| INFECTIOUS DISEASE | | | | |
|---|---|---|---|---|
| **NO** | **INDICATOR** | **DIMENSION** | **STANDARD** | **SECONDARY DATA REPORTING FREQUENCY** |
| 1a | Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at Infectious Disease Outpatient Clinic **(Two or more registration areas involved)** | Timeliness | ≥ 80% | Monthly |
| 1b | Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at Infectious Disease Outpatient Clinic **(Only one registration area involved)** | Timeliness | ≥ 90% | Monthly |
| 2 | Percentage of HIV patients achieving undetectable HIV viral load within (≤) 6 months of commencement of anti-retroviral therapy | Effectiveness | ≥ 85% | 3 Monthly |
| 3 | Percentage of inpatients started on carbapenam* in the Infectious Disease discipline who have a documented review within (≤) 72 hours of initiation | Efficiency | ≥ 85% | 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** | **:** | **Infectious Disease** |
|---|---|---|
| **Indicator 1a** | **:** | **Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at Infectious Disease Outpatient Clinic (Two or more registration areas involved)** |
| **Dimension of Quality** | **:** | Timeliness |
| **Rationale** | : | 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 patient first registers in the hospital till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004)<br>2. The waiting time is based on patient's experience from the time patient first registers at the first counter in the hospital till seen by doctor. In view of many counters are 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.<br>3. For hospital 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 policy of outpatient service in hospital, applying Queuing Theory and having contingency plans. |
| **Definition of Terms** | : | **Two or more registration areas 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:<br>**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. |
| **Criteria** | : | **Inclusion**:<br>1. All outpatients of Infectious Disease Outpatient Clinic.<br><br>**Exclusion**:<br>1. Patients who come without an appointment ("walk-in" patients).<br>2. Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking and imaging). |

<table>
<tr><td></td><td></td><td>Sampling:<br>Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator.<br>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.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based process indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of sampled patients with waiting time of ≤ 60 minutes to see the doctor at Infectious Disease Clinic</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total sample of patients seen by the doctor at the Infectious Disease Outpatient Clinic</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %<br>Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 80%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in Infectious Disease Clinic.<br>2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.<br>3. How to collect Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.<br>4. How frequent: Monthly data collection within department.<br>Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring.<br>PVF to be sent 6 monthly to Quality Unit of hospital.<br>5. Who should verify:
<table>
<tr><td></td><td>Prepared by</td><td>Validated by</td></tr>
<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>
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PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</td></tr>
<tr><td>Remarks</td><td>:</td><td></td></tr>
</table>

| **Discipline** | **:** | **Infectious Disease** |
|---|---|---|
| **Indicator 1b** | : | **Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at Infectious Disease Outpatient Clinic (Only one registration area involved)** |
| **Dimension of Quality** | : | Timeliness |
| **Rationale** | : | 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 patient first registers in the hospital till the time patient is seen by doctor. (Reference: Director-General of Health Malaysia Circular No. 6/2004)<br>2. The waiting time is based on patient's experience from the time patient first registers at the first counter in the hospital till seen by doctor. In view of many counters are 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.<br>3. For hospital 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 policy of outpatient service in hospital, applying Queuing Theory and having contingency plans. |
| **Definition of Terms** | : | <u>If registration of patient with payment collection is done ONLY AT CLINICAL DEPARTMENT COUNTER:</u><br>**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.<br><br><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><br>**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. |
| **Criteria** | : | **Inclusion**:<br>1. All outpatients of Infectious Disease Outpatient Clinic.<br><br>**Exclusion**:<br>1. Patients who come without an appointment ("walk-in" patients).<br>2. Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking and imaging).<br><br>**Sampling**:<br>Using an average of total patients seen in a month, 30% of the patients in each month need to be sampled for this indicator.<br>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. |
| **Type of indicator** | : | Rate-based process indicator |
| **Numerator** | : | Number of sampled patients with waiting time of ≤ 90 minutes to see the doctor at Infectious Disease Clinic |
| **Denominator** | : | Total sample of patients seen by the doctor at the Infectious Disease Outpatient Clinic |
| **Formula** | : | <u>Numerator</u> x 100 %<br>Denominator |
| **Standard** | : | ≥ 90% |
| **Data Collection &** | : | 1. **Where**: Data will be collected in Infectious Disease Outpatient Clinic. |

<table>
<tr><td>Verification</td><td></td><td>2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.<br>3. How to collect: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.<br>4. How frequent: Monthly data collection within department.<br>Validated summarised secondary data to be sent monthly to Quality Unit of the respective hospital for monitoring.<br>PVF to be sent 6 monthly to Quality Unit of hospital.<br>5. Who should verify:
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</table>

