



Ministry of Public Health  
Deputy Minister Office for Health Care Services Provision  
Reproductive Health Directorate

## **Guideline for Introduction of 7.1% Chlorhexidine Digluconate for Umbilical Cord Care**

---

Kabul, Afghanistan

November 2015



## CONTENTS

|   |    |
|---|----|
| Acronyms and Abbreviations .....  | iv |
| Acknowledgments.....  | v  |
| Vision and Goals.....   | 1  |
| Strategic Goals .....   | 1  |
| Background.....   | 2  |
| Cord Care Practices in Afghanistan.....   | 4  |
| Policy Development.....   | 5  |
| Stakeholders' Group Meeting .....   | 5  |
| Programmatic Guidance.....  | 6  |
| Product Registration.....   | 8  |
| Update National Essential Drug List and National Licensed Drug List .....                                 | 8  |
| Update Standard Treatment Guidelines .....  | 8  |
| Delivery through Health System.....   | 8  |
| Phasing of Introduction .....   | 8  |
| Supply Planning: Quantification, Procurement, and Distribution .....                                      | 10 |
| Training of Service Providers .....   | 11 |
| Public Sector .....   | 11 |
| Private Sector .....  | 11 |
| Quality Assurance, Monitoring and Evaluation, Logistics Management Information System<br>Integration..... | 12 |
| BCC Campaign and IEC Material Development and Campaign.....   | 13 |
| Overview of Strategic Approaches for Demand Generation.....   | 13 |
| Product Availability .....  | 14 |

## ACRONYMS AND ABBREVIATIONS

|        |   |
|--------|---|
| AMS    | Afghanistan Mortality Survey              |
| BCC    | behavior change communication             |
| BPHS   | Basic Package of Health Services          |
| CHW    | Community health workers                  |
| EML    | Essential medicines list                  |
| ENAP   | Every Newborn Action Plan                 |
| EPHS   | Essential Package for Hospital Services   |
| IEC    | information, education, and communication |
| LML    | Licensed medicine list                    |
| MOPH   | Ministry of Public Health                 |
| RH     | Reproductive Health                       |
| TBA    | Traditional birth attendant               |
| UNICEF | United Nations Children's Fund            |
| WHO    | World Health Organization                 |

## ACKNOWLEDGMENTS

The Ministry of Public Health of the Islamic Republic of Afghanistan is committed to accelerating the reduction of maternal and neonatal deaths and improving the quality of maternal and neonatal health at both facility and community levels.

The Reproductive Health Directorate plans to introduce the use of chlorhexidine 7.1% for newborn cord care at birth and has initiated the development of a guideline for this initiative in Afghanistan with the support of Dr. Maheen Malik from the Systems for Improved Access to Pharmaceuticals and Services Program, implemented by Management Sciences for Health under the terms of cooperative agreement number AID-OAA-A-11-00021, and the Chlorhexidine Working Group, which is an international collaboration of organizations committed to advancing the use of 7.1% chlorhexidine digluconate (delivering 4% chlorhexidine) for umbilical cord care through advocacy and technical assistance. When effectively operationalized, these guidelines will further strengthen the system to provide this evidence-based intervention for improving of neonatal health and will contribute to the reduction of newborn mortality in Afghanistan.

I would like to thank the Reproductive Health Directorate (RHD) for taking the lead in this initiative and the members of the consultative workshop (M&E Directorate, CAH Department, UNICEF, USAID, Management Sciences for Health, AKDN, Save The Children-Himayat Project, and all other stakeholders) for their contribution in developing this guideline, and I am confident that the RHD and its many partners as mentioned above will coordinate their efforts in implementing this new high-impact intervention and will succeed in developing a strong partnership for improving the quality of health care services and improving the neonatal health in Afghanistan.

Dr. Najia Tariq  
Deputy Minister for Health  
Care Services Provision  
Ministry of Public Health



## **VISION AND GOALS**

The purpose of this document is to provide guidance to program managers and all providers of maternal and newborn health services from the Ministry of Public Health (MOPH) at the national level as well as other organizations on the actions and factors to consider in expanding access to 7.1% chlorhexidine digluconate for umbilical cord care. The document aims to create a positive environment by harmonizing and aligning activities with the current health system in Afghanistan to attain smooth and effective operationalization to effectively introduce the new product in a systematic way.

