KEMENTERIAN KESIHATAN MALAYSIA

TECHNICAL SPECIFICATIONS OF HOSPITAL PERFORMANCE INDICATORS FOR ACCOUNTABILITY (HPIA) & SPECIFIC INDICATORS VER 7.1

2019

CLINICAL PERFORMANCE SURVEILLANCE UNIT
MEDICAL CARE QUALITY SECTION
MEDICAL DEVELOPMENT DIVISION
MINISTRY OF HEALTH MALAYSIA

LIST OF HOSPITAL PERFORMANCE INDICATORS FOR ACCOUNTABILITY (HPIA)

	HPIA Element	Indicator
1	Internal Business Process	1 - 11
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5	Financial and Office Management	21 - 26
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NO	INDICATOR	STANDARD	REPORTING FREQUENCY	PAGE
	INTERNAL BUSINESS PROCESS			
1	ST Elevation Myocardial Infarction (STEMI) [Without Shock] Case Fatality Rate	**≤ 10%**	Monthly	5
2	Non ST Elevation Myocardial Infarction (NSTEMI) Case Fatality Rate	**≤ 10%**	6 Monthly	6
3	Percentage of paediatric patients with unplanned readmissions to the paediatric ward within 48 hours of discharge	**≤ 0.5%**	Monthly	7
4	Percentage of massive postpartum haemorrhage (PPH) incidence in cases delivered in the hospital	**≤ 0.5%**	Monthly	8
5	Percentage of inappropriate triaging (UNDER-TRIAGING): Category Green patients who should have been triaged as Category Red	**≤ 0.5%**	Monthly	9
6	Percentage of x-rays with turnaround time of ≤ 45 minutes of Urgent Plain radiographic examination (X-ray) requested by the Emergency & Trauma Department (ED/ A&E)	**≥ 80%**	Monthly	10
7	Percentage of laboratory turnaround time (LTAT) for urgent Full blood count (FBC) within (≤) 45 minutes	**≥ 90%**	6 Monthly	11
8	Incidence of thrombophlebitis among inpatients with intravenous (IV) cannulation	**≤ 0.5%**	Monthly	12
9	Percentage of Morbidity and/ or Mortality meetings being conducted at the hospital level with documentation of the cases discussed State & Specialist Hospital: 12 times/ year Other Hospital: 6 times/ year	**≥ 80%**	6 Monthly	14
10	Cross-match Transfusion (CT) ratio	**≤ 2.5**	6 Monthly	16
11	Rate of Healthcare Associated Infections (HCAI)	**≤ 5%**	Yearly	17
	CUSTOMER FOCUS			
12	Percentage of medication prescriptions dispensed within 30 minutes	**≥ 95%**	Monthly	18
13	Percentage of hospital customers who were satisfied with the hospital services (based on customer satisfaction survey)	**≥ 80%**	6 Monthly	19
14	Percentage of *Aduan Mudah* and *Sederhana* which were received through SisPAA *(Sistem Pengurusan Aduan Awam)* and settled within the stipulated period (working days)	**≥ 85%**	3 Monthly	20

15	Percentage of Medical Reports prepared within the stipulated period: State & Specialist Hospital: ≤ 4 weeks Other Hospital: ≤ 2 weeks	**≥ 90%**	Monthly (Cohort)	22
	EMPLOYEE SATISFACTION			
16	Percentage of officers who were informed of their performance marks by the First Evaluating Officer (*Pegawai Penilai Pertama* (PPP)) for the Annual Performance Evaluation Report, (LNPT)	**≥ 95%**	Yearly	23
17	Percentage of new hospital staffs who attended the Orientation Programme within 3 months of their placement at the Unit or Department in the hospital	**≥ 80%**	6 Monthly	24
	LEARNING AND GROWTH			
18	Percentage of paramedics in acute care areas who have a CURRENT trained status in Basic Life Support (BLS) in the corresponding year	**≥ 70%**	6 Monthly	25
19	Percentage of research projects (Clinical Research/ Quality Research (HSA/ QA/ ISR) successfully conducted within 2 years (based on 1% of staff number)	**≥ 80%**	Yearly	26
20	Innovative Culture: Number of innovation replicated and implemented within 2 years in the hospital	**≥1**	Yearly	27
	FINANCIAL AND OFFICE MANAGEMENT			
21	Percentage of hospital vehicles that conformed to the Planned Preventive Maintenance (PPM) schedule.	**≥ 80%**	3 Monthly	28
22	Percentage of personnel who confirmed in service within 3 years of their date of appointment.	**≥ 95%**	3 Monthly (3 year cohort)	29
23	Percentage of paid bills by discharged patients from the inpatient revenue	**≥ 70%**	Monthly	31
24	Percentage of assets in the hospital that were inspected and monitored at least once a year	**100%**	Yearly	32
25	Hospital possesses CURRENT Accreditation (MSQH) or MS ISO Certification Status (YES = 1; NO = 0)	**1**	Yearly	33
26	Percentage of personnel with complete documentation 3 months prior to their time-based promotion in the corresponding year	**≥ 90%**	3 Monthly	34
	ENVIRONMENTAL SUPPORT			
27	Percentage of Safety Audit findings identified whereby control measures had been taken in the corresponding year	**≥ 70%**	Yearly	35
28	Percentage of Facility Engineering Plant Room Inspection (EPR) with report submission done by Engineering Unit Personnel in the corresponding year	**≥ 80%**	Monthly	37
29	Percentage of Fire Drill that has been carried out by the hospital in the corresponding year:			38
	a. Fire Drill at hospital level: Once a year	**100%**	6 Monthly	38
	b. Table Top Exercise at hospital level: Twice a year	**100%**	6 Monthly	38

LIST OF SPECIFIC INDICATORS

	Specific Indicator	Indicator
1	Diabetic Care	1 - 2
2	Cardiovascular Care	3 - 4
3	Acute Care	5
4	Mental Health Care	6
5	Cancer Care	7
6	Patient Safety	8

