## **Community Health Workers SMC data collection tools**

**Introduction**

As SMC relies on community health workers (CHWs) and community distributors, simple, user-friendly tools for recording information should be designed and adapted to the country context. This section outlines the recommended/essential and optional SMC data collection tools to be used by CHWs at the community level, a discussion around paper-based and digital tools and integration with national health management information systems, as well as issues and solutions for CHWs data recording.

**CHWs data collection tools**

While CHWs tools might vary from one country to the next, below is both a recommended list of essential or typical CHWs SMC tools and ‘optional’ but not essential CHW tools. Please note that this list contains tools that SMC Community distributors are required to fill out, at least partially, in most countries. Terminology for these community distributors may vary by country. In this section, we will use the term CHW. Tools for supervision and monitoring are not included here, nor are community mobilization and sensitization tools, although these may be used by CHW in certain countries.

***Essential/Typical:***

1. **Register** – this tool is used to track individual level information on children eligible for SMC. Data elements should include the name of the village, the name of the eligible child, the name (and potentially contact information) of the child’s caregiver or the head of the household (optional), the child’s age group, the SMC cycle, and any observations. Use of registers (assuming children who received the intervention are listed in the first cycle) is an advantage to SMC CHWs to know who should receive SMC at the subsequent cycles and can ask for those children to ensure they are treated. Cameroon and Ghana’s registers also include questions on the reasons for non-administration of SPAQ to eligible children, as well as a column tracking the number of packets of SPAQ distributed. Mali’s register also collects information on whether a child is a local resident or lives across a border and captures if a child was excluded and the reasons (cotrimoxazole, recent receipt of SP or AQ, child unable to swallow medicine, child vomited two times after receiving the treatment). The form also records if the child was febrile and therefore tested/treated and if the child was referred for severe malaria. Guinea’s register tracks refusals as well as whether child health cards were distributed.

See Ghana for English example: ***insert link here***

See Mali for French example: ***insert link here***

1. **Tally sheets or child counting forms** – these tools aim to capture details about the beneficiaries of the intervention. The form is filled out daily by the CHW capturing information on households visited, households that received the intervention, households that refused the intervention, children that received the intervention (by age group and by sex), # of children not eligible, # of children that had negative reactions (by age group and sex). The forms may include medicine distribution/supply/stock tracking (SPAQ distributed, wasted, returned). See an example from Cameroon (captures information at a higher level/or more “big picture” information) and Mali or Guinea (both capture more detailed information). At the end of a cycle, these daily tally sheets are aggregated, typically by supervisors or health facility workers, to produce end-of-cycle tally sheets or end-of-cycle reports. Separate forms for further aggregation to the district level may also exist.

See Guinea for a French example: ***insert link here***
See Nigeria for English example: ***insert link here***

2b. **Drug counting/reconciliation form** – The SMC drug counting, or reconciliation form is often integrated into the tally sheets/child counting forms. The form is used to track the daily number of SPAQ blister packs received, administered, and lost by the CHW, as well as the total number of SPAQ blister packs left over and returned to the health facility.

See Cameroon for a French example: ***insert link here***

See Nigeria for English example: ***insert link here***

1. **Child record cards** – A record to be kept by the parent/guardian for each child in the household receiving SMC intervention. The form is used to collect information such as geographic location, age, sex, parent’s/guardian’s name, date of drug distribution and a place to mark each dose as it is taken (three checks per distribution cycle). Standard child health cards are sometimes used (record of vaccination, etc.), as is the case in Ghana. Cameroon’s SMC child card also contains information on the lot number and expiration date of the medication given, if the child has an allergy and if an adverse event had occurred following a previous administration. Nigeria and Guinea child record cards also contain some key malaria prevention messages. Niger’s card contains space to mark SMC doses as well as MUAC measurements (malnutrition markers).

See Guinea or Cameroon for a French example: ***insert link here***

See Nigeria for an English example: ***insert link here***

1. **SMC Referral form** – The SMC referral form is initially completed by the CHW for each eligible child who cannot receive SPAQ at the time of the SMC monthly cycle or for children that have reactions to SPAQ doses (see Adverse Event Form, below). The CHW fills in information such as the name of health facility that the child is being referred to, date of referral, and provides a reason for the referral. Once the child has reached the health facility, a health facility worker provides more information on the medical reason for the referral, including any possible adverse drug reactions from a previous SMC cycle.

SeeGuinea for French example: ***insert link here***

See Nigeria in English example: ***insert link here***

1. **Adverse event notification form** is initiated by the CHW to documentinformation on unexpected reaction(s) or adverse event experienced by the child who received the intervention, at the household. The form is used by the CHW to collect name, sex, age, contact information for the parent/guardian, description of the reaction(s) observed and date of the report. Including of pictures/visuals may be useful among populations where literacy rates may be lower. The form may or may not be integrated with referral form. This form is different than the adverse event form used at the health facility level by health facility staff. See examples from Cameroon in French (2021 SMC Adverse Effect Notification Cameroon). See example of integrated form from Mali.

