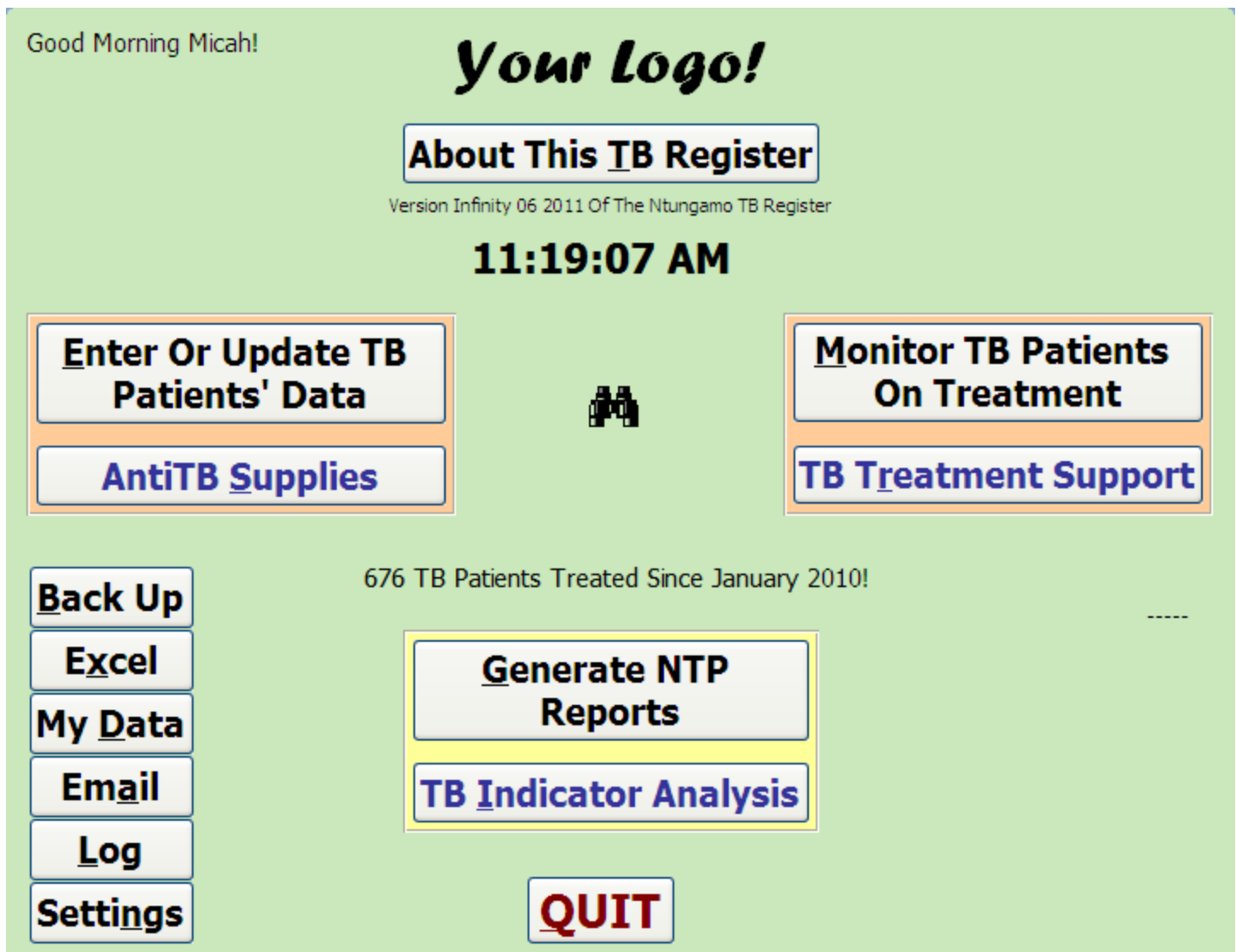


The Electronic TB Register

Innovative Approaches To TB Control



USER MANUAL

Version: August 3rd 2011

Written by: Mubeezi Micah and Florah Bukania

About This TB Register

Thank you for choosing to use our electronic TB register. This register is still under development and it is intended to assist all health staff involved in TB control at a TB ward/County/District/Province and other levels to:

- a. Generate quality and timely reports to their National (Provincial/Zonal) TB Program Coordinators and other stakeholders.
- b. Instantly identify and follow up TB patients who may have missed their scheduled review dates
- c. Instantly identify TB patients who may be due for important services like sputum culture and sensitivity, HIV testing and counseling, Cotrimoxazole prophylaxis etc.
- d. Link TB patients on DOTS to previously treated patients for peer and social support.
- e. Quickly identify and refer HIV positive TB patients to appropriate HIV service providers/ART treatment centres.
- f. Monitor Anti-TB supplies and generate instant anti-TB supplies' orders.
- g. Provide a quick and accurate overview of the past performance (TB indicator analysis) of the County/Health Sub District/TBMU/health facility for whatever time period of interest.

Any comments to further improve this TB register are welcome and should be sent to support@tbregister.org or micah.mubeezi@tbregister.org

You can also reach MICAH on +256702 930940 or +249927 156401

Acknowledgements

I would like to acknowledge and extend my heartfelt gratitude to the following persons who supported me in developing this electronic TB Register;

- a. **Dr Drani Joackin:** Former Health Project Manager (HPM) of Malteser International based in Yei for his critical review of the formulae, TB case classifications and the much needed encouragement to complete the project.
- b. **Drs Carol Nalugwa, Florah Bukania and Geoffrey Wandira:** Former HPMs of Malteser International Maridi, Yei and Rumbek respectively for reviewing the data entry system, nature of reports to be generated and testing the software in their project locations. Extra credit to Florah who drafted this user manual.
- c. **Agaba Gerald:** Ntungamo District TB and Leprosy Supervisor who supported me in customizing the quarterly reports in this electronic TB register to the Uganda Ministry of Health standards.
- d. **Daniela Kaschel:** For sacrificing 5Kg space of her personal luggage to bring a priceless monster reference book for me from Cologne.
- e. My dear friend **Kenyi Phillips Abraham:** for the moral support and much needed motivation as I struggled to understand the VBA "noise"
- f. **Asja Hanano:** former South Sudan Coordinator her vital encouragement and support.

- g. **Dr Stephen Macharia:** Former Senior Monitoring and Evaluation Officer of the South Sudan National TB, Leprosy and Bululi Ulcer Control Program for reviewing the register's alignment to the National TB protocols.
- h. **My Teachers:** Richard Rost, Patricia Cardoza et al, Stephen Lebans, Allen Browne, Ken Jensen, Arvin Meyer, Dev Ashish, Renaud Bompuis, Doug Steele, Ken Getz and Paul Litwin, Scott Diamond et al, Mark Swift, Cece Keji, TeachUComp and everyone who posted a question or an answer to any Microsoft Access Forums worldwide.
- i. My Dad: **Naigambi Paul** (RIP) who shaped my attitude towards learning new things.
- j. My wife **Brenda Mukula** and son **Naigambi Paul Rost** for understanding when I was glued on my computer while "on leave"
- k. **Malteser International:** for availing me with a laptop, electric power and internet access throughout the database development time

And to the Almighty God, who gave me a strange level of determination and wisdom that was essential in accomplishing this task.

Copyright Notice

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Dedication

This electronic TB register is dedicated to the free people of South Sudan. It can be reproduced and used by TB control partners within South Sudan free of charge.

How To Use This Manual

While writing this manual, we tried to simplify it as much as possible. We added over 90 pictorial illustrations, font enhancements and numerous colour paints. These will help you to quickly understand how to use this electronic TB register. Please feel free to contact us at support@tbregister.org or micah.mubeezi@tbregister.org should you find any proposed step unclear or confusing. You can also reach us by phone on +256702 930940 or +249927 156401.

This manual is organized into 15 main sections. In each of these sections, we refer to field names/data entry fields and any windows that open up in **bold font**.

The Important Notice subsections refer to attributes of this electronic TB register that you may or may not always see while using this software. They are painted olive green.

Throughout this manual, the terms “software”, “electronic TB register” and “Basic Management Unit TB Register” are synonymously used. In addition, the terms “peer educator” and “treatment supporter” are used synonymously.

In order to maximize the potential of this electronic TB register, it is our recommendation that you read the entire user manual prior to using the TB register. Alternatively, one day of training on how to use this electronic TB register is more than sufficient to provide you with the knowledge you need to start using this software.

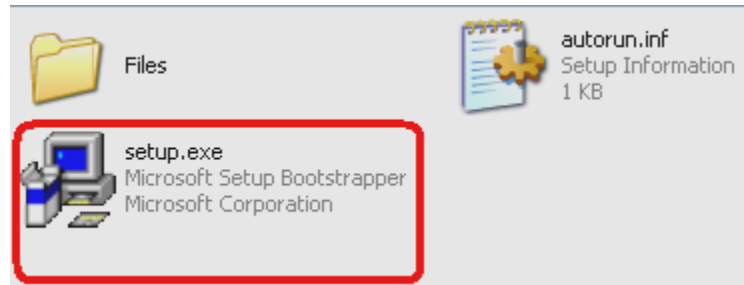
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Section 1: How To Install Your Electronic TB Register

- a. Unzip the file named "*YourLocation* TB Register"
- b. Among the unzipped files, double click the file named **set up.exe** as illustrated below

Illustration 1



- c. Follow the wizard instructions and wait until the installation is complete.
- d. The process will usually take about five (5) minutes to completion.

Section 2: How To Activate Your Product/Electronic TB Register

Once installation is complete, you will need to activate your product before you start using it. You will follow the steps below;

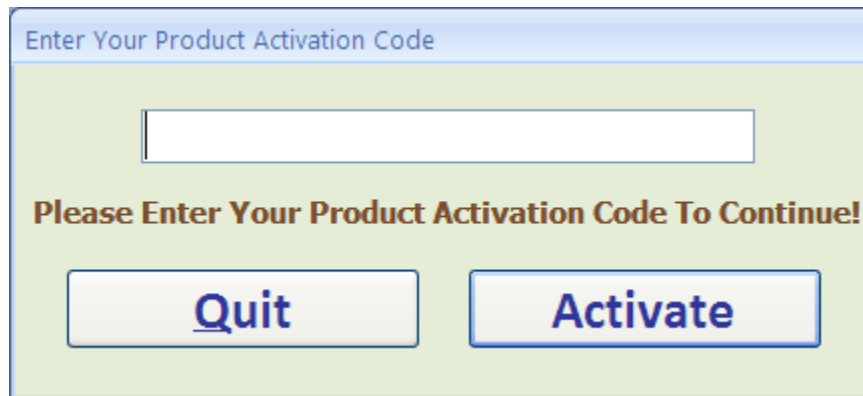
- a. Double click the TB register icon on your desktop. Usually, it is the logo of your country or organization as illustrated below

Illustration 2



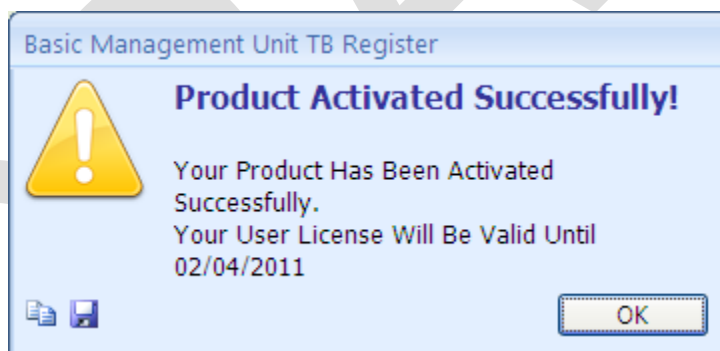
- b. A small window named **Enter Your Product Activation Code** shown below will open

Illustration 3



- c. Enter the product activation code given to you by the Electronic TB Register designers and then click the **Activate** button. If you do not have the activation code, contact our support team at support@tbregister.org
- d. You will see a message popup on your screen confirming that you have activated your product successfully as illustrated below. The estimated expiry date of your user license will as well be shown.

Illustration 4



- e. Click **OK** to close the message window above

- f. Another window will automatically open as your TB Register loads. In the below example, the Yei Civil Hospital TB register was loading.

Illustration 5



- g. The above welcome message will automatically close after three seconds. A brown window will then open to allow you to enter your user name and password as illustrated below.

Illustration 6

- h. Enter your **User Name** and **Password** and click **Sign In** or click **Quit** to close the electronic TB register. Please note that User Names and Passwords are case sensitive. In case you have problems with signing in, please contact support@tbregister.org
- i. Once you have signed in successfully, then you will be able to enter or edit TB patient records, view your previous program performance, link TB patients to treatment supporters and much more!

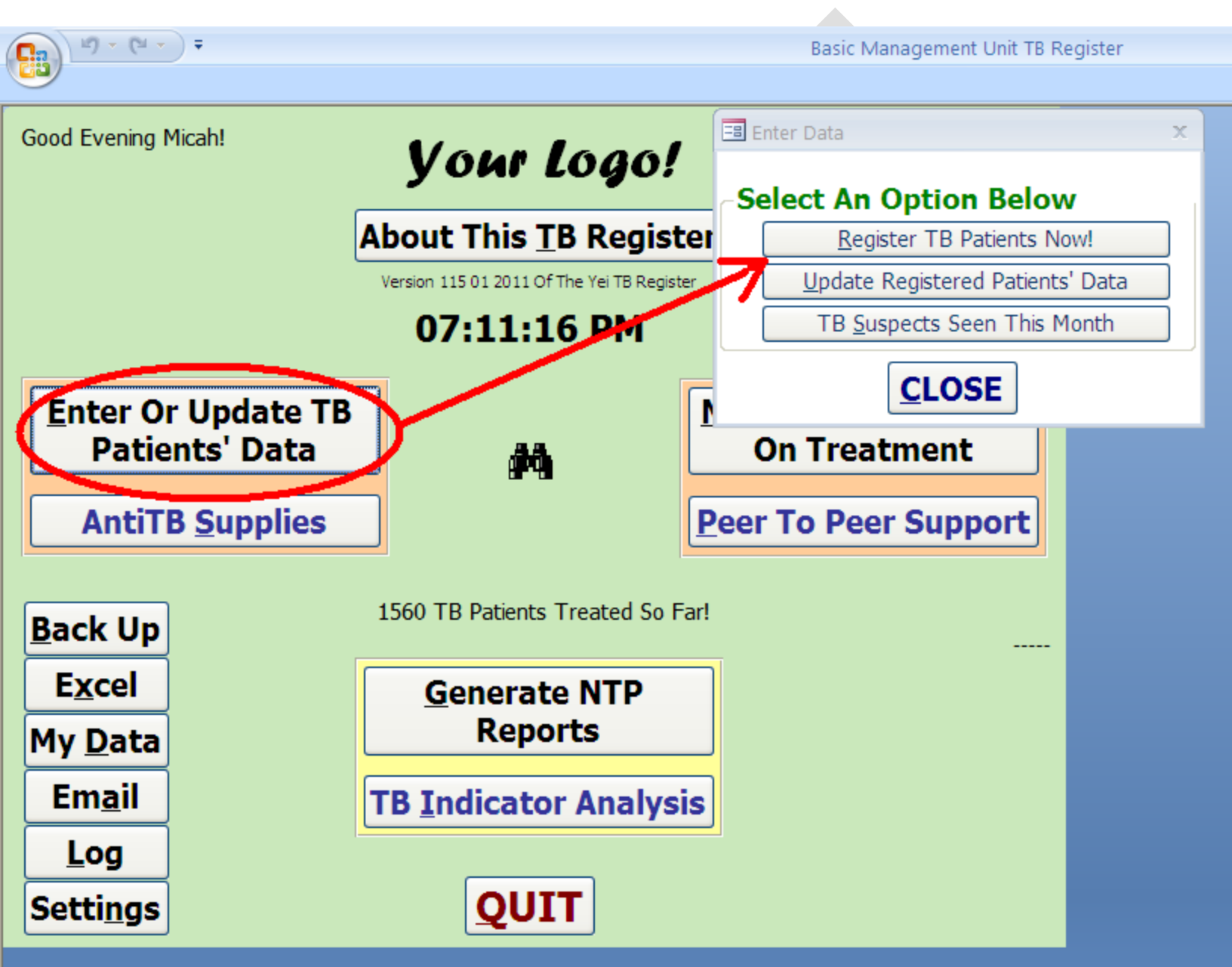
The next sections below are dedicated to describing how you can make the best out of your electronic TB register.

Section 3: How To Enter TB Patient's Details

To enter TB patients' details into this electronic TB register, you will follow the steps below:

- Click the **Enter or Update TB Patients' Data** button located on the **Main Menu**
- A small window named **Enter Data** with three buttons¹ will open as shown in the picture below

Illustration 7



- Click on the **Register TB Patient Now** button located on the Enter Data window.

¹ For Uganda, the enter data window will have additional buttons to enable users to enter supervision and TB-HIV related data

- red will be c

red will be c

red will be c

- e. You can start entering TB patient's details at this point (if you have not entered any patient records already).
- f. If you have already entered some patients' details in the TB register, click any of the **Add New** buttons on the right side of the patient registration form. This will take you to a blank Patient Registration Form to start entering data.

Important buttons on the Patient Registration Form

- i. **Arrow** buttons: The arrows on the right hand side of the **Patient Registration Form** mimic the buttons of a music CD player. They help you to navigate to the first or last TB patient in the register. They can also help you to navigate to the previous or next TB patient that you have entered in the TB register. In case you have a mouse attached to your computer, you can also use the mouse wheel to move from one TB patient to another, both forwards and backwards.
- ii. **Save** button: This is a cosmetic button. This electronic TB register will automatically save your data as soon as you finish typing it in.
- iii. **Binoculars** button: A single click will be interpreted that you would like to find a TB patient. Double clicking will be interpreted that you would like to find a treatment supporter/peer educator or in Uganda, a sub county health worker.
- iv. **Close** button: Will close the current window in this instance, the Patient Registration Form
- v. **Add New** button: Will open a blank patient registration form
- vi. **My Data** button: Will enable you to view specific cohorts of TB patients. Once the cohort of your choice has been displayed to you, you can;
 - **Compare** with what is in the hard copy TB register to ensure that all patients are entered into the electronic TB register.
 - **Select all** the displayed records, copy and paste into say Excel document for further analysis. You will however not be able to edit the data that will be displayed to you.
- vii. **Excel** button: Will help you to export specific cohorts of TB patients into Microsoft Excel for further analysis. See Section 11 **How To Back Up Your Data** in the subsection **How To Export Your Data To Microsoft Excel** for details
- viii. **Delete** button: In case of repetitions or for any other reason, this button will help you to delete the current page/TB patient displayed on the **Patient Registration Form**. It should be noted that deleted data cannot be recovered. For this reason, only managers have permissions to delete records. For purposes of data protection, only three TB patients or peer educators can be deleted in one day.

How to Fill/Register/Enter TB Patient Data or Details Into a Blank Patient Registration Form

The process of entering data into this software is exactly as you would enter data into the hard copy Basic Management Unit TB Register. Each space (field) for data entry can best be visualized as a column of its own in the hard copy TB register.

Before each field can be discussed in detail, below are some generalities;

- i. Some fields like the Patient Serial Number, Regimen (for South Sudan) and Treatment Category on the Patient Registration Form which will fill automatically as you enter your data. Fields which fill automatically are **painted gray**. The *Date of DOTS outcome* field and the *DOTS Outcome* field will also automatically fill if you enter the results of sputum examination after five, six or eight months of DOTS.
- ii. You do not have to hold down the shift key on your keyboard in order to capitalize the first letter of the data that you have entered in each field. This electronic TB register will automatically capitalize the first letter for you e.g., if you enter the name of the TB patient as **wandira geoffrey**, it will automatically become **Wandira Geoffrey**
- iii. Each time you place your cursor in an empty field, a short message will flash showing you an example of which type of data type you should enter in that field. This is illustrated in 9 below. You will also notice that this **Patient Registration Form** is slightly different from illustration 8 above. The one above (illustration 8) is customized for users in South Sudan and the one below is customized for users in Uganda.

Illustration 9

Patient Registration Form

Patient Serial Number:

District:

Village:

Age (Years):

Regimen:

Treatment Category:

Date of Registration:

County:

Name of TB Patient:

Treatment Unit Name:

TB Type (PP, PN, EP..):

District TB Number:

Sex (Gender):

Date Treatment Started:

Patient Type (N, R, D..):

Assign To A Peer Educator? ☐

Enter The Date When This Patient Was Registered e.g. 25/04/2011

Enter The Date When This Patient Was Registered e.g. 25/04/2011

Results Of Sputum Smear Microscopy And Other Examination (Date and Laboratory Result)

Before Treatment		2		3		5		6		8	
Date	Grade	Date	Result	Date	Result	Date	Result	Date	Result	Date	Result

Counselled For HIV Test:

Started on CPT?:

Date Started On ART:

Date of HIV Test:

Date Started On CPT:

Date of DOTS Outcome:

HIV Test Result:

Started On ART:

Treatment Outcome:

Additional Remarks:

Enter The Date When This Patient Was Registered e.g. 25/04/2011

08:36:56 PM

My Data

Excel

Delete

Total Enrollment: 684

Add New

CLOSE

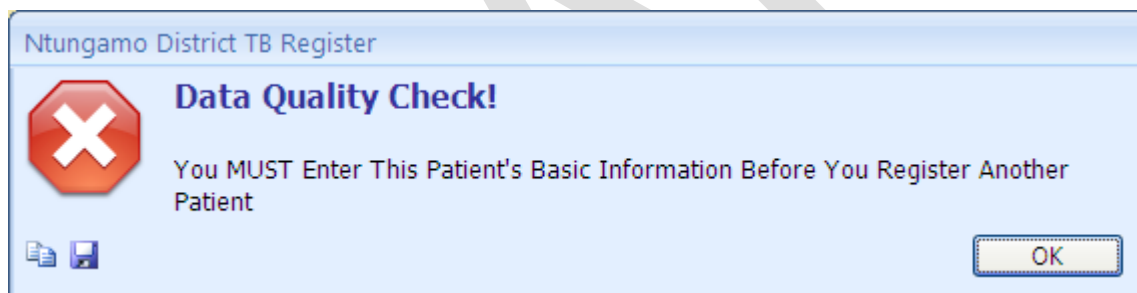
Powered

- iv. The order in which the data fields are described below is specific for South Sudan. For other countries, the order of data entry may be different. Additional data entry fields may also exist for some countries depending on local needs.
- v. After you have entered data in a field, you can move to another field using three possible ways;
 - i. Pressing the Tab key on your keyboard
 - ii. Pressing the Arrow keys on your keyboard
 - iii. Pressing the Enter on your keyboard

Whichever field your cursor will move to, as long as there is no data in it, that field's background will turn gray otherwise it will remain white.

- vi. Some information is required for each TB patient that you enter into the TB register. These fields include the Age, the TB type (pulmonary sputum positive or negative, or sputum smear not done, or extra pulmonary TB), the sex/gender of the patient etc. The required fields appear faint/frozen out at the beginning of data entry. Depending on a country, the number of required fields can be more or less. These fields are required not only because it is important to understand the epidemiology of TB but also because this data is required for each TB patient in the quarterly reports submitted to your NTP. For this reason, you will not be able to register another TB patient except if these required fields are all filled for the preceding patient. A sample alert message that will popup if you attempt to register another patient before filling in the required fields is shown below

Illustration 10



Important Notice 1

- a. Each time you click inside a date field e.g., the **Date of Registration**, a small box (mini calendar) will pop up in front of the field as shown below. As soon as you click on the small box/mini calendar, it will enlarge into a calendar. This is meant to assist you in entering the date. See relevant illustrations 10 and 11 below

Illustration 11

Patient Registration Form

Patient Serial Number:

District:

Village:

Age (Years):

Regimen:

Treatment Category:

Date of Registration: 

County:

Name of TB Patient:

Treatment Unit Name:

TB Type (PP, PN, EP...):

Enter The Date When This Patient Was Registered e.g. 25/04/2011

Illustration 12

Patient Registration Form

Patient Serial Number:

District:

Village:

Age (Years):

Regimen:

Treatment Category:

Date of Registration: 

County:

Name of TB Patient:

Treatment Unit Name:

TB Type (PP, PN, EP...):

Enter The Date When This Patient Was Registered e.g. 25/04/2011

Calendar: April 2011

M	T	W	T	F	S	S
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

Today

- From the calendar that pops up, you can **double click** any date shown to enter the date. Alternatively, you can use the arrows on the left or right upper corner of the calendar to scroll through different dates/months till you get to the date of your choice. It is also possible to ignore the calendar and just type in your preferred date instantly.
- For purposes of maintaining the data quality, no date after the current date can be entered into the electronic TB register. For instance, as I write this manual, today's date is 25/04/2011. If during data entry for the **Date of Registration** field I entered 29/04/2011, this date will be rejected. A message will pop up as shown below

Illustration 13

Ntungamo District TB Register

Data Quality Check!

The 29/04/2011 You Have Just Entered Is Greater Than Today's '25/04/2011 ' Date. Please Enter The correct Date of Registration

OK

Entering Data In Individual Fields

a. Patient Serial Number

The Patient Serial Number can best be compared to a mobile phone number. Its value e.g. whether it is equal to 100 or 1,000,000 is meaningless. It is just a unique number for each TB patient. As mentioned in section 3 **How To Enter TB Patient's Details** in subsection **How to Fill/Register/Enter TB Patient Data or Details Into a Blank Patient Registration Form**, this number will automatically fill by itself. Usually, it will automatically increase in continuous series with each new TB patient you enter into the TB register. At the beginning of each year, this number will start counting back to YYYY001. Where YYYY is number representing the New Year.

b. Date of Registration

The date of registration refers to the date when a TB patient is entered into the hard copy District/County/Basic Management Unit TB Register. This date is usually assigned by the District or County TB Supervisor. It should not be confused with the date when the TB patient started DOTS.

