The Fifth Child: Closing the Immunization Gap

Implementation and Evaluation in Benishangul Gumuz Regional State, Ethiopia

Globally, one in five children does not receive their full course of immunizations, leaving them at risk of preventable disease. In Ethiopia, the situation is even worse, with a national average of only 37% coverage for pentavalent 3 (penta 3) vaccination, where 13% of infants received no vaccines at all. This project and accompanying evaluation particularly focuses on Benishangul Gumuz Regional State (BGRS) where the coverage for penta 3 vaccination was 41.7% in 2011.[1]

IRC's experience of working in BGRS suggested that the following barriers contributed to these low coverage rates:

1. Misunderstanding about vaccines, particularly the vaccination schedule;
2. Poor health-seeking behavior, often due to a lack of confidence in the health system;
3. Lack of access to services, particularly due to irregular immunization outreach services;
4. Generally low capacity among health workers, especially related to defaulter tracing and stock management; and
5. Shortage of vaccines at facilities, most often due to poor forecasting of vaccine needs and ruptures in the cold chain.

Location:
Assosa and Bambasi Woredas,
Benishangul Gumuz Regional State

Duration:
Implementation (January 1, 2016 - August 31, 2017)
Evaluation (January 1, 2016 - December 31, 2016)

Partners:
Assosa and Bambasi Woredas Health Offices, London School of Hygiene & Tropical Medicine (Evaluation)

Our Approach

The International Rescue Committee is supporting a multi-pronged approach (the Fifth Child Project) to help over 5,200 mothers and their children receive essential services in a timely manner, integrated with the existing Expanded Program on Immunization (EPI). The aim is to harness the support of the local community to ensure that no child is left unimmunized. Our strategy includes two tailored tools: (1) the Enat Mastawesha – a color-coded calendar clarifying appointment dates and (2) a defaulter tracing tool – a paper-based register facilitating follow-up of unimmunized children. Together with ongoing mentorship for health workers, these tools are used to foster community engagement in immunization service delivery and uptake.

The theory of change of this approach was that if health workers were better able to collaborate with select community members to register, counsel and track all pregnant women and infants in their catchment areas, uptake of key perinatal services, such as immunization and post-natal family planning, would increase. The impact of this intervention was assessed in a formative evaluation in 2016.

Project components

- Supporting caregivers in the home and in the community. We provide a color-coded health calendar known as *"Enat Mastawesha"* (mother's reminder) to households with pregnant women and newborns that focuses on the uptake of perinatal care services, skilled delivery, immunization and postpartum family planning. This is also used as an education tool during home visits by health extension workers (HEWs), who staff health posts, and by health development army members (HDAs), who are community-based health and development workers.
- Tracing children who have defaulted. We developed and tested a system which HEWs and HDAs can use to more easily identify and follow-up with unimmunized children.
- Fostering community ownership. We work with community leaders to arrange immunization outreach sessions, particularly in hard-to-reach places, and to encourage the attendance of immunization defaulters
- Mentoring health workers. We train and support HEWs to deliver quality services with improved interpersonal communication skills. This learning is shared with HDAs.

1 Central Statistical Agency [Ethiopia] and ICF International, 2011, 2012. Ethiopia Demographic and Health Survey.

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INTERNATIONAL RESCUE COMMITTEE

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

FORMATIVE EVALUATION

Purpose:
1) To document how the 'The Fifth Child Project' is integrated within the health extension programme (HEP) within 2 districts ('woredas') in BGRS.
2) To evaluate the implementation of project's 'theory of change' and consider what needs to be adapted to achieve the desired outcomes.
3) To evaluate the implementation of the community co-management approach and the utilization and acceptability of project tools.
4) To monitor the contribution of the project to improving immunization performance.

