Deloitte.

Ethiopia Case Study Report

Evaluation of the technical assistance provided through the Gavi Partners' Engagement Framework

Baseline Assessment

July 2017

Table of Contents

Acronyms 1
Executive Summary 3
1. Introduction 5
Overview of Case Study Approach 5
2. Background and Country context 5
The National Immunization Program 6
Immunization Technical Assistance Landscape 9
3. Domain 1: TCA Planning 9
JA Process in Ethiopia 10
4. Domain 2: TA Delivery 13
TA Delivery Models 14
Key Strengths of TCA Delivery 15
Weaknesses in TCA Delivery 16
TA monitoring and coordination 17
Factors that influence effectiveness of TCA 19
5. Overall Conclusion and Recommendation 19
Appendix A. List of Stakeholders Interviewed 22
Appendix B. List of Documents Reviewed 23
Appendix C. List of Meetings/Events observed 24

Acronyms

Acronym	Description
AIDS	Acquired Immune Deficiency Syndrome
CBNC	Community Based Newborn Care
CDC	Communicable Disease Control
CHD	Chronic Heart Disease
CHAI	Clinton Health Access Initiative
CHIS	Community Health Information System
cMYP	Comprehensive Multiyear Plan
CSA	Central Statistics Agency
CSOs	Civil Society Organizations
CVD	Cardiovascular Diseases
DTA	Direct Technical Assistance
EPI	Expanded Program of Immunization
EPI	Extended Program of Immunization
EPHI	Ethiopian Public Health Institute
EFMHCA	Ethiopian, Food, Medicine, and Health Care Administration and Control Authority
ERI	Enhanced Routine Immunization
FHD	Family Health Department
HEP	Health Extension Program
HIV	Human Immunodeficiency Virus
HSS	Health System Strengthening
HSTP	Health Services Transformation Plan
HPV	Human Papilloma Virus
ICCM	Integrated Case-based Management of Childhood Illnesses
IFHP	Integrated Family Health Program
IPLS	Integrated Pharmaceutical Logistics System
JSI	John Snow International
L10K	Last 10 Kilometers

NGO	Non-Governmental Organization
NHA	National Health Accounts
NITAG	National Immunization Technical Advisory Group
OOPS	Out-of-Pocket
PEF	Partner Engagement Framework
PFSA	Pharmaceutical, Fund and Supply Agency
PHCU	Primary Health Care Unit
PPD	Planning and Programme Department
REC	Reaching Every Child
RED	Reaching Every District
RMNCH	Reproductive Maternal Newborn and Child Health
TA	Technical Assistance
TB	Tuberculosis Bacilli
TCA	Targeted Country Assistance
UI-FHS	Universal Immunization through Improving Family Health Services
URTI	Upper Respiratory Tract Infections

Executive Summary

This report presents findings from a case study of Gavi-funded Targeted Country Assistance (TCA) in Ethiopia. This case study is a component of the larger prospective evaluation of TCA across the 20 Tier 1 and Tier 2 countries that are supported by Gavi-funded Partners to bolster the implementation of their national immunization programs. Using intensive interviews, document reviews, and observations, the Evaluation team explored the planning and implementation of the 2016 TCA cycle (2015 JA - implementation of the 2016 TCA activities through March 2017) as well as the planning for 2017 TCA activities in Ethiopia and identified key successes and challenges. Data collection for this case study was conducted between October 2016 and March 2017.

Below is a summary of the key findings and recommendations for this case study.

- **Finding 1.** The MoH/EPI has taken a lead role in planning and facilitating the JA meeting, indicating ownership of the TCA planning process.
  - **Recommendation 1.** The MoH/EPI should continue with this high level of engagement in the TCA planning process and should extend the engagement to more EPI team members so they also develop more ownership for the expectations around the TCA activities and milestones.
  - **Recommendation 2.** The MOH/EPI should extend invitation for the JA to regional and zonal health officers as well as other supporting federal program such as the PFSA and HMIS teams.
- **Finding 2.** Coordination of TCA efforts across all Partners remains an area of weakness for the EPI. However, there is great interest and commitment from high level leadership within the MoH to have a concerted effort to promote greater coordination.
  - **Recommendation 3.** The Gavi Secretariat (SCM) should support the EPI efforts to complete the mapping exercise to identify all immunization Partners, their technical strengths, current activities and geographic presence.
  - **Recommendation 4.** The EPI and Partners should leverage the existing EPI cluster meetings to facilitate ongoing communication and collaboration across all immunization Partners, including those not funded by Gavi-TCA.
- **Finding 3.** While the TCA support overall has been credited with lending greater support to building the capacity of the EPI, there were concerns with the quality of TA providers at the sub-national level.
  - **Recommendation 5.** The Gavi Secretariat should support the EPI's efforts to conduct such an assessment of the contribution of zonal-level TA to the EPI's overall efforts.
- **Finding 4.** One of the key challenges for the EPI is the staff shortage and high staff turnover at both the National and subnational levels.
  - **Recommendation 6.** While TA support is helpful in supplementing the EPI team's efforts, it does not address the root cause of the capacity limitations, namely those around HR issues. The Gavi Secretariat, together with the EPI and other development partners, should explore more effective ways to support human resources for health through the HSS grant.

- **Finding 5.** There is limited transparency around the TCA activities supported by CDC and the World Bank. It is unclear if the EPI and other Partners are aware of UNFPA as a TCA Partner.
  - **Recommendation 7.** The Gavi Secretariat (SCM) should clearly explain the terms of reference for these Partners so that there is a shared understanding about the expectations and engagement of these Partners in the PEF-TCA process.
- **Finding 6.** Stakeholders perceive the 2016 TCA Plan to contain too many TCA activities and stressed the need to prioritize on a subset of most impactful activities.
  - **Recommendation 8.** For the 2018 TCA Planning cycle, the EPI and Partners should prioritize a shorter list of TCA activities to be funded by Gavi.

1. Introduction

This report presents findings from a case study of Gavi-funded Targeted Country Assistance (TCA) in Ethiopia. This case study is a component of a larger evaluation of TCA across the 20 Tier 1 and Tier 2 countries that are supported by Gavi-funded Partners to bolster the implementation of their national immunization programs. This case study was conducted by Dr. Mitike Molla Sisay in partnership with Deloitte Consulting.

Overview of Case Study Approach

The purpose of this case study is to supplement the Gavi Baseline Assessment of the Targeted Country Assistance (TCA) within the Partner Engagement Framework (PEF). Ethiopia was selected as one of four case study countries that will be followed throughout the five year evaluation of the PEF-TCA, alongside Afghanistan, the Democratic Republic of Congo, and Nigeria.

