



RESPIRATORY				
NO	INDICATOR	DIMENSION	STANDARD	SECONDARY DATA REPORTING FREQUENCY
1a	Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at the Pulmonology Outpatient Clinic (Two or more registration areas involved)	Timeliness	$\geq 80\%$	Monthly
1b	Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at the Pulmonology Outpatient Clinic (Only one registration area involved)	Timeliness	$\geq 90\%$	Monthly
2	Percentage of major complications during elective flexible diagnostic bronchoscopy	Safety	$\leq 1\%$	3 Monthly
3	Percentage of complicated Tuberculosis (TB) cases seen within (\leq) 2 weeks in Pulmonology/ TB clinic	Efficiency	$\geq 90\%$	3 Monthly

*For indicator 1, each department to report either 1a **OR** 1b, and not both. (Refer technical specification)



Indicator 1

*Either indicator 1a OR 1b is to be reported, based on how many registration counters are involved.

- **Two or more registration areas are involved:** If registration of patient is first done at hospital's main outpatient/ ACC complex registration counter with payment collection, following which the patient needs to re-register at the respective clinical department counter - Refer **Indicator 1a**.
- **Only one registration area is involved:** If registration of patient with payment collection is either done **ONLY** at clinical department counter **OR** it is done **ONLY** at hospital's main outpatient/ ACC complex registration counter with no further re-registration required at the clinical department counter - Refer **Indicator 1b**.

Discipline	:	Respiratory
Indicator 1a	:	Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at the Pulmonology Outpatient Clinic (Two or more registration areas involved)
Dimension of Quality	:	Timeliness
Rationale	:	<ol style="list-style-type: none"> 1. MOH aims for waiting time to see the doctor at outpatient services, to be less than 90 minutes, in line with patient-centred services. Waiting time is time <u>patient first registers in the hospital</u> till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004) 2. The waiting time is based on patient's experience from the time the patient first registers at the first counter in the hospital till seen by doctor. In view of many counters being involved in some hospitals/ departments, some clinical departments have opted for monitoring of registration from department counter, as any process prior to that appears out of the clinical department's control. Thus, due to involvement of 2 or more counters within the hospital, for monitoring of clinical services KPI, the target of waiting time is for less than 60 minutes within the department. This is applicable only if patient is being registered at another counter within the same hospital (e.g. at hospital's main outpatient/ ACC complex registration counter) prior to the clinical department counter. 3. For hospitals to eliminate or reduce waiting time, it is important to balance between the demand for appointments and the supply of appointments. One needs to identify opportunities for improvement by strengthening the policy of outpatient services in hospital, apply Queuing Theory and having contingency plans.
Definition of Terms	:	<p>Two or more registration areas involved: If registration of patient is first done <u>at hospital's main outpatient/ ACC complex registration counter with payment collection, following which the patient needs to re-register at the respective clinical department counter:</u></p> <p>Waiting time: Time of registration counter at department counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation.</p>
Criteria	:	<p>Inclusion:</p> <ol style="list-style-type: none"> 1. All outpatients of Pulmonology Outpatient Clinic. <p>Exclusion:</p> <ol style="list-style-type: none"> 1. Patients who come without an appointment ("walk-in" patients). 2. Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking or imaging).



		<p>Sampling: Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator. For example, in a case of 22 clinic days per month, 7 clinic days in a month need to be selected for data collection. Hospital/ department to ensure randomised sampling of data by ensuring each clinic day of the week is included to ensure proper representation of data.</p>									
Type of indicator	:	Rate-based process indicator									
Numerator	:	Number of sampled patients with waiting time of ≤ 60 minutes to see the doctor at the Pulmonology Outpatient Clinic									
Denominator	:	Total sample of patients seen by the doctor at the Pulmonology Outpatient Clinic									
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
Standard	:	≥ 80%									
Data Collection & Verification	:	<ol style="list-style-type: none"> Where: Data will be collected in the Pulmonology Outpatient Clinic. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. How to collect: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip. How frequent: Monthly data collection within department. Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. Who should verify: <table border="1" data-bbox="613 1075 1409 1247"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p>		Prepared by	Validated by	Primary Data	Officer/ Paramedic/ Nurse in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer/ Paramedic/ Nurse in-charge	Head of Department/ Specialist in-charge
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Remarks	:										

