Implementation Guide: TIER.Net TB Module
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1 Overview

South Africa has high co-infection of TB and HIV but historically programme data have been vertically managed. Following a 2013 WHO-led evaluation, and a subsequent independent evaluation, the National Department of Health (NDoH) took a decision to integrate the TB and HIV information systems at the facility-level into a single non-networked electronic system; TIER.Net. In January 2015 the planning for this began in earnest through the establishment of a technical working group comprised of government departments and partner organisations.

Learning implementations took place in eleven facilities in 3 districts nationally. Over 12 months implementers piloted the integration and change management processes through learning implementations. Training included clinical mentorship, clinical recording in the stationery, integrated TB and HIV data capture, reorientation of the data flow, and demonstrated use of patient management reports. The learning implementations informed planning including modification to the tools and software, development of the standard operating procedures (SOPs), informed the alignment of the health management information system (HMIS) and the interoperability between TIER.Net and ETR.Net, and finally these processes informed the writing of this implementation plan.

The strategy was launched on March 7, 2016 to provincial managers in programmes and health information management and also with managers of the development partners. Provincial road shows introduced the strategy to provincial and district managers between March and May 2016. This implementation guide aims to support provinces, districts and TIER Key Implementers (TKIs) to operationalize this initiative. The Implementation targets aim to balance the need to scale up the initiative whilst placing an emphasis on maintaining quality service provision and improving data quality and supporting patient retention.

Integrated TB and HIV facility systems support integrated patient management and retention and this initiative aims to rationalize support and management requirements to foster long-term sustainability. The inclusive and measured change management processes articulated throughout this implementation guide aim to support understanding. This aims to support the transition that fosters ownership and institutionalisation with an aim to establish sustainable systems that support patient and data management.
2 Acknowledgements

The TB/HIV Information Systems (THIS) integration has been an exciting process that has brought together teams from TB, HIV, M&E as well as partners to collaborate and drive a complex initiative that aims to streamline in-facility information management.

The implementation guide draws on the lessons learned through the learning implementations and has also leveraged the experiences and processes followed to introduce the standard ART M&E system through the 3-Tiered Strategy; an initiative that commenced in 2011.

The National Department of Health would like to acknowledge and thank all those who have contributed to the process through their stewardship, technical contributions, document preparation, and overall commitment to the vision. The collaboration and involvement by National and Provincial Departments of Health, partners and technical experts has been instrumental in driving this process.

There are too many teams to mention but special thanks are given to the TB, HIV, M&E teams within the NDoH who led the initiative as well as the technical support from the University of Cape Town Centre for Infectious Diseases Epidemiology and Research (UCT CIDER) and the Clinton Health Access Initiative (CHAI). The learning implementations were critical to understand the operationalization of the initiative. Many thanks to the provinces and partners from Aurum, Anova, and BroadReach who led the charge, and to Vital Wave for project management.

The contributions and commitment by all to lead this complex initiative are acknowledged and greatly appreciated.
3 PURPOSE OF THE DOCUMENT

This document seeks to provide guidance to provincial Departments of Health to establish the systems and processes required to implement the TIER.Net TB Module. This includes direction for the District Implementation Team (DIT) and the TIER Key Implementer (TKI) in properly preparing the district and facilities for implementation of the TIER TB module (digitising the paper TB register in TIER).

4 DOCUMENT STRUCTURE

Each section of this document is laid out as sequential activities and provides the critical objectives that must be met before progression to the next section of implementation.

Section 1: Initiation Phase – National, provincial & district level

Section 2: Planning Phase – District Level

Section 3: Implementation Phase

Section 4: Routine monitoring and maintenance

Each section starts on a new page. Please only print out the sections that you need.
5  SECTION 1: INITIATION PHASE – NATIONAL, PROVINCIAL & DISTRICT LEVEL

5.1 National Technical Working Group (NTWG)

The NTWG is to oversee planning and work for the TB/HIV information systems (THIS) initiative. The NTWG coordinates between a range of stakeholders involved in undertaking the project. The role of the NTWG is to:

- Provide guiding principles and strategy for digitising ART and TB data at facility level
- Oversee planning and review feasibility of project dates
- Review and provide feedback on TIER.Net software development
- Reach strategic decisions on project direction and methods of TIER.Net deployment
- Review and vet all materials and tools needed for deployment and maintenance of the system. Provide those directly involved in the project with guidance on project issues
- Address any issues that have major implications for the project
- Reconcile differences in opinion and approach, and resolve disputes arising from them
- Identify potential project roadblocks and attempt to get them resolved

5.1.1 National Implementation Team (NIT)

The NIT is a core group of National Department of Health (NDoH) managers as well as key partners that respond to work being carried out on the ground. The NIT will be responsible to produce or revise technical documentation with a view to provide clarity to all key stakeholders at sub-national levels, and provide responses to queries from the provinces as well as disseminating amended or new documentation during times of protocol change or when new service delivery initiatives are undertaken. The NIT will also be responsible to adapt processes as identified by implementation challenges on the ground. The NIT will seek to drive alignment between the national initiatives with an aim to support data completeness and reinforce understanding and adherence to the TB/HIV M&E SOP and the DHMIS Policy. This will aim to emphasize the integrated management of the system and seek to improve data completeness through adherence to the support materials. This team will ensure necessary communications are done with NDoH stakeholders, provincial departments of health and other stakeholders.

5.2 Provincial Implementation Team (PIT)

The PITs were introduced through the 3-Tiered ART Monitoring Strategy implementation processes, and should oversee the implementation of TIER.Net.

The PIT is responsible for the overall project management of the implementation and maintenance of the information systems as well as the programme management through strengthened data use.

The PIT needs to ensure resources and support is in place to maintain the monitoring system. This extends to:

1. **Human resources:** Ensuring data capturer (DC) vacancies are timeously filled; ensuring that the DC clerks recruited have the appropriate skills required for the position.
2. **IT/equipment:** Procuring computers that comply with the software requirements, ensuring that repairs to computers, printers and so forth are timeously attended to, and ensuring that appropriate operating programmes are loaded and maintained. This also encompasses trouble-shooting any potential problems that may arise including a failure to maintain virus protection software.
3. **Training:** Ensuring that TIER trainings, targeting various cadres, are conducted in the districts on a quarterly basis. Trainings include dissemination of new functionality, as well as maintenance training.
4. **District Implementation Team (DIT) meetings:** Ensuring that DITs are constituted and that these structures schedule routine meetings and are well attended by relevant stakeholders. This meeting should ensure the
lessons and best practices are exchanged between districts to facilitate the sharing of ideas.

PITs should meet at least quarterly to discuss implementation, challenges to implementation and maintenance, and to ensure information dissemination between the provincial programmes (i.e. TB, HIV, IT, IM, and partners). This meeting will also provide a forum to discuss the implementation of district based initiatives (i.e. CCMDD or adherence clubs). The full PIT does not need to attend the monthly DITs. However, it would be beneficial for a member from the PIT to attend each DIT meeting to share provincial updates and experiences from other districts. The PIT members can delegate this responsibility among one another. These members would “adopt” the districts and attend the meetings to provide provincial updates and cross-pollination of processes to the districts.

