

**National University of Rwanda**  
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**SCHOOL OF PUBLIC HEALTH**  
**ECOLE DE SANTE PUBLIQUE**

B.P 5229, Kigali  
Rwanda  
Tel:+250 585 166  
Fax:+250 500 014  
Email: [infosph@nursph.org](mailto:infosph@nursph.org)  
Website: [www.nursph.org](http://www.nursph.org)

**IMPLEMENTATION OF PROVIDER  
INITIATED HIV COUNSELING AND  
TESTING PROGRAM IN OUTPATIENTS  
SERVICE IN RWANDA.**

**“Case of catchment area of MUHIMA DISTRICT HOSPITAL”**

*A dissertation submitted in the final fulfillment of the requirements of the National University of Rwanda- School of Public Health, for the degree of Masters in Public Health (MPH)*

**By MUKANEZA Alice**

**Director: BASINGA Paulin, MD, Msc, PhD**

**Co-Director: RUGIGANA Etienne, MD, MPH**

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## **DEDICATION**

This work is dedicated to my God for your infinite goodness, to my parents for the job you've done in my education; to my brothers and sisters for your support; to all of you who supported me physically and spiritually. You are my source of encouragement and support of the completion of my studies.

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## **ABBREVIATIONS**

**AIDS:** Acquired Immuno-Deficiency Syndrome

**ANC:** Antenatal care

**ART:** Antiretroviral Therapy

**DH:** District Hospital

**DHS:** Demographic and Health Survey

**HF:** Health Facilities

**HIV:** Human Immunodeficiency Virus

**IEC:** Information Education and Communication

**IHDPC:** Institute of HIV/AIDS, Disease Prevention and Control

**NA:** Not Applicable

**OPD:** Outpatients Department service

**PIT(C):** Provider Initiated HIV testing and counseling

**PMTCT:** Prevention of Mother to Child HIV Transmission

**PCR:** Polymerase Chain Reaction

**SPSS:** Statistical Package for Social Sciences

**STIs:** Sexual Transmitted Infections

**RBC:** Rwanda Biomedical Center

**TRAC:** Treatment and Research AIDS Center

**TRACPlus:** Center for Treatment and Research *on AIDS, Malaria, Tuberculosis and Other Epidemics*

**UNAIDS:** Joint United Nations Programme on HIV/AIDS

**VCT:** Voluntary Counseling and HIV Testing

**WHO:** World Health Organization



## **RESUME**

**Introduction:** VIH/SIDA est un problème important de santé publique en dépit de progrès importants. La prévention reste jusqu'à aujourd'hui le moyen le plus efficace de lutter contre le VIH. La recherche a montré que le dépistage est une étape importante vers un changement de comportement, mais le nombre de tests est encore faible avec seulement 11% des hommes et 12% des femmes qui ont été testés pour le VIH et ont reçu leurs résultats (RDHS2005), en attendant les résultats de la RDHS2010, c'est pourquoi le ministère de la Santé a commencé le programme du PIT. Comme un nouveau programme, il est important de comprendre comment le programme a été mis en œuvre et d'évaluer son efficacité aujourd'hui et fournir des recommandations pour des changements.

**Objectif :** Le but de cette étude était d'évaluer la mise en œuvre globale du programme de PIT tel qu'il a été initié par RBC/IHDPC/HIV Division (Former TRAC) dans tous les centres de santé supervisés par l'hôpital de Muhima pour contribuer à son amélioration.

**Méthodes :** Cette étude descriptive et transversale concerne un aperçu général des huit centres de santé en interrogeant les titulaires des centres de santé supervisés par l'hôpital de district de Muhima ; la mise en œuvre du programme de PIT en interrogeant les 26 prestataires des soins travaillant dans la consultation externe et la qualité des services reçus par les 260 patients venus dans la consultation externe par une entrevue à la sortie effectués en fin mai et début Juin 2011. Un cadre de suivi du programme (entrées de suivi, processus, produits, résultats et impact) a été utilisé pour analyser la mise en œuvre du programme du PIT. Les données recueillies systématiquement par RBC / IHDPC / VIH Division (ex-TRAC) ont été utilisées pour l'analyse.

**Résultats :** Plus d'entrées dans la mise en œuvre du programme de PIT ont été mises en place comme la disponibilité des normes et directives, registres, outil de collecte des données, système de rapportage, manuel de formations, les fonds de supervisions formatives, le personnel, des équipements et les réactifs aux formations sanitaires. Les formations des formateurs et les formations décentralisées des prestataires ont été menées tant sur la qualité des services de PIT que sur le système de collecte des données, mais il y a encore un besoin d'insister aussi sur le personnel travaillant dans la consultation externe. La prise de conseil et dépistage du VIH par le biais de PIT dans la consultation externe a été de 30% en Février 2011.

**Conclusion :** Le programme de PIT a augmenté la couverture des opportunités de dépistage du VIH et a augmenté aussi le taux de test du VIH. Cependant il reste encore à faire plus d'efforts dans l'amélioration de la qualité des services reçus par les patients surtout pendant le counseling pré-test par plus de formations et des supervisions formatives dans tous les services en particulier dans la consultation externe.

## ABSTRACT

**Background:** HIV/AIDS is an important public health problem despite important progress. The prevention remains up today the most effective way of fighting against HIV. Research has shown that testing is an important step toward behavior change, but uptake of testing still low with only 11% of men and 12% of women who have been tested for HIV and received their results (RDHS2005), waiting for the results of the RDHS2010; this is why the Ministry of Health started the PIT program. As a new program, it is important to understand how the program has been implemented and evaluate its effectiveness today and provides recommendations for changes.

**Purpose:** The aim of this study was to assess the overall implementation of the PIT program as initiated by RBC/IHDPC/HIV Division (former TRAC) at all health centers supervised by Muhima Hospital for contributing to its improvement.

**Methods:** This descriptive, cross sectional study conducted in 8 health centers supervised by Muhima district hospital concerns an overview of these 8 health centers by interviewing their heads, the implementation of PIT program by interviewing the 26 health care providers working in outpatient department and the quality of services receiving by the 260 patients coming for outpatient services by an exit interview done end of May and start of June 2011. A program monitoring framework (tracking inputs, process, outputs, outcomes and impact) was used to analyze the PIT program implementation. Routinely collected data from RBC/IHDPC/HIV Division (former TRAC) were used for the analysis.

**Findings:** More inputs in the PIT program implementation have been put in place like avail the guideline, register, reporting tool, training manual, reporting system, funds for formative supervisions and health facilities personnel ,equipment, reagents. The trainings were conducted both on the quality of services and on the reporting system, but there still a need to emphasize also to the personnel working in OPD. The uptake of the HIV counseling and testing through PIT in OPD was 30% in February 2011.

**Conclusion:** The PIT program has increased the coverage of HIV testing opportunities, and has increased the testing uptake. However there is a still to do more efforts in improving the quality of services received by the clients especially in pre-test counseling by more trainings and formative supervisions in all services particularly in OPD.

# CHAPTER I: INTRODUCTION

## 1.1 BACKGROUND

Home to two-thirds of the 33.4 million people living with HIV worldwide in 2008, sub-Saharan Africa has seen HIV epidemics with very high levels of HIV prevalence in the general population of many of its countries. Although the dominant mode of HIV spread in the Region remains through heterosexual transmission. With the 2.7 million new infections in 2008, the HIV epidemic continues to be a major challenge for global health. This number of new infections (2.7 million) was still larger than the number of people started on treatment. This underlines the importance of further expanding prevention coverage and access to care and treatment, and of improving existing prevention interventions to ensure that they are effective, relevant and appropriate for the intended populations. Investing in new prevention approaches and technologies and in the evaluation of existing prevention methods is also key to identifying and prioritizing the most cost-effective interventions. (1)

The estimated number of children living with HIV increased to 2.5 million [1.7 million – 3.4 million] in 2009. (2)

The WHO and UNAIDS declaration in May 2007 calls on both the initiated testing of the patient (commonly known as voluntary counseling and testing or VCT) and testing and counseling at the initiative of the provider (PIT). The new guidance focuses on provider-initiated HIV testing and counselling (recommended by health care providers in health facilities) (3).

Infection with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) in Rwanda have been recognized since 1983. Therefore, the country has initiated various strategies to cope with the epidemic; including counseling and voluntary HIV testing that now exist for almost a decade. Currently, political commitment is such that the country intends to achieve universal access. (4)

One strategy for achieving universal access is to associate the Voluntary HIV Counseling and Testing (VCT) and the Counseling and Testing of HIV at the initiative of the provider (Provider-Initiated HIV Testing: PIT). Both approaches seek to promote knowledge of HIV

status and are essential to expand access to prevention, treatment and other care related to HIV / AIDS (4).

Current guidelines recommend offering testing to persons with symptoms and signs that are potentially attributable to HIV infection or AIDS. However, since advanced immunodeficiency can be clinically silent, it would be more effective to offer testing to all patients attending health care facilities in locations with a high prevalence of HIV infection. Botswana, with a prevalence of more than 35 percent among people 15 to 49 years of age, has initiated such routine testing at clinics and hospitals nationwide. Kenya is increasing routine testing of pregnant women, hospitalized patients, and patients with tuberculosis; with an "opt-out" approach, less than 20 percent have chosen not to be tested. With routine testing of inpatients in selected hospitals in Uganda, 95 percent of inpatients agreed to be tested, and the prevalence of HIV was discovered to exceed 50 percent. (5)

PIT has been recognized as an effective strategy to increase the proportion of adults knowing their HIV status.

As in the PIT program is a new intervention, there are little publications on it. This study will increase the knowledge of PIT implementation in Rwanda.

## 1.2 PROBLEM STATEMENT

The only nationally representative survey providing data on the proportion of adults who have been tested and who received the results is the Demographic and health survey conducted in 2005. The study showed that only 11% of men and 12% of women have been tested for HIV and received their results (6). Even though this figure is likely to have increased (waiting for the results of the 2010 DHS), there still room for improvements in term of making sure that most adults get the right information to be able to take the decision to uptake an HIV test and know their results.

When HIV testing services are not widely available and easily accessible, its low utilization will results in fewer people knowing their HIV status. Therefore most of those who are infected seek access to counseling and testing services only when they are already at an advanced stage of disease and this will result increasing morbidity and mortality.

To tackle the HIV epidemic one should take advantage of the already well organized health Rwandan health system and integrate the efforts if fighting HIV/AIDS.

The health system in Rwanda is organized in a pyramidal structure. At the base of the pyramid is the health care center supported by strong bodies of community health workers; the intermediate level comprises district hospitals, and at the top of the pyramid is the referral hospital. Each level of this pyramid can play in major role in increasing the uptake of VCT services.

Also, in the past years, the government undertook major reforms to increase the coverage of primary health care. Those actions included expanding coverage of the community health insurance scheme with a national subsidy for those too poor to pay and rolling out of performance-based financing for health centers and district hospitals. These initiatives have drastically increased the use of health services by the populations. (7)

There is no doubt that the health facilities implementing these initiatives represents a point of contact for people infected with HIV with the testing, care and support services. Health facilities, whatever their level, play a primordial role in prevention, treatment, care and support. The PIT which allows a systematic diagnosis recommends an "informed consent of the customer"; service providers shall each time in advance be focused on the interests of the patient. (4).

