



NEPHROLOGY				
NO	INDICATOR	DIMENSION	STANDARD	SECONDARY DATA REPORTING FREQUENCY
1a	Percentage of patients with waiting time of $\leq 60$ minutes to see the doctor at Nephrology Outpatient Clinic ( <b>Two or more registration areas involved</b> )	Timeliness	$\geq 80\%$	Monthly
1b	Percentage of patients with waiting time of $\leq 90$ minutes to see the doctor at Nephrology Outpatient Clinic ( <b>Only one registration area involved</b> )	Timeliness	$\geq 90\%$	Monthly
2	Percentage of chronic haemodialysis patients with delivered KT/V of $\geq 1.2$	Effectiveness	$\geq 85\%$	3 Monthly
3	Incidence rate of peritonitis in adult patients on chronic peritoneal dialysis	Safety	$\leq 4$ per 100 patient-months	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**.

<b>Discipline</b>	:	<b>Nephrology</b>
<b>Indicator 1a</b>	:	<b>Percentage of patients with waiting time of ≤ 60 minutes to see the doctor at Nephrology Outpatient Clinic (Two or more registration areas involved)</b>
<b>Dimension of Quality</b>	:	Timeliness
<b>Rationale</b>	:	<ol style="list-style-type: none"> <li>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)</li> <li>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.</li> <li>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.</li> </ol>
<b>Definition of Terms</b>	:	<p><b>Two or more registration areas involved:</b> 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:</p> <p><b>Waiting time:</b> 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>
<b>Criteria</b>	:	<p><b>Inclusion:</b></p> <ol style="list-style-type: none"> <li>1. All outpatients of Nephrology Outpatient Clinic.</li> </ol> <p><b>Exclusion:</b></p> <ol style="list-style-type: none"> <li>1. Patients who come without an appointment ("walk-in" patients).</li> <li>2. Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking and imaging).</li> <li>3. Patients who state their preference to see only a specific doctor at the clinic.</li> </ol>



		<p><b>Sampling:</b> 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>									
<b>Type of indicator</b>	:	Rate-based process indicator									
<b>Numerator</b>	:	Number of sampled patients with waiting time of ≤ 60 minutes to see the doctor at Nephrology Outpatient Clinic									
<b>Denominator</b>	:	Total sample of patients seen by the doctor at the Nephrology Outpatient Clinic									
<b>Formula</b>	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
<b>Standard</b>	:	≥ 80%									
<b>Data Collection &amp; Verification</b>	:	<ol style="list-style-type: none"> <li><b>Where:</b> Data will be collected in Nephrology Outpatient Clinic.</li> <li><b>Who:</b> Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.</li> <li><b>How to collect:</b> Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.</li> <li><b>How frequent:</b> 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.</li> <li><b>Who should verify:</b> <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> </li> </ol>		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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<b>Remarks</b>	:										

<b>Discipline</b>	:	<b>Nephrology</b>
<b>Indicator 1b</b>	:	<b>Percentage of patients with waiting time of ≤ 90 minutes to see the doctor at Nephrology Outpatient Clinic (Only one registration area involved)</b>
<b>Dimension of Quality</b>	:	Timeliness
<b>Rationale</b>	:	<ol style="list-style-type: none"> <li>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)</li> <li>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</li> </ol>



		<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 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.</p>
<b>Definition of Terms</b>	:	<p><u>If registration of patient with payment collection is done ONLY AT CLINICAL DEPARTMENT COUNTER:</u>  <b>Waiting time:</b> 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>  <b>Waiting time:</b> 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>
<b>Criteria</b>	:	<p><b>Inclusion:</b></p> <ol style="list-style-type: none"> <li>All outpatients of Nephrology Outpatient Clinic.</li> </ol> <p><b>Exclusion:</b></p> <ol style="list-style-type: none"> <li>Patients who come without an appointment ("walk-in" patients).</li> <li>Patients that need to do procedures on the same day before seeing the doctors (e.g. blood taking and imaging).</li> <li>Patients who state their preference to see only a specific doctor at the clinic.</li> </ol> <p><b>Sampling:</b>                      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>
<b>Type of indicator</b>	:	Rate-based process indicator
<b>Numerator</b>	:	Number of sampled patients with waiting time of ≤ 90 minutes to see the doctor at Nephrology Outpatient Clinic
<b>Denominator</b>	:	Total sample of patients seen by the doctor at the Nephrology Outpatient Clinic
<b>Formula</b>	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
<b>Standard</b>	:	≥ 90%
<b>Data Collection &amp; Verification</b>	:	<ol style="list-style-type: none"> <li><b>Where:</b> Data will be collected in Nephrology Outpatient Clinic.</li> <li><b>Who:</b> Data will be collected by Officer/ Paramedic/ Nurse in-charge of the</li> </ol>



	<p>department/ unit.</p> <p>3. <b>How to collect:</b> Data is suggested to be collected from patient's case notes/ appointment record book/ waiting time slip.</p> <p>4. <b>How frequent:</b> 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. <b>Who should verify:</b></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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<b>Remarks</b>	:									