### **Strategic Goals**

- Goal 1: Increase awareness and use of 7.1% chlorhexidine digluconate for umbilical cord care as part of essential newborn care by policy makers, birth attendants, and families
- Goal 2: Establish a sustainable supply-side strategy to support the demand for 7.1% chlorhexidine digluconate
- Goal 3: Generate increased demand at the country level to accelerate national scale-up
- Goal 4: Advocate for inclusion of chlorhexidine for umbilical cord care in country policies

## BACKGROUND

Decreasing maternal, newborn, and child health mortality is still a major concern for most countries, and efforts are under way to achieve the desired goals through both global and in-country efforts. However, many countries are still lagging far behind. Global initiatives, such as Acting on the Call, Call to Action, the Every Newborn Action Plan, and Helping Babies Breathe, are all designed and have a common goal of improving maternal, neonatal, and child health outcomes. These global leadership and advocacy initiatives aim at making the essential maternal, newborn, and child health interventions and lifesaving, but often underused, commodities and services accessible to those who most need it across the continuum of care. Alarming, a large proportion of maternal newborn deaths could have been avoided if women, newborns, and children had access to adequate health services and products. The UN Commission on Life-Saving Commodities for Women and Children has selected 13 priority medicines: oxytocin, magnesium sulfate, misoprostol, 7.1% chlorhexidine digluconate, newborn resuscitation devices, injectable antibiotics, antenatal corticosteroids, amoxicillin, oral rehydration salts, zinc, female condoms, contraceptive implants, and emergency contraceptive pills.

A large proportion of maternal and neonatal deaths in Afghanistan occur during the 24 hours following delivery. In addition, the first two days following delivery are critical for monitoring complications arising from the delivery. According to the Afghanistan Mortality Survey (AMS 2010), the leading causes of death in children under five years of age are acute respiratory infections and other severe infections, each of which accounts for about 20 percent of under-five deaths in Afghanistan; 26.4% of neonatal deaths are caused by infection. Despite strong advances in decreasing child mortality in Afghanistan, about 44% of deaths in children under five years of age occur during the newborn period, the first 28 days of life.<sup>1</sup> The leading causes of newborn death include acute respiratory infections and other infections (38%), perinatal related disorders (16%), and preterm/low birthweight (12%).

In the recent Call to Action (May 2015), the MOPH has emphasized the need to refocus efforts on reducing newborn mortality, as noted in the “Kabul Declaration for Maternal and Child Health: Renewing Commitment to Reducing Preventable Deaths among Women and Children.” Specifically, the MOPH commits to—

*Increase essential and emergency care of sick newborns to at least 50% by 2020 (with special focus on case management of severe neonatal infection, kangaroo mother care, neonatal resuscitation, full supportive care for prematurity, use of chlorhexidine and postnatal care)*

Nearly one in three births (32%) takes place in a health facility: 27 percent are delivered in a public sector health facility (hospitals and health centers), and 5 percent are delivered in a private facility. More than two of three births (67 percent) take place at home. In the five years preceding the AMS, only 28 percent of women received postnatal care following their last birth.

---

<sup>1</sup> UNICEF Data & Analytics, Division of Policy and Strategy, 2013 Statistical Snapshot Child Mortality, [http://www.childinfo.org/files/Child\\_Mortality\\_Stat\\_Snapshot\\_e-version\\_Sep\\_17.pdf](http://www.childinfo.org/files/Child_Mortality_Stat_Snapshot_e-version_Sep_17.pdf).

Nearly one in five women received postnatal care within four hours of delivery, more than one in five (22 percent) received care within the first 24 hours, and 2 percent of women were seen two days following delivery.

It is widely known that hygienic conditions for home births are a challenge. There are also data demonstrating that hygienic conditions in hospitals are equally challenging, including hospital nursery outbreaks of highly resistant gram-negative bacteria.<sup>2</sup> Chlorhexidine has a *significant* residual antiseptic effect that inhibits bacterial growth for 24 to 48 hours after application. Whether the birth occurs at home or in a facility, chlorhexidine application at the time of birth provides continued protection during the critical first two days, when risk is greatest for acquiring sepsis caused by bacterial exposure through the cord stump.

