Streamlining patients appointment system at Reach out Mbuya HIV/AIDS Initiative Banda Site

By

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DECLARATION

We Dr Twinomugisha Albert, and Dr Ludoviko Zirimenya do hereby declare that this end-of-project report entitled Streamlining patients appointment system at Reach Out Mbuya HIV/AIDS Initiative Banda Site has been prepared and submitted in fulfillment of the requirements of the Medium-term HIV/AIDS Fellowship Program at Makerere University School of Public Health and has not been submitted for any academic or non-academic qualifications.

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Fellows’ roles in project implementation

The following roles were developed and assigned to the fellows:

- To organize the weekly appointment lists in conjunction with the MIS officer

- To work closely with the health education facilitator to ensure that all the materials needed are available and that the sessions are successful.

- To organize weekly CQI team meetings with all the members so that all are aware about the progress

- To work closely and establish communication links with the academic, institutional supervisors and the MAKSPH – CDC fellowship training coordinator.

- To work closely with the administration structure of ROM to ensure that all the procurement & financial needs for the project implementation are availed to the CQI team.

- To ensure proper accountability of the project resources

- To write an appointment guideline template and the project report at the end of the project implementation.

- To organize staff trainings on appointment guidelines and hold a dissemination workshop for all the stakeholders involved.
Acknowledgements

• MUSPH-CDC HIV and AIDS Fellowship Program
• Academic mentors
• Institutional Mentors
• CQI team
• Reach Out Mbuya staff
• Partners
• OtherFellows
<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART</td>
<td>Anti-retroviral therapy</td>
</tr>
<tr>
<td>CME</td>
<td>Continuous medical education</td>
</tr>
<tr>
<td>CNC</td>
<td>Community Network of Care</td>
</tr>
<tr>
<td>CQI</td>
<td>Continuous Quality Improvement</td>
</tr>
<tr>
<td>HCT</td>
<td>HIV Counseling and Testing</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information system</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with HIV/AIDS</td>
</tr>
<tr>
<td>ROM</td>
<td>Reach Out Mbuya HIV/AIDS Initiative</td>
</tr>
<tr>
<td>UAC</td>
<td>Uganda AIDS Commission</td>
</tr>
<tr>
<td>UHSBS</td>
<td>Uganda HIV/AIDS Sero-behaviouralSurvey</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>United Nations Joint Programme on AIDS</td>
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Executive Summary

Over the years there has been adhoc appointment system leading to overcrowding on some clinic days within Reach Out Mbuya Parish HIV/AIDS Initiative (ROM) sites. This project set out to improve this by streamlining the appointment system with the following objectives.

General Objective: To create balanced clients clinic attendance with a variation of +/- 15 from the set threshold of 95 clients over the project period

Specific objectives:

1. To streamline clients appointment process with in the project implementation period
2. To increase awareness of clients about the importance of keeping appointments
3. To increase staff knowledge and practices about the appointment system

Methods; Formed a CQI team of 10 members from different departments with whom we implemented the following interventions over a period of six months. Conducted client health talks about the benefits of keeping appointment. Started allocating appointment slots to the clinicians basing on the clients who have already been booked on each day. Also developed an appointment guide flow chart that was derived from the standard operating procedures which was put in the clinic for quicker and easy guidance to the clinicians. The clinicians and other staff awareness about the appointment system improved through dissemination workshops and CME.

Results; on analyzing the clinic attendance between March and June 2011 there 75% clinic days within the set target attendance compared to 38% at the baseline. The clinicians have adopted the appointment allocation system making the intervention very sustainable and will achieve maximum benefits to both the clients and staff.

Conclusion; a streamlined appointment system is beneficial to both the clients and staffs by reducing preventable clinic congestion. This also guides management in planning for a known expected number of clients on a particular day. As a recommendation, this intervention should be applied to all other sites and also evaluate the impact on the missed appointment.
**Introduction**

HIV and AIDS institutions that provide care and treatment to clients usually have a high patient load. This has been due to the increasing uptake of HCT and increasing awareness about HIV and AIDS despite the relatively stable HIV prevalence rate of 6.4% (UHSBS 2004/05). With a high patient load, there is need to properly coordinate the appointment system to guide in the planning process. ROM provides care and treatment to clients who are HIV positive. The clients who receive services in the clinic come on appointment given to them by the clinicians. Patients from a particular community come to clinic on a particular day, for example the patients from Banda community will come to clinic only on Fridays. The appointment system in place is currently not well coordinated leading to congestion on some clinic days. This crowding leads to reduced efficiency in service delivery and patient dissatisfaction.

