

# Implementation of quality improvement for community-based health services: what worked, what didn't, and why?

## A case study in Ethiopia

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### Abstract

**Background:** Recently, there has been a growing interest in quality improvement (QI) interventions to enhance the health care services provision. However, applying QI interventions to community-based health services (CBHS) is still a limited practice. Strengthening Ethiopia's Urban Health Program (SEUHP), implemented by John Snow, Inc., used QI principles to address certain challenges in the implementation of the urban health extension program (UHEP). QI activities aimed to improve referral systems between the UHEP and health centers (HCs), strengthen the defaulter tracing system, and enhance linkages and integration between facility-based primary health services and community-based extension services.

**Aim:** This case study reviews the implementation and documents lessons learned from the SEUHP QI intervention.

**Method:** Assessment and multiple case study design to review the implementation and document lessons learned. The study reviews multiple data sources and qualitatively analyzes the experience of QI teams (QIT) in different regions in Ethiopia.

**Findings:** The functionality of the QIT varies across the regions. Where QI interventions function, demand for specific health services increased and QITs met targeted improvement objectives. The linkage and integration between the community-based UHEP extension services and facility health services improved as the result of QI intervention.

**Conclusion:** This case study provides evidence that, despite challenges, QI interventions can be an important tool to facilitating health services. Functional QITs helped motivate Urban Health Extension Professionals (UHE-ps) to effectively execute their job. The QIT's commitment, the regularity of QIT meetings, and the engagement of all staff and community groups are key factors in the successful implementation of QI initiatives that resulted in improved quality of service provision. [*Ethiop. J. Health Dev.* 2020; 34(Special issue 2):54-61]

**Key words:** Quality Improvement, Community, Urban Health, Ethiopia

### BACKGROUND

Low- and middle-income countries increasingly use QI approaches as part of efforts to improve service delivery and health outcomes (1,2). QI interventions engage stakeholders in the process of identifying problems, designing strategies to address those problems, testing those strategies, and taking to scale strategies that are successful(3). However, the existing evidence on QI interventions is still limited and focuses on documentation of implementation and process evaluation. The existing evidence around QI for community-based health services (CBHS) is particularly limited (4). There is a growing interest in low- and middle-income countries in implementing QI activities linked to CBHS (5). In Ghana, QI is used to improve maternal and newborn care both at the facility and community levels (6); in Afghanistan to improve maternal and newborn care at both the facility and community levels (7). In South Africa, Malawi, and Mozambique, four community-based QI projects strengthened community-based health systems and improved HIV care (8). In Ethiopia, small scale QI for CBHS has been implemented by various partners in coordination with local health offices. Yet, there was no standardized guideline (9). The outcomes of CBHSQI interventions in Ethiopia indicate the significance of QI in improving the performance, motivation, and capacity of community health providers (10,11) and in enhancing the integration between community and facility level health services (12,13).

Strengthening Ethiopia's Urban Health Program (SEUHP) is funded by the United States Agency for International Development and implemented by John Snow, Inc. (JSI). The project supported the implementation of the Urban Health Extension Program (UHEP) in 49 towns across five regional states (Amhara; Oromia; Harari; Southern Nations, Nationalities, and Peoples' (SNNP); and Tigray regions) and two city administrations namely; Addis Ababa and Dire Dawa (14). Ethiopia's Federal Ministry of Health (FMOH) initiated UHEP in 2009 to enhance health equity by generating demand for essential health services through the provision of health information at the household level and access to services through referrals to health facilities. This is implemented through deploying urban health extension professionals (UHE-ps) that are clinical nurses by training (15). To strengthen community engagement, promote health, and create demand for health services, UHE-ps work with the Health Development Army (HDA). The HDA creates networks of up to five households, led by one that is recognized as a "model family." The model family is expected to lead the group of households by example and influence them with positive attitudes towards and skills for healthy behaviors (16).