---

<sup>2</sup>Zaidi AKM, Huskins WC, Thaver D, et al. Hospital-acquired neonatal infections in developing countries. *Lancet* 2005;365(9465):1175–88.

## CORD CARE PRACTICES IN AFGHANISTAN

For many years, newborn cord care in health facilities was based on World Health Organization (WHO) guidance (2002) to keep the cord stump clean and dry and to not apply anything to the cord. This advice is noted in all newborn care training materials and clinical guidelines; however, no data or information is known on actual practice in the facilities. Save the Children conducted a qualitative research study on household newborn care in rural Afghanistan in 2008. The report indicates following practices for cord care.

The traditional birth attendant (TBA) commonly ties the umbilical cord once, about four finger-widths from the umbilicus, with a clean white thread and then cuts with a new razor blade (in some cases, the blade is not necessarily new or clean), though household scissors may also be used. Sometimes, the mother herself or grandmother is expected to cut the cord because this procedure confers heavy spiritual responsibilities on the cord-cutter. In both Faryab and Sar-iPul, many women cut the cord on a rubber shoe; in Shamali, the cord is sometimes cut on something made of silver, such as a coin or necklace.

Among both ethnic groups in Shamali, the norm is to put nothing on the umbilical stump, but even there, a few women say that a substance (powder) is applied to the stump. In Bamiyan, a little soot from a cooking pot is mixed with oil and placed on the stump to stop bleeding, but if there is no bleeding, nothing is applied. In all other locations, applying a drying or cosmetic substance is the norm. Some Pashtun TBAs put “black oil” they have purchased in the bazaar on the umbilical stump. Commonly, black powder (kohl) is put on the umbilical stump of a male infant so that his lips will be black in later life, while rouge or *surkhi* (lipstick) is put on a girl’s stump so she will have red lips. Some Turkmen grandmothers said ashes from burned cotton should be applied to the stump in the case of bleeding. In some cases, drying substances such as talcum powder or local herbs (*sorkhat*) are applied. In one focus group discussion, grandmothers said that if a drying substance were not applied, then the stump would become soft and develop a noxious odor.<sup>3</sup>

The survey provides evidence that an intervention to avoid newborn-care sepsis as a result of cord infection at home birth is required.

---

<sup>3</sup> Save the Children US, Household care of the newborn: A qualitative research initiative in rural Afghanistan Unpublished report submitted to Afghanistan Ministry of Public Health; August 5, 2008.

## POLICY DEVELOPMENT

In January 2014, the WHO provided the following recommendation on umbilical cord care:

*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 1,000 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.<sup>4</sup>*

Recently, the MOPH conducted a landscape analysis of the existing intervention in the Essential Package for Hospital Services (EPHS) and Basic Package of Health Services (BPHS). The subcommittee also reviewed interventions that are not being used for feasibility, cost, impact, and social acceptability and scalability and accordingly recommended them for inclusion in the EPHS and BPHS.

In reviewing feasibility, acceptability, and scalability of the new intervention, most respondents were of the opinion that chlorhexidine is a very cost-effective intervention (65% respondents) requiring low human resources investment (67% respondents). The survey further strengthens the view that introduction of 7.1% chlorhexidine digluconate is among the key interventions that should be implemented to bring about a significant decrease in the neonatal mortality rate.

The Afghanistan Every Newborn Action Plan (ENAP) also includes 7.1% chlorhexidine digluconate as an intervention for providing newborn care.

### Stakeholders' Group Meeting

Under MOPH leadership, a meeting of stakeholders was organized on May 17, 2015. About 40 participants attended the meeting, which had representation of staff from MOPH, donor agencies, implementing partners, and neonatal care specialists. The group divided in four subgroups and worked on the following four components—

- Programmatic guidance
- Development of training materials
- Development of information, education, communication (IEC) and behavior change communication (BCC) materials
- Monitoring and evaluation

After extensive deliberations among the participants, the groups collectively agreed on including chlorhexidine for umbilical cord care, and the decisions have guided the finalization of the introduction guideline.

