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Improving Coverage in the HIV Continuum of Care Response:

Tested Changes and Guidance from Uganda

NOVEMBER 2016

This change package for improving the coverage in the HIV continuum of response was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Michael Musani Mwanga, Juliet Tumwikirize, Connie Namajji, Flavia Nakanwagi, George Aluma, Bernard Ayebazibwe, Herbert Kisamba, Esther Karamagi, and Mirwais Rahimzai of URC. It was developed as part of the Continuum of Response work in Uganda funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and carried out under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project, which is made possible by the generous support of the American people through USAID.

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For more information on the work of the USAID ASSIST Project, please visit www.usaidassist.org or send an e-mail to assist-info@urc-chs.com.

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Acronyms

ABC	Abstinence, Be Faithful, and Condom Use
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CD4	Cell Differential
CME	Continuous Medical Education
CPD	Continuous Professional Development
CTX	Cotrimoxazole
HCT	HIV Counselling and Testing
HE	Health Education
HMIS	Health Management Information System
HIV	Human Immunodeficiency Virus
HIV COR	HIV Continuum of Response
HW	Health Worker
IP	Implementing Partner
IRCU	Inter Religious Council of Uganda
MCH	Maternal and Child Health
MOH	Ministry of Health
MUWRP	Makerere University Walter Reed Project

NMS	National Medical Stores
PITC	Provider-Initiated Testing and Counselling
PMTCT	Prevention of Mother-to-Child Transmission
OPD	Out-Patient Department
QI	Quality Improvement
RCT	Routine Counselling and Testing
SPEAR	Supporting public sector work places to expand action and responses HIV/AIDs
STAR E	Strengthening TB and HIV responses in the Eastern Region
STAR EC	Strengthening TB and HIV responses in the East Central Region
STAR SW	Strengthening TB and HIV responses in the South western Region
TB	Tuberculosis
UPHS	Uganda Private Health Support Program
USAID	United States Agency for International Development
USG	United States Government
VHT	Village Health Teams
YCC	Young Child Clinic

Operational definitions

ART initiation: The assessments of clients prior to beginning them on ART drugs (ARVs)

Change concept: a category of changes ideas or solutions that are similar and have a common underlying thought.

Change package: An evidence-based set of changes that are critical to the improvement of an identified care process

Changes / change idea: Specific actions which improvement teams take that are expected to lead to improvement. Changes need to be tested to assess whether they actually lead to improvement.

Collaborative: A number of quality improvement teams brought together to work and learn together to rapidly achieve significant improvement towards a common goal with the intention of scaling these up to other teams.

Eligibility assessment: The processes for determining which clients are *eligible* for ART

Enrolment: The action of identifying and enrolling an HIV positive client into appropriate care as well as assigning this client a pre-ART number.

HIV testing: Providing the opportunity for clients to know their HIV status through a diagnostic test with quality counselling support to help them cope with a positive or a negative *test* result.

Linkage: The action of linking or the state of being linked and documented in the HCT register.

Linkage Facilitators: Trained volunteers who are compensated by the Implementing partners to support the health workers with updating of the registers as well as fulfill other basic tasks like escorting of clients from one unit to another.

Linkage gap: The HIV COR collaborative effort works to ensure that the clients who come to the health facility are offered a comprehensive service starting from provider initiated testing and counselling to enrolment into prevention or HIV care and treatment services.

Mentor mothers: HIV positive mothers who have successfully gone thought the PMTCT program with their babies being discharged HIV negative, these expert clients link and support other mothers under PMTCT through the process.

Option B+: Lifelong treatment for the newly diagnosed HIV Positive pregnant and lactating mothers.

PIMA machine: Portable CD4 machine that gives or provides real-time CD4 results.

Pre-ART clients: HIV-positive clients enrolled in care and started on septrin prophylaxis but not yet eligible for antiretroviral therapy.

TB/HIV co-infected: HIV-positive clients that are also infected with tuberculosis.

