



TRANSFUSION MEDICINE				
NO	INDICATOR	DIMENSION	STANDARD	SECONDARY DATA REPORTING FREQUENCY
1	Percentage of urgent cases where blood were issued within (\leq) 30 minutes	Timeliness	$\geq 95\%$	3 Monthly
2	Red Cell Expiry Rate	Effectiveness	$\leq 2\%$	3 Monthly
3	Percentage of root cause analysis (RCA) on near miss and Incorrect Blood Component Transfused (IBCT) completed with corrective and/ or preventive action identified	Safety	$\geq 85\%$	6 Monthly



Discipline	: Transfusion Medicine
Indicator 1	: Percentage of urgent cases where blood were issued within (\leq) 30 minutes
Dimension of Quality	: Timeliness
Rationale	: Timely blood supply is crucial for patient care in emergency situation and thus help to reduce mortality and morbidity.
Definition of Terms	: <p>Urgent cases: Cases that require blood immediately to save life. Blood supply will either be of Safe O, uncrossmatched group specific packed cells or group specific packed red cells after an emergency crossmatched procedure has been performed.</p> <p>Issued time: Duration between times of patient's blood sample received at blood bank to the time of the first unit of blood issued out from the blood bank.</p> <p>Safe O: Group O Rh D positive packed cell that is released in life threatening condition without crossmatching.</p> <p>Uncrossmatched group specific packed cells: If the blood group of the patient is known, uncrossmatched group specific blood may be given for transfusion.</p> <p>Emergency crossmatch: Units of blood that are found to be compatible at immediate spin after 5 minutes incubation at room temperature are issued for transfusion.</p>
Criteria	: <p>Inclusion:</p> <ol style="list-style-type: none"> All blood request marked as urgent by the attending clinician and <ol style="list-style-type: none"> Preceded by a phone call from the clinician (or delegated representative) OR Cases where the ward representative is physically present at the blood bank. <p>Exclusion:</p> <ol style="list-style-type: none"> All cases for elective transfusion (surgical, medical etc.). Incomplete request as per rejection criteria. Cases that required complete antibody identification and supply of compatible blood. Group Screen and Hold (GSH) cases that are converted to GXM.
Type of indicator	: Rate-based process indicator
Numerator	: Number of urgent cases where blood were issued within (\leq) 30 minutes
Denominator	: Total number of urgent cases where blood were requested
Formula	: $\frac{\text{Numerator}}{\text{Denominator}} \times 100 \%$
Standard	: $\geq 95\%$
Data Collection & Verification	: <ol style="list-style-type: none"> Where: Data will be collected in hospital's blood bank/ Transfusion Medicine Department/ Unit. Who: Data will be collected by Officer of the department/ unit. How to collect: Data is suggested to be collected from Blood Bank urgent cases record book/ Blood Bank Information System/ related records. 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.



	<p>PVF to be sent 6 monthly to Quality Unit of hospital.</p> <p>5. Who should verify:</p> <table border="1"> <tr> <td></td> <td>Prepared by</td> <td>Validated by</td> </tr> <tr> <td>Primary Data</td> <td>Officer in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer in-charge</td> <td>Head of Department/ Specialist in-charge</td> </tr> </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 in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer in-charge	Head of Department/ Specialist in-charge
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Remarks	<p>: Although Safe O and uncrossmatched group specific packed cells shall be issued instantly, but these are included in urgent case as a measure to monitor the performance of issuing.</p> <p>*This indicator is also being monitored as an Outcome Based Budgeting (OBB) indicator.</p>									