NO	INDICATOR	STANDARD	REPORTING FREQUENCY	PAGE
1	Number of Uncontrolled Diabetes Mellitus patients admitted to MOH Hospital in the corresponding year	NA	6 Monthly	39
2	Percentage of Diabetes Mellitus patients who were under regular clinic follow-up with A1c ≤ 6.5% in the corresponding year	≥ 20%	6 Monthly	40
3	Number of Uncontrolled Hypertension patients admitted to MOH Hospital in the corresponding year	NA	6 Monthly	41
4	Percentage of Hypertensive patients who were under regular clinic follow-up with Blood Pressure control ≤ 140/90 in the corresponding year	≥ 40%	6 Monthly	42
5	Rate of patients who received their surgery within 48 hours following an admission for hip fracture in the corresponding year	≥ 70%	6 Monthly	43
6	Number of inpatient suicide among people who were diagnosed with a mental disorder in the corresponding year	NA	6 Monthly	44
7	Colorectal Cancer Mortality in the corresponding year	NA	6 Monthly	45
8	Percentage of Obstetric Trauma following vaginal delivery without instrument in the corresponding year	≤ 1%	6 Monthly	45
9	Percentage of smokers that successfully quit smoking after attending quit smoking clinic in Hospital	≥ 30%	6 Monthly	46

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Indicator 1	:	ST Elevation Myocardial Infarction (STEMI) [Without Shock] Case Fatality Rate
Element	:	Internal Business Process
Rationale	:	Acute Coronary Syndrome is a frequent cause of hospital death. It is important to measure the quality of care and adherence to practice guidelines.
Definition of Terms	:	**ST Elevation Myocardial Infarction (STEMI):** A clinical syndrome of acute myocardial death defined by a rise in cardiac biomarkers in the presence of ST elevation on the Electrocardiograph (ECG). The biomarkers used may include any of the following; Troponin T/I, Creatinine Kinase or its MB fraction (CK, CKMB).
Criteria	:	**Inclusion:** 1. Patients admitted under cardiology (for hospital with Cardiology Services). 2. All deaths diagnosed with STEMI prior to hospital discharge, including in CCU or CRW. 3. Patients admitted with STEMI as the primary diagnosis. **Exclusion:** 1. Patients not admitted under cardiology (for hospital with Cardiology Services). 2. Patients "brought in dead" to Emergency but resuscitation still attempted. 3. STEMI complicated with shock.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of patients diagnosed and/ or admitted with STEMI and who died from STEMI
Denominator	:	Total number of patients diagnosed and/or admitted with STEMI
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 10%
Data collection	:	1. **Where**: Data will be collected in the respective department/ward that caters the above condition. 2. **Who**: Data will be collected by the Officer/ Paramedic/Nurse in-charge (Indicator Coordinator) of the department/unit 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data is suggested to be collected from the record or log book/ patient's file/ National Cardiovascular Disease for Acute Coronary Syndrome (NCVD-ACS) Registry.
Remarks	:	

Indicator 2	:	Non ST Elevation Myocardial Infarction (NSTEMI) Case Fatality Rate
Element	:	Internal Business Process
Rationale	:	1. Cardiovascular diseases accounted for the 25.6% of deaths in Ministry of Health (MOH) Hospitals in 2011. The majority of cardiovascular deaths are attributed to acute coronary syndrome (ACS). This is a spectrum of disease with 3 accepted classes: a) ST elevation Myocardial Infarction (STEMI) b) Non-ST elevation Myocardial Infarction (NSTEMI) c) Unstable angina (UA). 2. Mortality rates quoted in the Malaysian Acute Coronary Syndrome (ACS) Registry maintained by the National Heart Association of Malaysia are 9% for NSTEMI and 3% for UA between 2006 and 2010. 3. Survival is dependent on good monitoring with prompt and continued use of specific medication (anti-platelets, anti-thrombotics, hypolipidemic therapy, B-blockers and ACE-Inhibitors).
Definition of Terms	:	**Non-ST Elevation Myocardial Infarction (NSTEMI):** A clinical syndrome of acute myocardial death defined by a rise in cardiac biomarkers in the absence of ST elevation on the Electrocardiograph (ECG). The biomarkers used may include any of the following; Troponin T/I, Creatinine Kinase or its MB fraction (CK, CKMB).
Criteria	:	**Inclusion:** 1. Patient with ACS/ NSTEMI as a primary diagnosis. 2. Deaths due to cardiovascular causes. 3. Deaths due to infection as a secondary cause. **Exclusion**: 1. Death on arrival. 2. Patients "brought in dead" to Emergency but resuscitation still attempted. 3. Patients with Unstable Angina (UA) as a primary diagnosis.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of patients diagnosed with ACS/ NSTEMI who died
Denominator	:	Total number of patients diagnosed with ACS/ NSTEMI
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 10%
Data collection	:	1. **Where**: Data will be collected in Medical wards/ ICU/ CCU/ CRW/ NICU/ wards that cater for the above condition/ record office. 2. **Who**: Data will be collected by Officer/ Paramedic/ Nurse in-charge (indicator coordinator) of the department/ unit.

		3. **How frequent**: 6 Monthly data collection 4. **Who should verify**: All performance data will be verified by Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data is suggested to be collected from registration book/ record book (refer to KPI MOH Guidelines).
Remarks	:	• The above technical specification is a duplication of General Medicine Departmental Indicator No. 1.

Indicator 3	:	**Percentage of paediatric patients with unplanned readmissions to the paediatric ward within 48 hours of discharge**
Element	:	**Internal Business Process**
Rationale	:	Unplanned readmission is often considered to be the result of suboptimal care in the previous admission leading to readmission.
Definition of Terms	:	**Unplanned readmission**: Patient being readmitted for the management of the **same clinical condition** he or she was discharged with and the admission was not scheduled. **Same condition:** Same diagnosis as refer to the ICD 10.
Criteria	:	**Inclusion:** 1. Readmission with similar conditions (primary diagnosis). **Exclusion:** 1. Neonates 2. Patients of > 12 years of age. 3. AOR /at own risk) discharge patients during the first admission 4. Patients re-admitted at different hospital (difficult in data collection and reporting). 5. Patient with chronic illness 6. Readmission requested by next of kin or other team.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of paediatric patients with unplanned readmission to the paediatric ward within 48 hours of discharge
Denominator	:	Total number of paediatric patients discharged during the same period of time the numerator data was collected.
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 0.5 %
Data collection	:	1. **Where**: For Hospitals with specialist, it is suggested that data to be collected in the Paediatric Medical Ward. For Hospitals without specialist, it is suggested that data to be collected in the ward/ department that cater for the above illness and patients.

