PAEDIATRIC 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 Paediatric Cardiology 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 the Paediatric Cardiology Outpatient Clinic **(Only one registration area involved)**	Timeliness	≥ 90%	Monthly
2	Major complication associated with elective Patent Ductus Arteriosus (PDA) occlusion	Safety	≤ 2.5%	3 Monthly
3	Percentage of paediatric cardiology patients with unplanned readmission to Paediatric Ward within (≤) 48 hours of discharge	Effectiveness	≤ 1%	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	:	**Paediatric Cardiology**
Indicator 1a	:	**Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at the Paediatric Cardiology 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) 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	:	**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: **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**: 1. All outpatients of Paediatric Cardiology Outpatient Clinic. **Exclusion**: 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).

		3. Patients who state their preference to see only a specific doctor at the clinic. **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.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of sampled patients with waiting time of ≤ 60 minutes to see the doctor at the Paediatric Cardiology Outpatient Clinic
Denominator	:	Total sample of patients seen by the doctor at the Paediatric Cardiology Outpatient Clinic
Formula	:	Numerator x 100 % Denominator
Standard	:	≥ 80%
Data Collection & Verification	:	1. **Where**: Data will be collected in the Paediatric Cardiology Outpatient Clinic 2. **Who**: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit. 3. **How to collect**: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip. 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. 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></table>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.
Remarks	:	

Discipline	:	**Paediatrics Cardiology**
Indicator 1b	:	**Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at the Paediatric Cardiology 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) 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	:	<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. <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.
Criteria	:	**Inclusion**: 1. All outpatients of the Paediatric Cardiology Outpatient Clinic. **Exclusion**: 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). 3. Patients who state their preference to see only a specific doctor at the clinic. **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.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of sampled patients with waiting time of ≤ 90 minutes to see the doctor at Paediatric Cardiology Outpatient Clinic
Denominator	:	Total sample of patients seen by the doctor at the Paediatric Cardiology Outpatient Clinic
Formula	:	<u>Numerator</u> x 100 %

<table>
<tr><td></td><td></td><td>Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 90%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in the Paediatric Cardiology Outpatient Clinic.
2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.
3. How to collect: Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.
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.
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></table>PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.</td></tr>
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</table>

Discipline	:	**Paediatric Cardiology**
Indicator 2	:	**Major complication associated with elective Patent Ductus Arteriosus (PDA) occlusion**
Dimension of Quality	:	Safety
Rationale	:	1. With the recent advancement in Paediatric Cardiology, the major complication associated with PDA occlusion is becoming less common and preventable. 2. The rate of major complication associated with PDA occlusion is quoted to be around 2.3%. 3. To ensure the quality and safety of the procedure, the indicator is to measure rate of major complications associated with PDA occlusion within MOH hospitals that provides the services. Reference: Pass RH et al, Multicenter USA Amplatzer patent ductus arteriosus occlusion device trial, J Am Coll Cardiol 2004.
Definition of Terms	:	**Major complication associated with PDA occlusion**: • Death directly related to procedure. • Device embolization requiring catheter retrieval or surgical intervention. • Confirmed vascular thrombosis requiring thrombolytic therapy (alteplase/ streptokinase) or surgical intervention. • Pericardial effusion requiring pericardiocentesis.
Criteria	:	**Inclusion:** 1. Isolated PDA. **Exclusion:**

<table>
<tr><td></td><td></td><td>1. All emergency cases.
2. Complex PDA.
3. PDA in a premature infant of gestation less than 37 weeks.
4. Infants with weight less than 6kg.</td></tr>
<tr><td>Type of indicator</td><td>:</td><td>Rate-based outcome indicator</td></tr>
<tr><td>Numerator</td><td>:</td><td>Number of major complications associated with PDA occlusion</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total number of PDA occlusion</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100 %
Denominator</td></tr>
<tr><td>Standard</td><td>:</td><td>≤ 2.5%</td></tr>
<tr><td>Data Collection & Verification</td><td>:</td><td>1. Where: Data will be collected in the Paediatric Cardiology Outpatient Clinic.
2. Who: Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.
3. How to collect: Data is suggested to be collected from patient's case notes/ PDA occlusion record book.
4. How frequent: 3 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>
<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>
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<table>
<tr><td>Discipline</td><td>:</td><td>Paediatric Cardiology</td></tr>
<tr><td>Indicator 3</td><td>:</td><td>Percentage of paediatric cardiology patients with unplanned readmission to Paediatric Ward within (≤) 48 hours of discharge</td></tr>
<tr><td>Dimension of Quality</td><td>:</td><td>Effectiveness</td></tr>
<tr><td>Rationale</td><td>:</td><td>Unplanned readmission is often considered to be the result of suboptimal care in the previous admission leading to readmission.</td></tr>
<tr><td>Definition of Terms</td><td>:</td><td>Unplanned readmission: It includes the criteria below:
• Patient being readmitted for the management of the same clinical condition (main diagnosis) he or she was discharged.
• Readmission was not scheduled.
• Readmission to the same hospital.
• This does not include readmission requested by next-of-kin or other department.
• This does not include patients were readmitted for different reason but have the same underlying conditions ('other diagnosis').

Same clinical condition: Same diagnosis as refer to the ICD 10.</td></tr>
<tr><td>Criteria</td><td>:</td><td>Inclusion:</td></tr>
</table>

		1. All paediatric cardiology inpatient discharges from Paediatric Cardiology Ward and other general wards that admit paediatric cardiology patients. **Exclusion:** 1. Neonates of < 28 days of life. 2. Patients of > 12 years of age. 3. AOR (at own risk) discharged patients during the first admission.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of pediatric cardiac patients with unplanned readmissions to Paediatric Ward within (≤) 48 hours of discharge
Denominator	:	Total number of paediatric cardiac patients discharged during the same period of time the numerator data was collected
Formula	:	Numerator x 100 % Denominator
Standard	:	≤ 1%
Data Collection & Verification	:	1. **Where**: Data will be collected in Paediatric Cardiology Ward and other wards that admit paediatric cardiology patients. 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 hospital for monitoring. PVF to be sent 6 monthly to Quality Unit of hospital. 5. **Who should verify**:

	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

PVF must be verified by Head of Department, Head of Quality Unit and Hospital Director.

Remarks	:	

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