Measurement of TB Indicators using e-TB Manager (TB Patient Management Information System)

July 2017

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SIAPS
Systems for Improved Access to Pharmaceuticals and Services

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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Key Words

e-TB Manager, tuberculosis, TB indicators

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ACRONYMS AND ABBREVIATIONS

DGHS	Directorate General of Health Services
e-TBM	e-TB Manager
MDR-TB	multidrug-resistant TB
MOHFW	Ministry of Health and Family Welfare
MSH	Management Sciences for Health
NGFS	nongovernment field staff
NTP	National Tuberculosis Control Program
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
TB	Tuberculosis
TLCA	TB and leprosy control assistant
TOT	training of trainers

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PURPOSE OF THIS MEASUREMENT GUIDE

This document offers a wide selection of indicators relevant to the TB program in Bangladesh. To calculate the TB indicators, this document is based on the nationally adopted, web-based e-TB Manager (e-TBM; http://etbmanagerbd.org/), which is being implemented by the National Tuberculosis Control Program (NTP) with technical assistance from the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, implemented by Management Sciences for Health (MSH).

e-TB Manager

e-TB Manager is a web-based, patient-management tool for managing all the information needed by NTPs. It is an electronic platform that captures data across all aspects of TB control and management, including information on presumptive and confirmed patients, medicines, laboratory testing, diagnosis, treatment, and outcomes.

The TB indicators calculation guidance explains the key steps of measurement and suggests how to use the indicator for data-informed decision making for the improvement of TB programs.

INDICATOR 1: NOTIFICATION RATE FOR ALL FORMS OF TB

Case notification rate of all forms of TB cases	= Number of new and relapse TB cases reported during the year × 100,000 / Total population

Usefulness

This indicator is used to assess the quality of case finding, access, and progress. Moreover, together with treatment outcome, it is the most important global indicator of the overall quality of the TB program.

Data needed from e-TBM (number of new and relapse TB cases reported during the year):

Age Groups	Pulmonary																						Extrapulmonary							
	Bacteriologically Confirmed TB cases												Clinically Diagnosed										Clinically Diagnosed/Bacteriologically Co							
	Treatment history unknown		New		Previously Treated								Treatment history unknown		New		Previously Treated						Treatment history unknown		New		Previously			
					Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated						Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated								Treatment after failure	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
<= 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	0	0	0	0
15 - 24	0	0	3	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0
25 - 34	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	5	0	0	0	0
35 - 44	0	0	7	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	2	2	0	0	0	0
45 - 54	0	0	3	2	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4	1	0	1	0	0
55 - 64	0	0	5	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0
>= 65	0	0	4	1	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Total	0	0	26	9	1	0	0	1	0	0	1	0	0	0	8	2	1	2	0	0	0	1	0	0	0	0	11	16	0	2	0	0

Steps to Find/Prepare the Indicator in e-TB Manager

1. Go to e-TBM (etbmanagerbd.org)
2. Click on management module
3. Click on report TB 10
4. Then select division/district/upazila (sub-district)/treatment unit and period
5. Find the columns New and Relapse in each of the Bacteriologically Confirmed, Clinically Diagnosed, and Extrapulmonary columns

INDICATOR 2: CASE NOTIFICATION RATE OF NEW PULMONARY, BACTERIOLOGICALLY CONFIRMED TB CASES

Case notification rate of new pulmonary bacteriologically confirmed TB cases	= Number of new pulmonary bacteriologically confirmed TB cases reported during the year × 100,000 / Total population

Usefulness

This indicator is very useful to assess the quality of case finding. Moreover, together with treatment outcome, it is the most important indicator of the overall quality of the TB programme.

Example (How to Prepare it from e-TB Manager)

Badalgachi Upazila under Naogaon District

Population of Badalgachi upazila: 217,320 (Source: NTP)

Number of new pulmonary bacteriologically confirmed TB cases reported during the year 2015 at Badalgachi upazila: 96 (Source: e-TB Manager, screen shot below)

Case notification rate of new pulmonary bacteriologically confirmed TB cases in Badalgachi upazila	= 96 × 100,000 / 217,320	= 44.174

Now, the performance of Badalgachi can be compared to the national trend. The local health authority in Badalgachi may explore opportunities and necessary actions if performance variances are observed.

Block 1: All Tb cases registered (excluding "Transfer in")

Age Groups	Pulmonary															
	Bacteriologically Confirmed TB cases															
	Treatment history unknown		New		Previously Treated								Treatment history unknown		New	
					Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated					
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
<= 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15 - 24	0	0	12	8	0	0	0	0	0	0	0	0	0	0	1	1
25 - 34	0	0	10	3	0	0	0	0	0	0	0	0	0	0	2	0
35 - 44	0	0	16	4	0	0	0	0	0	0	0	0	0	0	2	1
45 - 54	0	0	5	5	3	0	0	0	0	0	0	0	0	0	5	3
55 - 64	0	0	11	3	2	1	0	1	0	0	0	0	0	0	3	2
>= 65	0	0	14	5	0	0	1	0	0	0	0	0	0	0	4	2
Total	0	0	68	28	5	1	1	1	0	0	0	0	0	0	17	10

Steps to Find/Prepare the Indicator in e-TBM

1. Go to e-TBM (etbmanagerbd.org)
2. Click on management module
3. Click on report TB 10
4. Then select division/district/upazila (sub-district) and period
5. Find the column Bacteriologically Confirmed, then the New columns

INDICATOR 3: TB CASE NOTIFICATION RATE

TB case notification rate	$= \frac{\text{Number of new TB cases detected during the year} \times 100{,}000}{\text{Total population}}$

Usefulness

This global TB indicator is easily understood by decision makers: the rate of TB cases that is actually detected.

Example (How to Prepare it from e-TB Manager)

Badalgachi Upazila under Naogaon District

Population of Badalgachi upazila: 217,320 (Source: NTP)

Number of new TB cases detected during 2015 in Badalgachi upazila: 166 (Source: e-TB Manager, screen shots below)

TB case notification rate for Badalgachi for 2015	$= \frac{166 \times 100{,}000}{217{,}320}$	$= 76.38$

Now, the performance of Badalgachi can be compared to the national trend. The local health authority in Badalgachi may explore opportunities and necessary actions if performance variances are observed.

Calculating the Number of Cases

There are 2 ways to obtain the number of cases.

