Increasing Access to Lifesaving Commodities for Women and Children

Estimating RMNCH Commodity Needs at the Country Level

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On behalf of the UNCoLSC Supply Chain TRT
Outline:

• Background on the UN Commission (UNCoLSC)
• The 13 Life-saving Commodities
• Definition of Quantification
• Focus on Forecasting
• The Guide
• Forecasting Example – Chlorhexidine
Rec 6. Supply and Awareness:
By 2015, all EWEC countries have improved the supply of life-saving commodities and build on information and communication technology (ICT) best practices for making these improvements

**Bottlenecks exist throughout the supply chain**

- Common challenges include:
  - Lack of standard commodity specifications
  - Lack of predictable and sustained funding
  - *Poor commodity forecasting*
  - Poor data for supply chain decision-making,
  - Poor distribution channels and storage
  - Poor stock inventory management
The Life-Saving Commodities

13 Priority Products

**Family Planning**
- Emergency contraceptive pills
- Female condoms
- Contraceptive implants

**Child Health**
- Amoxicillin
- ORS & zinc

**Newborn Health**
- Newborn resuscitation kits
- Injectable antibiotics

**Maternal Health**
- Misoprostol
- Oxytocin
- Magnesium sulfate
- Antenatal corticosteroids (ACS)
- Chlorhexidine

WE SUPPORT EVERY WOMAN
EVERY CHILD
What is Quantification?

**Forecasting** - estimating the quantities of the products required for a specific health program (or service) for a specific period of time.

**Supply Planning** - determining when and in what quantity products should be delivered to prevent interruptions in supply.
Quantification Process

**PREPARATION**
- Describe the program
- Define scope and purpose of the quantification
- Collect required data

**FORECASTING**
- Organize and Analyze Data
- Select Forecasting Method(s)
- Build Forecasting Assumptions
- Structure Forecasting Tree
- Calculate Forecasted Consumption for Each Product

**SUPPLY PLANNING**
- Organize and Analyze Data
- Build Supply Planning Assumptions
- Estimate Total Commodity Requirements and Costs
- Develop Supply Plan
- Compare Funding Available to Total Commodity Cost

Decision Points:
- Increase Funding?
  - NO: Funds Sufficient?
    - NO: Mobilize Additional Resources
    - YES: Proceed to Procure Quantities Required
  - YES: Proceed to Procure Quantities Required
Data for Forecasting

Historical logistics / consumption data
• Quantities of **products** dispensed or used over a specified period of time

Services data
• Number of **services provided** – number of visits where clients were treated or referred over a specified period of time

Demographic and/or morbidity data
• Number and characteristics of the **population** targeted for services over a specified period of time
• Data on **prevalence** or **incidence** of a disease or health condition in a specific population
Some Forecasting Challenges

• 13 products are new or underused

• Data availability and reliability
  • Consumption, services or past procurement data are not available or not indicative
  • Country-specific morbidity/incidence data are lacking
  • Programmatic plans are ambitious

• Coordination and information sharing between Program and Procurement Units
What’s in the RMNCH Supplement?

Section 1: Introduction

Section 2: Forecasting algorithms for each of the 13 priority commodities

Section 3: Resources and Tools

Supplements existing quantification guidance and tools
Section 2: Forecasting Algorithms

For each product, this section provides information and guidance on—

• Product description, indications, and considerations for use
• Types of forecasting data needed and potential data sources
• Building the forecasting assumptions and calculating the forecasted consumption using a forecasting algorithm
• Incorporating product- and program-specific considerations into the forecasting assumptions
• Information on additional products, consumables, or equipment required
Forecasting Method Using Demographic or Morbidity Data

1. Determine the scope of the quantification
2. Estimate the target population
3. Determine use of the product by the target population (demographic) – *users* OR need for the product based on disease incidence or prevalence (morbidity) – *cases*
4. Determine the product/brand mix (if applicable)
5. Determine the source mix (if multiple sectors)
6. Estimate the quantity of the product required per user per year (demographic) or per case (morbidity)
What is Chlorhexidine?