This report provides a background on the immunization landscape of Ethiopia, including the TA needs, and a summary of the key insights gained on some of the unique aspects of the TCA process in Ethiopia during the 2016 TCA cycle and the 2017 planning process.

Information used in this analysis is based on an extensive document review (see Appendix A); 16 interviews with TCA implementing Partners, MOH, and Gavi stakeholders (see Appendix B); In-person observations of the 2016 JA meeting and a post-JA Partner meeting; and responses to the 360° online survey from respondents in Ethiopia. Data collection for this case study was conducted between October 2016 and March 2017.

2. Background and Country context

Ethiopia is the second-most populous country in sub-Saharan Africa with a population of 99.4 million, and population growth rate of 0.5%.[1] More than 80% of the population lives in rural areas and the population is quite young where 44% are under 15 years of age, 52% are between 15 to 65 years, while only 3% are above 65 years of age[2]. Infants constitute 3.64% of the total population and 17.5% of the population is aged less than 5 years (CSA 2007). Ethiopia ranks fourth in the world of countries with the most unimmunized children.[3]

Table 1. Country Ranking of Unimmunized Children, CDC

Rank	Country	Number Unimmunized
1	India	7,225,120
2	Nigeria	3,048,560
3	Indonesia	1,574,350
4	Ethiopia	1,194,130
5	Pakistan	883,600
6	DRC	764,400
7	Philippines	458,600
8	Afghanistan	409,700
9	Chad	342,420
10	South Africa	281,680

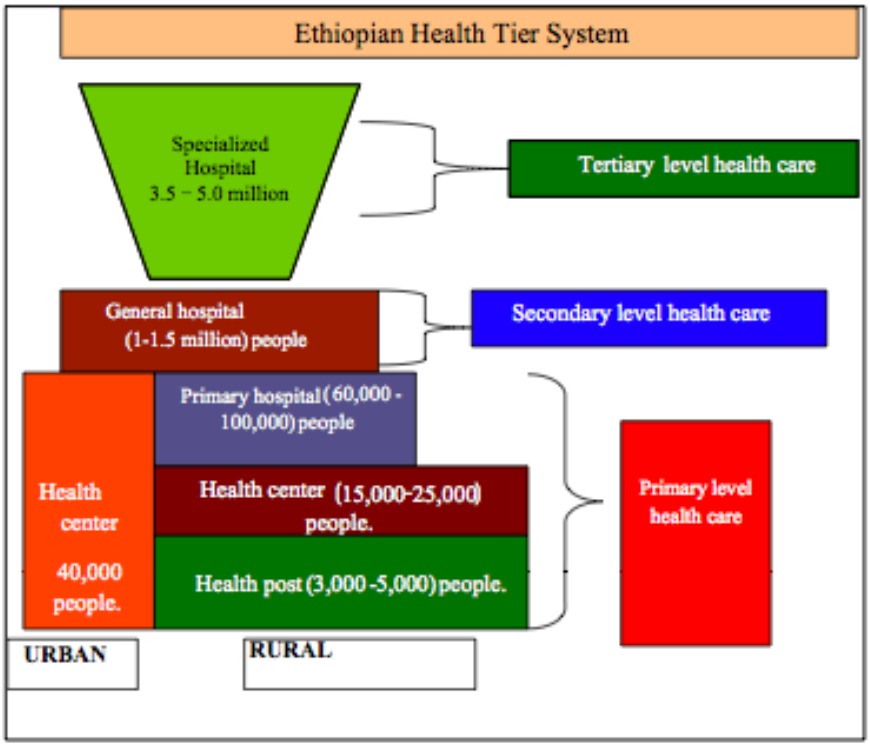
Source:https://www.cdc.gov/globalhealth/immunization/stories/child-immunization-drc.htm

[1] The World Bank, www.worldbank.org/en/county/Ethiopia accessed Feb 2, 2017
[2] Ethiopian Demographic and Health Survey, 2016
[3] "Fostering Ownership of Childhood Immunization Data in Democratic Republic of Congo," https://www.cdc.gov/globalhealth/immunization/stories/child-immunization-drc.htm.

Health system organization

Ethiopia is administratively divided into nine regional states known as "*kilils*" namely: Tigray, Afar, Amhara, Oromia, Somali, Benishangul-Gumuz, Southern Nations, Nationalities and People's Region(SNNPR), Gambella, Harari and two city administrations: Addis Ababa, and Dire Dawa. The decentralized health system is organized into 11 Regional Health Bureaus (9 regions plus 2 city administrations), 103 Zonal Health Departments, and 836 Woreda/District Health Offices. It is further divided into three tiers which includes the Primary Health Care Unit (PHCU) at the bottom which includes the health extension program which serves 3000-5000 people, health center which serves 15,000-25,000 people and district hospital which serves 100,000 people. The second tier is general hospital which serves 1-1.5 million populations and at the top end is the central referral hospital which serves 3.5-5.0 people[4] (Figure 1).

Figure 1. Health System Organization in Ethiopia: The Three tier System



(Source: HSTP-2015-2020)

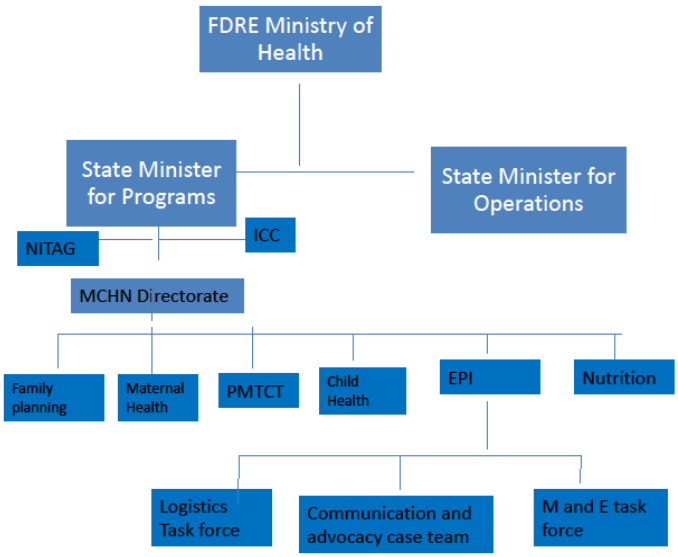
The National Immunization Program

The Ethiopian immunization program is one of the oldest programs within the Ministry of Health Child Health Program. The program is operated within the Maternal, Child Health and Nutrition (MCHN) Directorate under the State Minister's office for Programs. The EPI Case Team is staffed by seven members including three officers, a case team coordinator, a logistics coordinator and two technical advisors who dedicate their full time to immunization[5]. The team

[4] Federal Democratic Republic of Ethiopia MoH, HSDP IV (2010-2015)
[5] http://www.moh.gov.et/immunization accessed on April 1,2017

is structured into three task forces, namely: Logistics, Communication and Advocacy, and Monitoring and Evaluation. Each task force has sub-working groups. Partners with relevant specialty are taking part in each sub-working group[6]. The Inter-Agency Coordinating Committee (ICC) and The Ethiopian National Immunization Technical Advisory Group (NITAG) have been established as oversight and coordinating bodies.