5.2.1 Recommended members of the PIT
- Provincial HAST M&E manager (proposed project leader)
- Provincial TB manager
- Provincial DR-TB manager
- Provincial ART manager
- Provincial Information Management
- PHC Manager
- NHIS/SA representative (if not one of the above)
- TIER.Net Key Implementer (TKI) from each district
- Development partner(s) supporting HIV/ART services and TB services
- Provincial IT staff
- Other relevant stakeholders as required by PIT

5.2.2 Role of partner organisation(s) in the PIT and DIT
Implementation and maintenance of the M&E system is the principle responsibility of government departments and officials. That said, where partners are available to support government offices, it is important that provincial and district managers take the lead so they can optimally use all resources within the province and district to drive implementation and capacitation efforts. In other words, this must not be seen as a partner initiative but rather a collaborative initiative that achieves the end result of integrated TB and HIV information systems at the facility level to support integrated patient management, data availability and use. The responsibilities to achieve this objective should be delegated to relevant parties through the PIT and DIT.

5.3 District Implementation Team (DIT)
The DITs were introduced through the 3-Tiered ART Monitoring Strategy implementation processes. Existing DIT structures should manage the implementation of the TB Module and its on-going use.

The DITs were conceptualised to be the operational centres responsible for assessing the current situation and the requirements of the facilities. DITs should meet monthly and coordinate with the sub-districts (where these structures exist) to:
- Identify TIER Key Implementer(s) (see section 2.1 below)
- Identify the facilities where the TB Module can be implemented
- Coordinate trainings and ensure inclusion of relevant staff both for initial capacitation and all on-going training needs
- Ensure adherence to the integrated HIV and TB M&E SOP and that data flow timelines and requirements are adhered to
- Provide constructive and useable feedback on data generated from standardised reports and discuss
programmatic implications as identified through the data

- Monitor the maintenance of TIER.Net and provide remedial actions where facilities require additional support.

5.3.1 Recommended members of the DIT

- District HAST M&E Manager
- District TB manager
- District ART manager
- District Information Management staff
- PHC Supervisor
- TIER Key Implementer(s) (TKI)
- Development partner(s) supporting HIV/ART services and TB services
- Member of the PIT who has ‘adopted’ the DIT
- Other relevant stakeholders as required by DIT
6 SECTION 2: PLANNING PHASE – DISTRICT LEVEL

6.1 Assign TIER Key Implementers (TKIs) per district

At a minimum, one person from each district will be identified by the DIT; the District Manager should formally sign-off the choice of the TKI. The TKI will be responsible for ensuring each of the steps outlined below are carried out smoothly and according to protocol at each facility implementing the TB Module (TBM). In densely populated and heavily burdened districts, it is suggested that at least one TKI for each sub-district is identified. The primary nominated TKI should be the TB or HAST programme manager or the District Information Officer (DIO). An additional TKI to support the government TKI may be an NGO partner (PEPFAR or Academic). It is important, however, that the initiative is driven by government officials and supported by available NGO partners and these staff must work in close collaboration. In a context where NGO partner support is withdrawing from half of the country’s districts it is important the initiative is driven by government and supported by partners. This will ensure sustainability. In 2016 there are 27 districts with continued PEPFAR-funded partners; however there are 25 districts where this support has transitioned out.

The TIER Key Implementer will be referred to as the TKI throughout this document. The TKI will be responsible for driving the scale-up process and adhering to district implementation plan schedules as well as ensuring lines of accountability are known throughout the implementation process as outlined by the HIV and TB M&E SOP.

6.1.1 TKI implementation responsibilities

- Driving implementation process
- Organising and conducting:
  - District level ‘launch informational meeting’
  - District level data capturing workshops
  - District level clinical record keeping workshops
  - Facility informational meeting (with clinic committee and including data capturers etc.)
  - Facility baseline assessments and writing up the baseline assessment reports
  - Facility assessment feedback sessions documenting times lines, responsible persons and requirements to redress gaps
- Managing change management process on the ground
- Mentoring of implementing sites during first month, and on-going support thereafter as needed
- Supporting sub-districts / sites during first year to ensure adherence to SOPs
- Needs protected time!

The TKI(s), District TB and HIV Programme Manager as well as Provincial Implementation Team (PIT) members will have attended informational meetings coordinated by the NDoH National Implementation Team (NIT) to guide implementation and scale up. Additional comprehensive trainings will be held to capacitate TKIs on the full spectrum of implementation requirements.

Please ensure that each province sends the names, contact details and geographic region of responsibility for each district TKI and DIT lead to the NIT1.

6.2 District stakeholder informational meetings

The stakeholder informational meetings are conducted to provide information to all key stakeholders involved in the monitoring and evaluation of TB and HIV services. This district stakeholder informational meeting will be a once-off meeting held within each district (Note: if the meeting venue will not accommodate all the participants, this meeting

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1 Please send the nominations to Riona Govender: GovenR@health.gov.za and Nevilla Somnath: nevils@health.gov.za
can divide the district into a number of merged sub-districts). The TKI is to liaise with the district staff in order to facilitate the initial stakeholder informational meeting date(s).

6.2.1 Invitees

- District Manager
- Provincial PIT member who has ‘adopted’ the district
- District TB/HIV Programme Manager(s)
- District Information Officer
- PHC manager
- Sub-district HIV / TB Programme Manager(s)
- Sub-district Pharmacist
- Representative from each facility (Facility Manager or HIV/TB Operational Manager)
- NGO/Academic partner
- Other relevant staff not included in this list

6.2.2 Objectives

The district stakeholder informational meetings should cover the following:

- Overview
  - TB Module national strategy
  - TB Module benefits and issues that will be challenging
  - Overview of TB/HIV information system integration
- Brief run through of the TB module and its reports (short overview 30 minutes at most)
- Overview of Facility Baseline Assessment (FBA) visit objectives and requirements. Appendix A contains the FBA
- Overview of the objectives of the FBA feedback meeting
- Overview of requirements to introduce the TB module to the facility and nomination of facilities that meet the criteria for facility selection (see next section)
- Determine dates for:
  - Facility stakeholder informational meeting for all nominated facilities
  - Facility Baseline Assessment (FBA) for all nominated facilities
  - FBA feedback meeting for all nominated facilities (post FBA)
  - FBA and feedback dates should be held prior to the 2 training workshops outlined below
- Determine date for (sub)district and facility staff training workshop
  - Please see section 3.4.2 below
- Determine date for (sub) district and facility clinical stationery training workshop.

6.3 Criteria for facility selection

The District Implementation Team (DIT) and facilities should consider the following when nominating facilities to implement the TIER TB module. This list of eligibility criteria should be considered prior to initiating the change management processes to prepare a facility for digitizing its TB data into TIER.Net. The answers to these questions have to be a ‘yes’ or ‘not applicable’ in order to nominate a facility.

Does the facility fit into one of the categories below?