Methods:
Quantitative: Penta 1 and 3, and measles vaccine coverage in infants <1 years (Jan 2013-Dec 2016), and maternal health statistics (Jan-December 2016) were monitored by IRC in Assosa and Bambasi woredas. This data was obtained from the *woreda* level Health Management Information Systems (HMIS) and stored in an excel database on password- protected computer.
Qualitative: Data collection took place in 3 *kebeles* (2 in Assosa and 1 in Bambasi) in May-July 2016. It comprised 46 semi-structured interviews (SSIs) conducted with caregivers (12), *kebele* leaders (9), HDAs (9), HEWs (6), nurses (3), HEW supervisors (3), *woreda* health officials (WoHOs) (3), 6 focus group discussions, (3 with caregivers & 3 with HDAs) and 16 semi-structured observations of 3 *kebele* command post meetings and 12 home visits carried out by HEWs or HDAs.

This qualitative data was collected by a team of 4 local researchers who were trained by LSHTM investigators. Interview and observational data was transcribed by the research team and translated from Amharic into English by a company based in Addis. The complete data set was sent to LSHTM investigators who conducted a thematic analysis with the support of an Ethiopian translator. Questions arising from the analysis were explored and verified in additional field work: 2 focus group discussions with HDAs/ Caregivers, and 1 SSI with a *woreda* health official, 2 SSIs with *kebele* leaders and a dissemination workshop in Assosa).

Results: Quantitative

Trends in immunization and maternal health data:
A. *Immunization coverage trends (Figure I)*
In Assosa *woreda*, according to routine administrative data covering 3,237 infants, penta 1 coverage increased from 65% in 2013 to 82% in 2016; penta 3 increased from 63% in 2013 to 84% in 2016 and measles coverage increased from 77% in 2013 to 79 % in 2016. In Bambasi *woreda*, totaling 1,971 infants, the penta 1 coverage increased from 80% in 2013 to 97% in 2016; penta 3 increased from 78% in 2013 to 88% in 2016 and measles coverage increased from 59% in 2013 to 83% in 2016.

B. *Antenatal care coverage (Figures II and III)*
Health facility data on the first and fourth ANC visits are presented in the graphs for Assosa and Bambasi *woredas.*

C. *Post-partum family planning coverage (Figure IV)*
The proportion of mothers using postpartum family planning in Assosa increased from 12% in January 2016 to 74% in December 2016, and in Bambasi *woreda*, it increased from 18% in January 2016 to 43% in December 2016 based on routine facility data, with the majority of acceptors choosing contraceptive implants.

