CASE STUDY

BACK TO BASICS: ROUTINE IMMUNIZATION TOOLS USED FOR ANALYSIS AND DECISION MAKING AT THE TOGA HEALTH POST

Arbegona Woreda, Southern Nations Nationalities and Peoples Region, Ethiopia

JSI RESEARCH & TRAINING INSTITUTE, INC.
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Universal Immunization through Improving Family Health Services (UI-FHS) is a three-and-a-half year project implemented by JSI Research & Training Institute, Inc. in collaboration with the Federal Ministry of Health (FMOH) of Ethiopia. This project aims to learn, document, and share evidence with the FMOH and other stakeholders about how universal immunization can be achieved through affordable, practical, and sustainable approaches to reach all women and children with life-saving, potent vaccines. UI-FHS is active in three woredas Arbegona, Assaie, and Hintalo Wajerate, which are located in Southern Nations Nationalities and Peoples Region (SNNPR), Afar, and Tigray regions, respectively.

This case study is a collaborative work between the Arbegona Woreda Health Office (WoHO) in SNNPR and the UI-FHS project that highlights the “best practices” initiative. It is designed to illustrate how the health extension workers (HEWs) of Toga Health Post (HP) collect, monitor, analyze, and use their data to make informed decisions to improve routine immunization services in their community. Two qualitative data collection methods were used to assess HEWs contributions; in-depth interviews (IDIs) and observations to assist with reliability. Additional quantitative data analysis of the HP immunization trends were conducted over the last three years.

The Arbegona WoHO and the UI-FHS team recognized the HEWs of Toga HP for their approach to immunization data collection and analysis. The HEWs developed simple data collection tools that have allowed them to track and analyze routine immunization (RI) information. In addition to these tools, they have recruited local government and community members to help trace defaulters, and register pregnant women and children under one-year of age. The HEWs and community leaders, as a Quality Improvement Team (QIT), are dedicated to weekly meetings to ensure all immunization information is up to date. The QIT includes community leaders, different government representatives, religious leaders and HEWs. This assortment of individuals ensures all areas of the community are included in committee decisions and actions.

While the HEWs have created a strong system for collecting and monitoring immunization data, there are still challenges to data quality and tool utilization. Over the course of the case study, observations revealed data quality problems, including calculation errors and inaccurate reporting, at all levels of the health system. While all the tools used seemed to be effective in registering eligible women and children, a recommendation would be to streamline the tools to make it easier to determine missed opportunities in services provided.

“Woreda” is equivalent to a district.
I. GOAL AND OBJECTIVES

In cooperation with UI-FHS and Arbegona WoHO, the goal of this case study is to identify how the health extension workers (HEWs) of Toga HP collect, analyze, and use immunization data to share with other woredas for scale up and scale out in Ethiopia. The objectives of this case study are to:

• Determine how immunization-related tools are being used for activating data review, analysis, and action by HEWs.
• Explore how HEWs utilize existing government (community administration) and volunteer structures (quality improvement teams) to assist with routine immunization services.
• Provide recommendations for improving immunization data collection and use in other health posts.

II. PURPOSE OF CASE STUDY

Toga HP was recognized by UI-FHS and Arbegona WoHO for its approach to the collection and analysis of routine immunization (RI) data. The HEWs of Toga HP have identified ways to use their data that have led to higher immunization coverage. This led the UI-FHS project to explore the reasons behind the HP’s successes. Findings from this case study will be used for scale-up and scale-out with the idea of spreading these strategies for adaptation and implementation in other woredas.

III. WOREDA DEMOGRAPHICS

Arbegona Woreda is located in the Southern Nations Nationalities and Peoples Region (SNNPR) in Sidama Zone, 77 kilometers from the regional capital of Hawassa. The rainy season in Arbegona is May through September. The capital city of the woreda is Yayye, where one health center (HC) is under construction to become the woreda’s first hospital. There are 38 rural and one urban kebele in the woreda. Currently, the woreda functions under the primary health care unit (PHCU) system, and has five functional HCs, 34 functional HPs, and five HPs under construction.