- An ART Phase 6 TIER facility reporting monthly and quarterly data regularly and adhering well to the ART M&E SOP
- A facility with no ART services
- A Department of Correctional Services (DCS) facility
  - Please note a DCS facility may decide to commence with the TB module prior to utilising the ART module
- Do the facility managers agree to and are willing to delegate staff to help merge all TB and HIV patient folders and hold them in one registry?
  - Please note, this is only a requirement if HIV and TB services are under one roof
    - Once TB and HIV folders are merged, there is an opportunity to cut-down on duplicated information in the patient clinical records for co-infected patients. Please refer to Appendix D for important prescriptions on how to do this.
  - If there are other reasons not to merge the TB and HIV folders, strong motivation is to be sent in written format to the DIT for approval.
- Is there general enthusiasm to digitize the TB data?

### 6.4 Assessment of data for the initial capture of data from the TB register

Critical to the success of the rollout of the TIER TB Module is the quality of the source data. The initial capture of data will be done from the TB register and will be supplemented by the data in the patient folder where required. After this initial capture process is completed, the patient folder including the TB blue folder will be the source for capture of the TB data into TIER.Net going forward. The paper register will no longer be used.

As such, complete and correct clinical documentation will continue to be critically important for both TB and HIV monitoring. From the time of the district informational meeting and onwards, please emphasize to all facilities and clinicians the importance of ensuring that the patient clinical record is filled in accurately and completely, as incomplete patient clinical records will detrimentally affect implementation and the monitoring of their digitised TB and HIV services. Assessment of data completeness should be done for each site that has been selected for the TB module (TBM) implementation.

If, after reviewing the paper TB register, it is determined the TB register cannot be used for this initial capture process, the patient folders will have to be reviewed for completeness. It is possible a combination of the two will be used.
7 SECTION 3: IMPLEMENTATION PHASE

Figure 1 seeks to show in diagrammatic form the steps outlined in this section of the document.

Figure 1: The steps to implement the TB Module in TIER.Net at the facility-level

7.1 Facility-level informational meeting

Similar to the district stakeholder informational meetings, the facility-level informational meeting are critical to provide the facility staff with a detailed overview of the strategy. This is important to enable the facility to engage with the process and aims to help them understand the changes that need to take place prior to implementation of the TB module.

This meeting seeks to garner approval from all participants playing a role in the TB and HIV monitoring and evaluation services at a facility-level. In other words, this meeting aims to establish ownership of the process, drive understanding of the SOP, and assist managers understand what is required to proactively manage the system. These include aspects relating, but not limited, to training, procurement, data management and flow, as well as clinical documentation.

7.1.1 Invites

- The TKI to drive this process
- Facility Manager/Operational Manager
- Facility TB nurse
- Facility Pharmacist
- Facility data staff representative (data clerk, information clerk)
- District TB and/or HAST Programme Manager
- District Information Officer
- Sub-district HIV / TB Programme Manager(s)
- Sub-district Information Officer
- NGO/Academic partner
- Other relevant staff not included in this list

7.1.2 Discussion points

Provide overview to stakeholders on the:
- TIER.Net TB Module national strategy
- TIER.Net TB Module benefits and issues that will be challenging
- Overview of TB/HIV information system integration
- Brief run through of the TB module and its reports (short overview 30 minutes at most)
• Overview of Facility Baseline Assessment (FBA) objectives and requirements. (see next section)
• Overview of requirements to introduce the TB module to the facility and nomination of facilities that meet the criteria for facility selection (see previous section)
• This is an opportunity to discuss current challenges and provides a forum for course correction prior to implementing the TB Module.

7.1.3 Meeting minutes

• TKI to minute meeting and circulate to all stakeholders within a week after the meeting
• TKI to follow-up on progress of resolutions and report to the District Manager if timelines are not met

7.2 Facility baseline assessment (FBA)

The facility baseline assessment (FBA) is a standard assessment tool to ensure all the things that need to be in place for a smooth implementation of the TB module are in place at the facility-level prior to implementation (or prior to the digitisation of the TB service data). The TKI is responsible for carrying out the FBA along with a facility-based staff delegated by the facility manager. The FBA takes the form of checklist which guides the TKI and FBA team on key issues which need to be considered in order to conduct seamless TB module scale-up at the facility being assessed. On the day the FBA is performed, the facility manager should sign off on the checklist results.

The FBA instructions and checklist are attached to the end of this document and can be found in Appendix A.

7.3 Facility baseline assessment report

After the FBA is completed and signed by the facility manager, the TKI will need to draw up a report which clearly details the findings of the FBA, highlights obstacles to the smooth implementation of the TB module and suggests clear key recommendations to overcome the obstacles. It is suggested the report use the flow of the checklist to frame the report format. The report should be sent out to all stakeholders prior to the FBA feedback meeting so that they have time to digest the contents and come up with their own solutions if they have objections to those recommended.

7.3.1 Objectives of report

• To provide a detailed report on the findings of the Facility Baseline Assessment (FBA)
• Provide key recommendations for corrective measures
• Disseminate the final report to all facility, sub-district and district stakeholders
  - Please note: The report should be sent to all stakeholders; this could be via email or hard copy where a facility does not have internet access/email. Please indicate to recipients that the report and its key recommendations will be discussed, changes made and decisions ratified at the FBA feedback Meeting. Remind them of the meeting date and ask them to review the findings of the report and come to the meeting with feedback and suggestions.

7.3.2 Report to be sent to

• Provincial M&E Coordinator
• PIT member allocated to the DIT
• District Manager
• District TB and/or HAST Programme Manager
• District Information Officer
• Sub-district TB Programme Manager
• Sub-district Pharmacist
• Facility Manager/Operational Manager
Facility Pharmacist  
Facility data staff  
NGO/Academic partner  
Other relevant stakeholders as determined by the DIT

7.4 FBA feedback meeting
Following the FBA a report will be written and a meeting organized to feedback on the outputs of the FBA and to provide detail on the remedial measures that may be required to implement the TB Module. The report will provide findings, challenges and recommended resolutions. The meeting should:

- Discuss recommended resolutions and other stakeholder suggestions
  - Come to an agreement on the corrective measures that will be accepted
  - Assign a person(s) who will drive the progress in implementing each corrective measure
  - Assign a reasonable completion date

The recipients of the FBA report should review the report and be prepared to interact with the content and be prepared to enact the recommendations in order to move forward with the implementation of the TB module.

Discuss other important variables to ensuring a smooth monitoring programme:

- Discuss a contingency plan regarding staff leave and who will take up data capturing responsibility during absence of staff
- Discuss the SOP and identify the key issues relating to accountability of data staff and number of clients expected to be captured daily
- Reviewing the SOP, discuss roles and responsibilities of facility staff in terms of use of reports and reporting timelines
- The FBA meeting is also an opportunity to remedy challenges or weaknesses with the existing management of TIER.Net for ART data management (provide course correction).

The key recommendations, changes made and decisions are to be ratified at this meeting. Once the changes are made and training has been conducted, the facility is then prepared to commence initial capture. This is the digitization of the TB data at the facility using the TB Module.

7.5 Training workshops
At a minimum, two workshops should be held at a district or sub-district level, to maximise efficiency and train a large group of staff at one time. The first prescribed workshop that should be convened is clinical record keeping workshop for clinicians and pharmacists, whilst the second should focus on data capturers, and entering and using data in TIER.Net appropriately. Please find supporting training materials for these workshops on the VULA TIER website (www.vula.uct.ac.za).