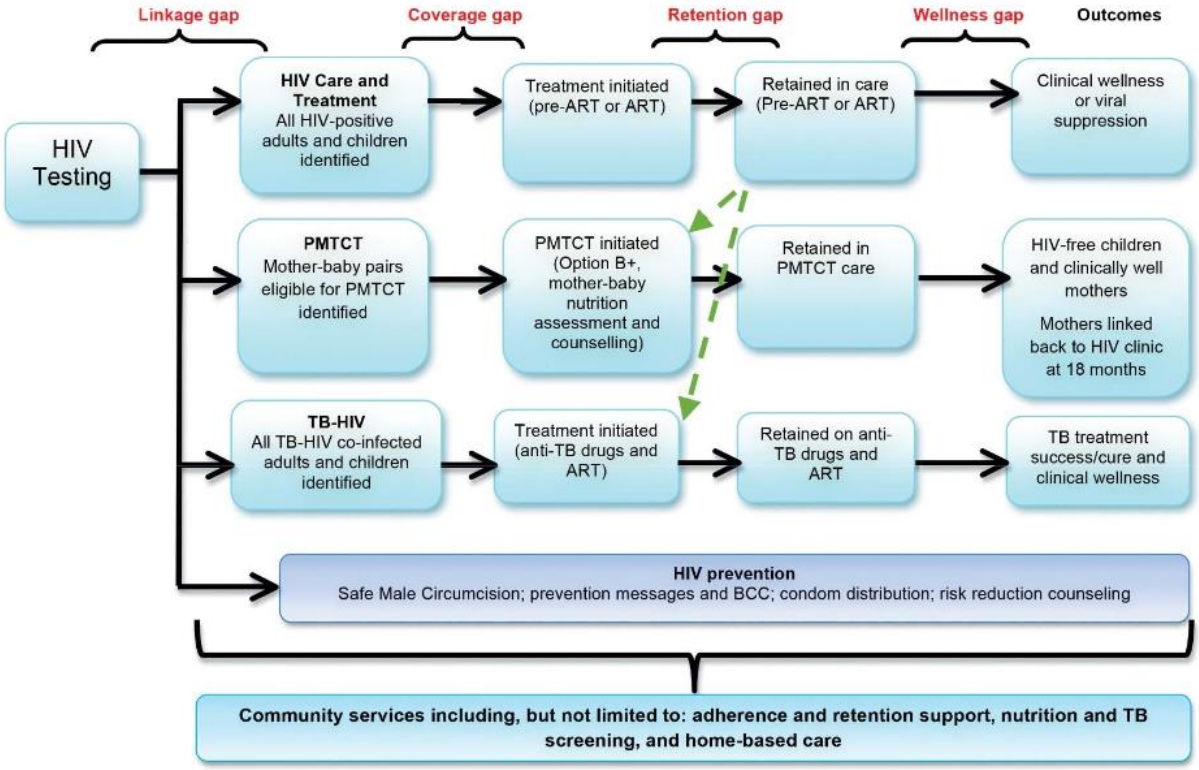
Introduction

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project is working with the Ministry of Health (MOH), districts, implementing partners, and health facilities in Uganda through applying improvement methods to improve HIV care and family health services in primary care and referral facilities and apply lessons from pilot facilities to other sites. ASSIST Uganda is also working with the Ministry of Gender, Labor and Social Development and implementing partners to apply standards to improve services for vulnerable children.

Since April 2013, ASSIST worked with the MOH and implementing partners in Uganda through applying improvement methods to implement the HIV continuum of response (COR) across 41 districts.

The HIV COR collaborative uses a model **(Figure 1)** that illustrates the flow of clients within a health facility and highlights the major gaps within the HIV continuum of response for health facilities to address. This change package addresses the first two gaps of ***linkage and coverage.***

Figure 1: The HIV Continuum of Response Model

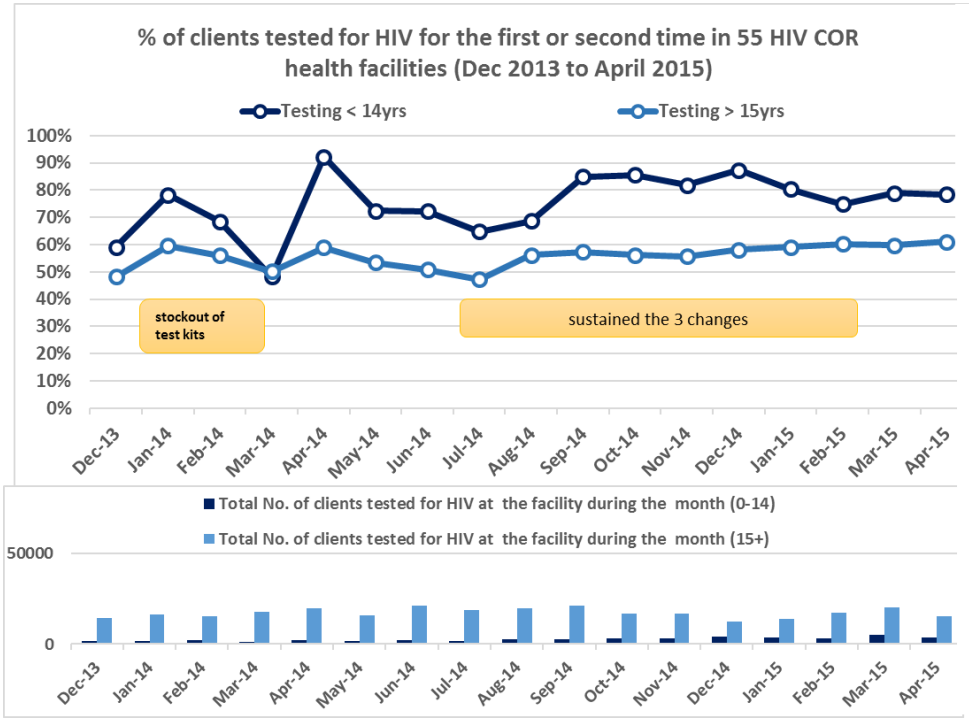


Developing the Change Package

The change ideas shared in this change package are a compilation of actions taken by health facility quality improvement teams that contributed to the improvement in the coverage of HIV care and treatment services for HIV-positive clients in the supported facilities. These change ideas were successfully implemented in 25 out of the initial 50 HIV COR health facilities where ASSIST was providing technical support to improve the quality of HIV care services using a quality improvement approach.