<b>Discipline</b>	:	<b>Nephrology</b>
<b>Indicator 2</b>	:	<b>Percentage of chronic haemodialysis patients with delivered KT/V of <math>\geq 1.2</math></b>
<b>Dimension of Quality</b>	:	Effectiveness
<b>Rationale</b>	:	<ol style="list-style-type: none"> <li>Haemodialysis is the core business of Nephrology.</li> <li>KT/V is a measure of adequacy of haemodialysis. The survival of haemodialysis (HD) patients is dependent on dialysis adequacy and it, in turn, is under the control of HD unit staff.</li> <li>KT/V is dependent of blood flow rate, dialysate flow rate, the type of dialyser used, the number of hours on dialysis, dialysis frequency and body weight of the patient.</li> <li>KT/V is estimated every 3 monthly. This indicator is a measure of the on-going processes in the daily running of haemodialysis units, involving processes during the haemodialysis procedure which is carried out by paramedics and clinical management of patients by nephrologists.</li> </ol>
<b>Definition of Terms</b>	:	<b>KT/V:</b> A measure of dialysis adequacy based on clearance of urea.
<b>Criteria</b>	:	<p><b>Inclusion:</b></p> <ol style="list-style-type: none"> <li>Patients on chronic haemodialysis for more than 3 months in the Centre.</li> </ol> <p><b>Exclusion:</b></p> <ol style="list-style-type: none"> <li>Patients with acute renal failure on haemodialysis.</li> </ol>
<b>Type of indicator</b>	:	Rate-based outcome indicator
<b>Numerator</b>	:	Number of chronic haemodialysis patients with delivered KT/V of $\geq 1.2$
<b>Denominator</b>	:	Total number of chronic haemodialysis patients tested for KT/V
<b>Formula</b>	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
<b>Standard</b>	:	$\geq 85\%$
<b>Data Collection &amp; Verification</b>	:	<ol style="list-style-type: none"> <li><b>Where:</b> Data will be collected in Haemodialysis Unit.</li> <li><b>Who:</b> Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.</li> <li><b>How to collect:</b> Data is suggested to be collected from patient's case note/</li> </ol>



	<p>haemodialysis patient record book.</p> <p>4. <b>How frequent:</b> 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.</p> <p>5. <b>Who should verify:</b></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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<b>Remarks</b>	: *This indicator is also being monitored as an Outcome Based Budgeting (OBB) indicator.									

<b>Discipline</b>	: <b>Nephrology</b>
<b>Indicator 3</b>	: <b>Incidence rate of peritonitis in adult patients on chronic peritoneal dialysis</b>
<b>Dimension of Quality</b>	: Safety
<b>Rationale</b>	: <ol style="list-style-type: none"> <li>Peritoneal dialysis (PD) is one of the main modes of renal replacement therapy which is found in Nephrology Units in the Ministry of Health (about 37% of all dialysis patients in MOH in 2020). It cost the MOH RM 31,635 per life year saved in 2001.</li> <li>One of the indicators of safety and efficacy is the peritonitis rate. It is affected by the training of patients, the peritoneal dialysis system used and the long term care of the PD patient especially in preventing and treating exit site infection.</li> <li>Peritonitis is the main cause of technique failure. It causes pain, suffering and impacts on the workload of the haemodialysis unit as the patient may have to go on acute or permanent haemodialysis.</li> <li>The indicator is a measure of the work done by PD nurses and the clinical care and counselling given to patients in clinic.</li> </ol>
<b>Definition of Terms</b>	: <p><b>Peritonitis:</b> Presence of <u>at least 2</u> of the following criteria:</p> <ul style="list-style-type: none"> <li>Symptoms (abdominal pain or turbid fluid).</li> <li>White cells in the peritoneal fluid of more than 100 cells/ml with at least 50% polymorphs.</li> <li>Positive peritoneal fluid culture.</li> </ul>
<b>Criteria</b>	: <p><b>Inclusion:</b></p> <ol style="list-style-type: none"> <li>All hospitals with PD program.</li> <li>All adult patients on chronic PD.</li> <li>All peritonitis occurring from the first day of PD training.</li> </ol> <p><b>Exclusion:</b></p> <ol style="list-style-type: none"> <li>PD performed due to other illness.</li> </ol>
<b>Type of indicator</b>	: Rate-based outcome indicator
<b>Numerator</b>	: Cumulative number of peritonitis episodes in patients on chronic PD
<b>Denominator</b>	: Cumulative total number of patient-months of treatment on chronic PD



<b>Formula</b>	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100$									
<b>Standard</b>	:	≤ 4 cases per 100 patient-months									
<b>Data Collection &amp; Verification</b>	:	<ol style="list-style-type: none"> <li><b>Where:</b> Data will be collected in Nephrology wards or wards that cater for the above condition.</li> <li><b>Who:</b> Data will be collected by Officer/ Paramedic/ Nurse in-charge of the department/ unit.</li> <li><b>How to collect:</b> Data is suggested to be collected from patient's case note/ PD patient record book.</li> <li><b>How frequent:</b> 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.</li> <li><b>Who should verify:</b> <table border="1" data-bbox="613 699 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> </li> </ol>		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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