Discipline	: Transfusion Medicine									
Indicator 2	: Red Cell Expiry Rate									
Dimension of Quality	: Effectiveness									
Rationale	: To monitor the expiry rate of red cell in blood bank inventory in order to prevent wastage of red cells.									
Definition of Terms	: Expiry: Red cell that has expired in the blood bank inventory.									
Criteria	<p>: Inclusion:</p> <p>1. All red cell units in stock (collected and/ or received from other blood centre).</p> <p>Exclusion:</p> <p>1. Red cell units that are not suitable for use (e.g. contaminated).</p>									
Type of indicator	: Rate-based output indicator									
Numerator	: Number of expired red cell units for the month									
Denominator	: Total number of red cell units in stock for the month									
Formula	: $\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
Standard	: $\leq 2\%$									
Data Collection & Verification	<p>: 1. Where: Data will be collected in hospital's blood bank/ Transfusion Medicine Department/ Unit.</p> <p>2. Who: Data will be collected by Officer of the department/ unit.</p> <p>3. How to collect: Data is suggested to be collected from record book/ Blood Bank Information System/ related records.</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"> <tr> <td></td> <td>Prepared by</td> <td>Validated by</td> </tr> <tr> <td>Primary Data</td> <td>Officer in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer in-charge</td> <td>Head of Department/</td> </tr> </table>		Prepared by	Validated by	Primary Data	Officer in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer in-charge	Head of Department/
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			Specialist in-charge
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Remarks	:		

Discipline	:	Transfusion Medicine
Indicator 3	:	Percentage of root cause analysis (RCA) on near miss and Incorrect Blood Component Transfused (IBCT) completed with corrective and/ or preventive action identified
Dimension of Quality	:	Safety
Rationale	:	Near miss and IBCT are events that have impact on safety and timeliness of patient care that can be prevented from happening, thus should be investigated thoroughly. Understanding what, how and why these occurred is the key to correct and/ or prevent its recurrence.
Definition of Terms	:	<p>Root cause analysis (RCA): A structured investigation that aims to identify the root cause of the adverse event and actions necessary to eliminate it. It is a risk management tool to understand why the adverse event occurs in accordance to Guidelines on Implementation Incident Reporting & Learning System 2.0 for Ministry of Health Malaysia Hospitals.</p> <p>Near miss: An error which if undetected could result in the determination of a wrong blood group, or issue, collection or administration of an incorrect, inappropriate or unsuitable blood or blood component; but which was recognized before the erroneous transfusion took place.</p> <p>IBCT: An episode where a patient was transfused with a blood or blood component which did not meet the appropriate requirements, or which was intended for another patient.</p> <p>Corrective action/ preventive action: Any remedial measures/ risk reduction strategies that had been identified.</p> <p>Patient with rare blood group: Patient with either blood group that has a 1:1,000 occurrences in a general population or with combination of multiple red cell antibodies.</p>
Criteria	:	<p>Inclusion:</p> <ol style="list-style-type: none"> All requests for blood and blood components with incident of near miss and IBCT. <p>Exclusion:</p> <ol style="list-style-type: none"> Non-ABO/ Rh specific blood or blood component intentionally given to patients in situation such as; <ol style="list-style-type: none"> Rh negative patient was transfused with Rh positive red cells in an emergency situation. Group O red cell was transfused to a non-group O recipient in an emergency situation. Group AB recipient transfused with Group A or Group B blood and



		<p>blood component in the absence of Group AB blood and blood component.</p> <p>d. AB plasma for neonates.</p> <p>e. Patient with a rare blood group or with antibodies and require urgent transfusion.</p> <p>2. Specific requirement such as irradiated, phenotyped, filtered are currently excluded.</p>									
Type of indicator	:	Rate-based output indicator									
Numerator	:	Number of RCA performed on near miss and IBCT with completed corrective and/ or preventive action identified									
Denominator	:	Total number of near miss and IBCT occurred									
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$									
Standard	:	≥ 85%									
Data Collection & Verification	:	<p>1. Where: Data will be collected in hospital's blood bank/ Transfusion Medicine Department/ Unit.</p> <p>2. Who: Data will be collected by Officer of the department/ unit.</p> <p>3. How to collect: Data is suggested to be collected from record book/ Blood Bank Information System/ related records.</p> <p>4. How frequent: 3 monthly data collection within department. Validated summarised secondary data to be sent 6 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 in-charge</td> <td>Supervisor of the person who prepared the data</td> </tr> <tr> <td>Secondary Data</td> <td>Officer 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 in-charge	Supervisor of the person who prepared the data	Secondary Data	Officer in-charge	Head of Department/ Specialist in-charge
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