For example, results recorded across 5 facilities (**Figure 2**) indicate the improvements in HIV COR work from May 2013 to August 2014.

Figure 2: Number of clients tested for HIV at HIV COR-supported sites



Changes tested:

1. Creation of more testing points within the facility

2. Routine triangulation and review of HTC, pre-ART and ART registers to ensure accuracy and completeness

3. Engaging more staff members in HIV testing beyond the laboratory staff

Indicator information

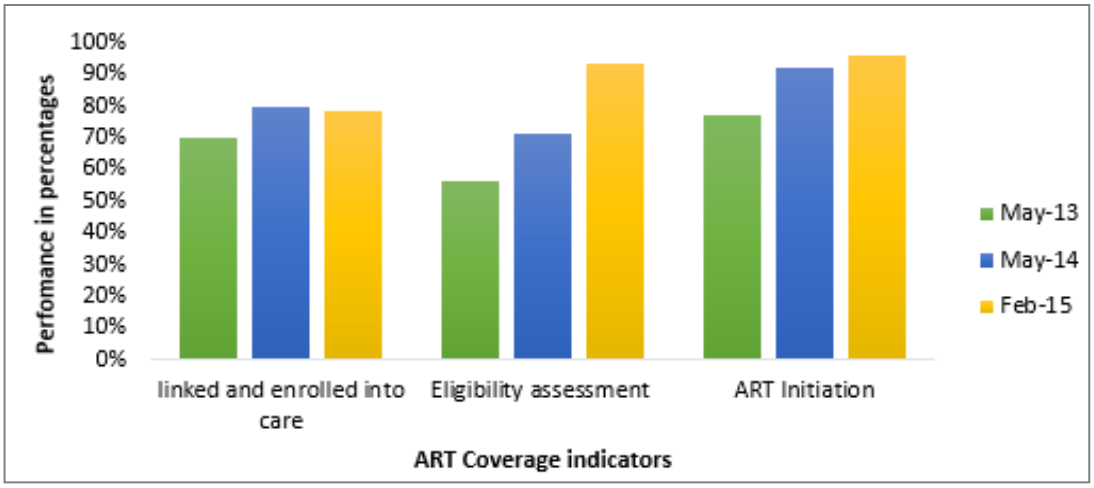
Numerator:No. of clients tested during the month who are having their 1st or 2nd HIV testing the months.

Source: HCT register

Sampling: Total population Dec 2013 – April 2015

Moreover, improvement was noted in: enrolment of HIV-positive clients into care, eligibility assessment, and ART initiation at 47 of all the 50 HIV COR implementing sites, as shown in **Figure 3.** These results are also presented in the form of a dashboard in **Appendix 1.**

Figure 3: ART coverage indicator performance comparison between May 2013 & August 2014



These changes are a product of the innovative efforts of the health facility level staff together with the support of improvement coaches. The package highlights the five key improvement areas under HIV COR coverage and how these were implemented, namely:

1) **HIV testing and counselling/identification of HIV-positives,**
2) **Linkage to care,**
3) **Enrolment into care,**
4) **ART eligibility assessment, and**
5) **Initiation on ART.**

How to Use this Change Package

A change package is a compilation of tested and tried, evidence-based set of actions which improvement teams implement that are expected to lead to improvement in performance of a specific focus area.

The information provided in this change package is intended as a simple guide for health facility improvement teams working to improve **HIV care coverage** in the HIV continuum of response. These ideas are focused around several care steps which the teams carry out to improve testing, linkages to care, enrolment into care, eligibility assessment, and ART initiation.

Teams should select changes which they think will lead to improvement of coverage in their health facility, adjust them as necessary, and then test them on a small scale to see how they work.

How Changes Were Harvested and Created

To facilitate systematic gathering and documentation of this change care package, a harvest meeting was organized. This was a two-day meeting that brought together a total of 25 participants from 22 participating facilities to reflect on their results/performance, identify the successful and unsuccessful changes, and agree on the most effective changes.

To have full participation and representation, the participants were divided into five small groups to cover the five areas these teams sought to improve under coverage, namely HIV testing, linkage, enrollment, ART eligibility assessment, and initiation on ART. In small groups, teams discussed the changes which they had tested; they related these changes to the data they had to ascertain the magnitude of improvement in order to identify the successful and unsuccessful changes. These changes were discussed further in a plenary session to clearly state the changes and exhaust the list generated. The groups then further discussed in detail how the specific changes were implemented and cited if any additional resources were required; this discussion was aimed at developing a *"how-to" guide for each change*. Change concepts which have been described in greater detail in the change package were then developed.

Table 1 lists the sites, corresponding district, and implementing partner that supported each site.