		2. **Who**: Data will be collected by the Officer/ Paramedic/ Nurse in-charge/ Indicator Coordinator of the department/unit. 3. **How frequent:** Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data is suggested be collected from the registration book (refer to KPI MOH Guidelines).
Remarks	:	• Duplication of Paediatric Individual Indicator No. 7

Indicator 4	:	**Percentage of massive postpartum haemorrhage (PPH) incidence in cases delivered in the hospital**
Element	:	**Internal Business Process**
Rationale	:	The incidence of massive obstetric haemorrhage is reflective of the effectiveness of the management of haemorrhage at delivery. Post-partum haemorrhage occurs in 3-5% of pregnant mothers and is still the leading cause of maternal death in Malaysia. The use of this indicator would be reflective of the prompt diagnosis and speed of instituting multidisciplinary care. References: a) Green-top Guideline No. 52, May 2009. b) CEMD Training Module for PPH. c) Hazra S et al. J Obstet Gynaecol 2004 Aug: 24 (5) 519-20.
Definition of Terms	:	**Massive post-partum haemorrhage:** Total amount of blood loss of > 1.5 litres within (≤) 24 hours of delivery. Delivery includes both the vaginal and abdominal routes.
Criteria	:	**Inclusion:** NA **Exclusion:** Patients with adherent placenta.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number patients with massive Primary Post-Partum Haemorrhage in the hospital
Denominator	:	Total number of deliveries
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 0.5%
Data collection	:	1. **Where**: Data will be collected in the Labour room/ward/HDW. 2. **Who**: Data will be collected by the Officer/ Paramedic/ Nurse in-charge/ Indicator Coordinator of the department/unit. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data is suggested to be collected from the patient's case note/ record book (refer to KPI MOH Guidelines).

Remarks	:	• Duplication of O&G Departmental Indicator No. 2

Indicator 5	:	**Percentage of inappropriate triaging (under-triaging): Category Green patients who should have been triaged as Category Red**
Element	:	**Internal Business Process**
Rationale	:	• Triage is an essential function of Emergency Departments (EDs), whereby many patients may present simultaneously. Triage aims to ensure that patients are treated in the order of their clinical urgency and that treatment is appropriate. Triage also allows for the allocation of the patient to the most appropriate assessment and treatment area. • It is a scale for rating clinical urgency. The scale directly relates triage category with a range of outcome measures (inpatient length of stay, ICU admission, mortality rate) and resource consumption (staff time, cost). • Studies have shown that the "under triaging" of critically ill patients can increase their morbidity and mortality due to delay in their resuscitation and the provision of definitive care. Urgency refers to the need for time-critical intervention. • This indicator measures the accuracy and appropriateness of the Triaging system in the Emergency Department (ED) to ensure that critically ill patients are not missed and categorized as "non-critical".
Definition of Terms	:	**Under-triaged**: Critically ill patient (**MTC RED**) who was triaged as "non-critical" patient (**MTC GREEN**).
Criteria	:	**Inclusion:** NA **Exclusion:** Period of time when the hospital unable to function as usual because involved in mass casualty/ disaster/ crisis.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of MTC GREEN patients who should have been triaged as MTC RED
Denominator	:	Total number of MTC GREEN patients
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 0.5%
Data collection	:	1. **Where**: Data will be collected in the Emergency Department 2. **Who**: Data will be collected by the Officer/ Paramedic/ Nurse in-charge/ Indicator Coordinator of the department/unit. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data is suggested to be collected from the record book (refer to KPI MOH Guidelines).

Remarks	:	• Duplication of Emergency Medical and Trauma Services Departmental Indicator No. 2

Indicator 6	:	**Percentage of x-rays with turnaround time of ≤ 45 minutes of Urgent Plain radiographic examination (X-ray) requested by the Emergency & Trauma Department (ED/ A&E)**
Element	:	Internal Business Process
Rationale	:	X-ray is the most basic tool of investigations in the form of imaging. In general, x-ray is used to visualize body internal structures. Timely x-rays turnaround time, thus, have a major impact on the patient management whereby it ensures the clinicians to make prompt decisions and actions accordingly.
Definition of Terms	:	**Turnaround time**: The time taken between the order for the plain radiographic examination received by the Diagnostic & Imaging Department/ X-ray Unit to the time that the x-ray film is available to be viewed by the doctor (≤ 45 minutes). **Plain radiographic examination:** A modality of x-ray (static x-ray/ portable x-ray) to visualize the internal structures of a patient without using any contrast. This includes chest x-rays, skeletal x-rays, abdominal x-rays etc. **Urgent Plain radiographic examination:** Urgent x-rays which were ordered by the ED/ A&E Medical Officer/ Paramedics for emergency cases.
Criteria	:	**Inclusion:** 1. All urgent plain radiographic examinations performed on patients in ED/ A&E. 2. Inclusive of portable x-rays. **Exclusion:** 1. The time period when the hospital was unable to function as usual due to mass casualty/ disaster/ crisis. 2. Any delay due to life-saving procedures performed to stabilize the patient's condition (e.g. the ordered x-ray cannot be done because of the emergency team is resuscitating the patient).
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of urgent plain radiographic examinations with turnaround time within (≤) 45 minutes requested by ED/ A&E
Denominator	:	Total number of urgent plain radiographic examinations requested by ED/ A&E
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\ \%$
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected in the Diagnostic & Imaging Department/ X-ray Unit.

		2. **Who**: Data will be collected by the Officer/ staff in-charge in Diagnostic & Imaging Department/ X-ray Unit. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/registration book at Diagnostic & Imaging Department/ X-ray Unit.
Remarks	:	• The hospital Diagnostic & Imaging Department/ X-ray Unit is responsible for the performance achievement. • It is suggested that CLOCK IN time (time of the urgent plain radiographic examination request received) and CLOCK OUT time (time that plain radiographic examination is available) to be recorded at the Diagnostic & Imaging Department/ X-ray Unit. • The CLOCK IN time will be written in the request book by the medical personnel who send the request. • Not all X-rays, which were done after office hours are considered as Urgent. Urgent X-ray refers to a request/ decision by Medical Officer/ Paramedic in charge based on the patient's condition with the "URGENT" tag/ stamp.