IV. TOGA HEALTH POST DEMOGRAPHICS

Toga HP is located in Toga Kebele, which consists of 19 gotes and has a total population of 4,467. Yayye HC is the responsible supervising PHCU for the HP, which is approximately three kilometers from Yayye HC. In January 2014, the Universal Rural Road Accessibility Project constructed a dirt road from Yaye town to Toga that is now accessible by four-wheel-
drive car. Toga HP holds three immunization sessions monthly; one is classified as static\(^5\) with an additional two outreach\(^6\) sessions in the kebele. All antigens are administered at every immunization session unless a stock-out occurs or there are not enough eligible children to open a multi-dose vial.

V. METHODOLOGY

This case study is an exploration into the current data collection and analysis methods of the HEWs of Toga HP in Arbegona Woreda. The case study team consisted of Miss Shamara Wheldon and Mr. Mulugeta Abera a local Ethiopian translator for Miss Wheldon. The case study team conducted an in-depth interview (IDI) with the senior HEW of Toga HP.

A. Selection of health post

Toga HP is recognized by UI-FHS and Arbegona WoHO for its approach to RI data collection and analysis. The case study team, the UI-FHS Regional Immunization Advisor (RIA) for Arbegona, and the Arbegona WoHO head super visor discussed documenting Toga HP’s data collection and analysis approach for immunization.

In addition to the WoHO discussions, the case study team collected Penta 1, Penta 3, and Measles coverage for the past three years to determine what analysis was being conducted internally at the HP.

B. Data collection

Because the WoHO endorsed the case study, the team directly contacted the HEWs of Toga HP. Two initial visits were conducted to gather basic demographic data from the kebele in March 2014 from the Senior HEW at the HP and initial introductions were made with the HEWs of Toga HP. These two visits included the supervising PHCU director and a member of the WoHO management committee and the assistance of the UI-FHS RIA for Arbegona. After the first two visits to the HP a hired translator assisted on April 14 – April 16, 2014 with the IDI and observation portion of the data collection. At the beginning of the IDI, written informed consent was obtained from the Senior HEW that was interviewed.

C. Data analysis

Interviews were directly translated and transcribed from Sidamigna (the local language in Arbegona Woreda) to English during the interview to ascertain all information was being collected. The transcripts were then reviewed and edited for the purpose of this case study.

\(^5\) For Arbegona Woreda, a ‘static session’ is defined as any vaccination session held in a health facility.

\(^6\) An ‘outreach immunization session’ is defined as any vaccination session held outside a health facility where health workers/HEWs travel to a place close to the community so that clients don’t have to travel long distances.
VI. FINDINGS

Several monitoring tools can be used to improve data management by supervisors, health workers, and communities. The most commonly used tools are EPI registers, EPI monitoring charts, local community maps, tally sheets, defaulter tracing tools (tickler files), and monthly records. An effective immunization tool will take minimal effort and time but will collect sufficient data to make informed decisions about immunization services in the health facility (HF).

The HEWs of Toga HP have a system for collecting and managing immunization data that is detailed enough to track clients and make informed decisions but does not overburden them with additional work. The HEWs have gone “back to basics” when monitoring and updating their immunization tools. The tools used include the EPI register, EPI monitoring chart, tally sheet, child health card, catchment map, and vaccination schedule. In addition to the tools above, the HEWs have created and maintain lists of pregnant women, children under one-year, and Measles defaulters in the kebele. All tools are in line with the Ethiopian Federal Ministry of Health (FMOH) guidelines and suggestions, and the HEWs have implemented techniques to keep the tool updated. These efforts and innovations have helped them reach greater numbers of eligible women and children in their communities.

A. Expanded Program on Immunization (EPI) register: “The Book of Power”

One of the most basic and widely used tools for immunization is the EPI register. The EPI register should be used to record the name and immunization history of each infant within the HF’s catchment area. The register is a HF record that health workers (HWs) use to identify when children are due for vaccination, monitor missed opportunities, and check references for reporting. An EPI register should include the name of the child, date of birth, and a summary of immunization services provided. At the end of each month, HWs should review the register to identify and follow up with children who have not received vaccinations or need additional boosters.