**Background**

As per the last Uganda HIV&AIDS Sero-Behavioral Survey--UHSBS (2004/05), the country has a generalized HIV epidemic with a prevalence of 6.4% in adults and 0.7% in children. Therefore, approximately 1.1 million people in Uganda are HIV-infected with in a population of 30 million. Part of these clients are getting treatment and care services free of charge at ROM. ROM is a faith-based community organization which serves over 3400 clients using the holistic model of care approach. ROM currently operates in four sites of Banda, Mbuya, Kinawataka and Kasaala.

The Banda clinic has close to 500 clients in care who come to the clinic on Fridays with 85% of them keeping their appointments. The appointments given to the clients are not properly coordinated which eventually leads to the number of clients booked on some days to be much more than others making it difficult to plan for activities. This is the basis upon which this project has been undertaken. Furthermore, studies and researches have shown there are long waiting times in many HIV clinics which is partly attributed to high patient loads and inefficient appointment systems.
Literature Review

A well-structured clinic appointment system is essential to meet the increasing demand for HIV/AIDS treatment and care services in already congested clinics.

Globally the number of people living with HIV and AIDS (PLHIV) is estimated at 33.3 million people (31.4 - 35.3 million). Of these, 30.8 million are adults (15-45 years) and 2.5 million are children under 15 years of age. Women account for approximately 52% of the adult population living with HIV and AIDS. In 2009 the total number of people newly infected with HIV was approximately 2.6 million. By the end of 2009 sub-Saharan Africa (SSA), which has only 10% of the total global population, accounted for 22.5 million (68%) of all PLHIV, 72% of AIDS deaths and 70% of all the new infections worldwide (UNAIDS, 2010) this shows that HIV is a global pandemic and there is still a lot to do in order to provide quality services more so in the developing countries in sub-Saharan Africa.

In Uganda approximately 1.2 million people are HIV-infected. Sexual transmission continues to contribute approximately 80% of new HIV infections, while mother-to-child transmission contributes approximately 20%. In 2009 an estimated 120 000 new HIV infections occurred and 64 000 people died from AIDS-related illnesses (UAC, 2010, UNAIDS, 2010). The 1.2 million people are expected to get services from the 423 accredited and active ART sites as by end of December 2010 (MoH, 2010). This has created a high patient load at these sites yet there is still a high unmet need which will further burden the few accredited ART sites.

The number of patients receiving ART is still increasing. More than 4 million adults and children were receiving ART in low- and middle-income countries at the end of 2008, which is 1 million people more than at the end of 2007. This represents a 36% increase in 1 year, and a 10-fold increase in 5 years (WHO, 2009). This further shows that the HIV clinics will get more congested and there will be need to improve the appointment system to be able to balance out the clinic attendances.

Having a congested clinic will lead to client long waiting times and this will greatly impend on their adherence practices and lead to missed appointments or lost to follow up (Rhoda K.
Wanyenze, Glenn W, Stella A… et al. 2010) With the increasing demand at the ART clinics the congestion will be worsened by the uncoordinated appointment system.

There are a number of factors that can influence efficiency of clinical examination and patient care and the emergence of bottle necks. These factors include the volume of patients seen on a daily basis, the types of patients seen in terms of stage of care, clinic policies on frequency of patient visits, the types of providers who they should see, the size and composition of the providers, and the staffing model.( Wagner G, Ryan G, Taylor S 2007 & Colebunders R, Bukenya T, Pakker N, et al 2007) The impact of the appointment system on the high volume of patients seen and the frequency of clinic visits is believed to be significant though has not yet been evaluated.

There have not been many studies and evaluations done on the impact of streamlined clinic appointments and with this project, we hope to show this relationship in order to contribute to improved patient care and treatment.
**Statement of the problem**

In ROM Banda 85% of the 500 clients who come to clinic come on appointment. Despite this there has been an unbalanced clinic attendances with a heavy day getting as high as 184 patients and lighter day having 50 clients. This has made it difficult to plan for the clinic activities which can affect the quality of services. Additionally, clinic congestion leads to long waiting times thus dissatisfaction, missed clinic appointments and consequently reduced adherence.

**Baseline assessment**

A baseline assessment was done to determine the attendance at Banda clinic over a period of 4 months( August to November 2010 ). This was analyzed to determine patient numbers per day and the variations are shown in figure 1

**Figure 1** Graph showing number of patients attending the clinic at Banda site August to November 2010
Project Objectives

General Objective
To create balanced clients clinic attendances with a variation of +/- 15 from the set threshold of 95 clients over the project implementation period.