Figure 2. Organizational structure of Maternal, Child Health and Nutrition (MCHN) Directorate



The EPI case team works closely with the Pharmaceutical Fund and Supply Agency (PFSA), the Policy and Planning Directorate (PPD), the Ethiopian Public Health Institute (EPHI), and the Food, Medicine, and Health Care Administration and Control Authority (EFMHCA).[7]

At the sub national level, EPI is organized at different capacities in different Regions. In some, it is organized under the Maternal and Child Health Unit, where the EPI focal person is obliged to do other health activities. In others, it is organized under Family Health where individuals are assigned to work only on EPI activities. Having these different structures in different regions is one of the challenges the program has faced. A related challenge is that there remain subnational EPI focal point positions that have not yet been filled.

Immunization Strategies and Priorities

The Comprehensive Multiyear Plan (cMYP) for immunization specifies the following priorities for the Immunization program:

1. Measles elimination: Measles elimination activities will be implemented as per the measles elimination strategic document 2012 – 2020. For the next two years, priority will be given to conducting a wide age range (under 15 years) campaign to hasten measles elimination.

[6] FMOH: WWW.moh.gov.et
[7] http://www.moh.gov.et/immunization. accessed on April 1,2017

2. Cold-chain rehabilitation: Fully implementing the rehabilitation plan. To replace all kerosene based and old cold-chain equipment by new equipment with a renewable energy source
3. Phase III Men A campaign: preparatory activities to implement phase III Men A campaign in 27 zones will be conducted to support the November 2015 campaign.
4. Advocacy and social mobilization: A robust and comprehensive social mobilization strategy will be implemented to strengthen routine as well as supplemental immunization activities and pastoralist focused communication strategy will be developed and operationalized.
5. Monitoring and evaluation: The ICC will assist in conducting a high quality EPI coverage survey by the year 2018.
6. Intensification plan: Defaulters tracing and identification of unimmunized children will be strengthened through the new intensification plan.

The Gavi HSS 3 grant supports efforts towards these priorities through a focus on integration of EPI into community and child health services and strengthened primary health care services, health information systems, health fora, and strengthening the cold chain system. In 2016, the EPI also received additional direct support from Gavi through new vaccine support grants (HPV, IPV, Measles SIA, Penta, Pneumo, and Rotavirus), amounting to a total of $77.4 million.[8]

Major activities to be funded under the HSS Grant

1. Improve Child Health Service Delivery through engagement of community, CSO, and non-state actors and strengthening of the primary level health care mainly Health Extension Program (HEP)
2. Strengthening the capacity of the National Supply Chain System through strengthening Cold Chain and Supply system, upgrading the network designing and strengthening the vaccine and vaccination quality regulatory system.
3. Strengthening the monitoring and evaluation system through strengthening the HMIS and CHIS, and performance reviews through different mechanisms.

Source: Ethiopia Health System Strengthening (HSS) Cash Support Application. October 12, 2015.

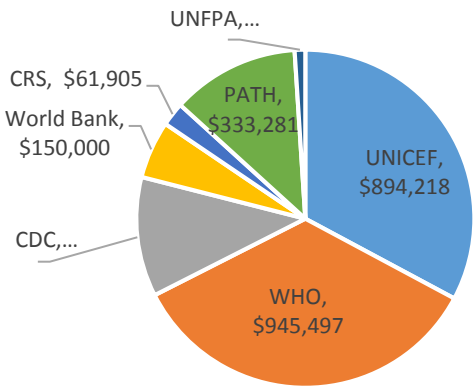
Other donors to the immunization program include Bill and Melinda Gates Foundation, USAID, and DFID, as well as UNICEF core funding.

[8] Gavi. All Countries – Commitments and Disbursements. Retrieved from http://www.gavi.org/country/ethiopia/.

Immunization Technical Assistance Landscape

In addition to the HSS and new vaccine support grants from Gavi, the Ethiopian immunization program also receives Targeted Country Assistance from Gavi-funded Partners. The 2016 TCA Plan allocated a total of $3.09M to UNICEF, WHO, CDC, World Bank, PATH, CRS, and one yet to be determined Partner (later specified as UNFPA) to support technical assistance to the EPI. WHO received the majority of TCA funding (close to one third of the total TCA funding for Ethiopia), with UNICEF receiving 29% of the funds, and PATH closely following at 23% of the TCA funds. The CDC and World Bank, though Core Gavi Partners, received relatively small amounts of funding for TCA support in Ethiopia. Though funding was not specifically allocated to UNFPA in the 2016 TCA Plan, UNFPA is listed as a Partner supporting adolescent health assessments for HPV. On the other hand, while funding was allocated to the CRS in 2016, they had not yet received this funding at the time of data collection for this assessment, hence they are not included in our baseline case study.

Figure 2. Allocation of TCA Funding by Partner - $2.72M



Source: 2016 TCA Plan

The EPI receives technical support from several other Partners, beyond those funded by Gavi TCA. Other agencies such as CHAI, JSI, Core Group, Rotary, IFHP, and CRDA were also identified as being key TA Partners for the EPI's efforts. CHAI and JSI are especially critical partners for the EPI. CHAI, funded mainly by the Bill and Melinda Gates Foundation (BMGF), supports the cold-chain systems including sustainability issues. JSI, funded by both BMGF and USAID, supports four different projects focused on routine immunization: Last 10 Kilometers (L10K), ım (IFHP), Universal Immunization through Improving Family Health Services (UI-FHS), and DELIVER vaccine supply chain. IFHP also supports the immunization program in an integrated manner with other maternal and child health services using funding from the USAID.[9]

3. Domain 1: TCA Planning

The 2016 Joint Appraisal was the first "full" JA conducted in Ethiopia, as it included in-country stakeholders as well as representatives from Partners' regional and headquarters offices (the 2015 JA included only country stakeholders). Overall, there seems to be increased understanding of the PEF-TCA process around the JA and TCA Plan preparation, compared to last year. Many stakeholders noted that the 2015 JA and TCA planning process was not clear, even for high level officials. Following a Gavi Secretariat-led orientation on the TCA planning

[9] https://extranet.who.int/nutrition/gina/en/node/11469

process for the EPI Case team, there was better clarity around the requirements going into the 2016 JA.

