



JSI Research & Training Institute, Inc.



**UI-FHS**

Universal Immunization  
through Improving Family  
Health Services

**UNIVERSAL  
IMMUNIZATION  
THROUGH IMPROVING  
FAMILY HEALTH  
SERVICES (UI-FHS)  
RAPID ASSESSMENT  
REPORT**

***Arbegona Woreda  
SNNP Region***

***Assaieta Woreda  
Afar Region***

***Hintalo Wajerate Woreda  
Tigray Region***

**J U L Y 2 0 1 2**

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## Acronyms

AEFI	Adverse events following immunizations	ICCM	Integrated community case management
AMREF	African Medical and Research Foundation	IDSR	Integrated disease surveillance and responses
ANC	Antenatal care	IEC	Information education communication
BCC	Behavior change communication	IMNCI	Integrated management of neonatal and childhood illness
CHAI	Clinton Health Access Initiative	JSI	John Snow, Inc.
CHD	Child Health Day	MCH	Maternal and child health
CLTS	Community-led total sanitation	MSH	Management Sciences for Health
DOR	Dropout rate	OTP	Outpatient therapeutic program
EC	Ethiopian calendar	PAB	Protected at birth
EFY	Ethiopian fiscal year	PCV	Pneumococcal conjugate vaccine
EOS	Enhanced outreach services	PHCU	Primary health care unit
EPI	Expanded Program on Immunization	PMTCT	Prevention of mother to child transmission
ERIA	Enhanced routine immunization activities	RA	Rapid assessment
FGD	Focus group discussion	RHB	Regional health bureau
FIC	Fully immunized child	RI	Routine immunization
FP	Family planning	SCF	Save the Children Federation
GAVI	Global Alliance for Vaccines and Immunization	TT	Tetanus toxoid
HC	Health center	UNFPA	The United Nations Population Fund
HDA	Health development army	UNICEF	The United Nations Children's Fund
HEP	Health extension program	WHO	World Health Organization
HEWs	Health extension workers	WoHO	Woreda health office
HMIS	Health management information system	ZHD	Zonal health department
HP	Health post		

**Background:** Recognizing the lack of adequate evidence of what it takes to reach and sustain high immunization coverage in Ethiopia, JSI Research & Training Institute, Inc. (JSI), in collaboration with the Ethiopian Federal Ministry of Health (FMOH), designed a two and a half year learning initiative entitled “Universal Immunization through Improving Family Health Services” (UI-FHS). Funded by the Bill & Melinda Gates Foundation (BMGF), the goal of the project is to develop evidence in three learning woredas of Arbegona, Assaieta, and Hintalo Wajerate (Southern Nations Nationalities and Peoples [SNNP], Afar, and Tigray regions, respectively), to inform an FMOH evidence-based decision on whether and how to pursue nationwide universal child immunization, integrated with family health approaches, and what it will take to do so effectively, affordably, and sustainably. In order to better understand the environment in which UI-FHS will be working, the project conducted a rapid assessment in each of its three learning woredas. The purpose of the rapid assessment was to identify key programmatic and community/cultural issues and existing assets/promising practices in each woreda, use this data to assist with the development of a strategic micro and monitoring plan, and advance thinking about how the project will develop agrarian and pastoralist universal immunization models.

**Key Findings:** The rapid assessment findings emphasize that each of the three woredas represent very different scenarios. In the agrarian woreda of Arbegona, the health system was highly-dependent on one or more individuals rather than an organized system. Strengthening the health system will require improved management and creative problem solving with PHCUs (primary health care units) from the woreda health office (WoHO), improved data collection, organization, and use, investment in the newly formed nationwide health development army (HDA), strengthening the cold chain system, and continued advocacy to and support from the woreda administration. Similar to the scenario in Arbegona, the routine immunization (RI) program in the sparsely populated pastoralist woreda of Assaieta was not well functioning; approaches taken were individually dependent and were not systematically shared with others. The health system in general is characterized by weak links between the WoHO and health facilities (HFs), limited support from the woreda administration, particularly for RI, a lack of intersectoral collaboration, and limited capacity among the health extension workers (HEWs) to provide health services. The health system in Assaieta requires intense and sustained effort to build a RI program with improvements from the community to the regional health bureau (RHB). The scenario in the agrarian woreda of Hintalo Wajerate is quite different; the woreda has a strong health system and is recognized nationally as a model woreda. Thus, in Hintalo Wajerate, the project will more deeply explore what has worked in individual HFs and investigate the spread of these practices. In addition, the health system would benefit from improved documentation and data quality as well as improvements in cold chain and logistics.

**Implications:** The assessment findings reveal three important points. First, each woreda represents a unique scenario; this offers an ideal setting to explore what it might take to strengthen and sustain varying health systems so that they can reach towards consistently delivering universal immunization. Second, the assessment revealed a number of existing assets and driving forces behind good performance. The project will need to continue to study what each woreda has done across sectors in the past that has been successful, the pathways and enabling factors leading to those successes, and how to use past or existing promising methods to tailor and test future endeavors. Lastly, the assessment findings suggest that all three woredas have quality gaps. The project will explore using common quality improvement methods, including Plan-Do-Study-Act (PDSA) cycles and how they can be introduced within the rubric of Ethiopia's existing routine immunization strategy (Reaching Every District, or RED).

As Ethiopia moves forward with its long-term vision, the project will continue to rely on strategic feedback from the FMOH and partners in order to determine if universal immunization is a goal the country would like to pursue within its wider family health services strategy.



## I. Introduction

**R**ecognizing the lack of adequate evidence of what it takes to reach and sustain high immunization coverage in Ethiopia, JSI, in collaboration with the Ethiopian Federal Ministry of Health (FMOH), designed a two and a half year learning initiative entitled “Universal Immunization through Improving Family Health Services” (UI-FHS). Funded by the Bill & Melinda Gates Foundation (BMGF), the goal of the project is to develop evidence in the three learning woredas of Arbegona, Assaieta, and Hintalo Wajerate (Southern Nations Nationalities and Peoples [SNNP], Afar, and Tigray regions respectively), to inform an FMOH evidence-based decision on whether and how to pursue nationwide universal child immunization, integrated with family health approaches, and what it will take to do so effectively, affordably, and sustainably.

**FIGURE I: Map of the three learning WOREDAS of UI-FHS, Ethiopia**

The project has three objectives:

- Jointly design and implement a universal child immunization approach through family health in three learning woredas and identify requirements for sustained scale-up
- Jointly design and apply a rigorous package of surveys and diagnostic tools and other methods to fully describe and understand vaccination coverage, population immunity, knowledge-attitudes-practices (KAP), and program performance, while strengthening the capacity of host agencies
- Deepen and broaden stakeholder ownership and engagement in improving routine child immunization performance through family health so as to lay the groundwork for an FMOH decision on the “way forward”



<sup>1</sup>For more information on Plan-Do-Study-Act, see [http://www.valuebasedmanagement.net/methods\\_demingcycle.html](http://www.valuebasedmanagement.net/methods_demingcycle.html)

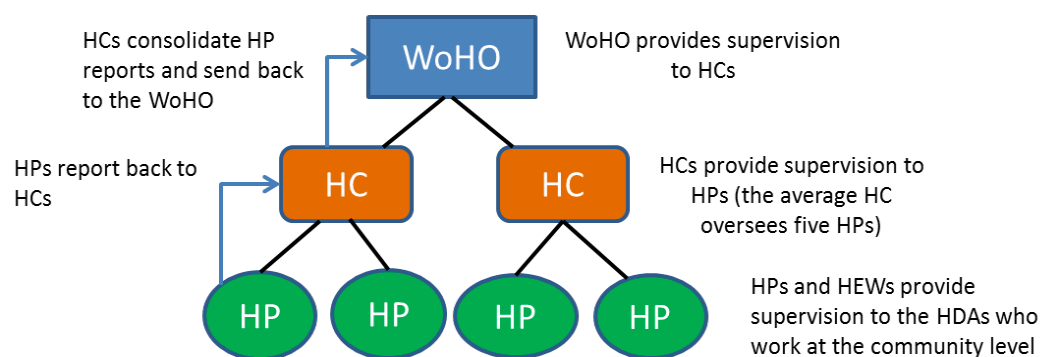
<sup>2</sup>In Ethiopia, the government uses the term family health services as opposed to maternal, newborn, and child health services.

## II. Overview of the Woredas

The three learning woredas were selected according to a framework that took into account the regional diversity of agrarian and pastoral scenarios, the epidemiology of vaccine preventable diseases such as measles, and varying levels of performance of immunization services. The locations of the three learning woredas reflect these scenarios: repeated measles outbreaks in Arbegona, the pastoral lifestyle in Assaieta, and high performance in Hintalo Wajerate.

a) **Arbegona, SNNPR:** Arbegona is located in Sidama zone and is 77 kilometers away from the regional capital, Hawassa. It has 39 kebeles (38 rural and one urban). The government estimated total population of the woreda for 2004 EFY<sup>3</sup> is 152,991 with 145,437 (95%) rural and 7,554 (5%) urban<sup>4</sup>. There is one hospital under construction, five functioning health centers (HCs), 27 functioning health posts (HPs) and 11 HPs under construction. The primary health care unit (PHCU) structure, recently endorsed nationwide, is firmly established, with five PHCUs in the woreda (see figure 2 below). Only 12 of the 39 (31%) kebeles are accessible throughout the year by four wheel drive vehicles; 27 (69%) kebeles are inaccessible during the rainy season, which starts in May and ends in September. Twelve kebeles have rain throughout the year, although the intensity of the rain varies depending on the time of year. Topographically, Arbegona woreda is less accessible than the other two learning woredas; the Woreda Health Office (WoHO) currently has one car and eight functional motorbikes. It is interesting to note that before 1999 EFY, the woreda used horses as the main mode of transport at different levels of the health system.

**FIGURE 2: Primary health care unit structure for supportive supervision**



<sup>1</sup>For more information on Plan-Do-Study-Act, see [http://www.valuebasedmanagement.net/methods\\_demingcycle.html](http://www.valuebasedmanagement.net/methods_demingcycle.html)

<sup>2</sup>In Ethiopia, the government uses the term family health services as opposed to maternal, newborn, and child health services.

<sup>3</sup>Ethiopian Fiscal Year

<sup>4</sup>Source: Arbegona Woreda health office



- b) Assaieta, Afar:** Assaieta is located in zone one, over 550km away from Addis Ababa and 65km to the east of Semera, the regional capital. It has 13 kebeles (two urban and 11 rural). The woreda has a government estimated population of 53,414 (18,161 urban and 35,235 rural) for 2004 EFY. The weather in Assaieta is extremely hot, ranging from 32 to 48 degrees Celsius and average rainfall is only 350mm per year. There is one recently upgraded hospital (which reports to the region), one recently upgraded HC (not functioning at the time of the assessment) and eight HPs in the woreda. Nine kebeles (64%) are accessible throughout the year by four wheel drive vehicles, while four (31%) are inaccessible during the rainy season, which starts in July and typically ends in September. The WoHO currently has one working car and one working motorbike; Assaieta has five other motorbikes but they are not currently functioning, as vehicle maintenance and repair are an issue. The health infrastructure in Assaieta is relatively underdeveloped in comparison to the other two learning woredas, and the PHCU structure is not yet established. What supervision takes place is done from the Woreda Health Office (WoHO) to HPs.
- c) Hintalo Wajerate, Tigray:** This woreda is located in the southern zone of Tigray region and has a government estimated total population of 172,222 (8,882 urban; 163,340 rural) for 2004 EFY. The woreda has 22 kebeles (one urban; 21 rural) and a total of seven HCs and 16 HPs. The PHCU structure is firmly established, with seven PHCUs in the woreda. Fourteen of the 22 kebeles (64%) are accessible throughout the year by four wheel drive vehicles, while eight (36%) are inaccessible during the rainy season, which starts in July and typically ends in August. The woreda currently has one working car and one working motorbike, however; five new motorbikes were being processed at the regional health bureau (RHB) at the time of the assessment and will be delivered to the WoHO soon, primarily for the health extension worker (HEW) supervisors to use.