While not a standard practice, an EPI register can also include names of all newborn children (or their parents’ if the child has not yet been named)—regardless of vaccination status—so that the register can be used as both a left-out and defaulter tracing tool.

The EPI register is the central tool for all immunization activities at Toga HP. Toga HEWs conduct three monthly vaccination sessions and document all information in one register. Updates to the register occur at the time of the vaccination session and include the name of the mother, name of the child, date of registration, date of birth, address (family folder house number), and date of antigens provided. The register is divided into three sections; two sections are for the two different outreach sessions and one section for the static immunization session. Unique to this system is the addition of the family folder house number to the EPI register to facilitate defaulter tracing. The family folder house number correlates with a folder at the HP so that services provided to families in the community can be followed. The photo below shows the family folder house number added to the address slot in the EPI register.
When the HEW reviews the EPI register at the end of the month, she can identify defaulter children and provide their exact location. One of the HEWs noted,

“The information we are looking for in the register is the child’s name, the date of the last vaccine provided and the address (FF house number). This is because we want to track the children who did not return. This is how we created the measles defaulter list, by looking back in the EPI register. If we have the address we can provide that name of the defaulter child to the vaccine committee and they can help us find the child.” (Toga HEW)

B. Expanded Program on Immunization (EPI) monitoring chart

Health facilities that offer immunization services should monitor performance. A monitoring chart that HWs have been trained to use can improve data quality, HW performance, and motivation. Monitoring charts are visual reminders of overall immunization performance and should be posted in every HF and reviewed by HF staff, supervisors, and community leaders.
At the end of every month, the Toga HEWs compile the EPI register and tally sheet information to update the EPI monitoring chart posted on the HP wall. One HEW stated, “This information is important because we can see that we are meeting our target coverage rates (for Penta 1, Penta 3, and Measles) and this is how we calculate our drop-out rates (DORs).”

C. Tally sheets

A tally sheet is a form that health workers mark each time a vaccination is administered at a static or outreach vaccination session. It is used to summarize reports for higher levels of the health care system and can be cross-checked with the EPI monitoring chart and EPI register for data quality. Each tally sheet has two separate columns, one to record children under the age of one and a second to record children over the age of one. Most health systems are also interested in recording the vaccination status of pregnant women; a column is provided to record the total number of tetanus toxoid (TT) vaccines administered. In many health facilities, tally sheets are labeled as “outreach” or “static,” to enable supervisors to review vaccinations delivered by strategy. However, data that is summarized from the tally sheets to the monthly summary forms does not disaggregate outreach versus static.
Toga HP is using the FMOH-provided tally book, which includes immunization related tally sheets by month. The tally book is taken to all vaccination sessions and marked every time an antigen is administered. In addition to making a mark, there is space for family folder house numbers so that HEWs can assure that an address corresponds to every vaccination administered.

**D. Linking tools for data quality**

The EPI register, EPI monitoring chart, and tally sheets provide valuable information for making decisions about RI services. When the tools are used collectively, they can help health workers monitor the quality of their data. The EPI monitoring chart should foster monthly immunization performance as well as a cumulative performance review for the HF. HEWs and supervisors should periodically cross-check the data collected by each of these tools to determine gaps in the system and ways to fill them.

For example, the Toga quality improvement team (QIT) used the EPI monitoring chart to identify a high Measles DOR. The HEWs then used the register to determine the names and addresses of the defaulter children and the tally sheet to confirm that the numbers on the EPI monitoring chart were accurate.

**E. Routine immunization visual tools**

The community map and immunization schedule are important immunization tools. An updated community map ensures a defined catchment population and equitable distribution of vaccination sessions based upon geography and population density. The community map is hand drawn by the HEWs and represents boundaries, roads, geographical barriers, outreach sites, and population densities. After the catchment areas have been defined and outreach sites negotiated with communities, a schedule can be established with local community leaders to ensure more reliable vaccination sessions. In Toga, the immunization schedule is determined by the WoHO each fiscal year and the kebele administrations are notified of those dates.
How to link immunization tools

Remember: Community involvement is vital to the success of an immunization system.

How to link immunization tools

The EPI register is the central working tool in the immunization system.