Table 1: District sties that participated in the harvest meeting

District	Sites that participated in the harvest meeting	Supporting implementing
Alebtong, Apac, Kitgum, Lamwo	Alebtong HC IV, Apac Hospital, Kitgum General Hospital, Padibe HC IV	NUHITES
Kamuli, Luuka, Namutumba	Nankandulo HC IV, Irongo HC III, Magada HC III	STAR EC
Arua, Masindi Rakai.	Kuluva, Kinyara HC III, Kyotera Medical Centre	UPHS
Bulambuli Busia, Pallisa Mbale	Buginyanya HC III, Masafu Hospital, Lunyo HC III, Busiu HC IV, Kamuge HC	STAR E
Mubende	Kassanda HC IV	MILDMAY
Ibanda Kanungu, Ntungamo,	Ruhooko HC IV, Kihihi HC IV, Itojo Hospital, Kitwe HC IV	STAR SW
Kampala	Murchison Bay Hospital	SPEAR
Kayunga	Kayunga Hospital	MUWRP

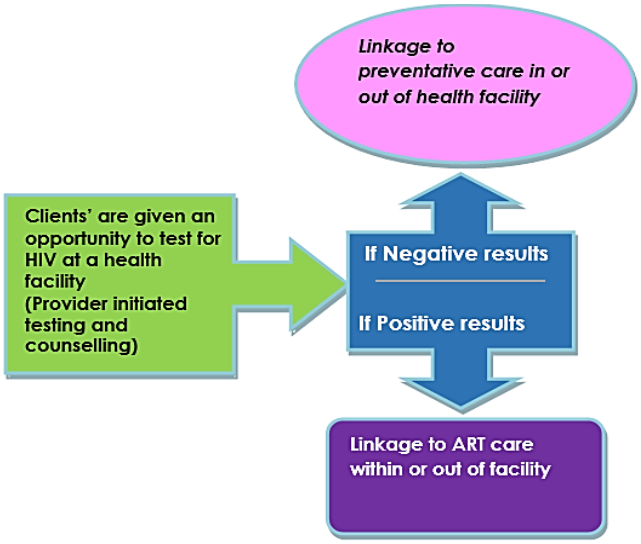
Improving Provider-Initiated HIV Testing and Counselling (PITC)

Across all supported facilities, quality improvement (QI) teams started integrating the HIV COR into provider-initiated testing and counselling (PITC) (**Figure 4**) by introducing changes in creating testing points, improving documentation, and engaging staff members in HIV testing (**Figure 5**).

To start improvement work on PITC and offering the HIV COR, teams initially focused on improving documentation in the registers. Poor documentation was the biggest gap across all facilities—a lot of work was done to provide services, yet it was not recorded in the registers.

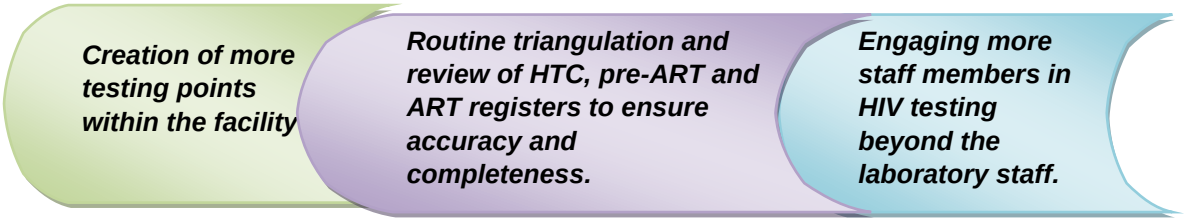
The next step focused on the importance of **knowing clients' HIV status as the entry point for improving coverage indicators**; the teams worked to ensure that HIV testing was carried out within the facilities. This was also achieved through collaborative efforts with the implementing partners who supported and ensured that HIV test kits were available at the health units.

Figure 4: HIV COR process from PITC to linkage to care



Clients internally linked within the facility were then enrolled into pre-ART, assessed for eligibility for ART, and if found eligible, were initiated onto an ART regimen.

Figure 5: QI changes tested by HIV COR-supported facilities to improve PITC service coverage



Driver diagram for improving the HIV continuum of care coverage

QI teams used a driver diagram while implementing the HIV COR improvement work to help organize and track information on proposed activities so that the relationships between the aim of the improvement work and the change concepts were made clear.