### III. Purpose of the Rapid Assessment

In order to better understand the environment in which UI-FHS will be working, the project conducted a rapid assessment in each of its three learning woredas. The purpose of the rapid assessment was to identify key programmatic and community/cultural issues and existing assets/promising practices in each woreda, use this data to assist with the development of a strategic micro and monitoring plan, and advance thinking about how the project will develop agrarian and pastoralist universal immunization models.

This rapid assessment is a pre-cursor to the upcoming coverage and sero surveys UI-FHS will be conducting in each woreda. These surveys will help the project better understand immunization coverage estimates and where the gaps are in the routine immunization system. As there are limitations to what the upcoming surveys can tell us, the rapid assessment findings will help in data triangulation to better understand issues behind the scenes—particularly how each woreda manages its cold chain and logistics systems. These two issues are of particular importance for UI-FHS, as one reason behind the creation of the project was the issue of vaccinated versus immunized children – specifically, how understanding the difference might help woredas bolster their understanding of these two issues and in turn work to strengthen their RI systems so as to sustainably and affordably reduce vaccine preventable diseases.

A cross sectional facility and community based assessment was done during March, April, and May 2012 in Hintalo Wajerate, Assaieta, and Arbegona respectively. The study used a mix of qualitative and quantitative approaches; data collection methods included the review of records, focus group discussions, and observations. Data collection tools (structured, semi-structured, and open ended) were developed accordingly for each method. The tools were shared with WoHOs for review and comment at the draft stage, and comments were obtained from each of the three WoHOs.

The assessment relied on information gathered from key local experts. The units or sources of information were heads of woreda administrations, WoHOs, health facilities (HCs and HPs) and technical health staff including HEWs. In addition community/kebele leaders and mothers who had at least one child less than two years-old were used as sources of information. These groups were targeted in order to triangulate responses from different sources and levels.

To select the health facilities for the assessment, the rapid assessment team collaborated with each WoHO to identify “good performing” facilities and “underperforming” ones. Accordingly, the facilities selected for the rapid assessment were the following: two HPs and two HCs in Arbegona, three HPs and the hospital (previously a HC) in Assaieta, and three HPs and three HCs in Hintalo Wajerate (Annex 6).

Community members within selected HP catchment areas were interviewed during the rapid assessment and HEWs were instrumental in selecting community leaders and members for other focus group discussions. The focus group discussions (FGDs) in each community involved leaders of the kebele or deputies, the health development army (HDA), representatives from the agriculture extension program, education representatives (usually the local school master), volunteers, and members of women’s associations. The selection criteria for women in the “mothers’” FGDs included having a least one child of less than two years of age, and not being the head of any community based structure, such as the HDA.

The UI-FHS team divided into three groups of two, each accompanied by a technical health expert from the WoHO. Data collection was done through reviewing program documents at the WoHO and health facility levels, interviewing key informants, and observing different service units at health facilities. During analysis, qualitative data were analyzed manually and categorized under predetermined themes. Quantitative data were analyzed using MS Excel<sup>5</sup>. After each woreda assessment, the rapid assessment team discussed and reflected on the key findings/observations, and those reflections were also considered in the analysis.

<sup>5</sup> As one of its operating principles, the project is making a concerted effort to use tools and approaches that an average WoHO will be able to use, bearing in mind the project’s scalability/model development mandate

### I. MANAGEMENT, PLANNING, COORDINATION, SUPERVISION, & HUMAN RESOURCES

Through the rapid assessment, the UI-FHS team learned of the many differences in the staffing, planning, supervision, and management style of the three learning woredas. The assessment revealed that the management system in Hintalo Wajerate is well-run, supported, and organized, while the system in both Arbegona and Assaieta needs strengthening. The rapid assessment found that an individually-dependent approach rather than an organized systems approach prevails in both Arbegona and Assaieta. In addition, both woredas experience limited support from the woreda administration for routine immunization (RI); in Assaieta, administrative support is focused on campaigns, whereas in Arbegona, most attention is given to agriculture and education.

Table I on the following page illustrates the health facility and management structures of the three woredas. Both Arbegona and Hintalo Wajerate follow the PHCU model, where each HC supports and supervises five to seven HPs that are staffed by two HEWs each. In Assaieta, however, a fully functional HC does not exist, and the HPs are staffed by both nurses and HEWs. As the PHCU model in Assaieta is not operational, all supervision takes place from the woreda to the HPs.

**Table I: Management structure for the three UI-FHS learning woredas**

	Arbegona	Assaieta	Hintalo Wajerate
Total Population	152,991	53,414	172,222
Management Structure			
WoHO	16 technical staff	5 technical staff	14 technical staff
Health Center/ Health Post	5 PHCUs 96 technical staff 32 support staff	No PHCUs 23 technical staff 43 support staff	7 PHCUs 84 technical staff 19 support staff
HEWs	78	24, focus on health education/ mobilization; are not trained to vaccinate	44

### Woreda level

In Ethiopia, health activities are managed by the WoHO and the administrative office. In Hintalo Wajerate, there is strong collaboration and coordination between the administrative office and the WoHO. The administrative office is very supportive of health activities and will allocate additional funds for health when possible, particularly for transporting vaccines. In addition, the administrative office has provided mobile phones for HEWs and members of the kebele administration to improve communication. In Assaieta and Arbegona, the WoHO and administrative office coordinate and collaborate, however woreda administrative support focuses more on the agriculture sector, and not as much on health. In both Arbegona and Assaieta, the rapid assessment team found that certain individuals were doing great work; however, efforts tended to be individual-dependent and the system itself needed cohesive strengthening.

In Arbegona, the WoHO provides supervision to the HCs and HPs quarterly but the visits are irregular and done without a standard checklist — written feedback is not often given. Similarly in Assaieta, there is a task force or health committee (chaired by the woreda administrator) that coordinates activities but only during emergency situations and immunization campaigns. The taskforce is responsible for coordinating with partners and sector offices through sharing data, information, resources, and providing support. Meanwhile, in Hintalo Wajerate, the WoHO has an Expanded Program on Immunization (EPI) focused task force that monitors EPI related activities and meets monthly. The task force is composed of the WoHO head, lab technician, pharmacist, surveillance officer, and other technical officers. As needed, representatives from agriculture, education, and water also attend.

The WoHO in Hintalo Wajerate uses two different methods for providing supportive supervision to its HCs. The first type of supervision is an integrated visit, where the WoHO team visits each HC on a quarterly basis. The second type of supportive supervision is process-based, and led by the WoHO cluster leader (there are six geographic clusters in the woreda, roughly corresponding to the six old HC catchment areas, and one WoHO expert oversees a cluster). The WoHO cluster leader visits each HC on a monthly basis providing technical and managerial support, as well as mentoring in the areas identified as needing strengthening during the integrated supervision visit. Verbal and written feedback is given after each supervision session, and each session is conducted using a supervision checklist.

Another noted difference among the woredas is that Hintalo Wajerate creates an annual EPI micro plan. This planning process involves several groups including health workers, EPI focal people, and others, such as the kebele chairman. The planning process starts at the community level with the HEWs and is finalized at the WoHO. Although both Arbegona and Assaieta have annual work plans, neither woreda has a specific EPI micro plan.

### Health center level

In Arbegona and Hintalo Wajerate, each of the HCs are responsible for providing supervision to the HPs in their catchment area—as part of the PHCU model. The Assaieta woreda does not have a functional HC so each HP receives supervision from the WoHO and partner organizations such as Save the Children and the World Health Organization (WHO). The hospital in Assaieta plays a large role in delivering EPI services in the woreda and is responsible for providing vaccines to all HPs, as well as providing daily routine immunizations and supporting sub-national immunization campaigns. However, the link between the hospital and the HPs is weak. A key factor in this weak link is that the hospital, as of this year (2004 EFY), reports to the RHB and does not have any managerial connections to the WoHO. Thus, despite being responsible for providing all vaccines in the woreda, the hospital in Assaieta does not provide supervision to the WoHO or the HPs. It is unclear how strong the link is between the hospital, the RHB and the WoHO; this will need to be further investigated.

The HCs involved in the rapid assessment in Hintalo Wajerate use a team-centered approach, where each staff member works on all activities and is not assigned to a particular area, although each HC does have one specific person designated as the EPI focal person and another as the HEW supervisor. The staff is involved in several EPI activities, which include vaccinating children and mothers, community mobilization, defaulter tracing, following and monitoring the cold chain, and providing support to the HDA.

In Arbegona, each HC is responsible for the supervision of the five to seven HPs in its catchment area. Each HC has an EPI focal person and a health extension supervisor who provides supportive supervision to the HPs. The EPI focal person focuses on EPI related activities while the health extension supervisor provides support for all HP activities. Both supervisors and EPI focal people conduct monthly review meetings at the HP level to analyze current activities involving volunteers, one to five network leaders, and HEWs. However, the frequency of supervision visits to the HPs varies; some HCs provide supervision on a daily basis while other HPs may receive supervision every other day or even every third day.

Of the three learning woredas, Hintalo Wajerate seems to have a stronger and better structured support mechanism. In Hintalo Wajerate, each HC organizes a monthly management meeting where members from the HC and the WoHO discuss their progress. In addition, the WoHO organizes quarterly review meetings where each HC head and selected representatives attend. In Hintalo Wajerate, each HC head is a member of the woreda health management board; this is different from the other woredas in Tigray. Each HC head plays an important role in health program management, not only for their specific HC but for all HCs in the woreda.



Similar to Hintalo Wajerate, the HCs in Arbegona hold monthly review meetings, although WoHO management is not included in these meetings. The HC staff commented that they would like the WoHO to be involved in these meetings, as they feel this can help alert management to important issues such as logistics difficulties and supply shortages.

### Health post level

The HEWs in both Hintalo Wajerate and Arbegona are responsible for the management of the HP. In both woredas, the HEWs participate in and coordinate immunization activities and are responsible for giving immunizations in their respective kebeles. In Hintalo Wajerate, where the I-5 network is very active, the HEWs are responsible for selecting, mentoring, and supervising the HDAs. The HEWs have a similar responsibility in Arbegona; however since the I-5 network has only recently been introduced to the woreda, the initiative needs further support and strengthening. In Assaieta, the concept of the PHCU is difficult to apply because a functional HC does not exist to support the HPs, nor is there a task force or a health committee at the community level to support the health extension program. The HPs in Assaieta are managed by a nurse, or junior-nurse<sup>6</sup>, who is supported by two HEWs. The nurses reported providing out-patient care including conducting rapid diagnostic tests (e.g. malaria), giving immunizations, and health education.

The relationship between the frontline health workers and HEWs in all three of the HPs visited appeared very hierarchical, with HEWs hardly aware of many issues relating to how immunization services are planned, organized, and delivered. Another difference between the three woredas is that in Assaieta, most nurses do not live in their HP kebele—most live in Assaieta town and are reported to travel to their kebele throughout the work week. This means that they are unable to fully support their community and implement all HEP activities.