Integrating the HIV counseling and testing initiated by the provider (PIT) will help ensuring a more systematic diagnosis of HIV infection in health facilities and facilitate patient access to prevention, treatment, care and support that they need and that are available.

The ideal situation is that any sick person should first be HIV tested early and get followed in care and treatment on time, this will allow early diagnostic and appropriate treatment and follow up. An evident impact will also be gained in terms of breaking the chain of HIV transmission from people who do not know their status.

The current situation is that some patients arrive to be tested for HIV at advanced age and they start the ARV at late which may bring their death.

The main issue is that most of HIV patients are detected at the health facilities at an advanced stage where they have been consulted several times in those health facilities which are supposed to implement the PIT program”.

This delay in the diagnosis of HIV is a threat to the health status of the patients; because he/she will start the ART at late stage and his/her follow up will be late. The cost to his/her follow up will be expensive compared to what will be spent if he/she has been detected HIV positive at early stage.

The official implementation of HIV counseling and testing initiated by the provider (PIT) in the Health Facilities in Rwanda began in January 2009. Given the issues raised above, it's important to study how health centers implement the PIT program in the outpatient's service (consultations) in Rwanda. This will provide evidence based recommendations to effectively implement PIT and get the maximum expected advantage of the program.

PIT program aim at increasing the number of people who are getting tested and know their results for changing their behavior, it is more likely that this will be done in expense of quality. The health care providers may tend to do more quantity and less quality. Therefore it is important to evaluate the quality of HIV counseling and testing services offered in the context of PIT program.

### 1.3 CONCEPTUAL FRAMEWORK

The following is the conceptual framework used to examine the effective implementation of the PIT program. All steps of a program implementation are as shown with the PIT program implementation. As the PIT program implementation in Rwanda, started officially in January 2009, we are going to focus this study on the inputs, processes, outputs and outcome steps as the program hasn't had enough time to be evaluated on the impact.

**Table 1: Conceptual framework**

Inputs	Processes	Outputs	Outcomes	Impacts
PIT policy and regulation development	Printing and Distribution of PIT guideline (TRAC Plus, DH )	PIT policy is available at health facilities and used by health providers	More HIV positive cases are detected early	Decrease of HIV morbidity and mortality
PIT training manual developed	Training of health providers	number of health providers trained in PIT program	No missed opportunities for HIV testing of patients which leads to an increase of intake number of persons tested	
Quality assessment tools development	health facilities fill correctly the PIT registers & data collection tool	Identification of clients eligible on ART	data is reliable and used in the surveys and researches	
PIT Reporting system developed (paper based, web based)	monthly reports by health facilities	data available at all levels	data used in decision makings at all levels starting by the health centers to national level	
Funds for supervisions	Formative supervisions are conducted regularly	Health providers are improving their daily activities	many people know their HIV status and change their behaviors	
Functional health facilities (personnel, test kits, space, equipments )	Test kits & equipment Procurement and supply, personnel affectation; enough space is given	Availability of test kits, equipments, enough personnel and space	Increase of the quality of PIT program and more eligible HIV patients start the ART on time	

## **1.4 LITERATURE REVIEW**

The new WHO/UNAIDS guidance is tailored to local circumstances. In generalized HIV epidemics, HIV testing and counselling should be recommended to all patients attending all health facilities, whether or not the patient has symptoms of HIV disease and regardless of the patient's reason for attending the health facility. In concentrated and low-level HIV epidemics, depending on the epidemiological and social context, countries should consider recommending HIV testing and counselling to all patients in selected health facilities (e.g. antenatal, tuberculosis, sexual health, and health services for most-at-risk populations). (3)

This guidance was prepared in light of increasing evidence that provider-initiated testing and counselling can increase uptake of HIV testing, improve access to health services for people living with HIV, and may create new opportunities for HIV prevention. Provider-initiated HIV testing and counselling involves the health care provider specifically recommending an HIV test to patients attending health facilities. In these circumstances, once specific pre-test information has been provided, the HIV test would ordinarily be performed unless the patient declines. This new program has already been implemented in a range of clinical settings in several low- and middle-income countries (3).

In sub Saharan region, PITC has generated widespread debate about whether it is the right approach in a context of HIV-related stigma and lack of human/material resources. Key concerns are whether/how informed consent, privacy and confidentiality will be upheld in overstretched health care settings, and whether appropriate post-test counseling, treatment and support can be provided. Limited available evidence suggests that health systems factors and organizational/professional culture may create obstacles to effective PITC implementation. Specific findings are that: PITC greatly increases nurses' workload and work-related stress. Nurses are generally positive about PITC, but express the need for more training and managerial support. Health system constraints (lack of staff, lack of space) mean that nurses do not always have time to provide adequate counseling. A hierarchical and didactic nursing culture affects counseling quality and the boundaries between voluntary informed consent and coercion can become rather blurred. Nurses are particularly stressed by breaking bad news and handling ethical dilemmas (8).

In sub-Saharan Africa, nurses are at the forefront of HIV care. The expansion of PITC has a potentially massive impact on nursing roles and workloads, yet there has been surprisingly little nursing involvement in HIV policy development and surprisingly little research on



nurses' experiences of conducting HIV testing. PITC is a response to the fact that only 10-12% of people living with HIV in sub-Saharan Africa know their status and that many opportunities to diagnose HIV are missed during routine medical encounters. For example, in a large Kenyan hospital, a PITC pilot found that 11% of women coming for cervical cancer treatment were HIV-positive (84% of these were identified for the first time) (9)

A study conducted in Durban, South Africa for evaluation of a role of routine voluntary HIV testing program compared with traditional provider-referred voluntary counseling and testing (VCT) shown that during the standard of care period, OPD physicians referred 435 patients aged > or = 18 years for HIV testing; 137 (31.5%) of the referred patients completed testing at the VCT site within 4 weeks. Among those tested, 102 (74.5%) were HIV infected. During the intervention period, 1414 adults accepted HIV testing and 1498 declined. Of those tested, 463 were HIV infected. Routine HIV testing in the OPD identified 39 new HIV cases per week compared with eight new cases per week with standard of care testing based on physician referral to a VCT site.(10).

In Malawi, by comparing data before (Q1 2003 to Q3 2004), and after the introduction of the services at the paediatric department (Q4 2004 to Q4 2006), they assessed the effect of this intervention on the uptake of HIV services for children at Kamuzu Central Hospital and the overall, 3971 children were tested for HIV in pediatric department, 2428 HIV-infected children were registered for care and 1218 started ART. Between the two periods, the median number of children being tested, registered and starting ART per quarter rose from 101 (53-109) to 358 (318-440), 56 (50-82) to 226 (192-234) and 18 (8-23) to 139 (115-150), respectively. (11)

The study conducted in rural region of Haiti with aim of evaluating a 'provider initiated' HIV testing strategy in a primary care clinic in rural resource-poor Haiti by reviewing the number of visits made to clinic before an HIV test was performed in those who were ultimately found to have HIV infection where a nongovernmental organization (Partners In Health) scaled up HIV care in central Haiti by reinforcing primary care clinics, instituting provider-initiated HIV testing and by providing HIV treatment in the context of primary medical care, free of charge to patients. Among a cohort of people with HIV infection, they assessed retrospectively for delays in or 'missed opportunities' for diagnosis of HIV by the providers in one clinic. Of the first 117 patients diagnosed with HIV in one clinic, 100 (85%)

were diagnosed at the first medical encounter. 3787 HIV tests were performed in the period reviewed. (12)

A study in Malawi has shown the barriers accounted before they implement the PIT in inpatient pediatric service and which continued to persist during the PIT intervention as follow: The high ratio of patients to providers in the pediatric ward (>25patients to 1 provider) made it difficult for any clinician or nurse to dedicate the time needed to order HIV testing and continue their other duties, Providers also expressed hesitancy to order testing, few providers felt comfortable with pediatric HIV care in general, viewing it as a condition for specialists only, and few appreciated the value of knowing a patient's HIV status during the hospitalization, HIV-related stigma, the absence of their spouse's approval, a fear of missing nursing medication rounds, a concern that their child was "too sick" to be tested, a lack of awareness that children could benefit from ART, or a feeling of intimidation by the chaotic, overwhelming hospital environment itself. (13)

In Kenya they started the PIT program in 2005 by starting the development of PITC guideline. In order to scale up PITC in clinical settings the following activities have been conducted: they have disseminated the PITC national guidelines, developed the training manuals, and conducted the trainings. However, nationally uptake of PITC has remained low (30%). (14)

This study shows the challenges identified by facility managers and service providers as follow: staff shortage/staff rotation, increased workload/burn out, supply chain logistic issues/stock /out of test kits, overcrowding in inpatients/outpatients departments, long client waiting time, lack of space, dealing with very sick patients, lack of tools, No IEC materials on PITC, doctors view counseling as a role for non medical personnel. (14)

Routine testing of newborns may be an appropriate approach to identify infants missed by PMTCT programs, particularly in countries with high prevalence, while more targeted testing of infants and children at greater risk may be more cost effective for lower-prevalence countries. Regardless of the approach, there are significant challenges to testing children for HIV. In infants younger than 18 months, the persistence of maternal antibodies, the lack of appropriate laboratory facilities for PCR testing, the cost of assays, and the need to repeat PCRs in infants who are exposed to infected breast milk, make it difficult to implement infant diagnosis programs. WHO estimates that, in 2007, only 8% of infants known to be HIV-

exposed were tested for HIV within the first 2 months of life. Waiting for infants to develop symptoms or become old enough to test using standard rapid tests is not ideal but has become the norm in many places, resulting in children tested late in the course of their infection, when ART may be less effective. (15)

In Uganda, it has been a study where a prospective cohort study examined the initial outcomes of a provider initiated routine HIV testing program in an outpatient department of a rural public hospital in central Uganda regarding partner HIV testing, sexual risk behavior, disclosure, and HIV care seeking. It has been found that the Malaria was the most common presenting outpatient diagnosis (29.6%) at the time of provider-initiated routine HIV testing. Other reasons for the clinic visit included: 13.4% brought child or family member for treatment, 10.5% abdominal pain=diarrhea, 8.9% pulmonary symptoms, 7.7% STI symptoms, 4.5% epilepsy, and 25.4% presented with=for other symptoms=treatment(dental, hypertension, dermatology, pain=swelling, headache, back pain, accident, picking up medication, family planning).

Thirty-two of the 245 participants tested HIV positive (13.1%), 11.1% of women and 15.1% of men. Nearly half (41.5%) of the participants were first-time testers and of those testing HIV positive, 65.6% were first-time testers.(16).

Routine HIV and STD screenings not only provide the opportunity to educate patients about transmission of HIV and STDs, but also can allow people who are infected to receive care and services. Research shows that individuals who are aware of their HIV status are more likely to modify their behavior and take precautions to protect their health and to avoid infecting others. Yet it is also known that behavioral changes are not always maintained and that some persons continue to engage in risk behavior. Given these realities, it is clear that widespread use of HIV screening couples with post-test counseling and treatment offer real potential for reducing the spread of HIV. Community health centers can play a critical role in advancing these efforts. (17)

In 2009, more countries adopted policies on provider initiated testing and counseling, and the number of facilities providing HIV testing and counseling continued to increase. As of December 2009, over two thirds of countries in sub-Saharan Africa and Latin America and the Caribbean had introduced policies supporting provider-initiated testing and counseling. (1)

## **CHAPTER II: OBJECTIVES**

### **2.1. GENERAL OBJECTIVE**

- To assess the overall implementation of the PIT program as initiated by RBC/IHDPC/HIV Division (former TRAC).