7.5.1 Clinical record keeping training (3 hours)
- Target audience: clinicians and pharmacists
- Proper completion of the clinical stationery. Explanation of the role of stationery for patient continuum of care and the relationship with the M&E system (slides available on VULA)
  Please refer to Appendix D on recommendations to avoid duplicate data recording in the patient clinical records when the patient has both HIV and active TB.
- Interpreting all the HIV and TB reports
- End with fun and quick interactive group quiz.
7.5.2 TIER.Net TB module training (1 day)

- Target Audience: District Information Officers, facility data staff and line management
- Brief overview of TIER.Net (orientation)
- Brief overview of capturing HCT, Pre-ART, ART and IPT data into TIER.Net
- How to accurately capture TB data into TIER.Net (first time exposure)
  - Tutorial
  - Exercises for entering TB patients and co-infected patients (important – do not skip)
- How to interpret the TB reports
- HIV and TB M&E SOP

7.6 Final checklist (Prior to enabling the Case Identification and TB Modules)

The final checklist should be conducted by the TKI and the facility manager after all corrective measures discussed during the FBA feedback meeting have been implemented. The Final Checklist must have all questions answered with a ‘Yes’ in order to proceed with the initial capture and Go-Live stages below. Please find the Final Checklist and its instructions attached to the end of this document in Appendix B.

7.7 Initial capture (from the TB register) before going live

This process is structured to ensure that all people with open TB episodes have all of their clinical information digitized at the facility level. This will ensure the open TB episodes have all of the clinical information transitioned to the ETR software at the (sub) district level during the transition from paper to electronic systems at facility level.

To prepare for this capture the following steps must be followed. These steps are critical and should be adhered to exactly as listed below:

1. All patients who have not attended for >3 months but still have an open episode in the TB register should have these closed. A TB clinician should be tasked with doing this, and the facility manager should oversee the process to ensure consistency.
   - The TB clinician will tear out all perforated sections in the TB register that contain pen ink and send them to the (sub) district for manual capture into ETR.
   - Any page with an active patient requires whole page to be captured (active and inactive).
   - At this point, the paper TB register will no longer be used to register patients on TB treatment. From this point forward the TB patient clinical stationery (TB blue card or yellow card) will be the source for capture patient data into TIER.Net.
   - It is critical the TB clinical staff have been oriented to accurately complete the TB blue or yellow card and understand the interrelationship of the information recorded in the TB clinical stationery and the data that is captured in TIER.Net.

2. The TKI and the data staff at the facility will capture all patients with open episodes in the paper TB register into the TIER TB Module:
   - During this initial capture, medication days will not be captured as this information will not be in the paper register and is often historically not in the TB patient clinical folder either.
   - Ensure capture of:
     - Demographic information
     - Baseline TB information
     - Lab tests type, date and results in the lab results section under the patient treatment calendar
     - Patient outcome and date
   - The capture must be completed with the TKI on-site (note: or a mentor delegated by the TKI and DIT is there to support. The principle is this initial capture should be supported to ensure capture is completed efficiently and correctly.) This also provides an opportunity for the facility TB clinicians to back-capture one or two folders supervised by the TKI so that they understand what data is required by the monitoring services. This
helps with understanding the relationship between the clinical stationery and the in-facility monitoring system.

- It is expected that this initial capture process will take between **1-4 days** in most facilities as the number of active TB patients is fairly small. This will vary if the source data is incomplete (source meaning the paper register or the TB clinical record).
- If using the TB blue or yellow card for this initial capture, it is estimated that 60 folders per day can captured into the TIER TB module if 2 people are working side by side from 1pm to 4pm.

3. The Tool for Data Verification Before Going Live in **Appendix C** should be completed by the TKI to verify that the data capturing process was assessed and found pass marks for accuracy and completeness
  - This tool should be filled in on the same day as the last initial-capture entry is made and should only take 5 minutes to complete
  - Please ensure an electronic copy is provided to the facility manager (this could be emailed or printed and left at the facility). A copy should also reside at the (sub)district level and be shared with the DIT.
  - An electronic version (in MS Excel) of this form is available at [www.vula.uct.ac.za](http://www.vula.uct.ac.za)

### 7.8 Go live

During the first reporting period (first new quarter) after the ‘Go-Live’ date, the facility will need more intensive support in comparison to the ‘maintenance’ stage which starts after the first reporting quarter is finished.

During the first month, the TKI should visit the new TB module facility on a weekly basis and perform the following at each visit:

1. Complete a Facility Site Visit Task List form
   - Please visit the VULA TIER.Net website to download the latest version. Currently, this document is a work in progress and when complete, the NTWG will send a message to all provinces and known TKIs alerting them to the updated version that will account for the TB integration initiative
2. Sit next to the data clerk entering data to supervise data capture and answer any questions that may arise
3. Speak with the Facility Manager to ensure patient management reports are being pulled according to the ART M&E SOP timelines and train on how the facility manager can use TIER to check on workload reports and back-log. The ART M&E SOP will be replaced with the TB and HIV M&E SOP in due course.
4. Use audit tool to assess completion of stationery and capturing into TIER.Net

After the first month of intensive support, the TKI should check in at quarterly intervals and ensure the data is flowing to the (sub) district during the reporting periods. At these visits the TKI should perform the steps 1-4 above again.
The processes outlined throughout the Implementation Guide aim to provide a systematic approach to implementation. This aims to foster understanding and ownership of the initiative at all levels of the health services. Whilst the ultimate benefit will be realized at facility-level through streamlined data management processes and push button management reports, critical to the success of the implementation is the holistic understanding of the initiative by all key stakeholders. The implementation guide outlines processes at the provincial, district, sub-district and facility-level to achieve this understanding.

The targets below aim to demonstrate that integration is meant to commence in a stepwise and measured approach to allow time for key stakeholders to learn and establish the processes and systems. This will also allow time to include key stakeholders not historically part this process. And, hence, the targets aim to balance scale-up with quality by making provision for the learning to be cascaded. The hope is the processes outlined are adhered to and owned by all for the long-term.

This approach will also allow time for the TKI(s) to initiate the integration activities in the first few facilities in a slow and considered fashion. This will allow TKIs to commence the change management processes and give time to encounter and resolve any challenges that may arise. This will allow for resolution to be found and the lessons to be transferred into future integration activities.

The expectation is that implementation will commence in facilities that have fully implemented the ART data capture into TIER.Net and that are reporting consistently to DHIS (this is referred to as phase 6). A cumulative percentage of phase 6 facilities will be expected to have implemented the TB module over each quarter of the next 2 years. The targets will differ by province and district, as each has a different number of eligible facilities as well as a different total number of health facilities throughout.