1. Including family folder house numbers in the EPI register provides exact locations for defaulters.

2. The EPI register, tally sheet, and EPI monitoring chart data should match to ensure good data quality for accurate gap identification.

Linking tools in the health post

The EPI register, EPI monitoring chart, and tally sheets can provide health extension workers (HEWs) and community members with valuable information for making decisions about immunization services. The up-to-date EPI monitoring chart at Toga HP gave the HEWs and local government administration an overview of the immunization system in Toga Kebele.

The HEWs and local government administration used the information to detect a Measles drop-out problem in their community. The EPI register identified the names and location of all Measles defaulters.
F. Child health cards

A child health card allows parents to monitor their child’s progress in completing the recommended doses of vaccination. Providing a child health card to each family and teaching families to interpret it creates ownership of the vaccination process. It is important that, at the end of each immunization session, families be reminded of their next vaccination date and to bring their cards to the next appointment. A child’s health card should include the child's name, date of birth, address, registration number, parents’ names, and date of each antigen provided.

In 2013, the UI-FHS project conducted a coverage/knowledge, attitude, and practice (KAP) survey in Arbegona Woreda that included Toga kebele in which 395 caretakers were interviewed. The study found that only 28—or 7 percent of—caretakers had a child health card. There are several possible reasons for the lack of cards in the woreda, including a card stock-out at the WoHO, PHCU, or HP level; cards were not provided at the vaccination session; or the caretaker lost or damaged the health card.

G. Defaulter tracing system (tickler files)

Because every child should receive a series of vaccinations and have a recommended five contacts with the health system from birth to nine months of age, it is important that a HF have a system to track children who do not return for follow-up antigens or boosters. Some HFs use tickler files (as part of the health management information system (HMIS) rollout in SNNP). Tickler files are boxes or folders in which all maternal health cards and copies of children’s vaccination records are filed according to the month when each child’s next vaccination is due. For example, when a child comes to receive vaccinations, the child’s name, dose, and date those vaccines were administered are written on the card and filed in the slot for the next month when the child needs additional vaccines. At the end of the month, the cards remaining in that month’s slot are defaulter children who require follow-up.

TICKLER FILES
The Toga HEWs rely upon a handwritten list to track defaulters in the community. This came about after the EPI monitoring chart identified a high percentage of drop-outs for Measles. When the EPI register identified the names and addresses of children eligible to receive the Measles vaccine, the HEWs created a list of Measles defaulters that includes the name of the child, gender, and address (gote). The HEWs and QIT divide the tracing responsibilities by location, and notify families of the upcoming vaccination session.

**H. Community involvement in routine immunization services**

While community involvement is not as tangible as EPI data tracking tools, it is a valuable part of the immunization system—and one of the five key components of Ethiopia’s Reaching Every District (RED) approach.

Involving local government officials, community and religious leaders in the immunization system can increase advocacy and ownership of immunization services. This begins by training community leaders in vaccination services and inviting them to participate in important decision-making meetings. Community leaders can then be recruited to help HWs register pregnant women and eligible children, create catchment maps, agree on an immunization schedule, and assign a community focal person to assist HWs during immunization sessions.

In Arbegona Woreda, a Reaching Every District using Quality Improvement (RED-QI) training facilitated by UI-FHS was conducted for local government officials, community and religious leaders, and service providers to support the revitalization of the RED approach to immunization services. The RED-QI training encouraged the local kebele administration to take a more active role in planning, identifying, and addressing immunization challenges in Toga Kebele, and resulted in the establishment of a QIT.

The QIT is a sub-committee of the local government administration that is comprised of representatives from the local government administration and people who are involved in health work. During the weekly QIT meetings at Toga HP, the team reviews kebele immunization coverage and DORs, identifies gaps, and offers solutions. All members of the QIT help HEWs update records of pregnant women, children under one, and those newly born in the kebele. The following statement, made by a Toga HEW, shows the importance of community participation in the QIT.