However, weak referral systems and limited integration between community and facility-based health services pose challenges to program implementation. Referrals

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made by UHE-ps are poorly received and feedback from the HCs is not systematically provided. This negatively affects the referral system as well as the UHE-ps' acceptance by the communities they serve. Moreover, the technical support they receive from the local health offices is limited. In August 2015, to address the gap and to improve the quality of CBHS, SEUHP designed QI interventions in collaboration with the Regional Health Bureaus (RHBs) and Town Health Offices (THOs) in 11 HCs across nine towns. Using lessons learned during implementation, by December 2016, QI activities had gradually expanded to 73 HCs across 33 towns.

This case study highlights the contribution of QI interventions, implementation challenges, and enablers for successful implementation to ensure sustainability. It reviews the overall implementation status, challenges across the QITs, and the experience of selected QITs.

### CASE DESCRIPTION

QI activities were initiated to improve the referral systems between the UHEP and HCs, strengthen the defaulter tracing system, and enhance linkages and integration between facility-based primary health services and community-based extension services. SEUHP used the model for improvement developed by Associates in Process Improvement that includes the Plan-Do-Study-Act (PDSA) cycle (17). The QITs identify and prioritize improvement objectives, conduct an analysis of root causes, plan and implement interventions, assess the progress, and respond accordingly. QI for CBHS interventions covers both the community and HC levels, since each have a distinct focus area.

The community-level interventions aim to enhance demand for quality health care services through increasing health literacy and through facilitating active community engagement regarding the health care services at the HCs. The interventions at the HC aim to provide quality health services and to support CBHS provision through establishment of functional integration and feedback mechanisms. Thus, the HC- and community-level QI activities are interrelated and complementary, and the collective effort contributes to improving the health outcomes of the catchment population. The UHE-ps play an important role in supporting and linking the QI interventions at the HC and community levels.

The implementation of QI activities involves various steps. 1) Advocating for the approach and obtaining acceptance from the RHBs, THOs, 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, selected UHE-ps, UHE-p supervisors, community representatives, and members of the HDA. 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. 4) Supporting the QIT to effectively implement QI activities and to monitor progress. SEUHP, in collaboration with the RHB and THO, provided technical support for QITs. Support teams visited the QITs on a monthly and quarterly basis. 5) Each QIT reviews its performance quarterly and conducts town-level review meetings every six months to track performance status. Objectives and action plans are revised accordingly to address identified performance gaps. The project facilitated 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. Needs-based refresher trainings were provided to address identified gaps.

### STUDY METHODS

QIT document and file the QI process, PDSA cycle, which includes the improvement objective (plan) and baseline data, minutes of the QI team meeting, document intervention and analysis of the data, review progress, compare the achievement to plan, review what went well, and what factors such as processes and activities have an impact on the outcomes. Based on review action was taken to sustain, re-plan and look for new ways to improve.

This study employs the multiple case study design to learn about QI interventions. This method has proved helpful to review and describe experiences and to draw out common lessons for more generalized learning about QI interventions (18, 19). To maximize the learning and fully illustrate the cases, findings from the experiences of four selected QI intervention cases are included. The selected QITs were all good performers, they focused on different areas of improvement, have good documentation that indicate all processes and outcomes of the intervention, and located across towns and regions. Findings from a survey assessment that reviewed the overall implementation status and challenges across the QITs were also included in the study.

### Data collection and analysis

The study used a survey and case studies of four QI interventions. The survey data was collected in June 2016 using a semi-structured tool, document review, observation, and discussions with the QITs. The purpose of the assessment was to review the functionality status of the QITs and to learn about QI achievements and barriers to implementations. We reviewed implementation status with respect to the following aspects: 1) regularity of the QIT meetings, 2) documentation and data management including the availability of QIT meeting minutes and action plan, 3) progress with respect to the objectives, and 4) whether the QIT supports the UHE-ps. We considered QITs that showed satisfactory compliance with at least three out of the four aspects of functionality to be 'functional teams.' Those that complied with only two of the aspects were listed as 'partly functional,' while the remainders were labeled as 'poorly functional'. Aside

from QIT functionality, we assessed teams' achievements and challenges and tried to answer questions on what worked and what didn't work and identify key implementation challenges.