It is worth noting that only select individuals from the EPI Case team are knowledgeable about the broader PEF-TCA framework from which the JA is borne. Some participants from the EPI Case-team who are playing an important role in the immunization program indicated that they just heard about the TCA approach during the interview we conducted or during the JA meeting itself. As one EPI team member indicated: *"I had slight information about the TCA before the JA meeting. The TCA became clear for me after the JA meeting. It would have been very important if I understood the TCA before the JA meeting."*

"Comparing the TCA with the previous models is like comparing a formally written plan with just a mental plan. In the previous models, we were not aware of who is funded for the different immunization activities. But currently, using the TCA, we are able to evaluate their (Partners) plan, against their performance and related outcomes. We did this also in the JA" - - EPI

Similarly, most individuals had a passing awareness of the BP, but were not aware of many details about the BP. Those who had a good understanding of both the TCA and the BP indicated that there was a major progress in the TCA compared to the BP, mostly with regard to improved transparency.

Despite the initial lack of clarity around key processes, the TCA is appreciated by both Partners and the EPI as it considers the country's immunization needs in the planning process and brings increased transparency on who the Gavi-funded Partners are and what they are funded to do. EPI stakeholders further indicated that the TCA has helped them not only in immunization financial and logistic support, but it has also strengthened their capacity of planning, implementation and evaluation. This section highlights some key insights around the 2017 TCA Planning process.

JA Process in Ethiopia

The Ethiopia 2016 Joint Appraisal (JA) was conducted over the course of two days in October and was coordinated by the MoH. The EPI Case-team (supported by a WHO technical assistant embedded within the EPI team) took the lead in designing the JA meeting including JA report preparation, agenda setting, inviting Partners and assigning tasks among participants. The Director of the Maternal, Child Health and Nutrition (MCHN) Directorate attended part of the JA and gave an address to the assembly. The JA was attended by representatives from WHO and UNICEF (including staff from the regional and HQ offices), CDC, PATH, the Consortium of Christian Relief and Development Associations (CCRDA), JSI, CHAI, USAID, BMGF, and the Gavi Secretariat. The World Bank and UNFPA were not represented at the JA. From the government side, the MoH Finance Department including the grant manger was invited to prepare and present financial matters including budget use and plan. The PPD was invited but they could not attend the JA.

"When we were developing the TCA planning, the Gavi experts were by our side and had back and forth communication before it was submitted. Gavi's requirement is so tough hence that helped us to work more to meet their standards where we learn a lot from it."" - EPI

Prior to the JA, key Partners (primarily UNICEF and WHO) were engaged to prepare a draft of the JA report, which was then circulated to JA attendees shortly before the JA (though many stakeholders noted that they had not received or reviewed the draft report prior to the JA). Following the JA, the MoH EPI Case-team, WHO, UNICEF and PATH had a meeting to finalize the JA report and discuss technical assistance needs. In addition, items that were missing but were deemed important for the program were discussed and added. The completed JA report was presented to the ICC for possible approval and endorsement.

"What was done in the JA was getting inputs on the draft report. After the JA, we, including our partners (PATH, WHO and UNICEF), had to work on two main issues: first, the report had to be finalized and second, it had to be approved by the ICC. In the meeting after the JA, we discussed the types of TA needs, whether to put some more plans or to decrease what was already planned and get it endorsed by the ICC." - - EPI

Stakeholder Engagement

The JA was the first occasion for key Partners to convene to discuss their technical assistance support. While UNICEF and WHO indicated very close working relationships, including for immunization, other Partners noted that the JA was the first time they had engaged closely with other organizations on matters specific to TA for the EPI. For example, several stakeholders from both the EPI and other Partner organizations noted that "we had not seen them [CDC]" prior to the JA. Similarly, few stakeholders from UNICEF and WHO noted that they "didn't know PATH until the JA", indicating a lack of awareness of PATH as a Gavi-funded TCA Partner. It is clear that the JA has facilitated great strides towards improved transparency, shedding more light on which organizations are supporting the EPI. ***However, there remains a lot of obscurity around the role of some Partners – especially CDC and World Bank.*** It should also be noted that UNFPA was never mentioned in any of the JA discussions, raising the question of whether the EPI and other Partners are aware of UNFPA's role as a TCA provider.

Process Note

UNFPA was added into the 2016 TCA Plan after we had completed interviews with the majority of stakeholders in Ethiopia. As we were not aware of UNFPA as a Gavi-funded Partner at the time, we did not ask specific questions about this organization. At the same time, there was no mention of UNFPA in any of our interviews or during any of the JA and post JA discussions that we observed.

There is a need for greater engagement from other MOH entities. The focus of the JA discussions was primarily around 3 topics: 1) equity, 2) supply chain management, and 3) data quality, surveillance, and monitoring. JA participants were asked to break out into three technical working groups to discuss these issues, review the corresponding sections of the draft JA report and provide comments and input on those sections. Beyond identifying the progress and challenges within each of the three priority technical areas, a common theme that emerged from these discussions was the acknowledgement that the EPI's efforts are part of the broader health efforts and therefore any initiative aimed at improving these technical areas needs to engage with stakeholders from other programs within the MOH and beyond.

For example, poor data quality was repeatedly raised as a major challenge for the immunization program. It was noted that the health data quality plan was developed as part of the larger health sector development plan. While there is a need for a separate annex specific to immunization data quality, there should also be increased engagement with other stakeholders from across the MOH who are responsible for data collection and data management at all levels of the health system. Given these recognitions, the absence of such stakeholders from the JA discussions was quite marked.

Similarly, discussions about supply chain management referred frequently to the Pharmaceutical, Fund, and Supply Agency (PFSA), the government agency which oversees the health and pharmaceutical supply chain. Our evaluation did not look into the extent to which Partners engage with these larger health programs during the course of TCA implementation. However, engaging representatives from relevant programs outside the EPI during the JA will likely be helpful for discussing root causes of outstanding challenges and areas to focus on moving forward.