## 2. DATA QUALITY, USE/MONITORING, AND DOCUMENTATION

The three woredas depict three very different scenarios when it comes to data quality, analysis, and use (including reporting, documenting, and archiving). For woredas to use real-time data effectively, a number of elements should be in place, including a functional supervision system, regular review meetings at the WoHO, HC, and HP levels, health staff who partner with communities to track critical PHC data (births, defaulters, etc.), and a well-functioning health management information system.

Of the three woredas, Arbegona falls in the middle regarding data use and documentation. Supervision from WoHO to HC is weak, but within the PHCU, from HC to HP, visits are

<sup>6</sup> A nurse has three years of training. A junior nurse only has one year of training.

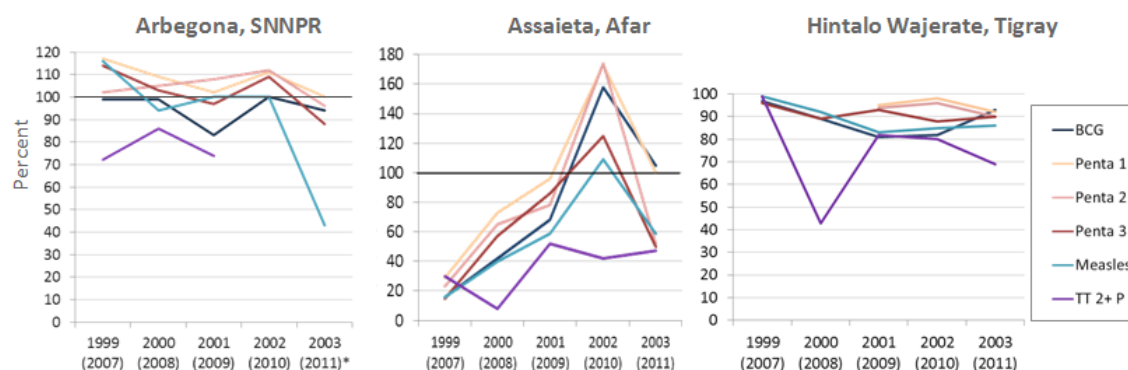
reported to be regular and as planned. The same is true for review meetings—with WoHO level being weak and HC/HP levels reporting regular, well planned, and active meetings. HEWs appear to be partnering well with communities through health messengers—but transforming this system into the nascent I-5 network/HDAs initiative remains an ongoing process. Current health messenger volunteers are mainly male, although they should be female according to the national strategy. Some HCs are conducting monthly data quality self-checks, but this is fairly recent—and more time is needed to understand the full impact of these checks. For many indicators, however, reported coverage is above 100%. Overall, the rapid assessment found data quality and data use, analysis, and storage to be weak in Arbegona.

Assaieta was found to have the weakest data use and documentation efforts, with hardly any supervision visits occurring as planned, irregular and disjointed review meetings, limited-to-no community involvement in routine activities, and gaps in the timeliness and completeness of data submitted each month for HMIS reporting. While data archiving and documentation at the WoHO level is done well, it remains weak at the HP level.

Hintalo Wajerate's relatively strong PHC system means that supervisions visits are regular and integrated, review meetings are occurring as planned and incorporate data-related discussions among health staff, HEWs partner with communities to get help in tracking critical PHC data, and HMIS reporting remains timely and complete. However, gaps remain in how data is stored and compared from year to year.

The following figure illustrates five year immunization coverage trends in all three woredas. The woreda-specific reports also compare coverage trends with doses administered. All three woredas showed varying differences when comparing coverage with doses administered—most notably and predictably with tetanus toxoid +2. For an overview of key highlights on data quality, use, and documentation across the three woredas, see Annex 4.

**FIGURE 3: Five year infant immunization coverage trends in the three woredas**



*Note: Data for Arbegona 2003 EFY represents nine months (not annualized) as 12 month data (June-August) was not available at the time of the rapid assessment. Source of data for all graphs: Woreda Health Office reports; April-May 2012.*

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### 3. COMMUNITY & COMMUNITY STRUCTURE

An important finding from the rapid assessment is the difference in the community structure of each woreda. Hintalo Wajerate has a long history of active community health volunteers, dating back to the 1980s. The woreda currently has two HDAs – both a women's and men's group. The women's group focuses on public health; engaging in various EPI activities including defaulter tracing, registering pregnant women and newborns, and providing health education. At the time of the rapid assessment, there were a total of 31,581 HDA network members in the woreda and all had been trained in the 16 PHC interventions of the health extension program (HEP).

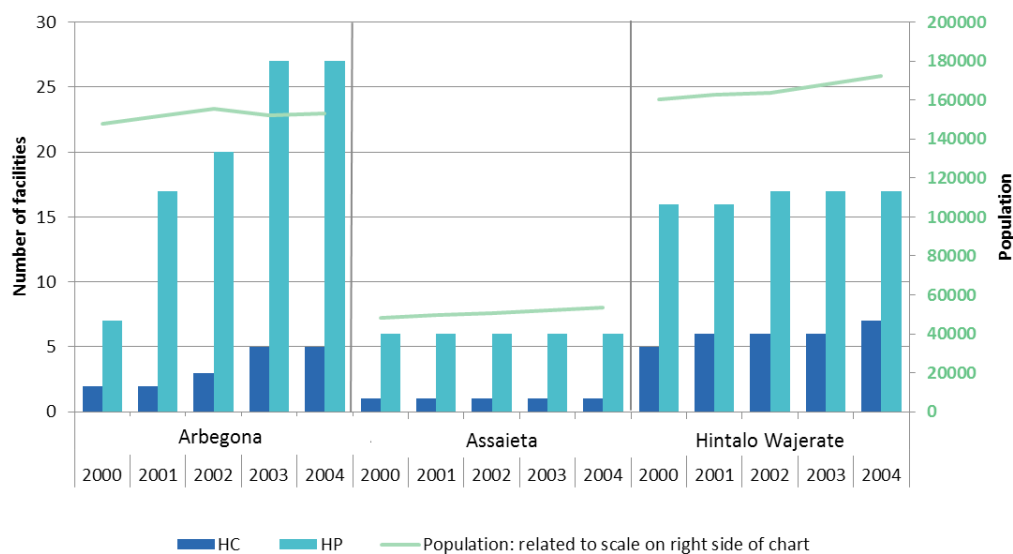
There is a formal volunteer structure in Arbegona because the HDA was introduced to the woreda in September 2004 EFY. However, due to several factors that include unclear guidance from the RHB, zonal health office, and WoHO; minimal follow up and support from the woreda offices; and a general lack of awareness at the community level, the presence of the 1-5 network is physical rather than operational. However, the HC staff did report that the HDAs are working in EPI service delivery and that where there is partner support (i.e. Save the Children), the volunteers are active. This may be because these volunteers are given small incentives for volunteering their time. There are also a number of active, old health messenger volunteers, but their transition into the HDA is not clear.

Assaieta does not have an official community based health structure with formally recognized volunteers. Although the woreda does have community volunteers who help with a variety of activities, including immunization, activities and involvement vary by kebele. Community mobilization in Assaieta appears to be individually motivated rather than strategized and implemented at the woreda level. However, the FMOH has developed a strategy for engaging communities in pastoralist areas and a social mobilization plan for Assaieta is in the process of being introduced. Woreda cabinet and kebele leaders attended a six-day meeting to discuss the FMOH's mobilization plan, where it was agreed that a stronger commitment to social mobilization was needed to create awareness of the HEP in the pastoralist communities. The expectation from the meeting was that a health committee would be formed in each kebele to support the HEWs, but this has not yet happened. In addition, the assessment found that a local primary school used volunteers to help track school drop-outs and that a similar mechanism could be used to track immunization defaulters. The school also provides health education through two health clubs, but the HP is not directly involved in these activities.

#### 4. RI SERVICES & SUPPORT

The assessment revealed that the three woredas use both static and outreach services as immunization strategies, though the strengths of the services vary from one woreda to another. Services are strong in Hintalo Wajerate, less strong in Arbegona, and weakest in Assaieta. The definition of static and outreach varies by each woreda, as well. In Arbegona, static services are given in a health facility, while outreach services are given at a location outside of a health facility. In Assaieta, static services are given daily at HPs, HCs, and the hospital, while outreach services are given outside facilities. However, in Hintalo Wajerate, static services are given on a daily basis while outreach services are provided either on a monthly or quarterly basis. Mobile and enhanced RI activity (ERIA) strategies are active occasionally in Assaieta, while Hintalo Wajerate uses community health days (CHD) as a strategy for mobilizing the community. Arbegona uses something similar to CHDs; however, the strategy is not used regularly. Figure 4 on this page displays the number of HFs and their population in each of the three learning woredas over the past five years (2000 EFY – 2005 EFY).

**FIGURE 4: Health facilities and populations by woreda, EFY 2000-2004**



Each learning woreda stated that there have been improvements in immunization coverage, awareness levels, and health seeking behaviors of communities in the last three years. In addition, there has been a decrease in the number of misconceptions related to immunization services and some antigens. Hintalo Wajerate reports that the woreda has not had an outbreak related to vaccine preventable disease in the past three years. However, despite these successes, the trends in Arbegona and Assaieta show Penta3 and measles coverage declining.

In Arbegona, most facilities have an updated EPI monitoring chart; Penta3, measles, and the dropout rate (DOR) are the key indicators being used to track the progress of EPI. However, “left outs” are not used as a monitoring indicator and health facilities use different practices regarding the open vial policy for some antigens (BCG and measles). Health workers are trying different methods to address wastage, including spacing out the schedule for BCG and measles and opening a new vial only if five to seven children are present.

In Assaieta, HP data are reviewed for the number of children immunized, coverage, and DOR (though somewhat irregularly). However, there is no mechanism for monitoring vaccine use and wastage. In Hintalo Wajerate, most facilities have an EPI monitoring chart, and coverage and DOR are the most commonly used indicators for monitoring. The HFs in Hintalo Wajerate all follow the same open vial policy, procedures, and practices for selected antigens. In addition, health facilities regularly monitor refrigerator temperatures and use bin cards to monitor EPI logistics; neither of these activities were observed in Arbegona or Assaieta.