This date is entered into the electronic TB Register just like any other date field. For a full description of how to enter dates in this TB register, see illustration 10 and 11 above. Any data entered that is not a date will be rejected. This date is the basis on which quarterly reports to the NTP are generated.

c. County TB Number or District TB Number

The County or District TB Number is a unique number assigned by the District or County TB Supervisor. It is usually unique for each TB patient. Each TB program may have its own standard nomenclature e.g., NTU001/2010 or 2011/001 or YEI2011/001.

If you have a consistent way of assigning County or District TB Numbers, the TB Register team can program the software such that you only enter the number and the other parts are assigned automatically. For example, in some South Sudan TB Programs, the County TB Number is written as YEI2011/023. Therefore, when you enter the number e.g. 23, the current year and "YEI" will automatically be appended as soon as you move to the next field for the number to read as YEI2011/023.

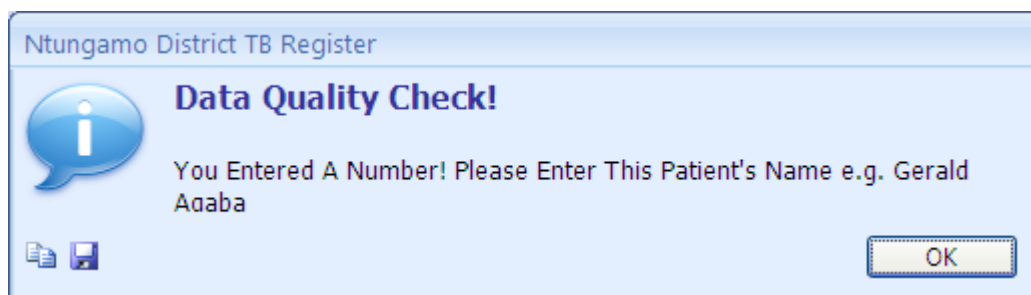
d. Name Of Patient

In this field, you will enter the full name of the TB patient e.g., Agaba Gerald or Charles Batwala. Even if you enter the name in small caps, it will automatically take up proper case (the first letters of each name will get capitalized automatically).

Unless you have entered the TB patient's name, the required fields like sex or age described in the section 3 **How To Enter TB Patient's Details** in subsection **How to Fill/Register/Enter TB Patient Data or Details Into a Blank Patient Registration Form** in bullet point **h** above will not open up for you to enter data.

In case you enter a number e.g., 82 instead of a patient's name, an alert message will pop up as illustrated below.

Illustration 14



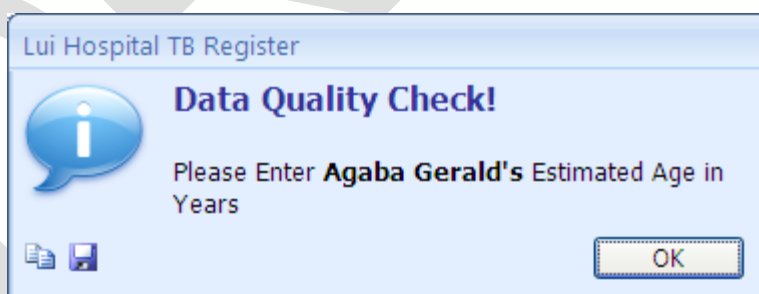
e. Age

In this field, you enter the TB patient's estimated age in years. If the patient is below 1 year of age, then you will write his/her age to the nearest decimal point. For instance, a child who is 6 months of age would be 0.5 years old.

My personal note here is that the accuracy of the age below one year is not very important. In almost all reports I have seen, all children under the age of 4 are grouped together at data analysis stage. That means, whether a child is 0.2 or 0.7 or 2.5 years old, they all lie in the same age bracket. Therefore for a child who is under one year of age, entering 1 or 0.4 in this field would serve exactly the same purpose at the time of data analysis or generating reports to the NTP.

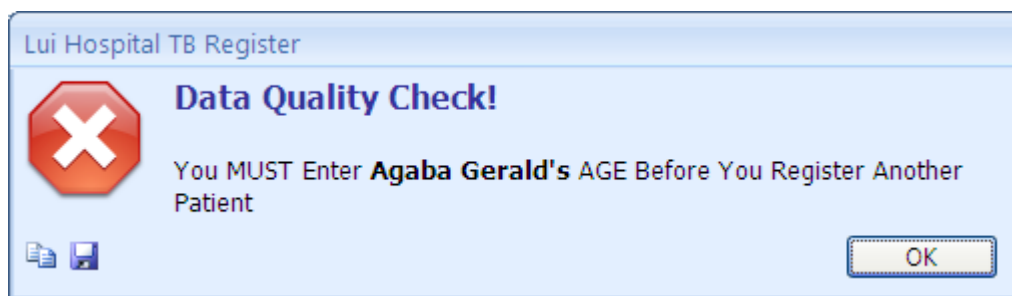
The **Age** being a required field must be filled before you attempt to enter more data or register a new TB patient. If you don't, an alert message will pop up as shown below.

Illustration 15



In the unlikely event that you attempt to click the **Add New** button or register a new TB patient before entering the age of the preceding TB patient, an alert message will pop up as shown below

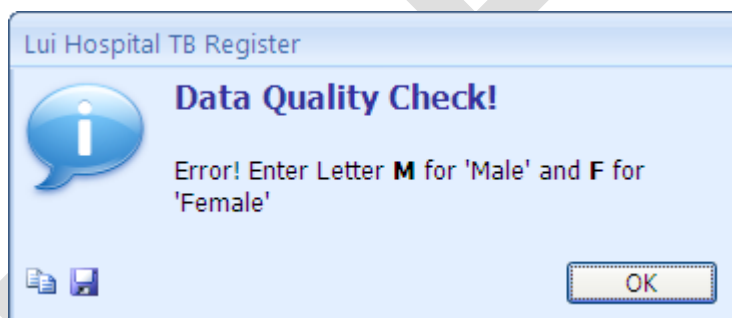
Illustration 16



f. Sex (Gender)

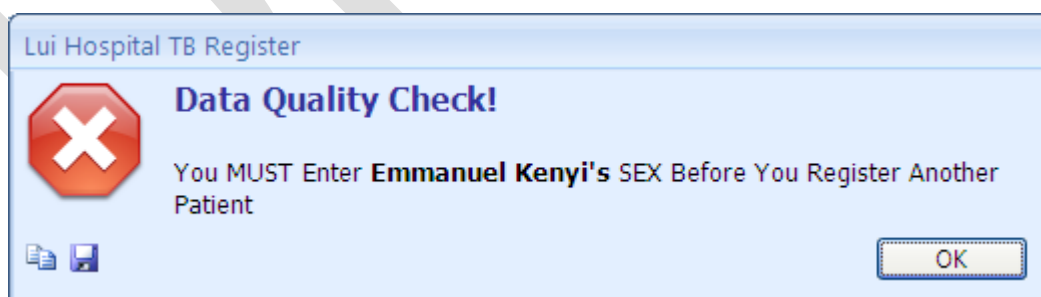
The TB patient's gender must be entered in this field. You will enter letter **M** for male or **F** for female. Since it is a required field, you will get an alert message as shown in Illustration 17 below in case you attempt to navigate away from it without entering the required data. A similar message will pop up in case you try to enter any other data other than letter **M** or **F**.

Illustration 17



In the unlikely event that you attempt to click the **Add New** button/register a new TB patient before entering the sex of the preceding TB patient, an alert message will pop up as shown below

Illustration 18



g. Referred by

To be revised!

h. County/Payam/Boma/Village (South Sudan) or District/County/Sub County/Village (Uganda)

In these fields, you will enter the full address of the TB patient up to the smallest possible geographical sub division of your country.

It is very important to fill out the full address of the TB patient. This is because it used to trace the contacts of the registered TB patient and also to trace the patient in case he/she misses a scheduled sputum examination or drug refill. Additionally, this patient address is used as a basis to search/identify the nearest former TB patient or Peer Educator or Sub County Health Worker who can provide social or treatment support to the patient.

i. Nearest Health Facility (South Sudan) or Treatment Unit Name (Uganda)

In this field, you will select from the dropdown list the name peripheral health facility where the patient's TB card will be kept. More often than not, this is the name of the health facility where the TB patient will receive the monthly supply of DOTS during the continuation phase. The *Performance Per Health Facility* section of this software heavily depends on what you enter in this field.

j. Date Treatment Started

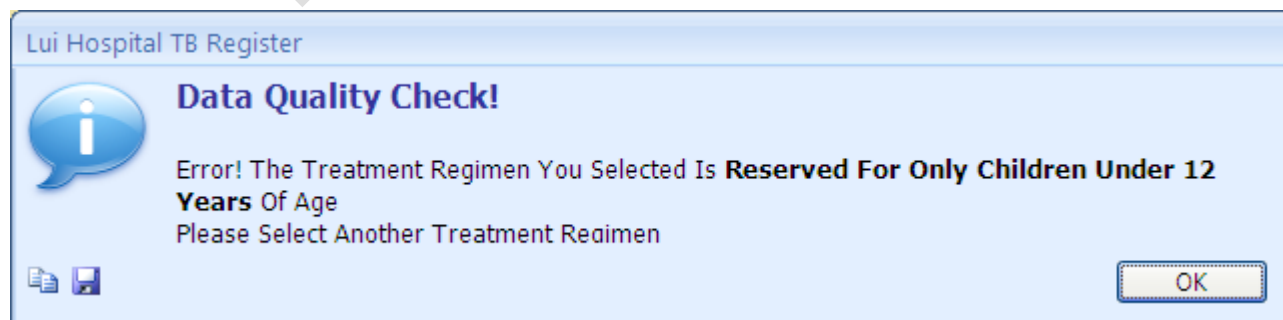
The detailed description of how to enter data in date fields (under **Important Notice 1** above) also applies to this section. In settings where initiation of treatment is centralized at the District/County hospital, the date when the patient starts DOTS may be the same as the date of registration. However in decentralized settings, most TB patients will start DOTS before they are registered by the District/County TB supervisor in his/her hard copy Basic Management Unit TB register.

This date is used to determine which TB patient may have missed or is due for a sputum examination. In the unlikely case that it is not entered, it will default to the date when the patient was registered.

k. Regimen (Treatment Regimen)

The behavior of this field depends on the country. For users in South Sudan, this field will automatically fill depending on what age and patient type you entered. As soon as you change say the age to a child or patient type from say **New** to **Defaulter**, the regimen will update itself automatically. Users in Uganda on the other hand will select the treatment regimen from a dropdown list. In case the patient is an adult and you select a treatment regimen reserved for children, you will be alerted as illustrated below. The opposite is also true.

Illustration 19



I. TB Type

The TB type could refer to the part on the patient's body which TB has affected. There are two main possibilities; Pulmonary or Extra-pulmonary (EP). The pulmonary TB can further be classified into Pulmonary Sputum Smear Positive (PP), Pulmonary Sputum Smear Negative and Pulmonary Sputum Smear Not Done (ND). You will select the TB type from the dropdown list. Being a required field, you will not be able to register more TB patients until the TB Type of the preceding TB patient is entered. Similar alert messages to what is described under the Sex and Age field will appear.

In case a patient is having Pulmonary Sputum Smear Positive (PP) TB, the row where follow up sputum smears are entered will turn white. However, for patients with any other type of TB (where it's not common practice to follow up their sputum smears after 2, 3, 5, 6 and 8 months of DOTS), this row will turn **Olive green**. In this instance, data that may be entered in this row will not be analyzed.

m. Patient Type

TB patients can further be classified into two main categories depending on whether they have ever suffered from TB or not. A new case of TB is defined as a patient who has never got TB before, or who had TB, started anti TB treatment but interrupted DOTS before completing one continuous month of treatment. In this software, a letter N will be used to imply a new case. Conversely, a TB retreatment case can be a D (Defaulter), R (Relapse), F (Failure), or O (Others). Please refer to your National TB guidelines for the exact case definitions. TI cases refer to TB cases Transferred IN from another District/County.

As soon as you enter the patient type and press the Enter key on your keyboard, where the cursor moves depends on the TB type that you entered. For Pulmonary Sputum Smear Positive (PP) TB cases, the cursor will jump to the date when the diagnostic sputum smear was done. For other cases, the cursor will move to the date when the patient was tested for HIV (South Sudan) or the date when the patient was pretest counseled for HIV testing (Uganda).

The patient type is a required field in this software and must be entered for each TB patient.

n. Treatment Category

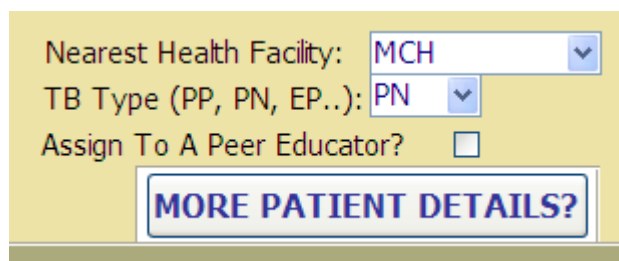
Except for TB cases Transferred in, this field will automatically update itself.

o. Assign To A Treatment Supporter/Peer Educator/Sub County Health Worker?

Considering the long duration of TB treatment, patients need a lot of social support from former TB patients, relatives, friends and other community members in order to adhere to treatment. This is the sole reason why this section was developed. A full description of how A TB patient can be linked to a Treatment Supporter/Peer Educator/Sub County Health Worker is described in section 4 **Social Support To TB Patients On Treatment**. The description below is just a summary. NB: The terms Treatment Supporter/Peer Educator and Sub County Health Worker are synonymously used but mean the same thing.

- i. Check the box in front of **Assign To A Peer Educator**? See illustration below

Illustration 20



Nearest Health Facility: MCH

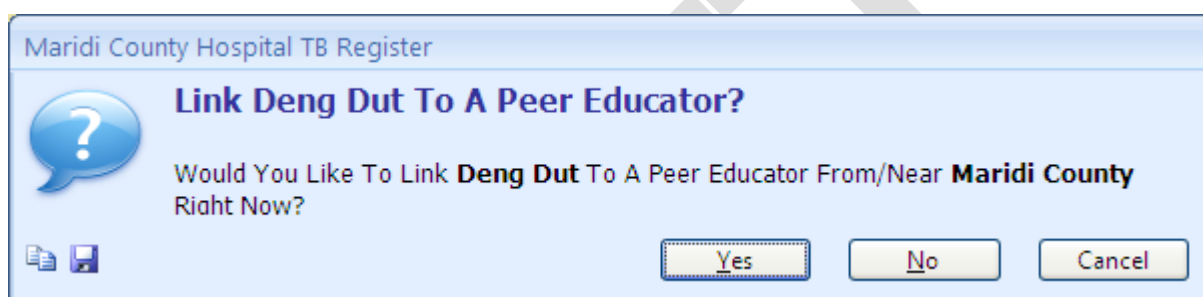
TB Type (PP, PN, EP..): PN

Assign To A Peer Educator? ☐

MORE PATIENT DETAILS?

- ii. A message box will popup asking if you would like to link the TB patient to a Treatment supporter who shares a similar address like the TB patient. This is illustrated below;

Illustration 21



- iii. If you choose **No** or **Cancel**, the entire process described below will be cancelled.
- iv. If you choose **Yes**, the electronic TB register will automatically search all the treatment supporters entered into the TB register that come from within the same address as the TB patient. The list of these treatment supporters will be displayed to you in a separate window as illustrated below;

Illustration 22

Find A Peer Educator Using....

County: Maridi
Payam: Maridi
Boma:
Village:

Search As I Type ON! ☒
RESET

Peer Educator Name:
Phone Number:
Peer Educator No:
Nearest Health Facility:

Show All The Peer Educators

Found 19 Peer Educators That Match Your Criteria!

HINT: From The List Below, Double Click The Peer Educator's Name To View Or Update Their Details

Serial	Peer Educa. Name	Age	Sex	County	Payam	Boma	Village	Linked	Phone Number
021	Alice Batulu	35	F	Maridi	Maridi	Maridi	Land Juma	4	
008	John Luka	45	M	Maridi	Maridi	Maridi	Malakia	4	
004	Alfred James	35	M	Maridi	Maridi	Mabilindi	Moku	4	
014	Richard Stanely	22	M	Maridi	Maridi	Maridi	Landi Juma	3	
007	Juma John	34	M	Maridi	Maridi	Maridi	Hai Gabat	3	
009	Regina Paul	43	F	Maridi	Maridi	Maridi	Mansuwa	3	
002	Wilson Methew	34	M	Maridi	Maridi	Maridi	Mangua	3	
006	Tito Batiyo	60	M	Maridi	Maridi	Maridi	Ecs	3	

- v. If there is more than one treatment supporter, you will have to scroll through the list until you find the treatment supporter that you would like to assign the patient to. If the treatment supporter you are interested in is not on the displayed list, click **Show All The Peer Educators** or **Show All Sub County Health Workers**
- vi. Double click the Treatment Supporter's name, in this instance, I clicked **Alice Batulu**. A message will popup asking if you are sure about your decision. This is illustrated below;

Illustration 23

Maridi County Hospital TB Register

Link Peer Educator To A TB Patient!

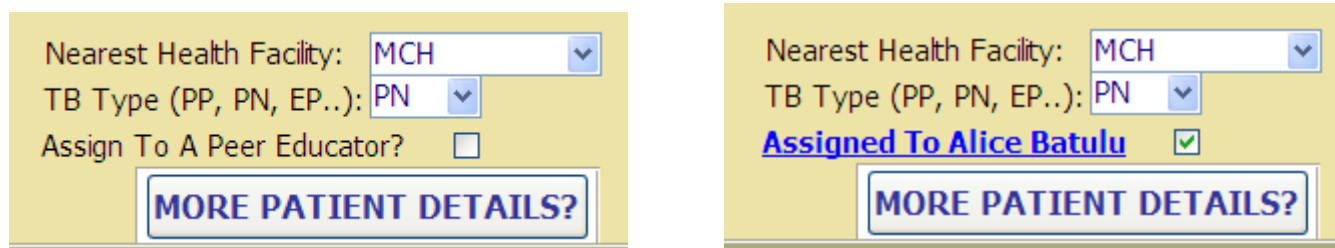
Are You Sure You Want **Alice Batulu** To Support **Deng Dut** To Complete His TB Treatment?

Yes **No** **Cancel**

- vii. If you choose **No** or **Cancel**, the process described below will be cancelled.
- viii. If you choose **Yes**, the TB patient will be linked to the treatment supporter that you chose (Alice Bantalu).

- ix. To confirm the link, the window (illustrated 22) above will disappear automatically. In addition, what initially was **Assign To A Peer Educator?** will read as **Assigned To NameOfTreatmentSupporter**. The wording will also turn blue as illustrated below

Illustration 24



Nearest Health Facility: MCH
TB Type (PP, PN, EP..): PN
Assign To A Peer Educator? ☐

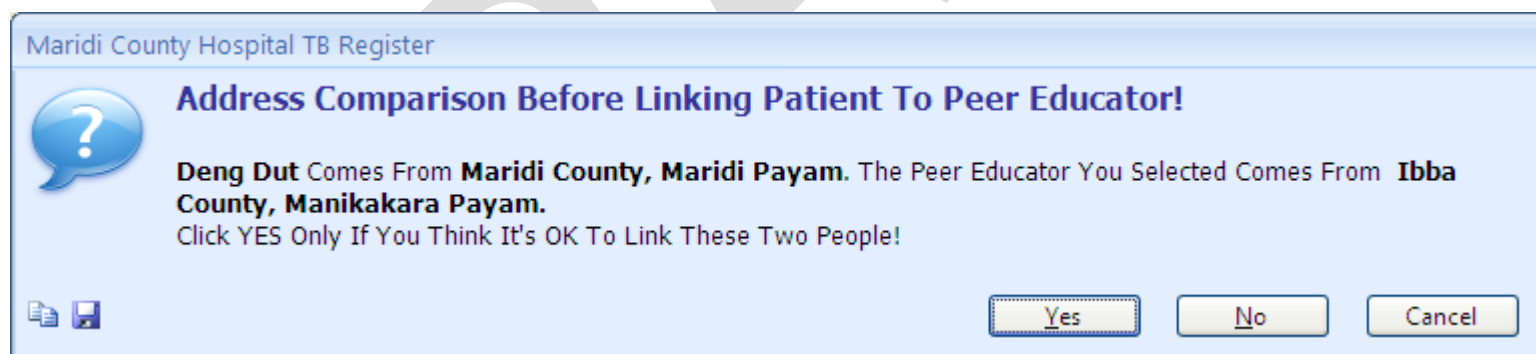
MORE PATIENT DETAILS?

- x. When you double click the blue underlined web-like words i.e., **Assigned To Alice Batalu**, another window will open up to show you all the TB patients assigned to that treatment supporter.

Important Notice 2

- i. The process of linking a TB patient to a treatment supporter described above is idealistic. In real life, the patient and treatment supporter may come from the same County but different Sub Counties/Payams. In addition, the nearest treatment supporter may not come from the same County or even the same Sub County/Payam as the patient. For such cases, the software will compare the address and then alert you as illustrated below.

Illustration 25



Maridi County Hospital TB Register

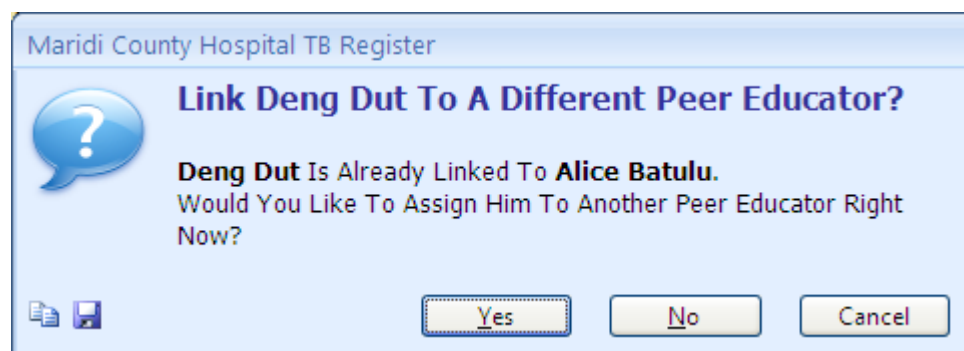
Address Comparison Before Linking Patient To Peer Educator!

Deng Dut Comes From **Maridi County, Maridi Payam**. The Peer Educator You Selected Comes From **Ibba County, Manikakara Payam**.
Click YES Only If You Think It's OK To Link These Two People!

Yes **No** **Cancel**

- ii. If the patient is already linked to another treatment supporter, you will be alerted accordingly as illustrated below

Illustration 26



- iii. You can not assign more than 10 TB patients to one treatment supporter (South Sudan) and not more than 35 TB patients to one Sub County Health Worker (Uganda). This however can be customized to suit your TB control program.
 - iv. You will not be able to assign TB patients to treatment supporters if you do not have treatment supporters' details entered in this TB register.
 - v. You can also assign TB patients to treatment supporters using other methods as described in section 4 **Social Support To TB Patients On Treatment.**
- p. More Patient Details

There are some details about TB patients which are important, but their absence would not significantly affect the quality of reports generated by this software. When you click the **More Patient Details** button, a window named **Extra Patient Details** will open. This will allow you to enter more information about the patient e.g., the weight, phone number of the patient, major symptoms and duration of symptoms, treatment supporter's name, phone number of treatment supporter, No. of family members and patient's photo before and after DOTs. The insert pictures' section has however been locked by the Administrator. First, there are ethical issues surrounding taking pictures of patients. Additionally, inserting patient pictures into the database would increase the weight of the database and eventually slow it down significantly. This would certainly interfere with the user experience. This approach may probably be revised in future.

q. Date and Results of Sputum Smear Microscopy (Date and Laboratory Result)

This part of the Patient Registration Form (illustrated below) applies to only sputum smear positive TB cases. Any data entered in these fields for pulmonary smear negative or extra pulmonary TB patients will not be analyzed!

Illustration 27

Results Of Sputum Smear Microscopy And Other Examination (Date and Laboratory Result)									
Before Treatment		2		3		5		6	
Date	Grade	Date	Result	Date	Result	Date	Result	Date	Result

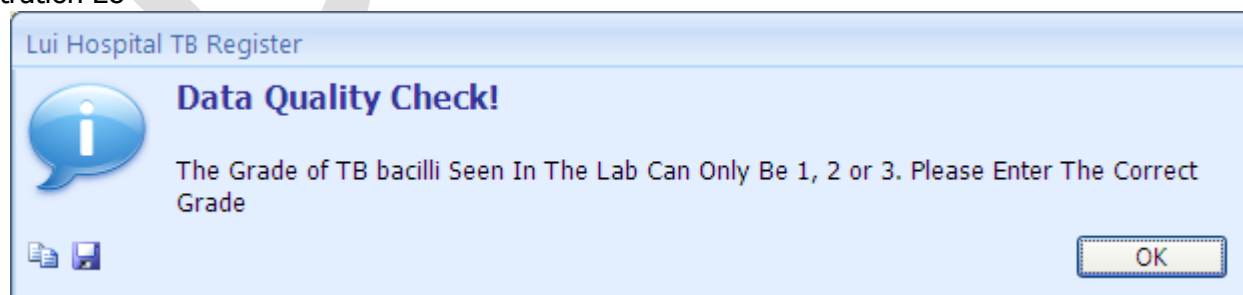
In South Sudan, the sputum of all smear positive TB cases is expected to be examined at the end of the intensive phase, after 5 months of DOTS and at the end of treatment. In the *Date and Results of Sputum Smear Microscopy* row, you will fill in the date when each sputum examination was done. For guidance on how to enter data in the date fields of this row, please see **Important Notice 1** above.