Relevance

The focus of the JA discussions was well-aligned with the EPI's challenges and priorities specified in the HHS application. The 3 topics around which the 2016 JA discussions focused (equity, supply chain management, and data quality) were well-aligned with the priorities specified in the HSS application as noted above. Interviewees also agreed that these were the right issues to focus on, especially given the interrelated challenges of poor quality data which limits ability to assess true coverage levels in hard to reach geographic areas and populations such as pastoralists.

Stakeholders perceive the 2016 TCA Plan to contain too many TCA activities and stressed the need to prioritize on a subset of most impactful activities. The 2016 TCA Plan includes 15 sets of TCA activities across 5 programmatic areas (table 2). Within each set of programmatic area activities, the TCA Plan lists several different distinct activities.

For example, within one set of UNICEF's Coverage & Equity programmatic area activities, more specific activities are listed as follows:

1. Capacity building in 20 low performing zones
2. Support RED microplanning at HF level;
3. Supportive supervision for RI;
4. Monthly monitoring, including cold chain and vaccine management;
5. Data quality assessment;
6. Organize monthly collection and analysis of data to take corrective actions inform implementation;
7. Support zonal health offices to develop/update communication and social mobilization strategies and plans in support for RI microplans and monitor implementation

Table 2. Number of sets for TCA activities supported by each Partner, by Programmatic area

Partner	Programmatic areas							
	Coverage & Equity/ Demand Promotion and Equity	Data / Surveillance	Supply chain	Vaccine sub-groups	Leadership, management and coordination	HSS	Financing	Sustainability
UNICEF	5	1	1	1				
WHO	1	1	1	1				
World Bank		1						
CDC	1				1			
PATH				*				
UNFPA				*				

** Programmatic area not specified in the 2016 TCA Plan, but inferred from description of activities*

Each Partner has a similar set of specific activities under each programmatic area, amounting to a long list of TCA activities across all six Partners, particularly within the Coverage and Equity programmatic area.[10] Such a long list of activities is regarded to be unproductive as it is not realistic to be accomplished within the one year TCA timeframe or within the limited TCA budget. Furthermore, requests for action from the EPI team related to each activity lead to competition for the EPI team's time and do not always align with the EPI's timeline and availability. Moreover, the milestones established for these activities do not offer meaningful measures or indicators of progress on the activities or contribution of the activities to the broader immunization program goals.

During the 2016 JA, MOH called for Partners to focus on a minimal set of high priority areas which bring added value and innovation to the EPI. Partners were asked to examine their own technical strengths, and conduct a mapping exercise to help prioritize just a handful of activities to focus on most impactful areas. Additionally, the EPI team emphasized the importance of having strong indicators to measure the progress and impact of the TCA efforts.

4. Domain 2: TA Delivery

For the most part, interviewees indicated that the TA implementation has been smooth at the national and sub-national levels. The fact that the sub-national TA providers are deployed with a vehicle (provided by the same donors who fund the TA providers' salary) creates a mutual support between the sub-national MoH staff and the TA providers where they integrate their

[10] While there is some overlap in some of the specified TCA activities, particularly between UNICEF and WHO under the coverage and equity programmatic area, Partners noted that they split up the activities across different geographic areas – while UNICEF supports coverage and equity in 15 zones, WHO supports similar activities in another 20 zones.

activities and use the resources effectively. As with other countries, interviewees noted that delayed funding disbursement from Gavi to the Partners as well as from the Partner' Country Office to the subnational levels caused some implementation delays. Below are the key strengths and outstanding weaknesses in TCA delivery that were identified in our data collection and analysis.

TA Delivery Models

The embedded TA delivery model is commonly used in Ethiopia, where technical experts are seconded by Partners (WHO, UNICEF, CDC, and JSI-L10k) and provide services to the MoH directly. Embedded support providers spend most of their time engaging in EPI activities with the same status as that of the EPI Case-team members. The embedded TA provider represents the MoH in meetings, prepares reports, leads working groups, and participates in the preparation of guidelines, strategies and other documents needed by the MoH. Currently there are four TA providers seconded by WHO, UNICEF and JSI L10K to support the EPI case team activities at national level. While three of these embedded TA providers dedicate 100% of their time to the EPI efforts, one of the experts dedicates most of his time to broader health system strengthening efforts. *"I was assigned as an immunization specialist, but when I came to the MoH, they suggested that the MoH will benefit more if I support in another unit for which I have more expertise. Then, after some dialog between my mother organization and the MoH, it was decided that I should divide my time between the two departments. The problem with this arrangement is that it makes me busy and I have to report for two different individuals. But at least, I am handling it and not much of a problem" - - Core Partner*

The recruitment of the TA providers was led by the Partner Country Office, in consultation with the MoH. The nationally assigned TA providers directly report to the MoH EPI Case-team Coordinator and also to their parent organization.

"I spend more than 60% of my time at PHCUs. This is the best spot for providing support, because the work is down there where more gaps are observed. I sit at the PHCU/HC with surveillance officers and EPI team for at least 1-3 hours depending on the gap. I work with them on items such as use of monitoring chart, infection prevention, vaccine use, cold-chain, and communication and so on. If I found them providing vaccination, I do not just follow what they do but I also talk with mothers who brought their children for immunization and assess their knowledge about immunization. I will ask them why they decide to get their children vaccinated and so on..." (sub-national level Partner)

At the sub-national level, WHO and UNICEF have hired zonal technical assistants (partially supported by TCA funding) to support regional and zonal health offices in a similar manner as that of the national-level TA. There are more technical assistants assigned at the sub-national level then the national level. While the national level TA inclines more to deskwork, zonal TAs spend more than 50% of their time providing supportive supervision to Primary Healthcare Units (PHCUs). The rest of their time is used for data processing, report writing and supporting zonal or regional health offices as the case may be.

Key Strengths of TCA Delivery

EPI stakeholders appreciate the high level of expertise of TCA Providers at the national level. TCA providers usually have extensive experience and expertise in immunization services. Providers interviewed had a minimum of 5 years and a maximum of 20 years of experience in immunization services. Most have local expertise in immunization services while some have both local and international experience in immunization. The MoH informants appreciated the technical expertise of the TCA providers as helpful to the immunization program

"As you know, it is a high time for EPI, we are transiting EPI logistic management to an organization which had never had practice in a huge logistics movement except in campaigns. We do not want to repeat the failure the health system faced in the Malaria Prevention Program. We do not either want a vaccine which is not potent to reach to children. At this juncture the TA we get from Gavi [supported Partners] is very important because there is knowledge transfer from different experts … In addition, the updates I am getting from the Gavi secretariat from Ethiopia about some innovations have helped to update my knowledge" - EPI

Stakeholders noted that TCA places a significant role on capacity building. Key EPI team members from the MoH indicated that knowledge transfer and capacity building both at national and sub-national level is one of the benefits they receive from the TCA. The direct contribution of TCA to individual-level change in knowledge and skills was mentioned by several stakeholders. Some indicated that they have gained specific knowledge in terms of data analysis, grant or report writing and dissemination. Others also indicated that they learned how to handle critical decisions that makes a breakthrough in the EPI program such as transitioning of the EPI logistic system from regions to the Pharmaceutical, Fund and Supply Agency (PFSA).