### **2.2. SPECIFIC OBJECTIVES**

1. To determine the level of PIT program through its achievements at national level
2. To determine the level of PIT program through its achievements at 8 health facilities supervised by Muhima District Hospital in outpatients department services
3. To measure the quality of PIT services offered to patients by providers by comparing what the providers know and what the patients are receiving.
4. To identify barriers for the full implementation of PIT program at the health centers supervised by Muhima district hospital.
5. To propose recommendations which will inform the effective implementation of PIT program at health centers supervised by Muhima district hospital.

## CHAPTER III: METHODOLOGY

### 3.1 TYPE OF THE STUDY

This study is descriptive and cross sectional in nature. The Muhima District hospital has been chosen and is composed of 8 health centers and all of them implement the PIT program. Muhima District Hospital is located in City of Kigali in Rwanda specifically in Nyarugenge Administrative District.

In Rwanda the PIT program is currently being implemented in many services as shown above, but for the delimitation of the study in order to be effective and more precise, the outpatient department service has been chosen as the interesting area as there is no information known related to PIT and it is the health service which receive most patients compared to the other health services. For the PIT data in other services like antenatal care service, maternity service through PMTCT sites, Nutritional and tuberculosis services is available; but for the PIT implementation and data in outpatient's department are not known.

The methodology used is triangulation. This triangulation aims to synthesize data from multiple sources to strengthen the understanding of PIT program implementation as a new approach to increase the number of people who know their HIV status and help make evidence based public health decisions.

**Table 2: Data categorization**

Sources	Indicator/Data	Results	Period of data collection
TRACnet system	PIT national data	People counseled & tested; know their results and HIV positive	From August 2010 to March 2011
3 questionnaires responded by HC	First addressed to the head of the HC	Overview of the health center	From 30 May 2011 to 15 June 2011
	Second addresses to the health care providers working in OPD	Implementation of PIT by health providers	From 30 May 2011 to 15 June 2011
	Third addressed to the patients as an exit interview	PIT services received by patients	From 30 May 2011 to 15 June 2011
SIS monthly report	Total number of patients received in OPD in		February 2011

	February 2011 Number of patients who were supposed to receive the PIT services according to the PIT guidelines	Denominator to calculate the proportion of clients received the PIT services in 8 health centers	
PIT register	Number of patients received PIT services in February 2011	Numerator to calculate the proportion of clients received the PIT services in 8 health centers	February 2011

### 3.2. TARGETED POPULATION

- All heads of the eight health centers have been the targeted population and responded to the questionnaire after agreeing on the consent form. No sampling; we took every head of all health centers supervised by Muhima District Hospital.

- The health providers working in the outpatient department service in eight health centers have been the targeted population and responded to the questionnaire after agree on the consent form. All health providers working in OPD services for the day of data collection responded to the questionnaire without sampling.

- Patients coming on the day of data collection (10 patients for each health care provider surveyed) responded to the questionnaire after agree on the consent form. The selection of these 10 patients by one health provider questioned has been as follow:

- ✚ Every health care provider working in OPD service the day of data collection has been asked the medium number of patients he/she receives

- ✚ After obtaining the average number of patients received by each health provider per day to be questioned, the number was divided by ten; and then the range was obtained. The first patient was selected and then jumped according to the range found in order to get the ten patients from each health provider questioned. Every patient interviewed had also his/her provider questioned in order to obtain comparison of what said by provider and what received by the patient. The range changed according to the mean number of patients received by each

health provider. The number of patients taken by each health care provider questioned stayed the same. i.e Ten patients for each health care provider.

### **3.3 INCLUSION CRITERIA**

All health centers within Muhima District Hospital were included in the study. All heads of these health centers were included in this research. The health providers from the outpatients' department service in the health centers of Muhima district hospital presented on the data collection days were included in the study. Patients coming for health services in outpatients department on the day of data collection were also included in the study.

### **3.4 EXCLUSION CRITERIA**

The private health facilities were not included in this research. The health providers who were not working in the outpatient's department service were excluded in the study. The patients which came to look services in outpatient department on other days except the day of data collection or patients who came for other services were excluded in the study.

### **3.5 PERIOD OF DATA COLLECTION**

#### **3.5.1 PIT National data from TRACnet**

The year 2009 and 2010 were the years of the beginning of the PIT program; they were the years of trainings, distributing PIT guidelines and data collection tools etc. As we know that the PIT data become to be collected systematically with the month of August 2010 through TRACnet system. It required a lot of follow up and helpdesk from national level (TRACPlus) to health facilities in order to get reliable data. Before the August 2010; the PIT monthly reports were not systematically, some sites submitted others not; some sites separate the PIT data with the VCT data; others combined the two data. That is why we choose the August 2010 month as a start point to analyze the data from TRACnet system. The period was from August 2010 to March 2011, data abstracted from TRACnet on 3<sup>rd</sup> May 2011.

### **3.5.2 PIT data collection from 8 health centers**

#### **A. Data collection using 3 questionnaires**

The period of data collection from eight health centers supervised by Muhima District Hospital using 3 questionnaires i.e (Heads of health centers; All Health care providers working in OPD on the day of data collection and an exit interview for the patients coming for OPD services on the day of the health center visit) was from 30 May 2011 to 15 June 2011.

#### **B. Data collection from SIS report**

In order to calculate the proportion of patients received in OPD who benefited the PIT services; The randomly month of February 2011 was chosen among all months where the PIT reporting has been started to be systematically (after receiving all tools and trainings).

The SIS report for the February 2011 month was used. The part of OPD services was considered. In OPD part there are many patients coming for different illness; all patients coming in February 2011 were noted without considering whether they receive PIT services or not as the first step. The second step was to count among all those coming; who are supposed to benefit the PIT services according to the national PIT guideline (Respiratory diseases, skin diseases, malnutrition, urine infections, Tuberculosis, urethral flow, vaginal flow, genital ulcer, female genital herpes, male genital herpes, confirmed syphilis, other STIs, Zona, AIDS disease).

#### **C. PIT data collection from PIT register**

The PIT register was considered in order to calculate the proportion of patients received PIT services in February 2011. This was the third step following the two steps done from SIS report. From PIT register it has been counted how many have received the PIT services in February 2011.



### **3.6. DATA COLLECTION AND METHODS**

At national level data from TRACnet were abstracted on 3<sup>rd</sup> May 2011. The period taken is from August 2010 to March 2011. PIT data were abstracted from TRACnet (Rwandan HIV/AIDS Web based data collection system) in the VCT module, PIT section and exported into Excel Microsoft Office for cleaning, organization, insertion of some variables and analysis.

In eight health centers supervised by Muhima District Hospital three questionnaires were developed. (See appendix). The first one was addressed to those responsible for the health centers and contained the questions regarding the general information related to the health center.

The second questionnaire was addressed to health providers working in the outpatient's department service and contained the main points on how the PIT program was being implemented.

The third questionnaire was the exit interviews with the patients who received the outpatients' department services on the same day they come to look for health services at exit point. This questionnaire helped us to compare the knowledge of the health care providers with the services received by the patients in order to find the success or gap in the PIT program implementation.

### **3.7. DATA ENTRY AND DATA ANALYSIS**

Data from 3 questionnaires were entered in the EPI Data software 3.1 Version.

The data entered in EPI Data software 3.1 Version were exported into SPSS software Version 16 and STATA10 for analysis. The graphics were created using Excel Microsoft Office 2007. The tables and text were created using Word Microsoft Office 2007.

We also extracted data from the PIT TRACNet data base and performed descriptive trends analysis. The cascade of use of PIT data were analysis for the whole sample and then stratified by gender, age, month and province. The timeliness and completeness of monthly reports of 8 study sites from August 2010 to March 2011 were also analyzed.

### **3.8. ETHICAL CONSIDERATIONS**

Research on sensitive issues raised specific ethical concerns; therefore, the consent form has been developed and provided for the participants showing purposes and objectives of the study, confidentiality, privacy, and benefits. The research was conducted to ensure that it didn't cause any form of harm (moral, physical or emotional). The participation has been voluntary. The written permission from Muhima District Hospital was given.

No name of the health provider or patient appeared; the codes of health providers and patients have been used.

The health providers and patients who agreed on the consent form have participated in the study. The final results' report will be shared with Muhima District Hospital for the improvement of PIT program in future.

The patients were not coerced to participate in the study. They were explained first by the providers; the patients had time to think and choose or not to participate in the study.

Any participant started to be questioned was told that he/she has right to withdraw from the study and no consequences on him or her.

The participation of the patients will not affect the providers in any way.

### **3.9 STUDY LIMITATIONS**

This study could not be conducted countrywide because of the financial and time constraints. The health centers participated in our study are located in the Muhima District Hospital which is an urban District. However, we believe that the findings from Muhima District Hospital may be representative for other District Hospitals.

## **CHAPTER IV: PRESENTATION OF THE RESULTS**

According to the specific objectives, the following results presentations have been done from the findings. The results section will first present the level of PIT implementation through the achievements at national level and at 8 health centers supervised by Muhima District Hospital following the steps of a program implementation evaluation from the interviews of 26 health care providers working in OPD; then we will describe the results from 260 patients exit interview for having the quality of PIT services and the section will end with a description of barriers and suggestions from 26 health care providers for well PIT program implementation.

### **4.1 PIT PROGRAM ACHIEVEMENTS AT NATIONAL LEVEL**

In Rwanda, the government has implemented this program in order to increase the number of people who know their HIV status. The Ministry of Health through its agency the RBC/IHDPC/HIV Division (Former TRAC) started to develop the PIT guideline in 2008. This PIT guideline has been approved in January 2009. About **3,000** PIT guidelines have been printed and distributed to all health facilities. Then the trainings of trainers and health care providers have been conducted in all health facilities offering HIV counseling and testing services. The distribution of PIT guideline has been conducted at the same time of trainings of trainers and health care providers in January 2009. These trainings at national level have been organized through integrated trainings of trainers at district hospital level on HIV prevention, care and treatment where PIT program is one of the chapters of the whole session's trainings. Each District Hospital should also train the providers in their catchment area. The formative supervisions from national level (RBC/IHDPC/HIV Division former TRAC) to District hospitals are being done where the PIT program is supervised together with other HIV/AIDS and STIs services as integrated.

In Rwanda, the abstract on PIT presented during the 6<sup>th</sup> International Conference for Exchange and Research on HIV and AIDS "Improving Health Systems and Services for Comprehensive HIV care" has cited that by the end of 2010, 424 VCT sites and 328 health facilities with ART services had implemented national PIT guideline. Over two hundred health providers were trained on PIT, with average of 4 trainers per district. (18)

According to the national PIT data reporting, the data from health centers were submitted as hard copies from the beginning of the program until the end of the July 2009. During this

time, the reporting system for PIT program was not systematically in all health facilities which offering the HIV counseling and testing.