- Threshold target attendance derived from median clinic attendance over the previous 4 months
- Allowable variance(+/-15) derived from the average clients who donot come on appointment (early, late & new clients)

Specific Objectives

1. To streamline clients appointment process within the project implementation period.
2. To increase awareness of the client about the importance of keeping appointments.
3. To increase staff knowledge and practices about the appointment system
Methodology

We formed a CQI team at ROM which comprised of 10 members from different sections including Dr Nahataba Felicity (Medical officer), Muwanguzi Timothy (Pharmacy supervisor), Kawoya Patrick(Laboratory supervisor), Nantondo Rebecca(Clinic supervisor), Nabukera Kristine (MIS officer), Molly Bende(Registry supervisor), Serunjoji Richard(Peer educator) and Nakanuwagi Agnes(Community and social support supervisor). With the CQI team we identified different client centered problems and through multi-voting zeroed down to the problem of unbalanced clinic attendances in which some days were congested than others. The figure below shows a meeting of the CQI team.

Figure 2 Showing CQI meeting at Banda site
The intervention
Client health talks

Conducted daily client health talks in the client waiting area as shown in figure 3. These were emphasizing the need to keep appointments and the associated benefits. This was done by the health education facilitator who was part of the CQI team. This was intended to improve client awareness about the benefits of keeping appointments in order to further improve their practices and set a conducive environment for the clinicians who give the appointments.

Figure 3 Picture showing client health education session at the waiting area
**Appointment slots allocation to clinicians**

We obtained the lists of the clients already booked two months a head from the MIS officer. Analyzed the lists and distributed the available slots to the clinicians for booking the new patients on a particular day. The number of slots available to each clinician depended on the number of clients already booked on that day. This guides the whole appointment booking process and prevents giving appointments blindly without knowing the number of patients already booked. This was done on every clinic day in order to achieve maximum impact and benefit. The talling done by the clinicians helps them to keep record of the number of patients booked and prevent crowding on a particular day. The appointment slot sheet is shown in figure 4 below.

**Figure 4 Showing Appointment slot allocation sheet for clinicians**

<table>
<thead>
<tr>
<th>Appointment Dates</th>
<th>WEEKS</th>
<th>Appointment slots</th>
<th>Tally</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/08/11</td>
<td>week 1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>25/08/11</td>
<td>week 2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>01/09/11</td>
<td>week 3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>08/09/11</td>
<td>week 4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>15/09/11</td>
<td>week 5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>22/09/11</td>
<td>week 6</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>29/09/11</td>
<td>week 7</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>06/10/11</td>
<td>week 8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>13/10/11</td>
<td>week 9</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>20/10/11</td>
<td>week 10</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>27/10/11</td>
<td>week 11</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>03/11/11</td>
<td>week 12</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Client’s Appointment flow chart

Appointment guideline flow chart was developed that was based on the clinic standard operating procedures that were only in text and not easily referred to by the clinicians. Appointment guideline flow chart is aimed at making the appointment standard operating procedures easily understandable with quick reference. A copy is shown in figure 4. This was put up on the walls to easily guide the clinicians in the process of giving appointments to the clients.

**Figure 5 Showing Client's Appointment flow Chart**

<table>
<thead>
<tr>
<th>Client’s Appointment Flow Chart for ReachOut Mbuya HIV/AIDS Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client &lt; 6 months not on ART</strong></td>
</tr>
<tr>
<td><strong>Do you have good adherence, keep appointments and stable on treatment?</strong></td>
</tr>
<tr>
<td><strong>Given 2(-/1) weekly appointment till keeps appointments, good adherence and stable on treatment</strong></td>
</tr>
<tr>
<td><strong>Are you eligible for ART?</strong></td>
</tr>
<tr>
<td><strong>Given 4(-/1) weekly appointments for at least 6 months</strong></td>
</tr>
<tr>
<td><strong>Do CD4 every 6 months and check CD4 results and stage</strong></td>
</tr>
<tr>
<td><strong>Are you eligible for ART?</strong></td>
</tr>
<tr>
<td><strong>Given 4(-/1) weekly appointments for 3 months</strong></td>
</tr>
<tr>
<td><strong>Given 2(-/1) weekly appointments for 1 month</strong></td>
</tr>
<tr>
<td><strong>Given 2 weekly appointments for 1 month</strong></td>
</tr>
<tr>
<td><strong>Are you on ART?</strong></td>
</tr>
<tr>
<td><strong>Given 1-2 weekly appointment prepare for ART</strong></td>
</tr>
<tr>
<td><strong>Given 4(-/1) weekly appointment for 1 month</strong></td>
</tr>
<tr>
<td><strong>Start ART</strong></td>
</tr>
<tr>
<td><strong>Given 4(-/1) weekly appointment for at least 6 months</strong></td>
</tr>
<tr>
<td><strong>Given 4 weekly appointments for at least 6 months</strong></td>
</tr>
<tr>
<td><strong>Do CD4 every 6 months, good adherence good clinical status</strong></td>
</tr>
<tr>
<td><strong>Given 8(-/1) weekly appointments</strong></td>
</tr>
</tbody>
</table>