In the first cell of the *Date and Results of Sputum Smear Microscopy* row, enter the date when the TB diagnostic sputum smear was done. In places where initiation of DOTS is centralized at the Basic Management Unit, this date will automatically default to the date of registration (for sputum smear positive cases). However, you can change this default date if it is earlier or later.

By classifying the TB patient as PP, PN, EP or ND, the results of the diagnostic sputum smear examination are implied. For instance, if a TB patient was sputum smear positive (PP), then it is implied that at/before starting treatment, the sputum smear result was positive for Acid Fast Bacilli. For this reason, no space was created to write the results of the diagnostic sputum smear.

In the next field, you will enter the grade of bacilli found in the sputum by the laboratory. The grade can only be 1, 2 or 3. Any other value will be rejected. A sample alert message below will appear in case you enter different data.

Illustration 28

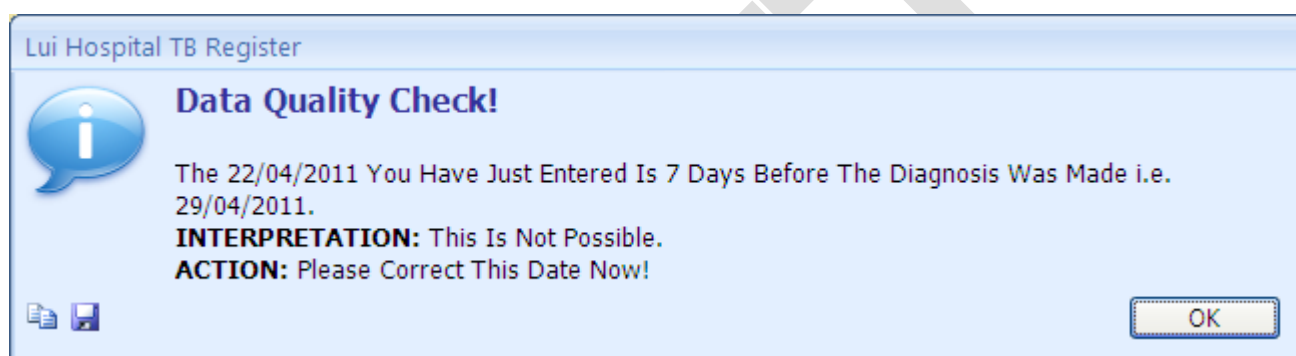


After 2 months of DOTS, the sputum smear of the new smear positive TB cases is examined to check for the presence of TB bacilli. You will enter the date when this was done and result of the sputum smear examination in the third and fourth fields of this row. Further details on how to enter data in date fields

are described under **Important Notice 1** above. The results of the sputum smear examination can either be **positive** for which you will write **pos** or **negative** for which you will write as **neg**. any other results entered other than **pos** or **neg** will be rejected. Other fields in this row (date and sputum examination after 3, 5, 6 and 8 months of DOTS) are filled in exactly the same way described above.

There are several date checks as you enter data in the *Date and Results of Sputum Smear Microscopy* row. For instance, the date when the end of 3 months sputum examination was done cannot be before the date when the TB patient was started on DOTS. Also, the date when the end of 5 months' sputum examination was conducted cannot be before the date when the end of 2 months of DOTS sputum examination was conducted. In either case, a warning message as shown below will appear to alert you of the error.

Illustration 29



In the above illustration, the diagnostic sputum smear was made on the 29/04/2011. Any follow up sputum smears cannot take place at an earlier date. If you entered for instance 22/04/2011 as the date when the end of 2 months of DOTS sputum smear was done, this date would be rejected.

If the results of sputum microscopy at the end of either 3, 5, 6 or 8 months' of DOTS is positive, a small checkbox will appear below the *Date and Results of Sputum Smear Microscopy* row asking if the patient's sputum was sent for culture and sensitivity testing (DST). Please check the box if DST has been done otherwise leave it blank. As per WHO 2010 guidelines, all Category II TB cases should undergo DST. For this reason, this box will by default appear for all re-treatment cases.

In South Sudan, the treatment outcome of "**completed**" can be assigned to a TB patient when they collect their last refill of anti TB drugs or if the laboratory confirms that there are no visible bacilli at the end of 5 months of DOTS. For this reason, the software will evaluate the lab results that you entered and assign a treatment outcome accordingly. In the event that the sputum smear is positive, the patient will be deemed a treatment failure.

If at the end of treatment another sputum smear is conducted for the TB patient, the outcome can change depending on the lab results. If the results are negative, the patient is declared cured. This result will update itself automatically.

r. Date of HIV test

In this field, you will enter the date when the patient accepted to take an HIV test. For support on how to enter data in date fields, see **Important Notice 1** above.

s. Result of HIV test

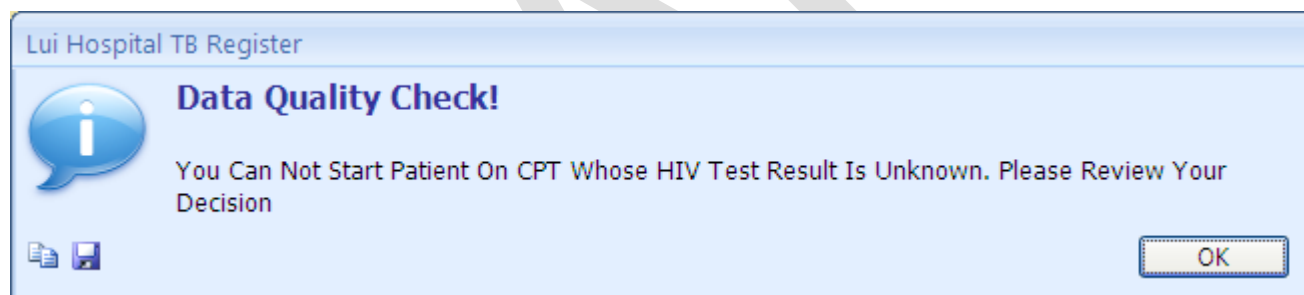
Similar to the results of the sputum examination, you will enter **pos** for positive HIV test result or **neg** for negative HIV test result. Any other data other than **pos** or **neg** will be rejected.

If the HIV test result is **pos**, the cursor will automatically move to the '**Started on CPT**' field. If the result is **neg**, the cursor will move to the '**Date of DOTS outcome**' field when you press the **Enter** or **Tab** key on your Keyboard.

t. Started on CPT (CPT is Co-trimoxazole Prophylactic Treatment)

Although this could vary depending on the country, all TB patients found to be HIV positive should be started on CPT immediately. In this field, you will select **Yes** if the TB patient was started on CPT and **No** if it is yet to happen. In case the TB patient is HIV negative or his/her HIV test results are unknown, you will not be able to select the Yes option. A warning message like the one illustrated below will appear.

Illustration 30



u. Referred for ART (ART is Anti-Retroviral Therapy)

Although some ART programs may provide DOTS to TB patients, the reverse is not always true. Majority of the TB programs at least in South Sudan do not offer ART beyond Cotrimoxazole prophylaxis. For this reason, all HIV positive TB patients should be referred or linked to an appropriate HIV service provider to continue lifelong treatment on ART. You will select **Yes** or **No** depending on whether you have referred the patient for ART or not.

v. Date of DOTS outcome

The Date of DOTS outcome and as well as the DOTS Outcome itself will automatically fill if you enter date and results of sputum examination after five, six or eight months of DOTS. This is only applicable for sputum smear positive TB patients. For PN, EP and ND cases, you will enter this date and the corresponding treatment outcome manually. The description on how to enter data in date fields is described under **Important Notice 1** above.

w. Outcome

If the results of sputum smear examination at the end of 5, 6 and 8 months of DOTS are entered, this field will automatically fill. Otherwise, you will select the treatment outcome from the dropdown menu.

x. Remarks

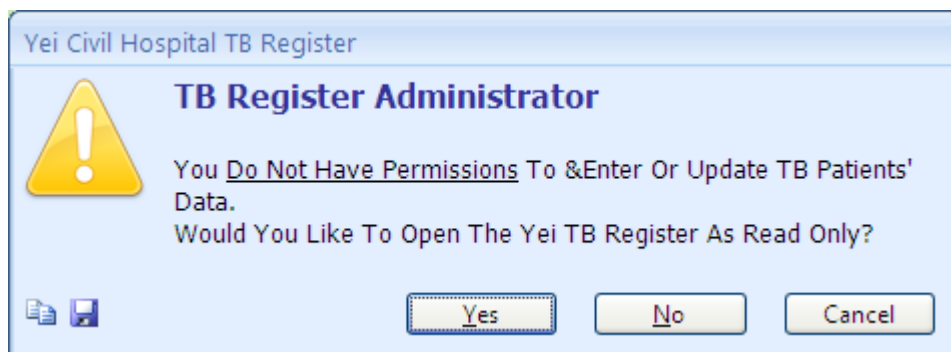
You will enter any additional remarks in this field that you think are pertinent to the patient.

DRAFT

Important Notice 3

- i. Program Coordinators, Partners in TB Control and County Level TB Coordinators cannot enter or edit TB patients' records. A warning message like the one shown in Illustration 31 below will alert them about this.

Illustration 31



- ii. If they choose **Yes**, the **Patient Registration Form** will open as read only. However, they will have no ability whatsoever to edit or enter patients' data.
- iii. If they choose **No** or **Cancel**, the **Patient Registration Form** will not open and the enter data window will close automatically.
- iv. The above message will not appear for other users' enroute to entering or updating TB patient data.
- v. The appearance (and or the order of data entry) of the patient registration form solely depends on how the hard copy Basic Management Unit TB Register of the country is designed. When the electronic TB register is being customized to your country's needs, the order of data entry and the data entry fields are aligned to the Basic Management Unit TB Register of your country.

Section 4: **Peer To Peer Support/TB Treatment Support**

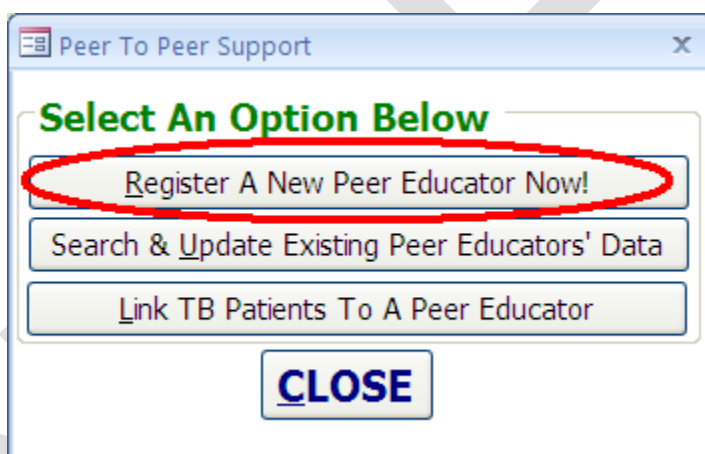
Considering the long duration of treatment, TB patients need a lot of social support from former TB patients, relatives, friends and the community in order to adhere and complete CB-DOTS. This is the essence of the Peer To Peer Support section of this TB register. In this section of the TB register, you will enter basic information about all the treatment supporters in your district or county. You will then be able to link the TB patients to the nearest treatment supporters available.

Please note that how this section appears may vary from one county to another. In South Sudan, this section is called **Peer To Peer Support** and in Uganda, it is called **TB Treatment Support**. Either way, the functionality is essentially the same.

To register a new Treatment Supporter/Peer Educator/Sub County Health Worker

- a. Click the **Peer To Peer Support** or the **TB Treatment Support** button located in the **Main Menu**.
- b. A small window will open up as illustrated below;

Illustration 32



- c. Click the button named **Register A New Peer Educator Now!** A larger blank window named **Peer Educator Details Form** will open up as shown below.

Illustration 33

Peer Educator Details Form

Peer Educator Number: (New)
Peer Educator's Name:
Peer Educator's Age:
Peer Educator's Sex:
Nearest Health Facility:
County:
Payam:
Boma:
Village:
Is Former TB Patient?:
Has A Bicycle?:
Peer Educator Since:
Phone Number 1:
Phone Number 2:
TB Patients Assigned: 00

Nearest TB Patients:

B

Enter The Peer Educator's Name e.g. Taban Charles

Add New
Delete
Excel
Copy
Print
Close

PEER SUPPORT SUMMARY

Total Peer Educators:	16
Peer Educators Who Have TB Patients:	16
Peer Educators With NO TB Patients:	00
TB Patients Assigned To Peer Educators:	337
TB Patients Assigned To This Peer Educator:	00
TB Patients NOT Assigned To Peer Educators:	45
TB Patients Near This Health Facility:	00

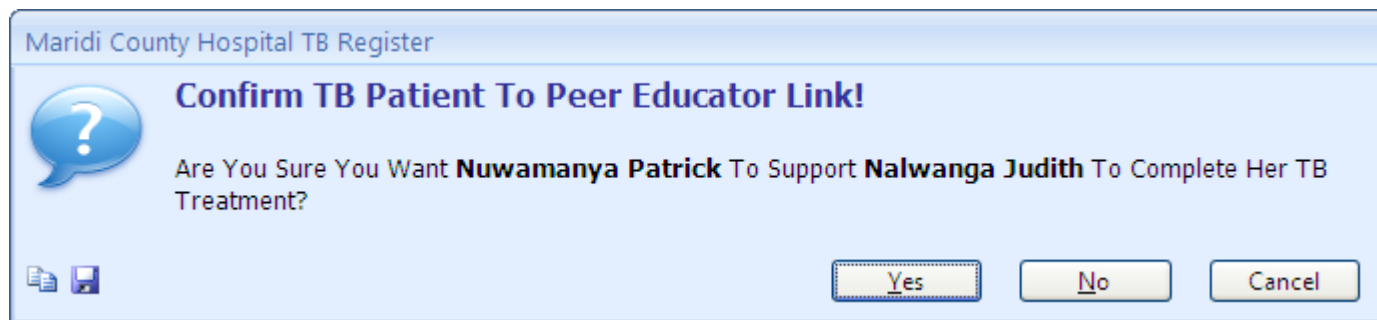
- d. The description of how to enter data in individual fields described under **Important Notice 1** above also applies to this section. Only where there are differences, a brief explanation is provided below;
- Peer Educator Age; Enter the Peer Educator's estimated age in years. Any treatment supporter/peer educator less than 18 is considered a child and will be deleted automatically.
 - Once you have entered the nearest health facility, all TB patients nearest to that health facility will populate in the white box (B).
 - As you enter data, please take note of the dynamic hint located just above the **Add New** button. Each time your cursor moves to a blank data entry field, a different hint will appear showing you which kind of data you should enter in that field. In the above example, the cursor was in the **Peer Educator's Name** field and **Taban Charles** was the user who was entering data. Once you have entered the data in the field and then move to the next field, this hint will automatically disappear.
 - The **TB Patients Assigned** field will automatically change whenever you assign more/less patients to a specific treatment supporter. You cannot manually change data in this field.
 - All the buttons shown on illustration 33 work exactly like the buttons described in section 3 **How To Enter TB Patient's Details** in subsection **Important buttons on the Patient Registration Form** in this user manual

How To Link TB Patients To A Treatment Supporter

To link the nearest TB patients to a treatment supporter, you will follow the following steps

- On the **Main Menu**, click the **Peer To Peer Support** or the **TB Treatment Support** button
- Click on the **Link TB Patients To A Peer Educator** button. The window shown in illustrated 33 will open up
- Using the **Arrow** buttons, scroll through the list of peer educators/treatment supporters that you have entered into the TB register. Once you have found the peer educator, a list of patients who are nearest to his home will automatically populate in box (B).
- Identify the name of the patient that you would want to link to link to a peer educator/treatment supporter. Double click this TB patient's name. A message box will pop up asking you if you are sure about your decision as illustrated below

Illustration 34



- e. If you choose **No** or **Cancel**, the process of linking the TB patient to a peer educator/treatment supporter will be cancelled.
- f. If you choose **Yes**, the patient will be linked to a treatment supporter. To verify that the link has been established, the **Assigned To** column in box (B) will show the name of the treatment supporter that the patient has been linked to. In addition, the **TB Patients Assigned** field will increase by one.
- g. This is however an idealistic scenario. In reality, what is described under **Important Notice 2** applies to this section as well.

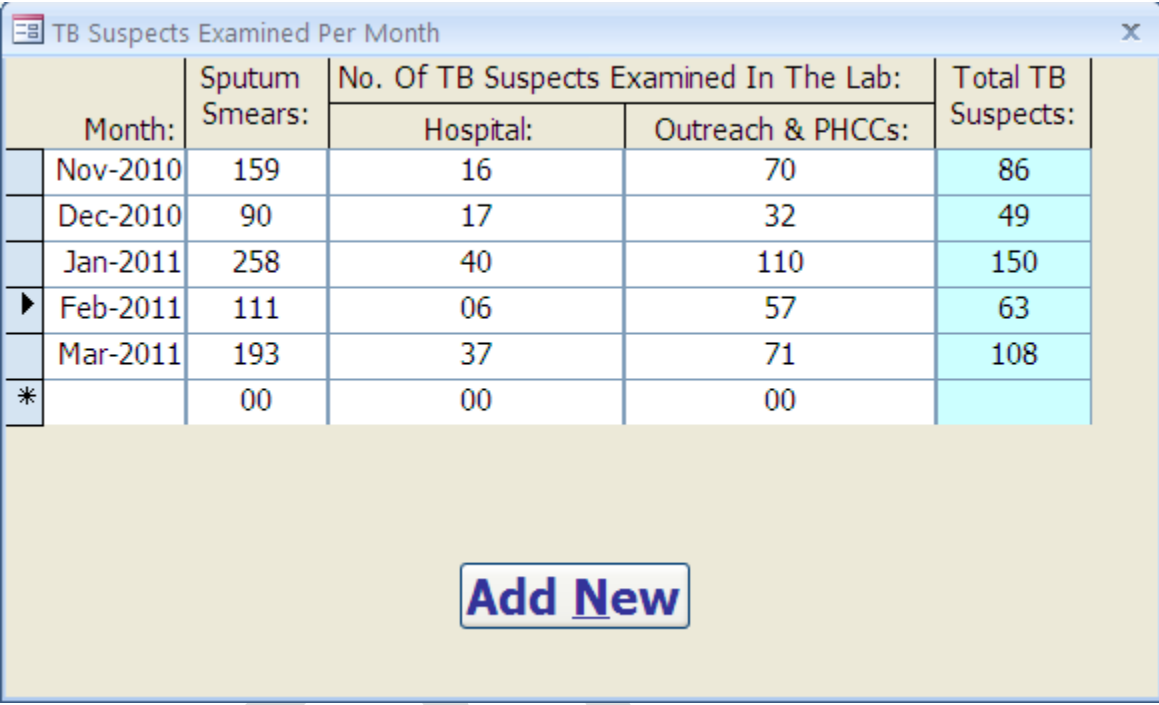
Peer To Peer Support Summary

This section will provide you with an overview of the treatment supporters in your TB register. As you move your cursor over this section, the words will **turn blue, bold and are underlined**. Click on anyone of the underlined blue words to view the underlying list of patients or treatment supporters in box (B). For each list of patients or treatment supporters that populates in box (B), click the **Print** button to generate a printable report.

Section 5: How To Enter The Number Of TB Suspects Seen In A Month

- vi. Follow steps **a** and **b** illustrated under section 3 **How to enter TB Patient's Details** above.
- vii. Click the button named **TB suspects Seen This Month**. A window named **TB suspects Examined Per Month** will open as shown below

Illustration 35 **most recent 5**



Month:	Sputum Smears:	No. Of TB Suspects Examined In The Lab:		Total TB Suspects:
		Hospital:	Outreach & PHCCs:	
Nov-2010	159	16	70	86
Dec-2010	90	17	32	49
Jan-2011	258	40	110	150
▶ Feb-2011	111	06	57	63
Mar-2011	193	37	71	108
*	00	00	00	

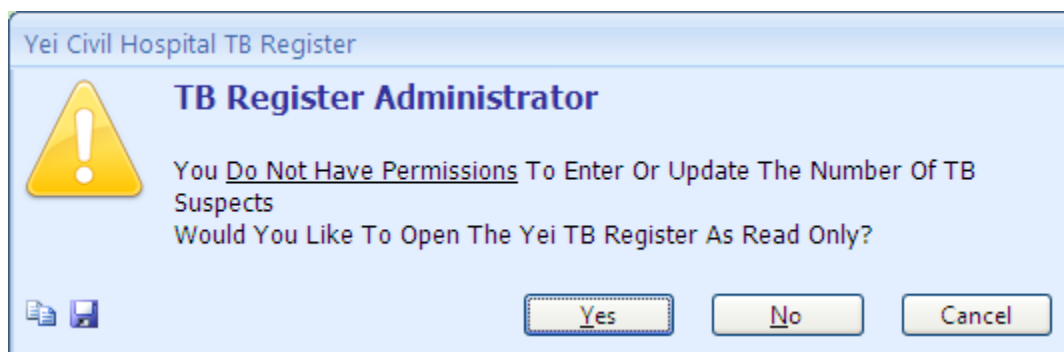
Add New

- viii. Under the **Month** column, enter the last date of that month e.g., 31/01/2011. Enter the number of TB suspects seen under the **Hospital** column and **Outreach/PHCC**. If you do not have PHCCs that see TB suspects, leave the number seen to zero. The **Total** column will fill automatically.
- ix. To enter the number of TB suspects seen in another month, click the **Add New** button above. A blank row will be created to fill in more data. NB: each row will hold data for one month only.

Important Notice 4

- i. Program Coordinators, Partners in TB Control and County Level TB Coordinators cannot enter or change the number of TB suspects seen in a month. A warning message like the one shown in Illustration 36 below will alert them about this.

Illustration 36

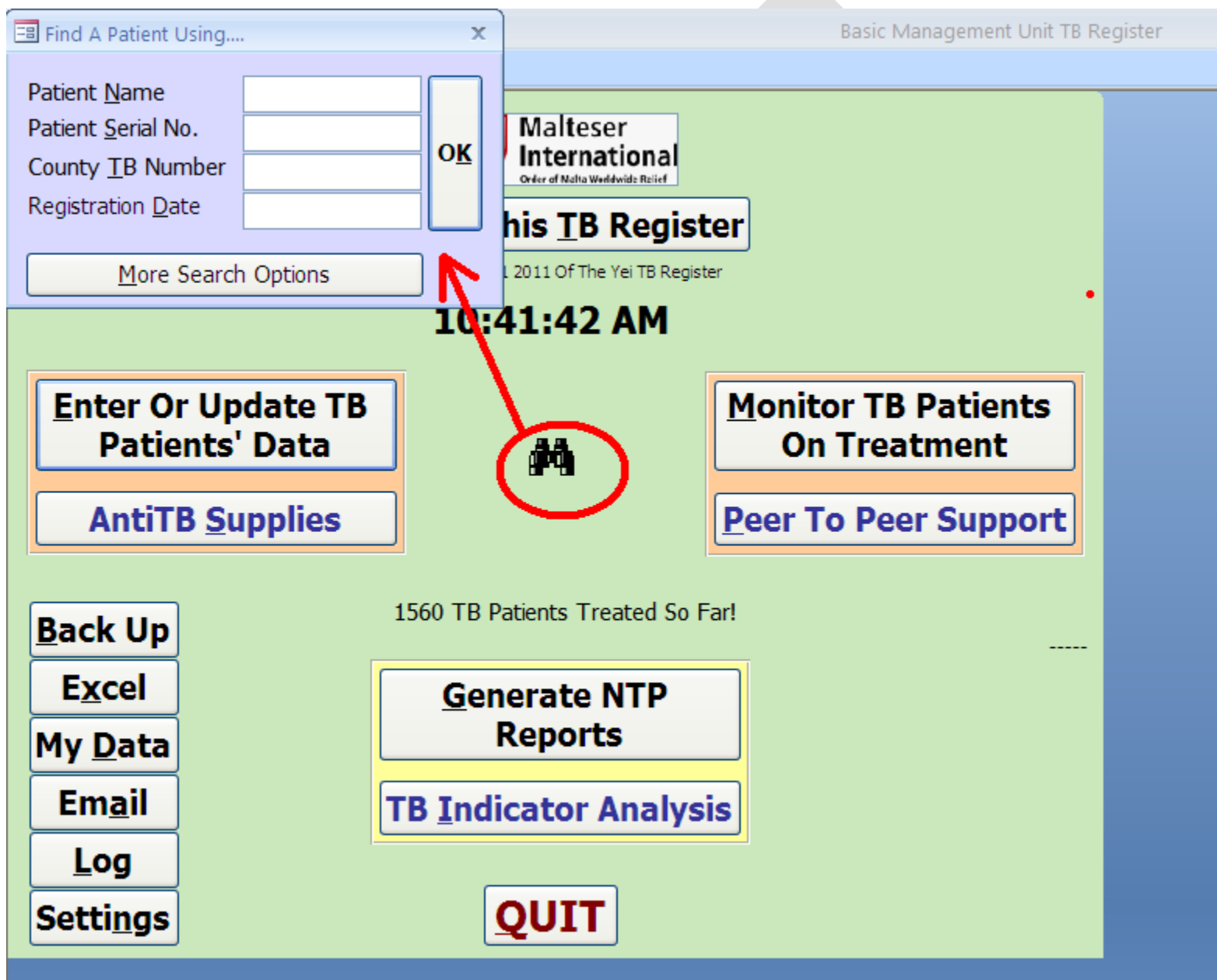


- ii. If they choose Yes, the **TB suspects Examined Per Month** form will open as read only. However, they will have no ability whatsoever to edit or enter patients' data.
- iii. If they choose No or Cancel, the **TB suspects Examined Per Month** form will not open and the enter data form will close automatically.
- iv. The above message will not appear for other users enroute to entering or updating TB suspects data

Section 6: How To Update TB Patients' Data

- You can edit or update the patients' details that you have entered TB register. There are several ways to do this;
- Either: Follow steps (a) and (b) illustrated under the section 3 **How To Enter TB Patient's Details** above and click the button named **Update Registered Patients' Data**
- Or: Single Click the binocular button located at the centre of the **Main Menu**
- Either way, a window named **Find A Patient Using...** will open as illustrated below....

