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Reaching Every Community Using Quality Improvement (REC-QI): Mapping to support routine immunization microplanning in Uganda



August 2016

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This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of the Maternal and Child Survival Program and do not necessarily reflect the views of USAID or the United States Government.

Reaching Every Community using Quality Improvement (REC-QI)

Mapping to support routine immunization microplanning in Uganda

Accurate information on health facility (HF) target populations is essential to microplanning and performance monitoring for routine immunization (RI) and other services that facilities provide. In Uganda, HF catchment areas are not identical to those of civil government (county, sub-county, and parish). Some parishes have no HF and are served by a facility in another parish or they share among two facilities. Other parishes have two HFs, in which case each serves a part of the population. Therefore the mapping process must engage stakeholders from both civil and health sectors to align planning across these divisions and optimize the use of the meager resources available to facilities. In this process, each community is identified and allocated to a HF, a first step toward reaching every community (REC).

The Reaching Every Community using Quality Improvement (REC-QI) approach in Uganda uses a participatory two-stage process for mapping that takes into account both community locations and characteristics as well as the resources for routine immunization (RI) that facilities have in place. The two stages are:

Macro mapping: a continuous process used by the district to identify and assign communities at the parish level¹ to facilities to enable effective health service delivery.

Micro mapping: a continuous process used by individual HFs to identify and assign communities at the village level within the facility's catchment area to RI service delivery points, both static and outreach.

Macro and Micro mapping processes in brief

Macro mapping: prepared for the entire district

1. **Assemble key inputs:** This is done by the district and includes official government population statistics, lists of facilities with their locations, and information on their role in RI.
2. **Prepare first draft of facility catchment area macro map:** District convenes a half-day meeting of a 5–10 person committee that knows district geography (location of parishes, physical structures such as rivers, cliffs, roads) and communities to assign parishes to HFs.
3. **Adjust and build consensus on macro map:** At the quarterly district health meeting, discuss the draft map and adjust it to make a final version. Each HF catchment area is then discussed separately with the HF in-charge or representative in the presence of district and sub-county leaders.

Criteria for assigning communities to facilities

1. Proximity of community to the facility
2. Access to HF by residents—geographic, socio-economic
3. Capacity of HF to serve the communities with routine immunization services:
 - Transport
 - Health workers
 - Adequate vaccines, ice packs, and other supplies
4. HF already providing health services in the community

Micro-mapping: prepared for each facility

1. **Assemble key inputs:** These include the macro map, the villages to be served (both current and anticipated), and a list of static and outreach RI service delivery points and their locations relative to the villages.
2. **Prepare first draft of facility micro map:** The facility convenes half-day meeting of a group of 3–5 people who know the geography and populations. They assign villages to service delivery points, both fixed or outreach.
3. **Harmonize and build consensus on micro map:** HF staff and village health
4. teams discuss and adjust draft and develop schedule for location, date, and time of RI services.

¹ In Uganda, a parish is an administrative level that refers to a group of villages

Macro-mapping

Definition:

- Macro-mapping is the first activity in planning for RI in the district. It is a continuous process of identifying and **assigning communities (parishes) to HF**s for quality health service delivery. Clear knowledge of HF catchment areas and populations is essential for REC micro-planning. It takes four to six hours for the “working committee” for macro-mapping to come up with the first draft.

Macro-Mapping: A Summary

Previous work conducted in Nigeria under the BASICS project and also in Nakasongola district in Uganda developed macro-mapping as a procedure to overcome a challenge in REC implementation: identifying the catchment area of each HF in order to reach every child. The government of Uganda recommends one HF per parish and makes available total population figures for each parish. However, many parishes have more than one HF while others have none. This clearly justifies macro-mapping to facilitate reaching every community/child.

Macro-mapping entails three steps: 1) inputs/data, 2) drafting, and 3) harmonization.

Macro-mapping has these applications:

- Facilitates data-driven EPI micro-planning by providing a clear idea of HF target populations and catchment areas
- Makes vaccine forecasting more accurate
- Increases the likelihood that every community is reached and every child receives needed vaccines
- Helps to identify parishes that have been underserved or left out of RI so that actions can be taken to ensure services in the future
- Allows for monitoring performance of each HF using RED categorization

Purpose:

- To assist the District Health Team in identifying and allocating communities (parishes) to HF's and to assess RI performance.