Indicator 7	:	**Percentage of laboratory turnaround time (LTAT) for urgent Full blood count (FBC) within (≤) 45 minutes**
Element	:	**Internal Business Process**
Rationale	:	1. One of the objectives of a haematology laboratory is to provide fast laboratory results for the management of medical emergency. 2. Timelines of the services is the capability of the laboratory providing fast results. 3. A fast laboratory turnaround time (LTAT) is desirable and is one of the indicators of efficient laboratory service. 4. FBC is a basic and commonly requested test provided in all healthcare facilities.
Definition of Terms	:	**Full Blood Count (FBC):** Automated measurement of blood cell parameters. **Laboratory turnaround time (LTAT)**: Measuring the time laboratory receives the specimen to the time the test results is validated. **Urgent FBC**: FBC requested as urgent for immediate management of patient or emergency cases.
Criteria	:	**Inclusion criteria:** All requests sent for full blood counts that are labelled as urgent. **Exclusion criteria:**

		1. Requests for non-urgent FBC. 2. Request short turnaround time (STAT) not for immediate management of patient or emergency cases. 3. FBC done at POCT site.
Type of indicator	:	Rate-based Process Indicator
Numerator	:	Number of urgent Full Blood Count (FBC) with LTAT within (≤) 45 minutes
Denominator	:	Total number of urgent Full Blood Count (FBC) requested
Formula	:	Numerator / Denominator x 100 %
Standard	:	≥ 90%
Data collection	:	1. **Where**: Data will be collected in all laboratories providing the tests. 2. **Who**: Data will be collected by the Officer/ assigned laboratory personnel (indicator coordinator) of the department/ unit. 3. **How frequent**: 6 Monthly data collection. 4. **Who should verify**: All performance data must be verified by Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect:** Data is suggested to be collected from record book/ registry system/ request form/ LIS (refer to KPI MOH Guidelines).
Remarks	:	• Duplication of Pathology Departmental Indicator No. 1

Indicator 8	:	**Incidence of thrombophlebitis among inpatients with intravenous (IV) cannulation**
Element	:	**Internal Business Process**
Rationale	:	Thrombophlebitis has a direct/ indirect impact on the patient health as it can cause discomfort, pain and prolong inpatient stays that may lead to the patient suffering from economic consequences.
Definition of Terms	:	**Thrombophlebitis:** inflammation of the wall of a vein with associated thrombosis. Assessment of Thrombophlebitis with **Visual Infusion Phlebitis (VIP) Scores**

VISUAL INFUSION PHLEBITIS (VIP) SCORE		
Site Observation	**Score**	**Action**
IV site appears healthy	**0**	No sign of phlebitis **OBSERVE CANNULA**
One of the following signs evident: • Pain near IV site (pain score of 1-3)	**1**	Possibility first signs of phlebitis **OBSERVE CANNULA**

		• May not require analgesics • Slight redness near IV site		
		Two of the following signs evident: • Pain at IV site (pain score of 4-6) • Interfere with activities • Redness around site • Swelling	**2**	Early stage of phlebitis **RESITE CANNULA**
		All of the following signs evident: • Pain along path of cannula (pain score of 4-6) • Interferes with concentration • Redness around site • Swelling	**3**	Medium stage of phlebitis **RESITE CANNULA** **CONSIDER TREATMENT**
		All of the following signs evident and **extensive**: • Pain along path of cannula (pain score of 7-9) • Interferes with basic needs • Redness around site • Swelling • Palpable venous cord	**4**	Advanced stage of phlebitis Or the start of thrombophlebitis **RESITE CANNULA** **CONSIDER TREATMENT**
		All of the following signs evident and extensive: • Pain along path of cannula (pain score of 10) • Redness around site • Swelling • Palpable venous cord • Pyrexia	**5**	Advanced stage of thrombophlebitis **INITIATE TREATMENT** **RESITE CANNULA**
Criteria	:	**Inclusion:** 1. All admitted patients with peripheral venous cannula 2. Peripheral cannulas that were inserted during current admission. **Exclusion:** 1. "Double counting" i.e. the complication that has been counted during previous admission. 2. Psychiatry patient. 3. Neonates patient. 4. Paediatric patient. 5. Unconscious patient.		
Type of indicator	:	Rate-based outcome indicator		
Numerator	:	Total Number of thrombophlebitis incidences		
Denominator	:	Total Number of inserted peripheral venous cannulas		

Formula	:	Numerator X 100 % Denominator
Standard	:	≤ 0.5%
Data collection	:	1. **Where**: Data will be collected from every ward of the hospital. 2. **Who**: Data will be collected by the ward manager/ staff nurse/personnel in charge of the ward. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ patient's case notes.
Remarks	:	• Thrombophlebitis Chart (BKJ-BOR-PPK-10 Pin. 1/2018) will be used for thrombophlebitis monitoring. • Report must be sent to State Matron (KPJN) for Nursing Division compilation. • All peripheral venous cannula must be counted.

Indicator 9	:	Percentage of Morbidity and/ or Mortality meetings being conducted at the hospital level with documentation of the cases discussed State & Specialist Hospital: 12 times/ year Other Hospital: 6 times/ year
Element	:	Internal Business Process
Rationale	:	The main purpose of the meeting is to improve patient's management and quality of care. Regular morbidity and mortality meetings serve to look at the weakness and the shortfall in the overall management of patients, hence it will be learnt, and the same mistake could be prevented and would not be repeated in the future.
Definition of Terms	:	**Morbidity**: A diseased state or symptom. **Mortality**: The quality or state of being mortal. **Morbidity Meeting:** Discussion of case management in regards to patient morbidity, incidence reporting, issue of patient safety, clinical audit (at the hospital level). **Mortality Meeting:** Discussions related to the management of the case and cause of death of the patient. (e.g.: Clinical audit, POMR, MMR, Dengue Mortality, TB Mortality, Mortality under 5 years of age (MDG5), Perinatal Mortality Reviews (MDG4), Inquiries) (at the hospital level). **Hospital level**: A meeting chaired by the Hospital Director or a person appointed by the Hospital Director with

