

# ADDIS ABABA UNIVERSITY SCHOOL OF PUBLIC HEALTH



## STRENGTHENING HEALTH INFORMATION SYSTEM IN ETHIOPIA THROUGH CAPACITY BUILDING AND MENTORSHIP PROGRAM

ANNUAL REPORT

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# **STRENGTHENING HEALTH INFORMATION SYSTEM IN ETHIOPIA THROUGH MENTORSHIP AND CAPACITY BUILDING PROGRAM**

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## ACRONYMS AND ABBREVIATIONS

AARHBs	Addis Ababa Regional Health Bureau
AAU	Addis Ababa University
CBMP	Capacity Building and Mentorship Project
DDCF	Doris Duke charitable foundation
DHIS-2	District Health Information Software
DUP	Data Use Partnership
EMR	Electronic Medical Records
FMOH	Federal Ministry of Health
FY	Fiscal Year
HC	Health Center
HCW	Health Care Workers
HF	Health Facilities
HIS	Health Information System
HIT	Health Information Technology
HMIS	Health Information System Management
HRIS	Human Resource Information System
ICD	International Classification of disease
IR	Information revolution
LQAS	Lots Quality Assurance Sampling
NCoD	National Diseases classification
PMT	Performance management team
QI	Quality Improvement
SPH	School of Public Health
TASH	Tikur Anbesa Specialized Hospital

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## EXECUTIVE SUMMARY

The Federal Ministry of Health (FMoH)-funded capacity building and mentorship program (CBMP) supports and strengthens the government of Ethiopia's Health Information System (HIS) by improving data quality and use of health information for decision making at administrative unit. CBMP is implemented by Addis Ababa University Collage of Health Science School of Public Health. This section of the report provides an overview of CBMP's accomplishments from July 1, 2019 to June 30, 2020. In FY19/20, AAU provided technical support to the regional health bureaus (RHBs), sub-city health offices (SCHOs), and public health centers (HCs) for the improvement of report accuracy and completeness, health care data management, healthcare data quality and use of healthcare data for decision making.

One of the major accomplishments was AAU's support to RHB through the development of mentorship interface. One of the many challenges to the proper implementation of HIS has been the lack of guiding mentorship documents. The RHB integrated with CBMP, developed the HIS mentorship interface based on the evolution of the program, including lessons and experiences gained during program implementation. Another significant contribution of CBMP for improving data quality and information use culture is enhancing the capacity and competency of the backbone of the HIS: HITs and mentors. In FY19/20, CBMP teams cascaded basic and refreshment trainings on data management, data quality, information use, DHIS-2, HRIS, quality improvement modules. In addition, CBMP organized basic training on supportive supervision and mentorship for regional and sub-city level mentors. CBMP continued to provide supportive supervision and on-site coaching and mentoring to health facilities. CBMP also regularly reviewed mentorship findings with stakeholders.

In this last one year, CBMP emphasized high-impact interventions in the areas of data management, data quality and PMT through quality improvement initiatives to increase the quality of healthcare data and its utilization. CBMP has begun to observe signs of improvement and positive trends in performance. As part of its partnership agreement with Data Use Partnership (DUP), CBMP has been working with the regional health bureau to generate evidence on health information system, with ten studies conducted thus far. CBMP also continued capacity-building support to its target areas Yeka, Lideta and Akaki Kaliti sub-cities.



# **PART I: CAPACITY BUILDING AND MENTORSHIP PROGRAM (CBMP)**

## **Part I.I Introduction**

Capacity Building and Mentorship Program (CBMP) is supporting the Federal Ministry of Health (FMOH) initiative of creating Model health facilities and Woredas through improvements in data quality and use of health information for decision making at administrative unit and health service levels by integrating capacity building elements and digital tools through engagement and partnership with local universities.

The main objectives of the project are to:

- 1) Provide support and implement targeted interventions to help health facilities grow through the “Connected Woreda” pathway;
- 2) Conduct supportive supervision and mentorship to inculcate the culture of data use for planning and evidence-based decision making;
- 3) Identify, document, and disseminate best practices in Model health facilities;
- 4) Provide focused training for health administrators and health workers to improve data quality and use for decision making; and
- 5) Build adequate capacity at facility and Woreda levels to improve report accuracy and completeness.

SPH/AAU is involved towards contributing to the achievement of information revolution goals through advancing Health Information System (HIS).

The CBMP project is being implemented in Addis Ababa City Administration by a consortium of partners led by Addis Ababa University (AAU) School of Public Health (SPH). The main partners in the consortium include Addis Ababa City Administration Health Bureau, AAU School of Information Science, and Menelik II Health Science College.

One of the major activities of this project is to create and support the “Connected Woreda” program in three Sub-cities in Addis Ababa City (Yeka, Akaki Kaliti and Lideta). All Primary Health Care Units (PHCU) in the selected Sub-cities, one general (Tirunesh Beijing), one referral (Menelik) and one Specialized (Tikur Anbessa) hospitals were included.

Strong collaboration was established with Regional Health Bureau (RHB), Sub-city and health facilities in the project catchment areas. Training, mentorship and supportive supervision has been conducted on Basic Health information (HIS), data quality and information use, data base management system, electronic medical record (EMR), District Health Information System2 (DHIS2) and Human Resource Information system (HRIS) for all project areas.

The project also participated on Research and development. Tracer study conducted to assess the demand of HIS workforce and also ICD10 to NCoD Mapping has been conducted. Other studies by the Sub-city health office staffs, DDCF granted rigorous implementation study and Masters students research are on progress.

## **PART 1.2: CBMP Implementation Approaches**

There are inevitable challenges and opportunities to improve HIS implementation, including poor infrastructure, low capacity in data generation, management and analysis; donor dependent funding, etc. There are also opportunities such as advancement of information and communication technology (ICT), availability of funding, availability of universities with masters and PhD degrees in HIS related fields and political will to change the current trend in health information management and use.

Capacity building of health professionals is the preferred way to improve data quality, data management, analysis and information use. This capacity building initiative often run by the ministry, regional health bureaus or projects and conducted in the traditional way. Often trainings are organized and offered with little or no practical exercise. Practical application/implementation of the trainings is left to the discretion of the trainees without proper follow up or augmenting such training with other complementary strategy. The consequence, very often, is that the techniques and concepts thought during such trainings are forgotten without being applied or used effectively.

In addition, interesting information regarding weakness of the capacity building has emerged: intolerable level of data incompleteness; absence of training guideline, poor data quality; poor culture of data use, etc. In general, there is no standardized approach that can serve as a model in the capacity building activities for health professionals. No one is to be blame though because there is no model to follow or standard to adopt. Therefore, there must be a different outlook, an approach or thinking, which might help bring about desired changes in data generation, management, quality, information use and other relevant milestones.

In this project thus attempts will be made to provide strategic approach to the human capacity development program, which can be adopted by the ministry or stakeholder for future human resources development plan.

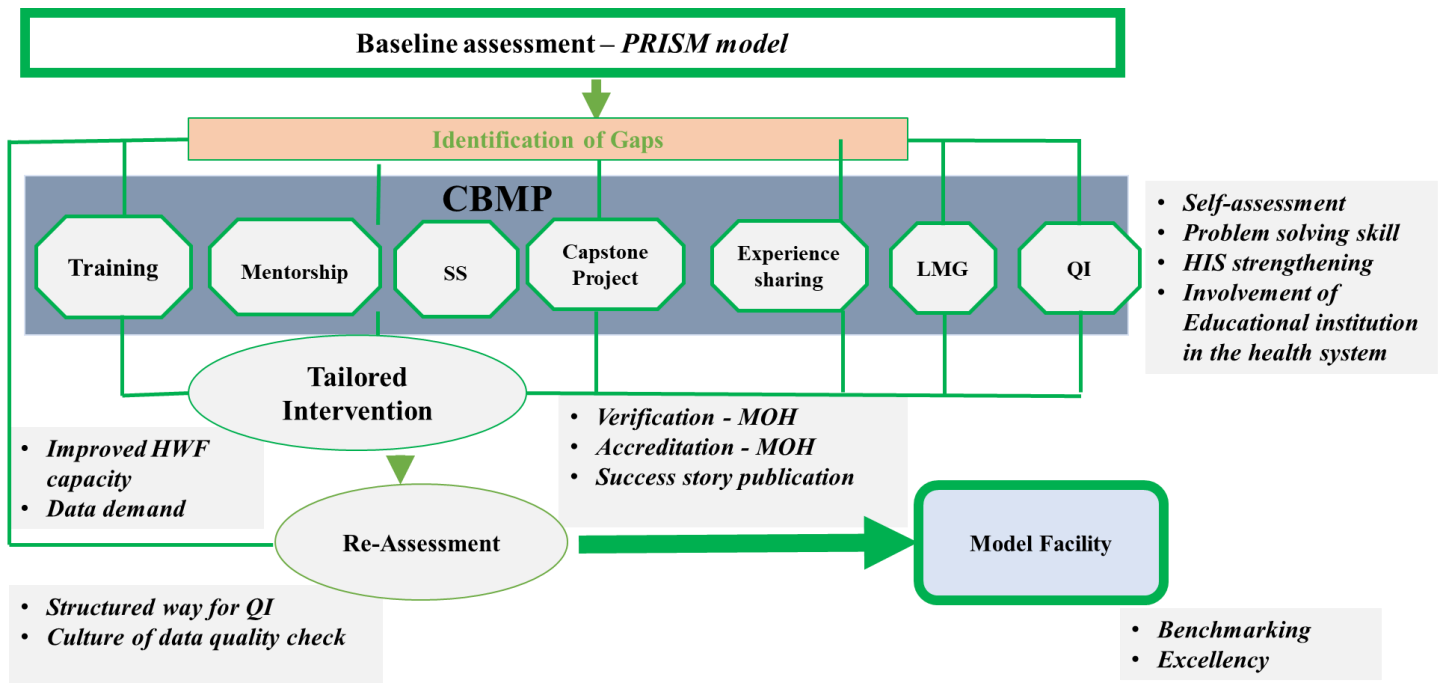


Figure 1 CBMP Approaches to strengthen implementation of health information system

## **PART 2: CBMP ACCOMPLISHMENTS AND SUCCESSES**

### **PART 2.1: Provided HIS Trainings**

CBMP is being implemented in three sub-city health offices, thirty health centers in the three sub-cities of Addis Ababa city administration and three hospitals since end of third quarter of 2018. However, its implementation has faced different challenges; late start of implementation, late staff recruitment and late in establishing linkage with the sub-cities, all mainly due to slow start by stakeholders which we believe have some level of impact on its progress, including provision of training. Nevertheless, despite all the odds, the project has now flourished much more than initially planned.

Capacity building was one of the major milestones of the project; and training of staff at different level stands out as the major activity of capacity building. Provision of training is often marred with difficulties in the past; because despite efforts exerted to transfer knowledge to people working in the data generation, management and use at different levels about data quality and use, little progress was registered in terms of data quality and use. The FMOH, with its partners, have been doing this for years and training is still being provided. This is an evidence that training on Health Information System is not only about preaching techniques of data management, data quality and information use as such; but it is also about bringing cultural and behavioral changes among professionals working in the health facilities and health offices regarding data issues.