Discipline	:	Respiratory
Indicator 1b	:	Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at the Pulmonology Outpatient Clinic (Only one registration area involved)
Dimension of Quality	:	Timeliness
Rationale	:	<ol style="list-style-type: none"> MOH aims for waiting time to see the doctor at outpatient services, to be less than 90 minutes, in line with patient-centred services. Waiting time is time <u>patient first registers in the hospital</u> till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004) The waiting time is based on patient's experience from the time the patient first registers at the first counter in the hospital till seen by doctor. In view of many counters being involved in some hospitals/ departments, some clinical departments have opted for monitoring of registration from department counter, as any process prior to that appears out of the clinical department's



		<p>control. Thus, due to involvement of 2 or more counters within the hospital, for monitoring of clinical services KPI, the target of waiting time is for less than 60 minutes within the department. This is applicable only if patient is being registered at another counter within the same hospital (e.g. at hospital's main outpatient/ ACC complex registration counter) prior to the clinical department counter.</p> <p>3. For hospitals to eliminate or reduce waiting time, it is important to balance between the demand for appointments and the supply of appointments. One needs to identify opportunities for improvement by strengthening the policy of outpatient services in hospital, apply Queuing Theory and having contingency plans.</p>
Definition of Terms	:	<p><u>If registration of patient with payment collection is done ONLY AT CLINICAL DEPARTMENT COUNTER:</u> Waiting time: Time of registration counter at department counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation.</p> <p><u>If the registration is done ONLY AT HOSPITAL'S MAIN OUTPATIENT/ ACC COMPLEX REGISTRATION COUNTER, with no re-registration at the clinical department counter:</u> Waiting time: Time of registration counter at hospital's main outpatient/ ACC complex registration counter or time of appointment given to patient (whichever is later) till the time the patient is first seen by the doctor, which is beginning of a consultation.</p>
Criteria	:	<p>Inclusion:</p> <ol style="list-style-type: none"> All outpatients of the Pulmonology Outpatient Clinic. <p>Exclusion:</p> <ol style="list-style-type: none"> Patients who come without an appointment ("walk-in" patients). Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking or imaging). <p>Sampling: Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator. For example, in a case of 22 clinic days per month, 7 clinic days in a month need to be selected for data collection. Hospital/ department to ensure randomised sampling of data by ensuring each clinic day of the week is included to ensure proper representation of data.</p>
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of sampled patients with waiting time of ≤ 90 minutes to see the doctor at Pulmonology Outpatient Clinic
Denominator	:	Total sample of patients seen by the doctor at the Pulmonology Outpatient Clinic
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100 \%$
Standard	:	≥ 90%
Data Collection & Verification	:	<ol style="list-style-type: none"> Where: Data will be collected in the Pulmonology Outpatient Clinic. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.



		<p>3. How to collect: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.</p> <p>4. How frequent: Monthly data collection within department. Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital.</p> <p>5. Who should verify:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 30%;">Prepared by</th> <th style="width: 30%;">Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p>		Prepared by	Validated by	Primary Data	Officer/ Paramedic/ Nurse in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer/ Paramedic/ Nurse in-charge	Head of Department/ Specialist in-charge
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Discipline	:	Respiratory
Indicator 2	:	Percentage of major complications during elective flexible diagnostic bronchoscopy
Dimension of Quality	:	Safety
Rationale	:	<p>1. To ensure safety of patients undergoing elective diagnostic flexible bronchoscopy.</p> <p>2. With the recent advancement in pulmonology, the major complication associated with bronchoscopy is becoming less common and preventable.</p> <p>3. Based on European Respiratory Society, the rate of major complication (such as bleeding, respiratory depression and pneumothorax) associated with elective flexible diagnostic bronchoscopy is 1%. Mortality is rare with a reported death rate of 0 - 0.04% in a large number of procedures.</p> <p>4. To ensure the quality and safety of the procedure, the indicator is to measure rate of major complications associated with elective flexible diagnostic bronchoscopy within MOH hospitals that provides the services.</p>
Definition of Terms	:	<p>Major complications are defined as patients that had at least one of these outcomes:</p> <ul style="list-style-type: none"> • Resuscitative or surgical measures. • Unscheduled admission. • Termination of procedure (due to bleeding, respiratory depression or pneumothorax). • Death. <p>*Termination of procedure due to factors such as patient cannot tolerate or agitated is NOT considered here as it is not a complication.</p>
Criteria	:	<p>Inclusion:</p> <p>1. All patients undergoing elective diagnostic flexible bronchoscopy.</p> <p>Exclusion:</p> <p>1. Emergency/ semi-emergency flexible bronchoscopy. 2. Flexible bronchoscopy as part of advanced bronchoscopy such as rigid bronchoscopy/ cryobiopsy/ EBUS/ debulking.</p>