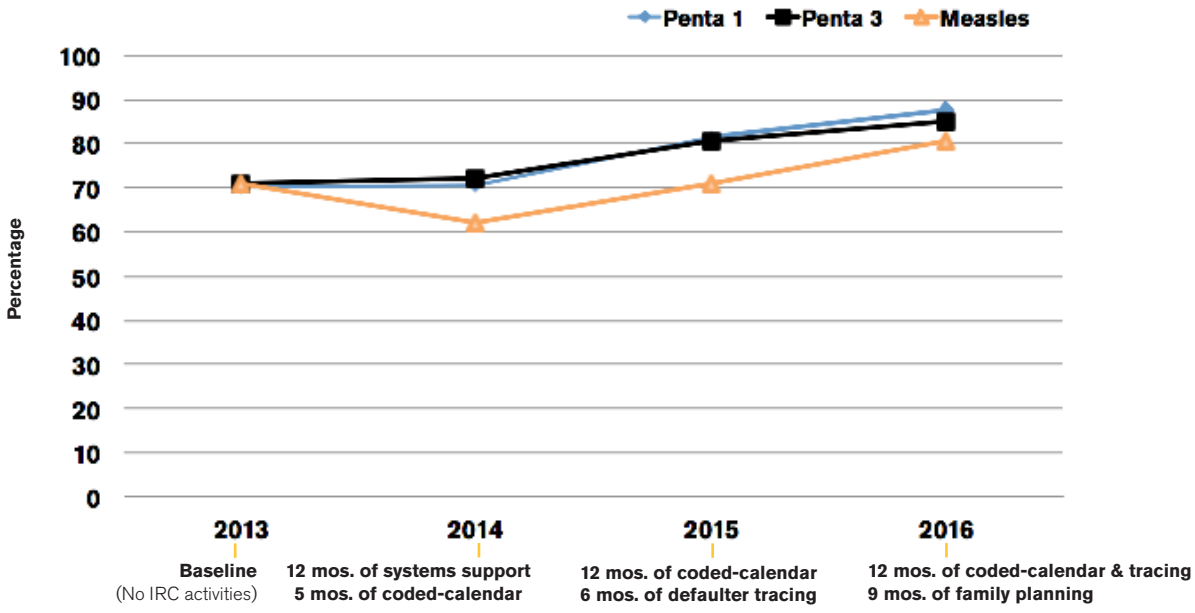
Findings: Qualitative

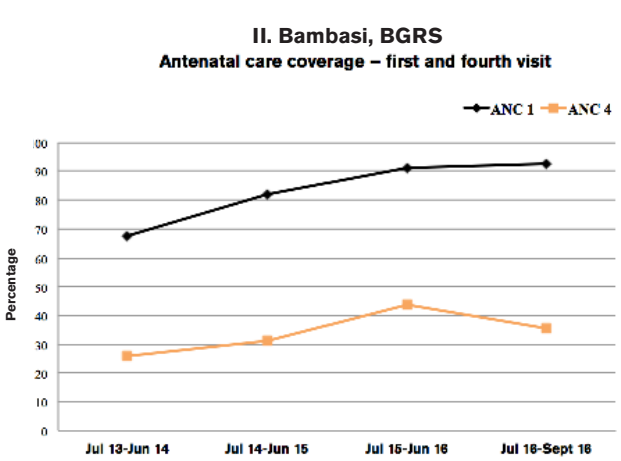
Participant demographics

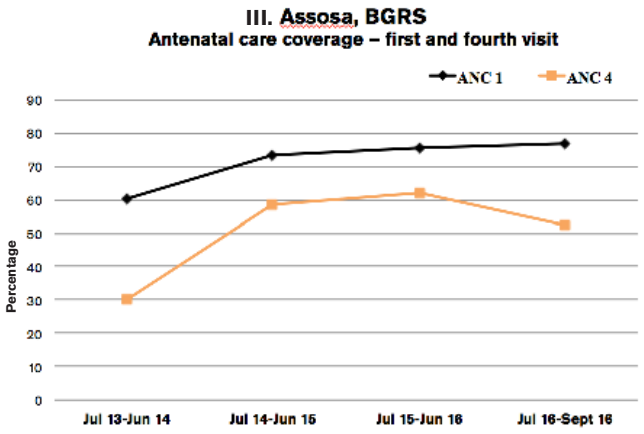
Caregivers (N=12)
8 mothers and 4 fathers;
Average age: 30 years (range: 20-40)

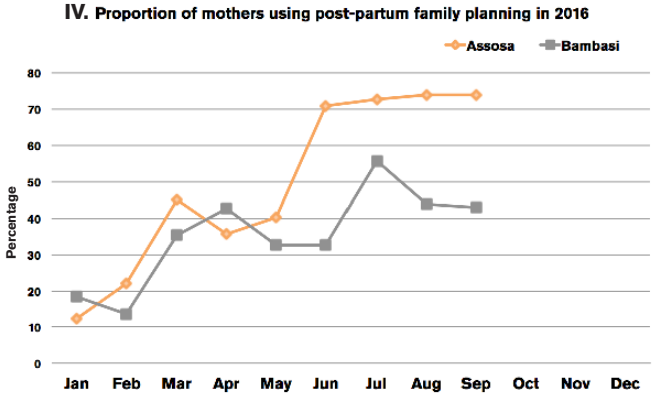
Community Health Care Workers (N= 21)
6 HDAs, 3 HDA leaders, 6 HEWs, 3 HEW supervisors, 3 nurses
Average age: 28 (range from 21 to 50)
5 males, 15 females