---

<sup>4</sup> World Health Organization. *WHO Recommendations on Postnatal Care of the Mother and Newborn*. 2013. [http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/97603/1/9789241506649_eng.pdf)

## PROGRAMMATIC GUIDANCE

These programmatic guidelines support of the following goals and objectives:

### **Goal 1: Increase awareness and use of 7.1% chlorhexidine digluconate for umbilical cord care as part of essential newborn care by health care providers, birth attendants, and families**

**Objective:** Create an enabling policy and regulatory environment to increase introduction and uptake of a quality 7.1% chlorhexidine digluconate product for umbilical cord care at country level

- Prioritize interventions to provinces where 7.1% chlorhexidine digluconate might show greatest health impact
- Develop procurement guidance for government tenders and create a brief to describe differences among dosage forms
- Provide guidance around appropriate product packaging

### **Goal 2: Establish sustainable supply-side strategy to support the demand for 7.1% chlorhexidine digluconate**

**Objective:** Establish local or regional production capacity for an affordable and quality product to increase the availability of and access to 7.1% chlorhexidine digluconate

- Generate a realistic dialogue within the country about the benefits and risks of local production
- Improve in-country technical and regulatory capacity to produce and market quality 7.1% chlorhexidine digluconate
- Support country-led initiatives to manufacture 7.1% chlorhexidine digluconate for umbilical cord care where local production is determined to be feasible

### **Goal 3: Generate increased demand at the country level to accelerate national scale-up**

**Objective:** Shape local markets to increase use of 7.1% chlorhexidine digluconate for umbilical cord care

- Monitor and plan for coordinated introduction and rollout effort across key geographies
- Coordinate technical meetings and undertake cost analysis in multiple scenarios to assist with decision making on type of product (single container vs. bulk container, one-day vs. seven-day application, and home vs. facility births)
- Integrate 7.1% chlorhexidine digluconate for umbilical cord care into programmatic guidance and/or kits related to newborns in emergency/crisis settings

- Accelerate replication of successful implementation models to other provinces
- Support country-led initiatives to pilot and scale up 7.1% chlorhexidine digluconate for umbilical cord care
- Create a set of measurable outcomes for cord care intervention
- Identify and set numerical target goals for Country Working Group to monitor the progress of chlorhexidine implementation

**Goal 4: Advocate for inclusion of chlorhexidine for umbilical cord care in country policy actions**

**Objective:** Advocate for an enabling policy environment for use of chlorhexidine for umbilical cord care programming countrywide

- Raise awareness and action to integrate chlorhexidine in the program interventions
- Bolster credibility of Country Working Group by demonstrating range and breadth of organizational support and involvement
- Expand supportive network to key country stakeholders

**Product formulation:** Gel vs. Liquid. The consensus is to use the gel formulation considering local preferences and contextual issues. However, since the United Nations Children’s Fund (UNICEF) has already procured liquid chlorhexidine for the pilot in two provinces, stakeholders have agreed that for now both liquid and gel will be used.

**Number of days of application:** (Standard regimen, one day vs. seven days) At the stakeholders’ meeting, the group highlighted the need to keep the cord aseptic through application of 7.1% chlorhexidine digluconate and at the same time address the current cultural practices related to application of traditional substances (black oil and kohl, rouge, lipstick, coal dust) until the cord separates. Seven-day application of 7.1% chlorhexidine digluconate or until cord separates has been recommended.

## **PRODUCT REGISTRATION**

The MOPH Reproductive Health (RH) Department will take the lead and work with the General Directorate of Pharmaceutical affairs to facilitate the inclusion of 7.1% chlorhexidine digluconate for umbilical cord care in the essential and licensed drug lists. .

### **Update National Essential Drug List and National Licensed Drug List**

The RH Department within the MOPH will advocate inclusion of 7.1% chlorhexidine digluconate in both the national essential drug list and the national licensed drug list with specific indication for umbilical cord care. The two lists are required to ensure availability product through the public sector as well as private sector outlets, including retail pharmacies.

### **Update Standard Treatment Guidelines**

The newborn care section of the MOPH RH department will update the standard treatment guidelines to ensure the revised guideline includes use of 7.1% chlorhexidine digluconate for umbilical cord care. The department will work to facilitate inclusion of chlorhexidine within the health system (BPHS/EPHS) and in collaboration with Grant & Contract Management Unit, private sector, and other related stakeholders ensure the guideline has been updated as part of the ENAP 2015–2020. The new STGs will be distributed as part of the comprehensive ENAP.