Throughout implementation period of CBMP, training was organized on four major problem areas: Data generation, data management, data quality and Information Use. As said repeatedly, the traditional approach to training has not been fruitful as much as expected in the history of health offices and facilities of Addis Ababa. This was found to be problem related to method of instruction, level and quality of instructors, selection of trainees and quality of materials used for the instruction. By reviewing these problems, we have devised a better approach to training; focused, personalized, practically oriented, structured, appropriate and useful training materials, and participatory.

*Table 1 Basic HIS, data quality and information use training*

No.	Training Title	Participants		Total
		Female	Male	
1.	Basic HIS, Data quality and information use	94	73	167
2.	Data base management system	19	11	30
3.	Data quality, information use, overview of revised HMIS and DHIS2	39	44	83
4.	HRIS training for TASH and Ledeta sub city health center HR staff	10	12	22
<b>Total</b>		<b>162</b>	<b>140</b>	<b>302</b>

During project development and later during baseline assessment, practically oriented basic HIS training for health facility staffs was found to be necessary and critical to bring professionals in health offices and facilities to the same level of understanding regarding the various aspects of health information systems and its derivatives so that each individual have a clear vision about data, set objectives for information use, plan accordingly and execute data generation, management and information use strategies in a team sprite. For this reason, Basic HIS, Data quality and information use training has been provided to selected health office, hospital and health center staffs. Topics included, but not limited to, areas such as overview of revised HMIS; data generation process and challenges; data quality indicators, data quality dimensions, data quality assurance techniques and challenges in ensuring data quality; for topics in information use, sub-topics such as data cleaning tools, data analysis techniques (including exposure to relevant software), interpretation of results, use of principle of statistical tests, result visualization techniques, forms of presentation of results, and enhancing PMT, its activities and usefulness.



*Pic 1 mentorship training for regional and sub-city mentors*

Trainees were encouraged to use practical examples from their own experience to exercise lessons offered in class. During training evaluation sessions (often conducted after training programs are concluded), it was learnt that such hands-on type of training was taken as new approach to the city administration and claimed by trainees as brand name for CBMP. In general, among those trained during the reporting period about 60% (Table I) were trained on basics of HIS, data quality and information use, of which female being the majority (54%).

Training was also provided on HRIS to 22 college of health sciences and TASH human resources staff on request by the college management (Table I). This was hoped to initiate and enhance efforts of record keeping on all kinds of human resources statistics, which is often ignored.

Mentorship and coaching were also identified as one of the main milestones in the CBMP action plan; it is planned to contribute to the success of data quality and information use strategies. Mentorship is a standard approach with standard checklist and governed by principles. Mentoring follows hierarchy of health tier; university and AAHB serves as sub-city mentors, while sub-city staff mentor/coach facility level staff. It was therefore required to expose university, health bureau and sub-city level staff to this principles and mentorship procedure.

Hence, staff members with advanced education and experience were selected for mentorship training from University, regional health bureau and sub city health offices. Accordingly, a total of 72 staff members from institutions listed previously were trained in mentorship/coaching, of

which majority are female (58%) (table 2). The training covered topics such as basic mentorship, DHIS2 and mentorship, and PRISM re-assessment.

*Table 2 Mentorship training for regional and sub-city mentors*

Facility	Sex	Training Title			Total
		Basic Mentorship	DHIS2 and Mentorship	PRISM Self-assessment	
Akaki Kality	Female	2	3	10	15
	Male	1	3	3	7
TASH	Female			4	4
	Male				0
Ledeta	Female	1	2	3	6
	Male		2	4	6
Yeka	Female	3	1	11	15
	Male	4	7	4	15
AARHB	Female	2			2
	Male		2		2
<b>Total</b>		<b>13</b>	<b>20</b>	<b>39</b>	<b>72</b>

While CBMP targeted capacity building and mentorship activities, the DDCF came forward and supported studies of various nature: student research, staff research and health bureau and sub-city staff intervention research. Since different people involve in the studies and because the studies have slightly different nature, training on how to conduct them is required. Hence training on implementation science, thesis-based research and capstone were provided to a total of 37 professionals where female was highly under represented (27%) (Table 3). The eight funded MPH students were exposed to basics of HIS and research methods in the area of HIS; 15 sub-city staff who are to be funded for capstone study were also trained on principle of capstone research, how different from traditional study and full-fledged implementation research.

During implementation of CBMP, it was learnt that Sub-city health office staff spend much of their time on routine activities and there are no opportunities for them to assess where they are and find ways of improving services they provide. Therefore, it was intended to change this scenario overtime. One approach is to help them involve in research activities of any type. For this re-



fresher course on proposal development, research methods and scientific writing were found to be important and training was offered on these topics (table 3).

*Table 3 Training on methods of Implementation Science/research for regional and sub-city health office staffs*

No.	Training Title	Sex		Total
		Female	Male	
1.	Introduction training for CBMP granted Masters student on HIS overview	3	5	8
2.	Implementation research (capstone project training)	3	12	15
3.	Proposal development and research writing training for sub city	4	10	14
	<b>Total</b>	<b>10</b>	<b>27</b>	<b>37</b>

## **PART 2.2: Conducted Follow-up, coaching, and mentoring**

### **PART 2.2.1 Background**

HIS mentorship is primary designed to improve mentees capacity on HIS structure, data quality and information use through guidance and advice by assigning experienced mentors. The main purpose of the HIS mentorship is to improve structure and implementation of HIS, data quality and information use. Mentorship Program is also served as a framework and roadmap to identify data quality and information use gaps and provide holistic support at administrate and service delivery point.

Experienced mentors were selected from University, Regional Health Bureau and sub-cities and trained on mentorship approaches, tools, data quality, DHIS2 and information use. Moreover, during every mentorship orientation is given by CBMP team on approach, checklist and pervious mentorship gaps. Then trained mentors were assigned to respective hospital, sub-cities and health centers to provide onsite support. In the first one-year different mentors provide mentorship to specific health centers. However, later on the mentorship tactic was revised after reviewing mentorship activities and mentors were assigned to specific institution. Mentorship interface was also designed to guide overall mentorship activities. The interface describes the role, responsibility, mode of communication and frequency of mentorship. Accordingly, contractual agreement was made between Addis Ababa University, Addis Ababa Health Bureau

and respective sub-cities and mentors. The administrative level mentorship was conducted by regional health bureau and university mentors while the health facilities were mentored by sub-city mentors using revised HIS mentorship checklist. Sub-cities mentors will have discussion and communication with respective mentee through phone every two weeks. Mentors from University and AARHB communicate sub-city mentors every 15 days and will conduct site visit every two months. All mentors present key finding of mentorship, best experience and lesson learned in consultative workshop, which organized after every mentorship. In the workshop direction is provided to respective institution on how to implement the identified gaps. Thus, in last one year four mentorships have conduct.

### **PART 2.2.2: Key Finding of mentorship and Coaching**

A total of 20 participants from Regional health bureau and sub-city health office were trained on Basic Mentorship and DHIS2 and PRISM assessment methods. While 13 mentors were trained basic mentorship. Thirty-nine participants were trained performance of routine health information system method. Of these, 28(72%) participants were female.

### **PART 2.2.3: Mentorship and coaching findings at Sub-city health office**

In last one year, four mentorships have conducted all administrative level. In all mentorship action plan was developed in consultations with regional health bureau and respective sub-cities to address observed gaps in each mentorship activities. In addition, written feedbacks were given to regional health bureau and sub-cities for further follow up. As indicated in the table below, there was significant improvement observed in the fourth mentorships in the sub-city health offices. However, inconsistency of routine data quality assessment, low information use for action, weak M&E structure and low HIS ownership at programs level didn't show improvement in all mentorships.

Table 4: first and fourth mentorship and observed gaps and improvement at three Sub-cities health offices of Addis Ababa Health Bureau, 2020

1st round mentorship identified gaps	4 <sup>th</sup> round mentorship	
	Change observed	Unchanged
<ul style="list-style-type: none"> <li>• Shortage of HMIS and ICT officers</li> <li>• HIS related capacity gap assessment was not done by HR</li> <li>• Not well organize documentation in HMIS unit</li> <li>• HMIS gridlines and manuals are not found</li> <li>• No fixed schedule for supportive supervision</li> <li>• Didn't conduct mentoring to strengthen the HIS</li> <li>• No monthly meeting of HIT officers</li> <li>• No remarked budget is allocated for the implementation of HIS</li> <li>• Data elements selected for RDQA were more of program related services</li> <li>• Limited function of PMT (not chaired by the head)</li> <li>• The sub-city performance information is not displayed at any location for the public</li> </ul>	<ul style="list-style-type: none"> <li>• Documentation in HMIS unit was well organized</li> <li>• Mentorship/coaching conducted to strengthen the HIS</li> <li>• Functionality of PMT strengthened (chaired by the head)</li> <li>• HMIS gridlines and manuals are availed</li> <li>• HMIS team conducted supportive supervision/mentorship</li> <li>• RDQA done for all services and other data elements</li> <li>• Performance information displayed for the public</li> </ul>	<ul style="list-style-type: none"> <li>• RDQA Irregularity</li> <li>• PMT not consistent and as per the standard</li> <li>• M&amp;E structure not strong</li> <li>• Budget not allocated</li> <li>• Low information use culture at cases team level</li> <li>• Low data analytic skill</li> <li>• Low ownership of HIS particular different programs</li> </ul>



Figure 2 Mentorship conducted in Akaki Kality Sub-city health office by AAU and AARHB

#### **PART 2.2.4: Mentorship and coaching findings at health facilities**

All Public health centers and hospitals were received five times mentorships and coaching in last one year. In first round mentorship several gaps were identified in all health facilities and holistic support given based on the gaps. After the first mentorships, consultative workshop conducted and mentorship finding was presented in the presence of all stakeholder. Accordingly identified problem were prioritized and action plan was developed by respective health facilities. As indicated in the table below, there were substantial changes documented in the fourth mentorship in data quality and information use culture. However, lack adequate shelf and space in card room, not function of master patient index and lack of budget allocation for the implementation of HIS does not show change and observed gaps in almost all health facilities.

