Using a health facility scorecard to monitor and improve the coverage of child health interventions in rural Uganda

March 2019 www.mcsprogram.org

BACKGROUND

USAID's flagship Maternal and Child Survival Program (MCSP) provided tailored technical assistance to Uganda's Ministry of Health (MOH) and USAID's Regional Health Integration to Enhance Services (RHITES) projects in the East Central (EC) and South Western (SW) regions from January 2017 to February 2019. MCSP's objective was to identify, demonstrate and work with the MOH and RHITES partners to rollout a package of low-cost, high-impact, evidence-informed child health interventions at all levels of care. As part of its support, MCSP piloted a simplified child health scorecard that produced promising results. This brief describes the scorecard, how it was used to monitor health facility performance and the early results in MCSP-assisted districts.

The use of health facility scorecards and dashboards is well documented in the fields of immunization and maternal and child health[1][2][3][4]. Eighteen of thirty-two MCSP country programs adopted and introduced either a scorecard or a data dashboard to track and encourage improvements in service coverage, quality and/or outcomes.[5] Five of these eighteen MCSP country programs, including Mozambique, Democratic Republic of Congo, Kenya, Liberia and Rwanda have applied paper and/or electronic dashboards to improve monitoring of child health interventions.

As in many countries, health facility staff and district managers in Uganda generate data for the health system as a whole but often lack the tools and skills to use data effectively in monitoring and taking action to improve their own performance. In 2014, to respond to their needs, Uganda's MOH developed a comprehensive reproductive, maternal, newborn, child and adolescent health (RMNCAH) scorecard, as a management and accountability tool. Constructed to track performance against a set of 23 prioritized RMNCAH indicators (taken from the National Health Sector Development Plan and RMNCAH Sharpened Plan/Strategy for Health in Uganda), the objective was to visually present and allow district health management teams (DHMT) and health facility in-charges to monitor and improve their own performance.

Unfortunately, due to shortfalls in funding, the MOH was not able to roll out the original RMNCAH scorecard beyond the regional level and a few districts. Nonetheless, there was significant learning from its introduction that MCSP was able to build upon. First, the RMNCAH scorecard proved to be challenging, even for district managers, primarily because too many of the scorecard indicators required the computation of percentages and indices using denominators that were not available to

[1] Kiberu VM, Matovu JK, Makumbi F, Kyozira C, Mukooyo E, Wanyenze RK. Strengthening district-based health reporting through the district health management information software system: the Ugandan experience. *BMC Med Inform Decis Mak*. 2014;14:40. Published 2014 May 13. doi:10.1186/1472-6947-14-40

[2] Etamesor S, Ottih C, Salihu IN, Okpani AI. Data for decision making: using a dashboard to strengthen routine immunisation in Nigeria. *BMJ Glob Health*. 2018;3(5):e000807. Published 2018 Oct 2. doi:10.1136/bmjgh-2018-000807

[3] J.Crofts: https://www.who.int/bulletin/volumes/92/2/13-124347.pdf

[4] Tools for Data Demand and Use in the Health Sector, https://www.measureevaluation.org/resources/publications/ms-11-46

[5] MCSP's forthcoming report on "data dashboards".

district managers. Secondly, the computation of most RMNCAH scorecard indicators required a computer, something that the majority of health facilities lacked.

METHODOLOGY

In 2018, MCSP and the MOH developed a simplified scorecard—one that focuses exclusively on child health indicators. MCSP initially proposed the concept to the MOH, WHO, and other partners for their support, and then worked with the MOH to design a prototype. Applying lessons from the national RMNCAH scorecard experience, the designers of the child health scorecard sought to avoid some of the earlier problems by selecting only indicators that could be calculated using readily available data from health facility- and community-level registers and records, and from national health management information system (HMIS) reports. The designers also gave preference to indicators that the intended end-users at district and health facility level could easily interpret. Both facility and community indicators related to child health were included to encourage greater attention to the linkages between these two critical levels of primary health care (PHC). Finally, they designed the scorecard so that it could be populated either manually or electronically, eliminating the need for a computer.

