TIER.net
HIV Electronic Register

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Acknowledgements

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The manual draws extensively from the etr.Net user manual. We thank Wamtech and the Centers for Disease Control and Prevention (CDC) for agreeing to us reproducing parts of and drawing on the etr.Net manual in the production of this resource.

We would like to thank the following organizations for their support of this project through funding, the contribution of time and resources or the assistance in piloting of the software.
## Table of Contents

**Chapter 1 Introduction**
- 1.1 Introduction ........................................................................................................................... 1-7
- 1.2 Explanation of Each Tier ....................................................................................................... 1-7
- 1.3 When to Choose What .......................................................................................................... 1-8
- 1.4 How the Implementation Process Works ........................................................................... 1-9

**Chapter 2 About the TIER.net Manual** ................................................................................. 2-12

**Chapter 3 – Installation**
- 3.1 System Requirements ........................................................................................................ 3-13
- 3.2 Installing TIER.net .............................................................................................................. 3-13

**Chapter 4 – Setting up TIER.net**
- 4.1 Accessing TIER.net ........................................................................................................... 4-16
- 4.2 Setting up a Station ............................................................................................................. 4-16
- 4.3 Setting Up a User ................................................................................................................ 4-18
- 4.4 Adding a User after Installation ........................................................................................ 4-21
- 4.5 Password Policies ............................................................................................................... 4-21

**Chapter 5 : Getting Started**
- 5.1 Opening TIER.net .............................................................................................................. 5-23
- 5.2 Customizing TIER.net User Options .................................................................................. 5-24
- 5.3 Customizing the Patient on Record ..................................................................................... 5-26

**Chapter 6 Enterin g Data**
- 6.1 Navigating through TIER.net ........................................................................................... 6-27
- 6.2 Entering a new patient ........................................................................................................ 6-27
- 6.3 Entering New Patient Details ............................................................................................. 6-28
- 6.4 Entering New ART history ................................................................................................. 6-29
  - 6.4.1 ART Start Date ............................................................................................................. 6-30
  - 6.4.2 Prior ART ..................................................................................................................... 6-30
  - 6.4.3 Method Into ART ...................................................................................................... 6-31
  - 6.4.4 Transferred/Moved In Date ...................................................................................... 6-31
  - 6.4.5 Location ..................................................................................................................... 6-31
  - 6.4.6 Pregnant at ART Start ............................................................................................... 6-32
6.4.7 Stage at ART Start ................................................................. 6-32
6.4.8 TB Rx Started ......................................................................... 6-33
6.5 Outcomes .................................................................................. 6-33
  6.5.1 Outcome ............................................................................... 6-33
  6.5.2 Died ...................................................................................... 6-34
  6.5.3 Transferred/Moved Out ............................................................ 6-34
  6.5.4 Lost to Follow Up ................................................................. 6-34

6.6 Treatment Visits ......................................................................... 6-35
  6.6.1 Visit Date ............................................................................... 6-36
  6.6.2 Pregnancy Status ................................................................. 6-36
  6.6.3 TB Status .............................................................................. 6-36
  6.6.4 Regimen 1 or Regimen 2 .......................................................... 6-36
  6.6.5 Salvage ................................................................................ 6-36
  6.6.6 Stopped & Did Not Attend ....................................................... 6-36
  6.6.7 Treatment Regimen ............................................................... 6-37
  6.6.8 Additional Drug ................................................................. 6-37
  6.6.9 Old Coding .......................................................................... 6-37
  6.7.0 Number of Months Prescribed ................................................ 6-37
  6.7.1 Next Clinical Appointment ..................................................... 6-37
  6.7.2 Viral Load ............................................................................ 6-37
  6.7.3 CD4 Value ........................................................................... 6-37
  6.7.4 Notes Section ...................................................................... 6-37
  6.7.5 Saving the Patient File .......................................................... 6-38

6.6 Finding and Updating a patient’s record ................................... 6-39

6.7 Entering Lost to Follow Up patients from the paper register into TIER.net in Back Capture Mode. ........................................... 6-40

Chapter 7 Cleaning the data ............................................................ 7-42
  7.1 TIER.net Clean-Up Steps ......................................................... 7-42
  7.2 TIER.net Clean Up Document ................................................ 7-42

Chapter 8 Creating Reports .............................................................. 8-49
  8.1 Monthly Reports ..................................................................... 8-49
  8.2 Quarterly Reports ................................................................. 8-51

Chapter 9 Using Excel to Generate Reports .................................... 9-53
9.1 Creating a Default List for Patients on ART ................................................................. 9-53
9.2 Creating a Default List for PreART Patients ................................................................. 9-56
Chapter 10 Creating dispatch files, back up files, and Restoring the database .......... 10-59
  10.1 Creating a Dispatch file ............................................................................................ 10-59
  10.2 How to send a dispatch file electronically ................................................................ 10-60
Chapter 11 Entering PreART patients .............................................................................. 11-61
  Patient Details ............................................................................................................... 11-62
  Enrolment into Care ...................................................................................................... 11-63
  Pre Treatment Visits ...................................................................................................... 11-64
Chapter 12 Administrative Functions .............................................................................. 12-66
  12.1 Loading dispatches ............................................................................................... 12-66
  12.2 Restoring the database .......................................................................................... 12-67
Chapter 13 Important Reminders when using the TIER.net HIV Electronic Register .... 13-68
1.1 Introduction

Due to scale-up of antiretroviral therapy in high HIV burden countries, many treatment sites are no longer able to cope with the monitoring of large cohorts of patients with paper based systems only. However, these same sites do not all have the necessary infrastructure and resources to implement full electronic medical record (EMR) systems. This realization has lead to the articulation of a 3-tier approach to monitoring which includes a paper-based system making up tier 1, an electronic version of the paper register as the middle tier or tier 2, and full electronic medical record software at the 3rd tier.

The 3-tier approach allows the departments or ministries of health to strategically implement one of the three tiers in each of their facilities offering ART services. The choice of tier is based on context and resources at the time of implementation, however as resource become available and infrastructure improves, more and more facilities will transition to the next tier. The three tiers need to complement each other in order to easily facilitate such movements between tiers. It is considered a flexible solution, as any one health region could be running one or a combination of the three tiers at any given time. The 3 systems all produce the same monthly and quarterly reports needed for long-term routine monitoring of people on ART. Aggregating these reports from the 3 different tiers results in a single dataset of essential elements and indicators needed for monitoring the programme and providing feedback to districts, sub-districts and facilities. One of the major benefits of the middle tier is that well maintained paper registers can be rapidly digitized for later export into EMR systems, whereas back capturing from original paper records is a major burden for mature sites implementing EMR systems for the first time.

1.2 Explanation of Each Tier

1.2.1 Paper Register

- Standardised paper clinical records and folder per patient
- No infrastructure requirements other than those required for any paper monitoring system, such as a work station (desk) for a person to capture required data, a paper register and reporting forms
- A limited set of essential variables transferred from the patient clinical records into a paper register held at facility level (separate register for children and adults)
  - Patients entered into register page according to ART start date
  - One row per patient, regardless of transfers out and back into the facility
  - 6-monthly summary columns that allow cohort outcome data to be easily tallied
- Nationally required aggregated monthly and quarterly cohort reports extracted from paper register and sent via fax or courier to the next higher health level

1.2.2 TIER.net

- Standardised paper clinical records and folder per patient
- Infrastructure requirements include a work station, electricity, a non-networked computer, memory stick and access to a laser printer
An electronic form of the paper register built in simple yet robust software package
Nationally required aggregated monthly and quarterly cohort reports are built into system and can be sent from the facility to the next higher level of health care electronically or printed and fax or sent via a courier
Patient level (non-aggregated) data from the site can be transferred to the next level of health care via a dispatch using intra or internet or via a memory stick
The standardised IeDEA data exchange standard (DES) template is used to transfer data into other software programmes (e.g. a third tier electronic medical record software programme such as eKapa)

1.2.3 Third Tier – Electronic Medical Record Software (e.g. eKapa)
Standardised paper clinical records and folder per patient
Infrastructure requirements vary based on the capabilities of the software but at the very least usually require linkage to a central server via a network, internal networking (e.g. wiring between computer points, network plugs, etc), multiple computers and label printers. Bar code scanners are also often required.
A central (e.g. regional) network team as well as central computer help desk and roving IT support are essential to this type of system being successful in a geographic region.
Nationally required aggregated monthly and quarterly cohort reports are built into system and can be accessed centrally
The standardised IeDEA data exchange standard (DES) template is used to transfer data into other software programmes (e.g. a third tier electronic medical record software programme such as eKapa)
This tier can interface with other programmes such as a Patient Master Index, Pharmacy Software, and has additional modules such as appointment systems.