Table 5: first and fourth mentorship and observed gaps and improvement at Public Health Facilities (Health Center and Hospitals) in three Sub-cities of Addis Ababa Health Bureau, 2020

1 <sup>st</sup> round mentorship identified gaps (July 2019)	5 <sup>th</sup> round mentorship (June 2020)	
	Changes observed	Unchanged gaps
<ul style="list-style-type: none"> <li>✓ Shortage of HMIS officer</li> <li>✓ Lack of HIS capacity need assessment</li> <li>✓ Budget was not allocated for HIS</li> <li>✓ Manuals of HIS were not in place</li> <li>✓ MPI Box was not functional</li> <li>✓ Not using Register and tally sheet properly</li> <li>✓ Summary sheets were not filled properly</li> <li>✓ Lack of Ambulance and emergency register</li> <li>✓ Limited functionality of HealthNet</li> <li>✓ Poor culture of data quality assurance</li> <li>✓ Data incompleteness and inconsistency</li> <li>✓ No adequate shelf and space at MRU</li> <li>✓ Poor patient card culling process</li> <li>✓ Limited understanding on data elements</li> <li>✓ Low level of data use culture</li> <li>✓ PMT do not track key indicators</li> <li>✓ PMT Action plan not shared for case team</li> <li>✓ Root causes were not analyzed by the PMT</li> <li>✓ Poor information dissemination practice</li> <li>✓ Gap on HMIS data analysis and presenting</li> </ul>	<ul style="list-style-type: none"> <li>✓ Manuals of HIS were in place</li> <li>✓ HIS capacity gap need assessment was done</li> <li>✓ Register and Patient Client attendance tally sheet properly used</li> <li>✓ Health Net become Functional</li> <li>✓ Data quality assurance at facility level (LQAS) done for both service and OPD</li> <li>✓ RDQA performed quarterly</li> <li>✓ PMT convening on monthly basis</li> <li>✓ The PMT track key quality and equity indicators</li> <li>✓ Action plan shared for case team</li> <li>✓ Root causes were analyzed by the PMT</li> <li>✓ Understanding on the data elements of registry were improved</li> <li>✓ Level of data use culture improved by improving PMT functionality</li> <li>✓ data analysis and presentation were improved</li> <li>✓ Healthcare information dissemination practice were improved</li> </ul>	<ul style="list-style-type: none"> <li>✓ HIS related workforce not fulfilled</li> <li>✓ MPI Box was not functional</li> <li>✓ No budget was allocated for the implementation of HIS</li> <li>✓ Most of patient folder summary sheets were not filled properly</li> <li>✓ No adequate shelf and space at MRU</li> <li>✓ Some of hospital PMT were not functional based on the standard</li> <li>✓ Low data use culture</li> </ul>

## **PART 2.3: Conducted Integrated supportive supervision**

### **PART 2.3.1 Background**

HIS Integrated Supportive Supervision is the process of mentoring staff to improve their own work performance continuously. It is carried out in a respectful and non-authoritarian way with a focus on using supervisory visits as an opportunity to improve knowledge and skills. SS is undertaken to ensure health workers have the support and resources they need to do their work, to measure and improve quality of care, and to identify gaps to be able to solve problems as they arise. Supportive Supervision is significant to monitor individual HW performance compared to standards, to provide real-time feedback to health workers on their scores.

During CBMP implementation period, Addis Ababa City Administration Health Bureau and AAU organized Integrated Supportive Supervision (ISS) in collaboration with three sub-city health offices and conducted quarterly. The overall objective of the ISS was to monitor the performance of health facility's HIS and accordingly plan for actions for areas that need improvement. The ISS was conducted in three target sub cities of Addis Ababa; three health centers from each sub city were randomly selected for the ISS.

Different units from AAU/SPH and plan and policy directorate (Monitoring and Evaluation Supporting Process Owner, HMIS technical team) and ICT directorate from AARHB and Sub City Health Offices formed the ISS team.

AAU/SPH supported the development of ISS checklist and participated in the ISS. The objectives of ISS are [1] to assess the overall status of health facility's HIS implementation and performance by identifying strengths and major challenges/limitations; and [2] to provide support, guidance and develop action plans with due consideration of the identified gaps. During the ISS observations and interviews were conducted at health facility level, guided discussions were held with medical directors (HF heads) regarding the management of HIS, and interviews and discussions with HIT officers were held regarding HIS implementation with specific emphasis on healthcare data management. data quality and information utilization. The ISSs at the different levels were guided by checklists developed in collaboration with CBMP. During the ISS three sub city health offices, 9 HCs, 8 HITs and 45 individuals who have shared responsibility in HIS management were visited.

The provision of supportive supervision is one of the key CBMP strategies for improving and maintaining the quality of HIS at facility level. CBMP continued to provide scheduled supportive supervision, coaching, and mentoring to the HCs in collaboration with the AARHB and Sub-city health offices.

### **PART 2.3.2: key findings of Integrated Supportive Supervision with AARHB**

**Data recording and reporting tools:** As part of CBMP's mandate to improve health facility's data collection, analysis, and utilization, service data recording registers, tally sheets and reporting tools were monitored. The registers, tally sheets have been found to be easy to administer, less time-consuming to complete, and allows health care providers to capture all data on services that they provide and need to complete their reports. Routine supportive supervision visits to HCs to see if healthcare providers were using service data recording registers, tally sheets and reporting tools. The program has found that HCWs understanding and use of the service data recording registers, tally sheets and reporting tools have improved and most are documenting complete records.

**Data quality:** CBMP and AARHB check the quality of service data captured by healthcare providers during the supervision visits. The data quality check looks at the different data quality dimensions including the validity, consistency, completeness, accuracy, and timeliness. The quality checks revealed progress over time with regards to the validity, consistency, and accuracy of the data collected even if there are still some persistent gaps in terms of timelines; i.e., submitting completed forms in time. Most of the health facilities tried to assure the quality of healthcare data by using and conducting lots quality assurance sampling (LQAS) technique regularly and majority of the facilities monitored data completeness and timeliness using monitoring log book.

**Data use:** Use of the service data recording tool has improved. Healthcare providers have familiarized themselves with the data elements of this tool and have generating quality reports from it. In addition, data is being used for better planning; updated performance monitoring charts are being used by different case teams to analyze past achievements to inform planning.

**Planning and monitoring:** Almost all HFs and the sub-city Health Offices have prepared and documented annual, quarterly, and monthly plans and updated catchment maps, population



profiles, and performance monitoring charts. Data is being used for better planning and updated performance monitoring charts are being used by healthcare providers and managers to analyze past achievements. Following these observations, onsite mentoring and coaching were provided to eight HITs and 36 team leaders and facility heads. The onsite support focused on current service HIS guidance; adhering to the set standard practice of data quality assurance; proper implementation of the newly developed service data recording tool; and reporting. Furthermore, the supportive supervision activity enabled CBMP and AARHB to develop joint action plans to improve the performance and quality of HIS.

## **PART 2.4: Supported Quality Improvement initiatives to improve performance of HIS**

In this fiscal year, CBMP started a quality improvement initiative (QII) to enhance health care data management, quality and use. The QII aims to improve quality of healthcare data completeness, consistency and timeliness, data quality assurance practice and information utilization. The QII has been implemented in a selected CBMP-targeted sub-city by establishing quality improvement (QI) teams at HC level.

The implementation of QI activities involves various steps.

- 1) Advocating for the approach and obtaining acceptance from the RHBs, SCHOs, and HCs.
- 2) Establishing QITs and orienting members on their role. Each QIT consists of 12-15 members led by the head of the HC and members include HC department heads, HITs, QI focal persons, and members of the PMT. The QITs' functions include identifying gaps, prioritizing improvement objectives, developing QI work plans that can respond to the identified gaps, conducting rapid baseline assessments, carrying out the planned improvement activities, and ensuring availability of basic resources for QI interventions, reviewing progress, and planning the subsequent activities accordingly.
- 3) Conducting basic QI training and planning a workshop with a six-month QI plan as its product. QI training was provided to 37 QI team members (Table. 6). More than half (62 percent) of the training participants were females. The trainings focused on the duties and responsibilities of the QI team, and on how to monitor the performance of the QI team.

The training covered the basics of quality of service delivery and QI, measurement of QI, process analysis/root cause analysis, prioritization, and development of interventions. Participants were also supported to develop six-month plans of action.

- 4) Supporting the QIT to effectively implement QI activities and to monitor progress. CBMP, in collaboration with the RHB and SCHO, has prepared schedule to provide technical support for QITs. Support teams will be visited the QITs on a monthly and quarterly basis.

*Table 6: Quality Improvement Participants Disaggregated by Project areas*

S.No	Participants by organization	Male	Female	Total
1.	Lideta Sub-city	3	6	9
2.	Yeka Sub-city	7	3	10
3.	Akaki Kality Sub-city	4	6	10
4.	Tirunesh Beijing General Hospital	0	5	5
5.	Menelik II referral hospital	0	3	3
6.	<b>Total</b>	14	23	37



*Pic 2 QI training provided for health facility staffs to strengthen implementation of health information system*

- 5) Each QIT reviews its performance quarterly and conducts town level review meetings every six months to track performance status. Objectives and action plans will be revised accordingly to address identified performance gaps. The project will facilitate experience sharing visits to encourage learning from practical experience and from best performing teams and to motivate and create a sense of competition among the QITs. Need-based refresher trainings will be provided to address identified gaps.

## **PART 2.5: Supported TASH to improve utilization of NCoD through mapping with ICD 10**

CBMP PRISM health facility assessment findings showed that, majority of the health professionals did not use NCoD due to different reasons as well as the importance of reporting using NCoD is not adequately emphasized. Reasons provided for poor utilization of NCoD among physicians includes, perception of having limited list of diagnosis in the NCoD, not being familiarized, inadequate capacity building about NCoD use, absence of enforcing mechanism on the use of standard diagnostic coding and roles & responsibilities between professionals, the education system use the international classification while they are requested to use the national classification. Furthermore, much emphasis was given for reporting formats by FMOH rather than tracking of how the work is done in practically. As a result, most physicians fail to write a diagnosis using NCOD or ICD 10 resulting in the production of very low-quality report that do not indicate the trends of disease burden using a standard diagnostic protocol

CBMP has tried to overcome diagnosis encoding problem of TASH by doing ICD-10 to NCoD Mapping. Above 72,000 diagnoses were mapped from ICD-10 to 2055 categories under NCOD. The mapping substantial change in the utilization of NCoD among health care workers were encountered. It will enhance the diagnosis of new cases and prevent missing and inappropriate recording and reporting by cultivating standard ways of procedures so that disease burden and trend can be captured. It can be input into the revision of NCoD. Furthermore, the use of NCoD will shows the diagnostic capacity of the health facility in terms of human and material resources at Tikur Anbesa Specialized Hospital.

Reference mapping approach was employed with careful consideration of the mapping output and different directions of crosswalk between ICD-10 and NCoD, to avoid conversion problems. To facilitate “batch mapping” of many codes simultaneously, collaborators at I-Care created an automated stand-alone mapping tool. Using I-Care mapping tool “forward,” “backward,” and “reverse” mapping. These methods generally provide the best match in code descriptions. Reverse mapping reveals all codes that map to the original code, even if the original code does not map to them. It can involve either forward or backward applications: using ICD-10 codes in the NCoD -to-ICD-10 mapping to find all possible NCoD equivalents (reverse forward) or using NCoD codes in the ICD-10-to- NCoD mappings to find all possible ICD-10 equivalents (reverse backward).

## **PART 2.6: Supported Digitalization**

Improving data quality and information use is basic for digitalization process of health information system. AAU provides technical assistance through training, supportive supervision and mentorship to enhance the digitalization process of the health information systems (HIS) specifically in data management and visualization. During the process we observed health workers view shift from traditional (paper based) system to a new digital system (electronic).