The data collection for the case studies was intended to document and learn from the experience of good performer QIT in detail. The data collections period varied based on the selected QIT intervention period. The data was collected using document review, observation, and discussions with the QITs. The purposively selected four QITs helped demonstrate how the team achieved the outcome of the QI intervention and why the intervention worked well.

#### **Implementation status**

Fifty-nine QITs that implemented the intervention for more than six months were included in the assessment. The findings indicated that 23 (39%) QITs were functional, 23 (39%) were partially functional, and 13(22%) were poorly or non-functional. The findings indicate that the functionality of the QITs vary greatly across regions. From all intervention regions, the highest percentage of functional QITs was observed in Harar while the lowest was in SNNPR. QIT were, on average, more functional (48%) in the three urbanized regions (Addis Ababa, Dire Dawa, and Harar) than the four bigger regions (Amhara, Oromia, SNNP and Tigray) (34%); conversely, non-functional QITs were higher in the later (29%) than the former (10%).

**Table1. The functionality status assessment of QI teams, June 2016**

<i>Regions</i>	<i>Functional</i>	<i>Partially functional</i>	<i>Poorly functional</i>
Amhara	3 (38%)	3 (38%)	2 (25%)
Addis Ababa	7 (47%)	6 (40%)	2 (13%)
Oromia	3 (30%)	4 (40%)	3 (30%)
Dire Dawa	1 (33%)	2 (67%)	0%
Harar	2 (67%)	1 (33%)	0%
SNNPR	3 (33%)	3 (33%)	3 (33%)
Tigray	4 (36%)	4 (36%)	3 (27%)
Total	23 (39%)	23 (39%)	13 (22%)

#### **FINDINGS**

The findings indicate that where QI interventions are functional, there are improvements in referrals and referral feedback, the number and yield of HIV testing, and defaulter tracing activities. Linkage and integration between the community-based UHEP and facility health services also improved. In addition, HC staffs have a better understanding of the UHEP program and the contribution of UHE-ps. Teams mainly blamed poorly and non-functional QITs on competing priorities, the HC heads' workloads, and high turnover of QIT members. Limitations in documenting progress of QI interventions and data use to guide interventions and track progress were observed.

#### *Findings from selected cases*

##### *The cases of Harar*

Harar is the capital of Harari regional state, located 515 KM east of the capital Addis Ababa. Seventy-four UHE-ps and six supervisors were involved in the implementation of the UHEP. In August 2015, SEUHP and the RHB collaborated to pilot QI interventions in Jinela HC. The QIT, composed of HC staffs, UHE-ps and UHE-ps supervisors led by HC head, aimed to improve referrals and referral feedback. The QIT conducted a baseline measurement and set a target to increase referral feedback from the baseline of 43% to 90% over 7 months. The QIT's improvement process included conducting orientation on the importance of QI intervention in improving the quality of health care and services, priorities and package, steps in improvement process, and expected role of the

staffs for the HC staff, providing file folders for referral and feedback documentation, conducting a weekly update and monthly meetings for the HC staff and UHE-ps to review data and take action, and engaging HDAs in linking the community and community level social structure such as Edir and patients associations such as PLHIV etc. with the health system and in collecting community perception about health facilities services. Continuous technical support was provided by SEUHP and RHB staffs to the QIT to effectively implement and monitor the progress of the intervention, facilitate team building activities, create an enabling work environment, and reward best performing UHE-ps with a certificate of recognition.