**FIGURE 5: Selected EPI monitoring, temperature monitoring charts, and tally sheets at Arbegona, Assaieta, and Hintalo Wajerate woredas, respectively**



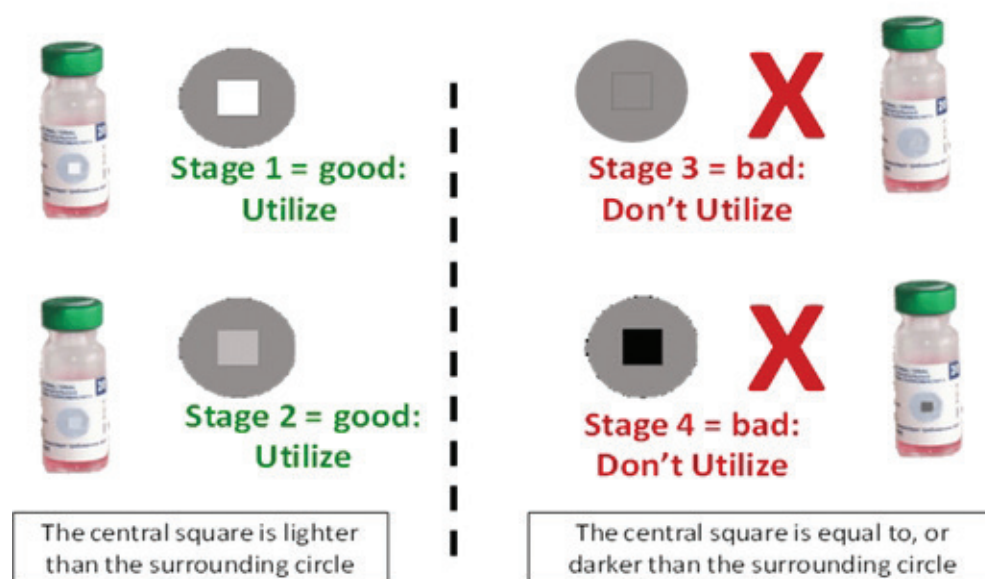


The role of volunteers in creating demand, social mobilization, and tracking defaulters was well recognized, especially in Hintalo Wajerate and Arbegona. However, there were no existing health volunteers identified in Assaieta. With or without volunteers, the challenges related to delivering immunization services in each woreda are very real. In Arbegona, there are still some cultural barriers against vaccination, some health workers at the HCs do not feel ownership over their EPI program, and there is a lack of adequate knowledge about immunization both at the community and provider level. Additional challenges in Arbegona include frequent interruption of EPI services due to shortages of antigens, problems with the cold chain, and lack of immunization skills among HEWs. Similarly, in Hintalo Wajerate, the main challenges include problems with transportation, cold chain management gaps in some HCs, and problems with data quality.

Each woreda offered several suggestions for tackling these challenges. In Arbegona, suggestions included training volunteers and health workers and strengthening supportive supervision and review meetings. In Assaieta, recommendations included using opportunities such as veterinary vaccination campaigns, marriage ceremonies, outbreaks, and EPI integration campaigns as well as strengthening local capacity. In Hintalo Wajerate, suggestions include capacity building for cold chain management and improving data quality.

## 5. COLD CHAIN AND LOGISTICS

Regarding cold chain and logistics, all three woredas reported transport problems and the related implications for how vaccines can be collected and delivered on time. In Arbegona, there were many gaps in cold chain management, including health staff not checking HC refrigerator temperatures on weekends or holidays, lack of funds for kerosene to fuel HP refrigerators (which currently only run during campaigns), and vaccine stock outs of BCG and measles. In Assaieta, major cold chain and logistics challenges persistently hamper the delivery of quality RI services at both static and outreach sites. Similar to Arbegona, some HPs have refrigerators but they only run during campaigns due to lack of kerosene funds. The extreme heat also tests the cold chain to its limits. When health staff walk long distances with cold boxes, the ice packs melt quickly and vaccine vial monitors often are reported to be at or past the discard point, as the vial has been exposed to an unacceptable level of heat. The assessment team found several vaccine vials in their last stage (at the discard point).

**FIGURE 5: Vaccine Vial Monitor (VVM) and instructions for use**

Source: www.ispub.com

Although Hintalo Wajerate's cold chain and logistics system is the strongest of the three woredas, significant challenges remain in terms of adequate funding for transport, fuel and spare parts for maintenance. However, static and outreach services continue according to plan. More details relating to the three woredas' cold chain and logistics situations can be found in Annex 5.

**TABLE 2: Description of car/vehicle and motorcycle (M.) availability and conditions from 1999 EFY to 2004 EFY in Arbegona, Assaieta, and Hintalo Wajerate woredas**

Woreda	1999/2007		2000/2008		2001/2009		2002/2010		2003/2011		2004/2012	
	Car	M.	Car	M.	Car	M.	Car	M.	Car	M.	Car	M.
Arbegona	1	4	1	4	1	4	1	4	1	4	1	8
Assaieta	2	4	2	4	2	4	1	2	1	1	1	1
Hintalo Wajerate	1	N/A	1	N/A	1	5	1	7	1	6	1	2

### 6. LEARNING MECHANISMS

In order to understand how universal immunization may be achieved in varying circumstances, the rapid assessment sought to track mechanisms already in place that relate to how ideas are spread and how promising practices are cross fertilized. In Hintalo Wajerate, for example, ideas spread during review-type meetings are similar to how they are spread during peer exchanges. And although Assaieta was found to have the weakest health system of the three woredas, learning mechanisms or potential for cross fertilization were perhaps the richest in this woreda—implying that there are likely a number of unrealized existing platforms to channel affordable and appropriate improvements in primary health care. The table on page 25 represents a summary of four initial learning mechanisms that the project will explore more deeply. The project will also aim to uncover further learning mechanisms as it progresses. Annex 6 contains more details relating to this table.

**Table 3: Summary findings of existing learning mechanisms being used across the three woredas**

Mechanism	Level	Location
<b>Regular multi-level review meetings</b> that share progress, problems, and ideas/promising practices	Regional Health Bureau with WoHOs	Assaieta (including best HW exercise; quarterly meetings integrated with surveillance)
	Woreda administration with health and other sectors, including kebele chairmen	Assaieta, Hintalo Wajerate
	Woreda Health Office with PHCUs	Hintalo Wajerate
	Primary health care unit with HC and HP staff	Arbegona, Hintalo Wajerate
	Health post with volunteers	Arbegona, Hintalo Wajerate
	Community traditional	Assaieta (Dagu system)
Health staff and community <b>peer exchanges</b> (related to cross visits and on-site exchanges)	Health post	Hintalo Wajerate (WoHO organizes cross visits to well performing HPs)
	Gote (sub-district)	Arbegona (HEWs with kebele chairmen)
	Community/kebele	Arbegona (HEWs through kebele cabinet), Assaieta (through schools with health clubs and cross visits), Hintalo Wajerate (community based annual review meetings and cross visits organized by HEWs and kebele administration)
<b>Communities partnering in health</b> to spread messages, improve acceptability of services, and track/follow up on data (births, defaulters, etc.)	HP/Community interface	Arbegona (local forms for volunteers to register pregnant mothers; religious leaders to share messages), Assaieta/Afar region (train TBAs to count delivery/other cases using rock counting method; track defaulters with traditional leaders; Dagu system of spreading messages; market days to spread messages; teachers use school health clubs), Hintalo Wajerate (strong HDA and 1-5 network; adapt services to fit spiritual/cultural needs—developed culturally friendly ambulance and provided prayer space at health facilities )
	Agriculture	Arbegona (kebele cabinet coordinates/promotes health/agriculture collaboration to share health messages)
	Education	Arbegona (students to monitor health activities; HEWs give health talks; school health related clubs), Assaieta (school data visualization and volunteers for defaulter tracking; women teachers to push cultural norms such as riding bicycles)

## 7. SUGGESTIONS FOR IMPROVEMENT FROM WOHO AND HEALTH STAFF

One important part of the assessment was to learn from the health staff what they think can be done to improve the RI system in their woredas. In both Arbegona and Hintalo Wajerate, the WoHO staff emphasized the need to continue to invest in the 1-5 network and the HDA. Both groups recognize the importance of having a strong community structure because the community plays a significant role in the efficiency and effectiveness of the health system. In Assaieta, the WoHO is just beginning to use community members to support health activities; they are working to create an organized community volunteer structure where each kebele will have a health committee supervised and supported by HEWs. In addition, the woreda in Assaieta recommended designating one person specifically for EPI and cold chain at the WoHO level. Currently, the disease prevention and control case team leader is the person in charge of EPI related activities at the WoHO. However, the hospital is currently in charge of cold chain activities and the two facilities do not often coordinate, which makes it difficult to manage a successful EPI program. At the HC level in Arbegona, most of the recommendations were for increased managerial and supervisory support from the WoHO. The HC staff would like the WoHO to be included in review meetings so as to be part of the decision making process and help HCs identify solutions to their problems.

In both Arbegona and Assaieta, HC staff felt that some supervisors lack the commitment to regularly conduct supervision visits and are heavily engaged in activities that compete with their ability to provide quality supervision. In Hintalo Wajerate, the HC staff would like integrated supervision visits and additional supplies. In Assaieta, the hospital recommended that other programs learn from the current work being done in anti-retroviral therapy; the ART program has a functional community support group who are able to track defaulters. At the HP level, each of the three woredas recommended increasing support to the HEWs. In Arbegona and Assaieta, the HEWs would like more and improved supervision; in Hintalo Wajerate, the HP staff would like additional HEWs to lessen the heavy work load. In both Arbegona and Hintalo Wajerate, where HEWs work closely with communities, the staff recommended that volunteers receive incentives to help sustain and improve morale.

<sup>7</sup> Following the rapid assessment, UI-FHS learned that the RHBs in both Hintalo Wajerate and Arbegona hold regular review meetings with the WoHOs.

**Table 4: Suggestions for improving the routine immunization system from WoHO and health staff**

	Arbegona	Assaieta	Hintalo Wajerate
WoHO	<ul style="list-style-type: none"> <li>Strengthen existing community coordination mechanism by developing guidelines to help community members coordinate/work more effectively</li> <li>Engage willing and supportive partners</li> <li>Strengthen the I-5 network</li> <li>Coordinate community level review meetings between the administration or kebele council and HEWs</li> </ul>	<ul style="list-style-type: none"> <li>The villagization and settlement program may provide a long term opportunity for improvement in health</li> <li>UN joint program is an opportunity to integrate/minimize fragmented services</li> <li>Provision and/or proper maintenance of fridges may improve at HP level once HC is functional</li> <li>Strengthen outreach activities; most kebeles should be accessible by 2 or 4 wheel vehicles</li> <li>Consult with the local communities to improve health activities in the woreda</li> <li>Use the “Dagu system<sup>8</sup>” to spread information</li> </ul>	<ul style="list-style-type: none"> <li>Continued investment in the HDAs</li> <li>Increase the number of HEWs so that each HP has two</li> <li>Hire a specific EPI focal person to relieve the MCH and Surveillance officers of their heavy workloads</li> </ul>
HC or Hospital	<ul style="list-style-type: none"> <li>Supervision visits should be regular; HF staff should know when visits will occur</li> <li>A standard checklist should be used and written feedback given during supervision</li> <li>Supervision visits should be supportive – not fault finding</li> <li>Promote the I-5 network and the selection of “model mothers”</li> <li>Involve mothers in health messaging</li> <li>Use ICCM record as a tool to find defaulters</li> <li>Use PCV introduction as a means to sensitize the population to the benefits of other vaccinations</li> </ul>	<ul style="list-style-type: none"> <li>ART – active engagement from I-TECH and the community; there are community level adherence support groups who are involved in detecting ART defaulters</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen integrated supervision; more cost effective</li> <li>Purchase additional fridges to support current and new vaccines (PCV, rota)</li> </ul>
HP	<ul style="list-style-type: none"> <li>Financial and non-financial incentives should be given to volunteers</li> <li>WoHO should provide monthly mentoring and supervision of the community messengers and kebele committee members – to help them focus on health</li> <li>WoHO should conduct SS visits to HPs; they should coordinate meetings with the HEWs and volunteers to improve community support</li> </ul>	<ul style="list-style-type: none"> <li>Improvements in supervision; WoHO should make planned, frequent visits and provide written feedback</li> <li>Increase in frequency of visits from once a month to 2X a month</li> <li>WoHO should bring supplies when they visit the HP</li> <li>HEWs should have bicycles to assist with community mobilization and health activities</li> </ul>	<ul style="list-style-type: none"> <li>The HEWs need additional support; at least two HEWs per HP</li> <li>Community volunteers can be used to help carry vaccines and should be given per diem</li> </ul>

<sup>8</sup>The Dagu system is the local communication system; information is spread via word of mouth from one community to another.



