S1532005	6.875
Amodiaquine 75mg+ Sulfadoxine/Pyrimethamine 250/12.5mg tab/3+1/PAC-25	S1532006	6.125

Diagnosis:

Rapid Diagnostic Tests (RDTs) are the recommended method of diagnosis of malaria at all levels of health care, including at the community. A variety of RDTs are available and are designed to detect *Plasmodium falciparum* (Pf), specific species or combination of species (Pan). RDTs for detection of Pf cost approximately US\$ 0.45 per test, while those for detection of Pf/Pan species cost around US\$ 0.60 per test. It is important to note that tests must be provided in the full box (between 25 and 30 tests) to ensure that buffer and lancets accompany the test devices.

Treatment:

The main Artemisinin-based Combination Therapies (ACTs) for children under 5 years of age are listed below. They are packed in presentations that allow for easy dispensing and for use in paediatric populations.

Rectal artesunate for pre-referral management of severe malaria cases is currently available in two strengths – 50mg and 200mg, neither of which fit well with iCCM treatment guidelines. The development of 100mg rectal artesunate is ongoing. Two manufacturers submitted their products to WHO prequalification programme and it is anticipated that Artesunate 100mg rectal capsules should be prequalified in 2016/2017.

Short Description	UNICEF Cat. No.	Unit Cost (US\$) ¹
Malaria rapid diagnostic tests-RDT Pf only	Various	5.50–18.40
Malaria rapid diagnostic tests-RDT Pf and Pan	Various	4.60–15.00
Malaria rapid diagnostic tests-RDT Pf, Pv/ Pan	Various	6.25–15.00
Container, sharps, leakproof, 5L, complying with ISO 23907, box/20	U48400^^	2.50
Artemether 20mg+Lumefantrine 120mg dispersible tablets/6/PAC-30 (30 treatments for children 5-14 kg, [< 3 years old])	S1300074	11.00–15.00
Artemether 20mg+Lumefantrine 120mg dispersible tablets/12/PAC-30 (30 treatments for children 15-24 kg [3-8 years old])	S1300075	21.00–28.00
Amodiaquine 67.5mg+Artesunate 25mg tablets/3/PAC-25* (25 treatments for children 5-11 months)	S1300121	4.02–6.75
Amodiaquine 135mg+Artesunate 50mg tablets/3/PAC-25* (25 treatments for children 1-6 years)	S1300101	5.60–8.25
Artesunate 50mg rectal caps/6/PAC-1, perforated tear off blisters	S1300070	1.50
Artesunate 100mg rectal caps/PAC-2 & PAC-6##	Undergoing WHO prequalification	

- ^^The leak-proof safety box should be available towards the end of 2016.

- (*) For very young children who cannot swallow Amodiaquine+Artesunate tablets whole, the tablets can be crushed or dispersed in water before oral administration.

- # sourcing constraints. Contact Supply Division for any updates.

- ## Product under WHO prequalification assessment. Contact Supply Division for updates.

Useful references:

How to use the Malaria Rapid test-a useful Job

Aid:http://www2.wpro.who.int/NR/rdonlyres/D76666F7-5BF8-453F-9DA8-3EB4A9056CD6/0/GenericPfJobAid_Final_lowRES.pdf

- WHO, Good Practices for Selecting and Procuring Rapid Diagnostic Tests for Malaria, 2011: <http://www.who.int/malaria/publications/atoz/9789241501125/en/>
- WHO, Information on RDTs and Results of Testing:www.who.int/malaria/areas/diagnosis/rapid_diagnostic_tests/en/
- FIND, Malaria RDT Implementation Guide, 2013:http://www.finddiagnostics.org/resource-centre/reports_brochures/malaria_rdt_implementation_guide_june2013
- UNITAID. Malaria Diagnostics Market Landscape Update, November 2013:http://www.unitaid.eu/images/projects/malaria/UNITAID_2013_Update_Malaria_Diagnostics_Market_Landscape.pdf

c. Pneumonia

Diagnosis:

Guidelines for the diagnosis of pneumonia at community level include determining the respiratory rate by counting breaths over time. This rate can be assessed through a variety of methods, including using a stop-watch, a dedicated Acute Respiratory Infection (ARI) Timer or counting beads. This is an area where innovative solutions are being pursued to develop user-friendly and affordable products. UNICEF offers a simple ARI Timer that gives a signal after 30 and 60 seconds. UNICEF is now working towards the development of a new innovative device – ARIDA – to aid in determining the respiratory rate in children under 5 years of age with pneumonia.

Treatment:

Integrated Management of Childhood Illness (IMCI) guidelines for the treatment of pneumonia in the community advocate for the use of Amoxicillin 250 mg dispersible tablets (DT) as the basis for simplified treatment. Significant work has been done to bring manufacturers on board, and the UNCoLSC has supported the development of quality amoxicillin sources, the inclusion of Amoxicillin DT in country national guidelines, and the development of dispensing job aids. Amoxicillin 250 mg DT (and 125 mg DT) offer an alternative to the powder for oral suspension, which are easy to use by patients and have reduced cost and weight/volumes. They also have the potential to enhance treatment adherence.

In 2015, UNICEF procured over 170 million blisters of 10 of Amoxicillin DT. Although the registration Amoxicillin DT is not yet widespread, UNICEF continues to advocate for registration in countries ready to implement new IMCI guidelines. National regulatory authorities and manufacturers must work together to ensure compliance with local regulatory requirements. UNICEF has also worked with the PATH to develop innovative dispensing solutions for amoxicillin that countries can use according to their own

systems and preferences. Amoxicillin DT is offered in a variety of pack sizes, but the packs of 100 (10x10 blisters) is the most commonly procured.