Because of the intervention, the referral feedback improved to 95% and the number of referrals increased from a baseline of seven to 43 cases monthly over a seven-month period. The HC became more welcoming for the clients and UHE-p services more recognized by community and HC staff. UHE-p clients began to be more motivated to take referral slips and valued their importance. Based on the lesson from Jinela experience, in April 2016, all four HCs in the town implemented the QI intervention. Since the expansion, the quarterly referral cases and feedback increased from 104 to 428 and from 99 to 227, respectively (**Figure 1**).The important factors that contributed to the successful implementation of the QI intervention include: the commitment of the HC management and the RHB's involvement in and buy-in of the intervention.

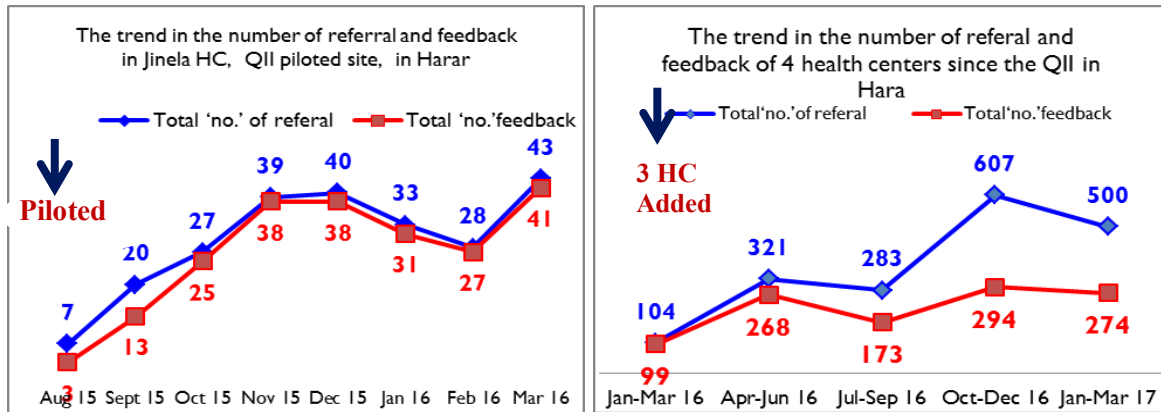


Figure 1. The number of referrals and referral feedback in QI pilot HC and scaled up HCs. Harar August 2015-March 2017.

**The Case of Sodo Health Center:**

Sodo HC is located in Sodo town, the capital of Woliyta zone in SNNP region. Twenty-eight UHE-ps and three supervisors supported the implementation of UHEP. In May 2016, the HC established QIT. The team prioritized two improvement objectives: the first was to improve referral feedback from a baseline of 21% to 85%, and the second was to increase the yield (HIV positivity rate) of HIV testing, through the identification of the most at risk target groups, from 1% to 3.5% in six months' time. The QIT developed an action plan that included: 1) assigning a focal person for referrals at the HC, 2) orienting the HC staff on the QIT action plan, 3) providing file folders to each department to file referral and feedback slips appropriately, 4) UHE-ps collecting referral feedback slips from the HC every week, and 5) orienting UHE-ps on how to effectively target the most at-risk

individuals for HIV testing. The HC staff and UHE-ps held monthly meetings, and the HC assigned staff to provide supportive supervision and coaching to the UHE-ps at the community level.

As a result, referral feedback increased to 75%, and the percentage of HIV positivity among tested individuals increased to 2.4% through identification of the most at risk segment of the population (Figure 2). In addition to the goals of the intervention, the number of short term and long term family planning users were increased from 78 to 198 and from 293 to 545 respectively, while the pregnant mother who received the first and fourth antenatal visit were also increased from 95 to 117 and from 199 to 217 respectively (Figure 3). This increase was associated with the increase of referrals from the community level and with an increase in health education activities.