I. EPI Coverage in Assosa and Bambasi Woredas in BGRS









Community Leaders (N=9)
3 women and 6 men
Average age: 33 years (range: 24-54)
4 teachers, 2 *Kebele* manager, 3 *Kebele* chairman

Woreda Health Officials (N=4)
1 health promotion and disease prevention coordinator, 2 EPI officers, 1 health development worker
Education: 3/4 12+3; 1 BSc
Age from 34 -48 (average 41)
4/4 males
Time in current role: 6 months - 5 years

Synopsis of the main analytical themes

Community acceptance of the project: *"Had the community and the leaders not accepted Enat Mastawesha as a positive thing, it would not have been admitted into our houses. In the same way, a door is opened with keys, the calendar was introduced with the consensus of the community."* (FGD, female caregivers). IRC staff addressed initial hesitation about the project in orientation meetings with community leaders. Project training for HEWs was also reported to have increased understanding especially when they passed on information and skills they had acquired to HDAs working in their areas. At the time of qualitative data collection, familiarization with the project tools, had resulted in high levels of acceptance, attested by requests for the project to continue and expand to other areas from all groups of interviewees. One HEW demonstrated her sense of ownership and commitment to the project by placing additional emphasis on reaching the 5th child: "*In my area our motto is: 'If 1 child goes unvaccinated then we might as well not have vaccinated the other 4'."* (HEW, #11).

***Enat Mastawesha* - facilitating health interactions:** The calendar was described by all interviewees as an excellent personalized reminder for mothers that reduced health workers' workload, increased demand for immunization, and supported timely uptake of vaccines. Using the Enat Mastawesha helped caregivers "*gain a sound understanding of immunization"* and *"come to know about raising children healthily"* (Female caregiver, #34).

Illiterate users could identify calendar dates but were unable to read the titles of the health education pictures. Despite this, these users were mainly able to relay and to act on the key messages conveyed by the pictures. Conversely HEWs reported that more literate users queried the choice of pictures with regards to the text headings. The application of color-coded stickers for different health service appointments was used to make the tool more accessible for illiterate users. *"Even though I cannot read and write, I am still reading the Enat Mastawesha. I find it extremely useful."* (Female caregiver, # 35) The calendar was attached to walls in caregivers' homes and facilitated open discussions between family members. *"Since the training with the Enat Mastawesha we have learnt that everything can be discussed openly within the marriage, with health workers and even with friends."* (Male caregiver, #7).

Enabling systematic follow-up: HEWs stated that the defaulter tracing system improved their access to vaccination data and enabled them to count and identify defaulters more effectively. Similarly, WoHOs viewed the system as a good source of information and valued the discussions it opened up with *kebele* leaders. HDALs coordinated the follow up of defaulters enlisting the support of *kebele* and village leaders where necessary. The level of involvement of community leaders ranged from strategic assistance, e.g. sending local militia to find infants who were displaced due to parents' gold mining activities, to active follow-up and in some instances enforcement.

Caregivers generally supported kebele leader involvement in defaulter tracing, stating it promoted compliance since leaders *'were heard by the community'*. However, they also highlighted their own role in promoting vaccination uptake as part of the 1 in 5 HDA model household health network, and one mother argued that vaccine decision-making was the responsibility of the family unit.

"The kebele leaders do not do the work of searching children or infants who discontinued vaccination. The community brings children to vaccination centers by themselves. Except my husband no one orders me to take my child to get vaccinated" (Female caregiver, # 19).