The scorecard prototype was field tested, then reviewed and approved by the national Maternal Child Health Cluster and the Integrated Management of Newborn and Childhood Illnesses (IMNCI) Technical Working Group before being used with the DHMTs and health facility in-charges to identify performance problems and develop appropriate responses. A sample scorecard for Luuka district is shown in Figure 1 below. See Annex 1 for the full scorecard with all of the key indicators.

Figure 1. Sample child health scorecard for Luuka district (MCSP 2018)*.

PY4 Quarter 2 (January-March 2018)										
Health Facility (HF) name:	**Submission of VHT quarterly reports**	**Presence of QWIT team[6]**	**Duration of stock out Zinc/ORS Co-pack (days)**	**Duration of stock out Amoxicillin dispersible tabs (days)**	**Duration of stock out of Measles vaccine (days)**	**Presence of an ORT corner**	**# of VHTs reporting**	**% of Pneumonia Treatment**	**% of Diarrhea Treatment**	**% of Malaria Treatment**
Naigobya UDHA	Yes	No	0	0	0	Yes	8	50%	50%	74%
Kiyunga	Yes	Yes	40	30	0	Yes	4	73%	29%	100%
Nakiswiga	Yes	Yes	0	0	0	Yes	1	67%	27%	100%
Maundo	Yes	Yes	0	30	0	Yes	1	97%	33%	93%
Waibuga	Yes	Yes	0	18	0	Yes	2	100%	35%	100%

*Data extracted by MCSP from a routine health facility assessment.

As shown, the scorecard was color-coded to simplify interpretation for the various end users and highlight the levels of performance per indicator. Red indicated performance below the lowest threshold limit, or very poor performance needing urgent action; yellow indicated performance between the lower threshold and the target, or not yet satisfactory performance needing more improvement; and green indicated performance meeting or above the target, or satisfactory performance.

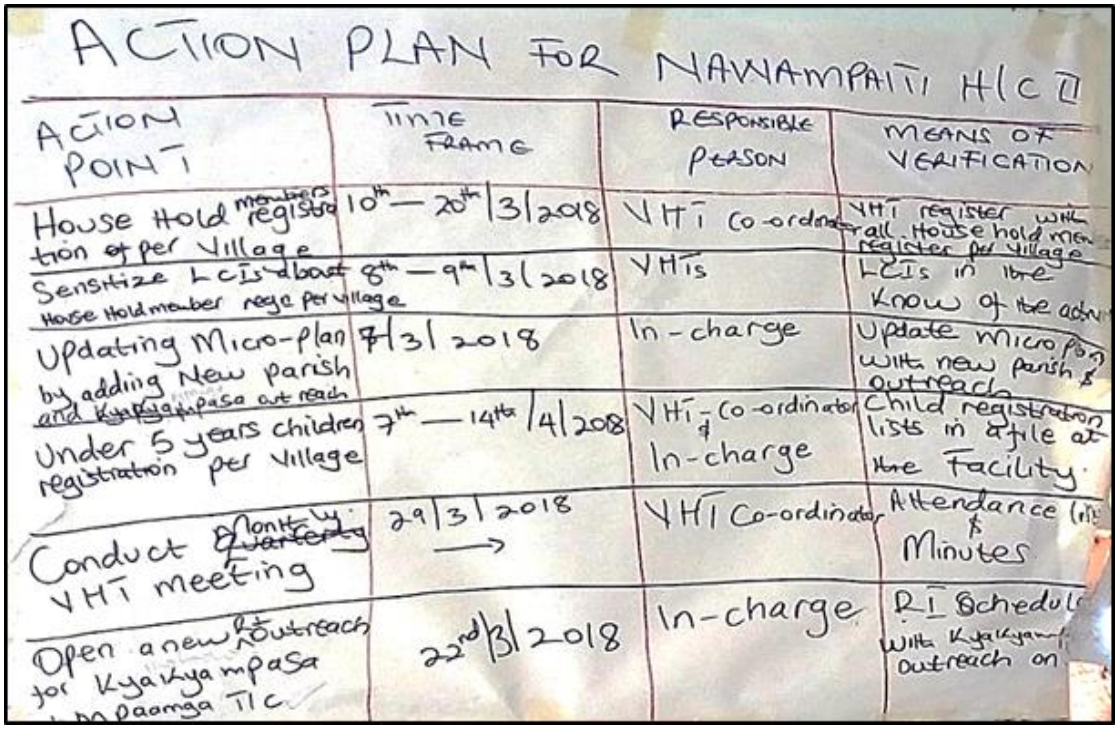
To ensure scorecard data quality, MCSP, the MOH, and the RHITES partners collaboratively supported the DHMTs and health facility managers to conduct quarterly data quality self-assessments that involved comparing their district health information system 2 (DHIS2) reports and facility registers.