Accordingly, AAU provided

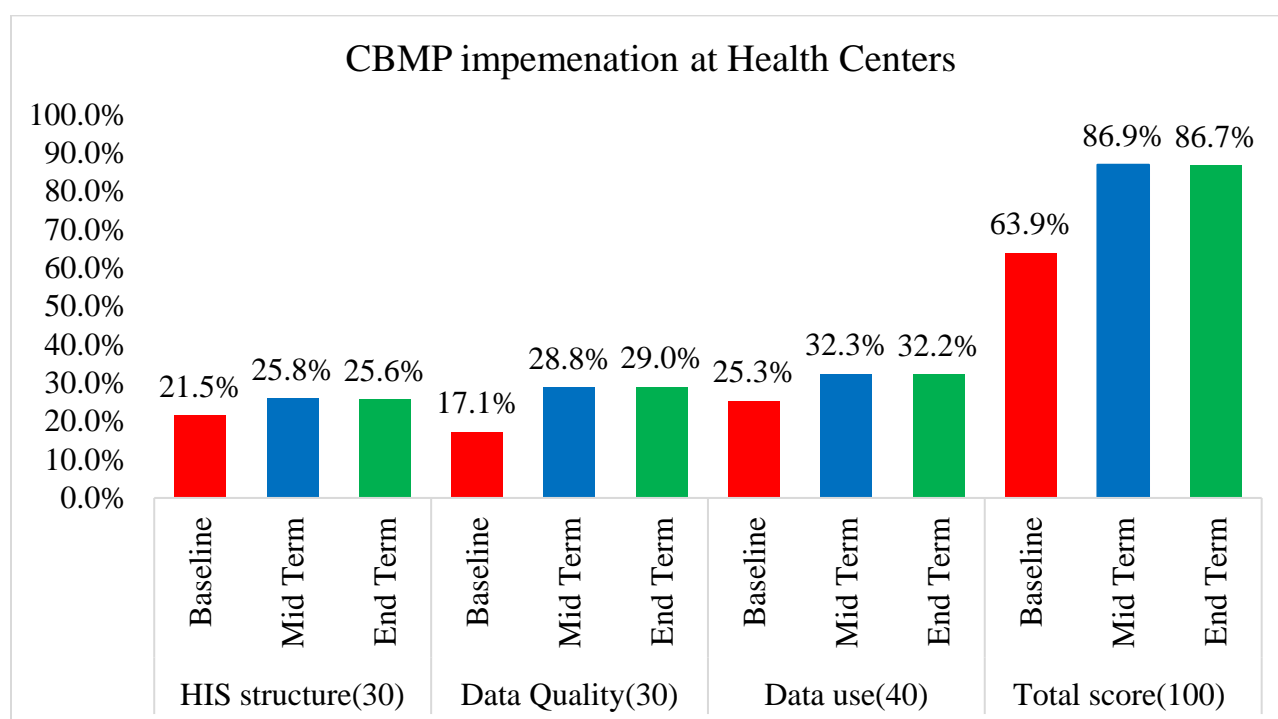
- Basic DHIS2 training for mentors to manage technical difficulties during mentorship
- HRIS (Human Recourse Information System) training was provided for human resource officers in order to manage health workforce
- Basics of data management and backup technique training for HIT officers to indicate the significance of data which is available in their respective facility
- Technical support to facilities in regard to VPN usage and management
- Support DHIS2 usage specially data analysis and visualization

In addition, AAU team up required human resources in the facility to support HIS activities

- IT team was involved to support the day today activity of HMIS and
- Medical professionals were involved in the process of NCoD mapping with ICD 10 to minimize diagnosis miss-communication and support I-Care implementation and expansion

## PART 2.7: Connected Woreda Self-Assessment Outcome

CBMP has started its implementation by conducting Performance of routine Information System Management (PRISM) Assessment for baseline. The baseline assessment was conducted for all project areas and additionally for 27 private health facilities. After the implementation of the project, its contribution was assessed two times by focusing on the HIS structure, data quality and information use components.



*Figure 3 Baseline and end term on HIS structure and implementation, data quality, administrative data use average score at CBMP health centers at three sub-cities of Addis Ababa City administration, 2020*

As indicated below on the table the mean score difference was 4.2, 11.8 and 6.9 on HIS structure, data quality and Administrative data use respectively at health center level. The overall performance shows significant difference from the baseline after CBMP project Implementation with mean difference of 22.7% (95% CI, 15.7, 30.0). The overall mean difference was higher on data quality followed by administrative data use.

Table 7 Mean difference of baseline and end term on HIS structure and implementation, data quality, administrative data use and overall score at CBMP health centers of three sub-cities in Addis Ababa City administration, 2020

Baseline and End Term of CBMP Implementation	Mean	95% Confidence Interval of the Difference		P-value
		Lower	Upper	
Mean difference of HIS structure	4.0%	1.1%	6.9%	0.010
The mean difference on data Quality	11.8%	8.8%	14.8%	0.000
The mean difference data use	6.9%	3.0%	10.8%	0.001
Overall score	22.7%	15.2%	30.1%	0.000

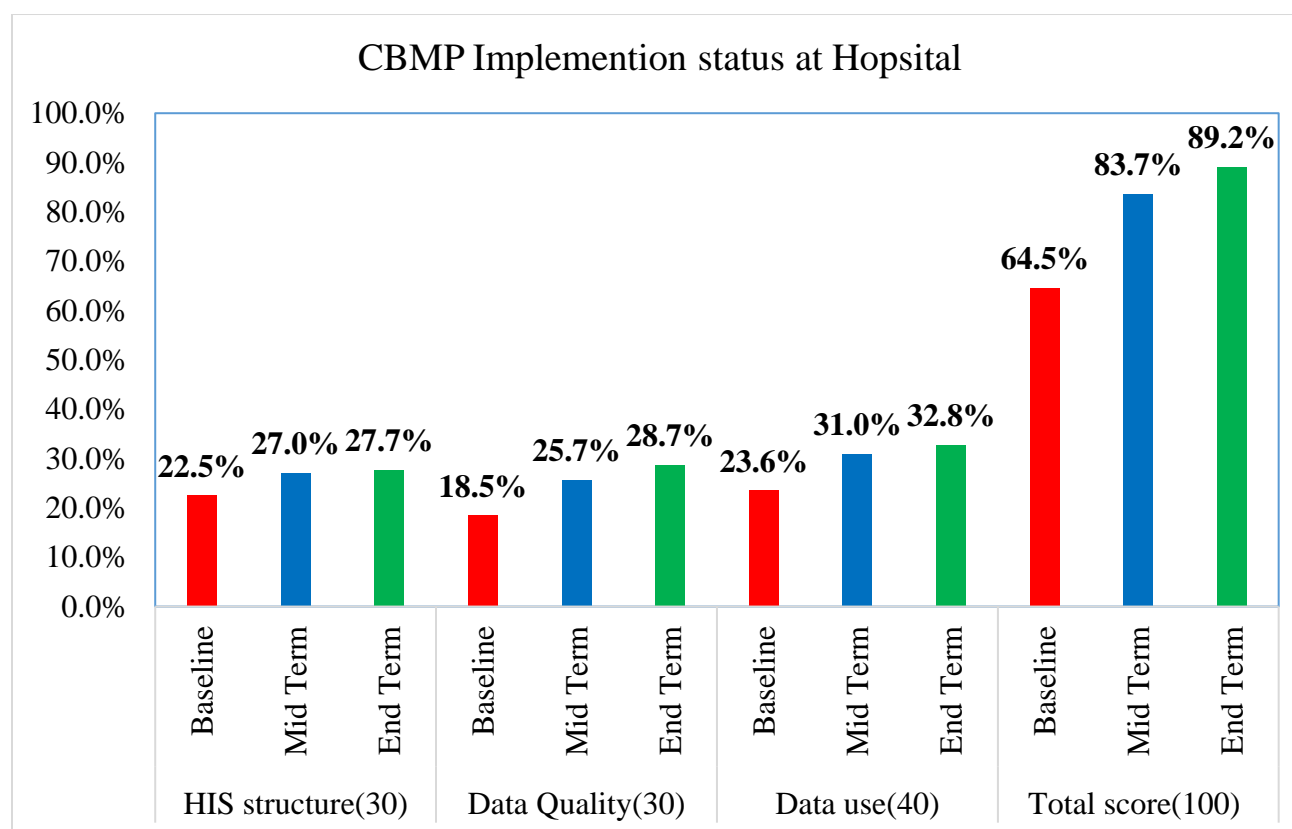
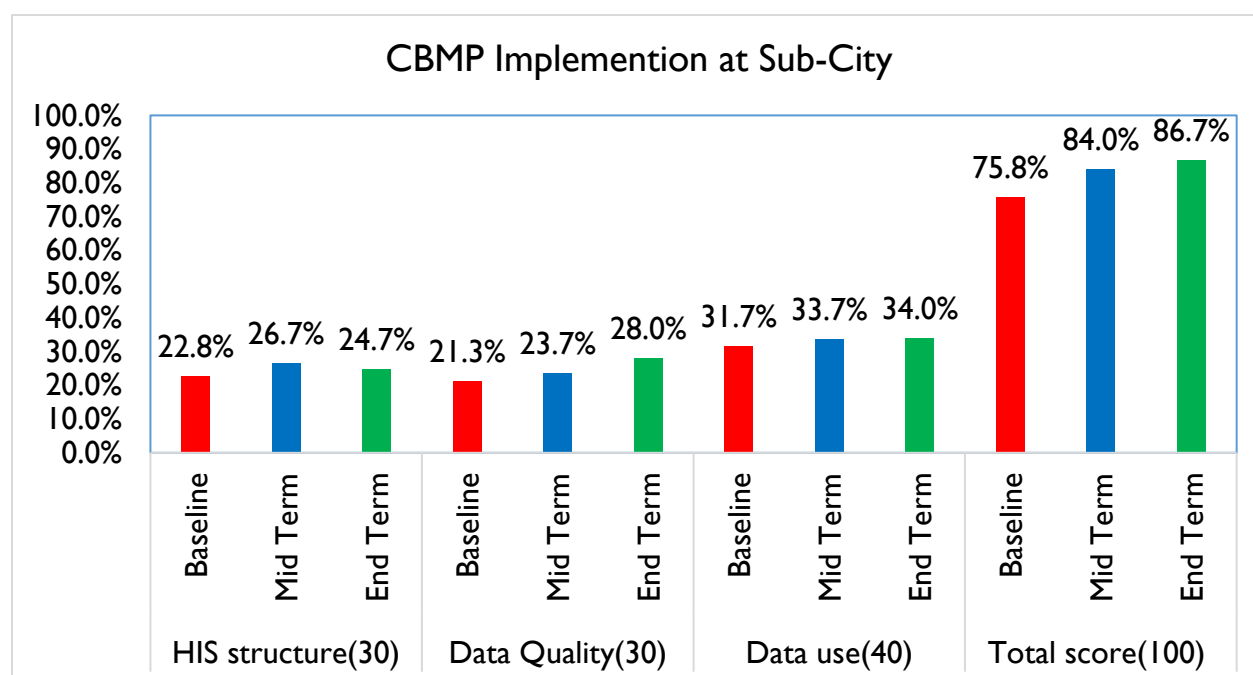


Figure 4 Baseline and end term on HIS structure and implementation, data quality, administrative data use average score at CBMP Hospitals at three sub-cities of Addis Ababa City administration, 2020

The mean different from baseline on HIS structure and implementation, data quality and administrative data use was, 5.2%, 10.2% and 9.2% respectively. All thematic areas show significant difference after implementation of CBMP project. of three hospitals, all of them were emerging at baseline and after implementation of the project two hospitals are model and one candidate with average score of 84%. The mean score for all three thematic areas shows significant increment at all hospitals. Still need more effort to improve clinical data use at hospital level.