"One of the benefits that the EPI program achieved from the TA is capacity building in terms of knowledge transfer. EPI as a program needs the participation of many and requires a strong EPI background. A number of capacity building activities are underway where a huge number of TA providers are deployed at sub-national level with the main aim of enabling EPI staff to be more task oriented and focused, so that the EPI as a system would be more strong and sustainable…" - - EPI

TCA is credited with supporting greater achievements for the EPI, including information exchange. Several stakeholders pointed to the El-Nino crisis that had diverted both EPI and Partners' resources and staff time away from routine immunization efforts. However, EPI stakeholders credited the technical assistance they received from Partners as having helped them complete several immunization campaigns, despite this competing priority: *"There are about four DTA providers at a national level, we all work for a goal, for example, we conducted 26 polio campaigns in the past two years which means one campaign every two months. Because of the 'El Nino', we also conducted measles campaign. Immunization is HR intensive but the TA providers contributed a lot to this end." (MoH).*

Similarly, stakeholders pointed to the benefit of having a TA platform, somewhat separate from the MOH processes, to facilitate quicker information exchange: *"TA providers are faster than the system, if you ask them information or data it will be at your finger tips immediately. They also carry most of the burden of the immunization program" - - EPI*

The EPI has significant input in shaping the scope of work for the embedded and zonal-level technical assistants. The zonal health offices and the MoH have a moderate level of ownership of the TCA provided by the Zonal Technical Assistants and national level embedded TCA providers. At the national level, embedded TCA providers take direction directly from the EPI Team Leader, thereby enhancing the level of ownership that the EPI has in setting the agenda for the support provided by the TCA provider. At the subnational level, the zonal level technical assistants are trained before deployment and are deployed with a clear TOR which guides their activities. The EPI as well as the zonal health offices are able to and do provide input for the development of the TORs. Zonal Technical Assistants are also required to conduct situational analysis of the EPI coverage as a baseline to compare their final performance against it.

"Seconded individuals are fully engaged, [TA Provider] is supporting us fully. We are the ones that decide the time they spend at the MoH… there is no task that they do not help with, they have a hand in all aspects of the immunization program which is very important for us" - - EPI

Weaknesses in TCA Delivery

There is concern with the expertise of subnational-level TA providers. While stakeholders praised the level of expertise of TA providers at the national level, they often pointed to their concern about the skill and expertise of the Zonal Technical Assistants. Such concern relates primarily to their lack of immunization-specific experience.

"Sub-national level TA providers have a strong academic background. However, I suggest they should have additional training on EPI and the immunization system before deployment." - - Partner

There is a lack of transparency on TCA funding levels. Stakeholders highlighted that despite the increasing awareness of the Partners supporting the EPI and increased familiarity with their activities, the Gavi processes do not provide transparency around the funding levels for each Partner. EPI stakeholders especially pointed to this issue as a barrier to understanding the full scope of Partners' agreement with Gavi and whether their planned activities and deliverables are in line with the funding levels. This lack of transparency around funding levels constrains the level of EPI's ownership over the TCA efforts. One EPI stakeholder described this limitation as follows: "The limitation of the TCA is it does not indicate how far a partner should be engaged. If you ask me about a certain TA to what extent…I cannot answer that question. When we ask [the Partner] to take a certain task and complete it at 100%, they say supporting the MoH is only a proportion of their salary and they say we cannot dedicate 100% [to the EPI]. For example, in [specified vaccine activity], 'update and implementation' was a task given to [Partner]. Are they supporting it at 100% or does their participation in the transition committee make them participate in the work? I cannot say anything" - - MoH

"The TCA has benefited us in knowing who is doing what, but still we do not know how much money is each core member getting from Gavi to support the EPI. This limits our monitoring and effort to know how far the budget is used to implement the plan." - - EPI

TA monitoring and coordination

Coordination and monitoring of TA efforts is an outstanding challenge for the immunization program. The coordination of immunization TA activities is primarily the role of the MoH, with support from Partners. For example, the MoH assigned a TA coordinator at the national level which oversees reporting from the 51 sub-national level ZIAs. Stakeholders often pointed to the lack of visibility of specific Partners' activities (primarily CDC and WB) as well as concerns over some overlap in the activities of UNICEF and WHO as examples for weak coordination in TA efforts. Interviewees from UNICEF and WHO explained that while there is overlap in their activities listed in the TCA Plan, they work closely together to either divide up tasks geographically, or implement at different times within the same zones. *"There is no overlap among activities, the implementation areas may be similar, however, we (WHO and UNICEF) exchange monthly plans to decrease this. We provide similar activities in the same woredas/districts but at different times to avoid fatigue of the health workers from having the same faces at all times." - - Core Partner.*

During the 2016 JA, the MOH noted the need to conduct a mapping exercise to map out the TA needs, as well as Partners' strengths, resources and activities at the subnational level to better understand the full scope and extent of Partners' activities and areas of overlap or gaps. The output of this mapping exercise would then serve as the foundation upon which to coordinate all Partners' immunization efforts.

In addition, MOH stakeholders pointed to the MOH cluster meetings as a potential platform to facilitate the coordination of immunization Partners. While there is an existing cluster meeting for immunization (along with 5 other maternal and child health programs), the EPI cluster was highlighted as being the weakest. The MOH encouraged the EPI and Partners to use this forum as an opportunity to institute ongoing communication and coordination across all EPI Partners and dedicate meetings specifically to discuss TA activities.