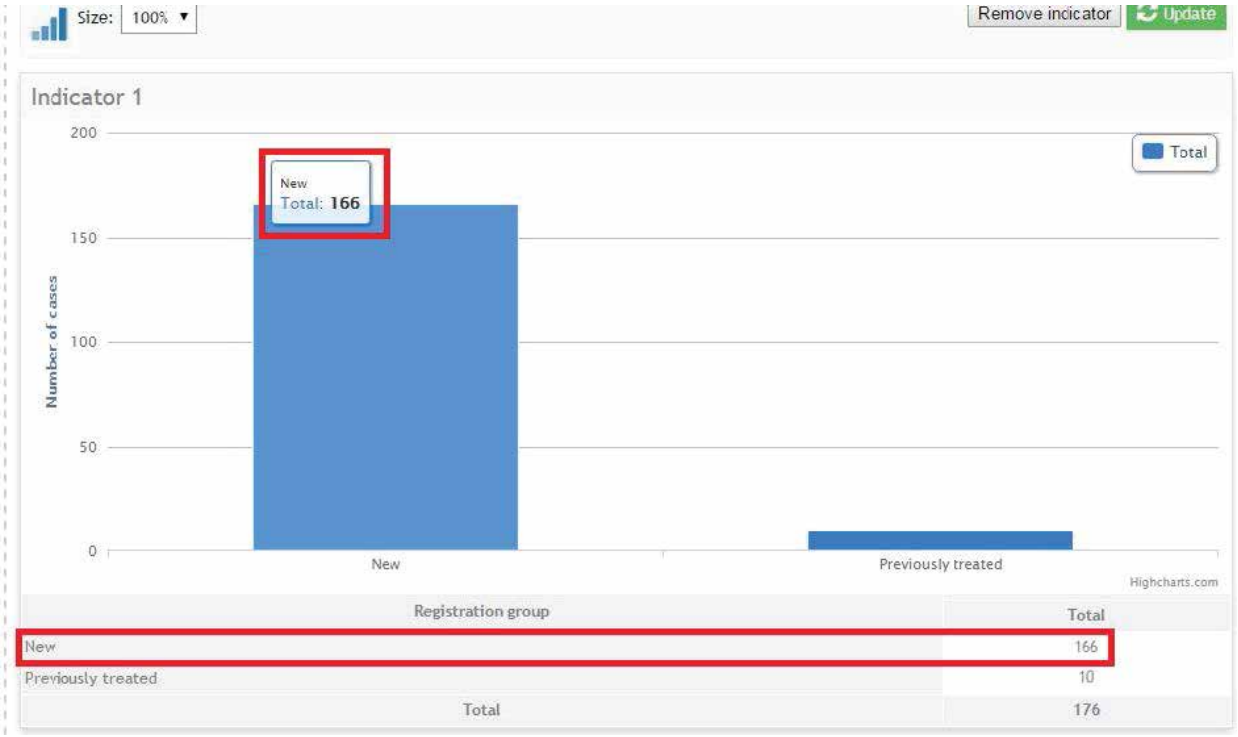


Figure 3.1

From figure 3.1

1. Go to e-TBM (etbmanagerbd.org)
2. Click on management module
3. Click on new report
4. Add filters and variables
5. Click update

Alternatively, from figure 3.2

Block 1: All Tb cases registered (excluding "Transfer in")

Age Groups	Pulmonary																						Extrapulmonary										Total		
	Bacteriologically Confirmed TB cases										Clinically Diagnosed										Clinically Diagnosed/Bacteriologically Confirmed TB cases												
	Treatment history unknown		New		Previously Treated						Treatment history unknown		New		Previously Treated						Treatment history unknown		New		Previously Treated								
					Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated				Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated				Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
=< 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
5 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	1	3	4
15 - 24	0	0	12	8	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	14	15	29
25 - 34	0	0	10	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0	16	8	24
35 - 44	0	0	16	4	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	20	6	26
45 - 54	0	0	5	5	3	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	15	10	25
55 - 64	0	0	11	3	2	1	0	1	0	0	0	0	0	0	3	2	1	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	20	11	31
=+ 65	0	0	14	5	0	0	1	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	28	8	36
Total	0	0	68	28	5	1	1	1	0	0	0	0	0	0	17	10	1	0	0	0	0	0	0	0	23	20	0	1	0	0	0	0	0	115	61	176

Figure 3.2

1. Go to e-TBM (etbmanagerbd.org)
2. Click on management module
3. Click on report TB 10
4. Then select division/district/upazila (sub-district) and period
5. Under Pulmonary, find the columns New under Bacteriologically Confirmed and Clinically Diagnosed and under Extrapulmonary, find the column New

Total new cases = 68 + 28 + 17 +10 +23 + 20 = 166

INDICATOR 4: PERCENTAGE OF NEW PULMONARY BACTERIOLOGICALLY CONFIRMED CASES AMONG ALL TB CASES

Percentage of new pulmonary bacteriologically confirmed cases among all TB cases	= Number of new pulmonary bacteriologically confirmed cases × 100 / Number of all TB cases

Usefulness

This indicator can determine whether sufficient emphasis is being put on detecting sputum-positive patients and whether smear-negative and extra-pulmonary cases are being over/under diagnosed. It is also possible to calculate the percentages of pulmonary clinically diagnosed TB cases and extrapulmonary cases as well as the percentage of P+ retreatment cases, pediatric TB rate, etc.

Example (How to Prepare It from e-TB Manager)

Badalgachi Upazila under Naogaon District

Number of new pulmonary bacteriologically confirmed cases for Badalgachi for the year 2015 is 96 (Source: e-TB Manager screen shot below)

Number of all TB cases for Badalgachi for 2015 is 176 (Source: e-TB Manager, screen shot below)

Percentage of new pulmonary bacteriologically confirmed cases among all TB cases for Badalgachi for 2015	= (96/176) × 100	= 54.54

Block 1: All Tb cases registered (excluding "Transfer in")

Age Groups	Pulmonary																						Extrapulmonary										Total		
	Bacteriologically Confirmed TB cases										Clinically Diagnosed												Clinically Diagnosed/Bacteriologically Confirmed TB cases												
	Treatment history unknown		New		Previously Treated						Treatment history unknown		New		Previously Treated								Treatment history unknown		New		Previously Treated								
					Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated				Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated						Relapse		Treatment after failure		Treatment after loss to follow-up		Other previously treated				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
=< 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
5 - 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	3	4
15 - 24	0	0	12	8	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	14	15	29
25 - 34	0	0	10	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	16	8	24
35 - 44	0	0	16	4	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	20	6	26
45 - 54	0	0	5	5	3	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	15	10	25
55 - 64	0	0	11	3	2	1	0	1	0	0	0	0	0	0	3	2	1	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	20	11	31
=+ 65	0	0	14	5	0	0	1	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	0	28	8	36
Total	0	0	68	28	5	1	1	1	0	0	0	0	0	0	17	10	1	0	0	0	0	0	0	0	23	20	0	1	0	0	0	0	0	0	115	61	176

Steps to Find/Prepare the Indicator in e-TB Manager

1. Go to e-TBM (etbmanagerbd.org)
2. Click on management module
3. Click on report TB 10
4. Then select division/district/upazila (sub-district) and period
5. Under Pulmonary, find the columns New under Bacteriologically Confirmed

INDICATOR 5: PERCENTAGE OF TB CASES PUT ON TREATMENT

Percentage of TB cases put on treatment	= Number of TB cases that began treatment during one quarter × 100 / Total number of TB cases detected during the same period

Usefulness

As soon as a diagnosis of smear-positive pulmonary TB is made, treatment should begin immediately. Patients defaulting before treatment should be avoided at all cost. When calculating this indicator, the supervisor will also check if all smear-positive patients in the lab register have also been registered in e- TB Manager.