### **Delivery through Health System**

According to the 2010 AMS, 60% of women receive prenatal care and 34% of births are attended by a skilled birth attendant; however, the remaining 64% of births are attended by a family member, neighbor, or TBA. Based on the findings from the survey, it has been decided that 7.1% chlorhexidine digluconate will be recommended for use in all births—home and facility based and through both the public and private sectors.

### **Phasing of Introduction**

Phased introduction has been recommended. Early implementation in UNICEF focus provinces will provide a good start-up opportunity for this new intervention, following which the new intervention will be expanded gradually to other provinces. Expansion to the entire country has been recommended based on findings and lessons of the operationalization’s early implementation phase.

During the early implementation phase, the reporting and recording forms will be revised to incorporate information on distribution, use, and ensuring quality standards in use of 7.1% chlorhexidine digluconate. Feasibility of conducting on-the-job training for community health

workers will be tested using the curriculum developed for each cadre of service provider. The findings from the initial phase will guide the expansion strategy, and the lessons learned will guide any changes to the national introduction guideline.

## SUPPLY PLANNING: QUANTIFICATION, PROCUREMENT, AND DISTRIBUTION

In the new intervention, 7.1% chlorhexidine digluconate will be used for both facility-based and home births. Data from the AMS indicates that 60% of women receive prenatal care, which will offer an opportunity to distribute the product during those visits. However, not all women deliver at a facility or with a skilled birth attendant. Hence, in the initial phase of the project, the working group agreed that chlorhexidine will be provided at the time of delivery and will be distributed through both skilled care providers and community health workers (CHWs).

Feasibility of adding 7.1% chlorhexidine digluconate to the clean delivery kits will be tested because these are widely distributed and used by CHWs. This offers an opportunity to women to purchase and keep 7.1% chlorhexidine digluconate with them to be used at the time of delivery. However, this plan needs more work, and the RH department of MOPH will be discussing this issue with General Directorate of Pharmaceutical affairs (GDPA) and partners involved in clean delivery procurement and distribution.

For the first year, the plan is to implement chlorhexidine for cord care in UNICEF target provinces with a gradual expansion to other provinces.

Quantification will be done using the algorithms developed for the 13 UN Commission commodities.<sup>5</sup> The product is currently available through UNICEF, Lomus Pharmaceuticals Pvt. Ltd. (Nepal), and Drugfield Pharmarmaceutical Ltd. (Nigeria). Universal Corporation Ltd. (Kenya) is in the process of registering the product and expects the product to be available for domestic sales and export by September 2015.

---

<sup>5</sup> JSI and SIAPS. *Quantification of Health Commodities: RMNCH Supplement*. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA: Management Sciences for Health. Submitted to the United Nations Children's Fund by JSI. Arlington, VA: JSI Research & Training Institute, Inc.; 2014. <http://siapsprogram.org/publication/rmnch-quantification/>

## TRAINING OF SERVICE PROVIDERS

An orientation package will be developed for CHWs, nurses, midwives, and doctors. Depending on the cadre of health care provider, the contents of the manual will vary to address their specific training needs.

### Public Sector

The guideline on use of 7.1% chlorhexidine digluconate will be included in the Essential Newborn Care learning resource package, the Community-Based Health Services guideline, and the BPHS package guidelines, which are being revised and coordinated with Kabul Medical University (Midwifery department) and Ghazanfar Institute of Health Sciences or inclusion in preservice trainings.

The training manual for CHWs, nurses, and midwives curriculum will include the following components and will be part of the comprehensive newborn care training manual. Currently, CHWs have a refresher training scheduled twice a year, and information on use of chlorhexidine will be made part of this refresher manual.

- Background
  - Newborn care statistics
  - Information on 7.1 % chlorhexidine digluconate
- Hand washing
- Technique for application of 7.1 % chlorhexidine digluconate
- Counseling to mother on importance of applying nothing to the cord other than chlorhexidine
- Introduction of the reporting record forms with revisions to include information on chlorhexidine
- Orientation on available job aids and other developed IEC material

### Private Sector

The RH Department at MOPH will communicate through the MOPH officer of the Private Sector Coordination Directorate to orient private sector providers on the issue.