## 8. OVERALL RECOMMENDATIONS

The table below summarizes the recommendations from the UI-FHS rapid assessment. Because UI-FHS is a learning grant, these recommendations are reflective of one point in time and will continuously evolve over the life of the project as knowledge grows and feedback is gained from stakeholders, who inform the learning process.

**Table 5: Summary of Recommendations from the UI-FHS Rapid Assessment, 2012**

Topic	Arbegona (SNNP)	Assaieta (Afar)	Hintalo Wajerate (Tigray)
Planning & Management	Support improved communication and collaboration between the WoHO and administrative office. Administration needs renewed commitment to health; regular review meetings at WoHO level would enhance relations with PHCUs as well as give PHCUs the opportunity to learn from each other. WoHO should explore ways to involve PHCU in annual planning exercises.	Plan regular and scheduled review meetings; build capacity of health workers through mentoring and in-service training; conduct regular and timely supportive supervision visits and increase sensitization and motivation of HWs and stakeholders. In addition, support improved communication and coordination between the WoHO and hospital.	Focus on improving the documentation system at each level (HP – WoHO) and increasing the involvement of other stakeholders, partners, and government sectors.
Monitoring, Supportive Supervision, & Use of Data	Support follow up and monitoring of plans using evidence based approaches, which require all levels to understand/use their own data; reduce data contradictions by promoting mentoring, regular and supportive supervision to PHCUs, performance reviews with transparent feedback systems, peer-to-peer learning, continued data quality self-assessment checklists.	As current RI system is weak, focus on small steps, starting with focus to systematically reduce number of drop outs, as this will require the development of a tracking mechanism, working with communities, and consistent follow up and improvements in tracking of data and quality of services.	Provide technical support to WoHO during micro-planning, with intervention areas prioritized using planning techniques/tools such as problem tree analysis; explore introduction of data quality self-assessment checklist in health facilities providing EPI; follow up on data organization/archiving.
Community Linkages	Strengthen management and support of HDAs; defaulter tracing mechanisms can be improved through utilizing HDAs. Utilize peer learning concepts which were successful with sanitation.	The highly knit clan system and the Dagu communications system are means which can be used to effectively improve services and utilization. Create a formal community based health volunteer structure to educate and mobilize communities.	Strengthen the women's development army and community conversations which have been effective in raising and creating demand in other programs. Incorporate community health days (CHDs) organized at community level to promote awareness and best practices.

Topic	Arbegona (SNNP)	Assaieta (Afar)	Hintalo Wajerate (Tigray)
Service Strategies	Strengthen current outreach strategy so that all sessions are regular and delivered per schedule.	Involve HEWs in EPI activities—together with RHB and WoHO, train HEWs to provide vaccines. Establish clear guidelines on outreach and work to ensure they are regular and delivered per schedule (important to keep community trust particularly in this context). Explore affordable mobile strategies for hard to reach areas.	Focus on documentation of promising practices; Hintalo Wajerate ideas could be applied in other woredas. In addition, work with the WoHO to solve transport and logistics issues.
Cold Chain Logistics	Due to contradictory information, cold chain integrity needs further exploration (fridge maintenance, VVM, etc.).	Because of the many significant cold chain and logistics issues, UI-FHS will need to explore in more detail current bottlenecks for keeping vaccines potent and what can be done to improve cold chain practices within the existing infrastructure. Provide HWs with training on cold chain management and refrigerator maintenance.	Provide technical support to WoHO during micro-planning, with intervention areas prioritized using planning techniques/tools such as problem tree analysis; explore introduction of data quality self-assessment checklist in health facilities providing EPI; follow up on data organization/archiving.
Quality Improvement	Explore methods for WoHO and PHCU staff to understand their own data and make team-centered continuous improvements; this can be promoted through encouraging data quality self-assessment, strengthening mentoring systems, conducting regular review meetings where performance is discussed and PHCUs ranked, promoting peer-to-peer learning.	Explore methods for WoHO and PHCU staff to understand their own data and make team-centered continuous improvements; this can be promoted through team-building efforts to reduce personality-dependent management, regularizing review meetings to openly discuss and problem solve as a team, strengthening the consistent follow up and reduction of drop-outs, and reviewing techniques to maximize functionality of existing equipment/infrastructure (including pastoralist structures that are currently not being utilized for health and proven practices that can be tailored/adapted from agriculture and education).	Document existing quality improvement techniques and explore additional methods for WoHO and PHCU staff to understand their own data and make team-centered continuous improvements, including role of peer learning in solving transport constraints and data self-assessment and archiving.
Overall Recommendation	Focus on building stronger team management structure and system strengthening, with focus on essential EPI and FHS inputs within the RED framework, including HC and HP linkages.	Focus on system strengthening and building management capacity within RED's five components, including focus on essential EPI and FHS inputs, and capitalizing on existing formal and informal infrastructure (e.g. adapting lessons from agriculture/education, utilizing informal community systems).	Focus on quality improvement and data management and use; document existing successes and promising practices to share with others.

## VI. Implications for Developing Agrarian and Pastoralist Universal Immunization Through Family Health Services Models



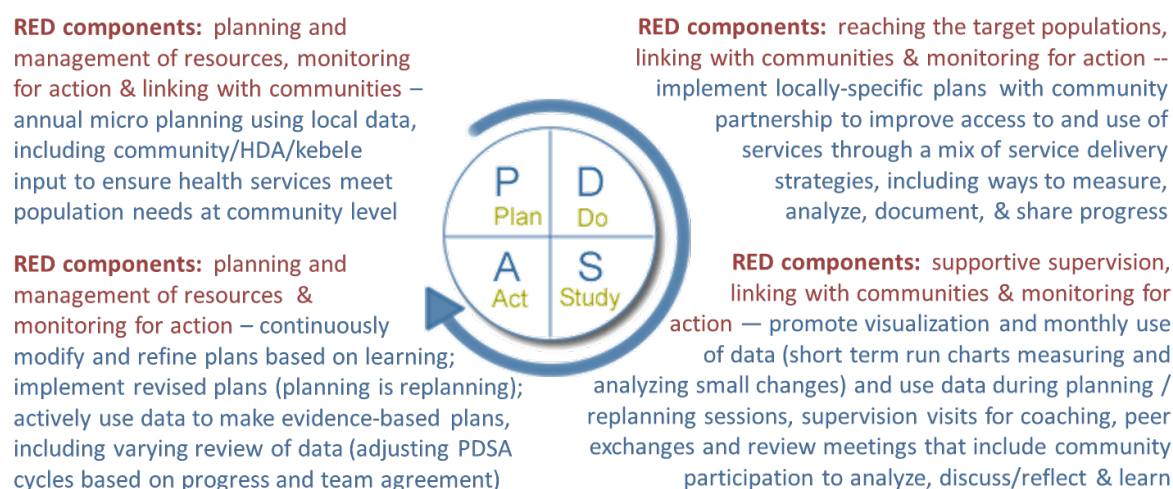
The rapid assessment highlighted a number of key areas to consider when developing agrarian and pastoralist “universal immunization” models within Ethiopia’s family health services context. First, each of the three woredas represents a very different scenario—offering an ideal setting to explore how to strengthen and sustain varying health systems to consistently deliver universal immunization and to determine what it might cost. Because of the differences in scenarios, the project should look at each woreda through two lenses: health system strength (Assaieta being weak, Arbegona being medium, Hintalo-Wajerate being strong) and agrarian versus pastoralist settings (Arbegona and Hintalo-Wajerate being agrarian, Assaieta being pastoralist). How much system strengthening will be needed for each scenario? What are the contextual, cultural, and intersectoral considerations that impact health system performance?

Second, there are a number of existing assets and driving forces behind good performance (i.e. looking beyond coverage to issues relating to management, service delivery processes, and how positive innovation is spread). The project will need to determine each woreda’s successes and promising practices, the pathways and enabling factors leading to those successes and practices, and how to use them to tailor and test future endeavors. This will require a component of the project to focus on positive deviance<sup>9</sup> type case studies—not just looking at obvious issues that are well recognized in Ethiopia or over-concentrating on the “it’s because of a good leader” mindset, but pushing further to explore the contextual, cultural, community, systems, and other influences behind highly reliable good performance as well as past and existing methods of spreading positive innovation.

Third, all three woredas have quality gaps. While there are plenty of ad hoc examples of how individual health providers, communities, or health facilities use processes to continuously improve the management and delivery of services, such approaches were found to be dependent on individual personalities. And, even when shown to be highly successful, the approaches were not systematically shared with others within the community, catchment area, woreda, zone, or region. Thus, the project will explore using common quality improvement methods including PDSA and how to introduce them within the rubric of Ethiopia’s existing routine immunization strategy (Reaching Every District, or RED). One possibility is to look at how improving the routine immunization strategy will strengthen family health services overall and how existing family health practices and promising family health services can be built upon to improve routine immunization performance. Figure 6 illustrates synergies that the project will explore further:

<sup>9</sup> For more information on positive deviance, see <http://www.positivedeviance.org/>.

**FIGURE 6: Synergies among RED's five components and the Plan-Do-Study-Act approach**



In addition to the above implications, the rapid assessment highlighted particular issues that warrant further examination and exploration in each woreda.

Arbegona woreda, in SNNPR, offers a chance to explore what can be done in a medium-strength agrarian setting, with a focus on strengthening management and methods. The project will look at transitioning the existing community volunteer structure into the HDA concept with an active 1-5 network. The woreda also provides an opportunity to look at factors relating to volunteer incentives (e.g. build on learning from others, such as the L10K project's non-financial incentives study<sup>10</sup>).

Although Assaieta, in Afar region, was found to have the weakest health system of the three woredas, its learning mechanisms and the potential for cross fertilization were richest, implying that there are likely a number of unrealized existing platforms from which to channel affordable and appropriate improvements in primary health care. Because this woreda offers the most open, creative problem solving opportunities outside the traditional health hierarchy, there is a real opportunity to learn from its agricultural structures, schools, and the cultural "Dagu" system.

Speaking of agriculture, a 2005 workshop paper entitled "Challenges and Prospects of Farmer Innovation in Ethiopia"<sup>11</sup> highlighted that innovation should not only look at technological dimensions, but also at new ways of management, planning, networking, communication, institution building, information management, marketing, etc. "Innovation" then, entails

<sup>10</sup> [http://l10kjsi.com/Resources/Docs/nfi\\_workingpaper\\_vol1.pdf](http://l10kjsi.com/Resources/Docs/nfi_workingpaper_vol1.pdf)

<sup>11</sup> <http://www.ifad.org/innovation/presentations/assefa.pdf>

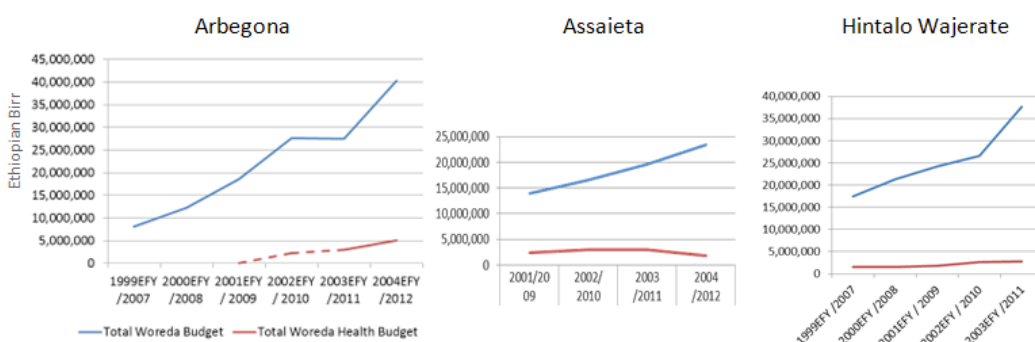
values and positive changes in quantity, quality, sustainability, variety, simplicity, cost effectiveness, and timeliness. In all woredas, but particularly Assaieta, UI-FHS will explore “innovation” concepts as broadly as possible (avoiding either/or thinking as much as possible), including technological dimensions that include improved management, planning, networking, communication, etc. methods as well as non-traditional concepts that exist within the cultural/ community systems.