It is with the month of August 2010 where the health centers and district hospitals begun to report all HIV/AIDS services through TRACnet system. The tools of PIT program (PIT register and data collection tool) have been developed, distributed in health facilities. About **1,100** PIT registers have been printed and distributed by RBC/IHDPC/HIV Division (Former TRAC).

As the VCT/PMTCT data from health facilities were the new modules in TRACnet reporting system, the decentralized trainings of all end-users in reporting VCT/PMTCT and ART data through TRACnet were done; **1,251** health care providers (433 males and 818 females) from 411 health centers and 40 District Hospitals were trained on the new HIV prevention and care & treatment indicators, tools and their TRACnet system reporting in August and September 2010.**(19)**

But as it is a new intervention there is not much research undertaken related to PIT program in Rwanda.

As from the August 2010, the reporting system of all HIV/AIDS services become the TRACnet system, the PIT monthly reports start to be more systematic; and the following data have been submitted through TRACnet from health centers and district hospitals offering PIT services to TRACPlus from August 2010 to March 2011.

The activities of provider initiated HIV testing and counseling must be implemented by a health facility.

Every health facility which was offering the VCT services is also recommended to offer the PIT program without asking the authorization to RBC/IHDPC/HIV Division (former TRAC); however a health facility which was not offering the VCT services is recommended to ask the authorization to its District Hospital in its catchment area and it is in role of the District Hospital to inform the RBC/IHDPC/HIV Division (Former TRAC).**(4)**

In countrywide, there are 512 health facilities. See table 2

Considering all (512) health facilities in Rwanda; PIT health facilities represent 83%.

**Table 3: Number of health facilities offering HIV counseling and testing**

Provinces	Number of health facilities countrywide	Number of sites (DH+HC) offering VCT	% of sites offering VCT related to all HF	Number of health facilities(DH+HC) offering PIT	% HF offering PIT related to all HF
City of Kigali	44	46	105% *	35	80%
South	128	109	85%	114	89%
West	124	91	73%	96	77%
North	95	77	81%	77	81%
East	121	103	85%	103	85%
<b>Total</b>	<b>512(21)</b>	<b>426(20)</b>	<b>83%</b>	<b>425(20)</b>	<b>83%</b>

Source: <http://www.moh.gov.rw> and <http://tracrwanda.org.rw/tracnet>

**\* NB:**

✚ There are some District Hospitals which offer the PIT services in OPD but no VCT services, the VCT services for these DH are offered by the HC which are located nearest the DH.

✚ In VCT services, there some sites like DUSHISHOZE which are VCT sites for youth; these DUSHISHOZE centers are not the normal health facilities and are not calculated in HF offering PIT as they have no OPD services; there the centers against HIV/AIDS for youth. These DUSHISHOZE are placed in countrywide, but they are more located in City of Kigali; that is why in City of Kigali, there more hundred percent of VCT sites than in all health facilities.

✚ The percentage of health facilities offering VCT services has been calculated considering all health facilities in country as a denominator.

✚ The percentage of health facilities offering PIT services has been calculated considering all health facilities in country as a denominator.

Rwanda is found in the category of generalized epidemic and guidelines for countries with generalized epidemics recommend HIV testing to all persons using the health facilities. Taking into account the available infrastructure, human resources and financial, the standards for the prevention, treatment, HIV care and support for people living with HIV / AIDS, the establishment of the PIT will be done progressively in Rwanda starting with health care

facilities or patient groups considered as priority. The local PIT guideline recommends implementing the PIT program in 7 following services: outpatient department, hospitalization service, antenatal care service, maternity service, STIs care & treatment service, nutritional service (pediatric) and tuberculosis services. (4).

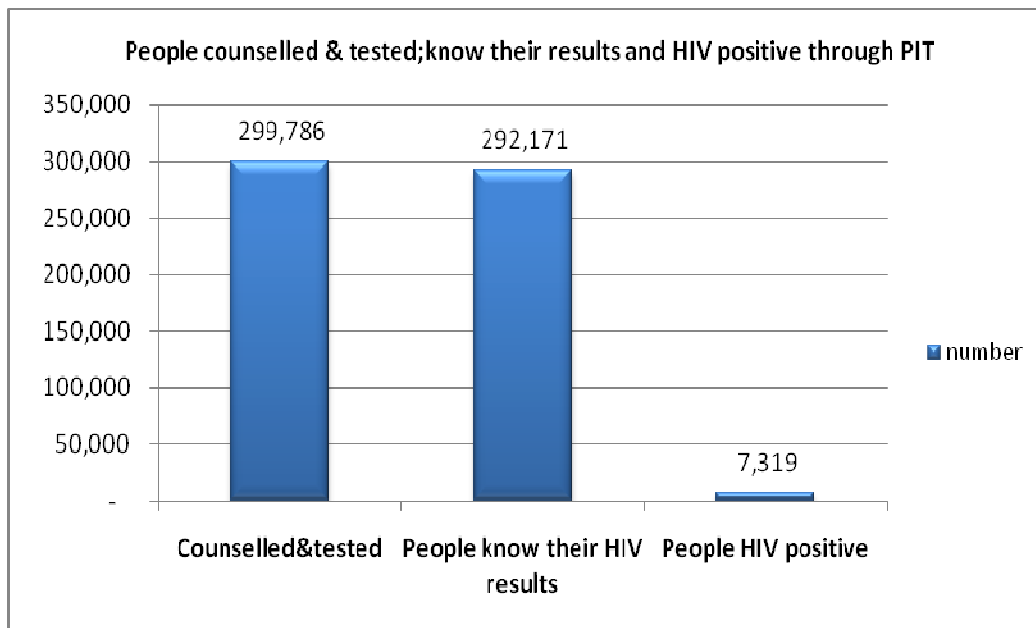
Using data extracted from TRACnet on 3<sup>rd</sup> May 2011 with the period from August 2010 to March 2011; the following is a cascade analysis of TRACnet data.

**a. People counseled & tested; know their results and HIV positive**

The chart below shows that from August 2010 to March 2011; 97% of the people counseled and tested for HIV through PIT know their HIV status and 2% are HIV positive.

These findings showing that there was no big difference from the VCT data when comparing counseled and tested for HIV to people who know their HIV status and HIV prevalence.

**Figure 1: PIT data: General Overview from August 2010 to March 2011**



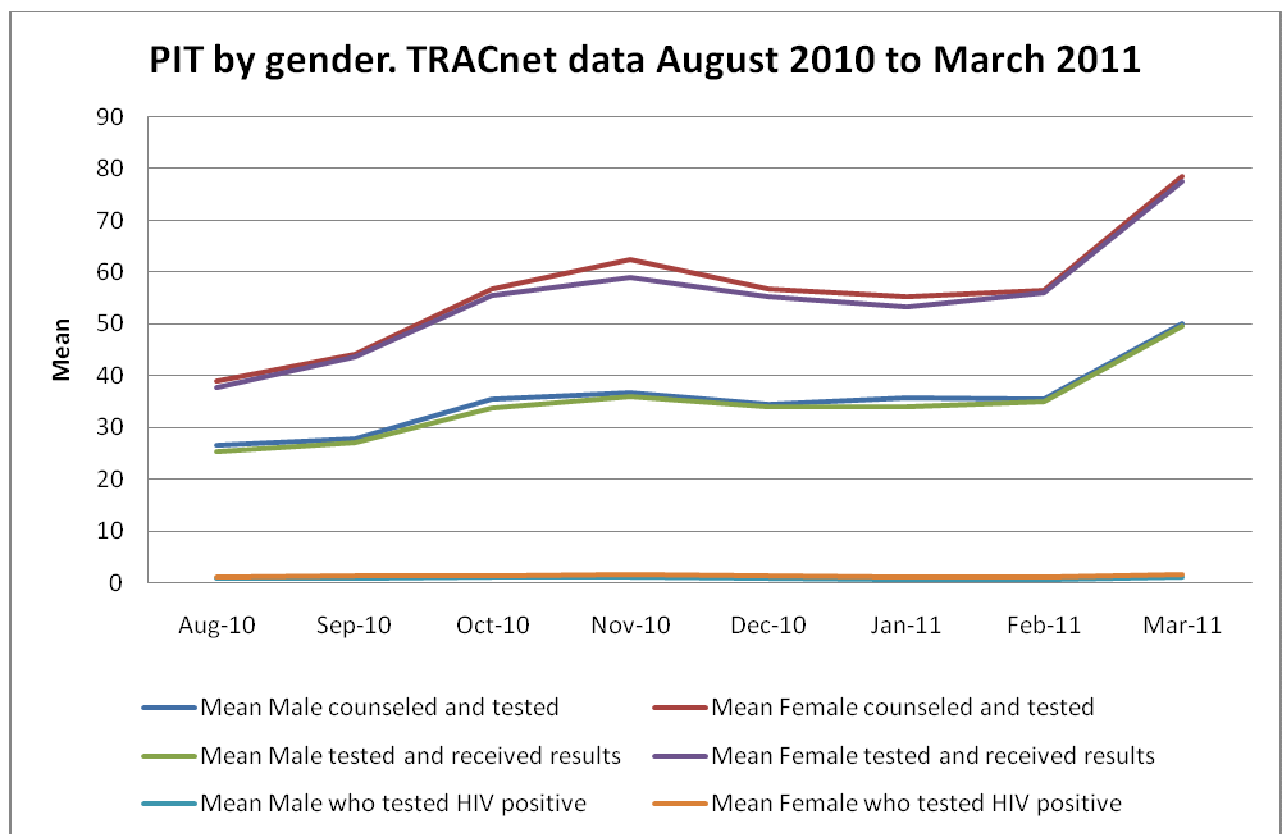
Data extracted on 3<sup>rd</sup> May 2011 from <http://tracrwanda.org.rw/tracnet> with 425 HF offering PIT services from August 2010 to March 2011

**b. PIT data analysis by gender**

The average number of female was higher than the average number of male in people counseled and tested; people know their HIV status. There is no big difference by gender among the average number of clients tested HIV positive. This means that the HIV prevalence among clients tested through PIT is almost the same by gender.

There was no difference by gender among the average number of clients who are counseled and tested and who receiving their HIV results; and this was a success for the PIT implementation.