1.3 When to Choose What
There are several factors that contribute to making this decision including the size of the clinic, the resources available and the infrastructure in the region.

A paper-based system will most likely always be in use at some clinics in a developing country. Paper-based systems are immediate and easy to use at small and even medium sized sites. A new service should not be held up while awaiting procurement of hardware and training on a software system. Sites with unreliable or no electricity will necessitate paper-based register systems.
The move to a TIER.net will be based on the availability of hardware for the system and the ability to quickly replace a stolen or broken computer. From our experience, facilities with less than 700 patients can still easily maintain a paper register and extract cohort reports. However, as ART is for life, even small facilities may benefit from a middle tier system after a few years of ART provision, as paper registers become dirty, torn and difficult to manage.
The decision to move to an EMR system is multi-factorial but should at the very least be dependent on the following:
  o Infrastructure available to hold and sustain EMR systems (robust networks with quick response times when networks go down, enough available bandwidth to support an additional EMR software package, an IT help desk for end-user questions and support)
The equity of clinics in need of electronic systems - if wanting to digitalize a national health programme, middle tier solutions are less expensive, more rapid to roll out and require less routine support and training. It is arguably more valuable to scale-up patient registration systems in primary care that can share a unique identifier than to invest a large amount of resources in online EMR systems, given that ART will in future be provided in an increasing proportion of facilities. At least when sharing an identifier, data can be easily linked and merged across systems that are not reliant on constant connectivity.

If a facility is supported by academic institutions, research affiliates, or NGO partners who are willing to contribute the extra resources needed to support and sustain an EMR system, these sites should be encouraged to do so. Tier 3 systems with closely interrogated and monitored data are important to at a national level in order to answer clinical and sometimes operational questions which cannot be answered via routine monitoring systems. These tier 3 systems should only be recommended if they meet the basic requirements and standards as stipulated by a geographically based health authority (for example, software which in future is free for use by the government, the ability of the software to produce accurate nationally required reports and the ability to export and import data using a nationally stipulated standardized data exchange format).

In short, there is likely to always be a mix of system across tiers, and the focus should be on achieving scale and balance rather than a one-size fits all solution. There is likely to be an evolution over time in the proportion of sites that are using electronic monitoring systems (Figure 1).

1.4 How the Implementation Process Works

The following information will provide persons rolling out TIER.net with step by step instructions on how to successfully prepare and install TIER.net. It is not essential that each step is completed, however experience has shown that if the steps are followed accordingly, the transition from paper to electronic is simple and time efficient.

Buy in Meeting

Purpose of the initial buy in meeting is to discuss the implementation process with key persons from senior staff to the data clerks in the facilities who will be entering the data. Key persons should include all Provincial and City staff, the TB/HIV/PMTCT managers/staff, the pharmacy, the Clinic Managers and staff, the clinicians, counsellors and data clerks.

If TIER.net is being installed district wide (not just at one specific clinic) this meeting should occur with members of upper management and those overseeing the facilities and a sub structure, district or provincial level.

Clinic Evaluation

During the evaluation of the facility a review of clinic registers to verify if they are up to date will occur. This will be done to determine if the information in the paper registers is entered correctly and completely, if the baseline data is there:
The team will then establish the flow of folders and patients through the service to determine if, where and how TIER.net can improve data flow and operational systems. It is essential to verify if filing of all blood results has been completed – determine if the results are in the folders and have they been appropriately documented in the patient record;

In order to allow for a smooth transition to TIER.net, it is necessary to assess the staffing needs of the facility to determine if the clinic is in need of additional staff so as to ensure timely data entry and clinical support. Finally, it will be necessary to assess the equipment needs of the facility to identify if there is a need for additional equipment (computer etc) in order to maintain TIER.net

Reporting Back

After the completion of the buy in meeting and clinic evaluation, the implementation staff will compile a detailed report based their finding and will distribute via email to key stakeholders for comments/suggestions. This report is usually sent no later than one week after the initial buy in meeting, and deadline for suggestions and comments is no more than two weeks.

Preparation

Once the feedback report has been accepted by all parties, the clinical staff ensures that the recommendations regarding the changes and updates to the paper monitoring system have been completed. Recommendations regarding the paper monitoring system may include updating of regimens, updating baseline blood results, verifying unique patient identifier number, procurement of equipment and staff, etc.

Procurement of Equipment

At this time, the evaluation team will assess the need for a computer with which to run TIER.net, a back-up flash drive or re-writeable CD; a printer; extension cords, a secure space in which to place the computer, a desk/chair for the data clerk.

Installation of the eRegister

Once the equipment has been procured, the installation of TIER.net is done on site, and a on-site training is conducted with the staff who will be entering the data.

Back Capturing process

If the facility is transitioning from a paper based system to TIER.net, the staff will enter the data from the paper registers into TIER.net. The amount of time that this may take is dependent on the condition of the paper registers, the number of patients, the protection of data clerks time, and supervision from the management team

Clinical Records Keeping Training

During the back capturing phase, or shortly thereafter, the implementation team will conduct a clinical records keeping training with the clinical staff to ensure that the data needed for capturing is
being documented accurately on the clinical stationary. This training will include the doctors, nurses, pharmacists, counselors and data clerk staff

Cleaning the data and going live

Once the back capturing process has occurred, the cleaning of the data occurs. It is during this time that the information that has been back capturing is validated for accuracy. Also, the staff will be trained on how to run reports, how to capture from the patient folders and how to trouble shoot.
Chapter 2 About the TIER.net Manual

The TIER.net user manual is targeted to users at all levels, with a particular focus on the user at data entry level where patient-level data are entered and updated. The manual describes in detail the installation of TIER.net software, explains how to get started with the program, shows the different applications of data entry and data analysis, and provides explanations and examples of several additional functions and features of the program.

In addition to the instructions at the level of data entry, the manual also provides information relevant to administrators at any level. While the main aim of this manual is to equip the basic user with the knowledge to enter and analyze HIV data, there is also information on how to generate reports and trouble-shoot any issues. The manual aims to equip advanced TIER.net users and administrators with the knowledge and tools they need to provide independent, in-country support to the TIER.net user community. Although the basic operation of the software is covered, the primary goal of this manual is for users to learn about other advanced topics surrounding the support and administration of software.

Ongoing training is provided by the University of Cape Town and other South African Department of Health NGO partners.

The first step is installation of TIER.net. After installation the user should browse through the manual to familiarize oneself with the various functions of the program. The manual guides the user through all the applications of data entry and data analysis and additional functions are described separately. This step-by-step approach is designed to assist beginners and self-learners and to guarantee a fast and successful start.

TIER.net uses several conventions to make the manual more user-friendly. These are:

• **Bold** type is used for action words or objects on the screen and these include instructions such as click Save As, open File, and click Close.

• **Italic** type is used for a word or phrase that is being defined or otherwise deserves special emphasis.

• **Underlined** type refers to text that should be typed.

TIER.net is the National Department of Health’s approved middle tier HIV/ARV monitoring and evaluation system.
Chapter 3 – Installation

3.1 System Requirements

TIER.net is a user-friendly, menu-driven computer program developed on the Microsoft.NET platform (version VB.NET 2.0/2005). TIER.net is available on an autorun CD-ROM and updates are distributed via CD-ROM and the web. If your equipment does not have the capability to run a CD-ROM, you can download the autorun version onto a flash drive.

The following are required to install and run TIER.net successfully:

- Computer with 500 megahertz (MHz) or faster processor (700 MHz or better is recommended).
- Enough memory for the version of windows to run comfortably, but at least 512MB is recommended for Windows XP.
- At least 80 MB free hard disk space.
- Microsoft Windows 98, NT 2000, ME, XP or 7.
- Microsoft.NET Framework version 2.0. (This software is included on the installation CD-ROM).
- Microsoft Internet Explorer 5.01 or higher. (Version 6.0 is included on the installation CD-ROM).
- Adobe PDF Reader 6.0.
- CD-ROM drive.
  - NB: if your equipment does not have a CD-ROM installed you can use a flash drive to install.