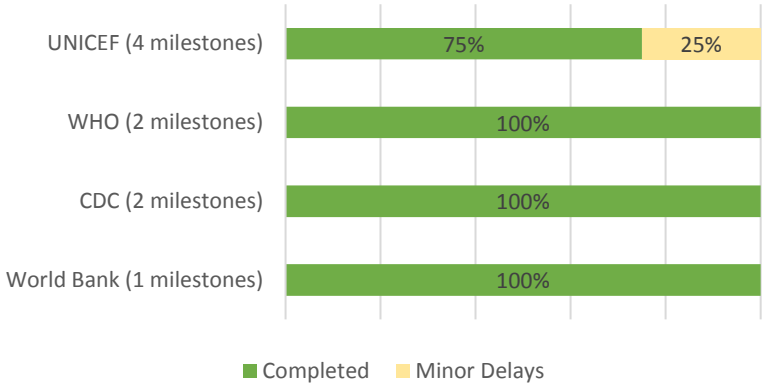
There is no effective system in place to monitor TCA. EPI interviewees noted that while they are aware that Partners submit reports to the Gavi Secretariat, the EPI does not see these reports. The EPI team expressed a desire for more frequent (quarterly) reporting on TCA status to facilitate monitoring of Partners' TCA activities and align with the quarterly EPI reviews. In addition, the MoH has planned to conduct an assessment of the contribution of the zonal immunization TA providers to the immunization program. Findings from such an assessment can be greatly insightful and should be considered to facilitate learning across other countries as well.

Milestone Reporting

The Core TCA Partners submitted progress reports to the Gavi Secretariat on the status of their TCA activities. The Year-end milestone report indicates that all but one of the year-end milestones has been completed.

Only two stakeholders from Ethiopia responded to the 360 online survey questions about the accuracy of the milestone reports submitted by Partners. This does not provide a sufficient response rate for us to draw meaningful insights on stakeholders' perspectives on the accuracy of the milestone reports.

Figure 4. % year-end milestones completed, by Partner



However, discussions during the JA noted that the majority of TCA activities were still ongoing at the time of the JA (October 2016). The year-end milestone report was submitted in December 2016. While Partners no doubt would make much progress in the 3-month period since the JA, the JA discussions implied that much of the 2016 milestones would not be met and therefore most of the 2016 TCA activities would continue into the 2017 TCA cycle.

Spotlight on WHO and CDC

The 2016 TCA Plan lists a similar milestone for WHO and CDC related to support for Measles supplemental immunization activity (SIA). Milestones for both the CDC and WHO are marked as complete and the Reporter Comments specify that under both WHO and CDC, the SIA readiness assessment tool was developed and implemented. This is a flag of potential overlap between WHO and CDC efforts. In Ethiopia, as in some other countries, CDC seconds a technical expert to WHO who then provides support to the EPI out of the WHO country office. In this particular case, there may be a case where the same activity (i.e. implementation of the SIA readiness assessment tool) is being counted as both a WHO and CDC activity due to the secondment of CDC staff.

Organization	Milestone	Status	Reporter Comment
CDC	Customized SIA Readiness Assessment Tool prepared and used	Completed	SIA Readiness Assessment Tool was developed and implemented with assistance of STOP MR consultant
WHO	Technical support provided to prepare for and implement high quality Measles SIAs	Completed	1. April 2016 measles SIAs: support for planning, training, monitoring and implementation of the SIA, drafting SIA tools, updating SIA field guide and printing the tools . Measles SIA was integrated with polio NID and the Independent Monitoring process supported at the lower level by WHO field officers.

Factors that influence effectiveness of TCA

Interviewees highlighted several factors that affect the effectiveness of TCA efforts. The most commonly cited factor was weak human resource infrastructure of the EPI at both the national and subnational levels. At the national level, there are vacant positions that are not filled, limiting the EPI team's capacity to addressing pressing priorities. At the subnational level, high turnover of zonal level health staff creates work overload for TA Providers.

Another commonly identified issue was the delay in disbursement of TCA funds from the Partner country office to the subnational level, which impedes timely implementation of activities.

At a high level, stakeholders commended the commitment of the MoH and Partners towards achieving the immunization targets as one of the factors that influence the quality and the effectiveness of the TCA. Gavi's stringent requirements for grant applications and reporting, though challenging, were also noted as promoting success for the EPI.

"Gavi's requirement of reporting and performance indicator is tough. They push us to see our performance from our target; they challenge us by saying 'do you think you are able to meet this target'? On the other hand, whenever we want to do something and we do not have the capacity, Gavi is there to support us. … above all the HSS support has played a key role to have a sustainable gain for the country." -- EPI

There is a perception that non-Gavi-funded Partners have made a greater contribution to the EPI. Greater awareness of the core and other TCA Partners helped the MoH to question the contribution of each Partner. For example, MoH informants indicated that some non-Gavi funded Partners such as CHAI and JSI L10K have contributed more to the EPI than some of the Core TCA Partners. For example, CHAI is highly involved in logistics support working closely with the MoH and JSI L10 has seconded a TA provider and works closely in with MoH both at the national and sub national level. A participant from a Partner organization indicated the dissatisfaction of the MoH with the engagement of some of the partners as follows: *"The EPI Case-team was talking about the less engagement of some of the core Partners in the immunization program in the past year before the JA". - - Partner*

This viewpoint reflects the fact that CDC and World Bank (Core Gavi Partners) are not visible in the immunization program while non-Gavi-funded members are working very closely with the EPI.

5. Overall Conclusion and Recommendation

Overall, PEF-TCA has been received positively by both EPI and Partner stakeholders in Ethiopia. PEF-TCA, primarily through the JA platform and the TCA Plan has shed more visibility on the scope of Partners' activities supported through Gavi funding. The EPI has greatly appreciated this increased visibility and is eager to assume more ownership of the full cycle of TCA through greater monitoring and coordination of Partners' TCA efforts. There is also the need to increase transparency around all Partners' TCA activities, primarily those of CDC, World Bank, and UNFPA. Below are the key findings and recommendations to continue building on the achievements of the PEF-TCA in Ethiopia.