**Figure 2: Targets for the stepwise implementation of the TB Module in TIER.Net**

<table>
<thead>
<tr>
<th>TIER.Net TB Module implementation</th>
<th>FY2016/17</th>
<th>FY2017/18</th>
<th>FY2018/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early learning phase</td>
<td>5%</td>
<td>Q2</td>
<td>Q1</td>
</tr>
<tr>
<td>Advanced learning phase</td>
<td>cumulative 10% of all eligible facilities per district</td>
<td>Q3</td>
<td>Q2</td>
</tr>
<tr>
<td>Scale up</td>
<td>15%</td>
<td>Q4</td>
<td>Q3</td>
</tr>
<tr>
<td>Escalated implementation</td>
<td>20%</td>
<td>Q1</td>
<td>Q4</td>
</tr>
<tr>
<td></td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9  SECTION 5: ROUTINE ON-GOING MAINTENANCE

Once a facility is in the maintenance stage, the DIT team should adhere to the roles and responsibilities outlined in the HIV and TB M&E SOP. Quarterly workshops at (sub) district level, audits on a sample set of folders, and feedback from the higher levels of health are all part of routine support and mentorship. Make use of the videos, especially as a tool for times of staff turn-over when it is not easy to get to a facility to perform hands-on individual training and/or when the next quarterly workshop is still weeks away.

9.1  Data flow from facility to (sub) district and ETR

It is important to note that data flow from facility to sub-district or district will happen regardless of where you are in this Implementation Guide. If a facility is not in the state of ‘Go Live’ then perforated pages from the TB paper registers will flow at reporting time. If a facility has already passed the ‘Go Live’ point with the TB module implementation, then a dispatch will flow to (sub) district office into TIER. There is no excuse for TB data to stop flowing quarterly.

At the same level that paper register data is entered into ETR, (at sub-district or district level) an electronic dispatch will flow from TIER into ETR. This file transfer from TIER to ETR at (sub) district level should happen on the same day the (sub) district receives the data. Please see Figure 2 for an illustration of data flow during the time when some facilities will use TIER to capture TB data at facility and others will use a paper TB register.
Figure 3: Steps to integration, interim data flow
Appendix A: Facility Baseline Assessment (FBA)

Instructions: Facility Baseline Assessment (FBA)

The Facility Baseline Assessment (FBA) is a structured tool that seeks to provide Facility managers/Operational managers, as well as the DIT, with an in-depth understanding of the current situation in or the state of readiness of those facilities that have been nominated to implement the TBM. Crucially, the FBA should be used to guide the Facility manager/Operational manager as well as DIT to changes that need to be made in order to enhance the smooth implementation of the TBM.

The numbers below refer back to the FBA questions. The narration provides more detail on what should be assessed and in some instances the reasons behind assessing the particular element is explicitly accounted for. Some of the questions will have the detailed narrative proceeded with the words “Key Recommendation” in bold. If changes/remedial actions are warranted, then these important areas should be written up in the reports under a section titled “Key Recommendations”. The answers to the other questions do not require additional detail on the report, other than provision of the completed FBA.

Instructions per FBA question:

1. Circle the health services the facility offers to clients

2. Pull the TIER monthly report if TIER is available and report the last months Total Remaining in Care. If a different system is being used for ART, check the last month reported in DHIS. If there are no ART services being offered, the answer is ‘0’. Please cross reference this number with the number reported for the same month in DHIS and comment if there are discrepancies.

3. Please use the paper TB register to estimate the number of active TB patients (count all patients who have open episodes and have visited within the last 3 months). Please cross reference this number with the data contained in the ETR for the same period under review. Please comment if there are discrepancies.

4. Add answers for questions 2 and 3 together to get a sum total of burden on the data clerks.

5. Please use the TB Identification Register to estimate the number of TB cases identified and were recorded last month (number of diagnostic sputum tests sent from TB suspects for lab testing during previous month). Please cross reference this number with that reported for the same month in DHIS and comment if there are discrepancies. If there are no Case Identification Registers, please record the number reported to DHIS.

6. Record the approximate date the TB and ART services started at the facility.

7. If NGO supported, record the name of the NGO and contact number.

8. If TIER is currently being used at the facility, circle ‘Yes’. Otherwise circle ‘No’.

9. **Key Recommendation**: If the facility is a Phase 6 TIER facility, please record in the FBA Report whether the facility is adhering the ART M&E SOP and providing required reports to the (sub)district on time. If the facility is not a Phase 6 facility, note that this facility is not eligible for the TB module under the Key Recommendation section in the FBA Report.
The following table outlines the phases of the implementation of TIER.Net in ART facilities, with the corresponding definitions. These are included to assist to understand the processes followed to implement TIER.Net ART capture at facilities.

**Table 1: Phases of implementation and definitions for ART capture**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Definition of phase</th>
<th>Steps required to achieve phase</th>
</tr>
</thead>
</table>
| Phase 0| Preparation for TIER.Net                                      | Assess resource needs  
Complete readiness assessment template from NDOH  
Assist with registry and filing of blood results  
Informational meeting with facility managers, discuss filing, folder management, orientation to the system and reports, etc. |
| Phase 1| Installation and training                                     | Install TIER.Net  
In-service training using latest user manual and back-up  
Open information file  
Ensure SOP and all other training manuals available |
| Phase 2| Back capturing                                                | Back capturing  
Clinical chart training with clinic staff and in-service training on TIER.Net |
| Phase 3| Back capturing with live capturing (mixed capturing and data cleaning on-going) | Start using clean-up document  
Training on early, late missed appointment report and unconfirmed defaulter reports.  
Complete Site visit task list  
Capture patients at each visit, update current visits and back capture all other records once current files are up to date. |
| Phase 4| Live capturing (back capturing complete) and data cleaning in progress | Complete data clean up document.  
Review the quarterly report and ensure patients are accounted for  
Complete Site visit task list  
Training on monthly and quarterly report understanding and use  
Run defaulter report and check each patient file for actual status, ( i.e. check if real defaulter or LTF or RIP )  
Do Pre-Audit (conduct audit in preparation for sign off and to identify areas requiring improvement) |
| Phase 5| Data signoff by DIT/PIT after completion of data clean up and baseline audit | Verification of data clean up document  
Complete the TIER.Net back capture data sign off tool  
Compete Site visit check list  
Audit by DOH |
| Phase 6| Data signoff complete / Live site [site able to produce Monthly and Quarterly reports] & staff at site oriented to manage system Maintenance | Update new versions of TIER.Net, when available  
On-going training on new updated version of TIER.Net software  
On-going training on all reports and support clinics use their own information  
Implement monthly information meeting and teach data capturer how to present data at meetings  
Monitor registry management  
Implement defaulter tracing processes using defaulter reports and CCGs / CHW  
On-going completion of site visit task list to monitor data capturer productivity  
High staff turnover – train new staff on TIER.Net  
6 monthly use of audit tool and action taken on the results |
10. Circle the TIER modules currently in use at the facility

11. Count the number of TB registers with active patients in them (patients with open episodes AND with a visit within the last 3 months).

12. Count the number of Case Identification Registers being used at the facility. Also perform a quick assessment

13. **Key Recommendation:** Together with the TB nurse, decide if the TB register is complete enough to capture from it, or if the patient folder would be a better option. In some situations, both the TB register and the patient folder may be cross-referenced. At the same time as this assessment of the TB register, explain to the TB nurse that in future, the TB register will fall away and the source data will be the patient clinical record (folder). Therefore, from this day forward, ask that they complete the clinical record as accurately and completely as is possible. Please record the suggested plan under the Key Recommendation section of the FBA report.

14. Write the total number of reception and data staff at the facility in the space provided if there is one main registry. If there is a separate TB or HIV registry (due to the services being in a separate building), then detail this on the check list and put totals for each registry.