		multidisciplinary involvement (preferably). For district hospital/ institution, multidisciplinary involvement is not necessary. **Conduct**: Meeting can be led by the Hospital Director/ Head of Department/ Appointed Specialist/ Medical Officer/ Paramedics. **Documentation:** Official minutes or notes taken during the meeting with the attendance list (certified by the Hospital Director). **Official Minutes**: The minutes must be certified by the chairperson of the Meeting or by the Hospital Director.
Criteria	:	**Inclusion:** All Morbidity and/ or Mortality meetings being conducted at the hospital level **Exclusion criteria:** 1. Time period when the hospital was unable to function as usual due to mass casualty/ disaster/ crisis. 2. Grand Ward Rounds or activities with no official documentation/ minutes.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of documented morbidity and/ or mortality meetings that were conducted in a year.
Denominator	:	Total number of morbidity and/ or mortality meetings that were scheduled in a year.
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected from the department involved and the Hospital Director's office. 2. **Who**: Data will be collected by the hospital director's staff/ person in- charge in the department. 3. **How frequent**: 6 Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Hospital Director. 5. **How to collect**: The meeting must be organized at the hospital level (i.e. it is open to hospital staff across disciplines/ departments to join the Meeting).
Remarks	:	It is suggested that the frequency of the meetings to be scheduled in early of the year and the meetings must be minuted for documentation and audit purposes.

Indicator 10	:	Cross-match Transfusion (CT) ratio
Element	:	Internal Business Process
Rationale	:	• Cross-match transfusion ratio is an indicator of appropriateness of blood ordering. A ratio of more than 2.5 reflects excessive ordering of blood cross matching tests, thus imposing inventory problems for blood banks, an increase in workload, cost and wastage. • This indicator is intended to assist in the enhancement of the cost efficiency of the cross-matching process, avoid unnecessary additional workload on laboratory personnel and results in better management of blood stocks.
Definition of Terms	:	**Cross-match:** A compatibility test carried out on patient's serum with donor red blood cells before blood is transfused. **Transfusion:** The infusion of cross-matched whole blood or red cell concentrates to the patient. **Cross-match transfusion ratio:** A ratio of the number of red blood cell units cross-matched to the number of red blood cells units transfused.
Criteria	:	**Inclusion:** All cross-matches done in blood bank. **Exclusion:** Safe Group O blood given without cross-match in an emergency situation
Type of indicator	:	Rate-based Process Indicator
Numerator	:	Number of red cell units cross-matched
Denominator	:	Number of red cell units transfused
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}}$
Standard	:	≤ 2.5
Data collection	:	1. **Where**: Data will be collected from the Blood Bank of the hospital. 2. **Who**: The Blood Bank staff/personnel will record and collect the data. 3. **How frequent**: 6 Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Blood Bank Unit/ Hospital Director. 5. **How to collect**: Data collected from the registration book/record books/information system in the Blood Bank of the hospital.
Remarks	:	

Indicator 11	:	Rate of Healthcare Associated Infections (HCAI)
Element	:	Internal Business Process
Rationale	:	Healthcare Associated Infections are preventable illnesses and the prevention of these infections continues to be the top priority. Therefore, periodic surveillance is essential to assess the effectiveness of the infection control programme in the hospital setting.
Definition of Terms	:	**Healthcare Associated Infection**: An infection occurring in a patient in a hospital or other healthcare facility in whom the infection was not present or incubating at the time of admission. This includes the infections acquired in the hospital, but appearing after discharge, and also occupational infections among staff of the facility.
Criteria	:	**Inclusion criteria:** All patients who were admitted to the ward before or at 8.00 am and were not yet discharged from the ward at the time of the survey. **Exclusion criteria:** Patients in Psychiatric Ward, Emergency Department, Labour Room, Outpatient Department, Day care.
Type of indicator	:	Rate-based Process Indicator
Numerator	:	Number of patients with HCAI in the hospital on the day of survey
Denominator	:	Number of hospitalised patients in the hospital on the day of survey
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≤ 5%
Data collection	:	1. **Where**: Data will be collected from every ward of the hospital except the place in exclusion criteria. 2. **Who**: Data will be collected by the infection control personnel/ team. 3. **How frequent**: 6 Monthly data collection. Data will be sent to JKN within 1 month after the survey. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Chairman of the infection control committee or Hospital Director 5. **How to collect**: Data is collected through hospital wide cross sectional point prevalence survey, which is conducted twice a year (i.e. One day in the month of March and September).
Remarks	:	

Indicator 12	:	Percentage of medication prescriptions dispensed within 30 minutes
Element	:	Customer Focus
Rationale	:	Long waiting time can adversely affect patient satisfaction.
Definition of Terms	:	**Dispense:** Process of delivering medication to the patient. **Dispensed within 30 minutes:** Time taken from the prescription received by the staff at the pharmacy counter to the time that the medication is delivered to the patient.
Criteria	:	**Inclusion:** 1. All prescriptions received including extemporaneous preparation and dangerous drug. 2. Prescriptions received at hospital pharmacy counter. 3. Prescriptions received during office hour. **Exclusion:** NA
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of prescriptions dispensed within 30 minutes
Denominator	:	Total number of prescriptions dispensed
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 95%
Data collection	:	1. **Where**: Data will be collected from the Pharmacy Department/Unit. 2. **Who**: Staff/personnel in the Pharmacy Department/ Unit will record and collect the data. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: - In hospitals without QMS (Queue Management System)/ HIS (Hospital Information System)/ other related system to monitor the performance, data collection is done for **five full consecutive working days.** - In hospitals with QMS/ HIS/ other related system, it is suggested **ALL** dispensing time to be analysed.
Remarks	:	1. Five consecutive working days for facility without QMS is to reflect the trend of patient's attendance from various clinics in the facility. 2. It is suggested that the CLOCK IN time (time of the prescription received) and CLOCK OUT time (time of the prescription dispensed to the patient, or the medication is ready to be dispensed and the patient was called) to be recorded at the Pharmacy Department/ Unit.