Illustration 37



- e. Once the **Find A Patient Using...** window has opened, you can start your search using a criteria of your choice. The most common criteria you will search with are: the patient's name, the patient's county TB number, the patient's serial number, Nearest Health Facility and the date when they were registered to start treatment. To increase the criteria with which you can search, click on the '**More Search Options**' at the bottom of this window. Depending on the country you are in, the window will expand with other search criteria namely County, Payam, Boma and Village. For users in Uganda, the criteria will be District, County, Sub County and Village. Note that searching TB patients using their address is not very sensitive.
- f. Type in the name of the patient or any other criteria of your choice. As you type the first letter, the **Find A Patient Using...** window will enlarge to show you all the matching records as shown below

Illustration 38

Find A Patient Using...

Patient Name: charle

Patient Serial No.:

County TB Number:

Registration Date:

County:

Payam:

Boma:

Village:

☒

Found 28 Matching Records!

HINT: On The List Below, Double Click The Patient's Name To View Or Update The Medical Record

Serial No	TB No	Registered	Patient Name	Sex	Age	County	Payam	Boma	Village	Type	Patie
2010318	2010/295	15/12/2010	Amule Charles	M	34	Morobo	Bazi	Bazi	Bazi	PP	N
2010251	2010/234	29/09/2010	Charles Guya	M	25	Yei	Yei	Yei	Daresalam	PP	N
2010247	2010/230	23/09/2010	Charles Jamba	M	36	Morobo	Kimba	Dudolabe	Dudolabe	PP	N
2010209	2010/195	17/08/2010	Charles Likambo	M	30	Yei	Yei	Yei	Ttc	PP	N
2010197	2010/185	02/08/2010	Charles Elisa	M	39	Yei	Yei	Yei	Amiya	PP	N
2010045	2010/041	16/02/2010	Charles Alibe	M	37	yei	otogo	ombasi	ombasi	PP	N
2009249	2009/231	01/09/2009	Charles Kenyi	M	17	Juba	juba	juba	Juba	PP	N
2009159	2009/146	22/05/2009	Charles Aloro	M	5	Morobo	Wudabi	lujulo	Lujulo	EP	N

- g. If you have the **Search As I Type** checkbox checked (by default), the search will begin as soon as you type the first letter. Conversely, if the **Search As I Type** checkbox is unchecked, you will only see matching results after you Click the **OK** or **GO** button or Press **Enter** on your Keyboard.
- h. From the list of TB patients that gets displayed, click on any of the patient's name to edit their medical records. A **Patient Registration Form** will open as shown in illustration 8 and 9 above. At this point, you can enter any new details e.g., results of sputum examination, HIV test, update the patient's contact details etc. NB: although no warning message will appear, Program

Coordinators, Partners in TB Control and County Level TB Coordinators cannot enter or edit TB patients' records at this stage.

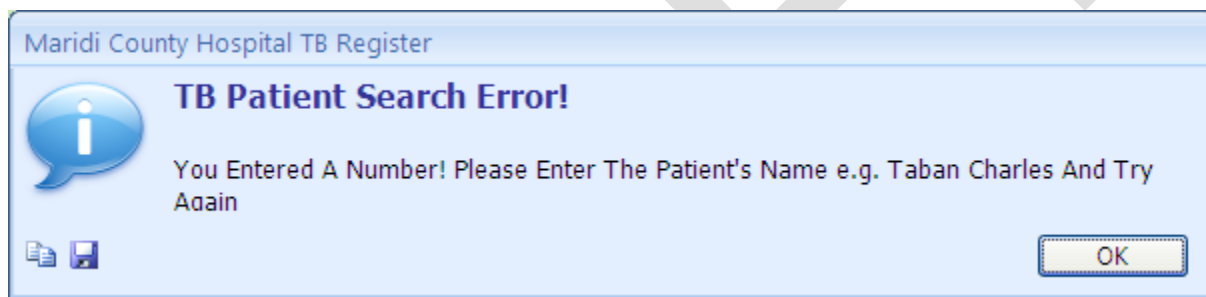
- i. After the search, click the **RESET** button and start brand new search again

Important Notice 5

While searching for TB patients in this TB register, it is important to note the following:

- i. The **binocular button** is dual purpose. A single click will be interpreted by this software that you would like to find a TB patient. However, double clicking this button will be interpreted that you would like to find a treatment supporter (peer educator).
- ii. The **Search As I Type** feature is **NOT** available if you choose to search by the patient's date of registration.
- iii. If you attempt to enter a number in the patient's name field, it will be rejected as illustrated below.

Illustration 39



- iv. Except if you are trying to find a patient using their address (on the right), you can only search for patients using one criterion. For example, if you were searching by the patient's name and you now want to search by the patient's county TB number, what you entered under the patient's name would be deleted automatically.
- v. If you have set "Animation On" under settings, then the way the **Find A Patient Using...** window will open up will be different.

Section 7: Monitoring TB Patients On Treatment

In South Sudan, the sputum of all new smear positive TB patients is examined by microscopy at the end of two months of DOTS. If TB bacilli are identified by the laboratory, the patient's intensive phase is extended by one month² and another sputum examination is repeated at the end of three months of DOTS. Additionally, sputum examination is done at the end of five months of DOTS. If TB bacilli are identified in the patient's sputum, he is considered a treatment failure. However, if no bacilli are identified, the patient is given a one month supply of anti TB drugs and is declared to have completed treatment. Nevertheless, another sputum examination is repeated at the end of six months of DOTS to confirm cure. For relapse TB cases, cure is only declared after no detectable bacilli can be identified in the patient sputum at the end of eight months of DOTS.

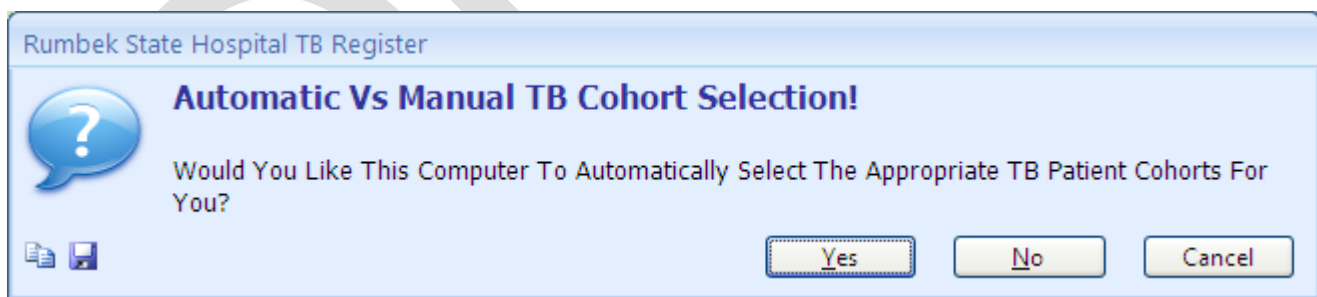
Based on the above, section 7 **Monitor TB patients On Treatment** of this electronic TB register was designed. This section is was specifically designed to help managers of the TB Basic Management Units to instantly identify which TB patients are due (expected) or have missed their sputum examination. Patients who missed sputum examination are then followed up by a peer educator/treatment supporter or the auxiliary nurse based at the PHCC.

Monitoring TB Patients Using The Automatic TB Cohort Selection Option

To monitor TB patients on treatment, you will follow the following steps;

- Click the **Monitor TB Patients On Treatment** button located on the **Main Menu** as shown under illustration 37 above
- Different users may see different things happen at this stage. If the user is the head of the TB Management Unit or a DTLS, he/she is assumed to have a clear overview of TB cohort analysis. Such a user will be asked if he/she would like to do cohort analysis by him/herself or use the inbuilt automatic feature as shown below.

Illustration 40



- If you choose **Yes**, the window shown under illustration 41 below will open up. NB: Other users never see the above message and are taken automatically to illustration 41 below.

² This may be have been revised as per WHO 2010 recommendations

Illustration 41

TB Patients Who Missed Or Are Due For Follow Up

MISSED Sputum Examination After Two Months Of DOTS

Select A Health Facility: All Health Facilities

TB No	Registered	Patient Name	Sex	Age	District	County	Sub County	Expected On	Late	Assigned To:
234/2010	14/12/2010	George Kieu	M	44	Rumbek Cent	Matangai		14/02/2011	97	Masana Malual
2011/03/2	07/01/2011	Monykok Majak	M	32	Rumbek East	Mathiang		08/03/2011	75	Ater Dut
2011/015	16/02/2011	Muorwel Dinga	M	56	Rumbek Cent	Amongpiny		18/04/2011	34	Martha Arop
2011/019	23/02/2011	Yar Derder Akek	F	50	Rumbek Cent	Matangai		25/04/2011	27	Alur Lyeny
2011/024	05/03/2011	Yasin Peter	M	37	Rumbek East	Abel Aiek		04/05/2011	18	Alir Mawut
2011/025	09/03/2011	Athen Nyot	F	22	Rumbek Cent	Amongpiny		09/05/2011	13	Martha Arop
2011/026	11/03/2011	Angoni Mayen	M	60	Wullu	Wullu	Wullu	10/05/2011	12	Mary Nadi Luka
2011/027	14/03/2011	Isaac Makoi	M	46	Rumbek East	Palor	Palor	13/05/2011	9	Mabeney
2011/028	15/03/2011	Laat Akek	M	22	Tong	Aiala		16/05/2011	6	
2011/029	16/03/2011	Peter Micheal	M	29	Rumbek Cent	Mnek		16/05/2011	6	Alir Mawut

Showing The 10 TB Patients Who MISSED Sputum Examination After Two Months Of DOTS

TB Patients Who Missed Or Are Due For Sputum Examination

☐ Due ☒ Missed

After 2 Months Of DOTS 10

After 3 Months Of DOTS 03

After 5 Months Of DOTS 07

After 6 Months Of DOTS 01

After 8 Months Of DOTS 02

TB Patients Who Are Due For Other Follow Up Services

Due For HIV Testing 00

Due For CPT Prophylaxis 00

To Be Referred For ART 00

Due For DST 02

With No SC Health Worker 18

DOTS Outcome Is Missing 41

Colour Print Copy Close

Important Notice 6

- i. By default, all the TB patients who missed or are due for follow up in the District or County is shown. If you so wish, you can view this listing per health facility by first of all selecting a health facility of your choice and then clicking the different options available on the right side (B).
- ii. When the above window opens up, the checkbox named **Missed** is checked. Additionally, a list of TB patients who missed sputum examination after two months' of DOTS populates in the white box named (A) above.
- iii. The list of TB patients that populates in box (A) above is dynamic. For instance;
 - a. When the **Missed** checkbox has been checked and you click on say **After 5 Months of DOTS**, a list of TB patients who missed sputum examination **After 5 Months of DOTS** will appear in box (A) above
 - b. When the **Due** checkbox has been checked, and you click on say **After 5 Months of DOTS**, a list of TB patients who are due for sputum examination **After 5 Months of DOTS** will appear in box (A) above.
- iv. The column named **Expected On** refers to the date when the patient was expected (if **Missed** is checked) or when he/she is expected on (if **Due** is checked).
- v. The column named **Late** refers to how many days the patient is overdue for sputum examination. It only appears if **Missed** has been checked. This column will usually have positive numbers.
- vi. Similarly, the column named **Due** refers to how many days are remaining before the TB patient can come for sputum examination. It only appears if **Due** has been checked. For this reason, the numbers in this column are negative.
- vii. The column **Assigned To** refers to the treatment supporter or peer educator that the peer educator is linked to for peer support.
- viii. As you move your cursor over the section named (B) above, it will turn into a hand and the words will turn blue, become bold and will be underlined. Each underlined words e.g., **Due For DST** when clicked on will change what you see in box (A) above. Additionally, the heading on top of box (A) and the sentence underneath box (A) will dynamically change to alert you on what just clicked on.
- ix. Sometimes, you will want to know which TB patients will be coming for review and when. This might help you in planning. To view a list of TB patients expected (due) for sputum examination, check the **Due** checkbox in box (B) above. A list of TB patients who are due for sputum examination after two months of DOTS is shown instantly. To view patients who are due for sputum examination after five months of DOTS, click on **after 5 months of DOTS**.
- x. The numbers on the extreme right of the section named (B) above represent the number of TB patients who for instance **missed** or are **due** for sputum examination after 2, 3, 5, 6 and 8

months of DOTS. These numbers depend on whether the checkbox named **Due** or **Missed** is checked.

- xi. When you double click on the patient's name in the box (A) above, the Patient Registration Form will open as shown in illustration 8 and 9 above. At this point, you can enter or update any new details e.g., results of sputum examination, HIV test, or update the patient's contact details etc. NB: although no warning message will appear, Program Coordinators, Partners in TB Control and County Level TB Coordinators cannot enter or edit TB patients' records at this stage.

Using the Print Button

Each list that you generate in box (A) above can be printed or converted into a PDF file and then shared with your staff responsible for patient follow up. The **Print** button will help to achieve this.

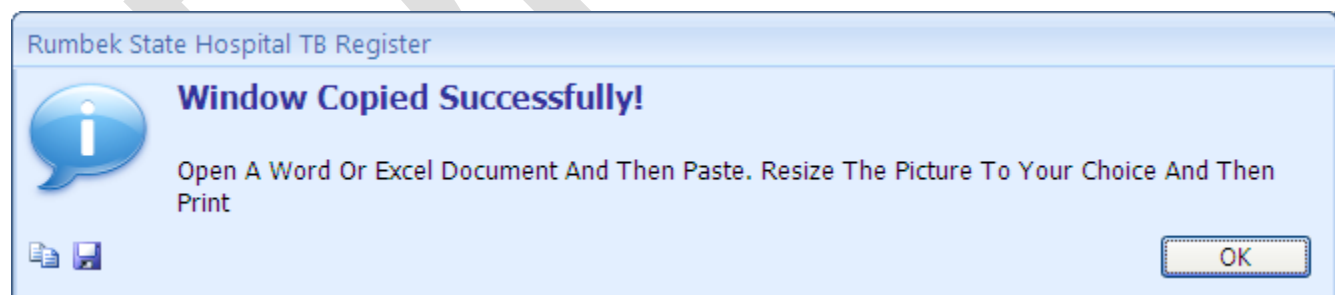
- Check either the **Due** or **Missed** checkbox if you would like to see a list of TB patients who are due or missed sputum examination
- Click on say **Due For HIV Testing** or any other list of TB patients that you would like to see. This list will populate in box (A).
- Click the **Print** button to print preview the list. At this point, you can go ahead and print.
- Once your list is in print preview mode, all instructions described under section 9 **Options Available Once A Report Has Been Opened** also apply to this section.

How To Use the Copy button

The **Copy** button is of limited use. It works best if the list of patients that populates in box (A) above is not more than 10. To see how it works;

- Click on the **Copy** button. A message will popup as illustrated below

Illustration 42



- Now the window has been copied to your computer clipboard. To view what you copied, open a new Microsoft Excel or Word document (preferably, Microsoft Paint).
- Paste

- d. Resize your image and then print.
- e. The copy button will not very be useful if the list in box (A) is greater than 10. Any patients that can not be seen in the box (A) will not be "copied". Additionally, it is at times unpredictable. Sometimes the whole computer screen is copied. For this reason, the **Print** button was added.

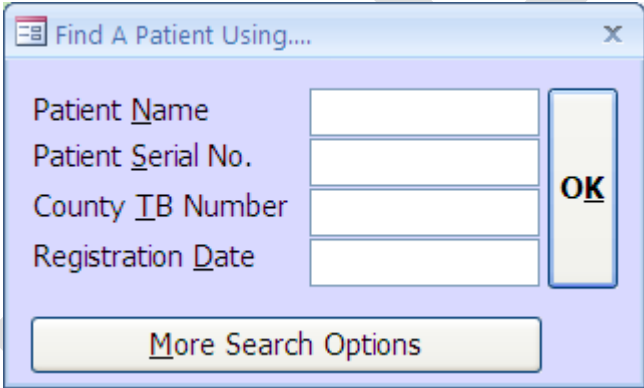
Using The Binoculars Button

The **Binoculars** button will help you find a TB patient or a peer educator.

To find a TB patient;

- a. Single Click the **binoculars** button located to the left of the close button as shown in illustration 41 above
- b. A window named **Find A Patient Using...** will open as illustrated below

Illustration 43



- c. Once the **Find A Patient Using...** window has opened, you can start your search using a criteria of your choice. The most common criteria you will search with are: the patient's name, the patient's county TB number, the patient's serial number and the date when they were registered to start treatment. Other search criteria include: County, Payam, Boma and Village. The later criteria are however not very sensitive.
- d. Type in the name of the patient or any other criteria of your choice. As you type the first letter, the **Find A Patient Using...** window will enlarge to show you all the matching records (see illustration 38 above). All other steps described under section 3 **How To Update TB Patients' Data** above are also valid for this section.

Using the Colour Button

By default, all patient summaries generated from this TB register are in "black and white". The **Colour** button was added to help you to add a bit of colour to your patient summaries. Once the option to add

colour is selected, then every 5th patient in a group of ten patient will shaded with the colour that you selected. To select a colour that should appear in your reports/patient summaries;

- a. Click the **Colour** button to open up the colour dialog box.
- b. Select a colour of your choice and then click OK.
- c. Select any patient summary of your choice (illustration 41, under section B) and then click the **Print** button.
- d. Your patient summary will take up the colour that you selected.

In general, you will find patient summaries with colour bands much easier to read than those without colour.

To find a Peer Educator/Treatment Supporter;

- Double Click the **binocular** button on whichever window that you will find it in the electronic TB register.
- A window named **Find A Peer Educator Using...** will open as illustrated below. The white box at the bottom of the window will be populated with all the peer educators that you have entered in your TB register.

Illustration 44

Serial	Peer Educa. Name	Age	Sex	County	Payam	Boma	Village	Linked	Phone Numb
008	John Luka	45	M	Maridi	Maridi	Maridi	Malakia	4	
021	Alice Batulu	35	F	Maridi	Maridi	Maridi	Land Juma	4	
004	Alfred James	35	M	Maridi	Maridi	Mabilindi	Moku	4	
003	Justin Taban	19	M	Maridi	Maridi	Mboroko	Mbaguya	3	
009	Regina Paul	43	F	Maridi	Maridi	Maridi	Mansuwa	3	
006	Tito Batiyo	60	M	Maridi	Maridi	Maridi	Ecs	3	
023	Grace Katuna	29	F	Maridi	Maridi	Maridi	Maridi II	3	
007	Juma John	34	M	Maridi	Maridi	Maridi	Hai Gabat	3	

- Type in the name of the peer educator or any other criteria like County where the peer educator comes from. As you type the first letter, the **Find A Peer Educator Using...** window will show you all the matching records.
- To view or update the peer educator's details, double click the peer educator's name in the white box above. Another window named **Peer Educator Details Form** will open to enable you update the peer educators details. More about peer educators is described under section 4 **Social Support To TB Patients On Treatment**.

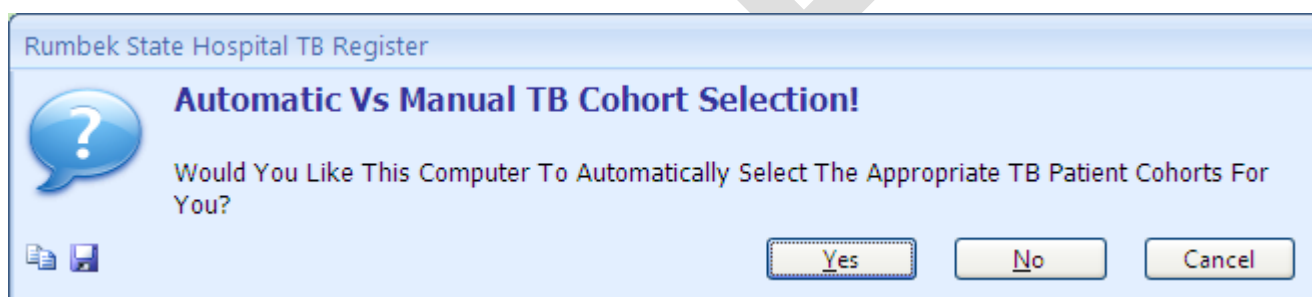
Monitoring TB Patients Using The Manual TB Cohort Selection Option

This section of the TB register is reserved for the head of the TB Management Units, Program Managers at County/District or State/Province level. They are assumed to have a clear overview of TB cohort analysis. Other users will not see this option at all. Entering your desired TB cohort will give you more control than the automatic feature described in section 7 **Monitoring TB Patients Using The Automatic TB Cohort Selection Option** above.

To manually select your own TB cohorts, you will follow the following steps;

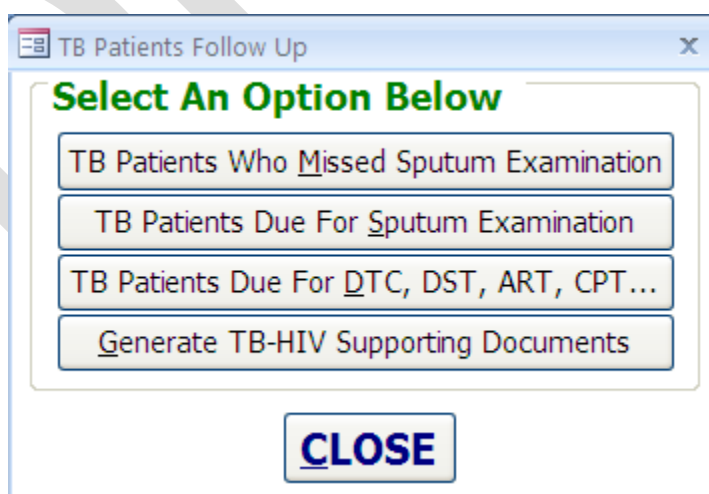
- a. Click the **Monitor TB Patients On Treatment** button located on the **Main Menu** as shown under illustration 7 above
- b. Different users may see different things happen at this stage. If the user is the head of the TB Management Unit, will be asked if he/she would like to do cohort analysis him/herself or use the inbuilt automatic feature as shown below.

Illustration 45



- c. Choose the option **No**. A window named **TB Patients Follow Up** illustrated below will open up.

Illustration 46



- d. Click on **TB Patients Who Missed Sputum Examination** button. Another window named **TB Patients Who Missed Sputum Examination** will open as illustrated below.

Illustration 47

The screenshot shows a window titled "TB Patients Who Missed Sputum Examination". Inside, there is a heading "Select An Option Below". Below this heading are two radio buttons: "Due For Sputum Examination At:" (unselected) and "Missed Sputum Examination At:" (selected). To the left of a list of buttons is the text "TB Patients Who Missed Sputum Examination At The:". To the right are five buttons: "End Of 2 Months Of DOTS", "End Of 3 Months Of DOTS", "End Of 5 Months Of DOTS", "End Of 6 Months Of DOTS", and "End Of 8 Months Of DOTS". At the bottom center is a "CLOSE" button.

- e. You will notice that the option **Missed Sputum Examination At** is selected. To view a list of TB patients who missed sputum examination for example after 2 months of DOTS, click the **End Of 2 Months of DOTS** button. Another window named **Select Time Period/Cohort** will open as illustrated below;

Illustration 48

The screenshot shows a window titled "Select Time Period/Cohort". Inside, there is a heading "TB Patients/Cohort Registered Between:". Below this heading are two text input fields: "Enter Start Date:" with the value "01/10/2010" and "Enter End Date:" with the value "31/12/2010". To the right of the "Enter End Date:" field is a small calendar icon. At the bottom are two buttons: "CLOSE" and "OK".

- f. Today is the 8th of February 2011 and we are in quarter 1 2011. The TB patients who should not miss sputum examination are the ones who started DOTS a quarter before (01/10/2010 to 31/12/2010) the current quarter. If any smear positive TB patient misses sputum examination in this group, it will lower the program's sputum conversion rates at the end of this quarter. In the window above, click the OK button to view the list of TB patients who missed sputum examination.