Example (How to Prepare it from e-TB Manager)

Boalkhali Upazila under Chittagong District, quarter 1, 2013

Number of TB cases that began treatment during one quarter	= Total number of TB cases detected during the same period – number of TB cases that did not begin treatment during the same period

Total number of TB cases detected during the period = 56 (Source: e-TB Manager, Figure 5.1)

Number of TB cases that did not begin treatment during the same period = 3 (Source: e-TB Manager, Figure 5.2)

Percentage of TB cases put on treatment in Boalkhali, Q 1, 2013	= (53/56) × 100	= 94.64

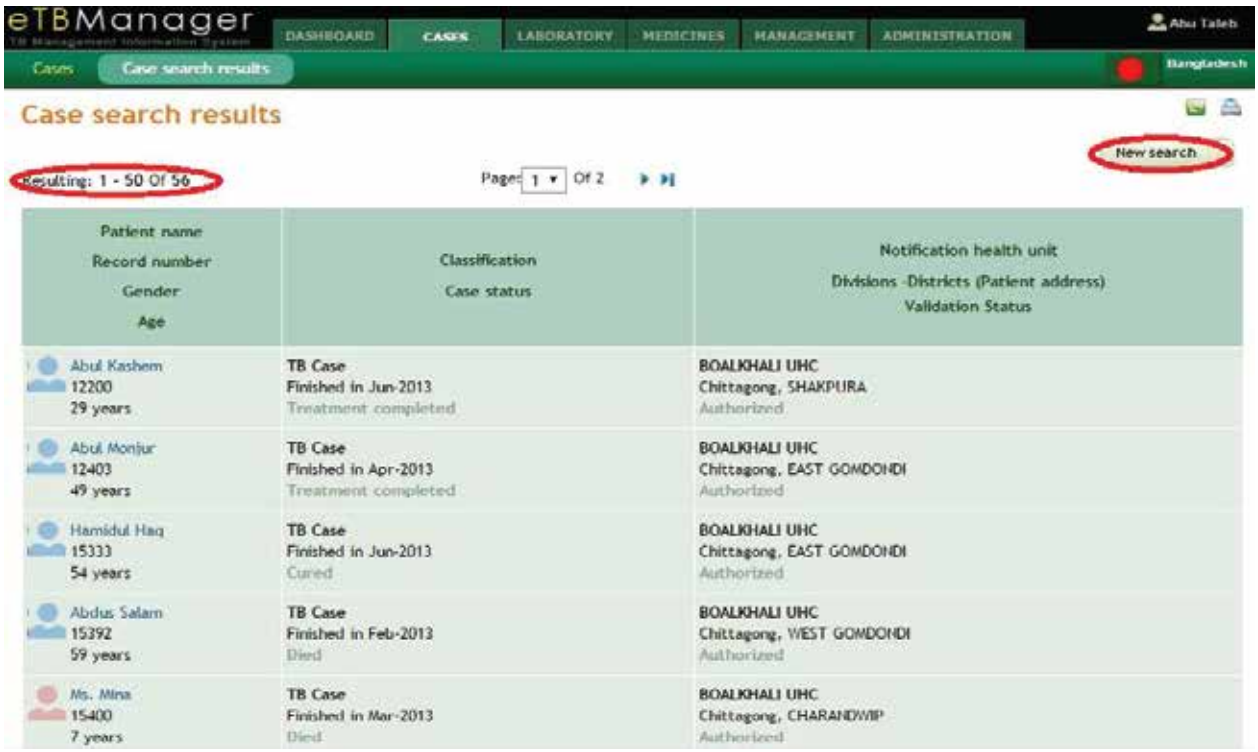


Figure 5.1

Figure 5.2

Steps to Find/Prepare the Indicator in e-TB Manager (for both figures)

1. Go to e-TBM (etbmanagerbd.org)
2. Click on case
3. Click on advance search

INDICATOR 6: FEMALE /MALE RATIO OF TB PATIENTS

Female/male ratio of TB patients	= Number of women among registered TB cases during a quarter or year / Number of men among registered TB cases during the same period

Usefulness

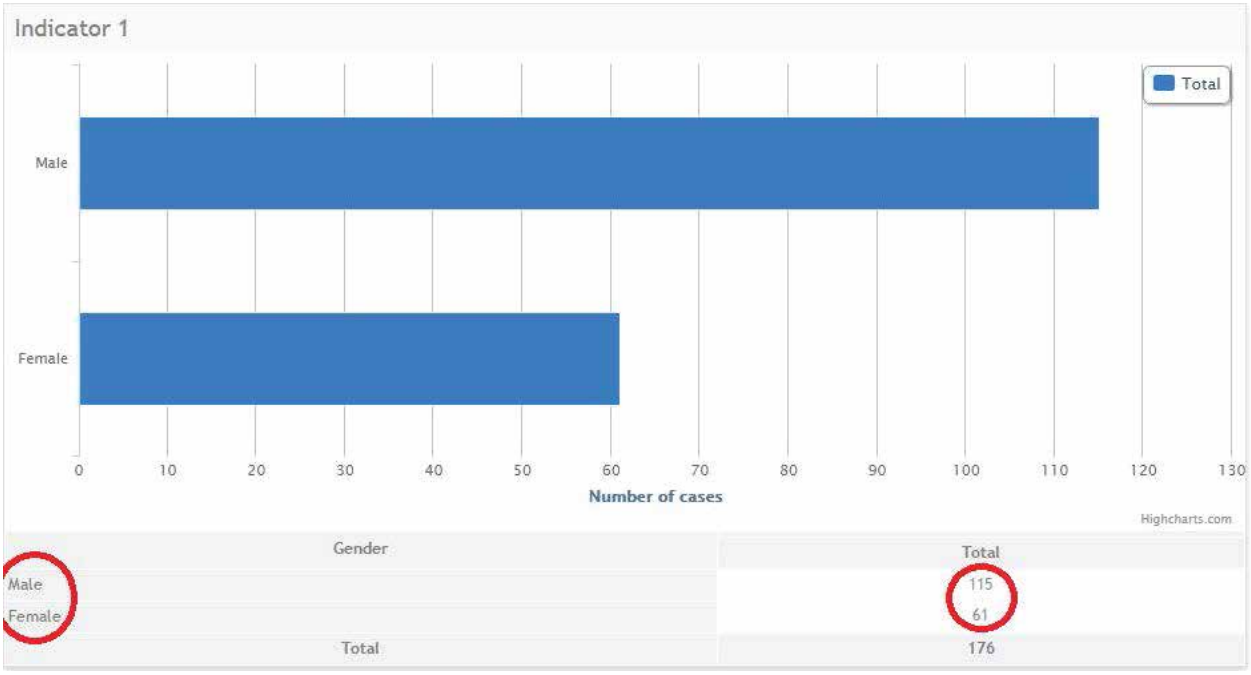
This indicator helps identify whether gender differences are due to operational or epidemiological factors.

Example (How to Prepare it from e-TB Manager)

Badalgachi Upazila under Naogaon District, 2015

Number of women among registered TB cases during one year = 61 (Source: e-TB Manager, screen shot below)

Number of men among registered TB cases during one year = 115 (Source: e-TB Manager, screen shot below)



Female: Male ratio = 61:115 (1:1.9)

Steps to Find/Prepare the Indicator in e-TB Manager

1. Go to e-TBM (etbmanagerbd.org)
2. Click on Management
3. Click on data analysis tool

INDICATOR 7: TREATMENT DELAY

Treatment delay (days)	= Diagnosis date – treatment start date

Usefulness

As soon as a diagnosis of TB is made, treatment should begin immediately. Otherwise, infection control will fail and the death rate will increase. Any delay in the start of treatment should be minimal.