Antiseptic for newborn umbilical cord care and cleansing

**WHO recommendation:**
“Daily 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. 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.”
1. Calculate the target population who will need chlorhexidine

2. Calculate the percent of births likely to receive chlorhexidine (e.g. pregnant women who seek care and receive chlorhexidine for home birth)

3. Calculate the amount of chlorhexidine needed per treatment/establish standard or average treatment regimen

4. Calculate the quantity of chlorhexidine needed for the forecast period
<table>
<thead>
<tr>
<th>Data</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total female population</td>
<td>DHS</td>
</tr>
<tr>
<td>Proportion of pregnant women</td>
<td>DHS, HMIS, national maternal morbidity and mortality surveys, special surveys</td>
</tr>
<tr>
<td>Percentage of women attending ANC</td>
<td>DHS, HMIS, special surveys, ANC records</td>
</tr>
<tr>
<td>Percentage of births at home/facilities</td>
<td>DHS, HMIS, special surveys, ANC records</td>
</tr>
<tr>
<td>Proportion of live births</td>
<td>DHS, HMIS, national maternal morbidity and mortality surveys, special surveys</td>
</tr>
<tr>
<td>Dosage recommended</td>
<td>WHO or national MNCH guidelines</td>
</tr>
<tr>
<td>STGs (actual prescribing practice versus ideal)</td>
<td>National essential medicine program, WHO, Ministry of Health, NMCP, surveys</td>
</tr>
<tr>
<td>Interventions/factors affecting future changes in demand</td>
<td>MNCH Program</td>
</tr>
</tbody>
</table>
Sample Algorithm - Chlorhexidine

Number of live births

Is Chlorhexidine recommended for home births only?

YES

Number of live births at home
[# of live births x % of home deliveries]

NO

Number of live births
[# of live births x% of births in facilities, at home, at NGOs, or other (based on STG)]

Number of Live Births Receiving Chlorhexidine
[# of live births x % deliveries likely to receive CHX treatment]

Amount of Chlorhexidine Required
[# of live births that sought care x # of 3g tubes of gel/10 ml vials of solution required per neonate (based on STG)]
Chlorhexidine Example

- MNCH guidelines were recently updated and recommend 7.1% chlorhexidine digluconate gel for all home births to be used as a single application immediately following birth.
- Chlorhexidine will be provided to community health workers for distribution to all women who give birth at home.
- The number of home births in 2015 was estimated at 10,000.
- Population growth rate: 2%
- Total amount of chlorhexidine required per neonate is 1 tube.
- Since the MNCH guidelines were only recently updated, the target in this case is to increase use of chlorhexidine by 25% each year to achieve 100% coverage by 2019.

→ Calculate the chlorhexidine need for the current year (2016) and two forecast years.
Box 16. Example of country forecast for chlorhexidine 7% based on demographic data.

Country X just updated its MNCH guidelines to include 7.1% chlorhexidine digluconate gel for all home births to be used as a single application immediately following birth. Chlorhexidine will be provided to community health workers for distribution to all women who give birth at home.

The number of home births in the current year was estimated at 10,000. Population growth rate: 2%.

Total amount of chlorhexidine required per neonate is 1 tube.

Since the MNCH guidelines were only recently updated, Country X has set targets to increase use of chlorhexidine by 25% each year to achieve 100% coverage by 2017. Calculate the chlorhexidine need for the next 2 years.

The quantification team agreed that this is a reasonable target given current progress on training of health providers.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Current year</th>
<th>Forecast year 1</th>
<th>Forecast year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home births, $n$</td>
<td>2%</td>
<td>10,200</td>
<td>10,404</td>
</tr>
<tr>
<td>Population growth rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilization rate, %</td>
<td>25%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>Targets to increase in utilization rate</td>
<td>25% increase every year</td>
<td>25% increase every year</td>
<td>50% increase every year</td>
</tr>
<tr>
<td>Neonates receiving treatment with chlorhexidine, $n$</td>
<td>25% increase every year</td>
<td>2550</td>
<td>5202</td>
</tr>
<tr>
<td>% of neonates that will receive chlorhexidine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forecasted amount of chlorhexidine required (tubes)</td>
<td>1</td>
<td>2550</td>
<td>5202</td>
</tr>
<tr>
<td>Total amount of chlorhexidine required per neonate</td>
<td></td>
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</tr>
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</table>
After the Forecast

- Validation with stakeholders
- Supply Planning
Countries in which guidance has been used to date:

• Bangladesh
• Cambodia
• DRC
• India
• Indonesia
• Mozambique
• Myanmar
• Nigeria
• Tanzania
Thank You!

For more information, visit:
life-saving-commodities.org

Send us feedback on the guide at:
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