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TB Patients Who Missed Sputum Smear Examination After Two Months Of DOTS

Cohort Of Patients Registered Between: 01 October 2010 And 31 December 2010

TB No	Reg. Date	Name of Patient	Sex	Age	County	Payam	Boma	Village	Health Facility	Type	Category	Started DOTS On	Review Date	Days Overdue
2010/274	12/11/2010	John Lomude	M	27	Yei	Yei	Yei	Hai Guava	YCH	N	I	12/11/2010	11/01/2011	28
2010/071	15/11/2010	Victoria Medina	F	20	Yei	Yei	Yei	Jigomoni	YCH	N	I	15/11/2010	14/01/2011	25
2010/282	02/12/2010	Jackson Bakata	M	30	Yei	Yei	Yei	Dilimoko	YCH	N	I	02/12/2010	31/01/2011	8
2010/286	03/12/2010	Peter Demians	M	30	Yei	Yei	Yei	Hai Lomuku	YCH	N	I	03/12/2010	01/02/2011	7
2010/285	03/12/2010	Mary Tabu	F	20	Yei	Yei	Yei	Hai City	YCH	N	I	03/12/2010	01/02/2011	7
2010/290	09/12/2010	Phoebe Anibwe	F	20	Yei	Yei	Yei	Mahad	YCH	N	I	09/12/2010	07/02/2011	1

Important Notice 7

You will notice that from the list above;

- i. The cohort we selected in step **f** above is imprinted on top of the report as: **Cohort Of Patients Registered Between: 1 October 2010 And 31 December 2010**
- ii. The **Review Date** (second last column) refers to the date when the patient was expected for review. If this date falls on a weekend e.g., Saturday, the patient is automatically assigned to come on Monday the following week. If your TB labs work on weekends, please contact the TB register administrator to change this at support@tbregister.org
- iii. The **Days Overdue** column refers to the number of days past the expected **Review Date** by which the TB patient is late for the scheduled sputum examination. Note that if a patient is overdue by more than 30 days, he may also appear in the list of TB patients who missed sputum examination after 3 months of DOTS.
- iv. You will also notice that at the bottom of each printable report (in the footer section), you will find the name of the TB register from which the report was generated, the date when the report was generated and who³ generated the report.
- v. To view a list of smear positive TB patients who **missed** sputum examination after 3, 5 6 and 8 months of sputum examination, follow exactly the same steps described above. The only change you will make is the cohort that you select. For instance, with today being 8th February 2011, the TB patients who missed sputum examination after 5 months of DOTS started treatment between 01/07/2010 and 30/09/2010.
- vi. Lastly, to view a list of TB patients who are **due** (are expected) to come for sputum examination, you follow exactly the same steps (and cohorts) described above. However, at step **c** above (TB Patient Follow Up Window, illustration 46), you would click on the **TB patients Due For Sputum Examination** button.
- vii. Once a list of TB patients who are due or who missed sputum examination has been generated, all instructions on printing a report, converting to PDF described under section 9 **Options Available Once A Report Has Been Opened** apply to this section as well.

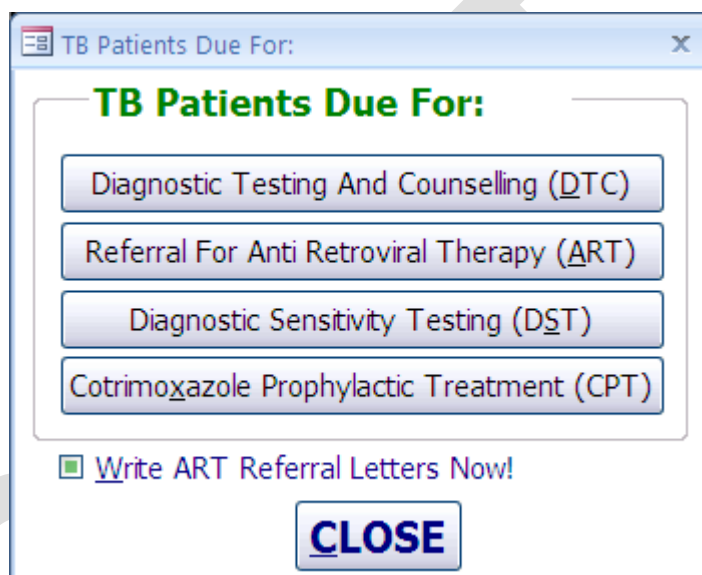
³ This was a specific instruction from my boss to help monitor how printing paper is being used.

How To Generate A List Of TB Patients Who Are Due For HIV ⁴Testing, CPT ⁵Prophylaxis, etc

You can manually generate a list of TB patients who have not yet been tested for HIV, or who have not been started on CPT or not yet referred for ART. Additionally, you can also quickly generate a list of TB patients who may need sputum culture and sensitivity testing (DST). To do the above, you will follow the steps below;

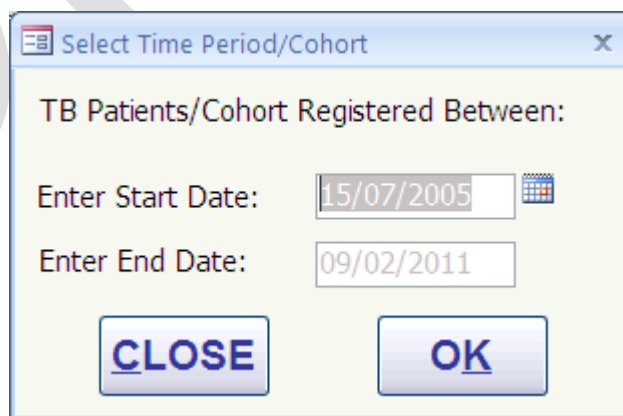
- a. Follow the steps described under **Monitoring TB Patients Using The Manual TB Cohort Selection Option**. At step c, click the **TB Patients Due For DTC⁶, DST, ART⁷, CPT....** button
- b. Another small window named **TB Patients Due For** will open as illustrated below.

Illustration 50



- c. To view a list of TB patients who are due for HIV Testing and Counseling, click the **Diagnostic Testing And Counseling** button. A small window named Select Time Period/Cohort will open as illustrated below;

Illustration 51



⁴ Human Immunodeficiency Virus

⁵ Cotrimoxazole Prophylactic Treatment

⁶ Diagnostic Testing And Counselling

⁷ Anti Retroviral Therapy

- d. Select your preferred time band and click OK. As a hint, today is the 9th February 2011. You will probably not select a cohort of TB patients registered before 9th February 2010. Why? Any TB patient registered/enrolled on DOTS one year ago more or less completed treatment (no longer a TB patient!). Offering HIV Counselling and Testing services to such a person would be more of VCT/HCT than DTC. This is my personal opinion though.
- e. To view a list of TB patients who are awaiting Referral For Anti Retroviral Therapy, Diagnostic Sensitivity Testing or Cotrimoxazole Prophylactic Treatment, click the respective buttons in under Illustration 50 above. In each occasion, you will be asked to enter the start and end date of the TB cohort that you may be interested in. after you have entered the above dates, click OK to view the list of TB patients.

Important Notice 8

- i. Any list that you generate above can be printed or converted to a PDF file. This can then be shared with the respective staff responsible for TB patient follow up.
- ii. Each time the **Select Time Period/Cohort** window opens up, all instructions described under **Important Notice 10** above apply.

TB Patients Followed Up

Sometimes, you may be asked by your boss, donor or other partner to generate a list of the TB patients that you have followed up e.g., a list of TB patients that you have tested for HIV or started on CPT. Using this TB register, you can generate such lists on the fly.

To generate such a list,

- a. Click on the **TB Patients Followed Up** button. A small window named **TB Patients Offered** will open as illustrated below;

Illustration 52



- b. On illustration 52 above, click on any one of the buttons. The select Time Period/Cohort window will open. Enter the **Start** and **End Date** of the TB cohort that you may be interested in. After you have entered the above dates, click OK to view the list of TB patients who were followed up.

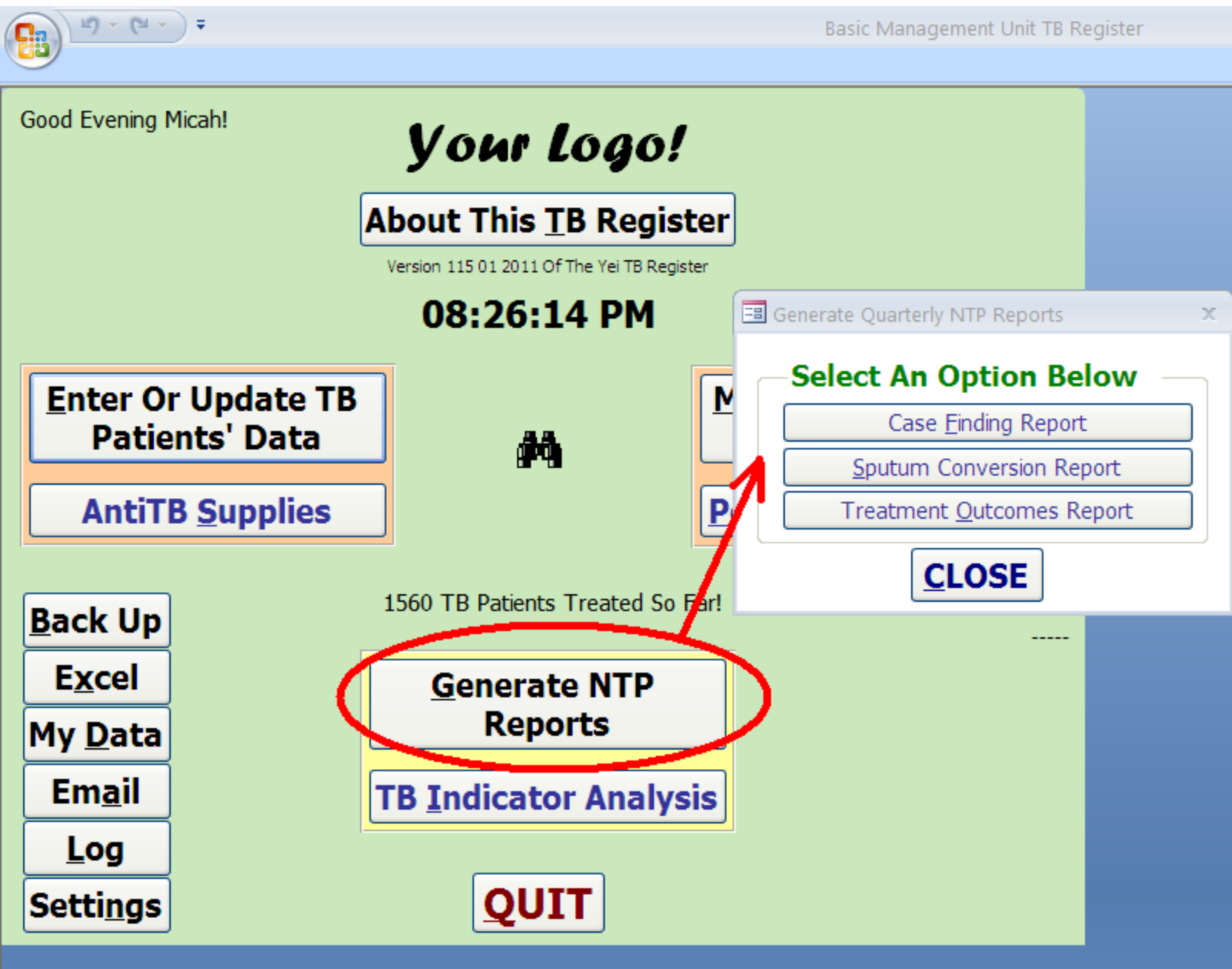
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Section 8: How To Generate Reports To Your National TB Program (NTP)

Once you have entered all your TB patients' data, you can generate accurate and quality reports your NTP in a matter of seconds. This is one of the main strengths of this Basic Management Unit TB register. To generate a report to the NTP, you will follow the following steps;

- a. Click the **Generate NTP Reports** button located on the **Main Menu** as illustrated below

Illustration 53



- b. A small window named **Generate Quarterly NTP reports** will open as shown above. For users in Uganda, only two of the three buttons on this window will be active.

- c. Click on any one of the three options (Case Finding, Sputum Conversion or Treatment Outcomes report). In this example, you will click on the **Sputum Conversion Report** button.
- d. A small window named **Select Time Period/Cohort** will open as shown below.

Illustration 54

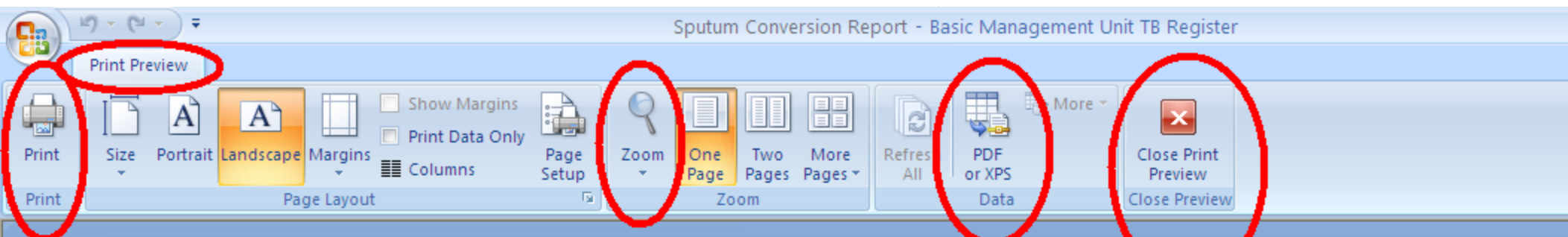
- e. Enter the **start** and **end date** i.e., the cohort of TB patients registered ⁸(or who were enrolled on DOTS) between a given time interval e.g., one quarter. In this example, a cohort of TB patients enrolled on treatment from the 1st of July 2010 to the 30th of September 2010 was selected to generate a Sputum Conversion Report.
- f. Click **OK** to view the Sputum Conversion Report for quarter 4 2010. The report shown under illustration 55 would open.
- g. In the report below, you will notice the following;
 - i. The time interval selected in step **c** above is automatically imprinted on the report.
 - ii. Similarly, the name of the County, TB unit, TB Coordinator and the date of generation of the report are automatically imprinted from the TB register to the report.
 - iii. All you have to do now is to save the report as PDF and either print or send it as an email attachment to the NTP. The details of the different options available for a report are described under illustration 55 below.

⁸ The word registered is synonymously used with enrolled on DOTS. In Malteser International programs, the date when TB patients are registered in the hard copy Basic Management Unit TB register is the same date when they start DOTS.

- h. The cohort that you use to generate NTP reports depend on the quarter for which the report is being written. In South Sudan a six months TB treatment regimen is used. Therefore if you were to generate TB quarterly reports to the NTP, you would use the following cohorts⁹. Example: today is the January 5th 2011 and I am generating Q4 2010 TB reports to the NTP
- i. **Case Finding Report:** You would use a cohort of TB patients registered between 01/10/2010 to 31/12/2010
 - ii. **Sputum Conversion Report:** You would use a cohort of TB patients registered between 01/07/2010 to 30/09/2010 (like in step g above)
 - iii. **Treatment Outcomes Report:** You would use a cohort of TB patients registered between 01/10/2009 to 31/12/2009

⁹ Consult your NTP on the appropriate TB cohorts to use. it may vary per country depending on the length of treatment

Illustration 55



Convert To PDF

Close The Report

Southern Sudan Tuberculosis, Leprosy and Buruli Ulcer Control Program

FORM 7: QUARTERLY REPORT ON SPUTUM CONVERSION

Name of County: Rumbek Central Unit: Rumbek State Hospital Patients registered during 1: 01/07/2010 To 30/09/2010

Name of TB Coordinator: Dr Geoffrey Wandira Signature: _____ Date of completion of this form 05 February 2011

Number of new smear positive cases registered in the quarter recorded above 2	Smear not done at either 2 or 3 months	Sputum conversion at:		Sputum conversion rate
		2 months	3 months	
32	0	29	3	100%
Total converted at 2 or 3 months:	32			

Section 9: Options Available Once A Report Has Been Opened

Once you have opened a report, the **Print Preview** tab with several options appears on top of the report. If you cannot see it, double click on the **Print Preview** tab (highlighted in illustration 55 above) to open it. Below is a brief description of the most commonly used options in this tab;

- a. **Convert to PDF:** if you have installed the Save as PDF addin¹⁰ on your computer, an additional menu called **PDF or XPS** will appear on your menu bar as shown under illustration 55 above. Click this **PDF or XPS** button and follow the simple step¹¹s. Your report will be converted into a PDF file.
- b. To close the report, click the **close print preview** or the red **X** button on the right hand side of the report as illustrated above. NB: The **X** button on the right uppermost side of the TB register is disabled in this TB register. During the test phase, it was noticed that many users closed the entire TB register accidentally when actually; they had wanted to close only the report.
- c. To make the report larger, there are 3 possible options
 - i. Click in the centre of the report. It will become larger or smaller
 - ii. At the right lower corner of the report, there is a slider. Moving it to the right magnifies the report and the reverse happens when the slider is moved to the left. The picture below illustrates the slider. Clicking on the (+) and (-) buttons below would also enlarge or make the report smaller

Illustration 56



- iii. Click Zoom on the Menu bar (highlighted in illustration 55 above) and then set your desired zoom level

Other options available after you have generated a report are shown on the Menu bar. They include; change the page layout, Print etc.

¹⁰ If not installed, please visit <http://www.microsoft.com/downloads/en/details.aspx?displaylang=en&FamilyID=4d951911-3e7e-4ae6-b059-a2e79ed87041> to download and install on your computer

¹¹ Typically, a dialogue window will open which gives you an opportunity to give your report a preferred name and also save the report in your preferred location. You would then click the **PUBLISH** button to convert the report to a PDF file.

Section 10: TB Indicator Analysis

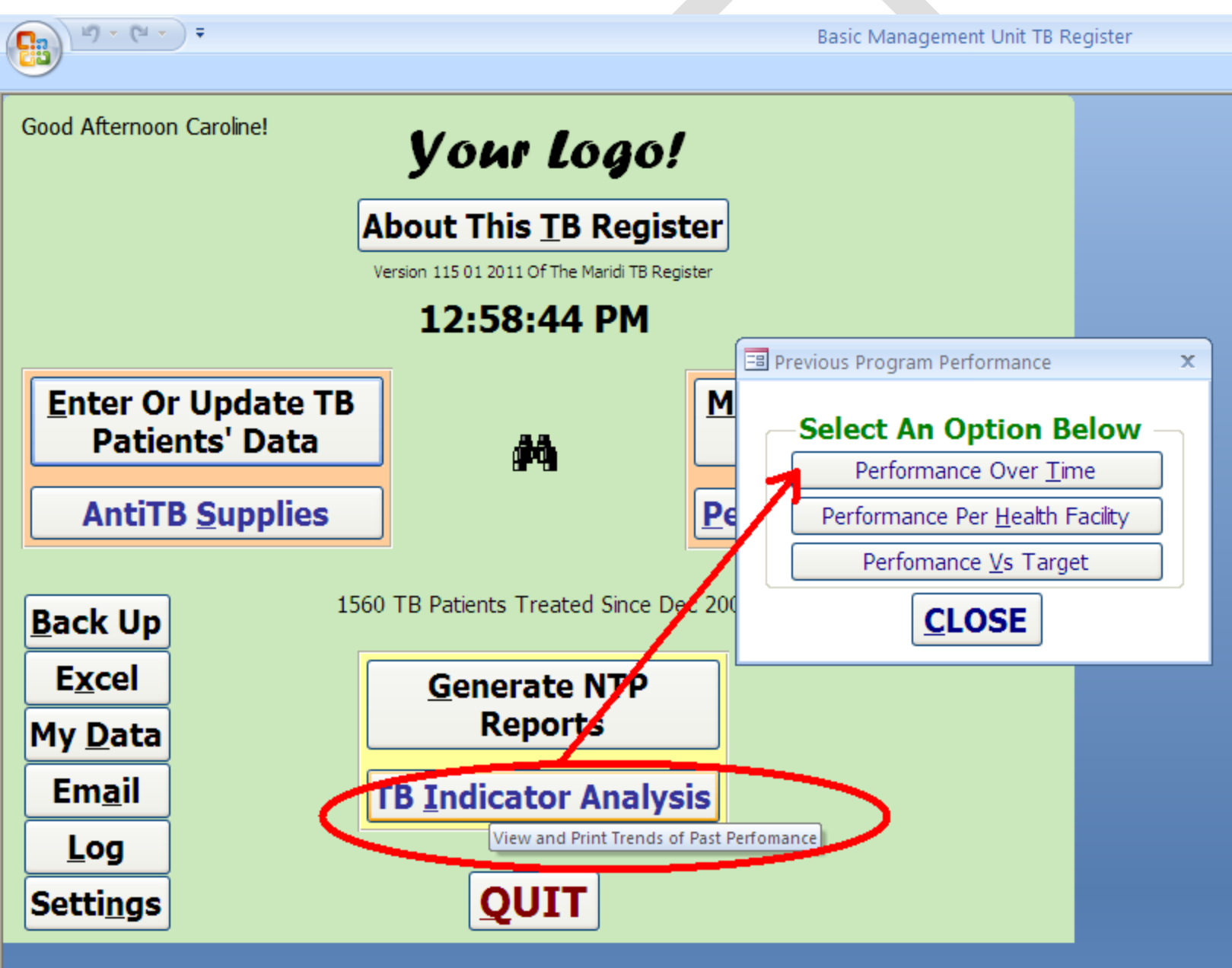
Another unique feature of this Basic Management Unit TB register is its ability to do analysis of your data. The **TB indicator analysis** section of this TB register will give an accurate overview of your programs' past performance for whatever time interval that you choose. You can choose to view your results/performance grouped at weekly, monthly, quarterly or yearly intervals.

If you are a program manager, then you will very much need this part while setting realistic targets or to view trends of previous performance.

To use this feature, you will follow the steps below;

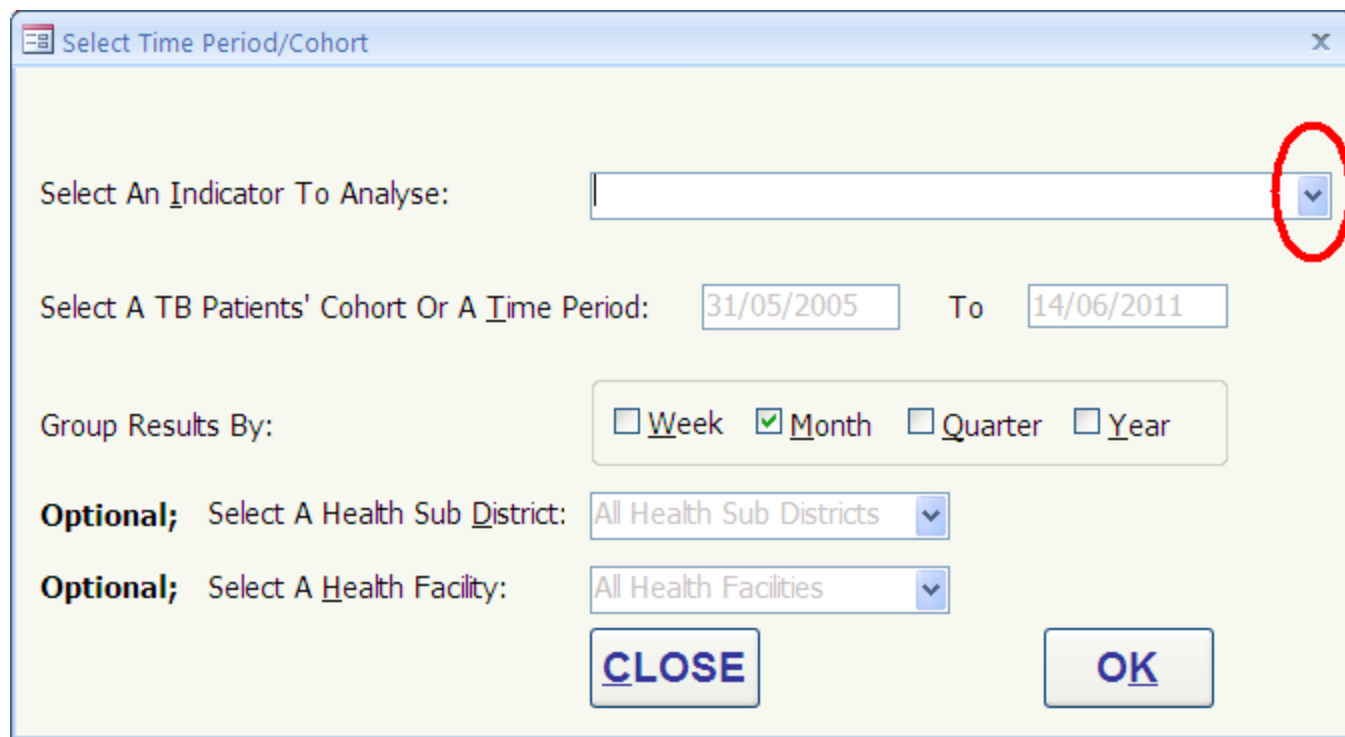
- a. Click the **TB indicator analysis** button located on the **Main Menu**. A small window called previous Program Performance will open as illustrated below

Illustration 57



- b. Click on the **Performance Over Time** button. Another window called **Select Time Period/Cohort** will open as illustrated below;

Illustration 58



- c. Use the down arrow highlighted in Illustration 58 above to view a list of all the available indicators. From the dropdown list of indicators; select one indicator that you would like to analyze.
- d. Enter the **Start** and **End Dates**. Typically, these would be the dates when a cohort of TB patients was registered/enrolled on treatment. The instructions on how to enter **Start** and **End Dates** under section **Important Notice 10** equally apply to this section.
- e. **Optional Step:** Select how you would like your results to be grouped. By default, the results are grouped by month. However, you can change the grouping to **Week, Month, Quarter** or **Year**. Example: If you are viewing say the **Number of New TB Cases Enrolled On DOTS** for over a four year period (e.g., 01/01/2007 To 31/12/2010), it might be more reasonable to group results by year or by quarter otherwise the report would be several pages long. The next four illustrations will show you how the reports would appear if results of the above were grouped per Week, Month, Quarter or Year.
- f. **Optional Step:** Select A County/Health Sub District. By default, the results of all the health facilities in your TB Control Program/District will be displayed. However, you can limit the results to only one County/Health Sub District in your TB Control Program/District!
- g. **Optional Step:** Select A Health Facility. You can also choose to view the performance of only one health facility in your District/County.