3.2 Installing TIER.net

- Turn the computer on and ensure that Windows is open and the Windows desktop (Figure 3.1) is displayed. Shut down all other applications. It is usually not necessary to shut down background programs such as virus checkers.

Insert the CD-ROM into the CD drive. The installation process should automatically start. Click OK to continue on the Welcome to TIER.net Setup Wizard.
If the program does not automatically start, follow these steps:

1. From the Windows desktop, click **Start** (Figure 3.2) to open the Start menu.
2. Click **Run**.
3. The **RUN** dialog box (Figure 3.3) opens.
   
   ![Figure 3.3 Run Dialogue Box](image)

4. Type the drive and name of the program installation file and click **OK**.
5. The program installation file is **SETUP.exe**, and the CD usually defaults to D, so the user should type: `D:\SETUP.EXE` (This command will activate the CD-ROM and installation will commence. The software requires Microsoft.NET Framework version 2.0 to work, and if it is not installed, a window will pop up, select **Accept** to install the Framework. Please be patient as installation may take several minutes.)

Now, the **Welcome to TIER.net Setup Wizard** dialog box (Figure 3.4) appears. The wizard guides the user through the steps required to install **TIER.net**.
Click **Next** to proceed. The *Select Installation Folder* dialog box (Figure 3.5) appears.

Select the installation path by clicking on the Browse button.

By default, the installation path is set to C:\ProgramFiles\Electronic HIV Register. It is recommended that one uses the default setting.

Select the **Everyone** radio button and then click **NEXT**. This command ensures that all users with access to the computer will see **TIER.net**.

The *Confirm Installation* dialog box appears (Figure 3.6).

A series of progress bars is displayed as eRegister is installed. Be patient this may take several minutes.

Click **NEXT** to begin installation of the software.

The *Installation Complete* dialog box (Fig 3.7) confirms that installation is complete.

Click **Close** to return to the Windows desktop.
Chapter 4 – Setting up TIER.net

4.1 Accessing TIER.net
Accessing TIER.net icon is automatically created during the installation process. TIER.net is opened from the Windows desktop by double-clicking TIER.net icon. (Figure 3.8)

![TIER.net Icon](image)

Figure 3.8 TIER.net Icon

4.2 Setting up a Station
Double click on TIER.net icon (see Figure 3.8)

![Station Setup Wizard](image)

Figure 3.9 Station Setup Wizard

- Tick the box next to Data Entry Level as shown in Figure 3.9. If this installation is at Data Entry Level (meaning that this computer will be used for data entry),
- Enter the name of the health facility in the box labeled: Please enter the name of the workstation or data entry level
- Click Next to continue

The Station Setup Wizard dialog box appears when accessing the eRegister for the first time.
The **Station Setup Wizard** (Figure 4.0) allows the user to select the clinic for which he/she is responsible.

*Figure 4.0 Station Setup Wizard Box*

- **To expand a specific level** click on the **plus sign (+)** displayed before the level name.
- Levels are expanded by clicking on the **plus sign** in front of the empty boxes until the relevant level (clinic) is reached.
- **Click** in the empty box in front of the correct level and a green tick will be displayed in the box.
- **After selecting the correct Data Entry Level**, click **Next** to proceed.

The next step in setting up the station is to enter new users. There are two types of users. The **Data Entry Level** user is the person at the facility clinic who is responsible for entering data. The **Administrator Level** user is a person with higher accessibility (i.e. clinic manager, Program Manager etc) and who has administration rights. The Administrator Level user has administrative and supervisory rights.

**Table 1: Distinction between Users and Administrators**

<table>
<thead>
<tr>
<th>DATA ENTRY USERS</th>
<th>ADMINISTRATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can add and edit patient records</td>
<td>1. Can delete patient records</td>
</tr>
<tr>
<td>2. Can view and find records</td>
<td>2. Can view and find records</td>
</tr>
<tr>
<td>3. Can run, view and analyze reports</td>
<td>3. Can run, view and analyze reports</td>
</tr>
<tr>
<td>4. Can change own password</td>
<td>4. Can change own password and assist user or administrator in changing passwords</td>
</tr>
<tr>
<td>5. Can add a facility</td>
<td>5. Can add, edit, decommission and delete a facility</td>
</tr>
<tr>
<td></td>
<td>6. Can set up users and set up stations for data entry level access</td>
</tr>
</tbody>
</table>
There can be more than one **Data Entry Level** user on a computer with different access rights to one or more facilities.

### 4.3 Setting Up a User

To add a new user, click on **New** in the **Station Setup Wizard** (Figure 4.1)

The **User Details** dialog box appears as shown in Figure 4.2

**First Name and Surname:**

Enter the **First Name and Surname** is the name of the person who will be capturing data. This information will appear throughout **TIER.net** and when uploading dispatch files. Please be sure to use the correct first and last name of the user. No nicknames or abbreviations are allowed.
Username:

- *Enter a Username.* The user must remember his/her username as this is required to open TIER.net. (The computer will always default to the last user that used the software.)

Password:

- *Enter your password* here. (See Section 4.2 for more information on password policies.) The password is not case sensitive. The user may change his/her password at any time while working in the program.
- After entering the password, confirm it by *re-entering* the password in the **Confirm Password** field. The program will reject the password if both passwords do not match.

Email, Telephone and Fax:

- *Enter the user’s email, contact phone number and fax number.* These contact details should be the contact details for the user/staff at the facility.

Password Hint and Password Answer:

If you have forgotten your password, a feature, **Forgot Your Password**, is available to help users remember their passwords. This feature is located on TIER.net logon splash screen.

Administrator:

For *Data Entry Level* users the **Administrator** field should be left unchecked.

- Click **Save** to continue.

These steps should be repeated for each additional user. Usually there will be multiple *users* for data entry, and one *administrator* for each station setup.

- Once the user setup is been complete, **click NEXT**.

The *User Details* box (Figure 4.2) lists all users and their passwords. This is only accessible during the initial setup, and afterwards only by and **Administrator**.
The next step is to assign specific health facilities to a user.

Figure 4.3 Assigning a facility to a User

- To assign a district to a specific user, **click** and **highlight** a user’s name.
- Then **click** on a specific facility and **drag** the name of the district from the Facilities box on the left side and **drop it** in the User Access box in the bottom right side of the box as shown in Figure 4.3
- Repeat this step for each user.
- **Click Finish** to complete the user setup.

The following message box (Figure 4.4) appears to indicate that the user permission setup has been complete.

Figure 4.4 Station Setup Completed box
4.4 Adding a User after Installation

An administrator can only add additional users to TIER.net.

To add a user, select Setup then Users (figure 4.5 New User Setup)

Click New (figure 4.6 Details)

Enter the user details on the Details tab, and be sure to enter the assigned facility by clicking and dragging the selected facility on the Permissions tab (figure 4.7)

4.5 Password Policies

Create passwords six characters or longer. Although the standard is six characters, it is recommended that passwords be at least 10 characters long. (The longer the password, the harder it is to crack.)

Passwords must consist of at least three of the following character types:

- Uppercase letters.
- Lowercase letters.
- Numbers.
- Symbols found on your keyboard, such as ! * ( ) ?.

Avoid using your username or any part of your full name in your password.
Passwords must be changed at least every six months.
Do not re-use passwords.
Do not share your password with colleagues.
Do not write your password on paper. It is much safer to memorize it.
The “pass phrase” method allows one create a complex password that is easily remembered. Use the first letters of an easily remembered phrase using uppercase letters and a number or punctuation character to meet the complexity rule.
- An example of this pass phrase follows: Pass Phrase: The quick brown fox jumped over the lazy dog! Resulting Password: Tqbfjotld!
Chapter 5: Getting Started

5.1 Opening TIER.net

Always start TIER.net from the Windows Desktop, whether for entering or editing data, or for data analysis. Open the program by double-clicking on TIER.net icon on the desktop that was created during the installation process.

Logging In

- To Log in, Open the TIER.net icon on your desk top (figure 4.8)
- In the log in screen, enter your Username and Password, click OK. The main display page will appear. (figure 4.9)

TIER.net is now activated, and the user can begin to enter patient data.
5.2 Customizing TIER.net User Options

There are 2 modes in which to capture information into TIER.net – Back Capture Mode and/or Live Mode. When capturing historical data from the patient record or the paper register selecting Back Capture mode will estimate visit dates and facilitate the entering of data. When capturing live or present day data, the computer will be set up to capture in live mode. It is the responsibility of the user to set up the capturing options to reflect either live or back capture mode.