		3. In accordance to *Manual Petunjuk Prestasi Utama (Kpi) Program Perkhidmatan Farmasi 2018*

Indicator 13	:	**Percentage of hospital customers who were satisfied with the hospital services (based on customer satisfaction survey)**
Element	:	**Customer Focus**
Rationale	:	Customer satisfaction survey is one of the tools that can be used in recognizing areas of improvement in the hospital services provided.
Definition of Terms	:	**Hospital customer:** Patients. **Satisfaction survey:** Refers to the survey that was conducted through SERVQUAL or any MOH gazetted customer satisfaction survey in the hospital. **Satisfied:** • Referring to the answer for Question Number 18 or 19 (i.e. satisfied or very satisfied) • Based on the latest accepted patient satisfaction status analysis by MOH.
Criteria	:	**Inclusion:** Customer who participates in the customer satisfaction survey. **Exclusion:** 1. Hospital which involved in mass casualty incident/ disaster for more than 6 months. 2. Hospital which involved in major renovations/ structural problems which result in service interruption. 3. Psychiatric patients. 4. Paediatric patients.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of participating hospital customers who were "satisfied" in the customer satisfaction survey
Denominator	:	Total number of customers who participated in the hospital customer satisfaction survey
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 85%
Data collection	:	1. **Where**: Data will be collected from every section of the hospital except from the paediatric and psychiatric clinic/ ward. 2. **Who**: Data will be collected/ monitored by the officer/ person in-charge (Public Relation Officer) or by the personnel whom was assigned by the Hospital Director. 3. **How frequent**: 6 monthly data collection. Customer Satisfaction Survey must be conducted twice a year at the hospital level.

		4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the customer satisfaction survey form using the SERVQUAL methodology.
Remarks	:	

Indicator 14	:	**Percentage of *Aduan Mudah* and *Sederhana* which were received through SisPAA *(Sistem Pengurusan Aduan Awam)* and settled within the stipulated period (working days)**
Element	:	**Customer Focus**
Rationale	:	Any complaint received by the hospital needs to be taken seriously to improve quality of services to the patient.
Definition of Terms	:	Complains received and recorded in SisPAA will be categorized as either *Aduan Mudah* or *Aduan Sederhana* or *Aduan Kompleks. Aduan Mudah* needs to be settled within 5 working days whereas *Aduan Sederhana* needs to be settled within 15 working days. ***Aduan Mudah:*** Complain which requires action only by the respective Unit/ Department/ Agencies. ***Aduan Sederhana***: Complaint which requires action that involves multiple Unit/ Department/ Agencies. It may require further investigation or visit to the scene and may require an establishment of an Investigation Committee and it could be a complaint of Clinical or Administration management. E.g. complaints that commonly involve staff etiquettes, communications, delayed treatment and healthcare facilities (E.g. dirty restaurant). **Settled**: Complaint resolved and closed. **Official complaint:** Any complaint to the hospital in any form (letter/ facsimile/ email/ feedback in suggestion box/ print media/ social media/ phone conversation/ verbal/ through the official website of the hospital) and been documented/ recorded officially in SisPAA.
Criteria	:	**Inclusion:** All complains received by hospital and categorized as *Aduan Mudah or Aduan Sederhana* **Exclusion:** 1. Complains not under the categories of *Aduan Mudah* or *Aduan Sederhana.* 2. Not categorized as complain (query, suggestion, compliments)
Type of indicator	:	Rate-based process indicator

Numerator	:	Number of *Aduan Mudah* and *Aduan Sederhana* settled within stipulated period
Denominator	:	Total number of *Aduan Mudah* and *Aduan Sederhana* received
Formula	:	Numerator x 100% Denominator
Standard	:	≥ 85%
Data collection	:	1. **Where**: Data will be collected from the Hospital Director Office / Administrative Office 2. **Who**: Data will be collected/ monitored by officer/ personnel in-charge for complaint. 3. **How frequent**: 3 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Hospital Director. 5. **How to collect**: Data will be collected from the record/ registration book/ generated through ***Sistem Pemantauan Aduan Agensi Awam*** (SiSPAA).
Remarks	:	• In accordance to *Prosedur Pengurusan Aduan Awam KKM* 2015 by *Unit Komunikasi Korporat KKM* based on *Pekeliling Perkhidmatan Awam 2009* and *Garispanduan Bil. 1 Tahun 2013. Penambahbaikan Pengurusan Aduan di Agensi Sektor Awam.*

Indicator 15	:	**Percentage of Medical Reports prepared within the stipulated period:** **State & Specialist Hospital: ≤ 4 weeks** **Other Hospital: ≤ 2 weeks**
Element	:	**Customer Focus**
Rationale	:	Medical report is a written document of a patient record of his/ her medical examination and treatment. The preparation of this document within the time period is essential in ensuring the efficiency of the hospital in managing patient record and request, especially in regards to insurance claims, police investigations, court proceedings and medico-legal purposes.
Definition of Terms	:	**Stipulated period:** The preparation of a medical report according to the given time period (non-inclusive of public holidays and weekends): • **State & Specialist Hospitals: ≤ 4 weeks** • **Other hospitals: ≤ 2 weeks** **Performance measurement:** The performance will be calculated at the end the month on how many medical reports were completed within the stipulated period compared to the number of actual completed requests (i.e. medical report requests).

Criteria	:	**Inclusion criteria:** All medical reports include "plain reports" and reports for insurance claims. **Exclusion criteria:** 1. Specialist report 2. Report with requests for clarification on the previously prepared report. 3. Report requested by in-patients. 4. Post mortem report 5. Police Report. 6. Report required by *Skim Perlindungan Insurans Kesihatan Pekerja Asing* (SPIKPA).
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of medical reports prepared within the stipulated period
Denominator	:	Total number of medical reports prepared in the surveillance month
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\ \%$
Standard	:	≥ 90 %
Data collection	:	1. **Where**: Data will be collected in the medical record office/ unit/ department. 2. **Who**: Data will be collected by the Officer/ staff in-charge in medical record office/ unit/ department 3. **How frequent**: Monthly data collection (cohort of previous month) 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/registration book/monitoring system.
Remarks	:	• In order to streamline the data collection method, the performance of the present month will be calculated based on the numerator and denominator of the previous month (retrospective cohort). For example, the July performance will be based on the data in June.

Indicator 16	**:**	**Percentage of officers who were informed of their performance marks by the First Evaluating Officer (*Pegawai Penilai Pertama* (PPP)) for the Annual Performance Evaluation Report, (LNPT)**
Element	:	**Employee Satisfaction**
Rationale	:	The Annual Performance Evaluation Report is an assessment tool to evaluate the employee performance and to understand the abilities of a person to further grow and develops within a period of one year. It is an important tool in maintaining the quality and productivity of every personnel in the hospital.
Definition of Terms	:	**Officer:** *Pegawai Yang Dinilai* (PYD).