Illustration 59: results grouped by week

NewTB Patients Registered Between: 01 January 2007 And 31 December 2010

The Total Number Was 1063. The Breakdown Per Week Is Shown Below

January 2007	
	NewTB Cases:
Week 1	1
Week 2	2
Week 3	1
Week 4	5
Week 5	2
NewTB Cases Registered In January 2007	11

February 2007	
	NewTB Cases:
Week 5	2
Week 6	5
Week 7	5
Week 8	5
Week 9	1
NewTB Cases Registered In February 2007	18

March 2007	
	NewTB Cases:
Week 9	1
Week 10	4
Week 11	4
Week 12	3
Week 13	8
NewTB Cases Registered In March 2007	20

April 2007	
	NewTB Cases:
Week 13	1
Week 14	2
Week 15	3
Week 16	6
Week 17	4
NewTB Cases Registered In April 2007	16

May 2007	
	NewTB Cases:
Week 18	9
Week 19	9
Week 20	2
Week 21	8
Week 22	4
NewTB Cases Registered In May 2007	32

June 2007	
	NewTB Cases:
Week 22	2
Week 23	4
Week 24	9
Week 25	6
Week 26	11
NewTB Cases Registered In June 2007	32

Illustration 60: Results grouped by Month

NewTB Patients Registered Between: 01 January 2007 And 31 December 2010

The Total Number Was 1063. The Breakdown Per Month Is Shown Below

2007	
Month:	NewTB Cases:
January	11
February	18
March	20
April	16
May	32
June	32
July	17
August	20
September	17
October	14
November	23
December	16
NewTB Cases Registered In 2007	
	236

2008	
Month:	NewTB Cases:
January	19
February	17
March	20
April	20
May	36
June	21
July	27
August	15
September	25
October	23
November	19
December	12
NewTB Cases Registered In 2008	
	254

Illustration 61: Results grouped by Quarter

New TB Patients Registered Between: 01 January 2007 And 31 December 2010

The Total Number Was 1083. The Breakdown Per Quarter Is Shown Below

2007	New TB Cases:
Quarter 1	49
Quarter 2	80
Quarter 3	54
Quarter 4	53
New TB Cases Registered In 2007	236
2008	New TB Cases:
Quarter 1	56
Quarter 2	77
Quarter 3	67
Quarter 4	54
New TB Cases Registered In 2008	254
2009	New TB Cases:
Quarter 1	76
Quarter 2	89
Quarter 3	73
Quarter 4	52
New TB Cases Registered In 2009	290
2010	New TB Cases:
Quarter 1	71
Quarter 2	87
Quarter 3	64
Quarter 4	61
New TB Cases Registered In 2010	283
Total New TB Cases Registered	1083

Illustration 62: Results grouped by year

New TB Patients Registered Between: 01 January 2007 And 31 December 2010

The Total Number Was 1063. The Breakdown Per Year Is Shown Below

Year:	New TB Cases:
2007	236
2008	254
2009	290
2010	283
Total New TB Patients Registered	1063

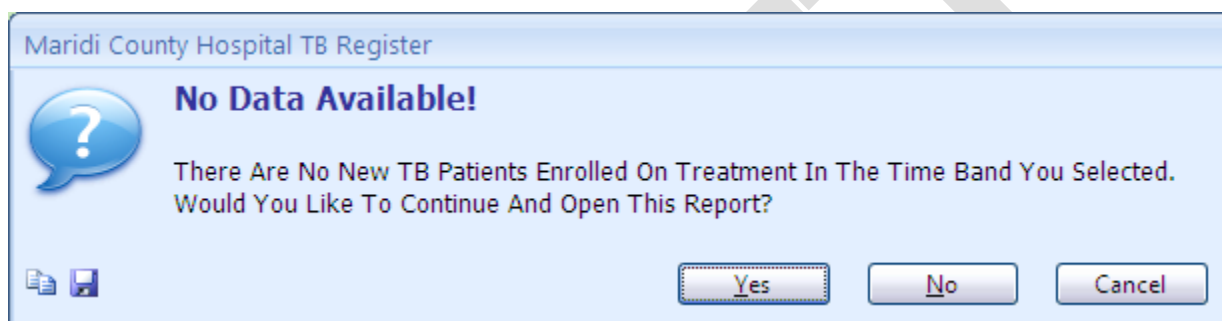
You will notice that in all the above illustrations, the total number of new TB patients enrolled on treatment was 1063 (from 01/01/2007 To 31/12/2010). If you selected to view the breakdown of the results per week, you would have nine pages to print. However, if you chose to view to breakdown the results per quarter or year, you would only have one page to print out. This is one trick that you could use to save printing paper of your organization/Office/TB ward/County/District/ TB Control Program.

Important Notice 9

While selecting an indicator for analysis, please take note of the following;

- i. Each time you click on the **Select An Indicator To Analyze** box, all settings will be set to the default options. For instance, the **Start** will be set to the date when the first TB patient was registered and the **End Date** may be set today's date respectively.
- ii. Once you have opened a report, all options described under section 9 **Options Available Once A TB Patient Summary Is Open** above are applicable to this section.
- iii. In the event that there are no TB patients who for instance were enrolled on DOTS -in the time band that you selected-, you will be alerted with a message like the one below;

Illustration 63



- iv. If you choose **Yes**, a blank report will open. If you choose **No** or **Cancel**, the process of opening the report will be canceled
- v. At the very bottom of each printable report, you will find the name of the TB register from which the report was generated, the date when the report was generated and who¹² generated the report. This is illustrated below;

Illustration 64

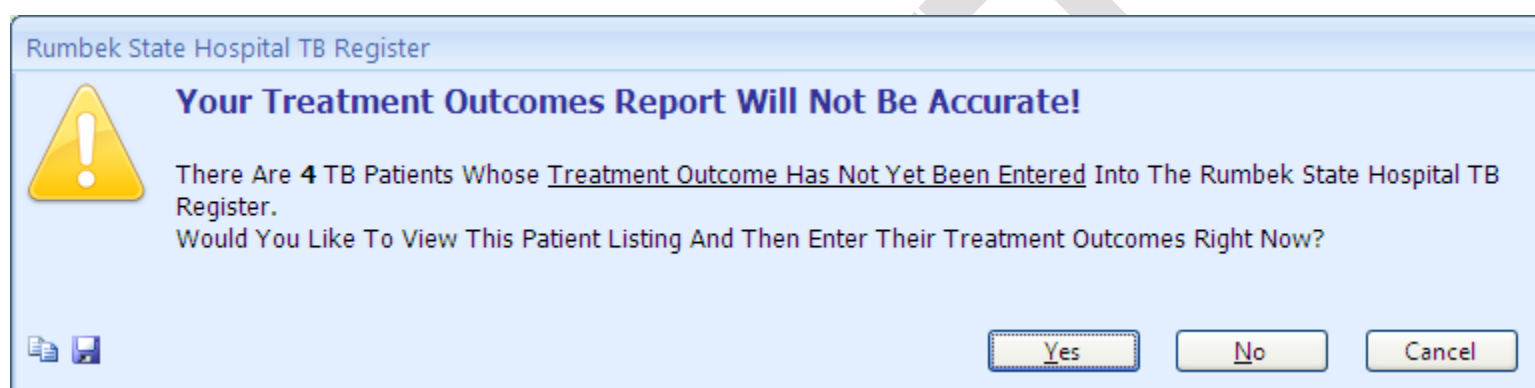
Maridi TB Register. 06 February 2011 10:40. Generated By Dr Caroline Nalugwa



¹² This was a specific instruction from my boss to help monitor how printing paper is being used. For this reason also, all reports are in black and white by default to minimize the use of printer cartridge. You can however add any color of your choice using the **Colour** button.

- vi. Sometimes, the report generated will be more than one page long. To view the other “hidden” pages, you will first of all scroll to the bottom of the report. Here, you will find small arrows highlighted in illustration 64 above. Click on any one of them to move to the next or previous page of the report.
- vii. When you select to view an NTP report like the Case Finding Report, the optional **Group Results By** will not be available.
- viii. In case you attempt to generate any report where the treatment outcome of the TB patients is to be analyzed, the software will first check if there any TB patients whose treatment outcome is missing in the cohort that you selected. You will then be alerted as shown below;

Illustration 65



- ix. If you choose **Yes**, a list of TB patients whose treatment outcomes is missing will open up for you. This simple alert message is intended to ensure that before you generate your quarterly reports to the NTP, all your patients are evaluated for the Treatment Outcome.
- x. If you choose **No**, the report that you chose will open but the patients above will not be evaluated.
- xi. If you choose **Cancel**, the process of opening the report will be cancelled.

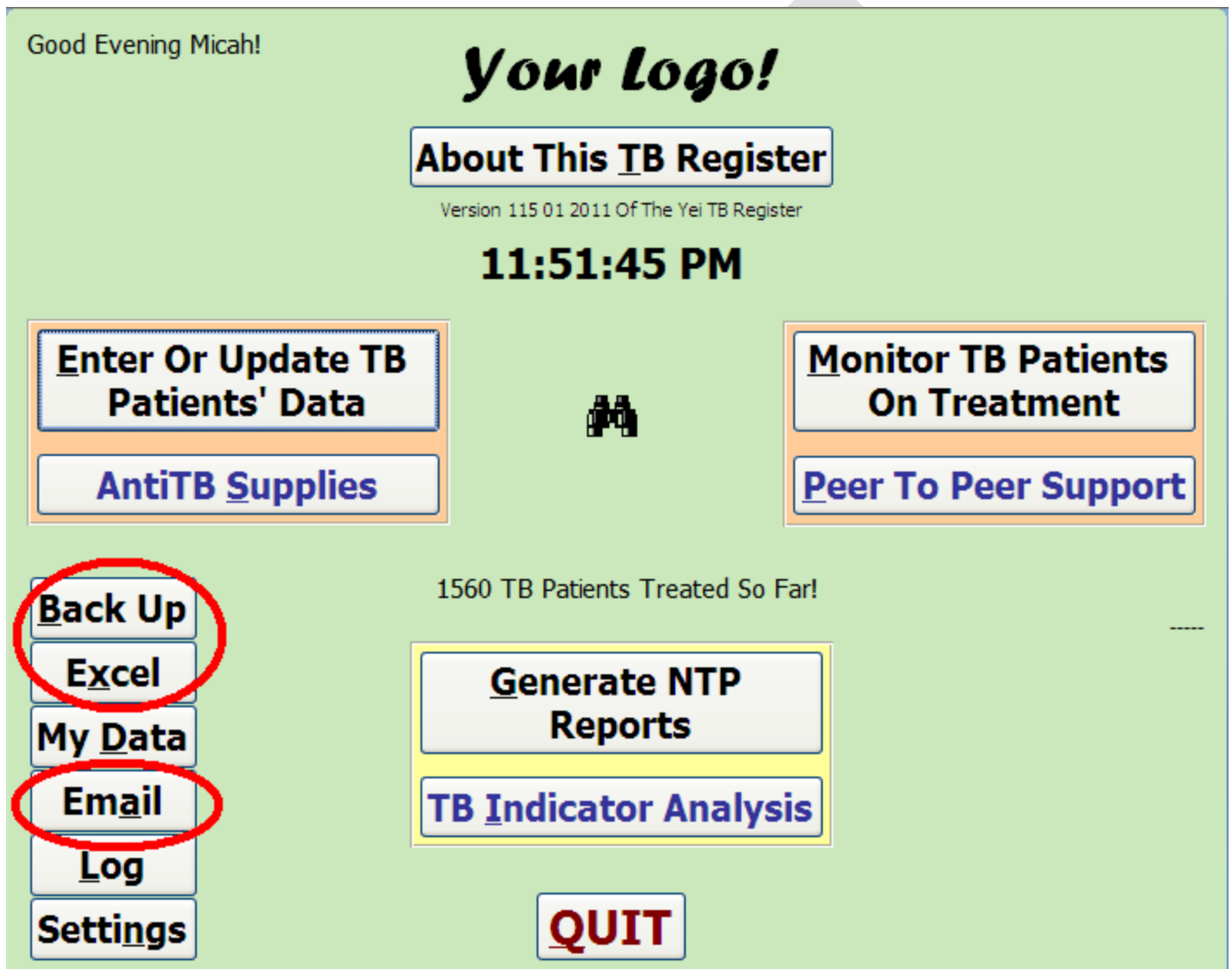
Section 11: How To Back Up Your Data

There are three main ways to back up your data. You will most frequently back up when you click on the;

- a. Back Up button
- b. Excel Button
- c. Email Button

All the above buttons are located on the **Main Menu** as illustrated below:

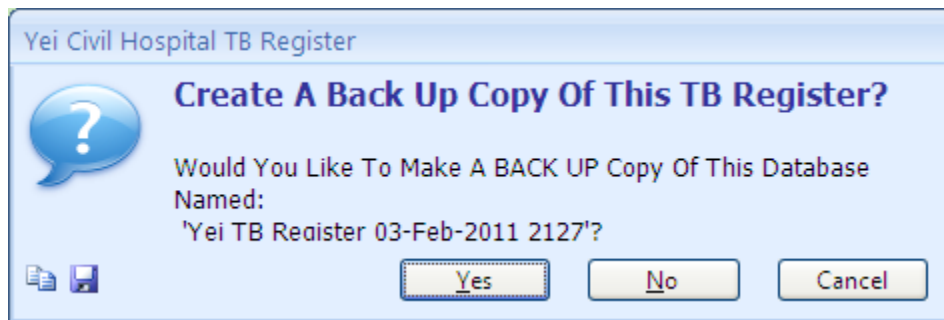
Illustration 66



How To Back Up Data Using The Back Up button

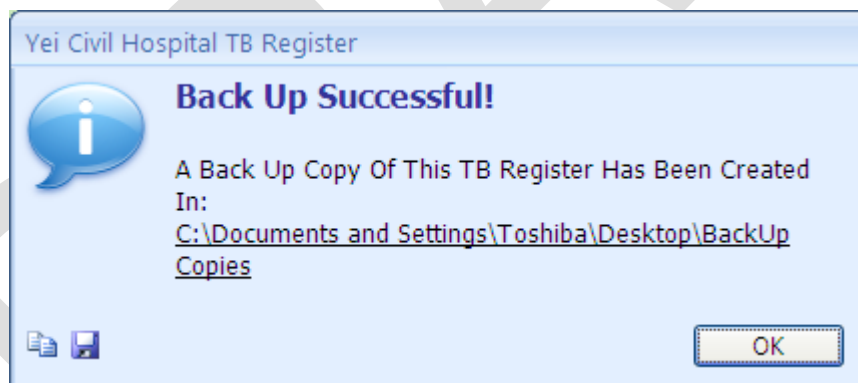
- a. Click the **Back Up** button located on the **Main Menu**
- b. A message box like the one shown below will open. It will ask whether you are sure you want to make a back up copy

Illustration 67



- c. If you choose No or Cancel, no back up copy will be created.
- d. If you choose Yes, a back up copy will be created in a folder named **BackUp Copies**. A message box confirming that the operation was successful will appear as shown below. The underlined sentence in the message box below indicates the path to the exact folder on your computer where the back up copy of the TB register was created.

Illustration 68



How To Back Up Data Using The Excel Or Email button

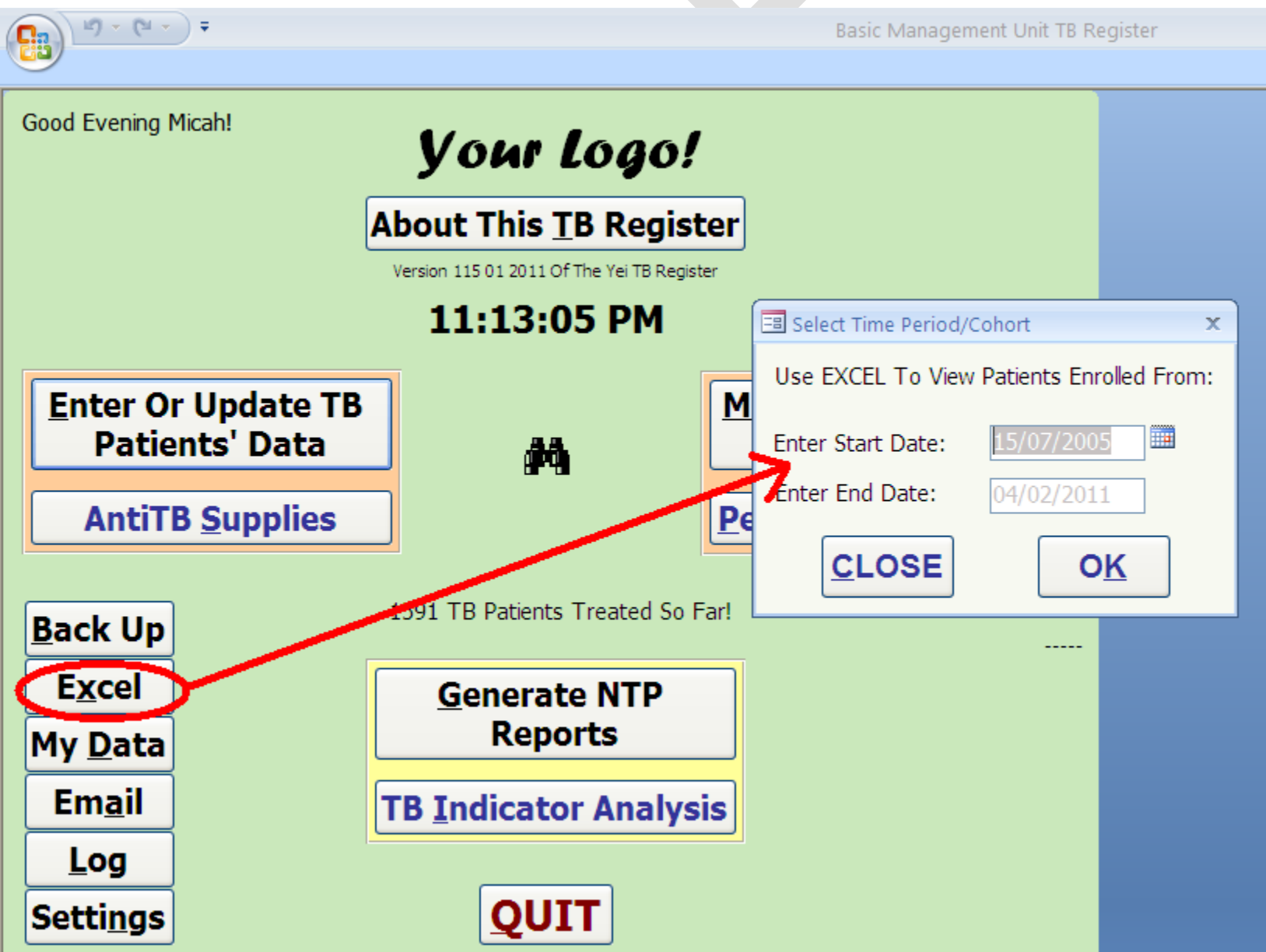
Each time you export your data to Excel or send the TB register as an email attachment, backup copies are automatically created. The details of how to export your data to Excel or how to email the TB register to another person are explained below

1. How To Export Your Data To Microsoft Excel

The TB indicator analysis section of the Basic Management TB register provides an accurate and precise analysis of about 15 different TB-HIV indicators. However, these indicators may not be exhaustive. You may want to analyze your data a lot more or you might want to verify the results generated by the inbuilt TB data analysis software. In instances like this, you will export your data to Excel. This will then give you full control over the data analysis. Please follow the steps below to export your data to Microsoft Excel;

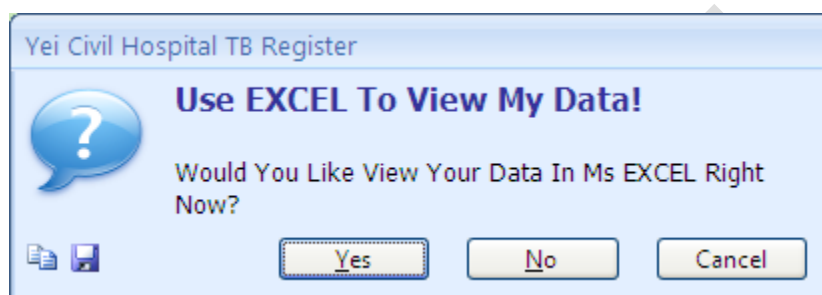
- a. Click on the **Excel** button located on the **Main Menu** as illustrated below
- b. A window named **Select Time Period/Cohort** will open as shown below

Illustration 69



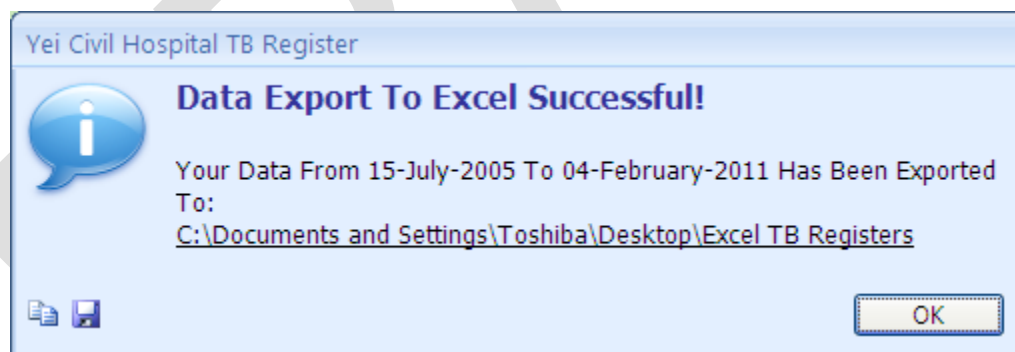
- c. In the select Time Period form, enter in the start and end date of the data that you would like to export to Excel
- d. After step c above, click the **OK** button to continue
- e. A message box illustrated below will open asking if you would like to view your data in Excel instantly or you would like to view the data later.

Illustration 70



- f. If you choose **Cancel**, the process of data export to Excel will be cancelled.
- g. If you choose **Yes**, the data you exported to Excel will open and you will see it instantly
- h. If you choose **No**, your data will be exported to Excel but the Excel file will NOT open automatically. To enable you locate the folder where your data in Excel has been saved, a message box describing the exact location of the Excel file will appear as illustrated below

Illustration 71



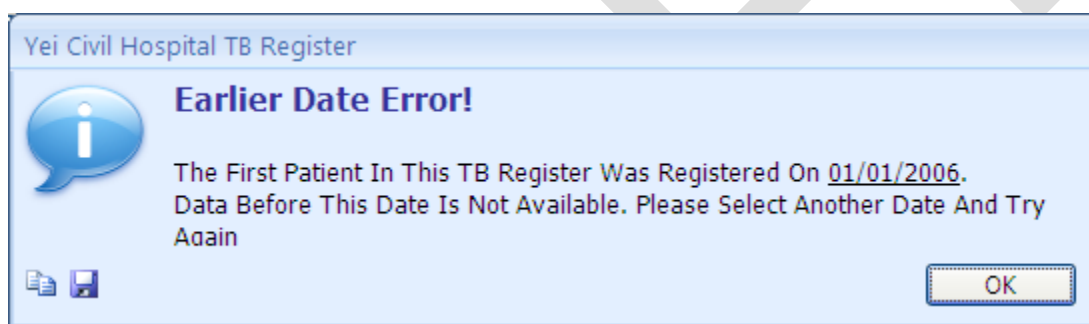
- i. NB: except if you choose Cancel, choosing Yes or No, will automatically make a copy of the selected patient cohort in a folder named Excel TB Registers.

Important Notice 10

As you export your data to Excel, you might encounter the following;

- i. When the **Select Time Period/Cohort** window opens, there is a default **Start date**. This date corresponds to the date -one day- before the first TB patient was entered/registered into the TB register. The default **end date** is the date when you entered/registered your last TB patient. These dates are visibly faint in color (illustration 69 above). They are meant to assist you in entering the dates of your choice.
- ii. When you click inside the **Start** or **End Date** field, the default dates above will disappear to enable you enter your preferred dates. As you start to type in your start or end date, the color of the date ceases to be faint anymore. It becomes black.
- iii. If you enter a start date before the default start date, a message box will open to inform you about the error as illustrated below;

Illustration 72



- iv. If you enter a start date or end date which is after today's date of 27/08/2011, a message box will similarly alert you about the error
- v. If you enter an end date which is before the start date, a message box will open to inform you about the error as illustrated below

Illustration 73



- vi. If no dates are entered and you just click OK, the default dates mentioned in step a above will be used

- vii. The Excel file created will get the name like Yei TB Cohort 23-07-2009 To 13-02-2010 i.e., [*Location Name*] TB Cohort [*Start Date*] To [*End Date*]. In this instance the location name was Yei.
- viii. The process of data export to Excel will usually take no more than 5 seconds

DRAFT

How To Send The TB Register As An Email Attachment To Another Person

Occasionally, you may want to send your TB register as an email attachment to another person. This could be your supervisor or to the Administrator. The steps you that follow here depend on whether you are using Microsoft Outlook as your mail client or not.