Setting up Back Capture Mode Options

1. From the main display page (figure 5.0) select Tools, then Options (see figure 5.1)

![Figure 5.1 Options Tab](image)

The Options Page will appear (see Figure 5.1). This is where to select the users Data Entry Options. This will have to be completed by each new user when logging in to TIER.net. To ensure that the correct fields have been select, it is helpful for the user to double check the options set up when logging on to the system.

![Figure 5.2 a,b](image)

TIER.net HIV Options page
Selecting Modes

**Back Capture Mode**
- Ensure that the first 2 boxes are **checked** (see figure 5.2a). This will ensure that the patient data will be collected in back capture mode.
- Ensure that the **Show TB Status field on treatment visit screens** & the **Show Pregnancy field on treatment visit screens** is unchecked as this information is not collected in the paper register.
  - If capturing directly from the patient folder, you may be able to collect this information from the patient visit summary column on the patient stationary.

**Live Mode**
- To capture in live mode, ensure that the boxes that were selected for back capture mode are unchecked, and the **Show TB Status field on treatment visit screens** & the **Show Pregnancy field on treatment visit screen** are checked (see figure 5.2b).

**Clinicom Folder Check**
- This field is for facilities that do not use the Clinicom numbering system.
- If a facility does use the Clinicom system, make sure that the **Ignore Clinicom Folder Check** is left unchecked.

**CD4 Eligible for ART Validation Threshold**
- This field is used to establish the CD4 count that will determine a patient's eligibility to start ART.
- This number is defaulted to a level of 200 absolute value and 20 for percentage. This number should not be changed unless policy guidelines stipulate and can only be changed with written instruction provided in writing by the HIV/TB National directorate.
- In some countries the CD4 count baseline is higher than 200, please refer to your country guidelines to determine threshold level. Again, this threshold should be provided to the user in writing in either policy guidelines, or approval from the HIV/TB directorate.

**Data Listing Options:**
- This is used to determine the number of patients that can be viewed on the master lay out page (see Figure 5.2).
- The default page size is 25. Be sure to enter a number that is larger than the number of patients ever in care.
  - i.e Clinic X has 3410 patients, therefore Patient list page size should be set to 3410 patients. To simplify, enter a number that is greater i.e. 10000 as this will ensure that all patients in TIER.net will be viewed at all times.
Report Options

This field indicates the number used to determine when a patient is deemed Lost to Follow-up by TIER.net system.

The default LTF threshold is set to 3 months. This number can only be changed when policy guidelines stipulate and/or instruction provided in writing from the HIV/TB directorate.

Once the user has selected the options, click Save to continue. The page will refresh and return to the main display page.

5.3 Customizing the Patient on Record

Any existing records in the database will appear on the Patients on Records screen. Although this screen can be customized it is preferable to use the default settings. To customize the screen, click the Setup Columns button, shown in Figure 5.5

![Figure 5.3 Setup Column](image)

The Setup Columns button allows one to show/hide any of the data variables in any order of preference.

- Click on desired variable and then use the arrow keys or click & drag to select the column to show/hide.
- These selected columns will be shown when running reports, queries and excel spreadsheets.
Chapter 6 Entering Data

6.1 Navigating through TIER.net

The following is a list on how to navigate through TIER.net

- To move from one field to the next, use the Tab key or the mouse.
- The down arrows on selected fields provide the user with a drop down box. The drop down box provides hard coded fields. This will minimize the level of inputting errors. The program will not allow free text.
- When information is entered incorrectly i.e. date, incorrect length of folder number, a red exclamation mark will appear at the end of the field indicating that this information will need to be reviewed prior to saving of the record.
- In some instances, a pop up window will appear indicating what the error is and how to review it (figure 6.1).

6.2 Entering a new patient

- On the main display page, click on New to enter a new patient. A blank page will appear (see Figure 5.5)

- The patient file page is divided into 5 sections:
  - Patient Details
  - ART
  - Outcomes
  - Treatment Visits
  - Notes

There are currently other fields below the notes section, however they are not currently required as part of the M&E standard data collection.

For instructions on how to enter data into those sections please see Appendix A.
6.3 Entering New Patient Details

The South African Western Cape Paper Monitoring and Evaluation (M&E) Tool is used as an example of where to find the information needed to enter into TIER.net. Some facilities may not use the same monitoring tool; however, it may be helpful in order to understand where the data is generated from. Please use your provincial or country M&E registers as reference where applicable.

Some facilities do not have a paper based Monitoring & Evaluation Tool, in this instance it will be necessary to capture data directly from the patient’s folder.

The Patient Details section is broken down into 8 fields (those fields with an asterisk next to them indicate required fields):

- Folder Number*
- Alternate Number
- Name*
- Surname*
- Date of Birth*
- ID Number
- Gender*
- Treatment Supporter

To enter the Folder/Clinicom Number, enter the 8-10 digit number into the section marked Folder/Clinicom Number. (see Figure 5.6)

*Enter* the Alternate number if the patient has more than one number or the TB treatment number if the patient is on TB treatment in the Alternate Number field (Figure 5.6)

To enter the Name of the patients, enter the information into the Name and Surname field. Be sure to double check the spelling of each name and enter the name exactly as it appears on the patient folder (Figure 5.6).

- Entering incorrect information can lead to duplication of patients in TIER.net thus leading to a false inflation of patients in care.

*Enter* the Date of Birth in day, month, year format (dd/mm/yyyy) in the Date of Birth field. *Click* the drop down key for a calendar.

- A date of birth is a required field
- Be sure to verify the year the patient was born. If a patient who is an adult is entered with a DOB that is in the age range for a child, the patient will be inaccurately counted in the reports as a child.

*Enter* the Identification Number of the patient (if available) in the ID Number field.
Per South African Constitutional Law, a person cannot be denied medical treatment if they are unable to produce an Identification Number. No patient can be denied treatment or medication at any government health facility.

This field is NOT required

To enter the Gender of a patient select either the Male or Female radio button next to the field marked Gender.

The field Treatment Supporter is not a required field, and the information is not always available. However if this information is provided in the patients folder please enter it in the Treatment Supporter field.

6.4 Entering New ART history

The ART section is broken down into 8 sections. Please be sure to complete in full as each field in this section is a required field.

- ART Start Date*
- Prior ART*
- Method Into ART*
- Transferred/Moved In Date
  
  Only required if a patient is a Transfer In
- From Location
  
  Only required if a patient is a Transfer In
- Pregnant at ART Start*
- Stage at ART Start*
- TB Rx Started

Figure 5.7 Patient Details
Although the patients ART history should be clearly documented in their folder/clinical record, there may be a need to clarify their Prior ART/Method into ART information. The following table (figure 5.8) can be used as a guide for clinicians. Non Clinicians can use it as a reference; however any changes to patient information must be completed by the clinician.

6.4.1 ART Start Date
- Enter the ART Start Date in the DD/MM/YYYY format. **Click** the drop down key to use the calendar feature to select the date.
- This is the date of the patient’s first ever experience with triple ART therapy

6.4.2 Prior ART
- To enter the Prior ART information, **click** on the drop down key. Select what Prior exposure (if any) the patient has had to ARV’s from the drop down list (figure 5.9).

---

**Figure 5.8 Transfer in/Prior ART**

**Figure 5.9 Prior ART**
6.4.3 Method Into ART

In the **Method Into Art** field (figure 6.0) two options appear in the drop down menu:

- Select **New** (figure 6.0) if this patient is taking triple therapy for the first time.
- Select **Transferred/Moved In** (figure 6.1) if this patient has been transferred from another clinic.

6.4.4 Transferred/Moved In Date

- If **Transferred/Moved In** is selected the next field, **Transferred/Moved In** field will become ‘active’, enter the patients transfer in date.
- With a Transfer In/Moved In patient, their art start date should be prior to their Transfer In date, as it is assumed that the patient started ART at another clinic and has transferred to your clinic.
  - example: Ms Ngoba started ART in December 04 in Mitchells Plain CHC, but she transferred to Retreat CHC in March 2005.
  - Her ART Start Date should be December 2004, and her Transfer In Date should be March 2005.