**Figure 2: PIT by gender. TRACNet data August 2010 to March 2011**



Data extracted on 3<sup>rd</sup> May 2011 from <http://tracrwanda.org.rw/tracnet> with 425 HF offering PIT services from August 2010 to March 2011

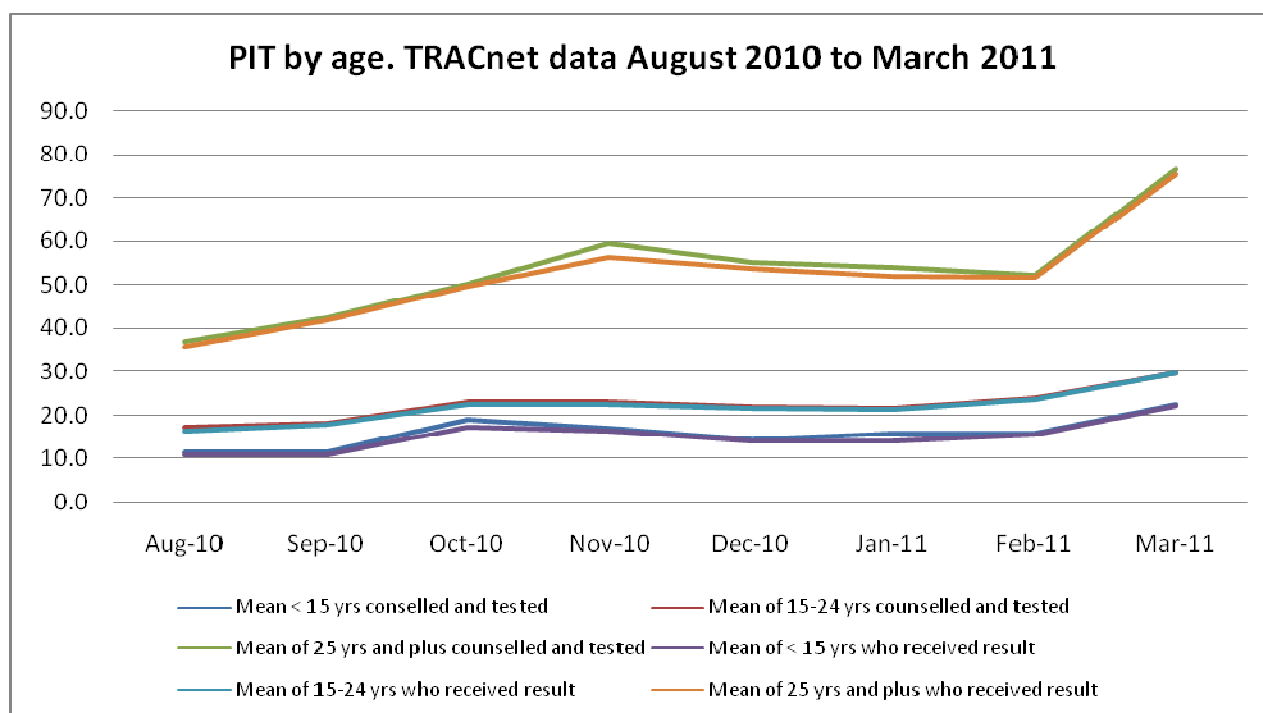
**c. People counseled & tested; know their results and HIV positive by age**

From August 2010 to March 2011, the average number of people aged from 25 years old and above is higher than the average number of other age groups in counseling and testing; people who know their HIV results.

The clients aged from 15 to 24 years old were the medium group in people counseled and tested; people who know their HIV results and in HIV positive people.

The clients aged below 15 years old (the young ones) were the smallest group in people counseled and tested, people who know their HIV results and in HIV positive people.

**Figure 3: PIT by age. TRACNet data August 2010 to March 2011**



Data extracted on 3<sup>rd</sup> May 2011 from <http://tracrwanda.org.rw/tracnet> with 425 HF offering PIT services from August 2010 to March 2011

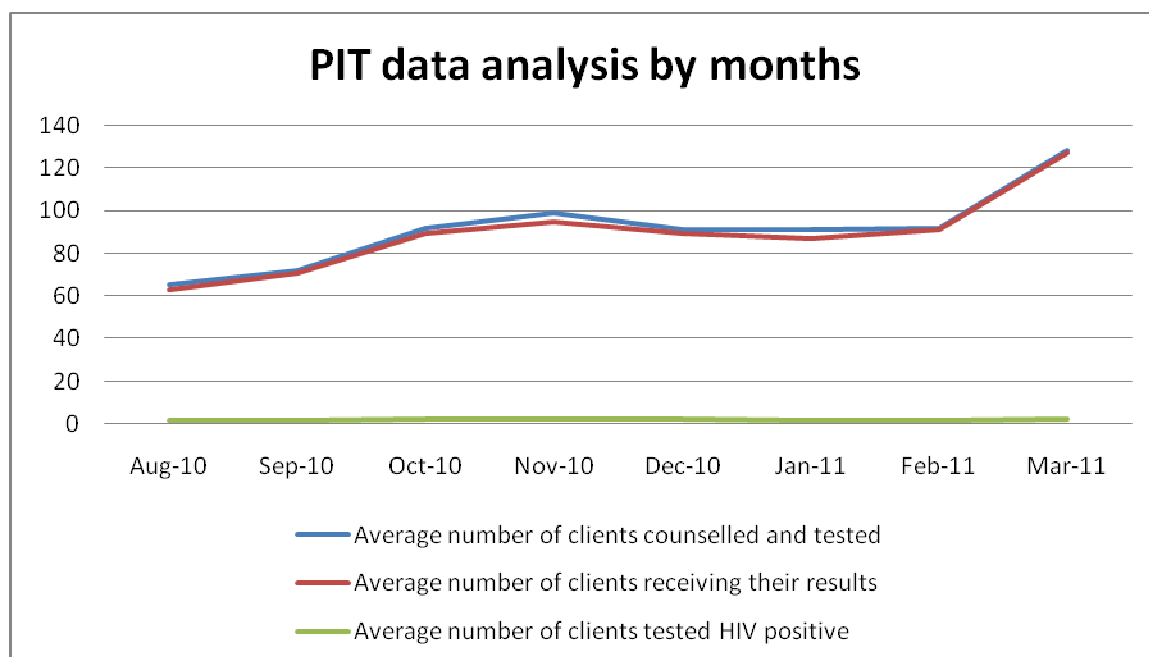


**d. People counseled & tested; know their results and HIV positive by month**

The average number of people tested and counseled for HIV, people who know their HIV results after testing and people who were HIV positive; was increasing month by month from August 2010 to November 2011. In December 2010, these figures tend to decrease until in February 2011. In March 2011 there was a high peak during the 8 months.

The average number of people tested HIV positive was not changed a lot. The mean was almost stable.

**Figure 4: PIT data by month. TRACNet data August 2010 to March 2011**



Data extracted on 3<sup>rd</sup> May 2011 from <http://tracrwanda.org.rw/tracnet> with 425 HF offering PIT services from August 2010 to March 2011

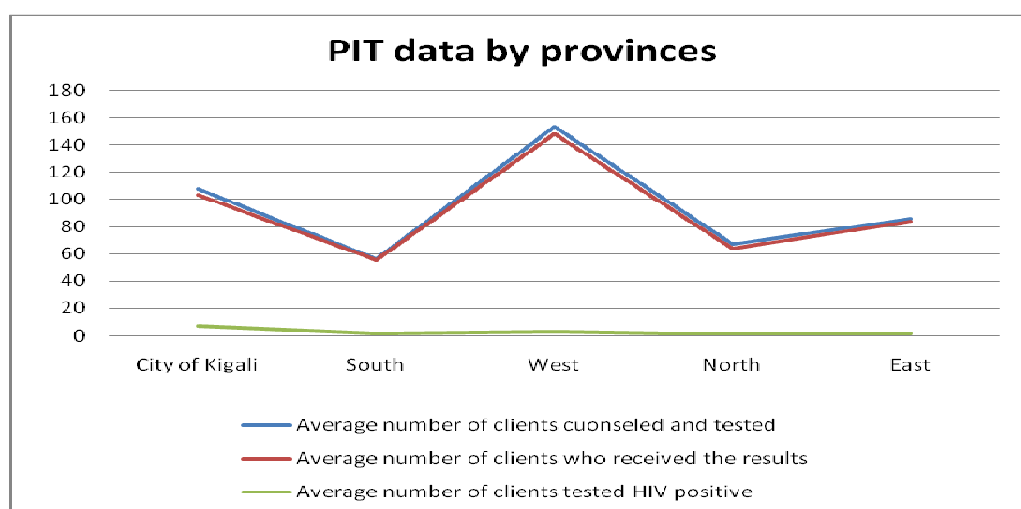
**e. People counseled & tested; know their results and HIV positive by provinces**

The Western province has more average number of people counseled and tested; more people know their HIV results than other provinces. It is the South province which possesses the smallest average of people counseled and tested and average number of people who received the HIV results.

The city of Kigali is the second in having the high average number of people counseled and tested and average number of people who received the HIV results but it is the first in having the high average number of people tested HIV positive.

The North and South provinces have the smallest average HIV prevalence than other provinces.

**Figure 5: PIT by provinces. TRACNet data August 2010 to March 2011**



Data extracted on 3<sup>rd</sup> May 2011 from <http://tracrwanda.org.rw/tracnet> with 425 HF offering PIT services from August 2010 to March 2011

**f. TRACnet timeliness and completeness monthly reports from August 2010-March 2011**

All health facilities offering HIV services are supposed to submit their monthly report not later than 5<sup>th</sup> of the following month. During 8 months i.e. from August 2010 to March 2011; all health centers supervised by Muhima District Hospitals have submit their 8 monthly reports; saying that the completeness for these 8 health centers is 100%.

The timeliness is on 56%; this means that the health centers which respect the deadline which is on 5<sup>th</sup> of the following. 44% of monthly reports have been submitted later.

## **4.2 PIT PROGRAM ACHIEVEMENTS AT 8 HEALTH CENTERS SUPERVISED BY MUHIMA DISTRICT HOSPITAL**

The achievements of PIT program in 8 study health centers will first focus on the characteristic of these eight health centers, the demographic characteristics of health care providers interviewed and patients questioned by exit interview; then we will describe the achievements through the results from health care providers via inputs, process, outputs and outcomes.

### **4.2.1 Characteristics of eight health centers**

#### **Status of Health Center**

Among all health centers supervised, six (75%) are public health centers where as 2 of them representing 25% are for religious health centers. Those two are Cor-unum and Biryogo.

#### **Number of people served**

The number of people served by health centers are between 19,276(Butamwa) and 38,557 (Cor-unum).

#### **Total number of health care providers**

The total number of health care providers working for the health centers are between 11 (Butamwa and Mwendo) and 26 (Muhima).

#### **Start period of VCT activities**

One health center (Biryogo) has started the VCT services earlier in 1988 where as seven remaining started the VCT services from 2004.

#### **Start period of PIT activities**

The majority of health centers (63%) started the PIT services in 2009.

#### **Partner(s) in HIV counseling and testing**

All health centers are supported by PEPFAR Implementers partners except Gitega which is supported by Global Fund.

All eight health centers possess the PMTCT services. All health centers possess the ARV services except Muhima health center. The Muhima health center transfers their HIV positive clients to the Muhima District Hospital nearest the health center.

All health centers heads responded that they had no training on PIT done by Muhima DH except Butamwa who received 2 trainings.

All health centers received one supervision on PIT done by Muhima DH in the quarter of January to March 2011 except Biryogo who received 3 supervisions.

This one supervision is quantity supervision done by Muhima DH during the PBF evaluation.

All (eight) health centers use the TRACnet system as a reporting system of monthly reports. This TRACnet system is a web based system from each health center offering HIV/AIDS services to the central level (RBC/IHDPC/HIV Division “Former TRAC”).

#### **4.2.2 Demographic characteristics of the health care providers**

The total number of health care providers working in OPD questioned is 26.

The majority of health care workers are female, married with 92.3%, nurses A2 as their education level and the majority age is between 31 and 40 years old.