The third woreda, Hintalo Wajerate in Tigray region, offers a chance to look at existing evidence behind a woreda’s ability to provide quality regular services. This opportunity to study the drivers behind positive, consistent past performance will be critical for teasing out nuances behind “what it takes to achieve universal immunization”—particularly as this woreda faces similar challenges as other woredas such as PHC funding shortfalls, transport and cold chain maintenance challenges, etc. But despite these challenges, Hintalo Wajerate is still able to provide reliable and quality services with few cancellations of static or outreach sessions and with communities integrally involved in health. In all three woredas, the project will have the opportunity to look beyond region-specific issues to more universal ones such as how management affects the strength or weakness of health systems.

As UI-FHS moves from the assessment to implementation phase, there are a number of ideas that will be jointly explored with WoHO staff (some already highlighted), including:

- Concepts of scenario planning with health staff to find all eligible women and children in a timely way, and across common functions within the health system and community volunteer structures
- How to better identify and improve existing win-win synergies within health and across sectors (e.g. how schools use data visualization and track defaulter students, how agriculture links with communities, and how they identify farmer innovations)
- Integration levels and transaction costs across the levels: coordination as a “lite form,” collaboration as a “medium form,” and deeper integration of management and service delivery functions
- How good ideas/promising practices spread and how to catalyze spread; are there patterns that can be identified to disrupt the status quo (thus, not just promote concepts of innovation but also look at how to diminish the potency of negative factors)?
- Adequate funding for WoHOs to fully implement primary health care is an ongoing challenge in all of the woredas; explore issues relating to revenue collection at health facilities and where revenue goes (back into the health system or out of health and into the finance department?); work with WoHOs to explore how best to advocate with woreda councils to increase annual funds for health in each woreda

Estimated health (red lines) as proportion of overall woreda (blue lines) annual budget, 1999-2003/2004 EFY



Note: The Arbegona red-dashed line above reflects the unavailability of complete data at the time of the rapid assessment; the 2001EFY/2009 total woreda health budget does not contain recurrent budget information and the 2002EFY/2010 total woreda health budget does not contain capital budget information. Source of data: Health offices from each respective woreda, 2012.

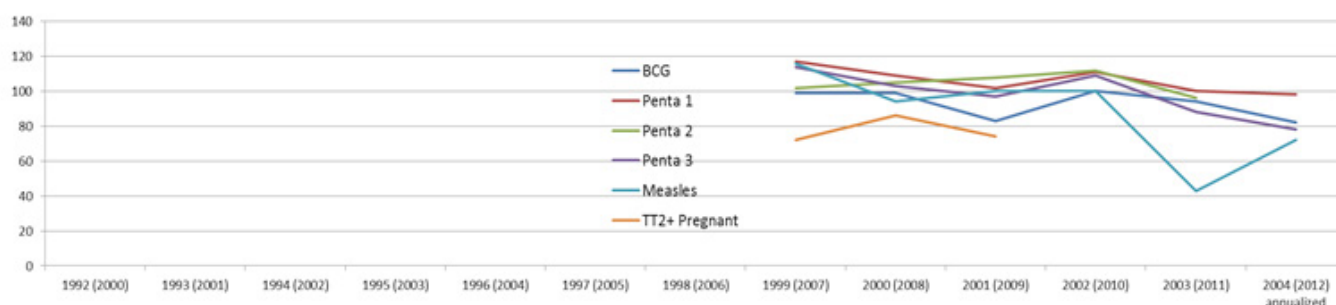
- How can we better encourage health workers to focus more on repetitive inquiry into what produces or inspires change: what works, where, and to what degree, within a given context? How can innovation be “systematized”? How to use existing experiences and peer spread? But also consider that innovation “from below” may be threatening to mid-level managers, and how to focus on system concepts that push beyond individual/personality traits (avoiding the “they have a good leader” syndrome)
- In model development, how to focus on the science of delivery to change values (e.g. systematizing a “spirit of innovation”); also take into consideration average absorptive capacity of WoHOs, HCs, and HPs, and how to avoid over stretching staff
- Once model development is progressing, how to better focus on its internal validity and “being faithful to the phenomenon” within the context of each woreda

Finally, a June 2012 paper from the Center for Strategic & International Studies (CSIS) entitled “Advancing Health in Ethiopia”<sup>12</sup> noted that in the context of business process re-engineering, the country needs a strategic MNCH planning unit to build capacity at the national level and to realize a broad range of MNCH-related goals. Many partners feel there is a need for a focused national EPI manager who can work on the many immunization-specific strategies and follow up on issues. A targeted project like UI-FHS would benefit from a senior level FMOH support who could focus sustained attention on the model development aspect of the project. UI-FHS is fully aware that FMOH involvement in the evolution of the project and their subsequent interest in the models will influence their adoption and spread potential. FMOH interest in the project, as well as collaboration with partners at all levels, will be critical for the development of practical and pragmatic models.

<sup>12</sup> [https://csis.org/files/publication/120605\\_Morrison\\_AdvancingHealthEthiopia\\_Web.pdf](https://csis.org/files/publication/120605_Morrison_AdvancingHealthEthiopia_Web.pdf)



## ANNEX I A. Arbegona woreda chronology of key health events since EFY 1992/2000



### 1992 (2000)

Arbegona had only 6 Health Assistants (category which no longer exist) and one private clinic. A high school and Yayye HC opened in 1991 (1999), got an ambulance.

### 1993 (2001)

A total of 12 nurses in all Sidama zone, none in Arbegona.

### 1994 (2002)

48 Health Assistants from the whole sidama zone joined a tailored course at Dilla University to become nurses

### 1995 (2003)

Woreda Health, Education and Capacity Building (now Civil Service) including Police started operating in one pool system. The pool occupied the premises of the health Office. Nurses accepted at Dilla Medical College for upgrade to Health Officer level in two years (four from Sidama zone joined).

### 1996 (2004)

EOS started. 12 HEW trained for the woreda but some were taken to other woredas with some kebeles shifted to other woredas. 528 HEWs trained in the whole sidama zone and 77 volunteers became HEWs in the zone

### 1997 (2005)

HEP piloted in few kebeles of the woreda and 10-12 HEWs deployed

### 1998 (2006)

Transport in Arbegona improved. Yayye connected to Awassa and now takes only two hours ending the long and hazardous journey. Arbegona was connected to the national power grid, got electric power. Population contributing 5% of income achieved a great result in water and sanitation. HEP started in all kebeles

#### **1999 (2007)**

The pool of partnership between woreda police, health and capacity building ended. Each ministry separated from the pool. The WoHO left the premises and rented a private property house until now paying 20-30 thousand ETB per month. Fund raising 'BAZAR' held by former students to expand and upgrade their old high school into a preparatory and technical school.

#### **2000 (2008)**

The WoHO obtained donations of three computers ending the use of handwriting and typewriters. Data storage and analysis became possible.

#### **2001 (2009)**

Saving Newborn Lives (Save the Children) started on newborn and maternal health care

#### **2002 (2010)**

Measles outbreak reported in eight initial kebeles, spreading to a total of 27 kebeles; the most recent Measles campaign was conducted this year

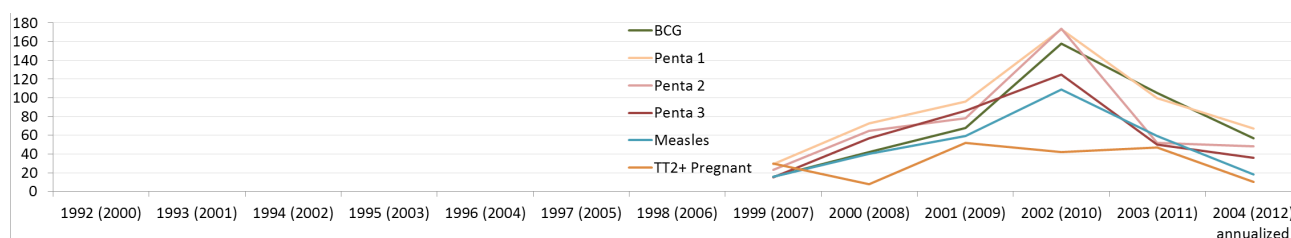
#### **2003 (2011)**

ICCM started in all kebeles by Save the Children, Measles outbreak reported in eight kebeles initially and covered 27 kebeles, The recent Measles campaign was conducted, Kerosene shortage occurred in most health facilities followed by temporary cold chain Interruptions. TB Reach Project started, Global fund stopped supporting the woreda

#### **2004 (2012)**

District hospital under construction in the woreda; Sidama zone has 160 health officers. There are seven health officers and 55 nurses of different categories working in Arbegona woreda, government supplied one motorbike to each HC and PCV introduced. HEWs started treating TB (smearing and DOTS supervision) through a partner called TB Reach, AWD outbreak reported in one kebele, Woreda immunization coverage reached >95%, Shortage of AD syringe, BCG, PCV & TT vaccines, HMIS (including family folder) started at woreda and health facility level and supervision started including performance measurement; training for HDAs in September

## ANNEX IB. Assaieta woreda chronology of key health events since EFY 1992/2000



### 1992 (2000)

First fridges brought for EPI around 1985

### 1996 (2004)

Offices organized at woreda level including for woreda health department, Regional capital shifted to Semera from Assaieta

### 1997 (2005)

Introduction of partners: Catholic Relief Services, World Vision; WoHO opened, before that it was a zonal health office--zonal health office structure ended this year; ART arrived in the woreda

### 1998 (2006)

Outreach started with 4 sites; woreda TT campaign conducted; first 6 HEWs sent to training; new road construction started; Awash Dam construction started; woreda-wide acute watery diarrhea outbreak

### 1999 (2007)

The first 6 HEWs deployed to six HPs in the woreda; acute watery diarrhea epidemic attack for 3 consecutive months (end of 2007 - beginning of 2008 EFY)

### 2000 (2008)

Second batch of HEWs assigned (13 in number); second acute watery diarrhea epidemic attack for 3 consecutive months from June to September

### 2001 (2009)

Third acute watery diarrhea epidemic attack from June to September; construction starts on education college for teachers; seven HEWs received training

### 2002 (2010)

Seven HEWs were deployed

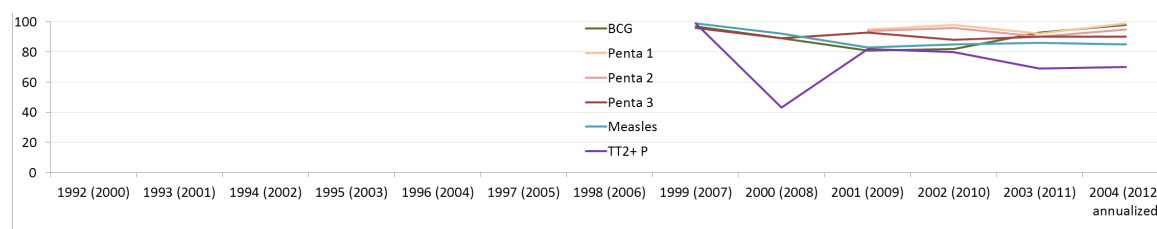
### 2003 (2011)