Main Activities

Preparation:

- Form a working group of 7–10 people including: district biostatistician, EPI focal point, cold chain technician, District Health Officer and Officer in charge of MCH; district planner; district secretary for health; district surveillance focal point; any other person(s) deeply knowledgeable about the geographic orientation and location and characteristics of communities within the district.
- Before convening the working group on Day 1, enter the district population data from the national Bureau of Statistics for the previous year for each administrative unit (County/Health Sub-district, administrative sub-county, and parish [community]) in a spread sheet.
- Merge the national Bureau of Statistics population data and the existing HF's in one macro-mapping Excel template that has been developed for this purpose.
- On the template, use color coding to indicate if the HF has an EPI refrigerator (red for yes); conducts immunization (black for no); and picks up vaccine from another HF (blue for yes). To apply this approach to other health interventions, all HF's in the district should be considered.

Meeting:

- Provide the working group with an overview of macro-mapping and its purposes, including background, steps, and applications.
- Use the merged National Bureau of Statistics data and HF list to guide discussion to allocate parishes to HFs (macro-mapping).
- Start with completing the list of parishes in the district to ensure that new communities/parishes are included (e.g., those resulting from district divisions), which the National Bureau of Statistics may not have known or included in the list. Estimate the population of the new administrative units (parishes).
- Assign parishes to HFs using the following criteria:
 - Proximity of parish to the HF
 - Access to the HF by residents of the parish (geographical access; socio-economic access)
 - Capacity of HF to serve the parish (transport; number of health workers; availability of adequate vaccines and ice packs)
 - HF previously providing health services in the parish

Total population of assigned parishes equals to total population for the HF

- Use national population proportions (e.g., surviving infants = 4.3% of the total population for HF) to estimate the HF target populations for RI, i.e., children under 1 year.

Outputs:

- Draft macro-map of HF catchment areas and target populations

Micro-mapping

Micro-mapping is a continuous process of identifying and assigning communities (villages) within a HF catchment area to RI service delivery points, meaning both static and outreaches. (In contrast, macro-mapping identifies the entire catchment area of each HF.) Staff of a HF work with its catchment area community leaders (e.g., health unit management committee, village health teams (VHTs), and other groups, including non-traditional leaders) to identify all villages and allocate them to RI service delivery points.

Micro-mapping has three basic steps:

1. Collect inputs for micro-mapping
2. Form a working committee to produce a draft micro-map
3. Harmonization

Step 1: Collect inputs for micro-mapping

The basic inputs to micro-mapping include:

- HF catchment area (macro-map)
- List of villages per parish in the HF catchment area
- List of RI service delivery points (outreach and static) with their location by parish and village

Step 2: Form a Working Committee and Draft a Micro-map

Members of the working committee include HF staff and HF catchment area community leaders knowledgeable about the geography of the HF catchment area.

The working committee updates the list of villages per parish obtained from the district. The committee uses their geographical knowledge of the HF catchment area and the socio-economic characteristics of the people to allocate villages to each of their existing RI service delivery points and come up with the first micro-map draft.

Step 3: Harmonization/Finalization

- Hold a meeting with HF staff and key community leaders (e.g., Health Unit Management Committee, VHTs, and other opinion leaders) from each village within the HF catchment area to review and revise the micro-map draft.
- Present the draft micro-map and update the column for villages with newly created and/or initially forgotten villages.
- Review village allocation for each RI service delivery point. Actively seek and respect the opinions of the VHTs, as they represent parents/guardians.
- Finalize the micro-map after it is updated with inputs from VHTs and key community leaders. See micro mapping tool below for an example of a completed micro-map.

Micro-mapping Tool

District _____

Health Facility _____

Sub-county _____ Date _____

S/N	Health Facility	Parish	Village Name	Location of Service Point (HF & Outreach)	Villages to Be Served at or near service point/near	Villages that cannot be served at either service point	Comments
1							
2							
3							
4							
5							
6							
7							

RUKUNGIRI DISTRICT - BUYANJA SUB-COUNTY Rubanga HC II Micro Map					
Plan/schedule for immunization agreed upon with VHTs					
	OLD PLAN		NEW PLAN/SCHEDULE		
S/N	Previous place, Day & time	New place	Day & week of month	Time of the day	Comments/VHT contact
1	Rubanga Static	Rubanga static	Every day	Whole day	
2	Nil	Omukihoona TC OR	Tuesday 2nd week	2 - 5.00 pm	
3	Nil	Rubanga Catholic Church OR	Wednesday 3rd week	2 - 5.00 pm	
4					
5					

[illegible]

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