**Table 4: Demographic characteristics of the health care providers**

<b>Variables</b>	<b>Numbers (%)</b>
<b>Gender of health care providers</b>	
<b>Male</b>	7 (26.9%)
<b>Female</b>	19 (73.1%)
<b>Level of education</b>	
<b>Nurse A1</b>	1 (3.8%)
<b>Nurse A2</b>	24 (92.3%)
<b>Medical Assistant</b>	1 (3.8%)
<b>Age of health care providers</b>	
<b>[26-30]</b>	9 (35%)
<b>[31-40]</b>	12 (46%)
<b>[41-50]</b>	1 (4%)
<b>[51-60]</b>	4 (15%)

### 4.2.3 Demographic characteristics of the questioned patients

The majority of patients were female, 60% have primary education level, more than 40% were adults and more than 95% were using Mutuelle de Santé.

**Table 5: Demographic characteristics of the questioned patients**

Variables	Numbers (%)
Gender	
Male	82 (31.5%)
Female	178 (68.5%)
Marital status	
Single	139 (53.5%)
Married	108 (41.5%)
Separated	9 (3.5)
Divorced	2 (0.8)
Widower	2 (0.8%)
Level of education	
Illiterate	67 (25.8)
Primary	156 (60.0)
Secondary	35 (13.4)
University	2 (0.8)
Age of patients in years	
<5years	42 (16%)
[5-14]	21 (8%)
[15-24]	89 (34%)
25 years and above	108 (42%)
Profession of patients	
None	52 (20.0%)
Agriculture	61 (23.5%)
Commerce	33 (11.7%)
Public servant	2 (0.8%)
Student	29 (11.2%)
Other	83 (31.9)
Other profession of patients (n=83)	
Carpenters (Maçons)	6 (2.3%)
Child	53 (20.4%)
Clothes makers (Tailleurs)	2 (0.8%)
Wash clothes	1 (0.4%)
Conductor (Convoyeurs)	2 (0.8%)
Drivers	3 (1.2%)

Farmers	2 (0.8%)
Garage Mechanic	5 (2%)
Housemaids	6 (2.3%)
Night keeper	1 (0.4%)
Receptionist	1 (0.4%)
Road sweeper	1 (0.4%)
Health insurance	
None	7 (2.7%)
Mutuelle de Santé	249 (95.8)
RAMA	3 (1.2%)
Private (SORAS)	1 (0.4%)
Number of times come to health facility	
[2-4]	197 (75.8%)
[5-10]	52 (20.0%)
12	4 (1.5%)
1	7 (2.7%)
Tested for HIV before (n=260)	
Yes	123 (47.3%)
No	137 (52.7%)
When they have been tested for HIV(n=123)	
[1998-2008]	22 (18%)
2009	26 (21%)
2010	60 (49%)
2011 (Jan-April)	11 (12%)

#### 4.2.4 Availability of PIT guideline, registers, reporting system and tools in health centers

None of the surveyed health centers possess the PIT guideline and of course all of the health care providers questioned don't know, and don't have it.

Among all 8 health centers, 7 (**88%**) possess the PIT registers. The one health center which did not possess the PIT register is the Muhima Health center. They said that they have a problem to complete the PIT register distributed by RBC/IHDPC/HIV Division (Former TRAC) as there is missing information. Among these seven health centers which possess the PIT register; 5 possess the pre printed PIT registers developed by RBC/IHDPC/HIV Division (Former TRAC) where as 2 possess the pre-printed PIT registers developed by partner (ICAP).

All (eight) health centers use the PIT reporting tool and the TRACnet system as a reporting system of monthly reports.

**Table 6: Availability of PIT guideline, registers, reporting system and tools in health centers**

Availability at 8 health centers	Numbers (%)
PIT guideline	0 (%)
PIT registers	
Yes	7 (88%)
No	1 (12%)
PIT reporting tool	8 (100%)
TRACnet reporting system	8 (100%)

#### **4.2.5 Proportion of health care providers responded that they have enough and calm space, enough equipment and providers to do the PIT in OPD**

Among all health care providers questioned, 10 providers (38.5%) responded to have enough and calm space for doing PIT, but 16 (61.5%) responded to not have enough and calm space for doing PIT services. This will reduce the quality of PIT program.

With regards to availability of enough equipment, 57.7% of health care providers responded to have enough equipment, where as 42.3% responded that they have no enough equipment for doing PIT services.

The availability of health care providers in OPD for doing the PIT service is low. 7.7% of health care providers responded to have enough providers for doing PIT, where as 92.3% responded that they are not enough for doing PIT in OPD.

**Table 7: Proportion of health care providers responded that they have enough and calm space, enough equipment and providers to do the PIT in OPD**

Variables	Numbers (%)
Enough and calm space	
Yes	10 (38.5%)
No	16 (61.5%)
Enough equipment	
Yes	15 (57.7%)
No	11 (42.3%)
Enough providers to do the PIT in OPD	
Yes	2 (7.7%)
No	24 (92.3%)

#### **4.2.6 Proportion of health center which have no stock out of test kits for HIV testing during last month (April 2011)**

With regards to the proportion of health centers which didn't have a stock out of test kits for HIV; 6 out of 8 which represent **75%** didn't have a stock out of test kits for HIV during April 2011. The two remaining health centers (Butamwa and Mwendo) had stock out of test kits for HIV during April 2011 with 5 and 7 days each respectively.

At Kabusunzu and Butamwa health centers there was a stock out of test kits for the HIV testing on the days of data collection; it was in June 2011.

#### **4.2.7 Proportion of health care providers who propose the consent form to their clients before HIV testing**

The majority of health care providers questioned, 24 (92.3%) propose the consent form to their clients before HIV testing and the minus of them (two health care providers) who represent 7.7% don't propose the consent form to their clients before HIV testing.

The reasons for not asking the consent form were that there is no sufficient time and they are not trained on regulations for PIT program (3.8%); other reason given was that when the patient comes being very ill or having STIs the health care provider writes directly the HIV exam (3.8%) without asking the consent form.

#### **4.2.8 Missed opportunity to be tested for HIV on the day of data collection**

The total number of patients questioned during the exit interview was 260. Among them 137 (52.7%) responded that they have never been tested for HIV. Twenty three patients (17%) have been tested on the day of data collection. 114 patients which represent 83% missed the opportunity to be tested for HIV on the day of data collection.

**Table 8: Missed opportunity to be tested for HIV on the day of data collection**

Number of patients tested for HIV on the day of data collection	23 (17%)
Number of patients who don't know their HIV status(didn't be tested before)	137
Missed opportunity in number	114
Missed opportunity in percentage	83%



#### 4.2.9 Proportion of health care providers working in OPD trained on VCT and PIT programs

Among 26 health care providers working in OPD services questioned; 17(65.4%) have been trained in VCT program; whereas 9 (34.6%) are not trained in VCT program.

Considering the proportion of health care providers trained in PIT program; among 26 providers questioned, 4 (15.4%) were trained in PIT where as 22 (84.6%) were not trained in PIT program.

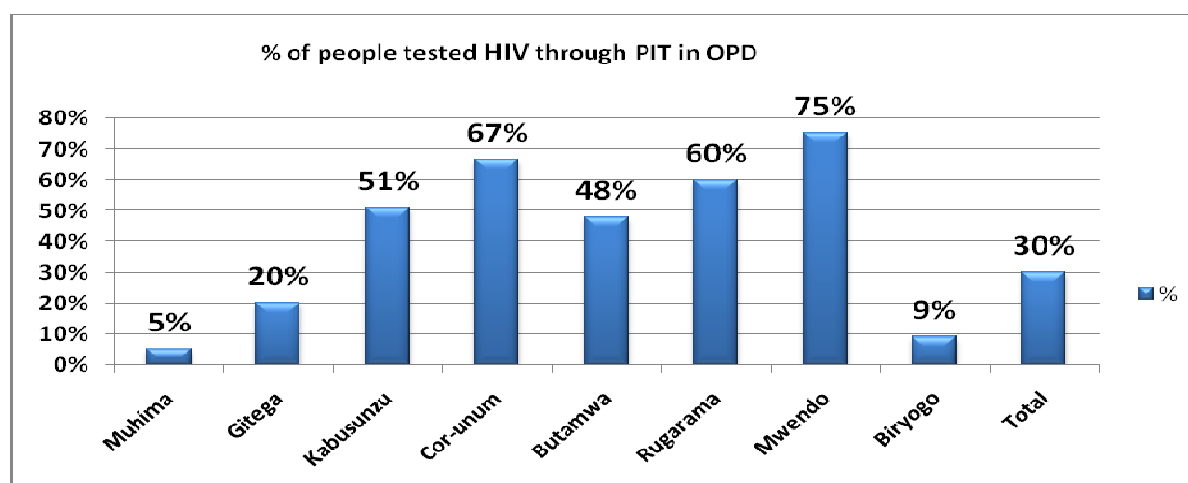
**Table 9: Proportion of health care providers working in OPD trained on VCT and PIT programs**

Variables	Numbers (%)
Trained on VCT	
Yes	17(65.4%)
No	5 (34.6%)
Trained on PIT	
Yes	4(15.4%)
No	22 (84.6%)

#### 4.2.10 Proportion of people counseled and tested HIV through PIT in OPD services in February 2011

The proportion of people tested HIV through PIT in OPD services in February 2011 has been analyzed and the Muhima health center has the smallest proportion (5%) than other health centers where as Mwendo health center has the highest with 75%. In medium, the uptake of PIT in OPD is 30%.

**Figure 6: Proportion of people tested HIV through PIT in OPD**



### 4.3 PIT SERVICES QUALITY

#### 4.3.1 Mean number of clients received by one health care provider per day

The mean number of clients that one health care provider receives per day is comprised between 30 and 50 clients for the most of health care providers with 26.9% of providers who receive 30 clients and 34.6% of providers receive 50 clients per day.

**Table 10: Average number of clients received by one health care provider per day**

Average number	Frequency (%)
15	1 (3.8%)
30	7 (26.9%)
35	1 (3.8%)
40	4 (15.4%)
45	1 (3.8%)
50	9 (34.6%)
55	1 (3.8%)
60	1 (3.8%)
90	1 (3.8%)

#### 4.3.2 Competency of health care providers with spontaneous yes and prompted yes codes Yes

Concerning the competency of health care providers it is high as the mean is 0.95. The standard deviation is 0.04. This shows that they know much about the PIT services delivery.

**Table 11: Competency of health care providers**

<b>Observation</b>	260
<b>Mean</b>	0.95
<b>Standard Deviation</b>	0.04

### 4.3.3 Practice of health care providers working in OPD services for PIT

The practice is low because on the 137 patients who should receive the PIT services only 23 (17%) had received the PIT services. The mean of practice was only 0.09

**Table 12: Practice of health care providers**

<b>Observations</b>	137
<b>Mean</b>	0.09
<b>Standard deviation</b>	0.24

### 4.3.4 Comparison between the competency of health care providers and their practice on PIT program in OPD

This table shows that there is no relationship between the competency of health care providers and their practice. The health care providers know more but they don't put it in practice.