Steps to Find/Prepare the Indicator in e-TB Manager

AC	AD	AE
Diagnosis date	Start treatment date	Difference (days)
16/08/2016	27/08/2016	11
20/03/2016	27/08/2016	160
27/08/2016	27/08/2016	0
27/08/2016	27/08/2016	0
24/08/2016	27/08/2016	3
22/08/2016	27/08/2016	5
23/08/2016	27/08/2016	4
24/08/2016	27/08/2016	3
27/08/2016	27/08/2016	0
22/08/2016	27/08/2016	5
18/08/2016	27/08/2016	9
25/08/2016	27/08/2016	2
14/08/2016	27/08/2016	13
28/08/2016	28/08/2016	0

1. Go to e-TBM (etbmanagerbd.org)
2. Click on Management module
3. Click on Export TB/DR TB case data in Excel
4. Sort/filter data as needed

INDICATOR 8: MODE OF CASE DETECTION

Percentage of cases detected through various methods

Usefulness

This indicator provides information regarding the:

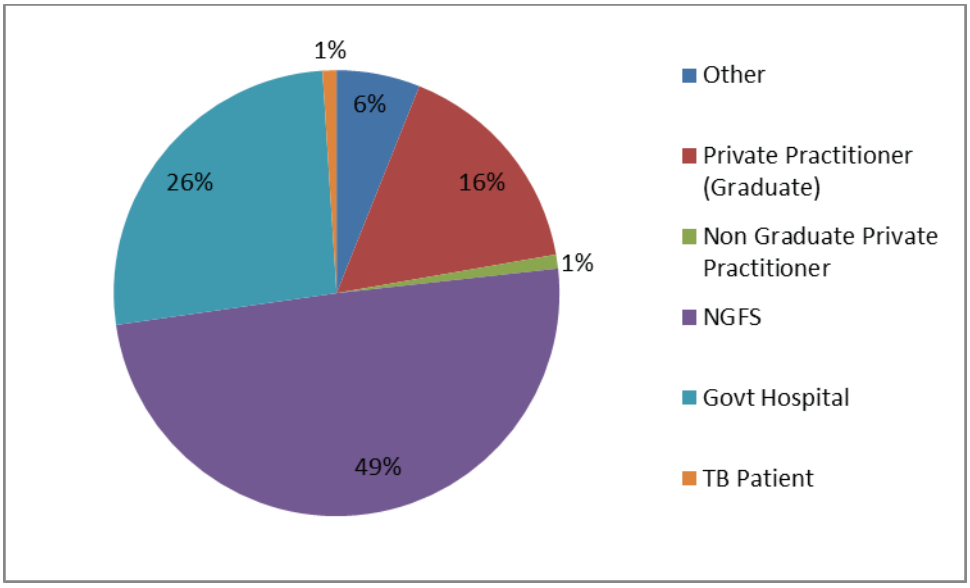
- Access of all care providers
- Efficiency of case finding
- Awareness of the population
- Integration of the program into the general health services and its sustainability
- Performance of the referral system; this is more useful when used in comparison to the previous two or more quarters

Steps to Find/Prepare the Indicator in e-TB Manager

Number of patients referred by various providers generated from TB 10

From the data in TB 10, the percentages of patients referred by various providers are as follows:

Private practitioner (graduate)	16%
Non-graduate private practitioner	1%
Nongovernment field staff (NGFS)	49%
Government hospital	26%
TB patient	1%
Other	6%



1. Go to e-TBM (etbmanagerbd.org)
2. Click on Management
3. Click on report TB 10

INDICATOR 9: SMEAR CONVERSION RATE

Percentage of smear conversion	= Number of new pulmonary bacteriologically confirmed cases registered during one quarter that are smear-negative after 2 months of initial phase treatment × 100 Total number of pulmonary bacteriologically confirmed cases registered during the same period

Percentage of smear conversion	= Number of retreated pulmonary bacteriologically confirmed cases registered during one quarter that are smear-negative after 3 months of initial phase treatment × 100 Total number of retreated pulmonary bacteriologically confirmed cases registered during the same period

Usefulness

If the percentage is high, it may be because the lab technician is unable to detect low grades of positivity. If the percentage is really very low, it may indicate a patient management problem or suggest the presence of drug resistance. Non-sputum converted patients must meet 9 criteria to be referred for GeneXpert testing. Thus, it can be determined if all GeneXpert-eligible patients under this category have been sent for testing. This indicator is also very useful for comparison to recent trends.

Example (How to Prepare It from e-TB Manager)

Badalgachi Upazila under Naogaon District, First Quarter, 2015

Quarterly Report on Sputum Conversion at 2/3 months of Pulmonary TB Patients Registered 3-6 Months Earlier - TB 12 v2015

Update

Pulmonary Bacteriologically Confirmed	Total No. of patients reported during the above quarter			Smear status after the intensive phase				Outcomes										Not evaluated		Grand Total		
				Smear Negative		Smear Positive		Died		Failed		Lost to follow up		Not evaluated		Other						
	M	F	T	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
New / Treatment History Unknown	34	20	54	27	18	7	1	0	0	0	0	0	1	0	0	0	0	0	0	34	20	54
Relapse	2	1	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
Treatment after failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Treatment after loss to follow-up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other previously treated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	36	21	57	28	19	8	1	0	0	0	0	0	1	0	0	0	0	0	0	36	21	57

Pulmonary Bacteriologically Confirmed	Total No. of patients reported during the above quarter			Smear status after the intensive phase				Outcomes										Not evaluated		Grand Total		
				Smear Negative		Smear Positive		Died		Failed		Lost to follow up		Not evaluated		Other						
	M	F	T	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
New / Treatment History Unknown	15	2	17	10	1	3	1	0	0	0	0	2	0	0	0	0	0	0	0	15	2	17
Relapse	4	0	4	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Treatment after failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Treatment after loss to follow-up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other previously treated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19	2	21	13	1	4	1	0	0	0	0	2	0	0	0	0	0	0	0	19	2	21

Percentage of sputum conversion for new pulmonary bacteriologically confirmed cases in Badalgachi upazila, Q1, 2015	= (11/17) × 100	= 64.70

Percentage of sputum conversion for retreated pulmonary bacteriologically confirmed cases in Badalgachi upazila, Q1, 2015	= (3/4) × 100	= 75

Steps to Find/Prepare the Indicator in e-TB Manager

1. Go to e-TBM (etbmanagerbd.org)
2. Click on Management
3. Click on report TB 12

Special notes: To generate an accurate report, first the user needs to remove case tags (pulmonary bacteriologically confirmed cases without microscopy result at the intensive phase), if any.

For instructions on how to remove case tags, see annex 1.

INDICATOR 10: TB TREATMENT OUTCOME RATE

Percentage of successful TB treatment outcomes for new pulmonary bacteriologically confirmed cases	= Number of new pulmonary bacteriologically confirmed cases registered in one quarter that achieve treatment outcome × 100 --- Number of pulmonary bacteriologically confirmed cases registered during the same quarter

Usefulness

This indicator is useful for assessing the quality of patient management. It is also closely linked to early case finding.

Together with case notification rate/detection rate, they are the most important global indicators of the overall quality of the TB programme.

