



CARDIOLOGY				
NO	INDICATOR	DIMENSION	STANDARD	SECONDARY DATA REPORTING FREQUENCY
1a	Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at the Cardiology 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 Cardiology Outpatient Clinic (Only one registration area involved)	Timeliness	$\geq 90\%$	Monthly
2	Heart Failure Case Fatality Rate (Within hospital)	Effectiveness	$\leq 8\%$	3 Monthly
3	Readmission within (\leq) 1 month for Heart Failure	Effectiveness	$\leq 20\%$	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	: Cardiology
Indicator 1a	: Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at the Cardiology 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 (i.e. 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><u>Two or more registration areas involved:</u> If registration of patient is first done at <u>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 Cardiology 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 Cardiology Outpatient Clinic									
Denominator	:	Total sample of patients seen by the doctor at the Cardiology 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 Cardiology 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 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="604 1041 1399 1213"> <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	:	Cardiology
Indicator 1b	:	Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at the Cardiology 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 control. Thus, due to involvement of 2 or more counters within the hospital,



		<p>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 (i.e. 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 Cardiology 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 the Cardiology Outpatient Clinic
Denominator	:	Total sample of patients seen by the doctor at the Cardiology 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 Cardiology 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/



	<p>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"> <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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Discipline	:	Cardiology
Indicator 2	:	Heart Failure Case Fatality Rate (Within hospital)
Dimension of Quality	:	Effectiveness
Rationale	:	<p>1. Heart Failure is a main cause of mortality in heart disease.</p> <p>2. Mortality rate is a main KPI of quality of care.</p> <p>Reference: Clinical Practice Guidelines: Management of Heart Failure 2019 4th Edition; Malaysian Heart Failure Registry (MyHF).</p>
Definition of Terms	:	<p>Heart Failure: A clinical syndrome due to any structural or physiological abnormality of the heart resulting in its inability to meet the metabolic demands of the body or its ability to do so only at higher than normal filling pressures.</p> <p>Within hospital: The period of index hospitalization from admission to death.</p> <p>Death due to Heart Failure: It includes all mortality related to Heart Failure.</p>
Criteria	:	<p>Inclusion:</p> <p>1. All patients admitted for Heart Failure.</p> <p>Exclusion:</p> <p>1. Severe pulmonary disease or pulmonary arterial hypertension.</p>
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of death due to Heart Failure
Denominator	:	Total number of patients admitted with Heart Failure
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 8 %
Data Collection & Verification	:	<p>1. Where: Data will be collected in the Medical and/ or Cardiology Ward/ CCU/ CRW.</p> <p>2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.</p> <p>3. How to collect: Data is suggested to be collected from admission & discharge record book/ patient's case notes.</p>



	<p>4. 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.</p> <p>5. Who should verify:</p> <table border="1"> <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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Discipline	:	Cardiology
Indicator 3	:	Readmission within (\leq) 1 month for Heart Failure
Dimension of Quality	:	Effectiveness
Rationale	:	<p>1. Heart Failure is a main cause of morbidity in heart disease.</p> <p>2. Readmission rate is a main KPI of morbidity.</p> <p>Reference: Clinical Practice Guidelines: Management of Heart Failure 2019 4th Edition; Malaysian Heart Failure Registry (MyHF).</p>
Definition of Terms	:	<p>Heart Failure: A clinical syndrome due to any structural or physiological abnormality of the heart resulting in its inability to meet the metabolic demands of the body or its ability to do so only at higher than normal filling pressures.</p> <p>Readmission: Admission of a patient that was previously <u>managed and discharge from the same facility</u>. Readmission for other diagnosis that is not directly related to Heart Failure is not included in this indicator.</p>
Criteria	:	<p>Inclusion:</p> <p>1. All Heart Failure admission.</p> <p>Exclusion:</p> <p>1. Severe pulmonary disease or pulmonary arterial hypertension.</p> <p>2. Readmission of patients for Heart Failure within 1 month that were managed and discharged from another facility for the initial Heart Failure admission.</p> <p>3. Readmission due to other causes that is not directly related to cardiovascular system (e.g. Uncontrolled DM, infection related).</p> <p>4. Readmission due to hospital acquired infection from previous admission (e.g. Thrombophlebitis/ Urinary Tract Infection).</p>
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of patient readmitted for within (\leq) 1 month of initial Heart Failure admission
Denominator	:	Total number of patients admitted with Heart Failure
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	$\leq 20\%$



<p>Data Collection & Verification</p>	<p>:</p>	<ol style="list-style-type: none"> 1. Where: Data will be collected in the Medical and/ or Cardiology ward/ CCU/ CRW. 2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. 3. How to collect: For numerator, data is suggested to be collected on the day of readmission. For denominator, data is from admission & discharge record book/ Hospital Information System (HIS). 4. 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. 5. Who should verify: <table border="1" data-bbox="613 632 1409 806"> <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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