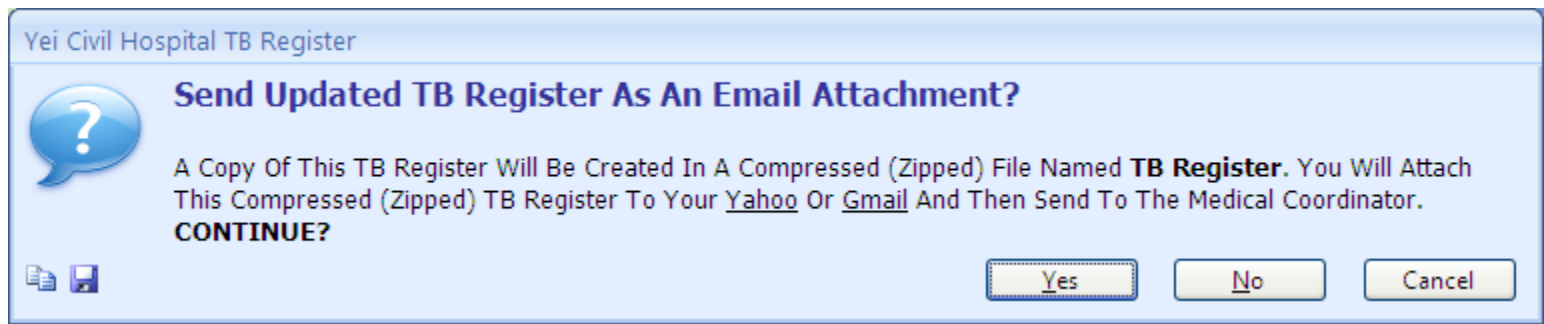
- a. Click on the **Email** button located on the **Main Menu** as illustrated below.

Illustration 74



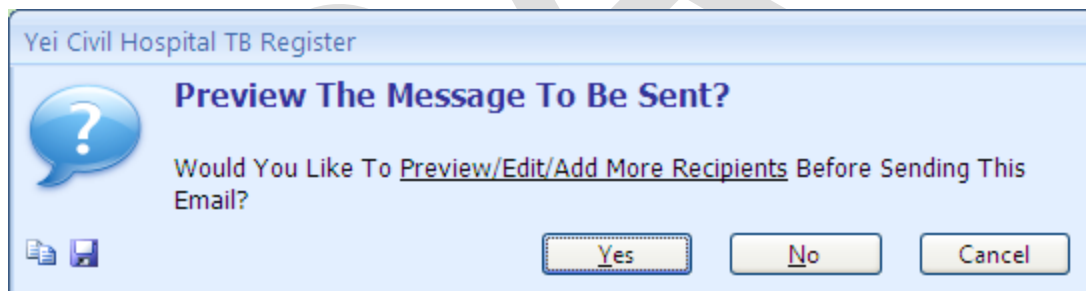
- b. If you are using Microsoft Outlook as your mail client, a message box (shown above) will open asking you whether your Microsoft Outlook is open and you are connected to the Internet.
- c. If you are using Yahoo, Gmail, the message above will be aslightly different as shown below

Illustration 75



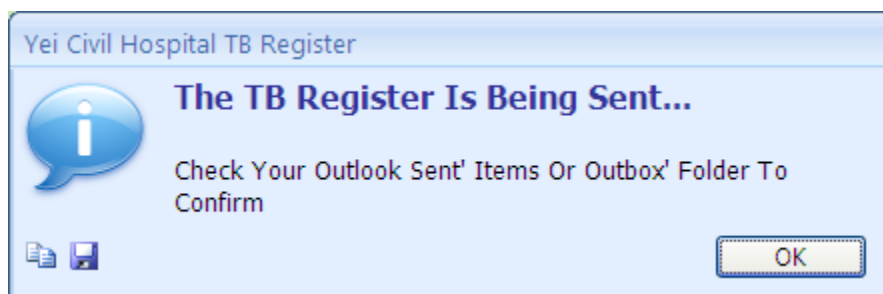
- d. If you choose **Cancel** or **No**, the process of sending the TB register as an email attachment will be cancelled.
- e. If you choose **Yes**, the TB register will be zipped. The next steps depend on whether you are using Microsoft Outlook as your email client or not. If Microsoft Outlook is your email client, step (f) below will follow next otherwise step (k) will follow.
- f. Microsoft Outlook will create a new email message. The zipped TB register will then be attached to this message automatically. A message box will open asking you whether you would like to edit the message/change recipients etc as shown below;

Illustration 76



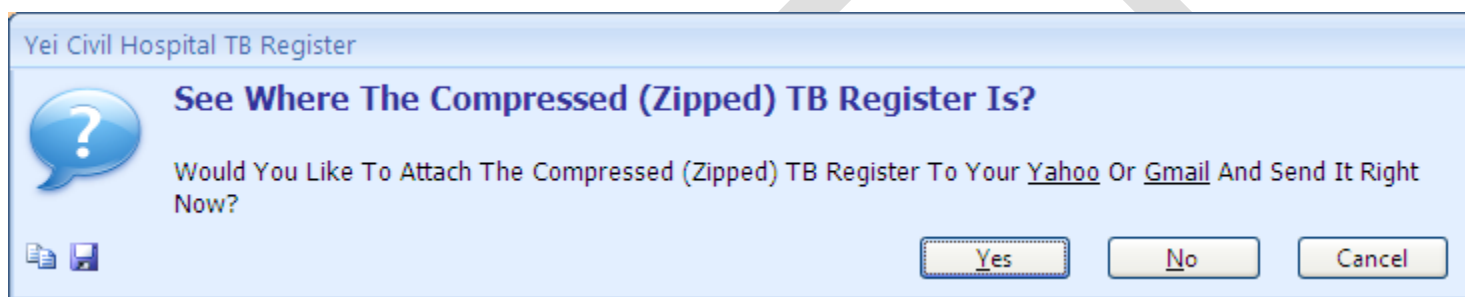
- g. If you choose **Cancel**, the process if sending the TB register as an email attachment is cancelled.
- h. If you choose **Yes** in step (f) above, the new email that was created will automatically open. All the recipients will be displayed. The message title will be like **Yei TB Register: End of Feb 2011** i.e., [Location Name] TB Register: End of [Preceding Month] [Current Year]. In this instance the location name was Yei.
- i. At this point, you can now add more recipients and edit the draft message to suit your flavour. After that, click the send button. NB: each time you send the TB register by email, a copy of it with the current date will be automatically be created in the **Monthly Reports** folder.
- j. If you choose **No** in step (d) above, the TB register will automatically be sent to the Medical Coordinator copying the Program Coordinator of the location. A message box will open to confirm that the TB register is being sent.

Illustration 77



- k. If Microsoft Outlook is NOT your email client, then the message below will appear after step (e) above

Illustration 78



From the message box above;

- l. If you choose **Yes**, the folder where the zipped TB Register was created will automatically open to enable you to quickly attach it to your Yahoo or Gmail
- m. If you choose **No**, the folder where the zipped TB Register was created will not open. You will
- n. If you choose **Cancel**, the process of zipping the TB register will be cancelled.

Important Notice 11

While sending the TB register as an email attachment, you may want to watch out of the following;

- i. You may not be able to send the TB Register if you are using Microsoft Outlook Express or another mail client.
- ii. If your Microsoft Outlook is not open or your internet connection is not working well, it may not be possible for you to send the TB register to another person.
- iii. Please contact support@tbregister.org for advice in case you would like to use Microsoft Outlook as your email client.

DRAFT

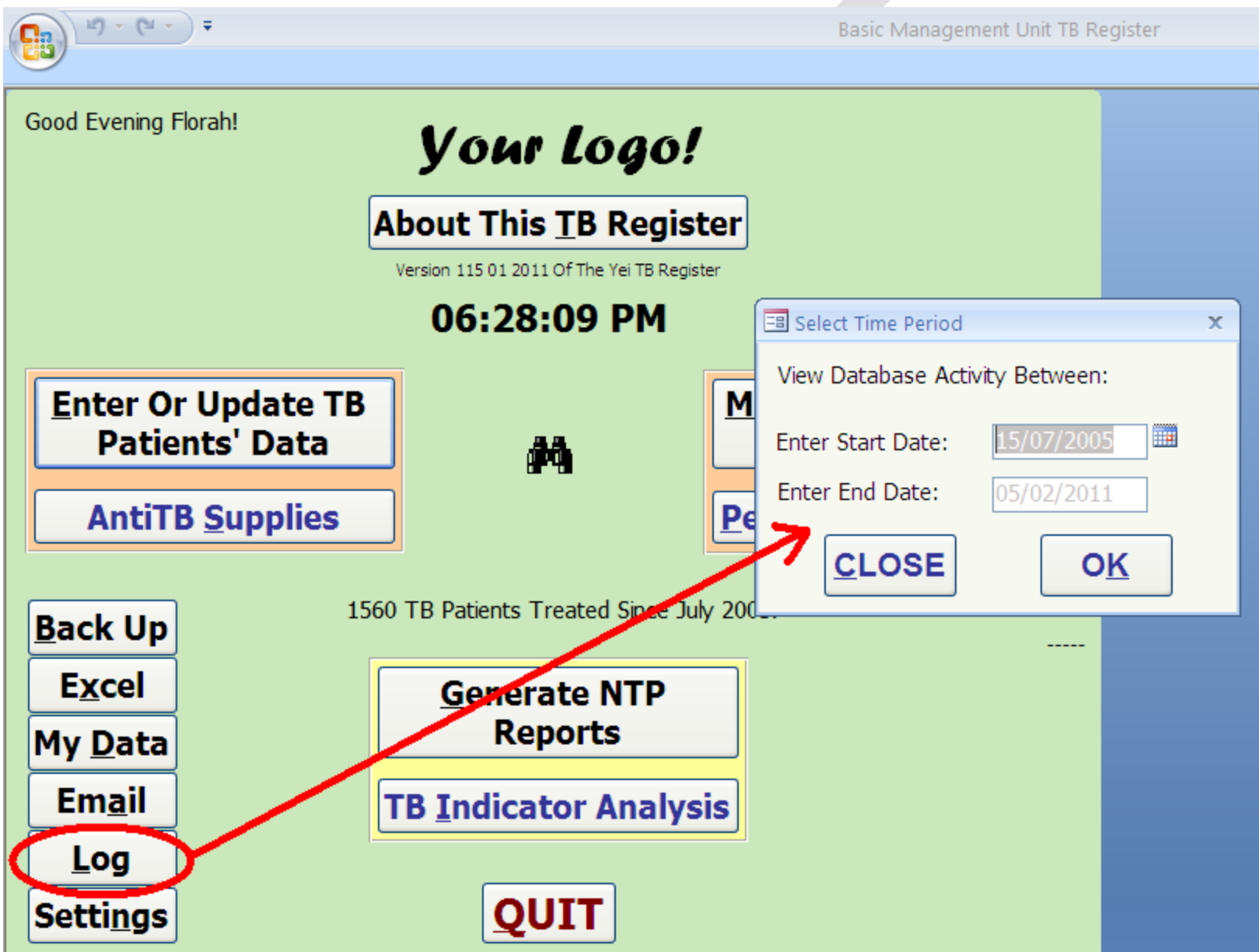
Section 12: How To View What Was Changed In The Database

To protect your TB register from malicious or accidental data changes, it is possible to track down which data was changed or deleted, when and by whom. You can then change back the data to the original values if you do not agree with the changes made.

To view which data has been changed in the TB register, you will follow the steps below

- a. Click on the **Log** button located on the **Main Menu** as shown below

Illustration 79

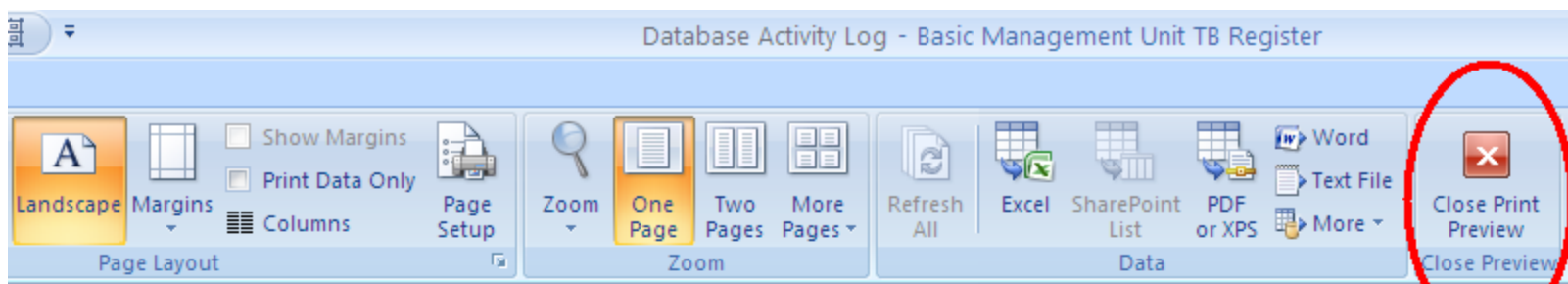


- b. A small window named **Select Time Period** will open. In this window, you will enter the time period e.g., when you or someone else was viewing or entering data.

c. Enter your desired **Start** and **End Dates** and then click the OK button.

A typical report of all the changes that took place in the TB register will appear as illustrated below

Illustration 80



Activity:	Date & Time:	Activity Description:
62	04/05/2011 14:46:51	Jef Signed In
63	04/05/2011 14:52:01	Jef Signed In
64	04/05/2011 14:53:25	Patient Serial Number: 2011061
65	04/05/2011 15:19:14	Patient Serial Number: 2011069
66	04/05/2011 15:19:14	Deleted : Alice Maduna From The TB register
67	04/05/2011 15:57:53	Patient Serial Number: 2011051
68	04/05/2011 15:57:53	Changed Referred For ART: No To Yes
69	04/05/2011 15:58:17	Patient Serial Number: 2011052
70	04/05/2011 15:58:17	Changed Referred For ART: No To Yes
71	04/05/2011 17:00:41	Jef Signed In
72	06/05/2011 13:28:32	Jef Signed In
73	06/05/2011 13:33:23	Reviewed The Patient Follow Up Summary
74	06/05/2011 15:41:36	Jef Signed In
75	06/05/2011 15:43:23	Patient Serial Number: 2011033
76	06/05/2011 15:43:23	Changed The Patient Name: Peeithok Adhol To Peithok Adhol
77	06/05/2011 15:44:18	Patient Serial Number: 2011034
78	06/05/2011 15:44:18	Changed The Patient Name: Along Deng To Aluong Deng
79	06/05/2011 19:29:15	Jef Signed In
80	15/05/2011 21:30:07	Monoja Signed In
81	15/05/2011 22:20:13	Monoja Signed In

d. To close the report, click the **Close Print Preview** or the red **X** button on the right hand side of the report as illustrated above. **NB:** The **X** button on the right uppermost side of the TB register is disabled in this TB register. During the test phase, it was noticed that many users closed the entire TB register accidentally when actually; they had wanted to close only the report

- e. Other actions that you can do with a report like printing, converting to PDF, saving the report are described under section 9 **Options Available Once A TB Patient Summary Is Open.**

Important Notice 12

- i. While entering the **Start** and **End dates**, all instructions under **Important Notice 10** above apply
- ii. Not all the patient data in the TB register is tracked. Only those parameters like the date of registration, the patient's age, sex, sputum results etc that have an effect on the TB indicator analysis are tracked.
- iii. When new data is being entered into the TB register, it is never tracked. It is only when existing data is changed/modified that the changes are tracked.
- iv. Only managers can be able to view which data has been changed in the TB register. The **Log** button is frozen when other counterparts like the Program Coordinators and other data entrants sign in.

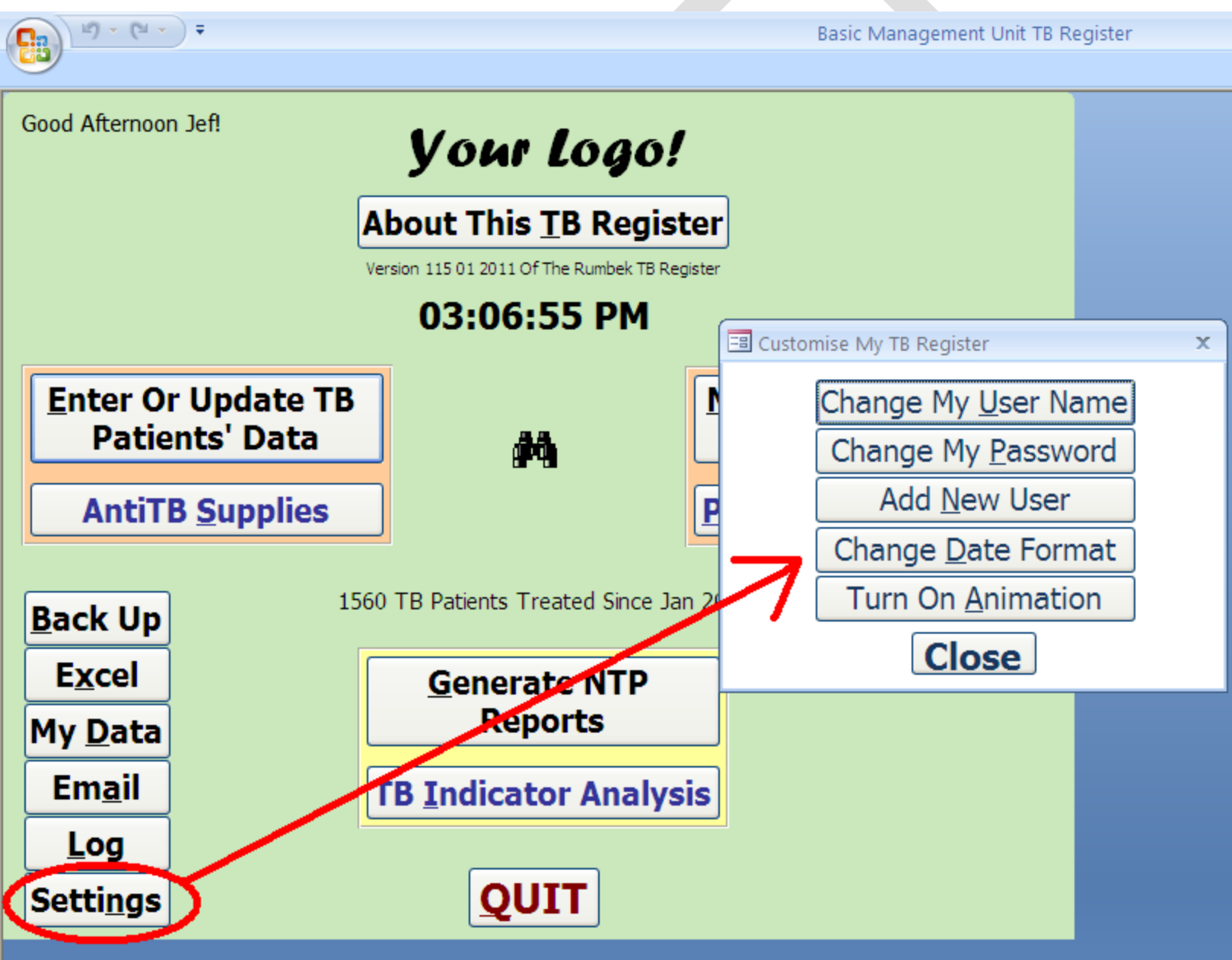
Section 13: Customizing Your TB Register

You can make certain changes to this TB register. To date, the following changes are possible;

- a. Change Your User Name
- b. Change Your Password
- c. Change The Date Format
- d. Turn Animation On/Off

To make any of the above changes, click on the **Settings** button located on the **Main Menu**. A small window named **Customize My TB Register** will open as illustrated below:

Illustration 81



How To Change Your User Name and or Password

To change your user name and or password, follow the steps below;

- i. Click the **Change My User Name** button as illustrated above
- ii. A small window named **Change Your User Name And/Or Password** will open as shown below

Illustration 82



Change Your User Name And/Or Password

Current User Name:

Current Password:

New User Name:

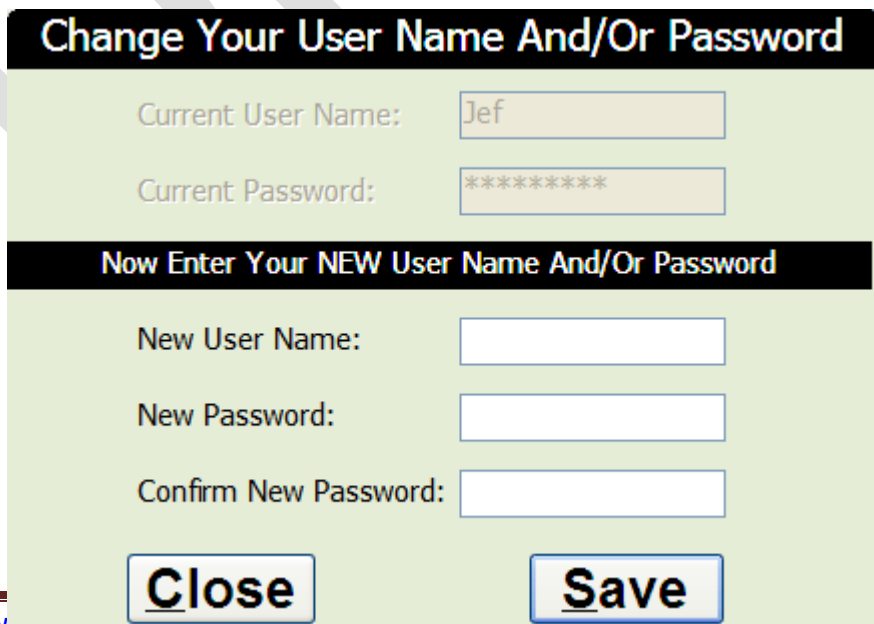
New Password:

Confirm New Password:

Close **Save**

- iii. Enter you current user name and password. If you enter the correct user name and password, the **Current User Name** and **Password** fields will freeze out. Concurrently, the **New User Name** and **Password** will become white and then allow you to enter your new details.

Illustration 83



Change Your User Name And/Or Password

Current User Name:

Current Password:

Now Enter Your NEW User Name And/Or Password

New User Name:

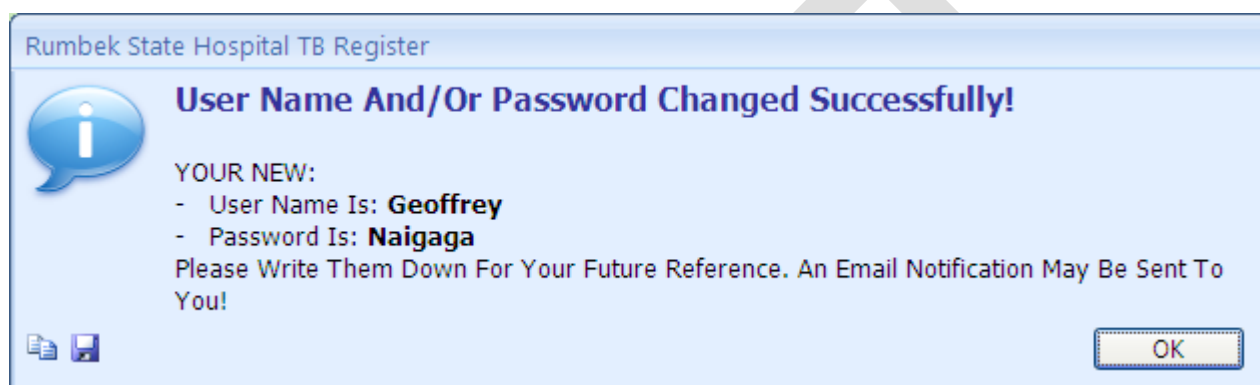
New Password:

Confirm New Password:

Close **Save**

- iv. Enter your new user name and new password. The electronic TB register will automatically check -as you type- the strength of your password. Any password that is deemed as not strong....i.e., Medium or Weak will be rejected. A strong password should contain a combination of at least a number, symbol, capital and small letters.
- v. If your new password had been detected as strong in (iv above), then you will go ahead and confirm it/retype it then click **Save**. Your **New Password** will be compared to what you entered under **Confirm New Password**. If the two match (NB: passwords are case sensitive), then a message shown below will pop up confirming that you changed your user name/password.

Illustration 84



- vi. Close the Basic Management Unit TB Register and open it again for your settings/changes to take effect.

Important Notice 13

While changing your user name or password, please take note of the following;

- i. The steps (i to vi) described above are similar if you would like to change only your password
- ii. If you attempt to copy or paste into the **New Password** or **Confirm New Password** fields, the action will be rejected. A message alert will pop up as shown below.