6.4.5 Location

- Enter the patients **Transfer/Moved In location** by clicking on the **Select** button next to the field From Location and clicking on the Transfer/Moved In location (see figure 6.2)
6.4.6 Pregnant at ART Start

If the patient has been entered as a female, the **Pregnant on ART Start** field will become active. If the field is active you will have the following choices from the drop down menu:
- yes – the patient was pregnant when she started ART
- no – the patient was not pregnant when she started ART
- not sure – this field can be selected if pregnancy status is unknown

6.4.7 Stage at ART Start

Select the number that corresponds with the patients WHO Stage at ART start (figure 6.4). If this information is not known, select **Unknown** from the drop down field.
6.4.8 TB Rx Started

Select the patients TB Rx Status from the drop down box (figure 6.5)
If this information is unknown, select Not Sure

Now that the Patients Details and ART history have been entered, it is now possible to enter a patient’s Outcome and Treatment Visits. Unlike the Patient Details and ART sections, the Treatment Visits section will be used at each patient visit and the Outcomes section will be used to document if a patient has become Lost to Follow, Transferred Out or Died.

6.5 Outcomes

In this section a patient’s Outcome can be documented. It is important to note that once a patient outcome has been documented it is possible to change the outcome if the outcome is not longer valid.

For example is a patient did not attend the clinic for 3 months, they are documented in TIER.net as a Lost to Follow-Up patient. If the patient returns to the clinic, the outcome can be cleared and the treatment regimen and visit history can be entered.

Please note that this information is not tracked, so if a patient was a LTF and has returned, please enter their LTF up history in the Notes Section (see Figure XXXX)

6.5.1 Outcome

Click on the Outcome field (figure 6.6) to select the appropriate outcome.
6.5.2 Died
- Select Died from the drop down box
- Enter the Outcome Date and click OK. If the exact date is unknown, click the radio button next to Estimated Date field (see figure 6.6).
- Click OK to continue

6.5.3 Transferred/Moved Out
- Select Transferred/Moved Out from the dropdown box (figure 6.6)
- Enter the Outcome Date
- From the Purpose of Transfer drop down field, select if the patient is transferring out to another HIV/ART site or if they are transferring out for other reasons
  - Please enter the reason in the Notes section (figure xxxx)
- Enter the patients Transfer/Moved Out location by clicking on the Select button next to the field From Location and clicking on the Transfer/Moved Out location (see figure 6.7)

6.5.4 Lost to Follow Up
- Select Lost to Follow Up from the drop down box (figure 6.6)
- Enter the Outcome Date and click OK. If the exact date is unknown, click the radio button next to Estimated Date field (see figure 6.6).
- Click OK to continue
6.6 Treatment Visits

This section is used to enter patient visit information. There are several fields that must be completed in order for the patient to be counted. Please pay close attention when entering patient information as it will determine the information generated in the monthly and quarterly reports.

- When entering patient baseline information, be sure that the start date month corresponds with the month and year in the first visit field (see figure 6.8)
- To begin entering treatment visits, double click in the field below the month that corresponds with the visit month. The Treatment Visit Details window will open (figure 6.8)

![Figure 6.8 Treatment Visits](image-url)

The start date and the first visit date must match
6.6.1 Visit Date
- If entering patient information in back capture mode, the Visit date will be automatically estimated (see Section 5.2)
- If entering in live mode (see Section 5.2), enter the visit date in field Visit Date

6.6.2 Pregnancy Status
- If the patient is Female, enter the patient’s pregnancy status for this specific visit in the field labelled Pregnant. If the pregnancy status is unknown, select Unknown from the drop down menu.

6.6.3 TB Status
- Enter the patients TB Status in the field labelled TB Status. There are several options available in the drop down menu, please be sure to correctly enter if the patient has been screened, if they have symptoms etc. If this information is unavailable, please select Screening Status Unknown
- Select the treatment regimen for the patient.

6.6.4 Regimen 1 or Regimen 2
- If the patient is on Regimen 1, click on the field labelled Regimen 1 or if the patient is on Regimen 2

6.6.5 Salvage
- If the patient is on Salvage therapy, click on the Salvage field select the names of the drugs that the patient has been prescribed

6.6.6 Stopped & Did Not Attend
- If the patient has been medically stopped (drugs stopped for clinical reasons), please select Stopped.
- If a patient has NOT attended clinic (they missed a visit) select Did Not Attend.
o Please note: **Stopped** can only be used when a patient’s medication has been stopped by a clinician.

o If a patient has **not attended** clinic and is now being restarted by a clinician, they may be attending clinic, but not receiving medication. In this instance, the patient would be entered as a **Stopped** until the medication is restarted.

6.6.7 Treatment Regimen
- Click on the 3 drugs that have been prescribed for the patient
- Remember to refer to the patient folder to ensure that the drugs that are being selected are the correct regimen for the patient.

6.6.8 Additional Drug
- If a patient is on more than 3 drugs, select the 4th drug from the **Additional Drug** field
- Only one drug can be selected from this drop down field

6.6.9 Old Coding
- If entering from the patient register where the old coding is used (1a, 1b, 1c etc) select the drug regimen from the drop down box in the **Old Coding** field

6.7.0 Number of Months Prescribed
- Select the number of months of medication that is being prescribed from the drop down menu in the **Months ART prescribed** field.

6.7.1 Next Clinical Appointment
- Enter the next Clinical Appointment Date in the **Next Clinical Appointment Date** field.

6.7.2 Viral Load
- Enter the Viral Load information in the **VL Value** field. Enter the date that the Viral Load was taken in Date field in the **Viral Load** section.

6.7.3 CD4 Value
- Enter the CD4 count information in the **CD4 Value** field. Enter the date the CD4 was taken in the **Date** field in the **CD4** section.
  - If the patient is an adult, be sure to select the value radio button
  - If the patient is a paediatric patient and the CD4 count is in percentage, please be sure to select the percentage radio button.
  - If a percentage for a child has not been entered, a pop up window will appear asking if the value is correct.

- Click **Save** to continue

6.7.4 Notes Section
- This Section is to be used by the data clerk to document any information that may be important to the monitoring of the patient. Information that may be documented in this section include:
  - Data Clerks Initials
  - Change in Treatment Regimen dates and details
  - Missing data
Prior Outcomes that have been reversed
If a patient is travelling for an extended amount of time

6.7.5 Saving the Patient File
Once all the patient information has been recorded, click on the Save button to save the visit history. This will allow for the patient information to be stored in TIER.net's memory.

After clicking Save the record will close and TIER.net will return to the master patient list.

Figure 7.0 Saving Data
6.6 Finding and Updating a patient’s record

The following section will explain how to locate a patient who has already been entered into eRegister. This function will be used to update a patient’s visit history on a monthly basis.

On **TIER.net** main display page, locate the **Search** option located below the Patient’s on Record heading (see Figure 7.1) and **Click** on it.

![Figure 7.1 Search function](image)

From the drop down box **select** how you want to search for a patient

- **Enter** the data for that field
- **Press** the green arrow

The patient should appear

If the patient does not appear, **search** for the patient using different criteria.

Double **click** on the patient to open the patient treatment screen

**Enter** the updated information in the treatment visit summary

Be sure to **save** your changes

![Figure 7.2 search fields](image)
6.7 Entering Lost to Follow Up patients from the paper register into TIER.net in Back Capture Mode.

This section is intended for those who are back capturing patient information from the paper register. In the paper register Lost to Follow Up patients were recorded slightly differently that TIER.net. This guide will take you through the process of how to accurately record Lost to Follow Up Patients into TIER.net.

In the paper register, patients who did not attend for 90 days (3 months) were recorded as follows:

- If a patient did not come to the clinic, S is entered into that month’s regime.
- If the patient did not come for 90 days, then in the 3rd month of not coming, S is replaced by LTF.