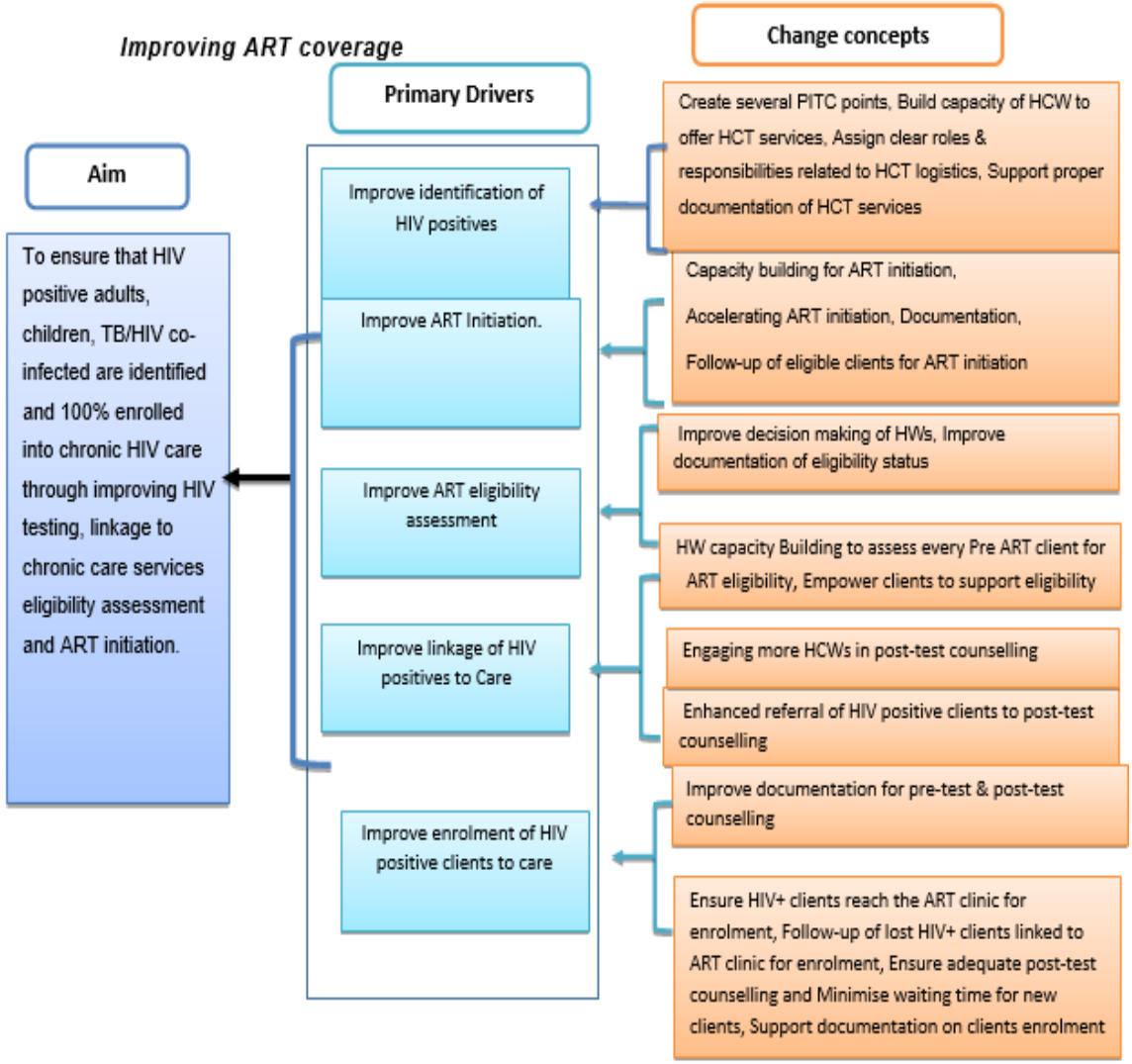
In the driver diagram below in **Figure 6**:

1. The aim is the overall outcome of ART coverage,
2. The primary drivers are the improvement areas or processes that we have learned must be addressed to achieve improved ART coverage.
3. The change concepts are the general areas that can be improved through a variety of change ideas.

Appendix 2 of this change package for HIV coverage presents change ideas that facility teams may consider trying in their local setting to:

1) Improve HIV testing and counselling and identification of HIV-positive clients
2) Improve linkage of newly identified HIV-positive clients to care
3) Improve enrolment of HIV-positive clients into care
4) Improve ART eligibility assessment for every Pre-ART clients
5) Improve initiation of clients on ART.

Figure 6: Driver diagram for improving the HIV continuum of care coverage



Appendix 1: Dashboard Showing Facility Performance for the 50 COR Sites Supported by the USAID ASSIST Project