[6] Quality Work Improvement Team (QWIT): comprised of health workers and community members that in some cases acts as the main structure for implementation of Continuous Quality Improvement (CQI) at the health facility.

MCSP initially facilitated use of the scorecard in collaboration with RHITES partners in April 2018, but this role was transferred to the district biostatisticians in all four of the demonstration districts during quarterly performance review meetings that began in June/July 2018. The DHMTs and the non-health stakeholders (e.g., local leaders including politicians, and religious and civic leaders) reviewed the data visualized in the scorecard during these quarterly meetings. District teams were comprised of both technical and political officials, including HMIS focal persons, biostatisticians, records assistants, health facility in-charges, and political leaders at district, sub-county, and community levels.

Each health facility in the district developed a quarterly action plan (Figure 2) based on interpretation of the scorecard findings and discussions with the DHMTs. The action plans were displayed at health facilities as reminders and used as references during follow-up supportive supervision visits.

Figure 2. Sample facility action plan developed by Nawampaiti Health Center Level II in Ntungamo district, SW Uganda.



ACTION PLAN FOR NAWAMPAITI HC II

ACTION POINT	TIME FRAME	RESPONSIBLE PERSON	MEANS OF VERIFICATION
House Hold members registration of per Village	10th — 20th/3/2018	VHT Co-ordinator	VHT register with all House hold members register per Village
Senstize LCIs about House Hold member rege per village	8th — 9th/3/2018	VHTs	LCIs in the Know of the activ
Updating Micro-plan by adding New parish and Kyakyampasa out reach	7/3/2018	In-charge	Update Micro plan with new parish & outreach
Under 5 years children registration per Village	7th — 14th/4/208	VHT Co-ordinator & In-charge	Child registration lists in afile at the facility.
Conduct Monthly Quarterly VHT meeting	29/3/2018 →	VHT Co-ordinator	Attendance list & Minutes
Open a new Outreach for Kyakyampasa Paamga TC	22nd/3/2018	In-charge	RI Schedule with Kyakyam outreach on