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1T3E</td>
<td>S</td>
<td>S</td>
<td>LTF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In TIER.net, patients are entered as follows:

- Patient came in January, and was given a month of treatment

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1T3E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Patient did not come in February, enter DNA

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1T3E</td>
<td>DNA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Patient did not come in March for second month in a row, enter DNA

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1T3E</td>
<td>DNA</td>
<td>DNA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Patient did not come in April, now considered LTF

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LTF entered in January, because that was the last time the patient came to the clinic, so therefore you MUST delete the prior DNA entered in Feb and March.
For Patients who were considered a Lost to Follow up who have now returned to the clinic

- Delete the **LTF** or **TFO Outcome in the outcome field in TIER.net**
- Enter the regime based on the date that they returned.
- For the visits between when the patient was Lost to Follow Up and when they returned, select **Did Not Attend**
- So, if a patient was **LTF** in April 2009, and then returned in September of 2009, the **LTF** should be deleted from April, and the regime should be restarted in September of 2009 (see below)

<table>
<thead>
<tr>
<th>APRIL</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APRIL</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
</tr>
</thead>
<tbody>
<tr>
<td>1T3E</td>
<td>DNA</td>
<td>DNA</td>
<td>DNA</td>
<td>DNA</td>
<td>1T3E</td>
</tr>
</tbody>
</table>
Chapter 7 Cleaning the data

7.1 TIER.net Clean-Up Steps

The following steps are to be followed once the back capturing process has occurred to ensure that all data has been entered correctly and that the patient’s details are accurately reported.

The following steps are to be completed before running the quarterly reports. Use the document in section 7.2 to complete the clean up.

Now that you have completed the back capturing, it is time to clean up the register to ensure that your numbers are accurate and that all patients have been accounted for – once you have cleaned up the data you will be able to run your monthly and quarterly reports!

7.2 TIER.net Clean Up Document

- Open TIER.net to the main display page
- You will see several headings at the top of the page
- You will need to sort each heading as you go to ensure that there is no missing information
  - In the ‘SORT BY’ field on the top of the page, you can sort each column in either ascending or descending order
  - You will need to do this for each column to ensure that there is no missing data in the register
- You can change what you see in TIER.net by setting up the columns
  - Below the PATIENTS ON RECORD row, you will see a series of tabs, select the icon SETUP COLUMN
    - A list of options will open, the options on the LEFT are the hidden icons (those that you cannot see in the main display page)
    - The ones on the right are the ones that you CAN see
    - To add from Column A to Column B, click the item that you want from Column A and drag it to Column B
    - Example: Click on the METHOD INTO ART LOCATION tab in Column A and drag it to Column B under the METHOD INTO ART tab. Click OK. You will now see that it appears on the main display page.
    - Organize the columns, so that the Show These Columns section contains the following:

1. Folder Number 11. Outcome
2. First Name 12. Outcome Date
3. Surname 13. Transfer Out Location
4. Date of Birth 14. Prior ART
5. Age 15. Method into ART
6. Gender 16. Transferred/Moved in Date
7. Pregnant at ART Start 17. Method into ART Location
8. Stage at ART Start 18. Last ART Visit Date
10. ART Start Date 20. Last ART CD4 Count
21. Last ART CD4 Count Date
22. Last ART Next Appt Date
CLEAN UP STEPS

In order for a patient to be counted in your stats it is crucial that all fields are completed in TIER.net. The following steps will help you to identify any missing variables. Remember NO blank spaces! Once you have found missing data, write what is missing down on another piece of paper, then you will have to pull the patient folder to accurately record the information in TIER.net.

FOLDER NUMBERS
- Sort the main display by Folder Number
- If there are any blanks, you will have to identify the patient in the registry.
- In some instances you may have to look them up on Premis or Clinicom) by last name to identify their clinic number.
- You must then pull the folder to verify the correct folder number.
- Make sure there are no blank spaces before the number has been entered

DATE OF BIRTH
- Sort the main display by DOB in descending order OR you can also sort by the AGE column
- Scroll to the top of the page, there should be NO blank spaces
- There should be NO abnormal dates (i.e. DOB of 11/04/2028 – it hasn’t happened yet, so you know it’s an error)
- If your clinic does not have paediatric patients, then there should be no dates of birth after 1996, or anyone younger than 14 years of age.
  - If there are, you need to verify that the date has not been entered incorrectly.
- Likewise if there is a DOB/AGE that is over 60 years of age, please pull the folder to verify.
- The Date of Birth cannot be before the ART Start Date

GENDER
- Sort the main display by GENDER
- You must have either MALE or FEMALE
- No blanks allowed

PREGNANT AT ART START
- This information will only apply to female patients
- Sort the main display by PREGNANT AT ART START
- This field should not be blank, if information is not available, select ‘not sure’

STAGE AT ART START
- Sort the main display by STAGE
- There should be no blanks
- If the stage is not listed, must select ‘unknown’
**TB TREATMENT STARTED**
- Sort the main display by TB TREATMENT STARTED
- In registers where this information is NOT captured, select ‘not sure’

☐ COMPLETED BY: ____________________ SIGNED OFF BY: ____________________

**ART Start Date**
- Sort the main display by ART Start Date in descending order
- Check the ART start date in the first row. It cannot be a date after today’s date
  - i.e. if today is October 8th, 2010 you cannot have a start date AFTER October 8th, 2010 because it hasn’t happened yet.
- This field must be completed if the patient has started ART
- If this is blank, you MUST pull the folder to verify
- If there is NO information in the folder, check with the clinicians

☐ COMPLETED BY: ____________________ SIGNED OFF BY: ____________________

**OUTCOME/OUTCOME DATE/OUTCOME DATE LOCATION**
- Sort the main display by OUTCOME in descending order
- All outcome fields must be filled in if a patient has DIED is LTF or TFO
- If there is an OUTCOME, you must have an OUTCOME DATE
  - **TMO (TRANSFERRED/MOVED OUT):**
    - You must have PURPOSE and DATE and LOCATION completed
    - You will need to open each patient record to verify that a PURPOSE and LOCATION have been completed
    - Check that there are no blank locations if outcome is TMO
    - If you are unsure of the PURPOSE, select ‘other’
    - If unsure of the LOCATION select ‘other’
    - Must have date entered – can estimate if specific date not indicated

☐ COMPLETED BY: ____________________ SIGNED OFF BY: ____________________

  - **LTF (LOST TO FOLLOW UP):**
    - For LTF’s you cannot have an outcome date that is <90 days from today’s date
    - Remember the LTF rule: a patient who has not attended clinic in >/= 90 days is considered a LTF
      - Example: if today’s date is October 8th, 2010 all LTF’s must be prior to July 8th, 2010 (90 days)
      - The date of the LTF is the same day as the last clinical visit.

☐ COMPLETED BY: ____________________ SIGNED OFF BY: ____________________

  - **DIED:**
    - If a patient has died, verify the dates
    - You cannot have a patient listed as DIED after today’s date
      - Example: if today’s date is October 8th, 2010, the patient cannot have a DIED date after today’s date
      - That would imply that the patient died ‘tomorrow’ – that doesn’t make sense right?

☐ COMPLETED BY: ____________________ SIGNED OFF BY: ____________________
PRIOR ART
- Sort the main display by PRIOR ART in ascending order
- You must have this field filled in if the patient is on ART treatment
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

METHOD INTO ART
- Sort the main display by METHOD INTO ART
- Must have this field completed
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

TRANSFERRED/MOVED IN DATE:
- Scroll down to all patients whose METHOD INTO ART is TRANSFER IN, you must have a TRANSFER IN DATE filled in.
  - You must have the date the patient TRANSFERRED IN, if not, this patient cannot be considered a TRANSFER IN
  - If there is no date, but a TFI has been indicated, pull the folder and ask clinician
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

FROM LOCATION
- If TFI is selected must have the 'METHOD INTO ART' location completed
  - If unknown select 'OTHER'
  - If you cannot find the name of the clinic select 'OTHER'
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

LAST VISIT DATE
- Sort the main display by LAST VISIT DATE
- Any date that is after today’s date (other than >1 month regimen prescribed) may be an entering error.
- Please pull the folder to verify when the patient was last in the clinic
  - Example: if today is October 8th, 2010 you cannot have a Last Visit Date after October 8th 2010 – unless more than 1 month has been prescribed.
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

CD4 count
- Sort the main display by CD4 count
- You must have a baseline, if you don’t and you have verified in the record select N/A
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________

Viral Load
- Sort the main display by VIRAL LOAD
- You cannot have any blanks
- If it’s Month 0, select N/A
- COMPLETED BY: ________________ SIGNED OFF BY: ___________________________
ODDs And ENDS

- If a patient folder is missing and you cannot verify important information, you must type that information in the NOTES section.
- If a patient is a PRE-ART patient there should not be anything (other than the patient details) filled in on the ART page if the patient has NOT started treatment.
  - Remember: ART indicates that the patient is on treatment
  - PRE-ART is a work up patient or a patient who is not yet eligible for ART

COMPLETED BY: _______________________ SIGNED OFF BY: _______________________
If a step was not complete, please indicate below what needs to be done to complete the step

1.