		First Evaluating Officer: *Pegawai Penilai Pertama* (PPP). **Notification:** PPP notifies PYD on the LNPT marks through HRMIS or via any other auditable method. **Notified:** PYD acknowledged the LNPT marks through HRMIS or via any other auditable method.
Criteria	:	**Inclusion:** All personnel whom being evaluated by the hospital. **Exclusion:** 1. Staff who was transferred-in to the hospital for less than 3 months. 2. Staff undergoes training (e.g. master programme, post basic, PhD, etc.) for more than 6 months. 3. Staff whom being evaluated through the different system or a system whereby the acknowledgement component was not established.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of officers who were notified of their performance mark by the PPP
Denominator	:	Total number of officers evaluated by the PPP
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 95%
Data collection	:	1. **Where**: Data will be collected in the administrative unit/department. 2. **Who**: Data will be collected by the Officer/ staff in-charge in HRMIS/ Human resource/ Administrative department/ unit. 3. **How frequent**: Yearly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Human Resource/Administrative Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ registration book/ HRMIS system.
Remarks	:	• Data can be collected by including the total number of the hospital staff • **OR** through a sampling of 25% of the hospital staffs inclusive of all categories (the format of the sampling shall be decided by the individual hospital).

Indicator 17	**:**	**Percentage of new hospital staffs who attended the Orientation Programme within 3 months of their placement at the Unit or Department in the hospital**
Element	:	**Employee Satisfaction**
Rationale	:	Orientation Programme is a platform used to provide information in regards to the institution/ hospital to the newcomers (i.e. staffs). This Orientation Program will assist the

		new staffs to be familiarized with the institution/ hospital, hence, indirectly it will boost their productivity and their self confidence in the new environment.
Definition of Terms	:	**New staffs:** Newly reported personnel (transferred in/ newly appointed/ new placement) to the hospital/ institution. **Orientation Program:** A structured program organized/ conducted by the Hospital/ Institution/ Department/ Unit comprises of introduction of the system, work process and environment. **3 months:** The period (3 months) from the date of reporting.
Criteria	:	**Inclusion:** Orientation Programme that was conducted by the Hospital/ Institution/ Department/ Unit **Exclusion:** 1. Staffs whom transferred out from the hospital ≤ 3 months after reporting for duty. 2. Staffs whom postponed their transfer-in/ appointment/ placement to the hospital.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of new staffs who attended the Orientation Program within 3 months of their placement in the hospital
Denominator	:	Total number of new staff reported to the hospital
Formula	:	Numerator x 100% Denominator
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected in every unit/department/wards. 2. **Who**: Data will be collected by the Officer/ staff in-charge for the Orientation Program in each department/ unit/ ward (Administrative unit/ department responsible for the overall data collection) 3. **How frequent**: 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Human Resource/Administrative Unit and Hospital Director (final verification). 5. **How to collect**: Data will be collected from the record book/ human resource record.
Remarks	:	• Staff whom reported after 31st March or after 30th September of the current year will be carried to the next term/ year of the denominator which means; - 1st Term Evaluation: 1st October of the previous year to the 31st March of the current year. - 2nd Term Evaluation: 1st April of the current year to the 30th September of the current year.

Indicator 18	:	**Percentage of paramedics in acute care areas who have a CURRENT trained status in Basic Life Support (BLS) in the corresponding year**
Element	:	**Learning and Growth**
Rationale	:	Basic Life Support is an important skill for all healthcare personnel to possess and it is an important element of the Continuous Professional Development. Therefore, continuous update of the healthcare personnel will ensure the current/ latest management of patient care is being practiced.
Definition of Terms	:	**Acute care area:** Emergency and Trauma Department, and Intensive Care Area (ICU, CCU, OT, HDW, Labour Room, Burn Unit, PICU, NICU, Neuro ICU and Haemodialysis Unit). **CURRENT trained status:** The valid period of BLS certification (i.e. 5 years) according to the Policy on Resuscitation Training for Ministry of Health Hospitals. **Paramedic:** Refer to medical assistant and staff nurse who is currently working at the Intensive Care Area.
Criteria	:	**Inclusion:** Paramedic who is currently working in the intensive care area for more than 6 months. **Exclusion:** 1. Paramedic who was transferred-in to the intensive care area for less than 6 months. 2. Paramedic who is currently working in the intensive care area for less than 6 months. 3. Paramedic who has been on medical leave for more than 6 months.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of paramedics in the acute care areas who have CURRENT trained status in Basic Life Support (BLS)
Denominator	:	Total number of paramedics in the acute care areas
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 70%
Data collection	:	1. **Where**: Data will be collected at each acute care area. 2. **Who**: Data will be collected by the Officer/ staff in-charge for the acute care area. 3. **How frequent**: 6 monthly data collection 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit and Hospital Director (final verification). 5. **How to collect**: Data will be collected from the record book/ registration book from each unit/ department/ ward.
Remarks	:	• This is a recurring indicator; therefore some of the numerator for every corresponding year can be a duplicate numerator

		from the previous years (referring to the 5 years BLS certification period of validity). • Personnel with a valid Advance Life Support (ALS) certification are considered to possess a valid BLS certification.

Indicator 19	:	Percentage of research projects (Clinical Research/ Quality Research (HSA/ QA/ ISR) successfully conducted within 2 years (based on 1% of staff number)
Element	:	Learning and Growth
Rationale	:	Research project is a part of Clinical Governance. Hence, in the effort to strengthen and support Clinical Governance, 1% of staff number from the Administration and Professionals Group (P&P) and "Kumpulan Sokongan 1" are expected to participate.
Definition of Terms	:	Research / Study: • Industrial Support Research (ISR), Clinical Trial and others. • Quality Research : DSA / HAS / KMK / KIK and others Research / Study are valid for the period of two (2) years from the date it was registered for assessment. These includes new research and also ongoing research (exception given for cohort study ; proper documentation and evidence need to be provided)
Criteria	:	**Inclusion:** 1. Research projects (Clinical Research/ Quality Research (HSA/ QA/ ISR) successfully conducted within 2 years 2. Staffs from the Administration and Professionals Group (P&P) and "Kumpulan Sokongan 1" only. **Exclusion:** 1. Staffs from "Kumpulan Sokongan 2" and others (e.g. students, *Pegawai Sambilan Harian (PSH)*)
Type of indicator	:	Rate-based indicator
Numerator	:	Number of research (new / ongoing) produced within two (2) years period.
Denominator	:	Estimated number of research (based on 1% of staff number from the Administration and Professionals Group (P&P) and "Kumpulan Sokongan 1".
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected from the Formed Research Groups. 2. **Who**: Data will be collected by the Officer/ staff in-charge for the Quality/ Research/ Innovation in each department/ unit (Administrative unit/ department responsible for the overall data collection) 3. **How frequent**: Yearly data collection.

