Increasing Access to Lifesaving Commodities for Women and Children

Getting the Numbers Right!

Global Health Mini-U
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On behalf of the UNCoLSC Supply Chain TRT
Session Objectives

• Participants will be able to describe the major sections of the RMNCH quantification supplement and how to use it.

• Participants will be able to identify 4 data types and sources that are used in forecasting for the 13 UNCoLSC products, and describe possible data challenges.

• Participants will gain practice preparing a forecast for one RMNCH product using demographic/morbidity data.
Background

UNCoLSC Recommendations - 13 Priority Products

**Family Planning**
- emergency contraceptive pills
- female condoms
- contraceptive implants

**Maternal Health**
- misoprostol
- oxytocin
- magnesium sulfate

**Child Health**
- amoxicillin
- ORS & zinc

**Newborn Health**
- newborn resuscitation kits
- injectable antibiotics
- antenatal corticosteroids (ACS)
- chlorhexidine
What’s in the RMNCH Supplement?

- Algorithms for each of the 13 priority commodities
- Developed in consultation with experts
- Annex listing forecasting and supply planning tools and resources
- Supplements existing quantification guidance and tools
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 the 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

Increase Funding?
- NO
- YES

Funds Sufficient?
- NO
- YES

Mobilize Additional Resources
- NO
- YES

Procure Quantities Required

Source: JSI, USAID | DELIVER PROJECT
Some Rules of Thumb

• Plan ahead
• Use the most reliable, recent data available
• Find consensus
• Use common sense
• There is no one “correct” answer
• Your job is never done!
Data for Forecasting

Historical **logistics / consumption** data
- Quantities of **products** dispensed or used over a specified period of time (ideally a year or more)

**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
- Data on **prevalence or incidence** of a disease or health condition in a specific population

Source: JSI, USAID | DELIVER PROJECT
Forecasting challenges for RMNCH products

- 13 products are new or underused
- Consumption or services data are not available
- Country-specific morbidity/incidence data are lacking
- It’s unclear whether the quantities of products currently available are sufficient
- Coordination and information sharing between Program and Procurement Units is not a given
Forecasting Algorithms

There is a section in the guide for each product, with 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
Steps in Forecasting Method Using Demographic or Morbidity Data

1. Determine the scope of the quantification
2. Estimate the target population
3. Determine use of contraceptive method 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
6. Estimate the quantity of the product required per user (demographic) per year 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.”
Chlorhexidine Example Using Demographic Data

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
### Types of Data Useful for Chlorhexidine Forecasting

<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 for Chlorhexidine Forecast

1. **Number of live births**
   - **YES**
   - Number of live births at home
     - [# of live births x % of home deliveries]
   - **A1**
   - **A2**
   - **A3**
   - **A4**

2. **Is Chlorhexidine recommended for home births only?**
   - **NO**
   - Number of live births
     - [# of live births x % of births in facilities, at home, at NGOs, or other (based on STG)]
   - **A3**

3. **Amount of Chlorhexidine Forecasted**
   - [# of live births x % deliveries likely to receive CHX treatment]
   - **A2**

4. **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 - Data

• 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.
## Chlorhexidine Example - Answers

<table>
<thead>
<tr>
<th></th>
<th>Inputs</th>
<th>Current year</th>
<th>Forecast year 1</th>
<th>Forecast year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home births, ( n )</strong></td>
<td>Population growth rate</td>
<td>2%</td>
<td>10,200</td>
<td>10,404</td>
</tr>
<tr>
<td><strong>Utilization rate, %</strong></td>
<td>Targets to increase in utilization rate</td>
<td>25%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Neonates receiving treatment with chlorhexidine, ( n )</strong></td>
<td>% of neonates that will receive chlorhexidine</td>
<td>25%</td>
<td>2,550</td>
<td>5,202</td>
</tr>
<tr>
<td><strong>Forecasted amount of chlorhexidine required (tubes)</strong></td>
<td>Total amount of chlorhexidine required per neonate</td>
<td>1</td>
<td>2,550</td>
<td>5,202</td>
</tr>
</tbody>
</table>
Next Steps After the Forecast

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

- Bangladesh
- DRC
- India
- Indonesia
- Mozambique
- Myanmar
- Nigeria
- Tanzania
Links to Guide and Other Resources

• RMNCH Guide - [Quantification of Health Commodities: RMNCH Supplement](#)

• [Quantification of Health Commodities](#)
Thank You!
### Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Consumption data</td>
<td>Data on the quantity of product dispensed or used over a specified period of time.</td>
</tr>
<tr>
<td>Morbidity data</td>
<td>Data on the prevalence or incidence of a disease or health condition in a given population.</td>
</tr>
<tr>
<td>Demographic data</td>
<td>Data on the number and characteristics of the population that will desire, require, or be offered a service.</td>
</tr>
<tr>
<td>Couple-years of protection factor</td>
<td>The estimated quantity of a contraceptive method required to protect one couple from pregnancy for one year.</td>
</tr>
<tr>
<td>Services data</td>
<td>Data on number of visits or services provided over a specified period of time.</td>
</tr>
<tr>
<td>Forecasting</td>
<td>The process of estimating the quantities of products that will actually be dispensed or used to meet the health needs of the targeted population during a specific future period of time.</td>
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</tbody>
</table>
### Key Terms

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<tr>
<td>Stock on hand</td>
<td>The quantity of an item available for dispensing or distribution.</td>
</tr>
<tr>
<td>Stock on order</td>
<td>Quantities of stock that have been ordered but have not yet arrived.</td>
</tr>
<tr>
<td>Supply planning</td>
<td>The final output of quantification, that details the quantities required to fill the supply pipeline, costs, lead times, and arrival dates of shipments, in order to ensure optimal procurement and delivery schedules.</td>
</tr>
<tr>
<td>Quantification (Forecasting + Supply Planning)</td>
<td>The process of estimating the quantities and costs of the products required for a specific health program (or service), and determining when the products should be delivered to ensure an uninterrupted supply for the program. Takes into account the expected demand for commodities, unit costs, existing stocks, stock already on order, expiries, lead time, buffer stocks and shipping costs. Using this information, the total commodity requirements and costs for the program are calculated and compared with the available financial resources to determine the final quantities to procure.</td>
</tr>
</tbody>
</table>