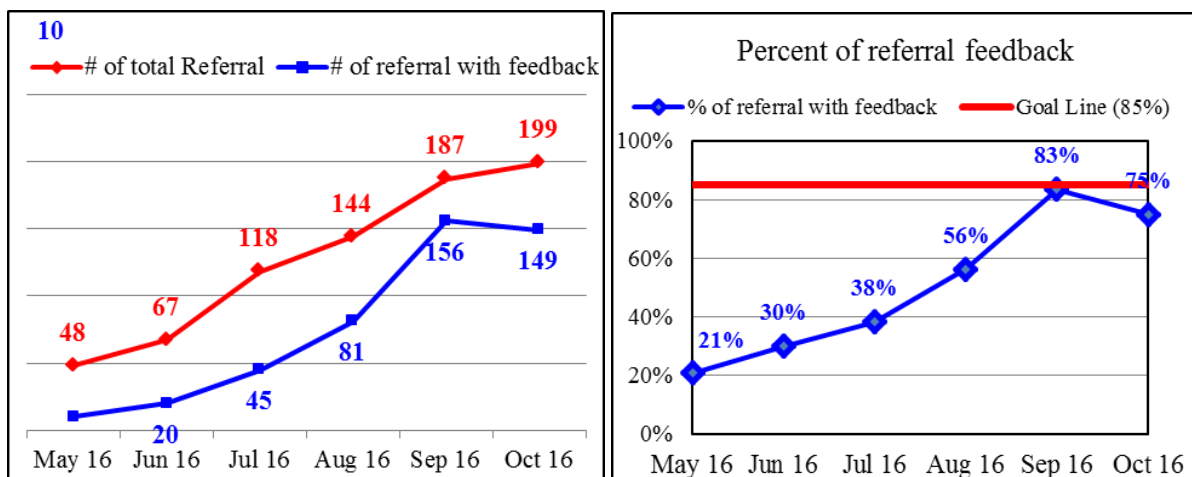


Figure 2. The trend in referral feedback Woliyta Sodo HC. May 2016- October 2016.

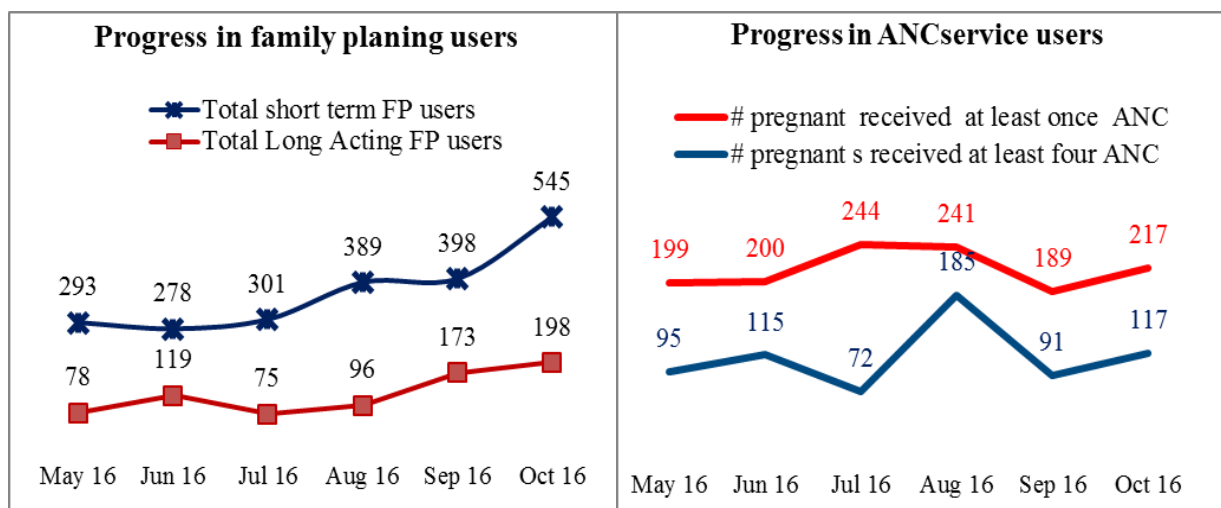


Figure 3: Trend in family planning and ANC service users Wolayita Sodo HC. May 2016-October 2016