RESULTS

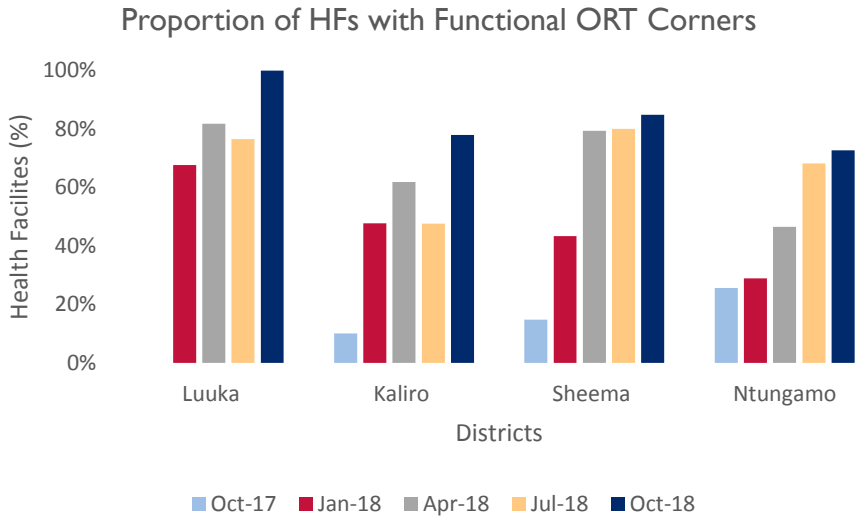
The scorecard helped the DHMTs, RHITES partners and MCSP to track critical interventions during the rollout of the essential child health package in the four MCSP-supported demonstration districts. During performance reviews, the scorecard helped with the identification of health facilities (those with indicators in red or yellow) needing targeted support from their DHMTs and/or technical mentors. Similarly, the color-coded results presented in the scorecard enabled the non-health stakeholders to easily identify those health facilities facing challenges and requiring their support.

The scorecard also helped to identify positive outliers/leaders (health facilities with above average performance) and some of their promising practices that other facilities were encouraged to adopt. For example, the scorecard helped districts and implementing partners to identify facilities that had taken the initiative to use their PHC funds to set up oral rehydration therapy (ORT) corners for the management of diarrhea (Figures 3a and 3b). These health facilities shared how they had managed to procure and set up the equipment and the rest of the facilities were challenged to do the same by the district technical and political leadership. As a result, the proportion of health facilities in the demonstration districts with functional ORT corners increased from only 14% in October 2017 to 83% by October 2018, and appropriate diarrhea management had increased from 77% at baseline to 93% by the end of September 2018.

Figure 3a. ORT corner established at a health facility in Sheema district. MCSP/Robert Byabasheija.

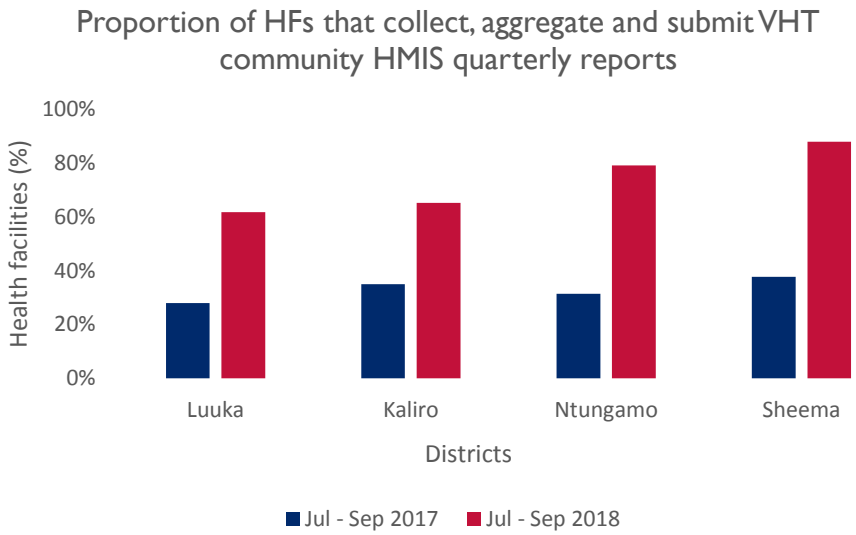
Figure 3b: ORT corner established at a health facility in Kaliro district. MCSP/Robert Byabasheija.

Figure 4. Increasing numbers of health facilities with a functional ORT corner in four MCSP demonstration districts (October 2017 to October 2018).