Example (How to Prepare It from e-TB Manager)

Badalgachi Upazila under Naogaon District, First Quarter, 2015

Pulmonary Bacteriologically Confirmed	Total No. of patients reported during the above quarter			Outcomes														Other Status		Grand Total		
				Cured		Treatment completed		Died		Failed		Lost to follow up		Not evaluated		Other						
	M	F	T	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
New / Treatment History Unknown	15	2	17	12	2	0	0	1	0	0	0	2	0	0	0	0	0	0	0	15	2	17
Relapse	4	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Treatment after failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Treatment after loss to follow-up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other previously treated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	19	2	21	16	2	0	0	1	0	0	0	2	0	0	0	0	0	0	0	19	2	21

Percentage of successful TB treatment outcomes for new pulmonary bacteriologically confirmed cases	= (14/17) × 100	= 82.35

Percentage of default or loss to follow up	= (2/17) × 100	= 11.76

Percentage of deaths	= (1/17) × 100	= 5.88

Steps to Find/Prepare the Indicator in e-TB Manager

1. Go to e-TBM (etbmanagerbd.org)
2. Click on Management
3. Click on report TB 11
4. Select division/district/upazila/treatment unit/period and appropriate column

Special notes: To generate an accurate report, first the user needs to remove case tags (cases without outcomes by the end of treatment), if any.

For instructions on how to remove case tags, see annex 2.

INDICATOR 11: DATA ACCURACY

Percentage of reports that are accurate and complete	= Number of reports that are filled in accurately and completely × 100 Number of reports that have been checked for accuracy and completeness

Data source: cases presented in the manual report versus e-TB Manager generated report (also known as the ABCD report)

Site Performance Rating through ABCD Report (Difference between Manual and e-TB Manager-Generated TB10 Reports)

A rating = 0 to 5 cases
B rating = 6 to 24 cases
C rating = 25 to 49 cases
D rating = 50 or more cases

Reported Site: 249		Period Q4/2015
A	203	82%
B	15	6%
C	13	5%
D	18	7%
Total	249	100%

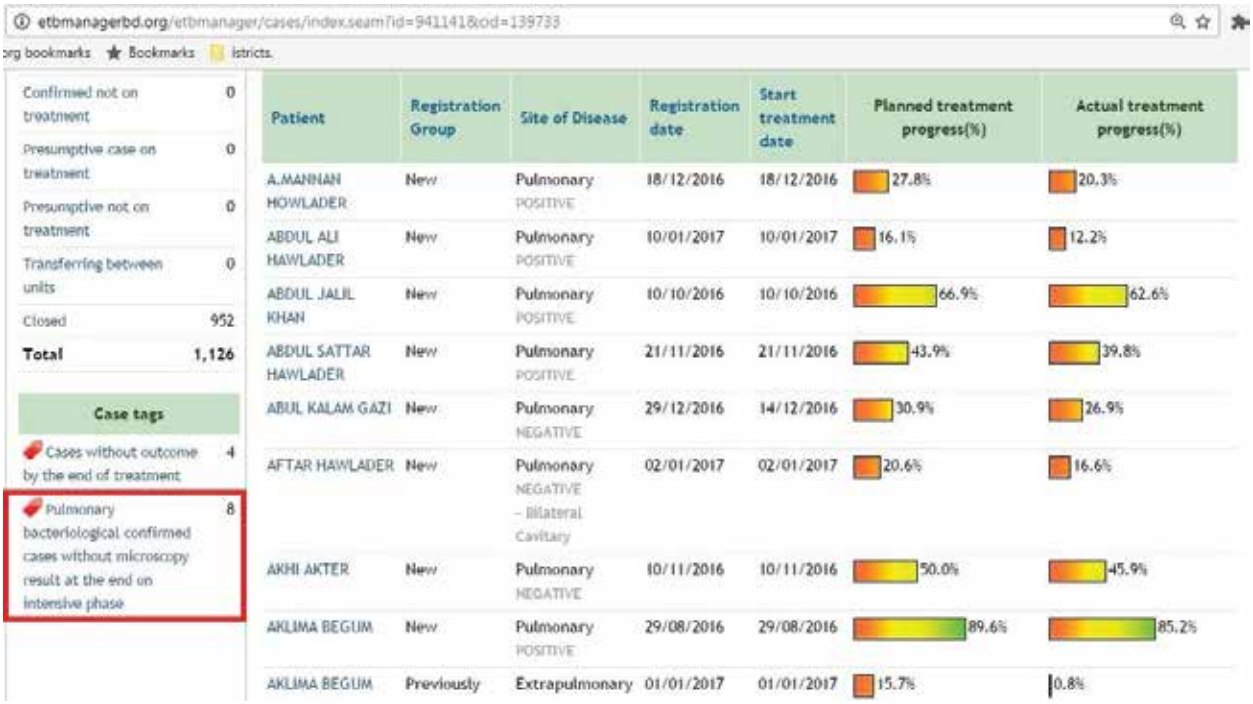
Usefulness

This indicator provides insight into the quality of data management and site performance.

ANNEX 1: SMEAR CONVERSION RATE (INDICATOR 9)

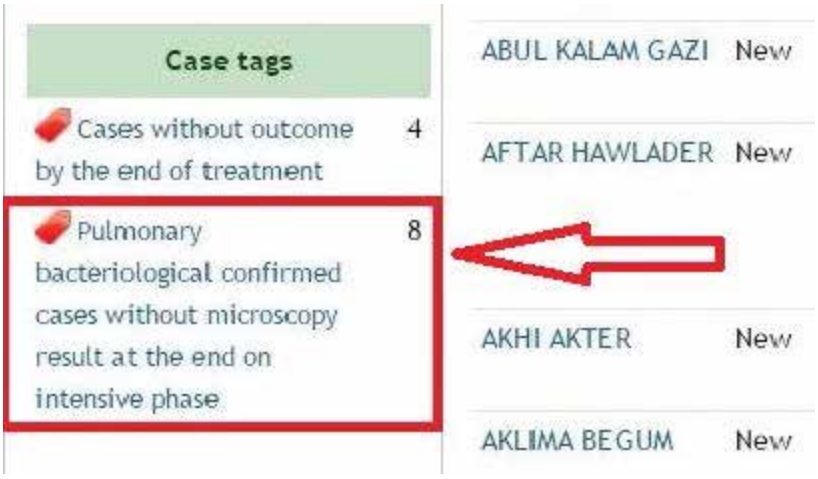
To ensure accurate reporting when using indicator 9, case tags must be removed.

Case tag: pulmonary bacteriological confirmed cases without microscopy result at the end of the intensive phase