**Table 13: Comparison between the competency of health care providers and their practice**

	<b>Coefficient</b>	<b>Standard Deviation</b>
<b>Practice</b>	-0.0046596	0.4929691
<b>Competency</b>	0.0980257	0.4684399

## 4.4 BARRIERS REPORTED BY HEALTH CARE PROVIDERS IN THE PIT PROGRAM IMPLEMENTATION

The main problems/barriers accounted by the health care providers during the PIT program implementation are that the health care providers working in OPD are insufficient comparing with the high number of patients (57.7%) and are not trained (30.8%).

**Table 14: Barriers reported by health care providers in the PIT program implementation**

<b>Variables</b>	<b>Frequency (%)</b>
Insufficient of personnel	15 (57.7%)
Lack of training	8 (30.8%)
Insufficient time	1 (3.8%)
Extra work of providers	1 (3.8%)
No problem	1 (3.8%)

#### **4.5 SUGGESTIONS PROPOSED BY HEALTH CARE PROVIDERS FOR THE GOOD PIT PROGRAM IMPLEMENTATION**

The main suggestions proposed by the health care providers for the good PIT program are to increase the number of health care providers working in OPD and laboratory (65.4%) and to train every health care provider on PIT and VCT program (26.9%).

**Table 15: Suggestions proposed by health care providers for the good PIT program implementation**

<b>Variables</b>	<b>Frequency (%)</b>
Increase the number of providers working in OPD and laboratories	17 (65.5%)
Train every provider on PIT and VCT programs	7 (26.9%)
Train all providers not only in PIT but in all HIV services	1 (3.8%)
No suggestion	1 (3.8%)

## CHAPTER V: DISCUSSION OF THE RESULTS

Our findings showed that considering the inputs of the PIT program, the PIT guideline has been developed and about **3,000** PIT guidelines were printed and distributed in all District Hospitals by TRACPlus until June 2011. According to the decentralization politic these PIT guidelines have been deposed to all District Hospitals and these DH were supposed to distribute the PIT guidelines in the health centers of their catchment area.

As for Muhima District Hospital there was no health center which possesses the PIT guideline; this shows that there may be some DH which didn't distribute the PIT guidelines to all their HC of catchment area.

About **1,100** PIT registers have been printed and distributed by TRACPlus. In our finding all HC possessed the PIT registers for recording except one HC (Muhima HC).

The data collection tool was also developed and distributed in all HF and is being used by all HC in the monthly TRACnet reporting.

The training manual for PIT program is also developed and the PIT training is given as a part of the integrated HIV trainings conducted by TRACPlus. From these integrated

Training on TRACnet data collection was conducted and **1251** health care providers from health centers offering HIV services were trained on the data collection using TRACnet.

This number of health care providers trained was coming from the VCT, PMTCT and ART services as the primary concerned by the HIV/AIDS services. There is also a need to train the health care providers working in OPD as they are also concerned by the PIT in OPD services.

Training of health care providers for quality of PIT services completed and 328 were trained

A study carried out in Kenya which shows the PIT results at December 2007 after two years of implementation mentioned that 95 core trainers were developed at national and provincial levels, 409 service providers oriented on PITC, 63 new sites initiated in 15 districts countrywide.

In Rwanda, 292,171 clients have been counseled, tested and receiving their HIV status from August 2010 to March 2011 from PIT program, where as in Kenya a study showed that from 2005 to 2007, over 100,000 patients were tested for HIV in national and provincial hospitals

level and in Botswana which was the first African country to introduce routine HIV testing in 2004, A total of 60,846 persons were tested through Routine HIV Testing in 2004 versus 157,894 in 2005 and 88,218 in the first half of 2006 (24).

Muhima and Biryogo health centers have the smallest percentage of patients received in OPD service received the PIT services in February 2011 as 5% and 9% respectively. Mwendo and Cor-unum health centers have the highest percentage of patients received in OPD service received the PIT services in February 2011 as 75% and 67% respectively.

This highest percentage of patients received in OPD service received the PIT services in February 2011 found at Mwendo health center is explained by their methods. When the patients come, they sit in a hall and the health care provider explain to them , sensitize to them about the HIV counseling and testing as IEC in group; and the people who agree to be tested, receive individual counseling and HIV testing one by one before they consult in OPD service. This method helps to receive many clients to be tested.

The Uptake in Rwanda of PIT in OPD service in February 2011 remains low 30%, the same result as the uptake of PIT in Kenya in 2007.

A study in Ethiopia called “Missed opportunities for earlier HIV testing and diagnosis at the health facilities of Dessie town, North East Ethiopia” showed that among 427 clients, missed opportunities for HIV testing were found in 76.1 % (325) of clients.(22)

With regards to the challenges accounted by the health care providers, it has been founded that in Health centers supervised by Muhima District hospitals the main challenges were that the insufficient personnel working in OPD services vis a vis the high number of patients coming for looking the health services and the lack of training. According to this issue, a study conducted in Kenya in 2007 showed that the challenges accounted by the health care providers were staff shortage/staff rotation, increased workload/burn out, supply chain logistic issues/stock /out of test kits, overcrowding in inpatients/outpatients departments, long client waiting time.(14)

According to the medium number of patients received by one health care provider, it has been found that 34.6% of providers receive 50 clients per day where as in the National standards and guidelines for the clinical prevention of HIV/AIDS they recommend that the counselor should receive a maximum of 20 clients per day (23). This high number of patients received

by one health care provider is likely to reduce the time of counseling and the overall PIT services received by the patients.

In our study we found out that the 16 health care providers working in OPD (61.5%) responded to not have enough and calm space for doing PIT services as it has been stated in the study done in Kenya in 2007 where one of the challenge they had was the lack of space (14). This will reduce the quality of PIT program. Because the patients will not feel comfortable to tell the truth or whatever they want to say as well as the space is very short and what he/she would say will be understood by others.

A small gap on the PIT quality of services between the health care providers and what the patients received has been observed especially during the pre-test counseling.

Concerning the reason why sometime some health care providers don't propose their clients the consent form; in our study we found that 7.7% don't propose the consent form to their clients before HIV testing because when the patient comes being very ill or having STIs the health care provider writes directly the HIV exam (3.8%) without asking the consent form. This was similar to the study done in Kenya in 2007 where one of the challenges they has was to deal with very sick patients (14).

Where as in Kenya in 2007 they had a problem of lack of the tools, we found that in our study the tools were available at health centers in **88%** of possessing the PIT registers and 100% possess the PIT reporting tool and 100% report using the new system "TRACnet" a web based reporting system.

# CHAPTER VI: CONCLUSION AND RECOMMENDATIONS

## 6.1 CONCLUSION

After analysis of findings of our study, we conclude that the PIT program has been well implemented in general. There has been an increase in people counseled, tested and knowing their HIV status.

Results show that during the PIT implementation the majority of inputs were available where the PIT guideline was developed, distributed. The PIT registers and data collection tool were also developed. The reporting system known as TRACnet was put in place. The formative supervisions were done. The kits were also availed through CAMERWA. The personnel, place and equipment were also availed by the MOH. Concerning the process's indicators; we found out that there have been the trainings at national level in PIT quality of services and in the PIT data collection data, but still a lot of to do concerning the training of health care providers working at health centers especially who working in Outpatients Department.

Distribution of Rwandan PIT guideline to all health care providers is also necessary.

The uptakes of clients counseled, tested and know their HIV status through PIT in February 2011 was 30%, which is still low and there is a need the more efforts in order to increase the uptake.

Comparing the competency of health care providers and their practice, it has been shown that there is no relationship between the competency and their practice; the competency is high but the practice is low; which means that the health care providers know more but they don't put it in practice. There still need of more efforts to put into practice the knowledge by the health care providers.



## 6.2 RECOMMENDATIONS

After analyzing the results, some recommendations have been formulated:

- To MOH/IHDPC/HIV division, donors and decisions makers in health sector:
  - o To continue the reinforcement of the PIT program by formative supervisions at all levels in order to avoid or reduce the missed opportunity of clients to be counseled, tested, and knowing the HIV status;
  - o Reinforce the trainings and education of health providers especially those working in OPD; and give data reports feedback to health facilities;
  - o To reinforce and sensitize the population to be tested and knowing their HIV status in order to change the behaviors for those found that they are HIV negative, and to start the care and treatment services early for those found that they are HIV positive;
  - o To increase the number of health care providers working in OPD services;
  - o To increase and appropriate the spaces for consultation
  
- To Health facilities and health providers:
  - o Improvement in pre-test and post test counseling in asking the consent to their clients before they took the blood for HIV diagnosis.
  - o Give enough time to their clients during the counseling and give time also the time to ask the questions for some issues which they don't well understand
  - o To record well the data and give the monthly reports at central level on time
  - o To analyze on their own their monthly data, in order to see the trend of the clients of their zone in order to see if there are problems and try to solve them at time
  
- To Muhima District Hospital:
  - o To distribute the PIT guidelines in all its Health Centers
  - o To reinforce the formative supervisions in PIT program for both the quality of services and quality of data.
  
- To researchers:
  - o Conduct a large study to see how PIT program is implemented in whole country, and in all areas which Rwanda has proposed as priority and try to find the obstacles and propose the recommendations in order to increase the success of the program.

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# ANNEX

## 1. IMPLEMENTATION OF PROVIDER INITIATED HIV COUNSELING AND TESTING PROGRAM IN OUTPATIENTS SERVICE IN RWANDA: CASE OF CATCHMENT AREA OF MUHIMA DISTRICT HOSPITAL.

### HEAD OF HEALTH CENTER QUESTIONNAIRE

#### CONSENT TO INTERVIEW

Hello: My Name is MUKANEZA Alice,

I am working at RBC/TRACPlus and studying at SPH/NUR at Kicukiro. My research is entitled as follow  
**“Implementation of provider Initiated HIV counseling and testing program in outpatients services in Rwanda: Case of catchment area of Muhima District Hospital”** This research aims initially to assess the overall implementation of the PIT program as initiated by RBC/IHDPC/Division in health facilities in order to improve it. All health centers under supervised by Muhima District Hospital will be included in this research. You will be asked on overall implementation of PIT program in OPD services. Any information you give us will remain strictly confidential. No name will appear on any report. Whether or not you participate in this interview will have no effect on the facility, you or your family. No personal information will be linked to you or this facility. You may refuse to reply to certain questions, or end this interview at any time. This interview will delay about 10 minutes. All information collected will be used by the Government of Rwanda to understand how to improve the implementation of PIT program.

Do you agree to participate in this research?

YES, the respondent accepts.....**1**

NO, the respondent refuses .....**2** →STOP

COMMENTS:.....