*Table 8 Mean difference of baseline and end term on HIS structure and implementation, data quality, administrative data use and overall score at CBMP implementing hospitals three sub-cities of Addis Ababa City administration, 2020*

Baseline and End Term of CBMP Implementation	Mean	95% Confidence Interval of the Difference		P-value
		Lower	Upper	
Mean difference of HIS structure	5.2%	3.5%	6.8%	0.000
The mean difference on data Quality	10.2%	9.2%	11.2%	0.000
The mean difference data use	9.2%	6.5%	12.0%	0.000
Overall score	24.6%	23.1%	26.2%	0.000



*Figure 5 Baseline and end term on HIS structure and implementation, data quality, administrative data use average score at three sub-cities of Addis Ababa City administration, 2020*



As indicated below on the table the mean score difference was 1.9, 6.7 and 2.3 on HIS structure, data quality and Administrative data use respectively at sub-city level. The mean score for all three thematic areas shows significant increment at sub-city level, but we observed that the difference lower than score achieved at health center and hospitals.

*Table 9 Mean difference of baseline and end term on HIS structure and implementation, data quality, administrative data use and overall score at CBMP implementing three sub-cities of Addis Ababa City administration, 2020*

Baseline and End Term of CBMP Implementation	Mean	95% Confidence Interval of the Difference		P-value
		Lower	Upper	
Mean difference of HIS structure	1.9%	0.5%	2.2%	0.01
The mean difference on data Quality	6.7%	6.2%	7.1%	0.000
The mean difference data use	2.3%	1.6%	3.1%	0.000
Overall score	10.9%	8.5%	12.1%	0.000

as indicated below on the table the mean score difference was 3.9, 11.2 and 6.6 on HIS structure, data quality and Administrative data use respectively at all level. The overall performance shows significant difference from baseline after CBMP project Implementation. The overall mean difference was higher on data quality followed by administrative data use. The mean score for all three thematic areas shows significant increment at all level.

*Table 10: Mean difference of baseline and end term on HIS structure and implementation, data quality, administrative data use and overall score at CBMP implementing all level at three sub-cities of Addis Ababa City administration, 2020*

Baseline and End Term of CBMP Implementation	Mean	95% Confidence Interval of the Difference		P-value
		Lower	Upper	
Mean difference of HIS structure	3.9%	1.4%	6.4%	0.000
The mean difference on data Quality	11.2%	8.7%	13.8%	0.000
The mean difference data use	6.6%	3.1%	10.1%	0.000
Overall score	21.8%	15.6%	28.1%	0.000

## PART 2.8: CBMP Expansion

AAU/SPH with Addis Ababa regional Health Bureau has planned to expand CBMP program to other three sub-cities of Addis Ababa. Baseline data was collected from three sub-city public health centers using PRISM assessment tool. During the assessment HIS structure and implementation, data quality and information use and technical, behavioral and organizational determinants of RHIS across health facilities were assessed. The data was transferred to STATA and further data management and analysis was done. Descriptive statistics used to summarize the finding. Composite scores were determined for structure and Implementation status, Data quality and administrative data use. Health facilities and administrative unit were graded as per the national criteria. Baseline and target for each health facility was set. Based on the assessment twenty-eight health centers were addressed. Out of the total health centers ten of them were candidate and the rest eighteen were emerging status based on the information revolution path way.

During this assessment the following common areas for improvement was identified. In the structure and implementation of HIS, Shortage of HMIS and ICT officers and standardize medical recording units, not using the HMIS registry as per the standard, no remarked budget is allocated for the implementation and strengthening of HIS areas of improvements were identified. In data quality section of the assessment weak data quality assurance, low level of report completeness and timeliness were identified. The last section of the assessment was healthcare information use practice, and found that limited function of PMT based on the standard (because it is often not chaired by the head and decisions may not put in practice), the performance information of the health centers was not displayed at any location for the public to see.

Based on the assessment result of the facilities, tailored intervention was developed integrated with sub-cities, AARHB and AAU. Some of the tailored interventions points are Provide steady capacity building interventions: regular needs-based training on basic HIS, data quality and use for all healthcare professionals who are involved in data collection, reporting and use. Make the required thoughtful investment to improve the information technology system and infrastructure at all levels of the health system. Ensure the stability of the DHIS2 system by assessing and addressing the HealthNet connectivity and other challenges the system is facing. Apply leadership,

management and governance training and mentorship approach and support health facility leadership with a particular attention to the heads. Provide continuous and structured HIS mentoring and supportive supervision skill for sub city health office staffs to actively participate on health centers HIS mentorship program. Strengthening health facility health information system (HIS) through quality improvement initiative.

*Table 11 Baseline assessment result of three sub-cities CBMP extension health facilities*

Zone	Name of HFs	Total Score (100)	Status of HFs on IR path Way
<b>Gullele Sub-city</b>	Adisu Gebeya HC	57%	Emerging
	Selam HC	55%	Emerging
	Shegole HC	52%	Emerging
	Maychew HC	58%	Emerging
	Addis Hiwot Hc	61%	Emerging
	Tibebbekechene HC	62%	Emerging
	Hidasie HC	58%	Emerging
	Shiromeda HC	70%	Candidate
	Entoto Fana HC	74%	Candidate
	Gutomeda HC	55%	Emerging
<b>Kirkos Sub-city</b>	Meshualekiya HC	76%	Candidate
	Kazanchis HC	73%	Candidate
	Kirkos HC	67%	Candidate
	Felegehiwot HC	63%	Emerging
	Efoyta HC	72%	Candidate
	Gotera HC	57%	Emerging
	Hiwot Amba HC	63%	Emerging
	Feresmeda HC	69%	Candidate
<b>Addis Ketema sub-City</b>	Addis Raey HC	39%	Emerging
	Millennium HC	56%	Emerging
	Woreda 3 Hc	62%	Emerging
	FelegeMeles HC	62%	Emerging
	Kuasmada HC	58%	Emerging
	Abysiniya HC	71%	Candidate
	Abebe Bikila HC	71%	Candidate
	Addis Ketema HC	74%	Candidate
	Ginbot 20 HC	61%	Emerging
	Hulegeb Shemachoch	61%	Emerging

## PART 2.9: Conducted Assessment of COVID-19 effect on service utilization and HIS in public health facilities

CBMP has conducted effect of COVID-19 on overall health service utilization and HIS in nine selected health facilities of three sub-cities of Addis Ababa city administration. The study has included 14 selected indicators to be assessed. As the study showed that most of the service utilizations were decrease after the pandemic happed in the country. VCT, EPI, outpatient and emergency service utilization were decreased significantly. When we look the HIS services, health facilities data quality assurance and health care information use practice through performance monitoring team has been decreased. After the assessment and result analysis completed, AAU and AARHB have discussed and intervention plan prepared to overcome the effect of the pandemic on the service utilization and HIS activities. The interventions were to strengthen the implementation of FMoH essential service provision guide at health facilities, continuously follow HIS activities through phone to send monthly report after data quality check conducted and apply new PMT meeting mechanism by decrease the members in to four (Medical directors, two core process leaders and HITs).

*Table 12 Assessment of COVID-19 effect on service utilization and HIS for selected indicator at health centers in three sub-cities in Addis Ababa city administration, 2020*

No.	Indicators	Change of service utilization by Month and percentage			
		January	February	March	April
1	ANCI	100%	-9%	5%	-10%
2	ANC4	100%	-16%	-5%	-21%
3	SBA	100%	20%	16%	14%
4	Penta 1	100%	-7%	-5%	18%
5	Penta 3	100%	2%	-7%	-19%
6	Emergency	100%	4%	1%	-25%
7	In-Patient	100%	-23%	26%	-34%
8	Out-patient	100%	0%	2%	-25%
9	Pneumonia	100%	-43%	-56%	-63%
10	TB case detection	100%	-35%	-27%	-35%
11	VCT	100%	28%	0%	-11%
12	LQAS	100%	0%	0%	-11%
13	PMT meeting	100%	0%	-11%	-33%

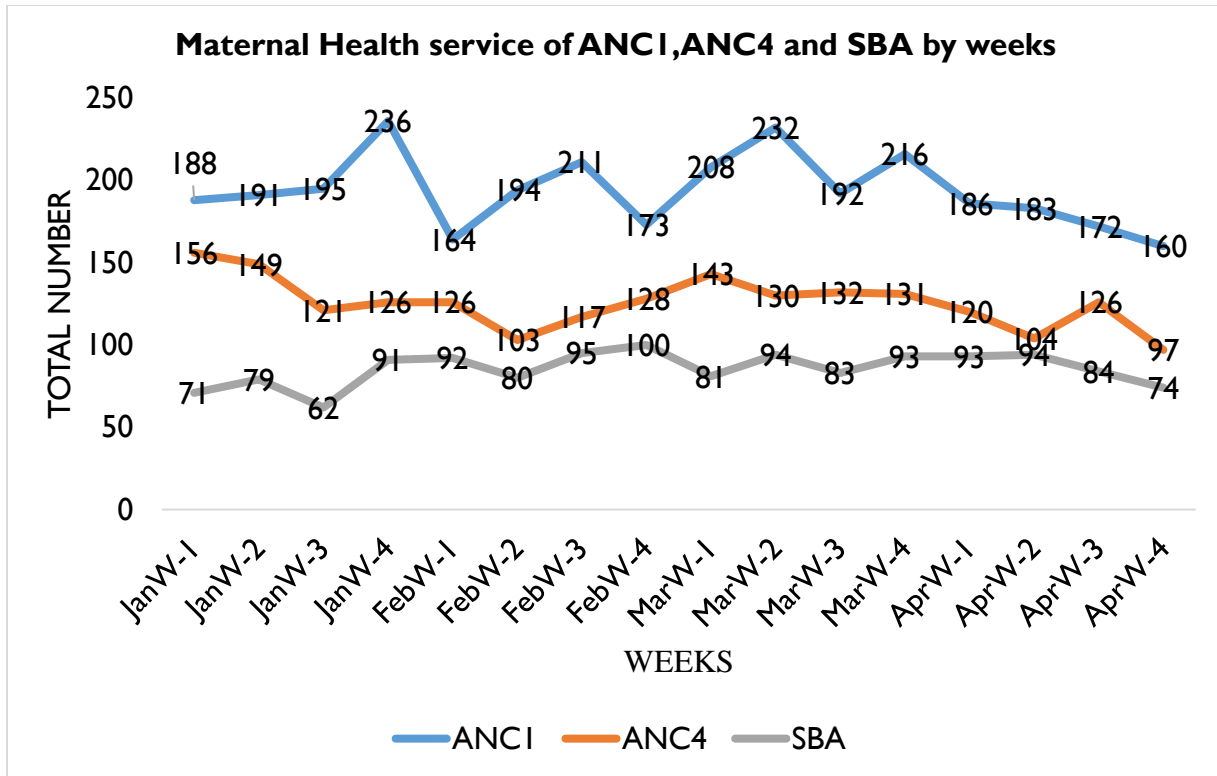


Figure 6 ANC1, ANC4 and SBA VCT service utilization at selected health centers in three sub-cities of Addis Ababa city administration 2020

