Republic of Namibia
Ministry of Health and Social Services

Introduction Cover Page

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GENERAL INFORMATION

Background

The Government of the Republic of Namibia (GRN) has committed to eliminating mother-to-child-transmission (e-MTCT) of HIV. In 2013, Namibia, led by the Ministry of Health and Social Services (MoHSS), adopted the Option B+ treatment guidelines for HIV-infected pregnant women with a goal to eliminate maternal to child transmission of HIV (eMTCT) in the country. As Namibia continues to expand and monitor coverage of prevention of mother-to-child transmission (PMTCT) of HIV Option B+ nationally, alignment of PMTCT and ART monitoring and evaluation (M&E) systems will assist the program to assess evolving program needs and maximize the potential live saving benefits of PMTCT and HIV Care and Treatment programs. Additionally, in order to assess impact of Option B+ on the health and lives of HIV-positive mothers and their exposed infants, efforts must be intensified to the measure retention HIV-infected mothers in care and to ascertain the final outcomes for exposed infants.

Presently, gaps identified within the current PMTCT system include an inability to a) longitudinally monitor mother-baby pairs throughout the PMTCT treatment cascade; b) assess coverage of Option B+ services; c) measure loss to follow-up and retention for mother-infant pairs who are enrolled in care and d) assess the outcomes of HEIs. Namibia's highly mobile population, and the inability of the current paper-based system to track patients across facilities further compound these challenges. Lastly, data from the paper-based system cannot be used to effectively validate and demonstrate Namibia's progress towards its eMTCT goals.
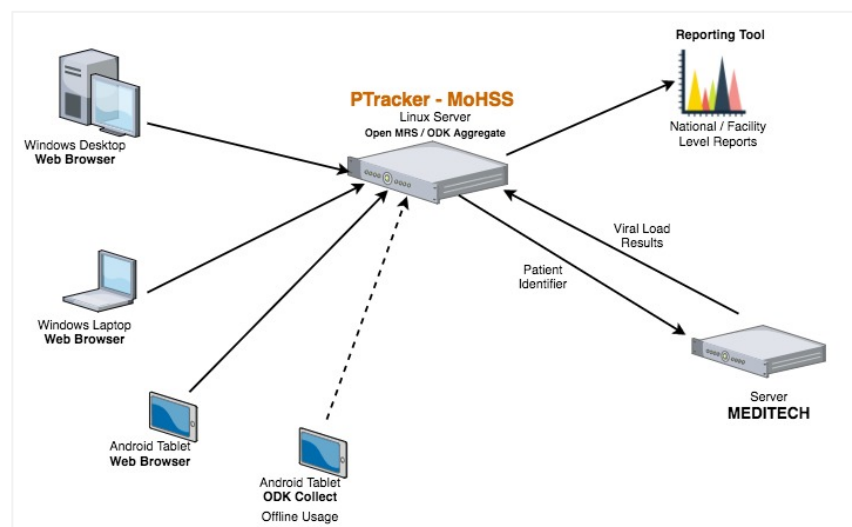
Namibia not only *requires* accurate data to demonstrate and validate progress on e-MTCT, but also a revision of the current M&E systems to allow for cohort monitoring and tracking of mother-baby pairs across the PMTCT clinical cascade (this entails tracking women from entry into ANC, through delivery and post-natal care until the infant's outcome is determined).

To address these challenges, the PMTCT Tracker (PTracker) has been developed as a patient-level electronic data capture and tracking system for the PMTCT program in Namibia. The main purpose of PTracker is to strengthen the existing M&E capabilities of Namibia's PMTCT program. This includes tracking HIV positive pregnant women across the continuum of care to monitor treatment and prophylaxis status to prevent mother to child transmission; creating the ability to conduct cohort analysis that will be used to monitor clinical outcomes and assess maternal and infant outcomes across the PMTCT cascade; facilitating monthly summary reporting at the facility level and nationally by automating monthly summary reports, to decrease the reporting burden on health care providers, identifying HIV positive women and their babies who are lost for follow-up and improved program retention; achieving interoperability in order to automate data transfer between PTracker, MEDITECH (for laboratory data) and DHIS2 and finally to utilize the improved programmatic data to estimate HIV prevalence among pregnant women attending ANC clinics within the country.