Measles outbreak; unknown fever outbreak throughout woreda (July 2003 - September 2004), affecting only adults with no deaths; H1N1 campaign conducted; electricity services started; Assaieta HC upgraded to hospital

### 2004 (2012)

Gehertu HP was upgraded to a HC (January 2004); new construction of 1 HP in Romaitu with nurse assigned; PCV vaccine introduced

## ANNEX 1c. Hintalo Wajerate woreda chronology of key health events since EFY 1992/2000



### 1992 (2000)

No HCs or HPs; X clinics; significant HR shortage; no sterilizer for syringes & needles. Increase from 2 HPs to 4, and 1 HC

### 1993 (2001)

“Transport problems significant, vaccinators walked up to 4 hours to deliver outreach services; front line workers at community level were “kebele tena tetera” & community volunteers, HEP piloted in 18 HH with 4 packages (latrines, liquid/solid waste disposal, environmental/compound sanitation, prevention of harmful traditional practices)”

### 1994 (2002)

Because of syringe sterility problem, abscesses common at injection sites on children; woreda biannual health review meetings conducted; HC monthly review meetings getting organized and included “kebele tena teteres” & TBAs; few refrigerators, so kerosene cost low; lack of per diem for outreach but work continued; donkeys most common means of transport for EPI logistics

### 1995 (2003)

Improvements in health due to reorganization of WoHO management, woreda level training, supervision & support for the lower levels; but no HC at woreda level; only one NGO (REST) present; staff continued to boil syringes and needles for vaccination

### 1996 (2004)

Most HFs started using disposable syringes and needles; WoHO started outreach program to the hard to reach area every 3 months; increase in manpower at HF level; Debub HC opened; Hareko HC received fridge

### 1997 (2005)

HCs increase from 2 to 7 but some clinics downgraded to HPs; Hiwane HC upgraded; first trachoma campaign started using “zitromax”

### 1998 (2006)

HEP scaled up to all 19 kebeles; 39 HEWs deployed & provide immunization (at least 2 per kebele); EOS started; woreda administration allocates 1.2mil ETB for HP construction; Adi-Gudem HC opens in town; pharmacy officer assigned to woreda for first time

### 1999 (2007)

“Penta introduced; HEWs trained on safe & clean delivery; all suspected measles & polio samples sent for confirmation are negative”

### 2000 (2008)

Supportive supervision using checklist & on-spot feedback starts; experience sharing on new innovations starts; budget for health from government increases (?); CHD starts every 3 months; HCs start to be managed by HC Management Board; Adikeyih, Hiwane, Dongolat & Harko HCs start functioning; SCF/USA starts nutrition support all kebeles in woreda (?); TBAs changed to CBN agents

### 2001 (2009)

7 HEWs deployed; supportive supervision improves; woreda-based planning starts; budget from UNICEF and GAVI increased; MSH starts supporting 3 HCs (?); JSI/LI0K starts supporting 3 HCs + supports HEP

### 2002 (2010)

UNICEF introduces EPI monitoring chart; EOS changed to CHD; HMIS starts in HCs and WoHO; CHAI supports Adi-Gudem HC; UNFPA supports 9 kebeles; 1 volunteer to 50 mothers approach (1x50) introduced (focus on nutrition)

### 2003 (2011)

7 HEWs deployed; new HMIS & family folder starts in HPs; iCCM starts, with all HEWs trained; vCHP (started in 1980s) changed to HDA with focus on females; 80 suspected measles cases (2 children, 78 adults; source traced to prison in Maichew); PCV introduced; IntraHealth supports 3 HCs;

### 2004 (2012)

1 HC added

## ANNEX II. Characteristics of woredas and their routine immunization systems

Woreda	Arbegona	Assaieta	Hintalo Wajerate
Region	SNNP	Afar	Tigray
Total population, 2011	152,991	54,414	172,222
Characteristics of settlement	Rural	Rural	Rural/semi- urban
Number of kebeles	39	13	22
Proportion of kebeles accessible throughout the year, 2011	31%	64%	64%
Number of kebeles w/o a HF	Two	Three	One
Number and type of HF that provide routine immunization	All HFs	Hospital & 6 HPs	All HFs
Community volunteer structures, 2011	HDA starting but not strong; old health messengers active	No structure; plans for social mobilization package <sup>13</sup>	Active and strong HDA
Penta3 coverage in 2007 and 2011	114%; 88%	15%, 50%	96%, 91%
Penta1-penta3 dropout rates in 2007 and 2011	2%; 12%	48%; 50%	13%; 2%
Number of unimmunized children (penta1), 2011	1289	750	508
Number of under immunized children (penta3), 2011	613	750	508
TT+2 pregnant coverage in 2007 and 2011	72%; 49% <sup>14</sup>	30%; 47%	99%; 69%
Health budget (Birr & USD) in 2011	ETB 3,048,319; USD 179,312	ETB 2,903,715; USD 170,806	ETB 2,676,927; USD 157,466
Estimated proportion of health budget to overall budget, 2011	11%	15%	10%
WoHO review meetings planned vs conducted, 2011	2/4	0/2	2/4
Supportive supervision to HPs, planned vs conducted, 2011	12/varies by HC	4/0	4/4

<sup>13</sup> Recent government initiative for pastoralists

Pattern of supportive supervision to health facilities	Not systematized, weak from WoHO, strong from HC to HPs	Weak	Strong at each level and systematized
Number of functional HCs in 2007 and 2011	1; 7	1; 1	2; 7
Number of functional HPs in 2007 and 2011	7; 27	5; 7	16; 17
Ratio of HCs to population, 2011	1: 21,856	1: 54,414	1: 24,603
Ratio of HPs to population, 2011	1: 4026	1: 7,773	1: 10,131
Number of outreach sites in 2007 and 2011	40; 30	7; 7	59; 65
Ratio of outreach sites to population, 2011	1: 5,100	1: 7,773	1: 2,650
WoHO estimate of children vaccinated by outreach, 2011	56%	54%	80%
Number of working 4-wheeled vehicles	1	1	1
and 2-wheeled working vehicles, 2011	4	1	3
Number of HEWs in 2007 and 2011	21; 72	6; 26	39; 78
Ratio of HEW to population, 2011	1: 2,125	1: 2,093	1: 2,208
Number of working refrigerators in HCs and HPs, 2011	21	3	9
Major RI-related partners, 2011	WHO, UNICEF, IFHP, SCF	WHO, CHAI, AMREF	WHO, UNICEF, CHAI, SCF, MSH, IntraHealth,

<sup>14</sup> Annualized for 2012

## ANNEX III. Key highlights of rapid assessment findings across the three woredas

ARBEGONA (SNNPR)	ASSAIETA (AFAR)	HINTALO WAJERATE (TIGRAY)
<p>Overall: data quality &amp; documentation remain weak, but there is much conflicting data that will require further exploration</p> <p>Supervision: support from the HC to the HP is strong, although the type of supervision provided and the intensity varies across HCs. It was also noted that WoHO supervision to the HCs/HPs appears weak, as do the management and follow up links from WoHO to PHC Units.</p> <p>Data quality: HCs have recently started data quality checks using the health management information system (HMIS);</p> <p>Community: active health messengers involved in defaulter tracing, but mostly male</p> <p>Data reviewed: doses administered, coverage (often &gt;100%), and DOR Penta1-3; left-outs not systematically assessed; EPI monitoring charts in place; in some cases, vaccinated defaulters not always written in EPI register</p> <p>Reports: often not sent on time from lower levels to WoHO although new procedures hope to address delays</p>	<p>Overall: disconnect between hospital and rest of woreda hampers how data can be reviewed and used; no systematic mechanisms currently in place to review data at any level</p> <p>Supervision: supervision from WoHO to HPs (no functioning HCs); visits irregular; standard checklists not used; three visits conducted so far to all HPs in 2004 EFY.</p> <p>Data quality: no systematic methods for WoHO or HPs to look at data quality issues; DOR is key indicator that is reported but does not appear to be well understood; negative drop-out rates common, rapidly rising BCG-measles drop-out rates which may reflect problems in recording, reporting or compiling forms</p> <p>Community: some used for tracking defaulters, but involvement is mostly campaign-centric</p> <p>Data reviewed: use standard dose/coverage/ DOR indicators, but communication gaps between frontline workers and HEWs hamper practical use of local data particularly with communities; left-out data reviewed in relation to campaigns; weak-to-no defaulter tracking; regional meetings fairly regular, but no regular WoHO or HP meetings; HP staff do not use EPI monitoring charts, and were not able to describe basic EPI data trends</p> <p>Reports: not complete or on time when sent; data reviewed/discussed at local level</p>	<p>Overall: good management and commitment from WoHO with excellent teamwork, task sharing, transparency and accountability; some gaps with archiving/documentation</p> <p>Supervision: conducted frequently and in integrated way</p> <p>Data quality: good management and commitment from the WoHO with excellent teamwork, task sharing, transparency and accountability. If someone leaves the woreda for training, someone else will take care of activities; team shares tasks well among themselves.</p> <p>Community: strong partnership between health staff and community; active defaulter tracking in place using communities</p> <p>Data reviewed: peer learning techniques used to help weaker staff learn practical methods to review/use data; estimated 80% of children vaccinated through outreach; HC heads involved in WoHO planning process, increasing ownership and use of data</p> <p>Reports: most are on time and complete; sometimes data is poorly organized making analysis more difficult</p>
<p><b>OVERALL RECOMMENDATION</b></p> <p>Support follow up and monitoring of plans using evidence based approaches, which require all levels to understand/use their own data; reduce data contradictions by promoting mentoring, performance reviews, peer-to-peer learning, continued data quality self-assessment checklists.</p>	<p><b>OVERALL RECOMMENDATION</b></p> <p>As current RI system is weak, focus on small steps, starting with focus to systematically reduce number of drop outs, as this will require the development of a tracking mechanism, working with communities, and consistent follow up and improvements in tracking of data and quality of services.</p>	<p><b>OVERALL RECOMMENDATION</b></p> <p>Provide technical support to WoHO during micro-planning, with intervention areas prioritized using planning techniques/tools such as problem tree analysis; explore introduction of data quality self-assessment checklist in health facilities providing EPI; follow up on data organization/archiving.</p>