2.

3.

4.

5.

Additional Notes:

ONCE ALL FIELDS HAVE BEEN SIGNED OFF ON, YOU ARE NOW CONSIDERED A 'LIVE' SITE. YOU MUST KEEP THIS DOCUMENT FILED IN YOUR CLINIC, AND YOU WILL BE RESPONSIBLE FOR REVIEWING THE DATA ON A MONTHLY BASIS USING THIS DOCUMENT.

Once the data has been 'cleaned', you can print a monthly and quarterly report and send them off to the PGWC DOH M&E team!!
Validation:

**From TIER.net**

Number of patients in TIER.net who have started ARV's: 999

No of patients who have an outcome and outcome date: 99

Patients RIC 900

Now Run a monthly report...number on ART and above amount should match. If not there is missing data that is causing a patient not to be counted AND/OR a patient is being considered a LTF by the computer, but has not been verified by the data clerk.
Chapter 8 Creating Reports

8.1 Monthly Reports

- A monthly report will need to be completed by the data clerks on a monthly basis
- Monthly reports will be generated by the data clerk
- The data clerk will then print a copy, give it to the Facility Manager to sign off on
- The data clerk will fax a signed copy to the HAST coordinator
- If the facility can email the report to the HAST coordinator, a copy must still be printed and signed by the Facility Manager and placed in a binder
  - This is one of the objectives in the DOH audit
- The HAST coordinator will then forward these monthly reports to the Provincial M&E Team

To generate a monthly report, complete the following tasks:

- Open TIER.net
- Click on Analysis

Select Monthly Report
- Select the month and the year of the report that you want to run
- If ‘Remember last period used?’ is checked this will ‘remember’ the last report that was selected to be run.

Click OK to continue
The monthly report will open in another window

Please be patient as this may take some time to generate

Figure 7.5 the Monthly Report

- To print the monthly report you will need to save the file onto your back up flash drive (the same one used to back up TIER.net) then print from another computer
  - If your computer is linked to a printer, you can just print directly from your computer
- Click on the 📚 icon in the right hand corner of the screen (see above)
- Select **Save As**
- Click **My Computer**
- Select the back up flash drive (usually Removable Disk)
- **Click Save As Type**, and select and .htm or html extension file

Figure 7.6 Saving the back up

- **Click Save**
- Take the flash drive out of the computer, and place in a computer linked to a printer
  - Be sure to run and antivirus check before opening the files
- Print the file
8.2 Quarterly Reports
8.2.1 Generating Monthly and Quarterly Reports for Facility Managers

This document will help to guide you through the process of generating a report for the Facility Manager at your facility.

It is mandatory that you print a monthly report and quarterly report and give a copy to your Facility Manager. It is the responsibility of the Facility Manager to keep a copy of each report in his/her office for auditing purposes.

To generate a quarterly report for the facility manager:

- Click the Analysis tab on TIER.net main display page
- Select Quarterly Report – the Period Select window will open
- Select the Radio Button next to Period
- Write the date that the clinic opened (first started initiating ART)
- In the to column, write today’s date
- Under Age Group, select either the Adults or Children radio button
  - If you have children & adults you will have to print 2 reports, for Adults and Children
- Under Other Report Options, select Combined to view both Naïve and TFI patients
- Under Select Report, select the Interpreted radio button
- Click Ok

The report may take a few minutes to generate, however be patient. Once the report opens it will do so using Internet Explorer

Figure 7.7

Figure 7.8
8.2.2 Generating a Quarterly Report to be Faxed to the PGWC M&E Team

If you are printing a report to fax to the PGWC M&E team, please make sure that the following radio buttons are selected:

- Be sure to select the date from when the clinic opened (first started initiating ART) to today’s date
- Select either Adults or Children
- Select Naïve Only under Other Reporting Options
- Select the Standard radio button
- Click Ok
- Print a copy
- Give to the FM to sign
- Fax to the PGWC M&E team

Figure 7.9
Chapter 9 Using Excel to Generate Reports

9.1 Creating a Defaulter List for Patients on ART

This section explains how to create a defaulter list for patients who are on ART. For those patients who are on PreART, please refer to section 9.2.

If you are working with Excel 2003, the steps are the same; however the icons may appear in a slightly different location. Please refer to your user guide if additional help is required.

- Set up TIER.net with the following columns
  - Folder Number/Clinicom Number
  - Name
  - Surname
  - ART Start Date
  - Last ART Visit Date
  - Outcome
  - Outcome Date
  - Last ART Next Appointment Date

- From TIER.net highlight the data base by clicking in the top left hand corner of the spreadsheet.

  ![Figure 8.0](image)

- Click Ctrl C on the keyboard
- Open Excel
- Click Ctrl V
The list from TIER.net will appear in the excel spreadsheet.

Figure 8.1

Click on Insert, and from the drop down list, select Table.

A Create Table pop up window will appear.

Figure 8.2

In the section entitled Where is the data for your table? a formula will appear. This formula is the columns and rows for the data that has been copied in from TIER.net. If you can, leave the formula as is. However if you want to make changes:

a. If you click on the icon to the right of the formula, the data set will appear and the data that will be included in the Table will appear.

b. If you need to make changes you can select the data that you want to appear in the Table.

c. Be sure that you are including all the data, otherwise your defaulter list will be incorrect.

Ensure that the My table has headers radio button is selected.

Click Ok

- The page will appear with drop down arrows in each heading row.
- You can click on these down arrows to select how you want to sort your spreadsheet.
- When you click on one of the down arrows, a box will appear.
- You can click how you want to view the data.
- You can also filter the data by selecting or unselecting the tick marks in the Text Filter box.

Figure 8.3
If you have PreART patients stop here and continue to section 9.2 Creating a Defaulter List for PreART patients

Click on the ART Start Date Filter tab, uncheck the Blanks box. Only the patients who have started ART will appear.

From the Last ART Visit Date filter unselect any dates that fall within the last 3 months from today’s date.

a. These are patients who have had a visit within the last 3 months

b. Depending on how specific a defaulter list you want to create you can select dates within the:
   - the last 2 months
   - last month
   - last week
   - last day, etc.

In the Outcome filter, uncheck the DIED, LTF, and TFO boxes (only the Blanks box should be checked)

Click OK

The remaining patients should now constitute your defaulter list.
Click **Save As**, and save the file with the name: ART Defaulter List (and insert current date)

a. *Example: ARTDefaulter_List_2102011*

Pull all folders to verify if they are LTF

**Once this has been completed, make the changes in TIER.net**

Run the list again, and **Print**

This list should be used to recall patients

Complete this task on AT LEAST a monthly basis.

This list should be presented by the DATA CLERK at the weekly meetings.

### 9.2 Creating a Defaulter List for PreART Patients

The following section explains how to create a defaulter list for patients who are PreART patients

Set up **TIER.net** with the following columns

- Folder Number/Clinicom Number
- Name
-Surname
- HIV diagnosis Date
- First Visit Date
- ART Start Date
- Outcome
- Outcome Date
- Last PreART Visit Date
- Last PreART Next Appointment Date

From **TIER.net** highlight the data base by clicking in the top left hand corner of the spreadsheet.

![Figure 8.7](image_url)
Click Ctrl C on the keyboard

Open Excel

Click Ctrl V

The list from TIER.net will appear in the excel spreadsheet

Click on the ART Start Date Filter tab, make sure that only the Blanks box is checked. Only the patients who have NOT started ART will appear.

From the Last PreART Visit Date filter sort in ascending or descending order

Unselect any dates that fall within the last 3 months from today’s date.

a. These are patients who’ve had a visit in the last 3 months

b. Depending on how specific a defaulter list you want to create you can select dates within the:
   - the last 2 months
   - last month
   - last week
   - last day, etc.
In the Outcome filter, uncheck the DIED, LTF, and TFO boxes (only the Blanks box should be checked)

Click OK

The remaining patients should now constitute your PreART defaulter list.

Click Save As, and save the file with the name: PreART Defaulter List (and insert current date)

a. Example: PreARTDefaulter_List_222011

Pull all folders to verify if they are LTF

Once this has been completed, make the changes in TIER.net

Run the list again, and Print

This list should be used to recall patients

Complete this task on AT LEAST a monthly basis.