HIV CONTINUUM OF RESPONSE ADULT DASH BOARDS

USAID ASSIST SUPPORTED SITES IN UGANDA

	Baseline - May 2013			May 2014			
			TB				TB
No. of site	%positive clients linked to care	%Eligible started on ART	Co- Infected enrolled on ART	%positive clients linked to care 16 yrs	%ART Eligibility Assessment 16 Yrs	%Eligible started on ART 16 Yrs	Co- Infected enrolled on ART 16 yrs
1				100	100	100	NA
2				ND	91	83	100
3	50	14	0	100	100	88	100
4				93	100	100	100
5				70	95	100	100
6	ND	82	100	83	98	ND	70
7	100	38	50	100	100	100	NA
8	69	71	96	100	97	100	100
9	ND	23	38	37	95	80	ND
10	ND	ND	67	86	71	96	67
11	0	77	92	60	100	100	100
12	80	53	15	100	73	78	100
13	57	74	71	68	100	86	100
14	33	50	67	100	100	83	NA
15	76	ND	36	100	97	84	67
16	ND	60	38	100	100	94	100
17	ND	ND	ND	100	93	88	100
18	31	NA	75	100	88	92	0
19	97	92	67	100	100	100	NA
20	19	10	57	37	92	67	100
21	8	57	100	69	88	65	NA
22	98	80	67	38	13	81	NA
23	18	79	100	100	92	100	NA
24	100	100	NA	100	100	100	60
25	80	38	NA	100	50	100	NA
26	67	89	0	100	92	88	100
27	83	100	NA	100	79	89	NA
28	21	68	43	43	85	88	100
29	75	94	72	100	82	94	75
30	97	90	82	96	97	92	75
31	100	64	100	100	90	100	100
32	78	7	100	ND	89	97	NA
33	47	43	100	81	100	90	100
34	75	100	33	100	100	100	NA
35	67	83	NA	100	75	100	NA
36	50	89	0	75	88	89	84
37	50	100	67	100	100	100	NA
38	0	92	86	92	55	80	100
39	58	100	44	90	80	100	100
40	ND	88	64	65	100	96	100
41	81	94	87	81	98	97	100
42	71	30	57	75	98	86	100
43	ND	93	38	44	93	100	100
44	63	88	25	86	93	64	0
45	84	NA	22	100	86	100	100
46	ND	93	43	100	91	100	100
47	6	74	31	65	92	83	100
48	15	30	40	ND	87	98	75
49	92	81	50	93	84	91	100
50	NA	79	0	100	81	92	NA

Appendix 2: Detailed Change Package for Improving Adult COR

1. Change ideas to improve HIV testing and counselling and identification of HIV-positive clients

Concept 1: Increase opportunities for PITC services

Change Idea	Reason for the change	How the change was implemented
Creating new testing points at different entry points.	Long waiting time for HCT services at only one designated HCT service point in facilities affected accessibility to services	• Inform health workers about introduction of new testing points, • Prioritize care points for testing within the facility, • Train RCT volunteers through on job mentorship on how to carry out testing. • Initially create one testing point and gradually increase them, • Assign a focal person to closely monitor the testing and ensure that it's carried out professionally. • These testing points can be introduced in OPD, YCC, ANC and the wards
Integrating HCT in all services including outreaches	Providing HCT services at only testing points at facilities was creating many missed opportunities for service access	

Concept 2: Assign clear roles & responsibilities related to HCT logistics

Change Idea	Reason for the change	How the change was implemented
Assigning a laboratory technician to do timely ordering of kits	Frequent Stock- outs of test kits at various facilities hindering provision of HCT services to all clients at all times. Even when the ordering was timely, it was wrongly done. In larger health centers the testing point are many and the its difficult for the lab technician to carry out or coordinated the testing	• Through the QI meetings, the roles of the laboratory staff were clarified. • A laboratory technician was assigned the responsibility of submitting orders before the National Medical Stores (NMS) deadline and supported by the facility in-charge to ensure it was done.
Assigning in charges order for test kits to the wards and all other entry points		• The test kits are made available to the ward in charges to supervise and ensure all clients in the respective unit are tested for HIV. • The laboratory technician takes the report monthly from the wards
Shifting responsibility for ordering HIV test kits to departments for the ward in-charges to manage	Delayed submission of orders because Only lab ordered for the test kits	• Provide each department with stock cards so that they can order directly from the store and be responsible for accounting for the HIV test kits. • Laboratory technician then compiles the monthly reports on HIV testing from the ward in-charges.

Concept 3: Support proper documentation of HCT services		
Change Idea	**Reason for the change**	**How the change was implemented**
On job mentorship and Orientating of new staff on how to update registers	Incomplete documentation in the MOH registers was a major gap across all health facilities Some clients already on ART were being re-tested for HIV and not all children needed HIV testing because they were not eligible. The OPD register had no section for known and unknown HIV clients.	• The QI teams identified persons (health workers) with accurate information on how to complete the different registers and they were assigned responsibility of supporting the new staffs on how to properly update the registers at the different care points. • Then an overall focal person was selected to review the registers on a regular basis and ensure complete documentation is done. • Some sites conducted a CME on proper updating of the registers to all health workers.
Assigning a focal person to review HCT register for completeness		
Introducing a column in the OPD register to capture data on HIV status		• The team created a new column in the OPD register to reflect Known status (K), Unknown status (U), children(C). • Assigned focal person to supervise the documentation in the register on a daily basis.

2. Change ideas to improve linkage of newly identified HIV-positive clients to care services

Concept 1: Improve regular updating of registers, pre-test & post-test counselling

Change Idea	Reason for the change	How the change was implemented
Experienced staff demonstrating the filling of the HCT register	Most health workers were not knowledgeable on how to fill out the HCT register Registers not updated on time	• The in-charge of the ART clinic was informed about the staffs' inability to fill out the HCT register. • A session on filling out the register was held for the staff; thereafter staffs that were more knowledgeable and experienced with filling out the register were identified and paired with their colleagues who required continued support.
Assigning a focal person to review & update registers		• A focal person was identified by the QI team and trained. • He/she was then assigned clear roles and responsibilities to regularly review and update HCT register & provide feedback to the teams on the progress.