15. Record additional tasks the data staff are required to perform. This could be anything from filing bloods to translating for clinicians during patient assessments.

16. **Key Recommendation:** Record the hours per data clerk allocated to capturing data per day. If the data clerk does not have specified hours of protected time to capture patient data, please record this in the key recommendation section of the FBA report and suggest that data staff are allocated protected time. If data staff have other duties during the day such as pulling and filing folders, suggest protected undisturbed quiet time from 12:30pm until done (or until 4pm) be assigned to their monitoring tasks.

17. **Key Recommendation:** As an estimate, trained (not new) data clerks should be able to capture 120 folders per data staff per day if 100% of their time (other than lunch and a tea break) is protected to capture data. If the data staff perform other tasks in the morning, ideally their afternoon should be protected with an estimated 60 folders captured from 12:30 to 4pm. In the feedback report, it needs to be clearly stated in the Key Recommendation section whether the facility needs to hire more data staff prior to digitising the TB data into TIER.

- Please note: All data clerks will be required to enter all episodes regardless of TB or HIV. There will be no specific clerks for TB, HIV/ART or other programmes. This needs to be mentioned in the narration of the FBA report if felt that there will be a problem.

18. Record the line manager for the data clerks at the facility. If no one currently looks at the TIER workload reports and back-log of the data staff on a regular basis, this needs to be highlighted in the report

19. **Key Recommendation:** Record procedures in place when a data clerk is on leave. If no plans are in place, this needs to be highlighted in the Key Recommendation section of the FBA report. It may be necessary for a facility manager or DIT to stipulate that all reception/data staff be trained as TIER users for staff leave contingency plans. They should all be working as a team but have assigned main objectives for their daily activities to induce a feeling of ownership over a specific set of responsibilities. However, when those set of tasks or responsibilities due not require their attention, they are flexible enough to help the other team members.

20. **Key Recommendation:** Decide what the current computers in the reception/data room are being used for and determine if more are required. If the current data clerks have reception duties (pulling folders, filing bloods, being at the reception window) in the morning and protected data capture time during the afternoon, then they
should be able to capture an estimated 60 folders a day from 12:30pm to 4pm. Therefore, if you have 90 folders (patient visits) per day, and the computers are not used for other purposes between 12:30 and 4pm, 2 networked TIER computers are required at the facility. If the ART services are still growing, procurement of a third computer should be considered sometime in the months following implementation. Each registry should have one laser printer in order to print off patient management reports and reports required to be signed off by the facility manager prior to the data being sent to higher levels of health.

21. This is the one and only question that will need to be filled in after the FBA meeting, when procuring the additional required equipment.

22. The database needs to be backed up daily onto a flash drive or CD that is locked in the facility manager’s office. The memory stick with the backed-up data needs to be held in a separate location to the registry in case there is theft or a fire.

23. Record whether the current space in the registry is ample and whether desk space for the data clerks is sufficient for performing their job well. If more space is needed, please highlight this in the Key Recommendations section.

24. Record whether the room containing the computers can be secured each night and whether computer cages for the hard drives are necessary.

25. If procuring additional computers and the facility is internally cabled or connected to the intranet, please ensure you order additional network points for each computer.

26. **Key Recommendation:** If the HIV / ART and TB services are under one roof (in one building), are all patient folders kept in one main registry? If the services are under one roof, the HIV and TB stationery needs to be filed together in one patient folder which is to be stored/kept in one registry; this is one of the main pillars of an integrated monitoring system with knock-on positive impact in comprehensive patient care. This recommendation is in line with the **Ideal Clinics** initiative.

27. The clinical stationery that is used for the HIV programme is separate to that used in the TB programme. In future the hope is to develop integrated stationery that will eliminate the need for repetitive documentation. While waiting for fully integrated primary health care stationery to be developed, the current HIV/ART and TB tools will continue to be used without filling in sections which duplicate each other. Guidance for this is in **Appendix D**.

The following is a list of stationery that is to be used in both the TB and HIV programme:

**TB-specific forms:**
- green patient held card
- TB patient treatment record (blue card)
- DR-TB patient treatment record (yellow card)

**HIV/ART-specific forms:**
- green patient held card
- white A3 patient summary folder

**Shared forms:**
- A3 visit summary (current HIV form in use on the ground)
- Transfer and referral form
28. **Key Recommendation:** It is strongly recommended that all stationery for different services for a single patient is merged into one folder per patient. Patients with HIV and active TB should have a facility held folder (HIV Patient Summary Folder), the current HIV visit summary (which will become the clinical visit summary for both HIV and TB) and the TB blue card or TB yellow card. Only the relevant portions of the TB blue card or yellow card for tracking the current TB episode should be filled in to avoid unnecessary duplication of information (Appendix D).

   a. Important to note:
      a. When merging stationery, use the same folder numbering convention as is used in the main registry. The TB blue or yellow card is to be merged into the HIV/ART stationery.
         i. If there is no folder number convention in the main registry, use the ART folder number convention. The TB blue or yellow card should be inserted into a main registry folder with the appropriate folder number convention written on the outside cover (or a patient label if being used).
         ii. Folders of patients with no prior HIV or main registry folder number will need their demographic data and new folder number recorded in TIER or the main registry system so that their folder can be retrieved via that number at future visits.
         iii. **TB folders:** it is important that both the registration number and the folder number are captured into TIER.Net. This supports the linking of patients within TIER.Net and ETR.Net.
            iv. **NB:** it is important the number captured into TIER.Net is also the number used to file the patient folder and to retrieve the laboratory results. This ensures the number is universally used to look up the patient.
            v. All these steps will need to be carried out as the unique identifier has not yet been fully institutionalised. Once unique identifiers are fully implemented, the need for multiple identifiers will fall away.
   b. During an active TB episode, the TB blue card should be in the front inside of the HIV patient summary. When the TB episode is closed, the data staff to capture the final visit assessment and outcome in TIER.Net and then file the TB blue card in the back of the HIV folder. Past TB episodes will not be captured, but rather they will be kept in the patient folder.

29. **Key Recommendation:** It is very important that folders return each day to the data staff in order for data to be captured prior to the folder being refilled. The TB blue or yellow card will no longer be kept in the TB Treatment Room, so the patients will now have to go to the main registry to get their folder prior to proceeding to the TB Treatment Room. Please record the current folder and patient flow and the recommended changes required in the Key Recommendations section of the FBA report.

**Folder Management**
The folder flow in each facility must be clearly stipulated and adhered to, and all staff and patients must be aware of the folder flow. All patients regardless of status must have a facility based folder. This may require opening a folder for the patients if it is their first time attending the facility or retrieving a folder in the event that the patient has visited the facility before. All efforts must be made to NOT open duplicate folders for patients.

It is **essential** that all HCT, HIV, TB and ART folders are routed to the data capturer and captured daily into TIER.Net. Missing the capture of folders will result in incomplete and inaccurate data. This will mean data will not be a true reflection of what is happening at the facility.

**General folder management**
- All patients to go to the main registry to collect their facility folder or have one opened if it is their first visit ever at the facility. If a patient has a facility held card from the facility, then a duplicate
folder must NOT to be created. The folder must be found.

- Following all patient consultations the patient folder can be left at a collection box or a structured pick up point. At the end of each day the folders must be collected and returned to the data staff for capturing of relevant data.