Type of indicator	:	Rate-based outcome indicator									
Numerator	:	Number of patients with major complications following elective diagnostic flexible bronchoscopy									
Denominator	:	Total number of patients underwent elective diagnostic flexible bronchoscopy									
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
Standard	:	$\leq 1\%$									
Data Collection & Verification	:	<ol style="list-style-type: none"> Where: Data will be collected in the Thoracic Endoscopic Suite. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. How to collect: Data is suggested to be collected from patient's case notes/ procedure book/ bronchoscopy suite registry. How frequent: Monthly data collection within department. Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. Who should verify: <table border="1" data-bbox="613 806 1409 978"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p> 		Prepared by	Validated by	Primary Data	Officer/ Paramedic/ Nurse in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer/ Paramedic/ Nurse in-charge	Head of Department/ Specialist in-charge
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Remarks	:	*This indicator is also being monitored as an Outcome Based Budgeting (OBB) indicator.									

Discipline	:	Respiratory
Indicator 3	:	Percentage of complicated Tuberculosis (TB) cases seen within (\leq) 2 weeks in Pulmonology/ TB clinic
Dimension of Quality	:	Efficiency
Rationale	:	<ol style="list-style-type: none"> Complex TB cases need input from specialist with experience in TB management to prevent further complications/ transmission. All complicated TB cases need to be seen by or discussed with specialist in Pulmonology/ TB Clinic.
Definition of Terms	:	<p>Complicated TB: It is defined as TB with complications such as adverse drug reactions, airway complication, persistent positive smear and drug resistance.</p> <p>2 weeks: 14 days (irrespective of working or non-working days).</p>
Criteria	:	<p>Inclusion:</p> <ol style="list-style-type: none"> All complicated TB cases that are referred to Pulmonology/ TB clinic. <p>Exclusion:</p> <ol style="list-style-type: none"> Patients who defaulted appointment.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of complicated TB cases seen in the Pulmonology/ TB clinic within (\leq) 2 weeks



Denominator	:	Total number of complicated TB cases referred to Pulmonology/ TB clinic									
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
Standard	:	≥ 90%									
Data Collection & Verification	:	<ol style="list-style-type: none"> Where: Data will be collected in the Pulmonology/ TB Clinic. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. How to collect: Data is suggested to be collected from patient's case notes/ appointment record book. How frequent: Monthly data collection within department. Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. Who should verify: <table border="1" data-bbox="613 701 1409 873"> <thead> <tr> <th></th> <th>Prepared by</th> <th>Validated by</th> </tr> </thead> <tbody> <tr> <td>Primary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer/ Paramedic/ Nurse in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </tbody> </table> <p>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</p> 		Prepared by	Validated by	Primary Data	Officer/ Paramedic/ Nurse in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer/ Paramedic/ Nurse in-charge	Head of Department/ Specialist in-charge
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Remarks	:	Data collection to be done by 1 month retrospective cohort of data. For April 2021, it will be new complicated TB patients of March 2021; to allow 2 weeks for these patients to be seen at Pulmonology/ TB Clinic.									

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