Short Description	UNICEF Cat. No.	Unit Cost (US\$) ¹
Amoxicillin powder for oral suspension 125mg/5ml/BOT-100ml	S1505046	0.46
Amoxicillin 250mg dispersible tablets /PAC-10	S1505045	0.40
Amoxicillin 250mg dispersible tablets/PAC-20	S1505044	
Amoxicillin 250mg dispersible tablets/PAC-100	S1505043	1.50–2.80
Amoxicillin 125mg dispersible tablets/PAC-100	S1505042	1.23

Useful references:

- UNICEF, Strengthening Pneumonia Diagnosis Tools for Low-Resource Settings:
<http://www.innovateforchildren.org/projects/strengthening-pneumonia-diagnostic-tools-low-resource-settings>
- UNICEF, Amoxicillin DT Product Profile and Market Update, July 2013:
http://www.unicef.org/supply/index_69800.html
- UNICEF, rethinking the packaging of Amoxicillin:
<http://www.unicefstories.org/2015/12/23/rethinking-the-packaging-of-amoxicillin-worldwide/>
- WHO, Revised WHO Classification and Treatment of Childhood Pneumonia at Health Facilities. Implications for Policy and Implementation, 2014:
http://apps.who.int/iris/bitstream/10665/137331/1/WHO_FWC_MCA_14.8_eng.pdf?ua=1

d. Other Products with Application in iCCM

i. Fever

Diagnosis:

A thermometer can confirm the scale of fever in a child and guide the need to manage it.

Treatment:

Among the existing medicines used to manage fever, paracetamol is widely accepted for paediatric use. Paracetamol is usually available as an oral liquid or adult tablets of 500 mg. However, lower strength dispersible tablets that offer easier dosing and patient use, lower cost and reduced potential for misuse and waste, are available through UNICEF.

Short Description	UNICEF Cat. No.	Unit Cost (US\$) ¹
Thermometer,clinical,digital,32-43°C	S0481053	1.22–1.75
Paracetamol 125mg/5ml oral solution/Bottle of 60ml	S1555990	0.53
Paracetamol 100mg dispersible tablets/PAC-100	S1555979	0.96
Paracetamol 250mg dispersible tablets/PAC-100	S1555966	2.39

ii. Disinfection and Cord Care

Chlorhexidine is a common disinfectant that has been included in kits for community health workers for general use. The 2013 edition of the WHO Essential Medicines List for Children included Chlorhexidine 4% solution for cord care, and there is wide interest in introducing this simple intervention to reduce infection in newborns. For general disinfection, UNICEF offers 100ml and 1 litre bottles. For cord care, UNICEF offers a solution in small bottles for home use, and is working with manufacturers to expand the sources and expand the range to include a gel.

Short Description	UNICEF Cat. No.	Unit Cost (USD) ¹
Chlorhexidine digluconate 7.1% w/v sol for cord care/BOT-10ml (Equivalent to Chlorhexidine 4%)	S1531515	0.36
Chlorhexidine digluconate.7.1% Sol.Cord.c. BOT/30ml	S1531043	*
Chlorhexidine digluconate.7.1% Gel Sachet 3g PAC/7	S1531041	*
Chlorhexidine digluconate.7.1% Gel Cord.c.TBE/3g	S1531040	*
Chlorhexidine digluconate.7.1% GeL Cord .c.TBE/20G	S1531042	*
Chlorhexidine digluconate.7.1% Gel Cord.c.TBE/10G	S1531511	*
Chlorhexidine conc. sol. 5%/BOT-100ml	S1531510	0.60
Chlorhexidine conc. sol. 5%/BOT-1000ml	S1531505	2.46

* Contact UNICEF Supply Division for prices

iii. Severe Acute Malnutrition

Diagnosis:

Community health workers provide a valuable service monitoring the nutrition status of children. The main tool for assessing nutrition status is the well-known Mid-Upper Arm Circumference (MUAC) tape.

Treatment:

Ready-to-Use Therapeutic Food (RUTF) paste is a high energy fortified food used for the treatment of Severe Acute Malnutrition (SAM).

Short Description	UNICEF Cat. No.	Unit Cost (USD) ¹
MUAC 11.5 Red Child/PAC-50MUAC tape, Child 11.5 Red/PAC-50	S0145620	3.39 USD
Therapeutic spread, sachet 92g/CAR-150*(RUTF)	S0000240	50.00 USD

(*) Product can be made available to community health workers as per national policy and guidelines.

Useful references:

- Community-based management of SAM. A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund, May 2007

http://www.who.int/nutrition/topics/Statement_community_based_mal_sev_acute_eng.pdf?ua=1

2. CUSTOMIZATION

UNICEF can work with country programmes to customize or differentiate products to meet specific country requirements, such as colour coding. The additional product cost and lead time associated with customization should be factored into budgets and supply plans.

3. FURTHER INFORMATION

For more information on the products supplied by UNICEF or to find out how UNICEF can work with you to make products available in programme settings, please contact the UNICEF Country Office in your location: <http://www.unicef.org/infobycountry/> or countrysupport@unicef.org. Further information can be found in the UNICEF Supply website at www.unicef.org/supply.