The scorecard also helped districts address the common misperception among health facility managers that PHC funds are insufficient to support the Village Health Team (VHT) engagement meetings that they should be conducting on a regular basis. Identifying health managers who were successfully using their PHC funds to support VHT engagement meetings resulted in the districts discussing and coming to agreement with all health facility managers that they, too, would start using some of their PHC funding to support VHT engagement meetings. As a result, more health facilities leveraged their own resources and this contributed to an increase in the proportion of health facilities submitting quarterly community HMIS reports completed by their VHTs, from 27% from July to September 2017 to 75% in the same period in 2018 (Figure 5).

Figure 5: Increasing numbers of health facilities in four MCSP demonstration districts submitted quarterly community HMIS reports completed by VHTs (July to September 2017 compared to July to September 2018).



The scorecard helped to identify and address critical challenges affecting all health facilities, such as stock outs. Health facilities with a long duration of measles vaccine stock outs were identified using the scorecard and followed up to determine the reasons why. In this case, it was determined that the majority of these health facilities were not able to collect vaccines from district stores due to a lack of transportation. To remedy this situation, the Chief Administrative Officer for the district agreed to allocate one of his vehicles every month to support the transportation of vaccines to health facilities.

Stock outs of dispersible amoxicillin for pneumonia treatment were also common in several districts. When it was discovered that one district had not received any supplies of dispersible amoxicillin for the previous six months, MCSP and RHITES EC engaged the MOH Pharmacy Division and other key stakeholders to sound the alarm. This resulted in resumed delivery of dispersible amoxicillin to the affected district.

Another common problem was very low reporting and tracking of VHT community engagement activities, including health promotion and disease prevention interventions for child health (e.g., promotion of insecticide-treated bed net use, vitamin A supplementation, and deworming). MCSP worked with RHITES and the MOH Resource Center to organize targeted orientations and supportive supervision to address the common challenges with VHT reporting across health facilities.

Other benefits from use of the child health scorecard included healthy inter-facility competition to achieve service delivery targets; continuous identification of facilities in need of support; and, comprehensive engagement of all health facility staff (whole-site engagement) as opposed to training and holding only select focal persons responsible for monitoring and improving performance.

LESSONS LEARNED

Uganda's child health scorecard proved to be a useful quality improvement tool for DHMTs and health facility in-charges. Lessons learned from their experience with the tool are:

- The child health scorecard provided a snapshot of health facility performance that was easy to understand and communicate to key stakeholder groups, ranging from non-technical district managers/leaders to frontline health workers and community members.
- During quarterly review meetings, the scorecard helped to identify and prioritize those health facilities needing targeted support from the DHMTs and/or technical mentors (i.e., those health facilities with a relatively larger number of indicators in red or yellow).

- The scorecard served as an early warning system to identify underserved populations for key interventions, such as immunization, before instead of after the facility/ district had already begun to see disease outbreaks.
- The scorecard assisted with setting priorities by identifying, rationalizing, and aligning activities carried out by different players in the delivery of child health services. District leaders and DHMTs used the scorecard to prioritize their support to health facilities; and health facilities used it to assess their own performance in relation to established performance targets and the goal of improving child health outcomes.
- Use of the scorecard triggered healthy competition among health facilities to reduce the number of red and yellow indicators and, thus, improve service delivery.
- The ability to visualize data during performance reviews resulted in health facility in-charges allocating PHC funds to support community engagement activities for child health services. In Luuka district, the proportion of health facilities funding at least one VHT quarterly meeting increased from 27% in September 2017 to just under 74% by September 2018.
- Health workers appreciated the scorecard as a one-stop platform for tracking a comprehensive list of child health performance indicators. By tracking implementation and identifying key gaps, health facilities were able to develop realistic action plans to address the gaps, request help when it was needed, and then monitor their own results.

RECOMMENDATIONS

DHMTs and non-health stakeholders made the following recommendations for improvement and future use of the child health scorecard:

At National Level

1. Districts and health facilities should monitor a set of core indicators using the scorecard, while being allowed the flexibility to add other indicators that reflect local priorities and improvements in health facility performance.
2. The child health scorecard with indicators computed using readily available data should be scaled up for use at district and health facility level beyond the initial demonstration districts.