Community co-management: Pre-existing HEP and *Kebele* Command Post community accountability structures supported community co-management of the project, although differing levels of engagement were observed. Factors that influenced engagement were: 1) the frequency of command post meetings, 2) whether HEWs tabled activity reports, and, 3) *kebele* leaders' priorities and commitments. The contribution of WoHOs (oversight and supervision) also varied depending on budgetary, workload and time constraints. *Kebele* leaders' specific project input included reviewing vaccination planning, highlighting service gaps, community mobilization prior to vaccination outreaches, and supporting defaulter tracing. With regards to the latter we found evidence of community agreed sanctions (e.g. monetary fines, cautions by local court that aimed at ensuring that pregnant mothers gave birth at health facilities and caregivers complied with the EPI infant vaccination schedule).

Demand for, and access to, vaccination: Logistical support provided by the 'Fifth Child Project' enabled health workers to conduct immunization outreach in remote villages. This was greatly appreciated by WoHOs, who reported a shift in opinion about vaccination and an increase in demand since the introduction of the HEP. *"Families feel like these vaccinations are their human right, and if vaccinations don't take place as scheduled, they come to us to ask when the vaccines will be given"* (WoHO, # 28). In gauging the role the 'Fifth Child Project' had played in this change in opinion, health workers highlighted the personalised interactions it facilitated with caregivers, especially for hard-to-reach families. Interviewees also discussed the continued need to address other infrastructural barriers to vaccination, such as lack of fridges, timing of outreach sessions, or shortage of vaccines.

Health system integration: District health officers reported that the 'Fifth Child Project' became a valuable and integral part of the existing HEP. Kebele leaders and other health workers agreed that the project had created more systematic ways of encouraging uptake of immunization in their communities. *"This project has introduced a new way of working. Previously there was no mechanism to remind mothers about delivery and their vaccination schedule. Having the Enat Mastawesha and the follow up form is useful for reminding the women of their check-up dates and vaccination dates. This all in one format has proved to be very useful."* (WoHO, #14)

Study strengths and limitations: The mixed methods approach allowed us to evaluate the 'Fifth Child Project's' theory of change with regards to the fidelity of the intervention, its acceptance and feasibility, and how it is embedded in the cultural and health systems context. The data collection team lived in BGRS, spoke Amharic and Rutaigna which facilitated study recruitment and verbal consent processes.

Mothers and children at an immunization outreach in Assosa. The IRC/Anna Kim

The limited sample size has some implications in terms of the generalisability of our findings. In light of this limitation, it would be of value to conduct a cluster randomized controlled trial with an embedded process evaluation to assess the impact in areas that have not yet been exposed to the 'Fifth Child Project'.

Conclusion and recommendations: Study findings suggest that the 'Fifth Child Project' has contributed to enhancing immunization performance in two districts of Benishangul Gumuz Regional State. Hence it is vital that health policy makers and service managers, who are responsible for the HEP at regional and national level, discuss with IRC how the 'Fifth Child Project' can be scaled-up sustainably. These discussions need to consider questions of co-financing and the need for additional evidence to test the impact of the 'Fifth Child Project'. Finally, we recommend that the following modifications, clarifications be made to the tools and community co-management approach:

1. Review the comprehension of the health education pictures, which are used in the calendar with regards to the related text titles;
2. Establish how community agreed sanctions for vaccination default are determined and administered;
3. Strengthen community co-management procedures.

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Shiferaw Demissie
Shiferaw.Demissie@rescue.org

Justine Landegger
Justine.Landegger@rescue.org

Siraj Mohammed
Siraj.Mohammed@rescue.org

Tracey Chantler
Tracey.Chantler@lshtm.ac.uk

Emilie Karafillakis
Emilie.Karafillakis@lshtm.ac.uk

Heidi Larson
Heidi.Larson@lshtm.ac.uk

Petros Gebrekirstos
Petros.Gebrekirstos@rescue.org

Naoko Kozuki
Naoko.Kozuki@rescue.org

Samuel Wodajo
MCH Case Team, Assosa Referral Hospital
wodajo.samuel@yahoo.com