Patient and folder flow
The following is a guide to be used for the various categories of patients. It is essential that the patient flow is understood prior to the implementation of the TBM. Please adapt the below steps according to facility context.

Capturing of presumptive TB cases in the Case Identification module in TIER.Net

- The patient will be screened for symptoms using the standard screening questions; these will be recorded in the TB screening book. Patients with positive responses to the TB screening will be referred to a clinician for further consultation.
- Patients with a positive TB screening symptom should have the sputum taken on the same day. The patient will be given a return appointment for the day the result is due to be returned.
- The TB Identification Register must be sent to the data capturer to enter the TB test done into the Case Identification Module in TIER.Net. The result will be captured when it has been returned to the clinic. If there are multiple TB Identification Registers in a facility, they must all be sent to the data capturer for capturing into the Case Identification Module in TIER.Net on a daily basis.
- When the result is returned to the clinic it will be returned to the patient folder. The patient will return for his/her result and the patient folder for follow-up consultation. The test result and follow up action will be captured into the Case Identification module in TIER.Net.
- Patients who have neither HIV nor TB will have the TB screening test captured as negative. This will close the screening episode and the patient will be discharged from care.
- Patients with a positive TB test will be referred for TB treatment. TB treatment is captured in the Confirmed TB module.
- The HIV test result (if done) will be entered in the TIER.Net HCT module.

Capturing TB data: DS-TB treatment only

- For patients infected with TB only, the TB blue card is opened and standard procedures followed. The TB blue card can be kept in the DOTS room for at most the first 2 weeks of treatment only if the patient is coming in daily for DOTS.
- The NTP recommends as few days as possible as it has been shown that DOTS does not improve adherence and is a heavy burden to both staff and patients.
- If daily visits (DOTS) are not recommended to the patient or the patient moves to 2 weekly or monthly visits, the blue folder to be kept in the main reception and must follow the usual folder flow.
- All folders are to be given to the clerks for updating into TIER.Net before refiling.

DR-TB Treatment only
This section is under review and guidance will be forthcoming.

Patients infected with HIV or co-infected

- Patients infected with HIV only (no TB) should follow the normal clinical patient/folder flow as documented in the NDoH ART M&E SOP.
- Co-infected patients must follow a pathway as best identified by the facility and would be some
mixture of above sections. Please recommend an optimal patient pathway and folder flow in the Key Recommendations as identified through the FBA.
Facility Baseline Assessment (FBA)

<table>
<thead>
<tr>
<th>Clinic Background</th>
<th>Answer (circle where appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What services does this facility offer?</td>
<td>HCT HIV Wellness (Pre-ART) ART TB MDR / XDR TB</td>
</tr>
<tr>
<td>2. How many patients on ART (TROA)?</td>
<td></td>
</tr>
<tr>
<td>3. How many <strong>active TB</strong> patients are there?</td>
<td></td>
</tr>
<tr>
<td><em>source is ETR. This would be a list from the next highest level (sub-district or district, as appropriate)</em></td>
<td></td>
</tr>
<tr>
<td>4. How many TB &amp; ART patients are in the facility? (Questions 2+3)</td>
<td></td>
</tr>
<tr>
<td>5. How many Case Identification (TB Suspect) patients were reported during the previous month?</td>
<td></td>
</tr>
<tr>
<td>6. When did the facility start the TB and ART services?</td>
<td>ART: TB:</td>
</tr>
<tr>
<td>7. Is this an NGO supported facility – name of NGO?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Systems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Does the facility have TIER.Net?</td>
<td>YES NO</td>
</tr>
<tr>
<td>9. What phase is the facility at in terms of TIER.Net?</td>
<td>1 2 3 4 5 6 (Signed off)</td>
</tr>
<tr>
<td>10. What modules of TIER.Net is the facility currently using?</td>
<td>HCT Pre-ART ART TB</td>
</tr>
<tr>
<td>11. How many paper TB register(s) are there with active patients?</td>
<td></td>
</tr>
<tr>
<td>12. How many TB Identification Registers are in use at the facility? If registers are not used, record how the facility collects statistics on the related NIDS elements.</td>
<td></td>
</tr>
<tr>
<td>13. Is the TB register completed enough to capture TB cases from it before going live?</td>
<td>YES NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staffing</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>14. How many clerks are there in total (reception plus data staff)?</td>
<td></td>
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<tr>
<td>15. What additional tasks do the data clerks have to do?</td>
<td></td>
</tr>
<tr>
<td>16. How many hours are allocated per day to capture data? What are times?</td>
<td></td>
</tr>
<tr>
<td>17. Are there an appropriate number of clerks at the facility for its size (1 full time data clerk per 120 clinical visits per day OR 1 part time data clerk per 60 folders 1pm to 4pm daily)?</td>
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</tr>
<tr>
<td>18. Who do clerks currently report to? For example, is there any line management and accountability?</td>
<td></td>
</tr>
</tbody>
</table>
19. Are there contingency plans in place for data staff absence, leave days?

<table>
<thead>
<tr>
<th>Equipment Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. What equipment is needed and how many?</td>
</tr>
<tr>
<td>21. When you order the equipment, record the date and reference number.</td>
</tr>
<tr>
<td>22. Does the facility need a memory stick for daily back-ups of the database?</td>
</tr>
<tr>
<td>23. Does the facility need additional registry/workspace for clerk(s)?</td>
</tr>
<tr>
<td>24. Is the location where the computer(s) will be kept secure?</td>
</tr>
<tr>
<td>25. If the facility has access to intranet, how many of the computers being procured will require network points?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Registry, folders &amp; stationery</th>
</tr>
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<tbody>
<tr>
<td>26. Is there one main registry or multiple registries for ART and TB folders?</td>
</tr>
<tr>
<td>27. What stationery is currently used for the TB and HIV programmes? National TB and HIV stationery or non-standard forms?</td>
</tr>
<tr>
<td>28. Are the TB and HIV stationery merged into one folder for co-infected patients?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinic Patient and Folder Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Map out the current data flow for patients and folders (map out where folders start and how they move through the clinic on appointment day). Please do this separately for each health service (TB, HIV, ART and TB Suspect).</td>
</tr>
<tr>
<td>- Starting point and end point for folders per health service</td>
</tr>
<tr>
<td>- Starting point and end point for patients per health service</td>
</tr>
<tr>
<td>- Do all Case Identification (TB Suspect) patients have a folder opened if one does not already exist?</td>
</tr>
<tr>
<td>Does this need to be reorganised to ensure all service have patient folders and all of those folders get to the data clerks before filing?</td>
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<tr>
<td>Document the folder and patient flow separately in the FBA Report.</td>
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<tr>
<th>Implementation Time Lines</th>
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<tbody>
<tr>
<td>30. Estimated time lines for implementation</td>
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</tbody>
</table>

*Please consider upcoming campaigns and if data staff have submitted for leave during implementation*
Contact List: (please be sure to print legibly)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Position (i.e. HAST coordinator, facility manager, nurse, Dr, data capturer):</th>
<th>Email:</th>
<th>Phone Number:</th>
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<tbody>
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Facility manager comments:

<table>
<thead>
<tr>
<th>Facility manager name</th>
<th>Facility manager signature</th>
<th>TKI name</th>
<th>TKI signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>

* To be stored in ring binder in facility manager’s office, copy held by TKI
Appendix B: Final Check List (Prior to Enabling the TIER TB Module at Facility Level)

Facility [ ] Sub-District [ ]

The check list is to be completed by the TIER Key Implementer (TKI) prior to introducing the TB Module. This check list is to verify if a facility is ready to back-capture the TB patient data from the paper register into the TIER.Net TB Module. Back-capturing has to be completed before the facility ‘goes live’ with the daily capture of patient folders into the TB Module.