**The Case of Addis Ababa**

Addis Ababa is the capital of Ethiopia and the city is divided administratively into 10 sub-cities and 121 woredas, with 1340 UHE-ps and 220 supervisors involved in the implementation of UHEP. In August 2015, SEUHP and the RHB piloted the QI intervention in two HCs and then expanded to fifteen. For this case study purpose, Kolfe-Keraniyo Woreda 03 and Nifas-Silk-Lafto (NSL) Woreda 12 HCs were included. In both cases, the successes at the HCs were not achieved in the initial QI intervention, but rather occurred after a review of the process. After the review, solutions for poor coordination and leadership commitment were identified, and the team set new improvement

objectives. In January 2017, the QIT in Kolfe-Keraniyo Woreda 03 HC aimed to improve PNC coverage from a baseline of 70% to 84% and to reduce the ANC dropout rate from a baseline of 35% to 30% by December 2017. To achieve its goal, the HC included UHE-p community-based PNC services in the HMIS report and linked mothers who gave birth in the HC with a UHE-p. The QIT adjusted card room staff working hours, opened an additional service window, and provided an additional desktop computer. As a result, the PNC service coverage improved from its baseline of 70% to 87% while the ANC dropout rate declined from 35% to 23.3% by the end of December 2017 (Figure 4).

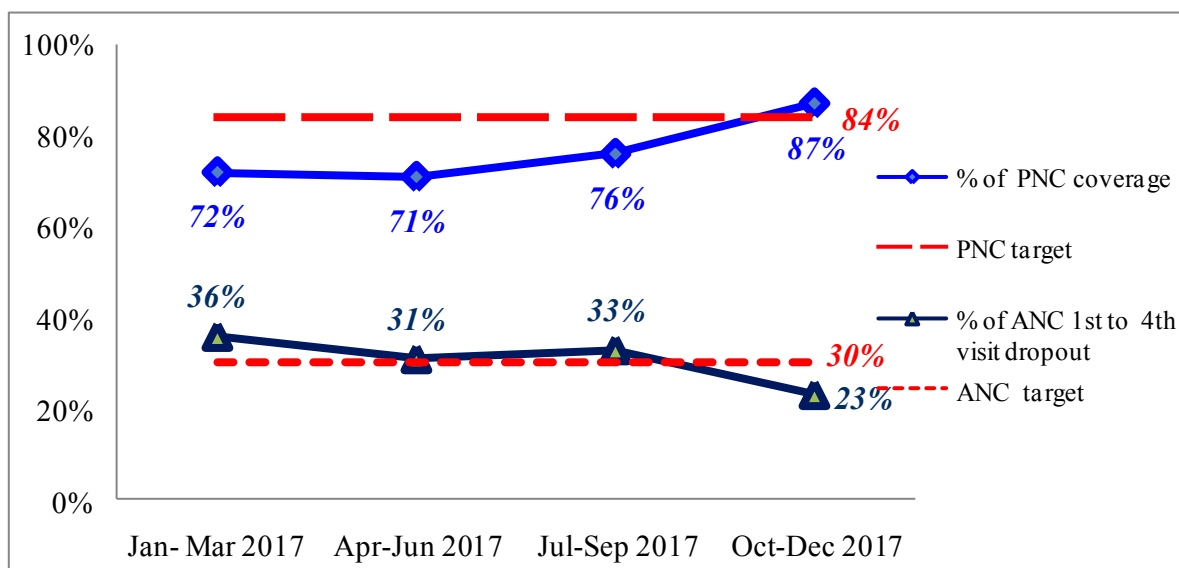


Figure 4: The progress of PNC coverage and ANC dropout in Kolfe-Keraniyo Woreda 3 HC, Addis Ababa. January 2017- December 2017.