This list should be presented by the DATA CLERK at the weekly meetings.
Chapter 10 Creating dispatch files, back up files, and Restoring the data base

10.1 Creating a Dispatch file

Dispatch data files are for transferring data to next higher level (facility to sub-district, etc)

Dispatches can be created by both users and administrators

Click on the name of the facility that you want to create a dispatch for
Click on File in the menu bar
Click on Create Dispatch File
Save in the folder on your desk top named TIER.net Dispatch Files
   If you haven’t already done so, create a folder on your desktop named TIER.net Dispatch Files
The first and EVERY time you save a dispatch PLEASE select custom and select the all radio button

Give to the HAST Co either electronically or via memory stick/CD once a quarter.
10.2 How to send a dispatch file electronically

If you are sending the dispatch from a different computer, you will have to copy the dispatch file on to a memory stick.

From the computer that has email ability, insert the memory stick.

Open the email account that you want to use.

Enter the email address for the person that you want to send to.

Attach the dispatch file from the memory stick that you want to send.

Send the report.

Figure 9.3

Be sure to include your name at the bottom of the email with your contact details so that you can be contacted if there are questions.
Chapter 11 Entering PreART patients

The following section will explain how to enter PreART patients. PreART patients should only be entered once the back capturing process has been completed.

The diagram below (figure 9.4) explains how a patient is determined to be a PreART or ART patient and how their data can be included in the TIER.net HIV electronic register. Depending on the set up of the clinic, you can choose to enter patients from when they first test positive for HIV and keep them on your system indefinitely or you can choose to enter patients that are being ‘worked-up’ to begin treatment. Please verify with your district support staff.

Figure 9.4 PreART and ART pathway flow chart

Be sure to work with your clinic staff on the management of the folder flow within the clinic.

To begin entering patients, open the eRegister and enter the user name and password of the person entering the data.

Click Ok
Since the eRegister is no longer capturing patients in back capture mode, the eRegister will automatically open to the PreART page (figure 9.5)

You will be required to enter the
- Patient Details
- Enrolment into Care
- Outcome
- Pre-Treatment Visits
- Notes Section

You CANNOT enter a patient in ART and then in PREART, but you can enter in PREART and then move to ART when the patient starts treatment

If the patient has not started treatment, you cannot enter them in ART.

Once a patient has started ARVs a message will appear indicating that ART has started and the ART start date

**Patient Details**

The Patient Details section is broken down into 8 fields (those fields with an asterisk next to them indicate required fields):
- Folder Number*
- Alternate Number
- Name*
- Surname*
- Date of Birth*
- ID Number
- Gender*
- Treatment Supporter

To enter the Folder/Clinicom Number, enter the 8-10 digit number into the section marked Folder/Clinicom Number.(see Figure 5.6)
Enter the Alternate number if the patient has more than one number or the TB treatment number if the patient is on TB treatment in the Alternate Number field (Figure 5.6).

To enter the Name of the patients, enter the information into the Name and Surname field. Be sure to double check the spelling of each name and enter the name exactly as it appears on the patient folder (Figure 5.6).

- Entering incorrect information can lead to duplication of patients in TIER.net thus leading to a false inflation of patients in care.

Enter the Date of Birth in day, month, year format (dd/mm/yyyy) in the Date of Birth field.

- A date of birth is a required field
- Be sure to verify the year the patient was born. If a patient who is an adult is entered with a DOB that is in the age range for a child, the patient will be inaccurately counted in the reports as a child.

Enter the Identification Number of the patient (if available) in the ID Number field

- Per South African Constitutional Law, a person cannot be denied medical treatment if they are unable to produce an Identification Number. No patient can be denied treatment or medication at any government health facility.
- This field is NOT required

To enter the Gender of a patient select chose either the Male or Female radio button next to the field marked Gender.

The field Treatment Supporter is not a required field, and the information is not always available. However if this information is provided in the patients folder please enter it in the Treatment Supporter field.

Enrolment into Care

Enter the date that the patient tested positive for HIV in the field labelled HIV diagnosis date.

Enter the first date the patient was seen in your facility in the First Visit Date field

- This date may be the same date as the diagnosis date
- Check the first time a note was written in the patient folder

Select Yes, No or Unsure from the drop down box in the field labelled Pregnant on Arrival

If the patient has been cleared to start treatment, meaning the clinician has indicated that the patient is ready to start enter Yes from the drop down list in the Work-up Started field. If the patient has not been cleared enter No. If you are unsure, select Unknown.

Enter the date that the patient’s work up began in the Work Up Started Date field.
You cannot select YES to work up started, IF you don’t have the Work up date.

As the patient completes his or her counselling session, click the corresponding radio button next to the **Counselling/Literacy Session** field. The S indicates that the patient has started treatment.

- Once the patient starts treatment you will just select the ART tab from the main display page on the eRegister.

ALL of these fields must be completed.

### Pre Treatment Visits

- **Enter** the date that the patient came to the clinic for their appointment.
- **Enter** the **WHO Stage** information from the drop down menu – enter either 1, 2, 3, 4 or Unknown.

- **Enter** the **TB Status** for the patient from the drop down list. If the screening status has not been documented select **Screening Status Unknown**.

- **Enter** the Pregnancy status for the patient – enter Yes, No or Unknown in the **Pregnant** field.
Enter the patients next scheduled visit in the field marked **Next Appointment Date**. This is a required field – if no date is documented in the patient stationary, you must return the patient folder to the clinician for clarification.

Enter the patients **CD4 value** and the **date** in CD4 section. Be sure to click on the **Value** or **Percentage** radio button when entering the CD4 count.  
Click **Save** to continue.

**NOTE:** If a patient has missed their appointment, leave the field blank – in the PreART section, there is no **Stopped** or **Did Not Attend Option** in version 1.2.2
Chapter 12 Administrative Functions

12.1 Loading dispatches

This function will enable administrators to import data relevant for a specific clinic, subdistrict, district, province, country etc. With importing the data it is important to ensure that the dispatch file is the most current.

Figure 9.4 Loading Dispatch

- Loading dispatch files is usually done at a sub-district or district level.
- Only administrators can load dispatch files
- The administrator must have TIER.net installed onto their computer.

To Load a Dispatch File:

- Open TIER.net and log in as an administrator
- Highlight the name of the facility, sub-district, or district that you want to upload
- Click on File in the menu bar
- Click on Load Dispatch File
- Find the dispatch file (with correct name, date and time stamp) that you want to upload, and click Open
- The data will automatically load

IMPORTANT: If this is a new facility and the name of the clinic is not in the facility tree, DO NOT add the facility at a central level – this will need to be done at the facility on the computer that is loaded with TIER.net. Failure to do this will result in data corruption

- Load the Dispatch file and the facility will automatically be added to the tree–
- You will only add a facility to the facility tree if:
  - You are at the facility and capturing data into TIER.net for the first time
  - AND
  - the facility is not already in the tree
12.2 Restoring the database

Figure 9.5 Restoring TIER.net

All data clerks must backup files in case of virus attacks, power failures or surges (which can corrupt database), stolen computers, etc.

Backups should be done on a daily basis

If there is a problem with TIER.net and an administrator will need to restore the database

In order to restore the database, complete the following steps:

➢ To restore, click ‘File’ and then ‘Restore’
➢ Select the backup file and click ‘open’
Chapter 13 Important Reminders when using the TIER.net HIV Electronic Register

The TIER.net HIV Electronic Register must be backed up each day

The backup disc or flash drive must be kept in a secure location, away from the computer (i.e keep it locked in the Nurse Manager or Facility Manager’s office)

Do NOT share your password with anyone

Monthly reports must be generated and sent to the Provincial M&E team by the 3rd of each month

Quarterly Reports must be received by the Provincial M&E team by the following dates:
  • Quarter 1 January 3rd
  • Quarter 2 April 3rd
  • Quarter 3 July 3rd
  • Quarter 4 October 3rd

Facility Managers must maintain copies of the monthly and quarterly reports in their office.

Generating dispatch files and reports can take a few minutes, in some cases it can take 5 minutes depending on the size of the file, please be patient (and gentle) with the computer during this processing time.

A patient who has not attended the clinic (missed an appointment) must be entered into the system as a DNA (did not attend). Stops are only used for medical reasons – meaning the Clinician has stopped the patients medication, but the patient is still attending the clinic!!