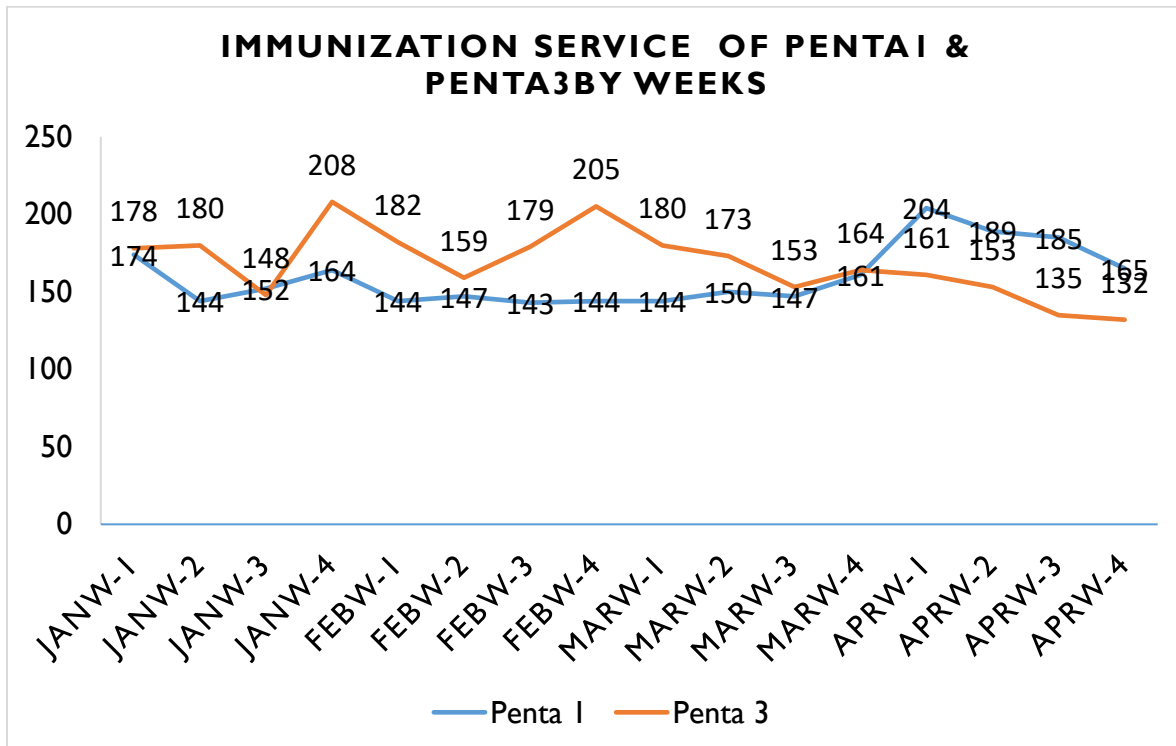


Figure 7 ANC1, Penta 1 and Penta 3 service utilization at selected health centers in three sub-cities of Addis Ababa city administration 2020

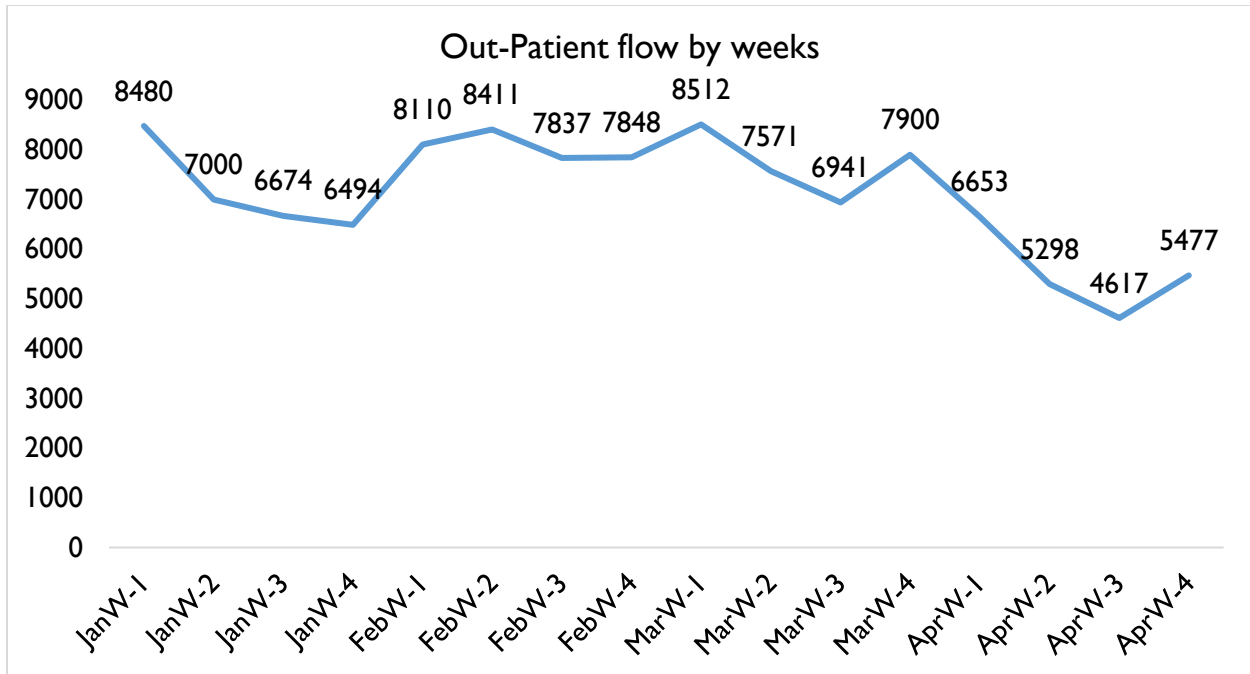


Figure 8 Outpatient service utilization at selected health centers in three sub-cities of Addis Ababa city administration 2020

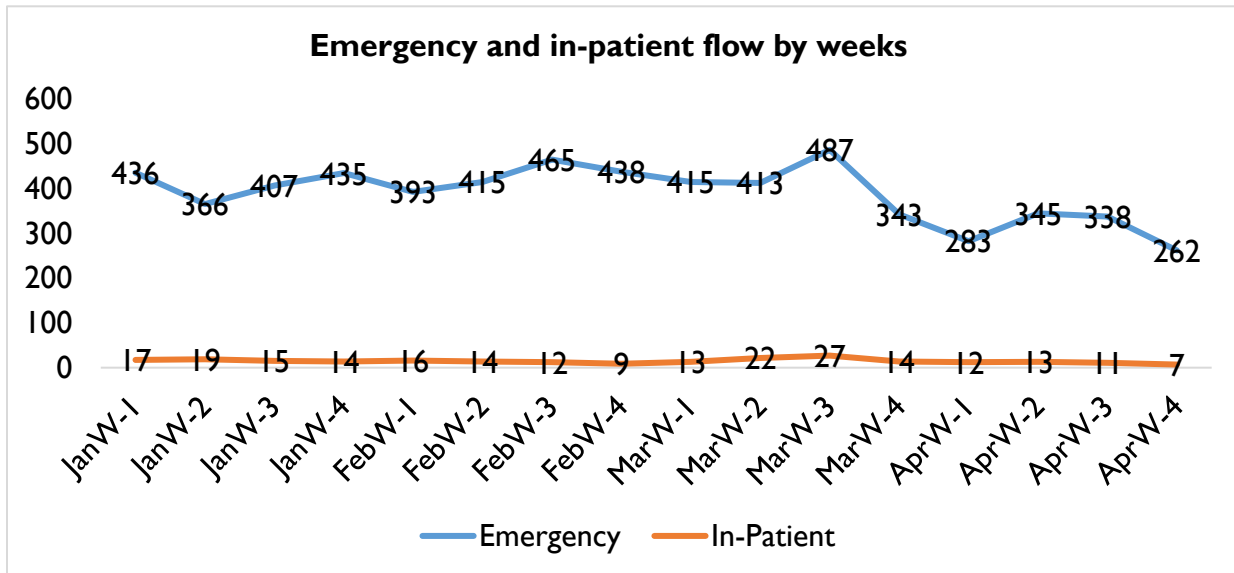


Figure 9 Emergency and inpatient service utilization at selected health centers in three sub-cities of Addis Ababa city administration 2020

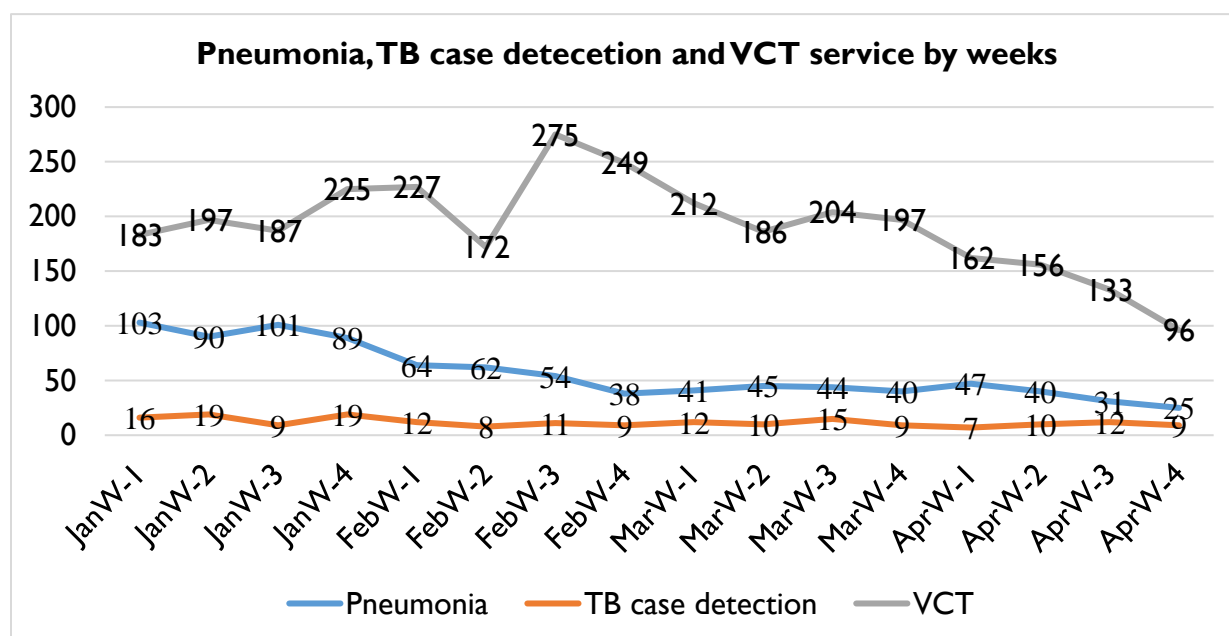


Figure 10 pneumonia, TB case detection and VCT service utilization at selected health center in three sub-cities Addis Ababa city administration 2020



## **PART 3: DDCF SUPPORTED ACCOMPLISHMENTS AND SUCCESSES**

### **PART 3.1: Introduction**

Doris Duke charitable foundation (DDCF) aimed to support the Ministry of Health to strengthen and scale-up the Ethiopian health information system to improve the use of data for decision-making in eleven regions of Ethiopia. The objectives of the DDCF grant align directly to the goals of Ethiopia's Information Revolution to which DUP ascribes. The DDCF grant objectives include: build universities capacity in advanced health information technicians (HITs) training program; Provide research grants for Master's and PhD students to conduct implementation research on strengthening the health information system; Improve the capacity of stakeholders, including staff in the FMOH, the Regional Health Bureaus(RHB), and local universities, to conduct implementation research to inform and improve health information system and health program policy and performance; Establish centers of excellence sites and identify relevant and effective critical data use solutions and accelerate their introduction, adoption and scale-up; and Document and explore the pathway that leads from increased utilization of quality data to improved services delivery and health outcomes.

Lideta Sub city is the demonstration site selected in which HIS demonstration is being implemented. During the reporting period, the following activities were performed under each sub activity.