Illustration 85: copying or pasting disabled



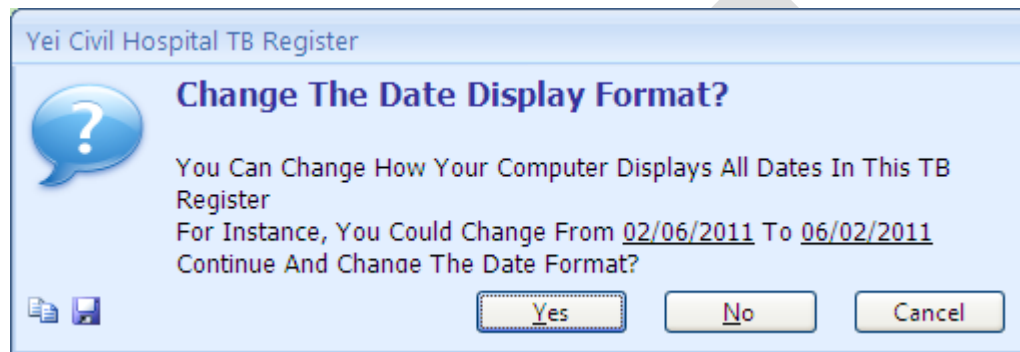
- iii. You cannot change another person's username and password. They have to do it by themselves.
- iv. If you forget your user name or password, you will not be able to sign in. You will then have to contact support@tbregister.org for advice.
- v. A strong password is not necessarily defined by how long it is. In this electronic TB register, a password will be considered strong if it contains at least five characters, including a number, symbols, capital or small letters. Only if your proposed new password is judged by the software as "strong" will you be able to proceed and change to another password. If you have been using the internet or if you have opened up an email address recently, then you will not find this as out of the ordinary.

How To Change Your Computer Date Format

To further simplify data entry, it may deem necessary to change the date format from say 01/13/2011 to 13/01/2011 or vice versa. You can change the date format to what you are most familiar to by following the steps below;

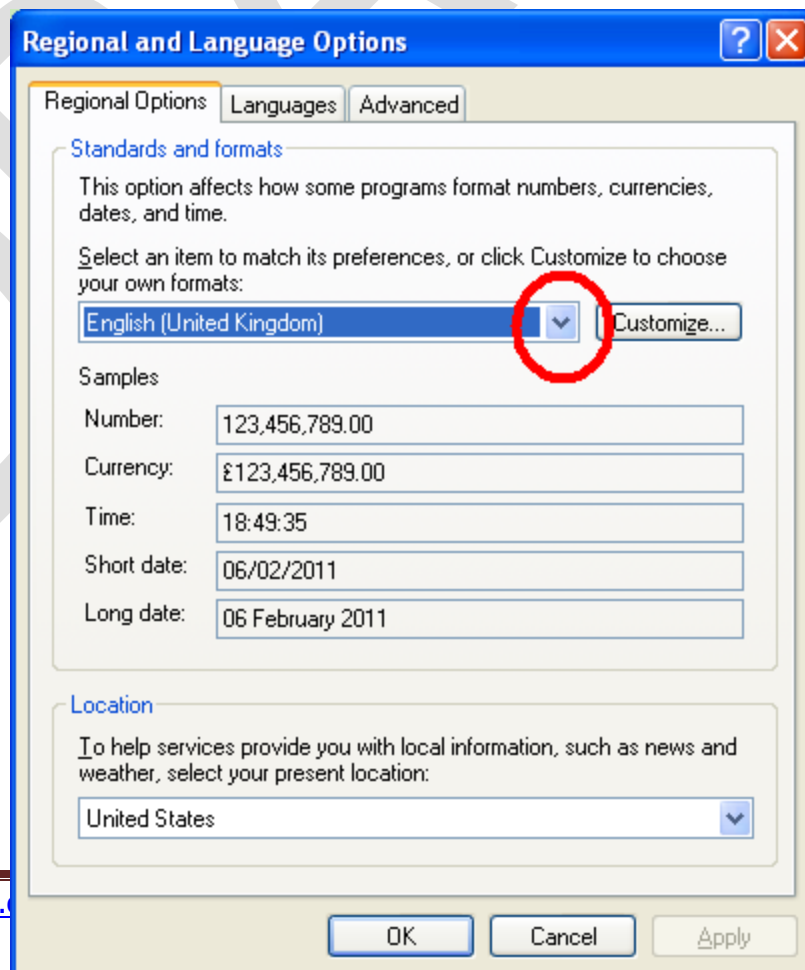
- i. Click on the **Settings** button on the **Main Menu** as shown in illustration 81 above.
- ii. Click the **Change Date Format** button. A message box will popup asking if you are sure you want to make the change.

Illustration 86



- iii. If you choose **Yes**, a dialogue box named Regional And Language Options will open up as shown below;

Illustration 87



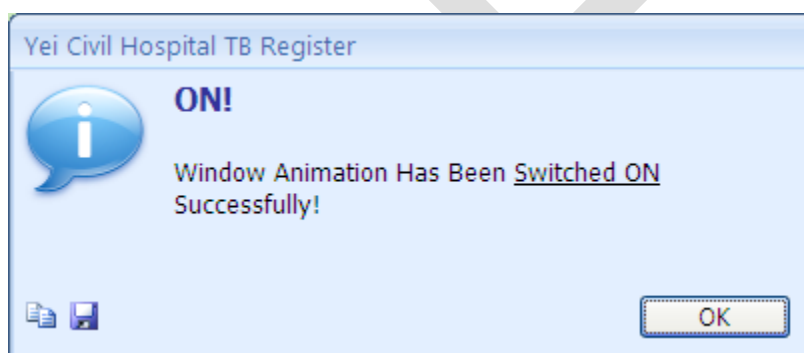
- iv. Use the drop down box highlighted above to select for example English (United States) and then click **OK**.
- v. If you choose **No** or **Cancel** in step (ii) above, the process of changing the date format will be cancelled.

How To Turn On/Off Animation (dancing windows)

You can change how some buttons behave when you move your mouse over them. Additionally, you can change the behavior of how some windows open or close. The later will acquire the behavior synonymous with power point animation/slide transition. By default, Animation is off. To turn On animation, follow the steps below;

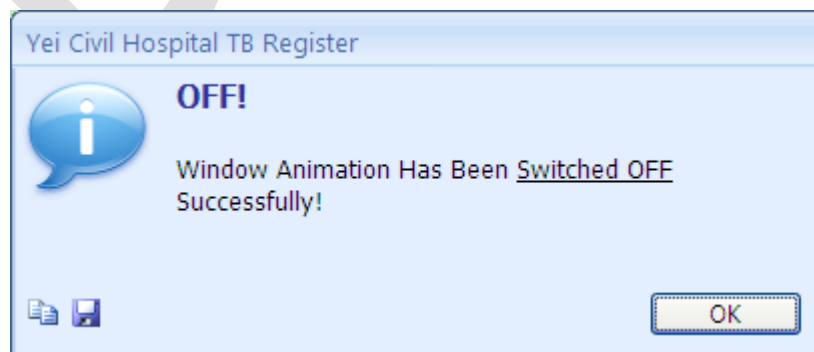
- vi. Click on the **Settings** button located on the **Main Menu** as shown in illustration 81 above.
- vii. Click the **Turn On Animation** button. A message box will popup confirming that Animation has been turned on as illustrated below.

Illustration 88



- viii. As you move your mouse across the **Main Menu**, you will instantly notice the difference. Try clicking on the Excel or the binocular button to see how some windows will now open.
- ix. To turn off animation, follow the same steps above. A message box will popup confirming that Animation has been turned off as illustrated below

Illustration 89



Important Notice 14

Once form animation has been turned on, it works only for that session when the database is opened. Once you close the database, you have to turn it on again the next time you open the TB register.

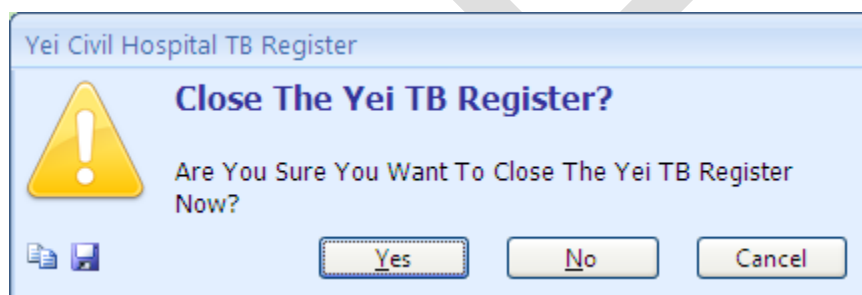
Section 14: How To Close/Shut Down The TB Register

You will notice that the **X** button on the right uppermost side of the TB register is disabled in this TB register. During the test phase, it was noticed that many users closed the entire TB register accidentally when actually; they had wanted to close only a window.

Therefore, to close the Basic Management Unit TB register, you will follow the following steps;

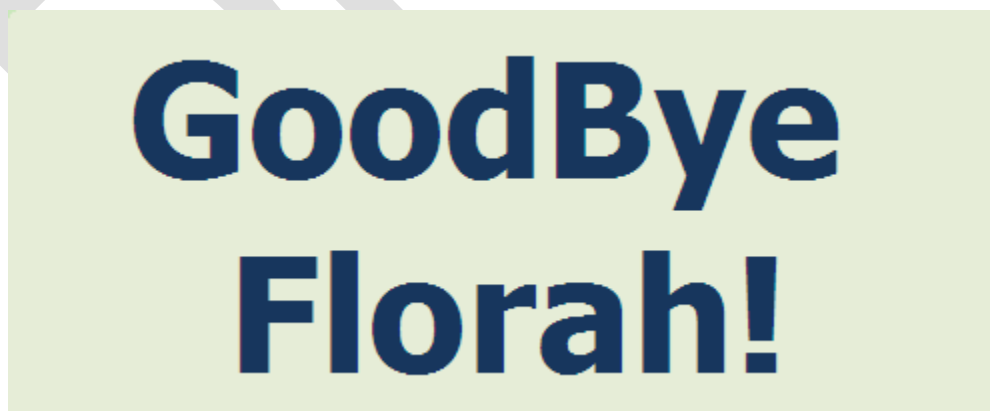
- a. Click on the **Quit** button located on the **Main Menu**. A message box will popup asking if you are you are sure you want to close the TB register as illustrated below;

Illustration 90



- b. If you choose **No** or **Cancel**, the process of closing the TB register will be cancelled.
- c. If you choose **Yes**, a small window will popup as shown below

Illustration 91



- d. After two seconds, the TB register will close.
- e. **NB:** In the unlikely event that the TB register does not close, right click the taskbar and open the task manager. Select to end the Basic Management Unit TB Register task.

Section 15: Other Optional/Useful Features in This Electronic TB Register

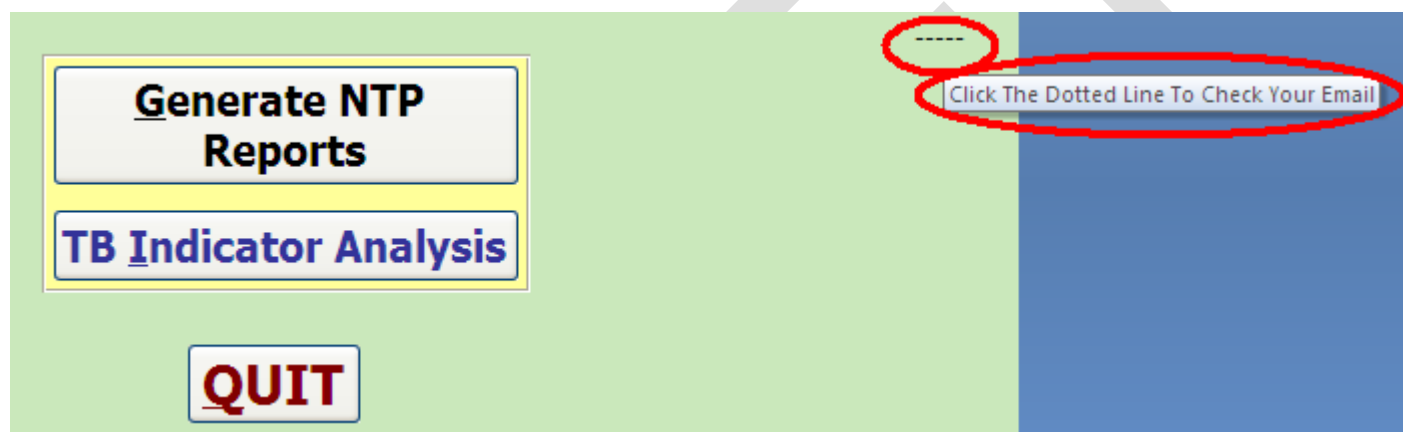
There are some cosmetic features in this TB register that you will find useful. They have no effect whatsoever on the TB data quality but they will significantly enhance your user experience.

a. Help Tips

As you use the electronic TB register, you might want to know what might happen if you clicked on a button or you might want to know why a certain feature was added. There are numerous help tips that you will find in any TB register window that will open up. To see these help tips;

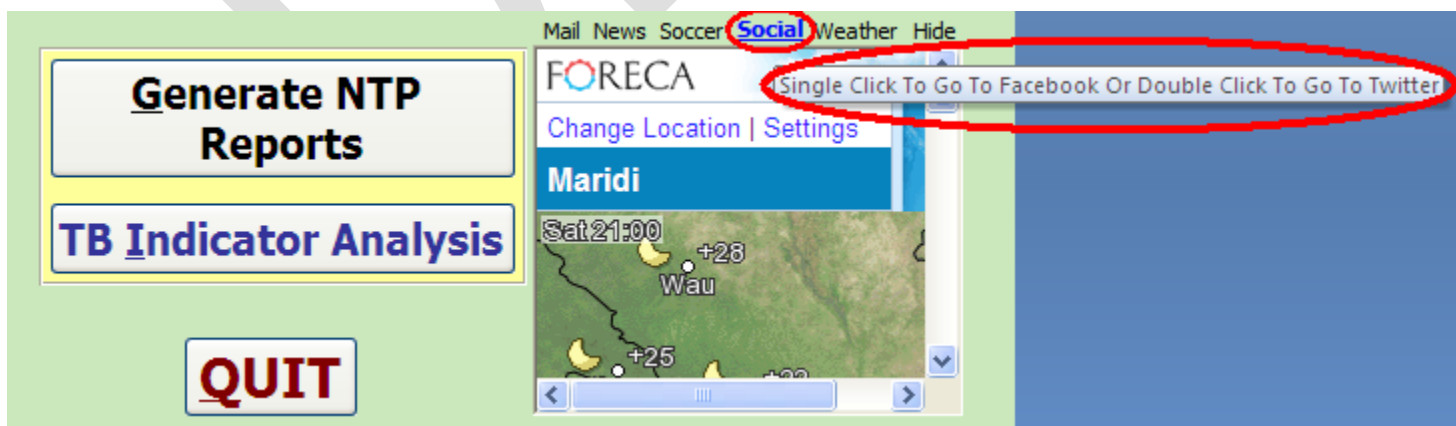
- i. Move your mouse over **ANY** button or box or data entry field and wait for 2-3 seconds.
- ii. A Help Tip will automatically popup as illustrated below. In the below example, I moved my mouse over the dotted lines located on the **Main Menu**.

Illustration 92



- iii. When you click on the dotted line, an internet window opens up as illustrated below

Illustration 93



- iv. A countless number of Help Tips are available and they will appear each time you move your cursor over the different buttons in this electronic TB register.
- b. The Internet Window inside the electronic TB register.

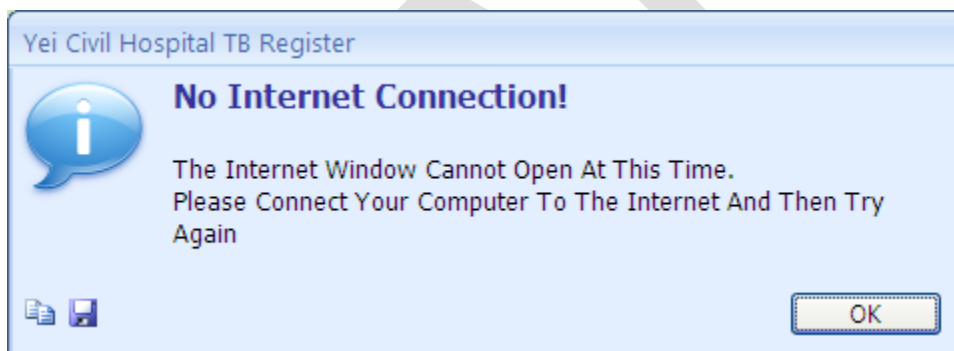
There is a mini internet window that is located on the **Main Menu** as shown in illustration 92 and 93 above. By default, it is hidden and you will only spot it when you move your mouse over the five dotted lines. The internet window provides you with local weather information that you may need before traveling to your TB clinics -say for support supervision. It will also help you to keep in touch with friends and family through Facebook or Twitter, read/send your email, read news etc

For guidance on how to use this window, see illustrations 92 and 93 above.

Important Notice 14

- i. Please note that this Internet Window will only open if your computer is connected to the internet. In the nascence of an active internet connection, you will be alerted as illustrated below;

Illustration 94

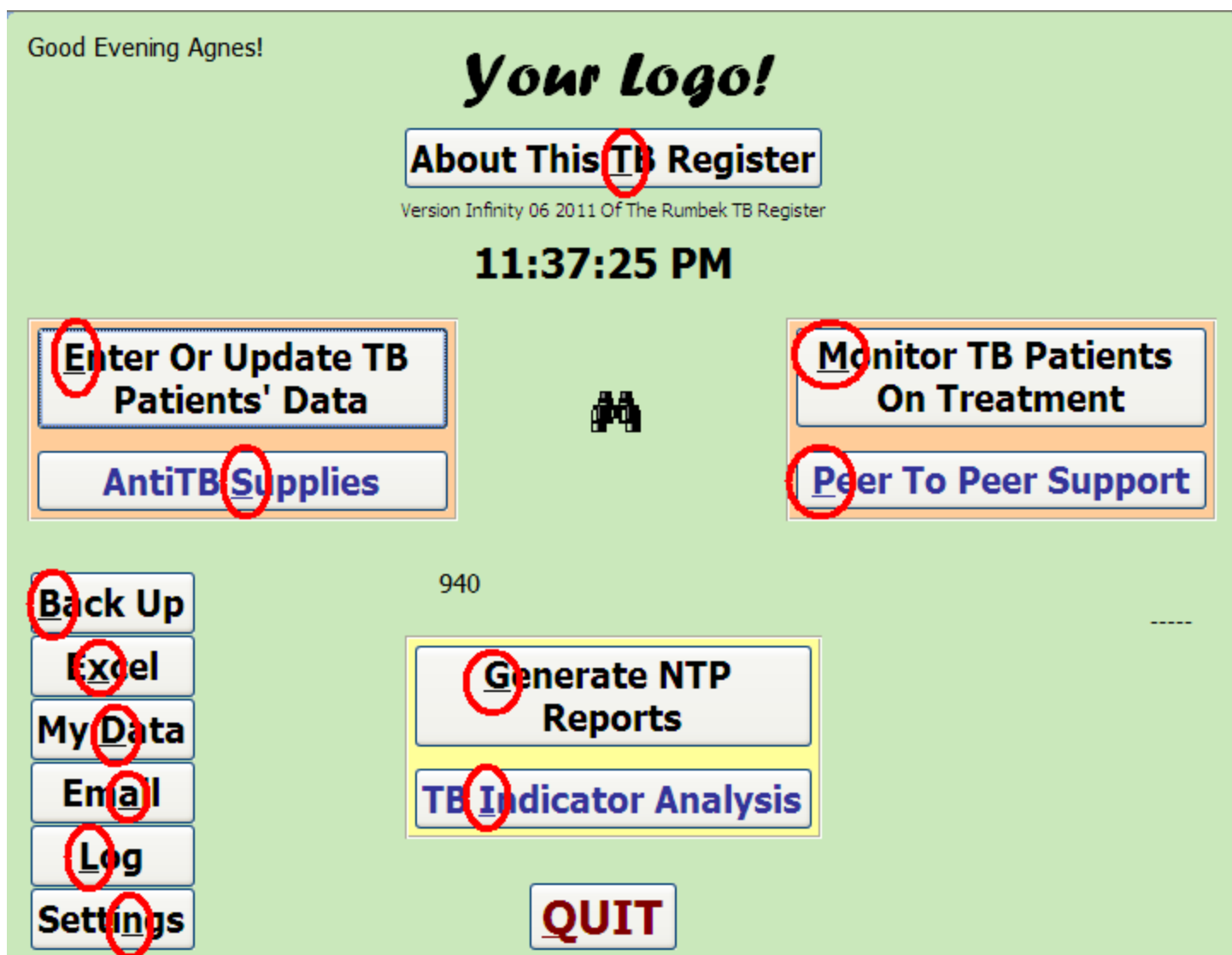


- ii. Only managers will have access to this Internet window. Other users will not be able to see it at all.
- c. Using the Keyboard shortcut keys

If you have been using computers for a long time, you might probably have noticed that once in a while, your mouse may not work to your expectations. This electronic TB register is designed to counter any such challenges. In fact, you can use this electronic TB register normally without a mouse at all!

You might probably have noticed that on each window, there is at least one or more letters that are underlined as shown in illustration 95 below. Each of these underlined letters is a keyboard shortcut key. For example, if you are on the **Main Menu** and then you press **ALT+E** (or just letter **E**) on your keyboard, it will be as if you clicked on the **Enter Or Update TB Patients' Data** button. The **Enter Data** window that is shown in illustration 7 will open up. Please note that pressing the **ALT** Key together with the shortcut key is more reliable. In addition, if more than one window is open, then shortcut key will apply to the active window.

Illustration 95: Keyboard Shortcuts



- d. Using the mouse wheel to move from one patient record to another

Once in a while, you may want to scroll through the different patient or treatment supporters' details that you have entered into this electronic TB register. You can do this using the **Arrow** buttons as described under illustration 8. There is another alternative though! Using your mouse wheel, you can move from one TB patient record to another.

- e. Closing any open window using the **ESC** key on your keyboard

To close any open window, you will usually click the **X** button on the right upper lateral corner on every window. Alternatively, you will click the **Close** button. There is also a third method! Press the **ESC** key on your keyboard.

Note that the **ESC** key cannot close any of the windows which you use to enter data into this register.

f. Adding colour to your reports

In order to save printer cartridges but yet ensure that report/patient summaries remain readable, all reports/patient summaries generated by this electronic TB register are in "black and white" and the patient listings are grouped in tens.

However, the readability of these reports/patient summaries can significantly improve if a bit of colour is added. With the **Colour** button, you will have access to over a million colours that you can choose from.

Before you click the **Print** button to view any report/patient summary, first click the **Colour** button to select a colour that you would like to be imprinted on your report as shown in illustration 96 below.

Illustration 96

Color

Basic colors:

Custom colors:

Define Custom Colors >>

OK Cancel

MISSING

Sputum Examination After Two Months Of DOTS

Select A Health Facility: All Health Facilities

TB No	Regis	County	Payam	Boma	Expected On	Late	Assigned To:
2011/015	16/02	Rumbek Cent	Amongpiny		18/04/2011	68	Martha Arop
2011/019	23/02	Rumbek Cent	Matangai		25/04/2011	61	Alur Lyeny
2011/024	05/03	Rumbek East	Abiei Ajok		04/05/2011	52	Alir Mawut
2011/027	14/03	Rumbek East	Paloc	Paloc	13/05/2011	43	Mabeney
2011/040	30/03	Rumbek Cent	Matangai		30/05/2011	26	Isaac Ajuong
050/2011	07/04	Rumbek Cent	Amongpiny		06/06/2011	19	Rebecca
053/2011	13/04	Tonj	Kerek		13/06/2011	12	
055/2011	18/04	Rumbek East			17/06/2011	8	Mabeney
056/2011	19/04/2011	Cueibet	Pitok		20/06/2011	5	Hellena Yar Riak
058/2011	22/04/2011	Rumbek Cent	Matangai		21/06/2011	4	Masana Malual

Showing The 10 TB Patients Who MISSED Sputum Examination After Two Months Of DOTS

TB Patients Who Missed Due For Sputum Examination

☐ Due ☒ Missed

After 2 Months Of DOTS

After 3 Months Of DOTS

After 5 Months Of DOTS

After 6 Months Of DOTS

After 8 Months Of DOTS

TB Patients Who Are Due For Other Follow Up Services

Due For HIV Testing

Due For CPT Prophylaxis

To Be Referred For ART

Due For DST

With No Peer Educator

DOTS Outcome Is Missing

Colour **Print** **Copy** **CL**

Select a colour of your choice and then click **OK**. Select a patient summary of your choice and then click the **Print** button. Your report/patient summary will take up the colour that you selected earlier. Please note that the **Colour** button has not proved to produce reliable results in all versions of Windows.

g. Widening Column Widths.

Sometimes, the patients' details that you will see in say illustration 96 above may be partially displayed/cut off by a small column width. For instance, **Rumbek Central** may be displayed as **Rumbek Centr**. In order to widen the column widths,

- i. Move your mouse to the very top of the column (sometimes called the **Header Row** in Microsoft Excel).
- ii. Decide which column you would like to resize then place your mouse at the vertical line that separates one column from another. Hold your cursor in position for one or two seconds until it turns into a double pointed arrow....just like in Excel.
- iii. After step (ii) above, click and drag the vertical line to your left or right side to widen or narrow down the column widths to your satisfaction.