

BACKGROUND

Increasing access to and appropriate use of reproductive, maternal, newborn, and child health (RMNCH) medical products could save the lives of more than 6 million women and children annually. A major component of access is availability, which requires accurate and timely quantification of supply requirements. Systematic and rigorous quantification of RMNCH medical products is often overlooked as the focus is more on donor-driven programs such as HIV, TB, and malaria.

At the national level, results of quantification exercises are essential for budgeting, resource allocation and mobilization, and planning for procurement and supply chain operations. At the global level, donors and manufacturers can use the information to plan for resources, procurement, and production. Aggregated estimates can also be used to negotiate framework agreements and unit prices with manufacturers.

PURPOSE OF THIS RMNCH MEDICAL PRODUCTS FORECASTING PACKAGE

The **purpose** of this RMNCH forecasting package (supplement, algorithms, and accompanying Excel forecasting tools) is to assist those involved in quantification of **RMNCH medical products** to use best practice **forecasting methodologies** that are based on **demographic; morbidity (prevalence, incidence); and service data** to **improve the quality of national-level forecasts** of these life-saving products. This is particularly valuable when there is unreliable or no consumption data (e.g., for new RMNCH products).

Quantification is defined as the process of both **forecasting and supply planning**.¹ The output from the forecasting process—a list of specific products with estimates of consumption quantities for a specific future period—should not be used directly for procurement. Supply planning should follow forecasting and must be carried out to determine procurement quantity and scheduling of each product to ensure optimal availability of the products.

PRIORITY HEALTH CONDITIONS AND PRODUCTS CONSIDERED IN THIS SUPPLEMENT

In 2012, the United Nations Commission on Life-Saving Commodities for Women and Children defined a set of priority medical products for RMNCH. Some were new or in the process of being introduced at scale, while others had been in use for many years but were underused or unavailable when needed or in the recommended formulation. This is an updated version of that forecasting supplement and focuses on those same priority RMNCH products plus some additional essential medical products for maternal health that have been recommended more recently for inclusion: tranexamic acid, heat-stable carbetocin, and antihypertensives for severe hypertension in pregnancy.

¹ John Snow, Inc. 2017. Quantification of Health Commodities: A Guide to Forecasting and Supply Planning for Procurement. Arlington, Va.: John Snow, Inc.



HEALTH AREA	HEALTH CONDITIONS AND HEALTH PRODUCTS COVERED IN THE UPDATED SUPPLEMENT
Reproductive Health	Family planning and prevention of sexually transmitted infections: <ul style="list-style-type: none"> ▪ Contraceptive implants ▪ Emergency contraceptive pills ▪ Female condoms
Maternal Health	Postpartum hemorrhage: <ul style="list-style-type: none"> ▪ Oxytocin ▪ Misoprostol ▪ Heat-stable carbetocin (new) ▪ Tranexamic acid (new) Eclampsia: <ul style="list-style-type: none"> ▪ Magnesium sulfate Toxicity of magnesium sulfate: <ul style="list-style-type: none"> ▪ Calcium gluconate Severe hypertension in pregnancy: <ul style="list-style-type: none"> ▪ Hydralazine (new) ▪ Methyldopa (new)
Newborn Health	Risk of respiratory distress syndrome for imminent preterm births: <ul style="list-style-type: none"> ▪ Antenatal corticosteroids: dexamethasone or betamethasone Failure of newborn to establish and sustain breathing: <ul style="list-style-type: none"> ▪ Resuscitation equipment (neonatal self-inflating resuscitation bag and mask and multiuse suction devices) Newborn cord care <ul style="list-style-type: none"> ▪ Chlorhexidine Possible serious bacterial infection or very severe disease: <ul style="list-style-type: none"> ▪ Antibiotics (amoxicillin, gentamicin, ampicillin, and ceftriaxone)
Child Health	Pneumonia: <ul style="list-style-type: none"> ▪ Amoxicillin Diarrhea: <ul style="list-style-type: none"> ▪ Oral rehydration salts ▪ Zinc

Since a limited number of priority RMNCH health conditions and products are covered in this forecasting supplement, complementary resources referenced in this supplement could be used to quantify other health products for RMNCH. Additionally, some of the products in this supplement are needed for management of other health conditions not covered here. The same principles and calculation steps can be applied to medical products not covered in this supplement.

HOW THIS SUPPLEMENT IS ORGANIZED

This supplement is organized by health condition. For each condition, it provides a description/definition, the global and regional incidence, and the World Health Organization (WHO)-recommended medical products and dosages to manage it. In addition, the supplement provides information and guidance on the medical products used, including:

- Product characteristics and other forecasting considerations, including common presentations, indications, administration, storage conditions and requirements, and shelf life
- Recommended level of use according to the latest WHO guidelines



- Types of data needed for forecasting and potential sources of those data
- A sample forecasting algorithm for the morbidity method using demographic/morbidity and/or service data with calculation steps and formulae
- A list of global and regional proxy data and respective sources that can be used when local data are not available
- An example of the application of the assumptions, steps, and calculation formulae to forecast the medical products with accompanying Excel tools

The introduction to this supplement also includes definitions of terms, descriptions of processes, types of data for forecasting, other general considerations for quantification, references, and an inventory of tools that can be applied in quantification.

HOW TO USE THIS SUPPLEMENT

This supplement, along with the algorithms and Excel forecasting tools, is intended to help program managers, supply chain technical experts, and service providers use what they know about the priority health conditions and products of the programs they are implementing, to estimate the quantities of these products needed to serve their clients in a given time period.

The forecasting supplement can be used in many ways:

PHASE	APPLICATION
Preparation for quantification	<ul style="list-style-type: none"> ■ To inform data requirement definition, collection, and exercise planning ■ The references/links included in the document can also be used as additional resources to capture more detailed and region-/country-specific data for forecasting.
During the actual exercise	<ul style="list-style-type: none"> ■ As a reference to build assumptions and undertake the actual forecasting ■ The algorithms and examples provide standard processes and steps to calculate forecast requirements. Sample forecasting assumptions, algorithms, calculation steps, formulae, and examples should be adapted to fit the local context and the scope of the forecast being undertaken. For example, the country context (guidelines and practice) should be considered when determining route of administration, regimen and dosage, and formulation for treatment.
Beyond forecasting	<ul style="list-style-type: none"> ■ To identify additional general and program-specific quantification resources, such as guides and tools that can be used to carry out the actual quantification of the medical product groups, including supply planning ■ The WHO recommendations referred to in the guide may be used to advocate for revisions to national RMNCH management protocols.

The Excel forecasting tools are a useful complement to the RMNCH forecasting supplement but should not be used in isolation—the appropriate assumptions, as described in the supplement, should be considered also when forecasting RMNCH medical products. There are other forecasting tools, such as Quantimed and the recently released USAID quantification tool [Quantification Analytics Tool \(QAT\)](#).²

FORECASTING PRODUCT NEEDS IN THE PRIVATE SECTOR

While this supplement was developed primarily for the public sector (and social marketing sector where applicable), including where support is provided by nongovernmental organizations, the methodology presented

² GHSC-PSM has developed the next generation Forecasting and Supply Planning (FASP) application, the Quantification Analytics Tool (QAT) to replace Pipeline and Quantimed. <https://www.ghsupplychain.org/quantificationanalyticstool>



here is also relevant for the private sector to forecast product needs if the morbidity/demographic method of forecasting is to be applied.

ACCESSING THE ENTIRE RMNCH FORECASTING SUPPLEMENT PACKAGE

The package of the RMNCH forecasting supplement—the main document, the algorithms, and excel calculation tools—is available [online for download](#).