### **PART 3.2: Conducted HIS Training on Data Management, Data Quality and Information Use**

Based on the baseline assessment findings basic HIS training was provided to 131 participants selected from six health centers and one hospital of Lideta sub city. Out of the total participant of the data quality and information use training above 60% were female. The following table shows number of participants from each health facilities.

Table 13 Data management, data quality and information use training participants of Lideta sub-city with two rounds.

S.No	Facility name	No. of Participants		
		Male	Female	Total
1	Tekilehaymanot HC	6	9	15
2	Lideta health center	7	8	15
3	W/ro Beletshachew HC	7	10	17
4	Hidase Fere HC	6	9	15
5	Abnet Health Center	8	7	15
6	Dagim hidase HC	5	10	15
7	Lideta Sub-city health office	6	15	21
8	Tikur anbesa specialized hospital	6	12	18
9	<b>Total</b>	<b>51</b>	<b>80</b>	<b>131</b>



Pic 3 Data management, data quality and information use training participants of Lideta sub-city

### **PART 3.3: Mentored Health Facilities to improve HIS**

The CBMP normally conduct mentorship and supportive supervision as its core activities of the project. However, the mentorship process is biased towards programs planned by the project, hence, targeted mentorship and supervision was planned to be done on some of the specific activities supported by DDCF; such as targeted trainings, provision of support, and research activities. During joint meeting between DUP and AAU, that was why mentorship and coaching was debated to be necessary for activities supported by DDCF, although the CBMP highly supports both technically and financially mentorship activities. In addition, since Lideta sub-city is demonstration site for the DDCF, it was also found to be important to provide thorough mentorship to health offices and facilities.

Four rounds of mentorship were conducted in Lideta sub-city health facilities using standard checklist to improve data quality and information use. Accordingly, mentorship and coaching has been provided to six target health facilities.

The mentorship focuses on tools and activities of medical record unit, HMIS procedure/data recording and reporting, HMIS Indicator reference guide, HMIS disease classification (NCoD) and Data quality and use situations. It also focuses on completeness and timeliness of reports in order to enhance quality of data. In general, the checklist contains many questions and evaluations tools, which are important. Mentorship checklists were compiled and recommendations extracted from the process were provided to facilities and health offices. Feedback was also provided to individual mentee and to offices as necessary. This was indeed great accomplishments.

However, there were moderate to serious mentorship challenge. Documented challenges may be divided into two, technical and administrative. Regarding technical, the main challenge is lack of commitment of professionals and units to stick to the mentorship program. On another account, the administrative challenges include transportation and finance.

### **PART 3.4: Awarded the research grant to Masters Level students and provide research advisory support.**

The process of title selection took a bit of time. This was because; we tried to involve sub-cities and facilities so that problems currently identified are taken up. Academic staff who have expertise and experience in the selected topics were identified and assigned. Two workshops were conducted to help granted students on the selection of appropriate title, and to help students on research methods in the area of HIS. With the help of assigned advisors and project team, thus, proposals were developed, defended and ethically cleared as per AAU requirement. The topics are listed as follows.

1. Knowledge and Attitude of Health Professional's towards Health information system utilization at selected health facilities in Addis Ababa, Ethiopia 2019/20,
2. Assessment of Routine health information system (RHIS) data quality in Addis Ababa city Administration, Ethiopia
3. Assessment of medical recording data quality in Yerer Hospital
4. Assessment of Utilization of District Health Information Software (Dhis2) In Public Health Facilities of Addis Ababa City Administration, Ethiopia
5. Assessment of Data Quality in Addis Ababa Population Based Cancer Registry, Addis Ababa, Ethiopia, 2019/2020
6. Status of Routine Health Information System data utilization by health professionals and managers of public health centers in Addis Ababa, Ethiopia
7. Utilization OF Electronic Medical Record (EMR), Implementation Barriers and Associated Factors Among Health Care Providers at Health Facilities in Addis Ababa City Administration, Ethiopia, 2019.

After the proposal defense conducted the school provided ethical clearance for all granted students. One of the students presented and defend based on the schedule of the school and the rest are analyzing, interpret and writing a report and preparing them selves for defense. The assigned advisors are mentoring and providing appropriate supports for their students.

## **PART 3.5 Conducting rigorous implementation science research on strengthening HIS initiatives**

We have been working on proposal for Implementation research since 2<sup>nd</sup> quarter. Implementation science research needs to be based on practical issues that is expected to solve current problems in the facilities regarding data generation, quality, and information use among managers, personnel and the public, the process took a bit of time. In this exercise, several discussion forums, workshops and trainings were conducted with staff of sub-cities and facilities. These brainstorming activities helped to identify problems that require intervention, and priority for action.

The following topic of the study was finally decided upon in consultation with all stakeholders: “Strengthening PMT through Capacity Building model implementation in order to improve health care data quality and information use in selected health facilities of Addis Ababa”.

The proposal is developed within the framework of implementation science research, shared with stakeholders (the regional health bureau), collected further comments, conducted workshop on the proposal and modifications were finalized in December 2019. The proposal was ethical cleared. The implementation component has started long ago and in progress. The new capacity development model designed in collaboration with CBM project early on is being implemented.

This activity particularly enjoyed great synergy and collaboration between CBMP and DDCF to focus and strengthen the research-to-use process in the context of complex adaptive health systems by supporting the development of innovative approaches to data use, building capacity in implementation research among key health system stakeholders and increasing evidence for introducing, adapting and scaling successful data use interventions through implementation research. The strategy is intended to channel evidence, knowledge and learning from applied and implementation research and evaluation directly into the important work of implementers and policy makers, accelerating the introduction, adoption, spread and scale-up of new or refined data use interventions, innovations and practices.

The implementation process of planned activities by CBMP is a long one, spanning the project life time, hence, activities of implementation research is expected to be dictated by CBMP plan. This

is because; the way DDCF planned to fund implementation research is like following activities being implemented by CBMP from start to end and see if the implemented activities bear fruit. This basically filled the gap that was left untouched by CBMP.

### **PART 3.6: Implementation of research through Capstone project**

The fund to be used for research, whether student support or implementation science research, were extended to cover small research activity at sub-city level. This happened basically after understanding the need of the sub cities and ‘small’ interventions that might bring ‘big’ changes in the system. Sub cities are collaborators for the implementation research, but we thought that may not solve as many problems as we wished and as quickly as possible. In addition, in workshops and meetings we had with sub cities and facility staff, we realized that there is more problem to solved and that can be done at different level. We therefore invited the staff of sub city and facilities to form groups and propose the title.



*Pic 4Capstone project participants of AARHB, Lideta, Akaki Kality and Yeka Sub-cities*

To help them develop capacity in order to help them lead the study, a one-week training program was conducted for selected staff members by experienced academics on the principle of Capstone study. Although, the fund already received from DDCF may not be able to cover the full cost of



these studies, the program has been initiated hoping that DUP approve and fund the action plan we recently submitted. Four teams are organized as shown in table below, three sub city level and one city level activity. Advisors from academic are assigned to each group to support them throughout. The link between advisor and the research team is established and communication between them has begun. Title of the capstone is identified; root case analysis is performed and the teams are working on proposal development.

*Table 14 Capstone project training participants disaggregated by organization*

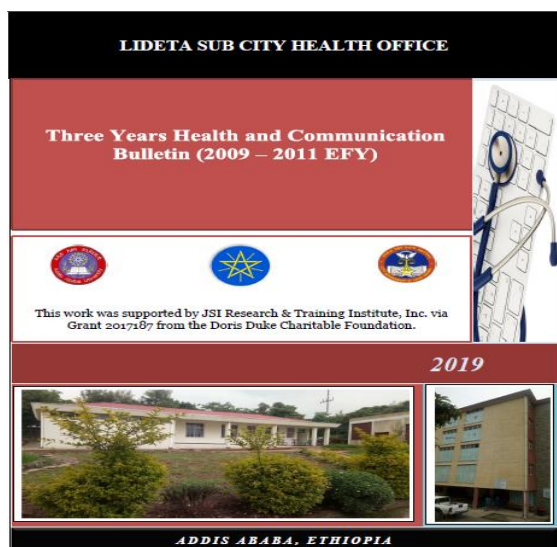
S. N	Sub City	Male	Female	Total
1	Lideta sub city	3	1	4
2	Akaki Kality sub city	2	2	4
3	Yeka sub city	4	0	4
4	Addis Ababa Regional Health Bureau	2	1	3
5	Total	11	4	15

### **PART 3.7: Procured Inputs for Implementation of Priority Digital HIS Tools**

Digital HIS tools were listed and prioritized by sub-city staff and management for hospitals and health centers. Among them, the HRIS which normally receives little support was put on top. However, the HRIS system was already developed and was operational in some institutions, but not in some of our target facilities. Thus, the HRIS tool has been obtained and deployed at demonstration sites, its functionality checked, and training was provided on HRIS for 24 workforces from six health centers and one hospital.

## PART 3.8: Supported Demonstration Woredas to Generate and Publish Short Communications

Lideta sub-city HMIS unit had prepared a three-year health and communication bulletin (2009 – 2011 EFY). Two hundred copies of bulletin printed and distributed to the stakeholders. The bulletin contains topics related to Disease Burden. This includes Major Causes of illness for all ages combined; Summary Report on Health Service Delivery and Quality of Care, Maternal and Child Health Services, including maternal health and Child Health Services, and Prevention and Control of Communicable Diseases. Under this topic, the following sub-topics were included: Public Health Emergency Preparedness and Response, Pharmaceutical Supply and Services, Quality of Health Services, Community Based Health Insurance, and Health Infrastructure Development.



*Pic 5 Lideta sub-city HMIS unit had prepared a three-year health and communication bulletin (2009 – 2011 EFY) with the support of AAU/SPH using DDCF fund*



## **PART 4: MONITORING AND EVALUATION**

### **PART 4.1: Monthly review**

AAU conducts monthly review meeting with AARHB to assess CBM project performance, identified problems during project implementation and to set plan in priority areas in order to accomplish MoH information revolution agenda.

In the course of the meeting best practices observed while working with sub cities and health facilities in the process of project implementation was shared. On the other hand, identified gaps during training participant selection and lack of implementation follow-up by facility heads were discussed. Then action plan will be developed and shared between AAU and AARHB.

### **PART 4.2: Mentorship review**

AAU conducts mentorship review meeting periodically and review the mentorship findings with the presence of stakeholders (MoH, AARHB, sub city heads, Medical directors, process owners and HIT officers of each facility).

During the review meeting mentors present findings of the mentorship, major identified gaps and area of improvements in each health facilities. Then participants discuss on core problems of the health facilities which were commonly identified during mentorship and action plan was developed, accordingly oral feedback has been provided to all supported Sub-cities. In addition, written feedbacks were given for all sub-cities and regional health bureau. Finally, prepared action plans will be monitored in the next mentorship program.

### **PART 4.3: Project review**

Annual performance of the project was reviewed with different stakeholders to strengthen the HIS by improving structure and HIS implementation status, health care data quality and administrative data use. The review meeting was attended by higher officials from MoH, AARHB and AAU, also sub-city health office and health center heads were participating the review meeting.

In the review meeting 2018/19 performance of CBMP implementation was reviewed and celebrates success and areas of improvements were identified. Then 2019/2020 project implementation plan in the selected sub cities was presented.