In July 2016, the QIT of NSL Woreda 12 HC aimed to improve feedback on referrals from UHE-ps from a baseline of 19% to 40% in a year’s time. The team also aimed to improve community HIV testing and counseling (HTC) referral by UHE-ps from a baseline of 19 cases per quarter to 64. To achieve its targets, the

QIT implemented: 1) behavior change interventions at the community level; 2) mobilization of HDAs in supporting community referral and feedback; 3) orientation for HC staff regarding QI interventions; 4) a priority system for those referred by UHE-ps; 5) a feedback collection box in every service provision

room with a focal person responsible for collecting and analyzing the feedback; and 6) development and implementation of a defaulter notification form. Thus, referral feedback improved from its baseline of 19% to

37%, and number of referral for HCT improved from 19 to 71 cases during the last quarter of the 12 month implementation period (**Figure 5**).

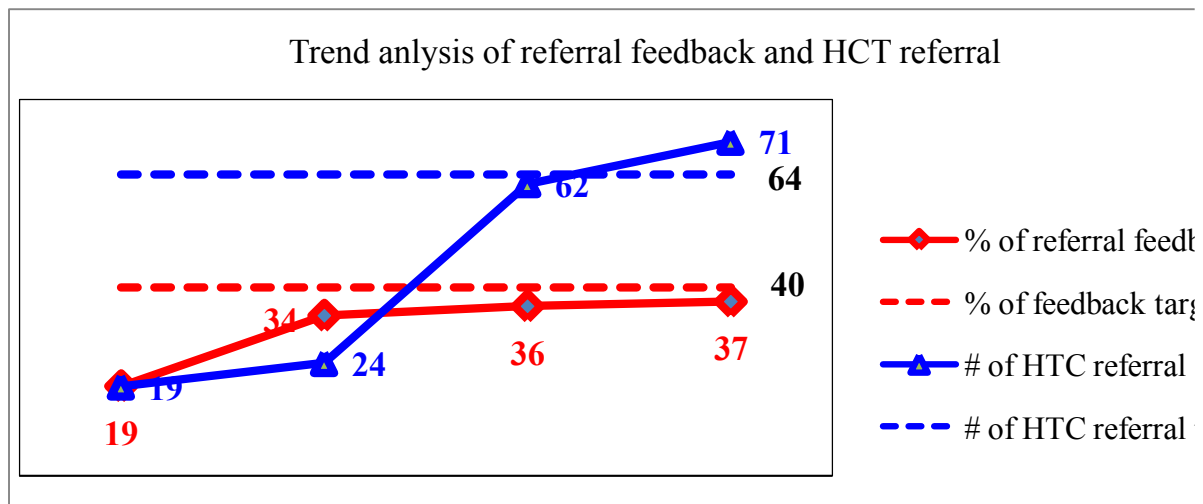


Figure 5: The progress of referral feedback and referral for HCT in Nifas Silk Lafto Woreda 12 HC, Addis Ababa. July 2016- June 2017.

#### **Factors that determine implementation success**

From the findings of the survey assessment and case studies, the following were identified as most common issues contributing to successful implementation: focused and clearly defined improvement objectives; frequent and consistent QIT meetings; a committed HC team and management; motivated UHE-ps; and more intensive SEUHP support. Learning from process was also an important factor for successful achievement. The finding from the survey assessment indicated factors that were found to limit the success of implementation include limitation in documentation and data use to track results and guide changes; the lack of ownership of the QI initiative by the QIT because of limited integration with UHEP and considering community based intervention as additional responsibility by the HC staffs; inadequate numbers of staff in the HC to support and implement the QI initiative; loose linkage between HC staff and UHE-ps as they were stationed in kebele offices; and limited engagement and support from the HC management, THOs, and RHBS.

The QIT approach intended to complement the national health care quality transformation. The QI intervention doesn't require additional human resources and the program monitoring and review is also integrated with the existing quality and performance activities. FMOH has recently developed and ready to distribute quality improvement manual for community health services which play critical role to ensure sustainability and institutionalization of the QI approach.