3. Change ideas to improve enrolment of HIV-positive clients into care

Concept 1: Set up a system which supports HIV+ clients to reach the ART clinic for enrolment

Change Idea	Reason for the change	How the change was implemented
Physically escorting clients from HCT points to ART clinics. This was more practical in low level health centres (3&4s)	Clients were not aware of where to go for enrolment due to unclear flow of clients so they would get lost and give up.	• An individual (lab staff, expert client or counsellor) was assigned the role of physically escorting the identified HIV positive clients to the ART clinic. • This new development was communicated to the in-charge ART clinic who ensured its implementation. • Clients identified at testing point, were provided with post- test counselling about the importance of HIV treatment and care. • The MOH referral forms were used which are in triplicates; a copy of the form was given to the client and the other shared with ART clinic team. • Patients testing HIV positive on the ward were discharged via the ART clinic with a copy of the referral form.
Using of referral forms (more practical in the hospital setting)		

Concept 2: Follow-up of lost HIV+ clients linked to ART clinic for enrolment

Change Idea	Reason for the change	How the change was implemented
Dispensing Cotrimoxazole (CTX) at enrolment in ART clinic not in general pharmacy	Clients wouldn't see the importance of returning for enrolment since they have CTX	• The team started dispensing Cotrimoxazole (CTX) at the HIV clinic instead of main pharmacy. • Informed HCT staff to refer all HIV positive clients enrolling at the facility to ART clinic for CTX prophylaxis.
Community follow-up of HIV+ clients by peers and phone calls.	Clients fail to return for enrolment on their scheduled dates and some would prefer to enroll in other health facilities.	• Clients linked to the facility were identified by reviewing the HCT and Pre ART registers • A list was generated and given to Linkage facilitators and peer educators to follow up in the community. • The team started obtaining contact phone numbers from the clients to follow up in case they don't return or miss their appointment for enrolment. • Availed and used referral forms to identify client addresses to follow up

Concept 3: Provide adequate post-test counselling		
Change Idea	**Reason for the change**	**How the change was implemented**
Increasing contact time with clients so as to give adequate information. Involving non-clinical staff in counselling	The health workers never used to give adequate time for the clients to explain their problems during post-test counselling, most of the time they would provide the results and send the client to pick drugs.	• Involving trained expert clients to do post-test counselling, made duty roster to make sure there is a counsellor to provide the post-test counselling on a regular basis. • Mentor mothers engaged to provide adequate counselling for the HIV positive pregnant and lactating mothers.
Concept 4: Reduce waiting time for new clients		
Change Idea	**Reason for the change**	**How the change was implemented**
Scheduling specific day for enrolment Attending to new clients before older clients	Long waiting time in the clinic during enrolment seen across almost all health facilities	• Appointment dates given to clients not ready to access treatment on same day but on their preferred dates • Created a separate room has been created for new clients and a specific staff is assigned to attend to the new clients (after the Health Education talk, screen those new clients and take them to the clinician for enrolment)
Enrolling clients on every working day.		• Assign staff responsible for enrolling clients on a daily basis, introduce same day testing and enrolment.

4. Change ideas to improve ART eligibility assessment for every Pre-ART client

Concept 1: Build health worker capacity to assess every Pre-ART client for ART eligibility

Change Idea	Reason for the change	How the change was implemented
Orienting both old and new staff on criteria for eligibility assessment i.e. Clinical staging and CD4.	Inadequate knowledge among all staffs regarding eligibility criteria in use	• After realizing that some HWs were not conversant with the eligibility criteria of clients; • Staff invited someone more knowledgeable to orient them on the ART guidelines; specifically, on eligibility criteria. • Also demonstrated to every staff in ART clinic how to run CD4 samples using PIMA machine. • Provided WHO clinical staging charts in the clinical rooms

Concept 2: Empower clients to support eligibility assessment

Change Idea	Reason for the change	How the change was implemented
Preparing a list of clients due for CD4 bleeding prior to the ART clinic day	Client flows not clear leading to some clients missing repeat CD4 testing, Clients are mostly represented by their care takers as a result they cannot be assessed for eligibility.	• Conducting pre-clinic day preparation meetings so that those who missed baseline CD4s are captured and tested, • Generating a list of those pre-ART clients due for CD4 in advance
Discussing appointment keeping with clients during health education talks to minimize over representation.		• During every health education session, the facility emphasized the importance of the client attending his/her visits in person. • Identified the over -represented clients and reminding their treatment supporters individually when picking the drugs for refill.

Concept 3: Improve documentation of eligibility status

Change Idea	Reason for the change	How the change was implemented
Assigning staff to monitor updating clinical stage and CD4 in the client HIV care card	Incomplete recording in the HIV care cards	• Identified a gap in recording CD4 results then identified a records person to fix CD4 result slips in client charts and even record results on the care cards for easy review by clinicians.