1	Number of questionnaire	
2	Code of head of health facility	
3	Name of health facility	1=Biryogo ; 2= Butamwa ; 3= Cor-unum 4=Gitega 5=Kabusunzu ; 6=Muhima 7=Mwendo ; 8=Rugarama
4	Status of health center	1 =Public ; 2 =Private ; 3= Agree
5	Number of people served	
6	Total number of health care providers	
7	Total number of health care providers trained in PIT	
8	Total number of health care providers trained in VCT	
9	Total number of health care providers working in outpatients department	
10	Total number of health care providers working in outpatient department trained in PIT	
11	Total number of health care providers working in	

	outpatient department trained in VCT					
12	Start period of VCT activities: mm/yyyy					
13	Start period of PIT activities: mm/yyyy					
14	Name of partner(s) in HIV counseling and testing					
15	Is this health center possessing the PMTCT program					
16	Is this health center possessing the care and treatment program					
17	If 15 and 16 is no; where do you transfer the HIV positive patients					
18	Number of trainings on PIT done by Muhima DH to this health center					
19	Number of supervisions on PIT done by Muhima DH to this health center in the last quarter (January- March 2011)					
20	Number of all patients received in the OPD service in February 2011					
21	Number of all patients received in OPD service who are supposed to receive the PIT services in February 2011 according to national PIT guideline					
22	Number of patients received in OPD service received the PIT services in February 2011					
23	What is the PIT data reporting system do you use from August 2010?	1=Paper based		2=Web-based (TRACnet)		

**2. IMPLEMENTATION OF PROVIDER INITIATED HIV COUNSELING AND TESTING PROGRAM IN  
OUTPATIENTS SERVICE IN RWANDA: CASE OF CATCHMENT AREA OF MUHIMA DISTRICT HOSPITAL.**

<b>HEALTH CARE PROVIDER QUESTIONNAIRE</b>		
<b>CONSENT TO INTERVIEW</b>		
Hello: My Name is MUKANEZA Alice,		
I am working at RBC/TRACPlus and studying at SPH/NUR at Kicukiro. My research is entitled as follow <b>“Implementation of provider Initiated HIV counseling and testing program in outpatients services in Rwanda: Case of catchment area of Muhima District Hospital”</b> This research aims initially to assess the overall implementation of the PIT program as initiated by RBC/IHDPC/HIV Division in health facilities in order to improve it. All health centers under supervised by Muhima District Hospital will be included in this research. You will be asked on overall implementation of PIT program in OPD services. Any information you give us will remain strictly confidential. No name will appear on any report. Whether or not you participate in this interview will have no effect on the facility, you or your family. No personal information will be linked to you or this facility. You may refuse to reply to certain questions, or end this interview at any time. This interview will delay about 15 minutes. All information collected will be used by the Government of Rwanda to understand how to improve the implementation of PIT program.		
Do you agree to participate in this research?		
YES, the respondent accepts..... <b>1</b>		
NO, the respondent refuses ..... <b>2</b> →STOP		
COMMENTS:.....		
1	Name of health center working for	1=Biryogo ; 2= Butamwa ; 3= Cor-unum 4=Gitega ; 5=Kabusunzu ; 6=Muhima 7=Mwendo ; 8=Rugarama
2	Code of health care providers	
3	Age of health care provider (years)	.....years
4	Sex of health care provider	1 = Male 2 =Female
5	What is your education qualification?	1=Medical Doctor Specialist; 2= Medical Doctor Generalist 3=Nurse A1 ; 4=Nurse A2 ; 5=Nurse A3; 6=Auxiliaire de Santé>one year training 7=Auxiliaire de Santé<one year training 8=Social assistant A2 ; 9=laboratory technician 10=Counselor; 11=Other (specify):.....
6	Marital status of health care provider	1=Single; 2=Married; 3=Separated; 4=Divorced; 5=Widower; 6= Other (specify):.....
7	How many years of experience do you have in health services	.....years
8	Did you receive training in PIT?	1= Yes 2=No



	PIT what do you do for him/her?	Explanations of the result significant			
		Information on the latent period before the HIV antibodies apparition and recommendation to repeat the test in case of recent exposition (under three months)			
		Information on the prevention methods and help to choose the prevention method			
		Condom distribution and instructions to use them			
23	If your client is tested HIV positive during the PIT what do you do for him or her?	<b>What is done</b>	<b>Spontaneous (1=Yes; 0=No)</b>	<b>Prompted Yes</b>	<b>Prompted No</b>
		Give the simple and clear of result signification and ensure of its understanding			
		Give time to the client to think on its results			
		Help the client to overcome the emotions			
		Talk to client on its immediate worries and help him/her to determine someone he/she can trust and notify him/her result			
		Describe the care and treatment services available in health facilities, community, national level with emphasize on available treatments, care and support services			
		Give the information on general hygiene measures like good nutrition, rest and physical exercises, etc			
		Inform on the prevention of HIV transmission and offer the condoms and explain him/her on good use			
		Inform on other diseases prevention by using the mosquito nets for PLWHA and seronegative people, regular take of cotrimoxazole etc			
		Test the tuberculosis; if not indicate the client in the other service which test the tuberculosis			
		Encourage the HIV test of the sexual partners and the client's children and indicate the place where VCT services are offered. The provider evaluates the			



		violent and suicide risks and has to guaranty the physical security			
		Indicate to the clients to other services for the appropriate care and treatment like tuberculosis screening, opportunistic infections prophylaxis, STIs treatments, family planning (for a couple or a woman in childhood), antenatal care and the care and treatment services by ARVs			
		Fix an appointment for the future consultations			
24	What are the criteria that influence you to do the PIT?	<b>What is done</b>	<b>Spontaneous (1=Yes; 0=No)</b>	<b>Prompted Yes</b>	<b>Prompted No</b>
		Patients with signs, symptoms or a disease related to the HIV infection like a person who suffer from tuberculosis, STI, etc			
		HIV exposed children or born from HIV positive mothers			
		Children with abnormal growth, malnourished			
		Person with high risk behaviours like commercial sex workers			
		Pregnant women without knowing their HIV status			
		Each client who is presented in the outpatient department			
25	During the pre test counseling what did you ask to the patient regarding his/her history and behavior?		<b>Spontaneous (1=Yes; 0=No)</b>	<b>Prompted Yes</b>	<b>Prompted No</b>
		a. Any current illnesses?			
		b. Any current or previous STI?			
		c. Understanding about how HIV is transmitted?			
		d. Age at first sexual intercourse?			
		e. Number of sexual partners in last 12 months?			
		f. Had sex under the influence of drugs or alcohol?			

		g. Condom use during last sexual encounter?			
		h. Ever had unprotected sex?			
		i. Has been tested for HIV before?			
		j. Other exposure to blood products?			
		k. Existing knowledge about HIV testing?			
		l. Recent pregnancy test?			
		m. Partner's HIV status?			
26	What did you discuss or provide the patient during the consultation?		<b>Spontaneous (1=Yes; 0=No)</b>	<b>Prompted Yes</b>	<b>Prompted No</b>
		a. Meaning of HIV+, HIV-, and indeterminate results			
		b. Meaning of the "window period"			
		c. When the results will be ready			
		d. How the results are given/post-counseling period			
		e. Confidentiality of testing and results			
		f. Cost of the test (free)			
		g. Voluntary nature of testing			
		h. Referral and support services available			
		i. Availability of ART			
		j. Discuss the meaning of the results			
		k. Discuss the difference between being HIV+ and AIDS			
		l. Discuss implications within family			
		m. Discuss all sources of social support			

		n.Discuss sharing the results with partner			
		o.Discuss preventing HIV exposure to others			
		p.Discuss condom use and safe sex			
		q.Provide condoms			
		r.Encourage partner to get HIV test			
		s.Set up a follow up appointment			
		t.Provide information about ART and other medical referral			
27	Do you receive formative supervisions about PIT implementation program from Muhima DH supervisors?	1= Yes                      2=No			
28	If YES, what is the frequency of that supervision per quarter?				
29	Do you have enough health care providers to do the PIT?	1=Yes                      2=No			
30	Do you have enough and calm space for doing the PIT?	1=Yes                      2=No			
31	Do you have enough equipment for doing the PIT?	1=Yes                      2=No			
32	In the past month how many days you did not have enough test kits for doing the PIT?				
33	In the three past months how many days you did not have enough test kits for doing the PIT?				
34	What are 3 main problems do you account in your service towards the PIT program?	1..... 2..... 3.....			
35	What are your 3 suggestions for having a good PIT implementation	1..... 2..... 3.....			



13	Did the provider asked you the consent before he/she took the blood sample?	1= Yes	2= No	96=NA
14	Did you agree to be tested for HIV?	1= Yes	2= No	96=NA
15	Can you please tell me if the provider asked you any of the following regarding your history and behavior? Did he/she talked to you			
		<b>1=Yes</b>	<b>2=No</b>	<b>99=Don't remember</b>
	a. Any current illnesses?	1	2	99
	b. Any current or previous STI?	1	2	99
	c. Understanding about how HIV is transmitted?	1	2	99
	d. Age at first sexual intercourse?	1	2	99
	e.Number of sexual partners in last 12 months?	1	2	99
	f.Had sex under the influence of drugs or alcohol?	1	2	99
	g.Condom use during last sexual encounter?	1	2	99
	h.Ever had unprotected sex?	1	2	99
	i.Has been tested for HIV before?	1	2	99
	j.Other exposure to blood products?	1	2	99
	k.Existing knowledge about HIV testing?	1	2	99
	L.Recent pregnancy test?	1	2	99
	m.Partner's HIV status?	1	2	99
16	Did you get tested for HIV today?	1=Yes	2=No	
17	Did you go to the laboratory for blood sampling?	1= Yes	2= No	96=NA
18	Can you please tell me if the provider discussed or provided any of the following during the consultation?			
		<b>1=Yes</b>	<b>2=No</b>	<b>99=Don't remember</b>
	a. Meaning of HIV+, HIV-, and indeterminate results	1	2	99
	b.Meaning of the "window period"	1	2	99
	c.When the results will be ready	1	2	99
	d.How the results are given/post-counseling period	1	2	99
	e.Confidentiality of testing and results	1	2	99
	f. Cost of the test (free)	1	2	99

	g. Voluntary nature of testing	1	2	99
	h. Referral and support services available	1	2	99
	i. Availability of ART	1	2	99
	j. Discuss the meaning of the results	1	2	99
	k. Discuss the difference between being HIV+ and AIDS	1	2	99
	l. Discuss implications within family	1	2	99
	m. Discuss all sources of social support	1	2	99
	n. Discuss sharing the results with partner	1	2	99
	o. Discuss preventing HIV exposure to others	1	2	99
	p. Discuss condom use and safe sex	1	2	99
	q. Provide condoms	1	2	99
	r. Encourage partner to get HIV test	1	2	99
	s. Set up a follow up appointment	1	2	99
	t. Provide information about ART and other medical referral	1	2	99
19	Did you go for the second time to the same provider to receive your result?	1= Yes	2= No	96=NA
20	Did you receive the information related to your result?	1= Yes	2= No	96=NA
21	Did you like how you have been received?	1=Yes	2=No	
22	If YES, why?			
23	If NO, why?			
24	What are 3 main problems do you have with this PIT program?	1.....	2.....	3.....
25	What are 3 suggestions do you propose in order to have a good implementation of PIT program?	1.....	2.....	3.....
26	Have you been tested for HIV before?	1=Yes	2=No	
27	If Yes When?			

## **LIST OF ALL 8 HEALTH CENTERS IN MUHIMA DISTRICT HOSPITAL**

1. Biryogo Health Center
2. Butamwa Health Center
3. Cor-unum Health Center
4. Gitega Health Center
5. Kabusunzu Health Center
6. Muhima Health Center
7. Mwendo Health Center
8. Rugarama Health Center