Through CMEs and workshops, staff were oriented about the whole project and this also intended to increase the knowledge and practice of the clinicians about the new appointment system.
**Project Outcomes**

On implementing these strategies, we achieved an improvement in the distribution of clients clinic appointments which has also reduced the variance in clinic attendances. This is illustrated by the two graphs below.

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**Figure 6** Graph showing Baseline clinic attendance (August – November 2010)

**Figure 7** Graph showing clinic attendance during project implementation (March – June 2011)

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The clinicians have fully adopted the concept and have seen the benefit of streamlining the appointment system. There was a reduction in variation of client clinic attendances with 75% of clinic days within the set target number which increased from 38% before the project implementation.

On achievement of these positive results the project has already been implemented at the other 2 sites of Mbuya and Kinawataka
Lessons learned

• Good appointment system can reduce clinic congestion by adequately distributing the client bookings to avoid crowding of certain clinic days. A good appointment system enables the management team to plan accordingly and can to a great extent regulate the clinic attendances.
• Team work is beneficial in order to achieve better outcomes.
• Problem identification is very important and there is always need to find the root causes to be able to solve the problem
• Need to identify the different stake holders at the different levels of involvement and understand the contribution and needs of all of them to be able to satisfy each of them.
• Project implementation process is a continuous cycle.

Challenges experienced

• Client eviction from Nakawa impacted on client clinic attendances leading to an increase in missed appointments and some lost to follow up.
• Unplanned public holidays interfere with the appointments given since ROM does not work on these days and the clients have to come on another day thus congesting that particular day.
• It was difficult to mobilize the CQI team for meeting since all had other duties to fulfil
• Getting time off other duties to concentrate on the project was challenging
• There is an increasing number of patients causing more work load for the clinicians
• High expectations from some staff which made it difficult for them to be involved without getting anything in return so some looked at it as an extra burden
Recommendations

To host Institutions

- The administration and staff should take time and understand the whole process of the medium term fellowship and not look at it as just benefiting the fellows since it aims at creating improvement at the host institution.

- Encourage and support other staff to take up the medium term fellowship as this not only builds capacity but also creates better project outcomes in terms of service delivery.

- Resources for project implementation should be released when required as approved in the budget to enable better accountability.

To MUSPH-CDC HIV/AIDS Fellowship Program

- Orient the host institution administration not just the institutional mentors about the concept of the medium term fellowship for easy uptake and smooth implementation of the projects.

- The schedules for the face to face sessions at the School of Public Health should be formally communicated to the administration of the host institutions to avoid overlapping of activities and to enable the fellows fully concentrate during these sessions.

- The academic mentors and project staff should visit the host institutions more than twice during the project implementation period to help out in case of any clarifications needed and closely monitor the implementation process.

- The funds for project implementation should be released on time to enable faster implementation as the need or problem may change before implementation which calls for re-planning.
Conclusions

A streamlined appointment system is beneficial to not only the clinic management team and staff by enabling them to plan accordingly for the expected clients but also to the clients for better quality services with less crowding of clinic days.

Continuous quality improvement is a daily process and institutions should take up this strategy to be able to meet the needs of their clients.

Next steps

- Incorporate the client appointment flow chart into clinic SOPs
- Implement the strategies at Kasaala (Luwero) clinic
- Evaluate the impact of this project on missed appointments and client satisfaction
- Solve other problems identified using same principle
References


UHSBS (2004/05), Uganda HIV/AIDS Sero-Behavioral Survey Report


Wagner G, Ryan G, Taylor S. Formative evaluation of antiretroviral therapy scale-up efficiency in sub-Saharan Africa. AIDS Patient Care STDS 2007