“The reason we meet every week is because the relationship between the vaccine committee (QIT) and us is very important. These members are all part of the village and have information about pregnant women, where women deliver, and number of newly born children. This information is important for our records and follow-up.”
In Arbegona Woreda, a RED-QI training for local government officials, community leaders, religious leaders, and service providers was conducted to support the revitalization of the Reaching Every District (RED) approach. The training encouraged the local government administration to take a more active role in planning, identifying, and addressing immunization challenges. As a result of the training, quality improvement teams (QITs) were established in each kebele of the woreda.

### Members of the quality improvement team

The QIT can be a subcommittee of the kebele administration. Members might include the kebele administrator, a women’s affairs representative, gote leaders, an agricultural representative, a religious leader, and health extension workers (HEWs).

### Uses of a quality improvement team

QITs help HEWs:

1. Use the EPI monitoring chart to identify gaps in the immunization system.
2. Identify children under one year of age in the community for vaccinations.
3. Identify pregnant women to ensure all mothers receive tetanus toxoid vaccine.
4. Trace measles defaulters.

The Toga HP HEWs have recruited their quality improvement team to help track pregnant women and children under one year of age. They also utilize the QIT to find measles defaulters.
A quality improvement team is only as effective as the consistency of its meetings.

The HEWs and community members support each other in immunization activities. They select a weekly meeting date, set an agenda, document meetings in a book that is kept at the HP, exchange information, and follow through on activities discussed in the meetings. The QITs support of the HEWs is vital to the success of immunization services, and it is apparent that QIT members are committed to improving immunization services in Toga.

Another community network is the women health development armies (WHDAs). WHDAs are a network of approximately 30-35 women from the community who meet separately from the kebele administrations to assist in topics such as health, agriculture, and education. WHDAs are typically partnered with the HEWs to assist with sanitation education, defaulter tracing, the identification of pregnant women, and the construction of latrines. However, the HEWs reported that the QIT was more reliable because the members met formally and documented meetings. When members of the case study team attended a quarterly review meeting in which the strength of the WHDA was heavily discussed, the WoHO agrees that the strength of the WHDAs could be improved with additional support from the HEWs and kebele administrations. Because of the weakness of the WHDAs in Toga HP the HEWs have relied more on the QIT for help with immunization activities.

I. Lists to identify missed opportunities

As a result of the QIT and its commitment to improving immunization services, two additional lists were added to identify missed opportunities. The two lists that are updated and monitored closely by HEWs and the QIT is the list of pregnant women and list of children under one. While these lists are not complicated, they do identify the names and addresses of eligible women and children. Both of these lists can be found on the wall of the HP and are updated weekly at the QIT meeting.

i. List of children under one

The registration of children under one year of age identifies children who are eligible for vaccination services. The Toga HEWs have recruited the QIT to help identify all children under one in their communities. Once the register is updated, the HEWs and QIT members can continue to follow the children to ensure they have received the necessary vaccinations by the time they reach one year of age. The registration of children under one should, at a minimum, include the name and address so that they can be tracked.
ii. List of pregnant women
In addition to identifying left-out children, HWs should have a strategy for identifying pregnant women, which can reduce the risk of maternal mortality, increase skilled birth attendance, and protect newborns from tetanus. The list of pregnant women includes the woman’s name, address (goте), number of months since last menstrual cycle, and age. HEWs can find pregnant women at house-to-house visits, community and kebele administration meetings, through QIT members and community messengers.⁷

LIST OF PREGNANT WOMEN

⁷ Community messengers are another community volunteer set in Toga that was established several years earlier but are no longer formally active in some areas.
One recommendation for this list is to add estimated date of delivery and estimated date of first contact with the newborn for vaccination services. This will help ensure a more timely vaccination schedule for the child and could reduce the number of left-out children.

**J. Analysis of Toga Health Post data by quarter for five years**

Penta 1, Penta 3, and Measles data was collected from Toga HP and analyzed quarterly using an excel spreadsheet. The graph below illustrates the trends of vaccinated children by quarter over the past five years for Penta 1, Penta 3, and Measles.