Print or scan 3 copies of this signed-off check list. The 3 signed copies should be kept in:

1) District manager’s office,
2) Facility manager’s office,
3) TIER Key implementer (TKI).

All questions have to be answered YES in order to sign off on this check list.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the facility a Phase 6 TIER.Net ART facility, a DCS* TB service or a facility without ART services?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Department of correctional services

<table>
<thead>
<tr>
<th>Date:</th>
</tr>
</thead>
</table>

Has a stakeholder approval meeting with the suggested staff members including the facility manager been held?

If yes, is a copy of the FBA* and corrective actions signed off as completed and kept in the facility managers’ office and a digital copy sent to the district implementation team (DIT) members?

* Facility TB Baseline Assessment

<table>
<thead>
<tr>
<th>Date:</th>
</tr>
</thead>
</table>

Have data capturers and facility managers had a demonstration of the reports produced by TIER.Net? And, guidance on the interpretations?

Are all patient folders merged in one folder, organized appropriately, and kept in one registry if the HIV, ART and TB services are under one roof**?

* If services are not under one roof, please answer yes to this question and provide a comment

<table>
<thead>
<tr>
<th>Date:</th>
</tr>
</thead>
</table>

In the paper TB register, are all patients with open episodes and no visits >3 months closed with the final closed pages sent to the (sub)district?

Has the clinical record keeping and data capturing workshop been conducted?

Please remember that all patients with open (active) episodes in the paper TB register must be fully back-captured into TIER.Net prior to ‘going live’. ‘Going live’ is defined as the time point when the facility captures the folders of current patients directly from the patient folder into TIER.Net and no longer captures patient data into the paper register.

The paper TB register must be stopped as soon as the facility has fully back-captured the TB data and the back-captured data has been verified as complete and correct by using the Tool for Data Verification Before Going Live.

Signatures

Key Implementer [ ]

Facility Manager [ ]

Signature [ ]

email [ ]

Date [ ]

Signature [ ]

Mobile # [ ]

Date [ ]
Appendix C: Tool for Data Verification before Going Live including Instructions

Please note: this tool is written in Excel and has validations built in. The below is a replication of the tool, but preference would be for you to fill it in electronically in the Excel template. Please find the Excel tool on VULA.

### Instructions

**Purpose**
- This exercise is to verify the data in the TB register and in the TIER Net TB Module (TBM) is the same.
- The electronic form will automatically calculate the data for you however this can also be printed out and done manually for each facility that is digitising the paper TB register.

**Data sampling**
- Choose a sample of 5 active patients with 1 patient from each category: current month, 2 months ago, 3 months ago, 4 months ago, 6 months ago.

**Who completes this form**
- This form would be completed by either the TIER Net Key Implementer (TKI) and either the Facility Manager (FM) or a TB nurse. This isn’t expected to take more than 10 minutes to complete.

**How to use the tool**

**Section 1**
- Record the total number of active patients in the paper register
- Record the total number of patients captured into the TB Module (TBM)

**Section 2**
- Review each question (1 - 12) and record a “1” if the data captured into the TBM is the same as in the paper register enter. If it’s not the same enter a 0 (no). If the question does not apply, enter n/a, alternatively record a 0 (no), or n/a.
- The excel tool excludes the n/a from the denominator when calculating the proportion for the validation measure.

**Reading the results**

**Section 1:** aims to determine if the total number of patients captured is the same as the active patients in the paper TB register. If yes, continue with the data validation checks. If no, please revisit the work and capture the active patients not captured into the TBM.

**Section 2:** The data completeness/correctness should be 100% to be signed off. If 100% is achieved the paper TB register can be stopped and the in-facility capture of TB data is officially transitioned to TIER Net TB Module.

If 100% is not reached please review the incorrect fields for all patients. This tool aims to pick up systematic data capture errors. Please correct the errors and re-do the data verification check until 100% is reached.

**Thank you for all your hard work.**
## Tool for Data Verification Before Going Live

### Check of total patients captured

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of active patients in the paper TB register</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of patients captured into the TIER.Net TB Module</td>
<td></td>
<td>TRUE</td>
</tr>
<tr>
<td>The total number of active patients in the TB register and in the TIER.Net TB module should be equal.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Data verification check

Choose a sample of 5 active patients:
- 1 patient from each category: current month, 2 months ago, 3 months ago, 4 months ago, 5 months ago.
- Please enter the folder number for each patient in each category.
- The exercise is to verify the data is captured correctly from the TB register into the TIER.Net TB Module (TBPM).

<table>
<thead>
<tr>
<th>Questions</th>
<th>Insert Folder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the clients Registration Number match the number in the paper register?</td>
<td>1</td>
</tr>
<tr>
<td>Does the clients Folder Number match the number from the paper register?</td>
<td>2</td>
</tr>
<tr>
<td>Does the clients ID Number/Date of Birth match the paper register?</td>
<td>3</td>
</tr>
<tr>
<td>Does the clients TB treatment start date match the data in the paper register?</td>
<td>4</td>
</tr>
<tr>
<td>Does the clients HIV status match the register? (look in HIV module)</td>
<td>5</td>
</tr>
<tr>
<td>Does the clients Baseline test type match the register?</td>
<td>6</td>
</tr>
<tr>
<td>Does the clients Baseline test result match the register?</td>
<td>7</td>
</tr>
<tr>
<td>Does the clients date for the baseline test (specimen date) match the register?</td>
<td>8</td>
</tr>
<tr>
<td>Does the clients current regimen match the register?</td>
<td>9</td>
</tr>
<tr>
<td>Does the conversion test type match the register? (if applicable)</td>
<td>10</td>
</tr>
<tr>
<td>Does the data for the conversion test match the register?</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Insert Folder</th>
<th>Current month</th>
<th>2 months ago</th>
<th>3 months ago</th>
<th>4 months ago</th>
<th>5 months ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>5</td>
<td>0</td>
<td>0</td>
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<td>9</td>
<td>0</td>
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<tr>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Proportion of data captured into TBPM the same as in the paper register: 0.0% 0.0% 0.0% 0.0% 0.0%
Appendix D: How to use the TB Patient stationery if patient has HIV and active TB

a) TB facility held card

The name, TB registration number, and folder number need to be filled in. However, the rest of the demographic info does not need to be filled in for co-infected patients. This information exists in HIV/ART card info.

This entire page does not need to be filled for co-infected patients as info exists elsewhere.

The bottom space here for clinical consultations not to be filled as the visit summary serves the same function.

Patient Held Cards:

The TB and ART patient held cards are the same colour and same size. In patients that are co-infected, these cards should be stapled together in the interim to an integrated patient held card.