#### **DISCUSSION**

Existing evidence indicates that QI for CBHS can contribute to significant improvements in increasing the demand for health services and in health outcomes. It can also improve the quality of CBHS delivery and the performance of community level health care providers (5, 9, 21). Studies on QI interventions in

Ethiopia also indicate significant improvements. For instance, findings from the Maternal and Newborn Health in Ethiopia Partnership (MaNHEP) in six woredas in Amhara and Oromia indicated an increase in first ANC visits from 38% to 83.5% and an increase in PNC visits by HEWs from 1.4% to 34.8% (10). Another finding in Shebedino Woreda (SNNPR) indicates that the coverage of facility delivery improved from 28% in 2013 to 78% by July 2017 (12). QI work implemented in Afar region from 2011 to 2015 resulted in an increase in ANC in first trimester from 5% to 15%, four ANC visits from 5% to 23%, timely initiation of breastfeeding from 39% to 76%, and PNC within 48 hours from 4% to 22% (13). The implementation of the model within the UHEP context required the integration and continuous efforts of all stakeholders—health care providers at the community and health facility levels, clients and their families, UHE-ps, and community level structures (HDA) to effectively implement and sustain the QI intervention.

The findings demonstrate that QI interventions have been successful in achieving targeted improvement objectives. The interventions were successful in improving and integrating community and facility level services; enhancing the UHE-ps' efforts to create health awareness; increasing demand for health services; and enabling the HC staff to support the UHE-ps' interventions and CBHS. HC staff valued the community level interventions and facilitated the acceptance of referral and feedback mechanisms. The process also helped the UHE-ps and HC staffs plan, implement, and monitor the interventions together and thus strengthen team spirit. Functional QITs motivated UHE-ps to effectively support the QI intervention. Moreover, clients became more motivated to accept referral slips and value them when health facilities assigned focal persons for referrals and established proper feedback mechanisms.

Previous findings in Ethiopia and in Afghanistan identified high turnover of health facility staff and health office heads, the absence of community health workers from their duty area, their lack of motivation and commitment, and limited previous exposure to and understanding of basic QI concepts as challenges (7,12,20). A study in Ghana mentioned that a team-based approach by itself can be a challenge if there are poor team dynamics such as lack of team cohesion, motivation, and poor leadership (5).

Our study found that irregularity of QIT meetings, weaknesses in documenting progress and lessons, and motivation and commitment of the UHE-ps are factors that limit the success of the interventions. Likewise, we identified issues of ownership, technical and administrative support from the HC and health office, and weak links between community and facility interventions as challenges. Factors that challenge implementation include the absence of standardized implementation guidelines for QI for CBHS, a lack of experience and leadership for CBHS QI interventions, and the lack of accountability of and support for community level services.

For the successful implementation as well as the sustainability of QI for CBHS, developing the capacity of the local health office to undertake the initiative and integrating the intervention into existing work streams, rather than creating a parallel support system, were suggested (21). Other studies highlight the need for continuous support and integrated supervision to ensure the expected outcomes from community level implementation (22). Sustaining QI efforts for CBHS

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7. Our case studies indicate that QITs that received close support and follow-up from the HC management and the SEUHP program performed better. To make community-based services more effective, it is important that UHE-ps receive appropriate support that includes training in different aspects of community health and QI methods and receive regular supportive supervision and coaching beyond their initial training. Some HCs provided formal letters for QIT members that made them take their assignment as a QIT member more seriously.

#### CONCLUSIONS

Integrated QI interventions across the community and health facility levels can result in improvements in service delivery. QI interventions can enable the effective integration of community and facility level services and providers, create a supportive environment for UHE-p interventions, and enhance their recognition at the community level. Functional QI can achieve remarkable results and can encourage the interest and motivation of the UHE-ps. The HC leadership, QIT's commitment, and staff and community groups' engagement are key factors for successful implementation.

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