| **Discipline** | **:** | **Infectious Disease** |
|---|---|---|
| **Indicator 2** | : | **Percentage of HIV patients achieving undetectable HIV viral load within (≤) 6 months of commencement of anti-retroviral therapy** |
| **Dimension of Quality** | : | Effectiveness |
| **Rationale** | : | 1. Important to achieve treatment target i.e. undetectable viral loads to ensure optimal treatment outcome.<br>2. The viral load is suggested to be taken between 4 to 6 months after commencement of anti-retroviral therapy. In most hospitals/ institutions of MOH, results will be available within 1 month from the date sample was taken. Thus, it is also important to review the results as soon as possible to ensure proper monitoring of treatment and for intervention/ change of management if deemed necessary. |
| **Definition of Terms** | : | **Undetectable HIV viral loads**: Viral loads < 200 copies/ml. This is based on the date blood sample was taken; and not the date result was traced or the date patient was seen by doctor. |
| **Criteria** | : | **Inclusion**:<br>1. HIV patients who have been started on HIV treatment for the first time (treatment naïve).<br><br>**Exclusion**:<br>1. HIV patients who have defaulted/ died or have been transferred out. |
| **Type of indicator** | : | Rate-based outcome indicator |
| **Numerator** | : | Number of HIV patients who have achieved undetectable HIV viral load within (≤) 6 months of commencement of anti-retroviral therapy |
| **Denominator** | : | Total number of HIV patients who have completed 6 months of anti-retroviral treatment |
| **Formula** | : | $\frac{\text{Numerator}}{\text{Denominator}} \times 100\ \%$ |
| **Standard** | : | ≥ 85% |

<table>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in Infectious Disease Clinic.<br>2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.<br>3. How to collect: Data is suggested to be collected from patient's case note/ laboratory results/ database of HIV patients.<br>4. How frequent: 3 monthly data collection within department.<br>Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring.<br>PVF to be sent 6 monthly to Quality Unit of hospital.<br>5. Who should verify:
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<tr><td>Primary Data</td><td>Officer/ Paramedic/ Nurse in-charge</td><td>Supervisor of the person who prepared the data</td></tr>
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<tr><td>Remarks</td><td>:</td><td>Data collection to be done by 9 months retrospective cohort of data. For January 2021, it will be HIV patients who were started on anti-retroviral in April 2020. This is to allow the 6 months period to evaluate the effectiveness of anti-retroviral treatment and also time for viral load result to be available.
<table>
<tr><th>Performance Data</th><th>Date patient was initiated on anti-retroviral therapy</th></tr>
<tr><td>January-March 2021</td><td>April to June 2020</td></tr>
<tr><td>April-June 2021</td><td>July to September 2020</td></tr>
<tr><td>July-September 2021</td><td>October to December 2020</td></tr>
<tr><td>October-December 2021</td><td>January to March 2021</td></tr>
</table></td></tr>
</table>

| **Discipline** | : | **Infectious Disease** |
|---|---|---|
| **Indicator 3** | : | **Percentage of inpatients started on carbapenam* in the Infectious Disease discipline who have a documented review within (≤) 72 hours of initiation** |
| **Dimension of Quality** | : | Efficiency |
| **Rationale** | : | 1. There is increasing number of Multiresistant Organisms (MROs)/ Carbapenam Resistant Enterobacteriaceae (MRE) in the country.<br>2. The 72 hours review is a part of important component of Antimicrobial Stewardship (AMS) Program. |
| **Definition of Terms** | : | **Documented review**: Documented evidence that patients started on carbapenam in the Infectious Disease (ID) discipline are reviewed for continuation, cessation or de-escalation within (≤) 72 hours of initiation. This review does not need to be part of ID physician grand rounds.<br>This review can be done by:<br>• ID specialist or<br>• Trainee specialist or designated medical officer or designated member of Antimicrobial Stewardship (AMS) team in the hospital but they all need to have documentation of discussion with the name of ID specialist stated.<br>If reviews are done only during the ID physician rounds, suggestion is for rounds to |

<table>
<tr><td></td><td></td><td>be done minimum 3 times per week (e.g. Monday, Wednesday and Friday) to be able to cater reviews within 72 hours.</td></tr>
<tr><td>Criteria</td><td>:</td><td>Inclusion:<br>1. All patients on carbapenam admitted to general medical wards.<br>2. All patients on carbapenam admitted to other wards in the hospital and were referred to ID team.<br><br>Exclusion:<br>1. Patients died or transferred out of the hospital before 72 hours of initiation of carbapenam.<br>2. Patients for whom carbapenam has been stopped by the primary team before 72 hours of initiation.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based process indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of patients started on carbapenam under ID discipline who have a documented review within (≤) 72 hours of initiation</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total number of patients started on carbapenam under ID discipline</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %<br>Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 85%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in all general medical wards and wards where those patients were referred to ID.<br>2. Who: Data will be collected by Officer/ Paramedic/ Nurse/ Pharmacist in-charge of the department/ unit.<br>3. How to collect: Data is suggested to be collected from patient's case note/ pharmacy records.<br>4. How frequent: 3 monthly data collection within department.<br>Validated summarised secondary data to be sent 3 monthly to Quality Unit of the respective hospital for monitoring.<br>PVF to be sent 6 monthly to Quality Unit of hospital.<br>5. Who should verify:
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PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</td></tr>
<tr><td>Remarks</td><td>:</td><td>*The choice of antibiotic may vary depending on the antibiotic use and resistance data of the hospital.</td></tr>
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