Level of Priority	Recommendations
Continue doing	❖ **Finding 1. The MoH/EPI has taken a lead role in planning and facilitating the JA meeting, indicating ownership of the TCA planning process.** Similarly, the EPI was very engaged in post-JA discussions with Partners to further discuss specific TA needs and TCA activities for the subsequent year. ➢ **Recommendation 1.** The MoH/EPI should continue with this high level of engagement in the TCA planning process and should extend the engagement to more EPI team members so they also develop more ownership for the expectations around the TCA activities and milestones. ➢ **Recommendation 2.** The MOH/EPI should extend invitation for the JA to regional and zonal health officers as well as other health Directorates (e.g. HSS, Finance, MCH, health promotion), and other supporting federal programs such as the PFSA and HMIS teams. ❖ **Finding 2. Coordination of TCA efforts across all Partners remains an area of weakness for the EPI.** However, there is great interest and commitment from high level leadership within the MoH to have a concerted effort to promote greater coordination. ➢ **Recommendation 3.** The Gavi Secretariat (SCM) should support the EPI efforts to complete the mapping exercise to identify all immunization Partners, their technical strengths, current activities and geographic presence. Such a mapping will be critical to streamline Partners' efforts and can also serve as an example of good practice for other countries. ➢ **Recommendation 4.** The EPI and Partners should leverage the existing EPI cluster meetings to facilitate ongoing communication and collaboration across all immunization Partners, including those not funded by Gavi-TCA.
Study further and take action as needed	❖ **Finding 3. While the TCA support overall has been credited with lending greater support to building the capacity of the EPI, there were concerns with the quality of TA providers at the sub-national level.** The EPI is also committed to assessing the value of the TA at the subnational level. ➢ **Recommendation 5. The Gavi Secretariat should support the EPI's efforts to conduct such an assessment of the contribution of zonal-level TA to the EPI's overall efforts**. Findings from such an assessment can be greatly insightful and should be considered to facilitate learning across other countries as well. ❖ **Finding 4. One of the key challenges for the EPI is the staff shortage and high staff turnover at both the National and subnational levels, which is a cross-cutting challenge across the health system.**

	➢ **Recommendation 6.** While TCA support is helpful in supplementing the EPI team's efforts, it does not address the root cause of the capacity limitations, namely those around HR issues, and should not be used as a long term solution to addressing these personnel gaps. **The Gavi Secretariat, together with the EPI and other development partners, should explore more effective ways to support human resources for health through the HSS grant.**
Act Now	❖ **Finding 5. There is limited transparency around the TCA activities supported by CDC and the World Bank. It is unclear if the EPI and other Partners are aware of UNFPA as a TCA Partner.** ➢ **Recommendation 7. The Gavi Secretariat (SCM) should clearly explain the terms of reference for these Partners so that there is a shared understanding about the expectations and engagement of these Partners in the PEF-TCA process.** Especially in the case of World Bank, which is working with another Ministry program outside of the EPI, the Gavi PEF team should facilitate conversations and greater interaction between these Partners and the EPI. ❖ **Finding 6. Stakeholders perceive the 2016 TCA Plan to contain too many TCA activities and stressed the need to prioritize on a subset of most impactful activities.** ➢ **Recommendation 8. For the 2018 TCA Planning cycle, the EPI and Partners should prioritize a shorter list of TCA activities to be funded by Gavi.** Below are some ways in which activities may be prioritized. ▪ Partners should prioritize activities that are most aligned with their areas of comparative advantage. ▪ Activities should be clearly linked to the immunization programs goals as well as identified challenges and bottlenecks and linked to measurable indicators that will help to monitor contribution of the activities to the national immunization goals ▪ The EPI and Partners should consider which other non-Gavi-funded Partners are supporting and avoid redundancy with their efforts. The mapping exercise will help identify the full scope of activities supported by all Partners. ▪ Avoid overlap of activities across different Partners – EPI and Partners should take a closer look at activities around support for HPV vaccine introduction and assessment. Currently PATH, WHO, and CDC are supporting this effort. There may be opportunities to streamline and have only one Partner focus on this effort.

Appendix A. List of Stakeholders Interviewed

Organization	Name	Position
FMOH	Liya Wondwossen	EPI Case Team Coordinator
FMOH	Mulat Nigus	EPI Program Expert
FMOH	Netsanet Berhanu	National Immunisation Expert
FMOH	Tesfaye Tsigu	Immunisation Logistics Coordinator
PATH	Elisa Menegatti	Project Officer - Regional/HQ
PATH	Jemberu Soressa	
PATH	Tirsit Grishaw	Country Director
UNICEF	Amsalu Shiferaw	Immunization TA seconded to MOH
UNICEF	Daniel Sisay	Unicef Immunization TA for South Wollo Zone Health Department
UNICEF	Marisa Ricardo	DPC Cluster Lead (EPI, Health Emergency, Malaria)
UNICEF	Tirsit Aseffa	Immunisation Specialist
UNICEF	Yosef Tariku	East Shewa Zone Immunization TA
WHO	Aschalew Teku	Immunization Officer
WHO	Dr. Belete Tafesse	Immunization Specialist, seconded to MOH
CHAI	Rahel Belete	Deputy Director
CHAI	Tahir Mohamed	Cold Chain Coordinator

Appendix B. List of Documents Reviewed

Full reference for Document
2016 TCA Plan
Central Statistics Agency. Ethiopia, Demographic and Health Survey, 2016
cMYP Ethiopia 2011-2015 (updated 2012)
Federal Ministry of Health Addis Ababa. Ethiopia Expanded Program of Immunization, Comprehensive Multi-Year Plan 2011-2015 December, 2010 (Updated July 2012)
Federal Ministry of Health, Ethiopia. Expanded Program of Immunization, Comprehensive Multi-Year Plan 2016-2020 Addis Ababa 2015 (Draft)
Federal Democratic Republic of Ethiopia, Ministry of Foreign Affairs, mfa.gov.et/web/guest/history
Federal Democratic Republic of Ethiopia Ministry of Health. HSDP IV (2010-2015)
FMOH of Ethiopia Joint Appraisal Report,(July 2015- July 2015)
FMOH: www.moh.gov.et
FMOH, Planning and Programming Directorate. Health and Health related Indicators, 2014
Habtamu B, Tekly K, Filmona B and et al. Routine immunization In Ethiopia. EJHD 2015, Special Issue
McKinsey and Company, Strengthening technical support, GAVI alliance report
Proposal for HSS Support: Ethiopia (2016). http://www.gavi.org/country/ethiopia/documents/ Accessed October 2016
The World Bank. www.worldbank.org/en/county/Ethiopia. Accessed Feb 2, 2017
WHO, Global Health Observatory Report 2014. www.Who.int.gho.data.view.main. Accessed Feb 17,2017

Appendix C. List of Meetings/Events observed

Event	Description	Event sponsor/organizer	Date of event	Place of event (city)
JA Meeting	Annual Joint Appraisal Meeting to discuss progress on immunization activities, challenges, and outstanding needs	MOH/EPI	Oct 24-25 2016	Addis Ababa
Post-JA meeting	Meeting between the EPI, WHO, UNICEF, and PATH following the completion of the JA to discuss finalization of the JA report and identify Technical Assistance needs and activities	MOH/EPI and Partners	Oct 26, 2016	Addis Ababa