## **QUALITY ASSURANCE, MONITORING AND EVALUATION, LOGISTICS MANAGEMENT INFORMATION SYSTEM INTEGRATION**

The reporting and recording forms will be revised to include information on use of chlorhexidine this includes- the supervisory forms used by the staff of the RH Department at both facility level and community level. The information will be entered in the health management information system for both levels. In the initial phase, reporting will be done on the following indicators:

- Number of CHWs and doctors trained on use of chlorhexidine
- Number of community awareness session
- Total number of births reported in the intervention area
- Number of births where chlorhexidine was used by CHW or mother
- Number of births followed by the supervisor to verify use of chlorhexidine
- Stock status (any reports of stock-outs for more than a month)
- Availability of IEC material at health centers

# BCC CAMPAIGN AND IEC MATERIAL DEVELOPMENT AND CAMPAIGN

## Overview of Strategic Approaches for Demand Generation

*Advocacy:* Operates at the political, social, and individual levels and works to mobilize resources and political and social commitment for social change and/or policy change for chlorhexidine. It aims to create an enabling environment at any level, including the community level, to ask for greater resources, encourage allocating resources equitably, and remove barriers to policy implementation of scaling up chlorhexidine for cord care of newborns. It provides advocacy resources for using the Commission platform to raise awareness and engage stakeholders in addressing chlorhexidine-related gaps in policy.

BCC campaigns and IEC material will be designed with messages on use of chlorhexidine focusing on community: family members who are involved in caregiving on importance of applying chlorhexidine only

*Community-Based Media:* Community-based media reach communities through locally established outlets. Such outlets include local radio stations and community newsletters or newspapers as well as activities such as public meetings and sporting events.

*Community Mobilization:* Through community individuals, groups, or organizations, plan, carry out, and evaluate activities on a participatory and sustained basis to improve newborn lives, either on their own initiative or stimulated by others. A successful community mobilization effort not only works to solve problems but also aims to increase the capacity of a community to successfully identify and address newborn needs.

*Counseling:* One-to-one communication with a trusted and influential communicator, such as a counselor or health provider. Counseling tools or job aids will be produced to help clients and counselors improve their interactions, with service providers trained to use the tools and aids.

- Service providers:
  - Use of chlorhexidine for umbilical cord care
  - Importance of hand washing prior to applying chlorhexidine

*Communication channel used:* The messages will be broadcast using mass media, print media, and display of IEC material at health facilities. Chlorhexidine-specific posters, brochures, and flip charts will be developed to aid the communication.

The messages will also be delivered through following activities:

- Community health leaders
- Awareness sessions for the mothers through neighborhood meetings and one-on-one meetings with family members responsible for taking care of the newborn

## PRODUCT AVAILABILITY<sup>6</sup>

| Supplier / Manufacturer                       | Format | Size                       | Price    | Contact  |
|---|--------|----------------------------|----------|--|
| Drugfield<br>Pharmaceutical Ltd.<br>(Nigeria) | Gel    | 3 g tube                   | USD 0.38 | Mr. Olakunle Ekundayo, Managing<br>Director<br><a href="http://www.drugfieldpharma.com">http://www.drugfieldpharma.com</a>   |
|   |        | 10 g tube                  | USD 0.47 |  |
|   |        | 25 g tube                  | USD 0.58 |  |
| Lomus Pharmaceuticals<br>Pvt. Ltd. (Nepal)    | Gel    | 3 g tube                   | USD 0.27 | Mr. Prajwal Pandey, Marketing<br>Director<br><a href="mailto:prajwalpandey@lomus.com.np">prajwalpandey@lomus.com.np</a><br><a href="http://www.lomus.com.np">http://www.lomus.com.np</a> |
|   |        | 10 g tube                  | USD 0.41 |  |
| UNICEF Supply<br>Catalogue                    | Liquid | 10 ml<br>dropper<br>bottle | USD 0.36 | <a href="https://supply.unicef.org">https://supply.unicef.org</a><br>Product number S1531515   |

<sup>6</sup> This information is from: Chlorhexidine for umbilical cord care.  
<http://www.healthynewbornnetwork.org/topic/chlorhexidine-umbilical-cord-care>