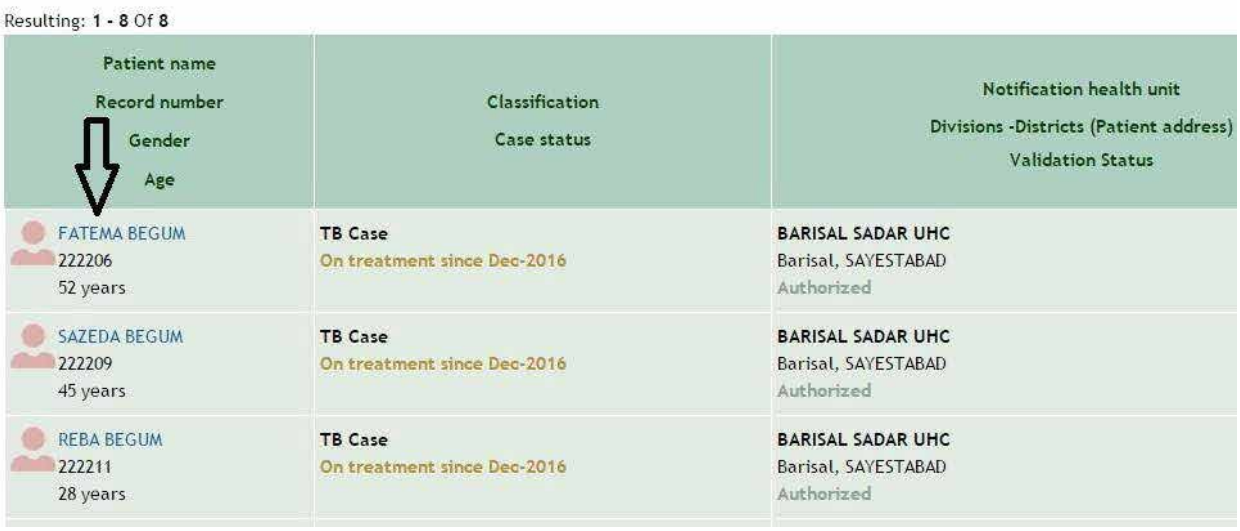


Screen shot of a case tag

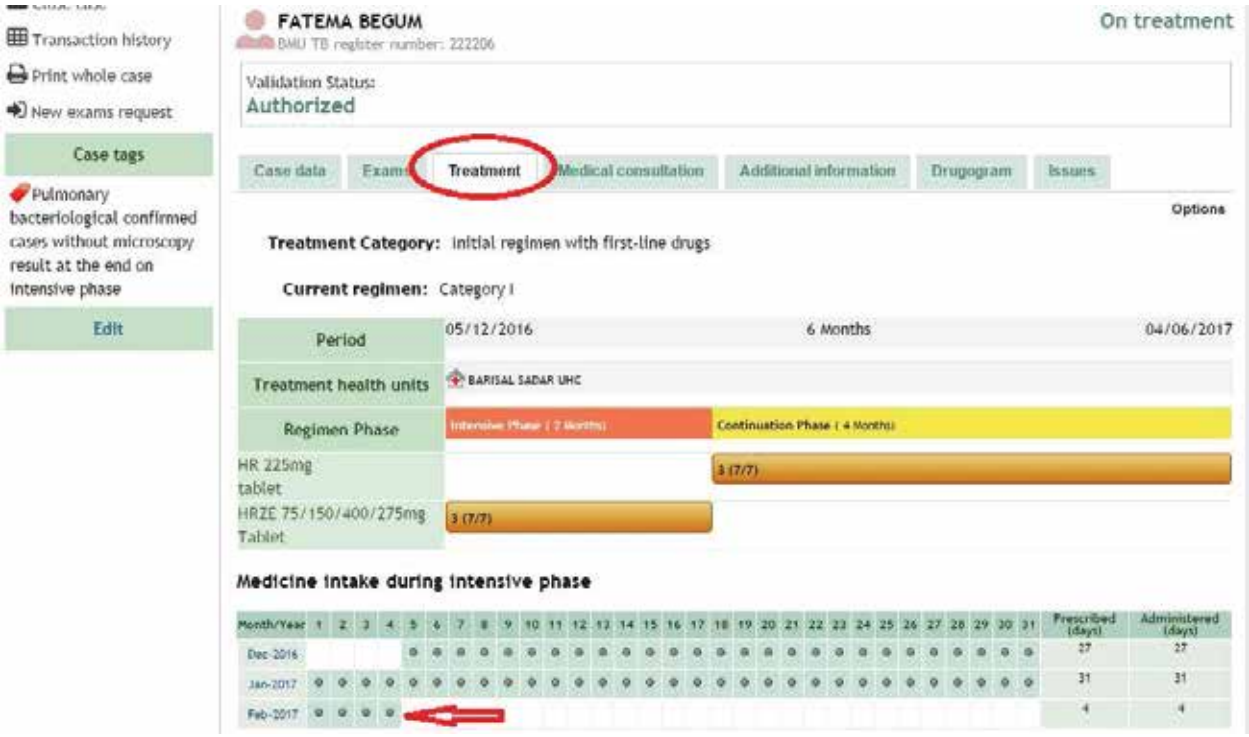
To remove the case tag, click on it.



The list of names will appear; click on a patient's name.



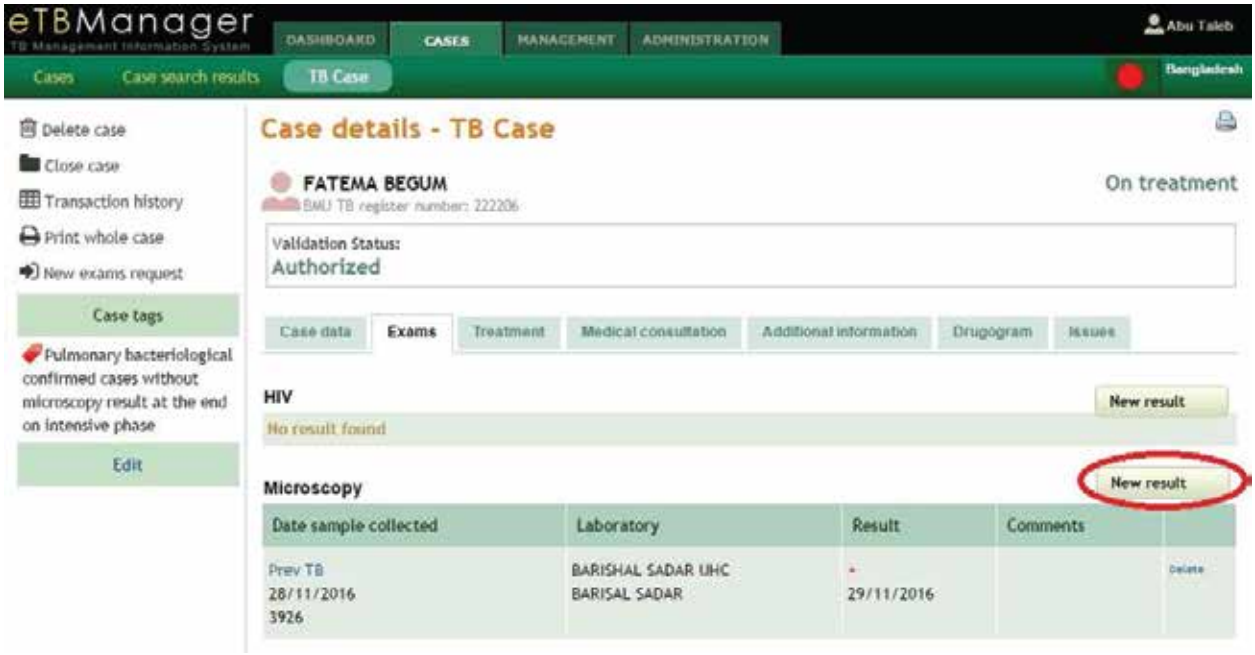
The individual patient's file will appear; click on Treatment to check the last date of the intensive phase. For this patient, the last day of the intensive phase was 4 February 2017.