*Pic 6 CBMP review meeting participants from different stakeholders*

## PART 5: LESSON LEARNED AND INOVATIONS

Patient history is basic and starting point for patient care; the patient data should be filled property and kept securely and safely. But enough attention was not given to patient card management; staffs are neglected (low performer is assigned in card room and no formal training is provided for them), the space issue is not considered as the patient card grow.

HIT or HMIS officers collect data from service units periodically using reporting template to aggregate the data from register books. During the data collection process, the quality of the data will be compromised (data inconsistency between register and DHIS2) because the data generators are not data users. In addition, the communication between HMIS unit and service units are not smooth.

Functional PMT is crucial for the success and better health service delivery in the health facilities, to make it realized it is essential to have the commitment and involvement of the management. DHIS2 collect, validate, analyze and present health facility data and HIT (Health Information Technician) or HMIS (health management information system) officers are responsible to get the right information into the right hands at the right time, enable health data user to make effective information use. But the HIT/ HMIS officers who work as data custodians: data use, analysis and interpretation are done by them not by the data owners (service unit heads). The data owners should have to have access for the data for resource allocation, planning and monitoring, data visualization and they have to get use information for decision making at all level.

## PART 6: CHALLENGES AND CONSTRAINTS AND PLANS TO OVERCOME THEM

In the reporting period, AAU/CBMP faced challenges/constraints that affected implementation in FY19/20.

No.	Challenges in the last One Year	Actions or plans to overcome the challenges
1.	<b>Competing priorities:</b> The CBMP team was challenged to perform activities planned for the quarter including cascading of HIS training, SS training, and organizing review meetings because of other government priorities and seasonal/emergency activities	Continuous communication and negotiation with government partners, providing trainings during weekends, and re-scheduling activities are some of the ways to overcome this challenge.
2.	<b>Inadequate technical competency:</b> HITs lack technical competency to perform data quality assurance and information use practice.	CBMP has and will continue to provide training and technical support to build HITs' skills and competency.
3.	<b>Decreased motivation of HITs':</b> Lack of a clear career ladder, a lower-level grading structure of HITs' assigned by the new JEG (Job Evaluation and Grading) and other factors de-motivate UHE-ps.	CBMP is working on non-financial incentives such as experience-sharing visits, recognition, and in-service training. AARHB has started working on the career structure of the current HITs to define their professional development.
4.	<b>Inadequate budge for the new initiatives:</b> New initiatives as an implementation strategy has been planned and started its implementation without additional budget, in order to finalize the initiatives, the project requires budget	CBMP is working to find additional finance from other stakeholders. AAU has provided some grant for the new initiatives.

<p>5.</p>	<p><b>COVID-19 Pandemic:</b> Activities cannot be performed as Planned because of this incidence.</p> <p>Health facilities focus diverted to COVID-19 response and neglected health information issues.</p> <p>Health workforce has been assigned to COVID-19 response and it affect PMT meeting and performance monitoring</p>	<p>Arrange virtual meeting with AARHB and try to reschedule activities</p> <p>Identify HIS gaps through assessment and mentorship and prepare plan to overcome the pandemic effect.</p> <p>Restructure the PMT members and the health facilities perform the meeting with specific core process leaders and HIT officers.</p>
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# ANNEXES

## Annex I First and Second Round Self-Assessment Result of Health Facilities

No	Identification			Stru- cture (30)	Data Quality (30)	Data Use (40)	Total (100)	Status	Stru- cture (30)	Data Quality (30)	Data Use (40)	Total Score (100)	Status	Stru- cture (30)	Data Quality (30)	Data Use (40)	Total (100)	Status
	Region	Zone	Name of HF's															
1	Addis Ababa	Akaki Kaliti Sub-city	Selam Fire HC	19%	18%	29%	67%	Candidate	28%	28%	27%	83%	Candidate	26%	30%	24%	80%	Candidate
2			Gelan HC	19%	21%	39%	79%	Candidate	29%	30%	35%	94%	Model	30%	27%	35%	92%	Model
3			Serti HC	19%	23%	28%	70%	Candidate	23%	30%	38%	91%	Model	28%	30%	33%	91%	Model
4			Tuludintu HC	6%	2%	7%	15%	Emerging	21%	30%	26%	77%	Candidate	27%	25%	29%	81%	Candidate
5			Akaki Kela HC	19%	21%	23%	63%	Emerging	25%	29%	20%	74%	Candidate	24%	28%	23%	74%	Candidate
6			Saris HC	19%	23%	39%	82%	Candidate	25%	30%	40%	95%	Model	29%	30%	33%	92%	Model
7			Akaki HC	11%	0%	12%	23%	Emerging	28%	30%	40%	98%	Model	25%	30%	35%	90%	Model
8			Kilinto HC	6%	18%	0%	25%	Emerging	19%	30%	29%	78%	Candidate	28%	30%	30%	88%	Candidate
9			Kality HC	16%	0%	18%	34%	Emerging	28%	30%	40%	98%	Model	25%	30%	35%	90%	Model
10			Tirunesh Beijing Hospital	19%	21%	35%	75%	Candidate	26%	28%	36%	90%	Model	30%	30%	34%	94%	Model
11		Lideta Sub-city	Teklehaymanot HC	24%	21%	21%	66%	Candidate	29%	26%	26%	81%	Candidate	27%	26%	34%	87%	Candidate
12			Lideta HC	28%	23%	29%	80%	Candidate	25%	30%	36%	91%	Model	28%	30%	39%	97%	Model
13			Beletishachew HC	28%	21%	32%	81%	Candidate	26%	20%	36%	82%	Candidate	24%	30%	37%	91%	Model
14			Dagim Hidase HC	30%	21%	35%	85%	Candidate	27%	30%	34%	91%	Model	22%	30%	33%	85%	Candidate
15			Abinet HC	28%	21%	40%	89%	Candidate	29%	30%	34%	93%	Model	27%	30%	36%	93%	Model

16			Hidasie Fire HC	18%	23%	17%	59%	Emerging	29%	30%	37%	96%	Model	29%	30%	32%	91%	Model
17			TASH	21%	18%	18%	58%	Emerging	29%	23%	32%	84%	Candidate	26%	26%	32%	84%	Candidate
18			W1	23%	23%	15%	60%	Emerging	22%	30%	37%	89%	Candidate	22%	28%	30%	80%	Candidate
19			W2	28%	16%	33%	77%	Candidate	30%	30%	33%	93%	Model	21%	28%	34%	83%	Candidate
20			W3	25%	18%	25%	68%	Candidate	25%	25%	31%	81%	Candidate	27%	25%	29%	81%	Candidate
21			W4	23%	2%	29%	54%	Emerging	28%	30%	37%	95%	Model	28%	30%	34%	92%	Model
22			W5	27%	18%	15%	60%	Emerging	30%	29%	26%	85%	Candidate	22%	30%	31%	82%	Candidate
23			W6	24%	23%	33%	80%	Candidate	28%	30%	29%	87%	Candidate	29%	28%	31%	88%	Candidate
24			W7	30%	23%	21%	74%	Candidate	24%	26%	26%	76%	Candidate	24%	26%	26%	76%	Candidate
25			W8	21%	18%	16%	56%	Emerging	24%	30%	32%	86%	Candidate	25%	30%	35%	90%	Model
26			W9	19%	18%	31%	68%	Candidate	24%	24%	23%	71%	Candidate	25%	30%	33%	88%	Candidate
27			W10	27%	23%	20%	70%	Candidate	28%	29%	37%	94%	Model	22%	30%	39%	91%	Model
28			W11	27%	16%	32%	75%	Candidate	24%	28%	37%	89%	Candidate	21%	30%	39%	90%	Model
29			W12	18%	2%	28%	49%	Emerging	25%	30%	37%	92%	Model	27%	30%	34%	91%	Model
30			W13	19%	18%	35%	72%	Candidate	20%	30%	32%	82%	Candidate	26%	30%	25%	80%	Candidate
31			W14	23%	18%	32%	73%	Candidate	24%	30%	22%	76%	Candidate	23%	28%	26%	77%	Candidate
32			Hidase				0%	Emerging	29%	30%	32%	91%	Model	29%	30%	33%	92%	Model
33			Minilk hospital	27%	16%	18%	61%	Emerging	26%	26%	25%	77%	Candidate	27%	30%	33%	90%	Model

## Annex II Baseline Assessment Result of New CBMP Expansion Health Facilities

Date: July 2020

No	Region	Zone	Name of HFs	Structure and implementation of HIS maximum score (30)	Data Quality maximum score (30)	Data Use Maximum score (40)	Total Score (100)	Status of woreda on IR path Way
1	Addis Ababa	Gullele Sub-city	Adisu Gebeya HC	25%	18%	14%	57%	Emerging
2			Selam HC	21%	16%	18%	55%	Emerging
3			Shegole HC	18%	14%	20%	52%	Emerging
4			Maychew HC	18%	17%	23%	58%	Emerging
5			Addis Hiwot Hc	21%	14%	26%	61%	Emerging
6			Tibebbekechene HC	25%	15%	22%	62%	Emerging
7			Hidasie HC	23%	21%	14%	58%	Emerging
8			Shiromeda HC	20%	20%	30%	70%	Candidate
9			Entoto Fana HC	18%	21%	35%	74%	Candidate
10			Gutomeda HC	17%	18%	20%	55%	Emerging
11		Kirkos Sub-city	Meshualekiya HC	19%	20%	37%	76%	Candidate
12			Kazanchis HC	21%	19%	33%	73%	Candidate
13			Kirkos HC	12%	18%	37%	67%	Candidate
14			Felegehiwot HC	19%	18%	26%	63%	Emerging
15			Efoyta HC	16%	26%	30%	72%	Candidate
16			Gotera HC	16%	21%	20%	57%	Emerging



			Hiwot Amba HC	<b>18%</b>	<b>21%</b>	<b>24%</b>	63%	<b>Emerging</b>
17			Feresmeda HC	<b>17%</b>	<b>24%</b>	<b>28%</b>	69%	<b>Candidate</b>
18		<b>Addis Ketema sub-City</b>	Addis Raey HC	<b>14%</b>	<b>11%</b>	<b>14%</b>	39%	<b>Emerging</b>
19			Millennium HC	<b>14%</b>	<b>17%</b>	<b>25%</b>	56%	<b>Emerging</b>
20			Woreda 3 Hc	<b>25%</b>	<b>17%</b>	<b>20%</b>	62%	<b>Emerging</b>
21			FelegeMeles HC	<b>18%</b>	<b>20%</b>	<b>24%</b>	62%	<b>Emerging</b>
22			Kuasmeda HC	<b>16%</b>	<b>18%</b>	<b>24%</b>	58%	<b>Emerging</b>
23			Abysiniya HC	<b>26%</b>	<b>21%</b>	<b>24%</b>	71%	<b>Candidate</b>
24			Abebe Bikila HC	<b>19%</b>	<b>26%</b>	<b>26%</b>	71%	<b>Candidate</b>
25			Addis Ketema HC	<b>23%</b>	<b>20%</b>	<b>31%</b>	74%	<b>Candidate</b>
26			Ginbot 20 HC	<b>17%</b>	<b>18%</b>	<b>26%</b>	61%	<b>Emerging</b>
27			Hulegeb Shemachoch	<b>16%</b>	<b>19%</b>	<b>26%</b>	61%	<b>Emerging</b>