At District and Health Facility Level

1. Data quality is a major challenge that must be continually addressed to ensure the credibility of the scorecard and its usefulness in monitoring and planning. Comparisons between districts and facilities over time are valuable, but only when performance data are reliable.
2. Using a scorecard often leads to a fresh appreciation for what needs to be done or changed to improve service delivery and systems at all levels.

WAY FORWARD

The child health scorecard is a tested tool for tracking the delivery and coverage of child health interventions at health facility level in Uganda. It has been adopted by the district health offices in MCSP's four demonstration districts. The MOH is currently reviewing experiences with it, with the national RMNCAH scorecard and with other performance tracking tools and will use lessons learned from these experiences to refine a scorecard (or a set of scorecards) for wider use at district and health facility levels. There are also discussions about adapting the child health scorecard for integration into the DHIS2, as a one-stop tool for tracking the delivery of child health services.

Annex 1. Sample child health scorecard for Luuka district (January to March 2018)*

PY4 Quarter 2 (January-March 2018)														
Health Facility (HF) name:	**Level of care**	**# of Villages served by HF**	**Submission of VHT quarterly reports**	**Presence of QWIT team**	**QWIT team addresses CH**	**Duration of stock out Zinc/ORS Co-pack (days)**	**Duration of stock out Amoxicillin dispersible tabs (days)**	**Duration of stock out of Measles vaccine (days)**	**Presence of an ORT corner**	**VHT Quarterly meeting**	**# of VHTs reporting**	**% of Pneumonia Treatment**	**% of Diarrhea Treatment**	**% of Malaria Treatment**
Naigobya UDHA	HC II	4	Yes	No	No	0	0	0	Yes	0	8	50%	50%	74%
Kiyunga	HC VI	28	Yes	Yes	Yes	40	30	0	Yes	1	4	73%	29%	100%
Nakiswiga hcii	HC II	6	Yes	Yes	Yes	0	0	0	Yes	1	1	67%	27%	100%
Maundo	HC III	5	Yes	Yes	No	0	30	0	Yes	1	1	97%	33%	93%
Waibuga	HC III	18	Yes	Yes	Yes	0	18	0	Yes	1	2	100%	35%	100%
Busiiro	HC II	6	Yes	Yes	Yes	0	0	0	Yes	1	1	75%	83%	100%
Bukendi	HC II	6	No	No	No	0	0	90	Yes	0	0	5%	76%	75%
Irongo	HC III	8	Yes	Yes	Yes	0	0	0	Yes	0	5	17%	90%	79%
Kiwalazi	HC II	8	Yes	Yes	Yes	0	60	90	Yes	1	5	100%	100%	87%
Kalyowa	HC II	6	No	No	No	0	0	0	Yes	0	7	-	100%	99%
Kiibinga	HC II	5	No	No	No	90	90	90	No	0	0	-	0%	-
Nawampiti	HC II	12	No	No	No	0	30	0	Yes	1	8	33%	186%	-
Ikonia	HC III	10	No	No	No	0	30	30	Yes	0	5	85%	77%	81%
Nawanyago	HC II	4	No	No	No	0	0	0	No	0	0	-	65%	96%
Naigobya Lutheran	HC II	3	No	Yes	No	0	17	90	No	0	0	11%	75%	60%
Bukanga	HC III	42	No	Yes	No	0	0	0	Yes	0	4	70%	80%	88%
Buwologoma	HC II	9	No	No	No	30	90	90	No	0	0	-	50%	100%
Budhana	HC II	4	No	No	No	5	90	30	Yes	1	0	-	91%	77%
Bulalu	HC II	7	No	No	No	0	83	0	Yes	0	7	62%	89%	100%
Ikumbya	HC III	11	No	Yes	Yes	0	60	60	Yes	0	2	44%	84%	93%

*Data extracted by MCSP from routine health facility assessment.

Indicates no data recorded /data invalid.

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