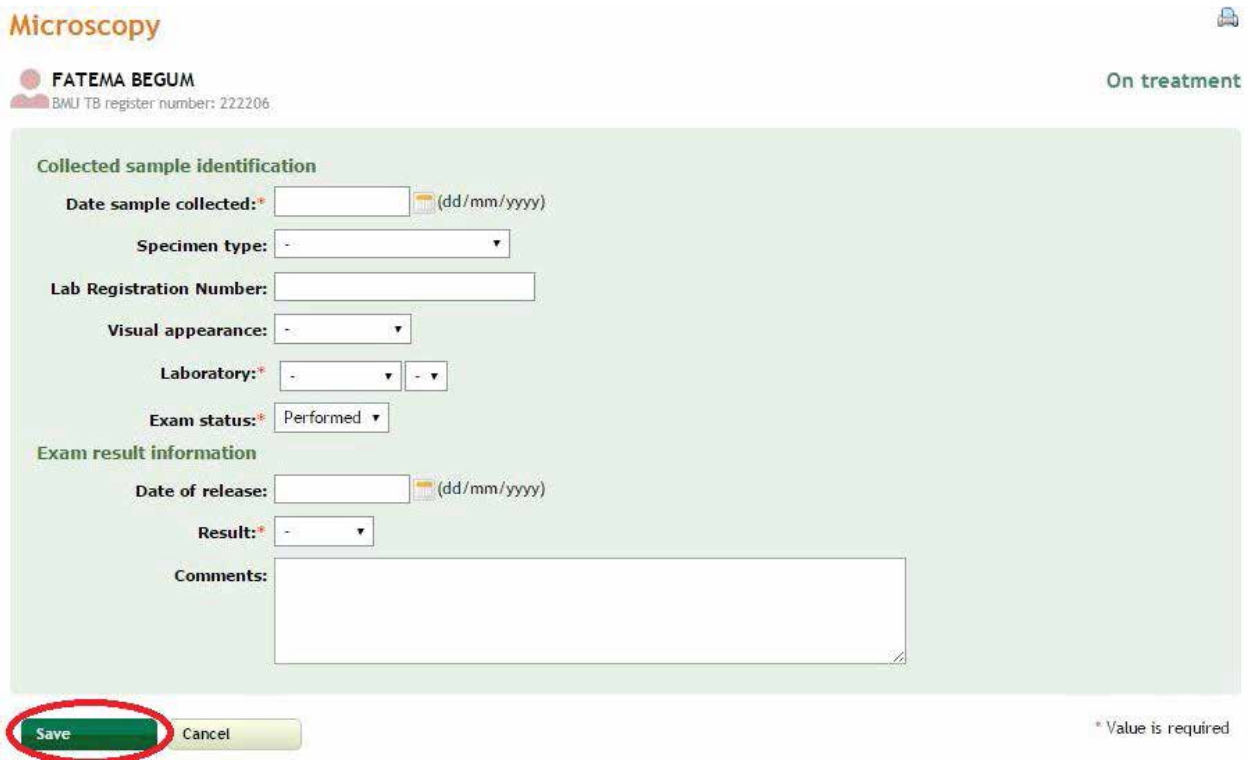
Click on Exams to check the microscopy result. For this patient, the last TB sputum was tested on 28 November 2016. No microscopy result was found on/after the last day of the intensive phase, which was 4 February 2017.

Now check the patient's treatment card, which lists the microscopy result. This result must be added to e-TB Manager.

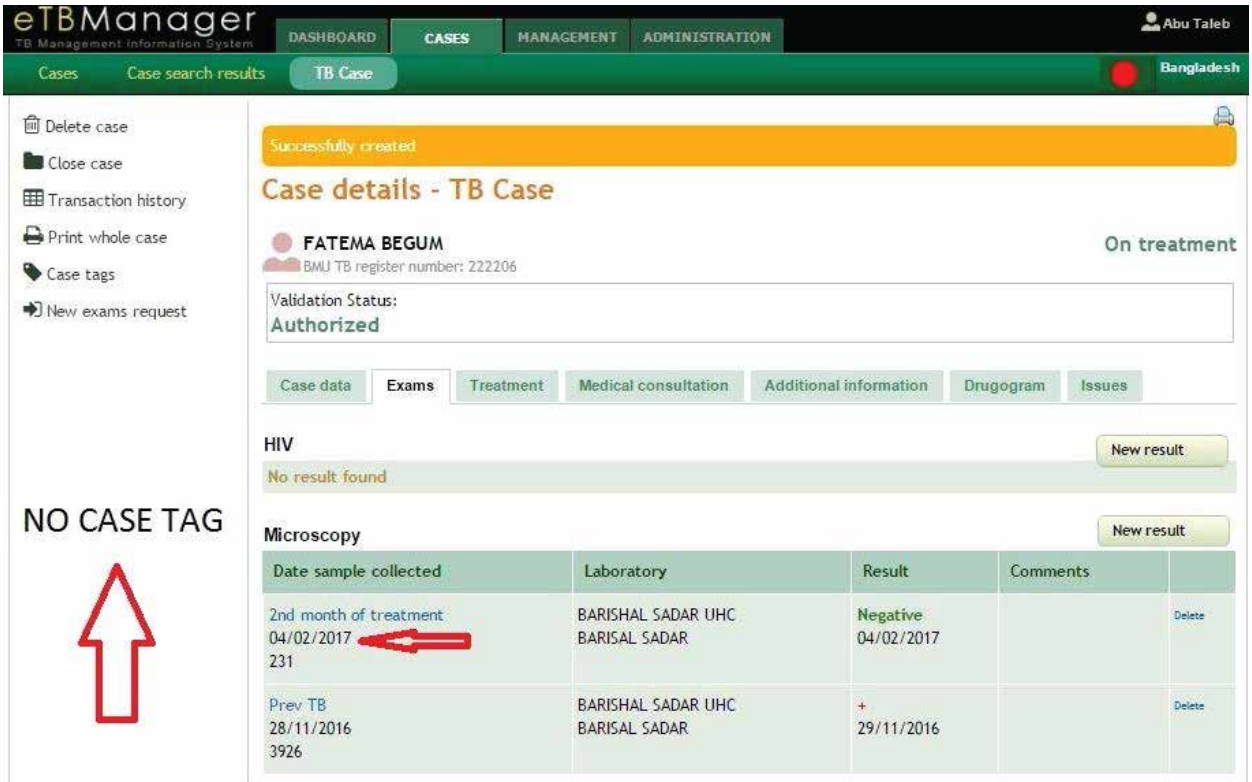
To add the microscopy result to e-TB Manager, click on New result.



This form will appear. Fill in correctly and click on Save.



The case tag for this patient has been removed.



Repeat for each patient in the list.

Once case tags have been removed for all patients in the list, indicator 9 (smear conversion rate) can be generated.

ANNEX 2: TB TREATMENT OUTCOME RATE (INDICATOR 10)

To ensure accurate report when using indicator 10, case tags must be removed.