5. Change ideas to improve initiation of clients on ART (ART initiation)

Concept 1: Improving the ability of Health workers in initiating ART.

Change Idea	Reason for the change	How the change was implemented
Orienting new staff on option B+ Re-orienting staff on TB/HIV co-management	A knowledge gap in ART initiation existed among health workers for option B+ and TB/HIV Co infected clients	• The QI team organized a CPD session specifically to address this gap where the new staff were taught how to initiate option B+ by a knowledgeable staff who demonstrated how to initiate option B+ for HIV positive pregnant mothers and document in the registers. • The team also identified a knowledgeable staff to take the new staff through TB/HIV co management

Concept 2: Accelerating ART initiation

Change Idea	Reason for the change	How the change was implemented
On-job mentoring of staff involved in TB management	Inadequate clinical assessment of clients due to knowledge gap in ART initiation	• Health workers with gaps in TB/HIV co-management were identified and a staff who is knowledgeable was also identified to support them. • On-job training organized during working hours to build capacity of the staff
Involving peer educators to do adherence preparation	Inadequate provision of adherence counselling by the health workers	• The team decided to train and involve peer clients who had similar experiences to support the team in counselling for ART.
Involving experienced nurses in initiating eligible clients on ART	Only Clinical officers were allowed to initiate eligible clients on ART and yet they were not always available at the ART clinic to initiate ART	• Nurses who had been trained and were experienced in the prescription of ART were engaged to provide ART prescriptions.
Establishing a one-stop center for HIV/TB co-management	TB and HIV clinics exist independently so the TB/HIV co infected clients were escorted from TB to HIV clinic for ART Incomplete documentation in MOH tools as staffs are fully occupied on clinic days to update register	• The QI team met and informed the in charge of the facility about their resolution and requested the in-charged to get a room in TB wing for management of the co infected clients. • Files and ARVs of co- infected clients were sorted and taken to the TB unit and currently co- infected clients are reviewed in TB unit. • Assign a focal person to sort files of eligible clients and store them in cabinet. • Identified a support staff to sort files of eligible clients on every clinic day.

Shortening time for ART preparation of clients.	Clients used to receive adherence counselling for at least 3 sessions or 2 weeks in preparation for ART initiation. This however was too long as eligible clients' health status kept on deteriorating.	• The team decided to address this by explaining to clients about the benefit of starting ART early which is associated with good clinical outcome. • One team reduced this to 1 week, while another team decided to have 2 sessions instead of 3 in which the content for complete preparation of eligible client to start ART was delivered.
Conducting eligibility assessment beyond HIV clinic to identify eligible clients prepare for ART	Lack of coordination between ART clinic and wards causing the eligible clients from the wards not to be initiated on ART. The clients who are admitted with clinical stage III and IV conditions were never started on ART and some would be discharged without community linkages or reaching the ART clinic.	• It was decided that a clinical officer from ART clinic would participate in ward rounds specifically to identify HIV positive clients in the wards, assessing them for eligibility and subsequently preparing and initiating the eligible ones on ART.
Modifying the duty roster to have more staff allocated on duty in ANC	Few staff working in ANC clinic	• Allocated more staff from the other departments /wards to support the ANC clinic. • These were given clear roles and responsibilities on the clinic days to support the running of the clinic on that particular day.
Concept 3: Improving Documentation		
Change Idea	**Reason for the change**	**How the change was implemented**
Assigning a focal person to ensure clients started on ART are recorded/updated	Delays in updating clients' records	• The clinic staff would start ART in HIV care cards but not proceed to document in pre ART register. • This was because no one was assigned the task to update the records. • The team decided to appoint a focal person to update clients' records in pre ART register
Mentoring VHTs on updating client records in pre-ART/ART registers		• The team identified and trained on- job a VHT to update clients' records in pre ART and ART register

Designing a template to capture eligible clients	PRE ART register does not capture data on ART preparation. The facility has several ART clinics and yet there are only one central pre /ART registers, which was not regularly updated, therefore it was difficult to know clients who are eligible.	• Team decided to have a template designed to capture eligible clients from the different ART clinics. • The templates were printed and distributed to all ART centres in the facility.
Concept 4: Follow-up of eligible clients for ART initiation		
Change Idea	**Reason for the change**	**How the change was implemented**
Generating a list of <15yrs and following them up for ART initiation.	Number of children under 15 in the HIV clinic unknown Inadequate knowledge on filling in MOH tools	• A pool of clients eligible to start on ART was obtained after looking through the archives using the new ART guideline evaluation criteria with a focus on under 15 yr. • Old children, who were followed up in the community through phone calls, home visits by peer educators, religious leaders and VHTs brought back to the ART clinic for initiation.
Community follow up through phone calls and/or peers	Eligible clients are not followed up in the community	• Addresses of eligible clients who did not turn up or clients whose CD4 results were obtained and are found to be eligible were obtained and followed up through phone calls provided by the IP