**TABLE 1: TOGA HP QUARTERLY EPI DATA OF VACCINATED CHILDREN FOR PENTA 1, PENTA 3, AND MEASLES**

The graph shows that Penta 1, Penta 3, and Measles rates were constantly below the quarterly denominator target for each year (surviving infants), until the third quarter of 2013 (see arrow). Third-quarter 2013 data indicates a rapid increase in coverage rates and this trend continues until the first quarter of 2014. Third-quarter 2013 data indicates a rapid increase in coverage rates and this trend continues until the first quarter of 2014. It should be noted that Penta 3 coverage is higher than both Penta 1 and Measles coverage in 2014. It is speculated that campaigns during this time period may have influenced reporting, and that the HFs were having issues with reporting (missing and inconsistent data among the various reporting tools. It should be noted that there is a trend of negative DORs, especially beginning in the fourth quarter of 2013. It’s likely that several factors contributed to higher coverage rates. However; this increase could be a result of the implementation of the QIT and an improved defaulter-tracing strategy.

The information in this case study points to the potential value of updated, monitored, and properly utilized tools to help HWs and the communities they serve better address problems and increase immunization coverage and decrease DORs. The tools should be up-to-date and cross-checked to ensure data quality which can provide an accurate overview of the routine immunization system. Service providers, local community leaders, and supervisors can use the data to identify gaps in the immunization system and implement evidence-based solutions. This however, does not necessarily mean that if all tools are used collaboratively that coverage rates will immediately increase; when data quality is improved, coverage rates frequently decrease until system gaps are identified and improved.
VII. LINKAGES ACROSS EPI TOOLS

EPI tools are the foundation of a functional immunization system. The immunization system at Toga HP centers around the EPI register, which identifies when children are due for vaccination and monitors missed opportunities. Information from the EPI register can be cross-checked with tally sheets for data quality, identify defaulter children, and provide the information needed to follow a health facilities progress. Additionally, FF house numbers in the EPI register give HWs the specific location of defaulter children.

The second major linkage is between the quality improvement team (QIT) and the tools. The QIT can use the EPI monitoring chart to follow a community’s progress. As a result of the QIT the HEWs have created three additional lists to help identify defaulter children, left-out children, and pregnant women. These lists are monitored and updated by the QIT and HEWs.
VIII. RECOMMENDATIONS

While Toga HP has an effective network of established linkages, streamlining some of the tools would ensure that HEWs identify as many eligible women and children as possible.

If HEWs could register pregnant women and newborn infants (regardless of whether services have been provided) into the EPI register as soon as possible (before receiving first vaccination), it could reduce the number of left-out children and increase tetanus toxoid (TT) coverage for pregnant women.

This would also eliminate the need for lists of pregnant women and children younger than one year of age.

The establishment of a defaulter tracing strategy to track all drop-out children regardless of antigen would ensure a more timely vaccination schedule. As intended by the FMOH, the implementation of the tickler filing system could be used once all houses in the community have been numbered. At the beginning of each month, the HEW could review the EPI register, create cards for newborn children (regardless of whether the child has received services), and place the cards in the tickler filing system. When the child and mother arrive, the card is pulled, updated, and moved to the divider for the month when the next vaccination is due. At the end of each month, the cards remaining are now both drop-out and left-out children. The card information can then be relayed to the QIT at the following meeting for tracing.

It should be noted that the Toga HP EPI monitoring chart was up-to-date when the case study team visited in January but some of the DORs were incorrectly calculated. We recommend that the WoHO conduct refresher training on data accuracy and explain the importance of cross-checking data. This refresher course could further motivate the HWs, enhance performance, and improve data quality. This training could be conducted “on-the-job” during a supportive supervision visit.

If these changes are made to the EPI register, defaulter tracing system, and EPI monitoring chart, it would eliminate the need for additional lists and help to standardize a defaulter tracing tool. A standardized drop-out tracing system will ensure a more timely vaccination schedule for all, and could result in fewer left-out children and higher TT coverage of pregnant women.

IX. CHALLENGES FOUND ON THE GROUND

While the data collected and tools used in Toga HP are all promising practices, there were still challenges, especially to data quality, in the immunization system, as is common in woredas across Ethiopia. The case study team collected fiscal year 2014 Penta 1, Penta 3, and Measles data from several sources to determine the accuracy of reporting. Below are three graphs by antigen comparing the data across all three sources: 1) the HP tally sheets; 2) the PHCU monthly records; and 3) WoHO reports.
The gap in data for January 2014 is a reported zero on the tally sheet in the HP. In February 2014, the WoHO reported zero in their records.