PMTCT Tracker (PTracker) System

System Overview

- PTracker is based on OpenMRS 2.0.3 Reference Application customized to meet Namibia needs.
- PTracker is web application with electronic forms for patient registration, ANC, Labor and Delivery (L&D), and post-natal care (PNC) visits.
- The application will be deployed on secured Linux server hosted by Ministry of Health and Social Services.
- On the server, side-by-side will be an ODK (Open Data Kit) aggregate server.
- The server will have PTracker electronic forms replicas for data collection using ODK collect client.
- Data using ODK will be pushed to sync with OpenMRS on submission.

Scope of the system

Electronic forms

- Registration of mothers and their exposed infants.
- Tracking of HIV mothers and their exposed infants across different facilities and generating lost to follow-up for program action and to improve retention.
- Offline data collection for places with spotty internet connectivity using handheld devices.
- Capture of the HIV test status and results, as well as ART initiation for the clients across ANC, L&D and PNC.

- Ascertaining retention and baby outcomes throughout the PMTCT cascade.
- Capture attendance of ANC, L&D and PNC clinics.

Interoperability

- Result of DNA PCR tests and results for the exposed infants ending in the final outcome after 18 months of follow-up.
- Integration with MEDITECH for collection of viral load results (viral load counts) for patients based on their ART number & NIP sample requisition ID.
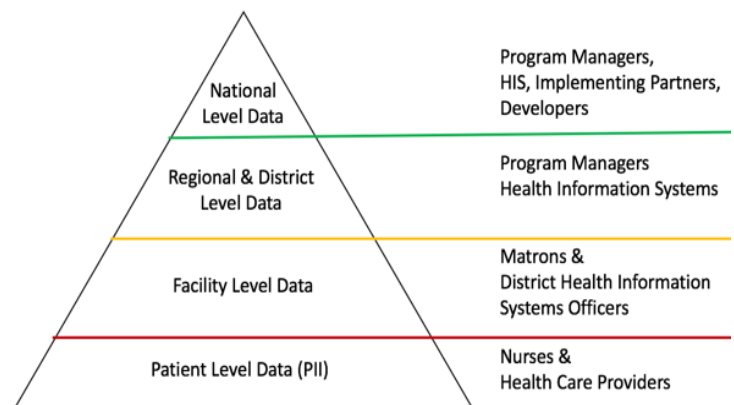
Reporting tool

- Generate facility level reports daily and summary reports
- Generate national level summary report

User Access Levels

PTracker uses the same privileges and roles as OpenMRS to control access to data within the system. Privileges define what can or cannot be done in the system (e.g., Edit People or Add User) while Roles are used to group privileges into a more manageable grouping. To make the system easier to manage, roles can contain other roles as well as privileges. Roles inherit all privileges that exist within the child roles.

PTracker has the following potential users (Facility staff) noted during our pilot site assessments:

- Senior Nurse or Nurse-in-Charges – Enter ANC and PNC patient data
- Nurses (midwives) – at district hospitals enter L&D patient data. In Health centers and clinic they also enter ANC and PNC data.
- Health Assistants – In high volume sites operating with limited staff, health assistants enter PNC (Mother-Baby follow up data) to help ease the nurses' workload
- Data clerks – Enter data retrospectively for ART sites
- Nursing Students – Enter ANC and PNC patient data
- Medical Students - At L&D enters patient data

Privileges for these facility staff can vary between facilities based on workload and staffing. For example, in smaller facilities, it will be possible to have a Health assistant with similar privileges as a nurse in a larger facility. Therefore, defining roles will provide an efficient way to manage user access level. Referencing the OpenMRS definition of User Access Level, the following privileges are defined in the table below.

Role	Privilege(s)	Users
Data Entry Clerk	Register Patient View patient Edit patient Add Encounters (follow-up visits) View/Run Reports	Nurses Health Assistants Medical Students Nursing Students
Facility Manager	Register Patient View Patient Edit patient Add Encounters (follow-up visits) Edit Encounters (follow-up visits) View/Run Reports	Facility In-charges RM&E/ HIS Staff
	View/Run Reports	PMTCT program managers (national) District program officers
System Administrator (The administrator's privileges will be restricted to the national level)	Configure System Add Users Edit User Account Information	National HIS Officers IT analyst

*Encounters are follow-up ANC/PNC visits

Acknowledgment