## ANNEX IV. Key highlights relating to cold chain/logistics in the three woredas

ARBEGONA (SNNPR)	ASSAIETA (AFAR)	HINTALO WAJERATE (TIGRAY)
<p>Overall: needs additional in-depth review, as findings/feedback revealed varying information—particularly in relation to fridge maintenance, use, and transport challenges.</p> <p>Cold chain functionality/use/maintenance: No UNICEF-donated refrigerators in HPs from 4 years ago are in use due to lack of kerosene funding. Kerosene coupons are being tested although this mostly impacts HCs. Some HCs don't monitor refrigerator temperatures over weekend or on holidays</p> <p>Stock management: in last 12 months there was a month-long stock-out in woreda for BCG and measles; vaccine wastage is monitored at WoHO and HC level -- feedback is given to staff so that they can discuss practical ways to reduce wastage</p> <p>Safety: HPs and HCs use AD syringes for all vaccinations, use safety boxes, and incinerate full safety boxes at the HC. Trainings on safe injection practices and prevention are also conducted.</p> <p>Logistics: vehicle challenges, thus difficult to collect vaccines and other supplies from the ZHD or to deliver supplies from the WoHO to HCs</p>	<p>Overall: major cold chain and logistics issues relating to management, maintenance, and funding</p> <p>Cold chain functionality/use/maintenance: HPs with fridges are not running for routine due to lack of kerosene funds; vaccines frequently exposed to heat especially during hot season (May-Aug), VVMs found in last stage during assessment; hospital stores vaccines but is supervised by RHB and not WoHO, and so does not track/follow up on vaccines distributed</p> <p>Stock management: general persistent shortage of BCG thus not given at birth for attended deliveries, and also given only once a month for fixed services; no mechanism for tracking or controlling vaccine distribution; HPs visited have frequent stock out of essential drugs</p> <p>Safety: in one HP visited disposal site had burned empty pill packets, vials and vaccine caps but no needles or filled safety boxes</p> <p>Logistics: availability/functionality of vehicles decreasing, maintenance virtually non-existent; 5/6 motorcycles non-functional; many geographically hard to reach communities scattered throughout woreda in addition to pastoralist communities</p>	<p>Overall: major challenge is with transport/fuel, and spare parts for maintenance, but fixed and outreach services are occurring according to plan.</p> <p>Cold chain functionality/use/maintenance: all HCs except for one have functional fridge and provide daily immunization. 3 HPs have running fridges and most provide vaccination once a month. Shortage/lack of spare parts for the cold chain system impacts immunization services</p> <p>Stock management: no stock outs reported</p> <p>Logistics: biggest challenge cited was lack of adequate transport/fuel, hampers delivery of vaccines and limits the efficiency of supervision activities. HEWs walk hours to pick up/return vaccines to HCs</p>
<p><b>OVERALL RECOMMENDATION</b> Due to contradictory information, cold chain integrity needs further exploration (fridge maintenance, VVM, etc.)</p>	<p><b>OVERALL RECOMMENDATION</b> Because of the many significant cold chain and logistics issues, UI-FHS will need to explore in more detail current bottlenecks for keeping vaccines potent and what can be done to improve cold chain practices within the existing infrastructure</p>	<p><b>OVERALL RECOMMENDATION</b> Transport/fuel and spare part challenges stem from funding gaps; explore with WoHO advocacy efforts within woreda relating to these issues</p>

## ANNEX V. Existing learning mechanisms across the three woredas

### LEARNING MECHANISM I: REGULAR MULTI-LEVEL REVIEW MEETINGS

All woredas reported some form of regular meetings to share progress, problems, and ideas/promising practices.

ARBEGONA: In Arbegona, most of the feedback centered around the **PHCU and review meetings with health staff**—who reported the usefulness of these meetings particularly in learning which HPs were doing best, what they were doing, and how they were doing it. Regular meetings were also reported by HPs to be conducted with communities.

ASSAIETA: When asked how promising practices are identified and shared, in Assaieta, most health staff noted that they share ideas formally in **woreda meetings** and informally through the **Dagu system**, which is a traditional means through which community members exchange information in Afar. There are also more formalized **community based meetings** (with kebele chairmen) where good practices are discussed and ideas disseminated. Community leaders who were interviewed also reported identifying new practices through the woreda **administrative quarterly meetings with all kebele chairmen**. At this meeting, community leaders learn what the other kebeles are doing (peer learning). They hear from experts working at the agriculture, health, water and education bureaus and learn about what “model” kebeles are doing.

At the regional level, WHO reported conducting an **exercise in January of 2011 to identify health/frontline workers who are doing the best work**. WoHO experts and the head of the region attended this meeting. The group identified and publicly recognized these best workers in quarterly review meetings throughout the region, and the RHB promised to provide some training/educational incentives as well as small financial incentives. The criteria for identifying “best” were used during **supportive supervision** that included: performing according to target, recording, defaulter tracing mechanisms, registers and updating, knowledge of gaps, vaccine ledger book status, performance monitoring charts updated, timely and complete reporting, and monthly reports done well. **Quarterly review meetings at the regional level that are integrated with surveillance** also provide an opportunity for multiple woredas to present their best practices, share experiences, and help each other with peer learning. WHO supports integrated supportive supervision to follow up after each meeting.

HINTALO WAJERATE: HCs in Hintalo Wajerate identify promising practices during **PHCU review meetings** with HEWs and HDAs. Promising practices are documented and shared with others through different approaches including **community meetings**, during **WoHO and woreda** administration review meetings as well as during community health education sessions. The HC has labeled these practices as “promising” as the practices have been

observed to increase HC delivery, decrease missed opportunities for immunization, and decrease the number of children admitted to their HC due to problems related to malnutrition. In addition, they feel that these practices can decrease maternal and child mortality.

How ideas are spread during review meetings have many synergies with peer exchanges. In Hintalo Wajerate, communities share promising practices through experience sharing visits—organized by the kebele administration—in which people from different kebeles come together to recognize promising practices. They do this through community meetings; they they organize an **integrated community based meeting every three months** where they discuss health, agriculture, education, and other development activities.

## LEARNING MECHANISM 2: HEALTH STAFF AND COMMUNITY PEER EXCHANGES

The line between peer exchange and review meetings can sometimes be invisible, as many peer exchange opportunities occur during regular meetings. What this mechanism highlights is more related to cross visits and on-site exchanges.

ARBEGONA. From the community level, it was observed that there is a strong concept of peer learning among the **gotes** (sub-districts) through cross visits, where an underperforming gote is paired with a well performing gote; the process is facilitated by the HEWs. For example, when inaugurating public latrines, one community invited other gotes to see what was done so that they could be motivated to do the same. The HEWs and the kebele cabinet are also responsible for recognizing and critiquing the community health volunteers. The health messengers are given grades “A”, “B,” or “C” by the **HEWs and the kebele cabinet**, and the kebele cabinet gives recognition to the households with the best performance during committee meetings and other such gatherings. This offers opportunities for the health messengers with better grades to share their ideas.

ASSAIETA. Teachers share information through **health clubs** and go to other **schools to do cross visits**.

HINTALO WAJERATE: The woreda is known for organizing **cross visits with its HPs** and conducting review meetings to share experiences, spread ideas, and educate others in the communities. Other promising practices include technical support and the application of problem tree analysis techniques for prioritizing intervention topics during the micro-planning process.

Peer learning is also encouraged by HEWs through community based annual review meetings and cross visits; less performing community volunteers are made to visit well-performing ones, and learn from them. Communities share promising practices through these experience sharing visits, organized by the kebele administration. People from different kebeles come together to recognize promising practices. They do this through community meetings; they organize an integrated community based meeting every three months where they discuss health, agriculture, education, and other development activities.

### LEARNING MECHANISM 3: COMMUNITIES PARTNERING IN HEALTH TO SPREAD MESSAGES, IMPROVE ACCEPTABILITY OF SERVICES & TRACK/FOLLOW UP ON DATA (BIRTHS, DEFAULTERS, ETC.)

ARBEGONA: In Arbegona, health staff and communities cited improvements in health and immunization awareness when **religious leaders** became active in spreading health messages during religious services and ceremonies. Health staff also noted that they have developed **local forms that volunteers use to register pregnant mothers** in each gote. The form includes expected date of delivery.

ASSAIETA: One interesting practice is that of the **Dagu system**, the traditional means of communicating from one clan to another. This system could be used to improve the provision of health services in the woreda. Another example is when a mother, who comes to the hospital to deliver or receive vaccines for her child, will be provided with health education; she then goes to her home and delivers the message to the rest of her community members which allows for the transfer of knowledge. When asked how promising practices are identified and shared, most health staff interviewed noted that they share ideas formally in woreda meetings and informally through the Dagu system. Mothers who were interviewed during the RA also noted that when they come to the HP to learn about vaccines and other health issues, they then share ideas with other mothers when they are visiting them and when they meet informally (Dagu system). This form of peer sharing is something that the HP could further explore in systematic ways to explore how to better address low awareness of health and EPI. People also exchange information on **market day**. This is a great way to share information.

Leaders in one community noted that they share what they learn with other communities and during official and nonofficial (Dagu system) meetings. There are woreda and kebele meetings where information is officially shared. **Teachers also share information through clubs** and go to other schools to do cross visits.

At the Afar regional level, AMREF identified using trained TBAs. The TTBAAs, who are mostly illiterate, use a **different method to count cases** they have seen (e.g. of births attended, or infant deaths) using small fragments of rock to keep count of each case. For example, if a TTBA attends two births, she will mark this with two rocks. The supervisor from the HP will then transfer these numbers onto paper report forms. APDA told the RA team that they **use the traditional leadership to help with defaulter tracking**—to ask where people have moved so that during campaigns APDA can find them.

HINTALO WAJERATE: Immunization services have clearly benefited from the **HDA and I-5 network** approach particularly in terms of defaulter tracing and the registration of both pregnant women and new births in their respective kebeles. The HDAs are found to be instrumental in educating fellow mothers on a wide range of issues including the benefits of vaccines. At the time of the rapid assessment (April 2012), WoHO staff estimated around 31,000 HDA members in the woreda.

The WoHO also noted that they had developed a more **friendly ‘cultural ambulance’** for the traditional stretcher ‘kareza’ (which normally scares people as it implies death and a dead body). Providing mothers with **spiritual support by designating prayer places** for both Christian and Muslim members has helped to bring in and keep pregnant women around the health center for delivery. Monetary contributions from HC members for ceremonial food and coffee for women delivering at the center have been a useful practice which has encouraged mothers and attendants to wait at the facility for delivery.

#### LEARNING MECHANISM 4: CAPITALIZING ON INTERSECTORAL SYNERGIES

ARBEGONA: Arbegona staff noted that **kebele cabinet members coordinate to integrate health with agricultural activities**. For example, agriculture extension workers are encouraged to teach mothers about health services provided by the HP and often work together with the HEWs to conduct household visits. Another practice taken from the school system is the **use of students to monitor** the open defecation policy. In one community, an interviewee noted that students shout at those openly defecating, reporting those that they find to the school director. HEWs are also invited to give **health talks at the school** every

fifteen days. There are also **school clubs** which focus on sanitation, HIV, and TB, and talks are given at these clubs in line with their technical area. The rapid assessment team felt that the school had several practices that could be used by the health system.

ASSAIETA: An interesting finding during the rapid assessment in Assaieta was from a school in the woreda; this **school had a strong data tracking and feedback system** which included use of community volunteers in defaulter tracing. This school also **visually displayed its data in the principal's office**—tracking for each class the number of girls, boys, and total. This provides an excellent opportunity for cross learning from the school to the HP staff on the importance of not only knowing your data, but visually being able to track and compare it. The RA team noted that there is a high dropout rate between the number of girls attending 1st grade and 6th grade. There may be some opportunity to explore how the school tracks its defaulters and mechanisms with that process that are translatable to health.

The nurse in one HP suggested that HEWs need bicycles. He noted that, before, women riding bicycles was not accepted, but **teachers now have bicycles and it became acceptable for female teachers to ride**. This has now made it possible for HEWs who are women to also ride bicycles—yet another example the rapid assessment team found of how health can learn from schools and teachers.

## ANNEX VI. List of health facilities selected for the rapid assessment

	Arbegona Woreda	Assaieta Woreda	Hintalo Wajerate Woreda
Health Centers selected	Toshene Bochesa	Assaieta Hospital (previously was an HC)	Adi-Gudem Hareko Hewane
Bochesa	Assaieta Hospital (previously was an HC)	Adi-Gudem	
Health Posts selected	Bochesa Mayu	Gehertu Hinala Mamule	Mesanu Hagereslam Hintalo



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