See Cameroon or Mali for French example: ***insert link here***

***Optional:***

**Tools for integrated SMC activities** – some SMC campaigns contain other health interventions or other malaria control activities. In Niger, malnutrition screening has been combined with SMC and forms are designed to collect data on both interventions. Tally forms contain both the number of children receiving SMC and the number of children identified with red, yellow, and green mid upper arm circumference (MUAC) measurements. In Mali, additional tally forms are used to track the number of RDTs performed, the number of positive RDTs and the number of ACTs administered to febrile children encountered during SMC campaigns.

**Paper-based & digital data collection tools**

Most SMC campaigns still use paper-based tools, especially countries that have a large surface area to cover. However, over the last few years more and more countries are using digital tools to collect their SMC data. Some countries such as The Gambia have fully digitized their campaign since 2015 (see [this case study](https://www.crs.org/sites/default/files/tools-research/electronic_data_collection_in_the_gambia_for_smc_and_itns_campaigns_-_9.27.2021.pdf) to learn how The Gambia is evolving with its use of different mobile platforms) and other countries have parts of their campaigns digitized (for example in Cameroon digital tools are used from the aire de sante level onwards, but not from the CHW level).

Campaign digitalization should be strongly considered if transparency is prioritized. Digitalization of campaigns allows the campaign team to monitor most activities, in almost real time including, training of campaign staff, registration of household/children including location, digitally capturing delivery of medication, and tracking campaign worker activities. Further, these datasets and devices can have value beyond the campaign itself and be used to support other health campaigns within the country as is done in Benin.

As countries opt to digitalize either sections or their entire SMC campaigns, we recommend countries learn from those that have experience using different types of applications/platforms and tools. NMCPs from the following countries can be contacted to share their experiences:

* Benin and Nigeria use RedRose
* Burkina Faso and Niger are piloting DHIS2 Tracker
* Ghana uses an android-based tool called SiCapp
* The Gambia has used iFormBuilder, CommCare and is now piloting DHIS2 Tracker

 While the digital platforms have been proven and field tested in at least one country, most countries above have shared that it is useful to first pilot the digital platforms in a smaller geographic area before scaling as contextual issues can complicate implementation. Regardless of how the pilot testing is done, countries should factor in time (at least 6 months prior to first digital campaign) and resources during the planning phase for use of the tool (training and field testing). Alliance for Malaria Prevention (AMP) provides guidance on use of digital tools during campaigns (<https://allianceformalariaprevention.com/tools-guidance/improving-itn-campaign-efficiency-through-use-of-digital-tools/>). Catholic Relief Services developed a two page brief outlining factors contributing to success for digital malaria campaigns (<https://www.crs.org/sites/default/files/11_success_factors_for_digital_malaria_campaigns_-_twopager_1.pdf>). Availability of resources to sustain the roll-out post-pilot, including procurement and repair of mobile devices and accessories, purchase of internet data, technical capacity of in-country staff to troubleshoot system challenges, etc., are also important to consider.

As countries implementing SMC are now developing SMC indicators in their DHIS2, countries are eager to have their SMC digital campaign tools integrate seamlessly with DHIS2. However, this integration is a work in progress in most countries (see box).

**Ghana’s experience integrating SMC data into DHIS2:**

Ghana’s digital data collection tool called SicApp is the primary method for capturing field data on SMC. There is an aggregate form in the national HMIS database (DHIMS2) for entering SMC data at facility level. The SicApp has a summary form which aggregates this data for easy entry into the DHIMS2. There are ongoing discussions to explore linking the SicApp to the DHIMS2 for seamless transfer of data.

**Pros:**

* Ensures easy aggregation of data for entry into DHIMS2
* Data in DHIMS allows wider access to SMC data beyond implementing districts and regions
* Allows easy comparison of SMC implementation data with epi data (case data) from facilities)

**Challenges:**

* Possible data entry errors whiles transferring data from SicApp to DHIMS
* Late reporting of data due to other competing activities after SMC season

In addition to increased coverage of targeted population, including vulnerable populations, more equitable campaign outcomes, ability to respond rapidly based on live data, digitalizing a SMC campaign also means that the number of forms is minimized. For example, paper-based registers do not exist separately in the digital format: as children are registered into the devices during administration of the first dose, they are automatically aggregated to form a list of all children.

**Issues and solutions in CHW recording and reporting**

The recording of information and the quality of recorded data are recurring concerns in health programmes involving community health workers. Best practices in data collection, field practice and understanding the importance of data quality are some important aspects that must be emphasized during a CHW SMC training. Alternative solutions must be found to adapt to the level of education, literacy levels, qualifications, and experience of distributors, such as a literate member of the community who can be trained to assist the health worker in recording information (e.g., a schoolteacher or students, when feasible), or by designing pictorial data collection tools, for use in lower literacy settings. In addition, if resources are sufficient and available, using digital tools with either user-friendly or pictorial data entry screens can help improve recording and reporting by CHWs.

While training and tool design are important, there also needs to be a system in place to assess data quality throughout the campaign. For example, a selection of forms can be sampled to assess for completeness, inaccuracies, etc. Therefore, supervisors play a critical role in accurate recording and reporting by CHWs.

Support in delivering SMC and recording and reporting information might also be obtained from health workers in neighbouring localities if SMC is not conducted on the same date.

Link to OPT-SMC refresher training videos: <https://www.lshtm.ac.uk/research/centres-projects-groups/opt-smc#smc-training-videos>