Case tag: cases without outcome by the end of treatment

Screen shot of a case tag

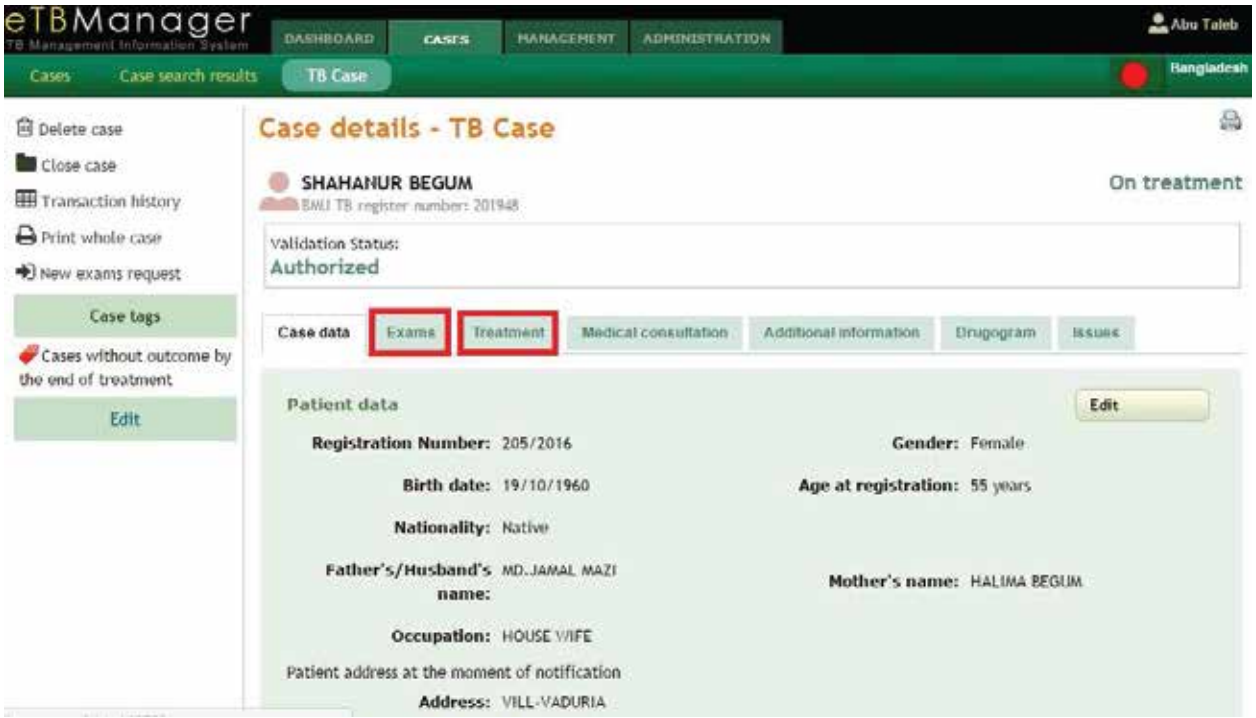
To remove a case tag, click on it.

The list of names will appear; click on a patient's name.

Resulting: **1** - **4** Of **4**

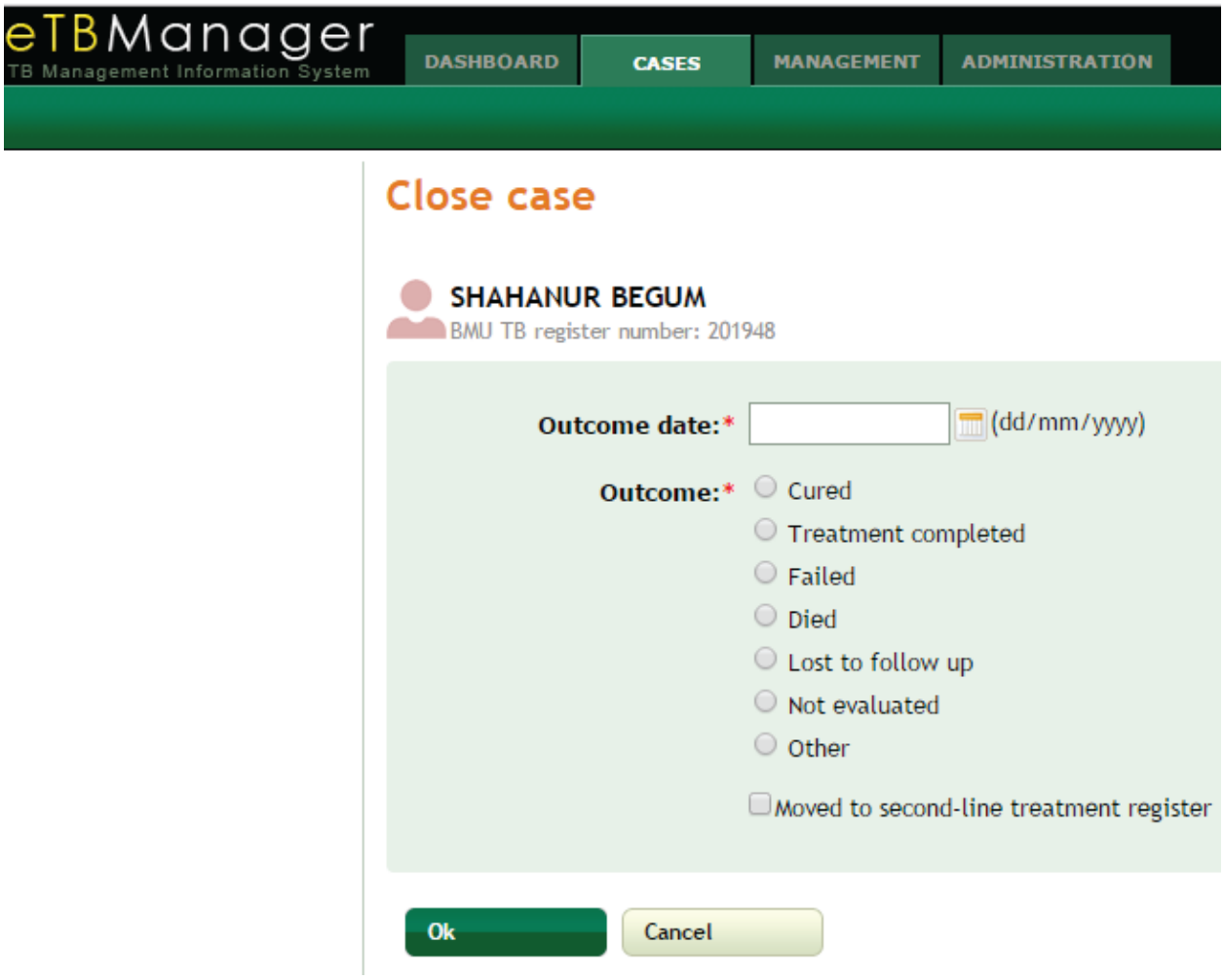
Patient name Record number Gender Age	Classification Case status	Notification health unit Divisions -Districts (Patient address) Validation Status
SHAHANUR BEGUM 201948 55 years	TB Case On treatment since Aug-2016	BARISAL SADAR UHC Barisal, CHANDRA MOHON Authorized
MONI BEGUM 202135 25 years	TB Case On treatment since Aug-2016	BARISAL SADAR UHC Barisal, CHAR KOWA Authorized
MD.MONSUR HOWLADER 202157 75 years	TB Case On treatment since Aug-2016	BARISAL SADAR UHC Barisal, CHAR MONAI Authorized
MD.SEKANDER HOWLADER 202177 50 years	TB Case On treatment since Aug-2016	BARISAL SADAR UHC Barisal, TUNGI BARIA Authorized

The individual patient's file will appear; click on Exams and Treatment to be sure that both sections are completely filled out.



Click on close case.

This form will appear. Fill in correctly and click Ok.



The case tag for this patient has been removed. Repeat for each patient in the list.

Once case tags have been removed for all patients in the list, indicator 10 (TB treatment outcome rate) can be generated.