The gap in data for January 2014 is a reported zero on the tally sheet in the HP, however missing or incomplete data was found at the PHCU and WoHO.
Table 2 shows that reported Penta 1 data by HP, PHCU, and WoHO were relatively similar across the year; however, the Table 3 (Penta 3) and Table 4 (Measles) graphs illustrate many inconsistencies in data quality especially in the first five months of the fiscal year. Records in January 2014 and February 2014 showed several data quality issues including missing data, zero antigens recorded or no recorded numbers on file.

While there are could be many contributing factors to inconsistent or lack of data, one possible reason could be lack of HW knowledge of reporting. Many times HWs do not have the skills necessary for proper reporting. Secondly, there could have been a change in personnel at the HP and even at the supervising PHCU which resulted in less supervision to that HP. Additionally, health service personnel may feel political pressure to meet certain immunization targets, such as high coverage rates for Penta 3 and Measles which could be a reason for the discrepancy among sources. Finally, it should be noted that there is a daunting number of EPI specific data management tools used by the HEWs weekly and it takes a motivated HW to record data accurately. Due to a lack of HW motivation this may have led to inconsistent recorded and reported data within the health system.

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Table 4: Comparison of Measles Doses by Source

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The missing data in January 2014 is zero recorded at the HP, PHCU, and WoHO. In February of 2014, the tally sheet recorded a 9, however missing or incomplete data was found at the PHCU and WoHO.
The case study team also cross-checked the EPI register, EPI monitoring chart, and monthly records. The graph below compares Penta 1, Penta 3, and Measles doses across all three tools for the 2014 fiscal year.

**TABLE 5: COMPARISON OF PENTA 1, PENTA 3, AND MEASLES DOSE BY TOOLS IN TOGA HP**

The graph above shows that there are many challenges with data across all sources and lack of data in the HP—which is a common problem for many HF across Ethiopia. August 2013–November 2013 data indicates that the monthly records have higher recorded numbers in comparison to the EPI monitoring chart and EPI register. While the higher numbers reported “look good on paper,” there may be left-out and drop-out children who were not vaccinated.

It is recommended that the WoHO and PHCU take a more instrumental role in supportive supervision visits by providing constructive on-the-job training for data quality to HEWs, instead of focusing on coverage and DOR indicators.

The team conducted two follow-up visits after the IDI to gather additional information. They found that as time passed, the immunization system and tools were not being updated and monitored monthly as they were before. It was noted that one of the HEWs had taken maternity leave following the interview, which could be a reason that the tools were not being monitored or updated. When a motivated HW leaves a HF, supervisors and HWs should ensure that the immunization system maintains its gains.
While data quality continues to be challenging for most woredas across Ethiopia, supervisors (from WoHO and PHCU) can ensure data quality by routinely conducting supportive supervision visits and providing on-the-job training to HEWs.

Both HWs and supervisors alike have a responsibility to keep the system functioning so it can reach as many eligible women and children as possible.

X. LIMITATIONS OF THE STUDY

The woredas and communities in Ethiopia are very diverse. This case study provides a snapshot of immunization service at one HP in one woreda of Ethiopia; it does not provide enough information to describe the situation in all woredas of SNNPR. Qualitative data is also limited, as an IDI was conducted with the senior HEW of Toga HP, with additional data collected from other HEWs thereafter.

XI. CONCLUSIONS

The immunization tools and strategies that the Toga HEWs use to strengthen routine immunization are specific frontline techniques for providing eligible women and children with life-saving vaccines. These include the woreda’s approach to implementing QITs to expand the support for immunization registration and assist with documentation.

Decision makers at all levels of the health system should help identify and promote practical, low-cost ways to immunize every eligible woman and child in Ethiopia. The tools and strategies that the Toga HEWs use are simple, recommended by the FMOH, affordable, effective—and therefore could be used in other woredas. We hope that the findings from this case study can inform the adaptation and operationalization of these tools in other woredas across Ethiopia.