		4. **Who should verify**: All performance data must be verified by the Hospital Director 5. **How to collect**: Data will be collected from the research record book from each units or departments.
Remarks	:	• For Hospital or Institution with less than 100 staff number from the Administration and Professionals Group (P&P) and "Kumpulan Sokongan 1", the standard is one (1) research. Calculation examples: Number of Administration and Professionals Group (P&P) and "Kumpulan Sokongan 1": • ≤ 100 → standard is one (1) • 101 – 149 → standard is one (1) • 150 – 200 → standard is two (2)

Indicator 20	:	**Innovative Culture: Number of innovation replicated and implemented within 2 years in the hospital**
Element	:	**Learning and Growth**
Rationale	:	Innovative cultures were meant to give a plus point on enhancing the services provided by the Ministry of Health. Hence, Hospitals are expected to contribute by ensuring there is innovation produced/ replicated and implemented.
Definition of Terms	:	**Innovation**: Creative ideas that can increase the quality and productivity of service. **Innovative Culture:** Initiative to apply creative idea for improvement of service quality and productivity.
Criteria	:	**Inclusion:** 1. Innovation that is replicated from any Ministry of Health Malaysia facilities. 2. Innovation that was completed in the year 2017 and 2018 and replicated in 2019 **Exclusion:** 1. Replication and implementation of innovation that is more than 2 years from the current year. 2. Innovation adapted from private sector. 3. Replicated innovation from Ward/Unit/Department from the same Hospital.
Type of indicator	:	Process indicator
Numerator	:	Number of innovation produced/ replicated and implemented within 2 years.
Denominator	:	NA
Formula	:	NA

Standard	:	≥1
Data collection	:	1. **Where**: Data will be collected in specific units or departments 2. **Who**: Data will be collected by the Officer/ staff in-charge for the Quality/ Research/ Innovation in each department/ unit (Administrative unit/ department responsible for the overall data collection) 3. **How frequent**: Yearly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit and Hospital Director (final verification) 5. **How to collect**: Data will be collected from the record book from each units or departments.
Remarks	:	All innovation must have detail profile and can be shown during audit activity.

Indicator 21	:	**Percentage of hospital vehicles that conformed to the Planned Preventive Maintenance (PPM) schedule.**
Element	:	Financial and Office Management
Rationale	:	PPM is a scheduled maintenance of an asset or item of equipment of the hospital including the hospital vehicles. PPM provides the renewal of any elements of the asset before they fail. Having a detailed and well-costed PPM in place provides a level of comfort, possible significant future savings and allows hospital to spread maintenance costs over a planned period of time. Moreover, good PPM and asset maintenance will ensure the hospital vehicles will always be in an optimum condition in order to ensure the safety of the users.
Definition of Terms	:	**Hospital vehicles:** All vehicles that belong to the hospital (hospital assets). **PPM schedule:** Planned maintenance for each vehicle in a specific period of time. **On schedule/ corresponding period:** ± 5 working days or ± 500km.
Criteria	:	**Inclusion criteria:** All hospital vehicles, including ambulances. **Exclusion criteria:** 4. Hospital vehicles which currently under beyond economic repair (BER). 5. Hospital vehicles that were involved in an accident at the time of the PPM Schedule. 6. Hospital vehicle which is still under warranty.
Type of indicator	:	Rate-based process indicator

Numerator	:	Number of hospital vehicles that conformed to the PPM schedule
Denominator	:	Total number of hospital vehicles on the PPM schedule
Formula	:	Numerator x 100% Denominator
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected in the transport unit/ administrative unit/ departments or unit/ department assigned by the Hospital Director. 2. **Who**: Data will be collected by the Officer/ staff/ unit in-charge for Planned Preventive Maintenance (PPM) schedule. 3. **How frequent**: 3 monthly data collection 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ transport log book.
Remarks	:	• The denominator is calculated based on 3-monthly schedule. • Each vehicle may have many PPM schedules based on the kilometres or the schedule date.

Indicator 22	:	**Percentage of personnel who confirmed in service within 3 years of their date of appointment.**
Element	:	Financial and Office Management
Rationale	:	Service confirmation for the civil servant is a crucial step in ensuring the productivity of every personnel in the government. This is in accordance to the *Surat Pekeliling Suruhanjaya Perkhidmatan Awam Malaysia Bil. 3/ 2011: Prosedur dan Kaedah Pengesahan Dalam Perkhidmatan* – which stated that *Seorang pegawai layak disahkan dalam perkhidmatan apabila telah berkhidmat dalam tempoh percubaan bagi tempoh satu (1) hingga tiga (3) tahun dan memenuhi syarat-syarat perkhidmatan.* By conforming to the above circular, indirectly, it will reflect the efficiency of the Hospital Administration in managing their staff.
Definition of Terms	:	**Personnel:** Hospital staffs who fulfilled the requirements. **Confirmation in service:** Confirmation by the SPA/ JPA or any authorized agency upon receiving the confirmation letter. **Date of appointment:** The date stated in the appointment letter by SPA/ JPA or any authorized agency. **Within 3 years:** ≤ 3 years from the date of appointment.
Criteria	:	**Inclusion:** 1. Staffs who were newly appointed or newly promoted to a higher post (*Kenaikan pangkat secara lantikan, KPSL*).

		2. Staffs with an official appointment or promotion letter from MOH. **Exclusion:** 1. Staffs with disciplinary action/ under probation. 2. Staffs whom transferred in ≤ 6 months and the confirmation was not yet been processed by the previous *Pusat Tanggungjawab* (PTJ).
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of personnel who confirmed in the service within 3 years from the date of appointment
Denominator	:	Total number of personnel who were scheduled for confirmation within 3 years from the date of appointment in the corresponding year
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	**≥ 95%**
Data collection	:	1. **Where**: Data will be collected in the human resource/ administrative unit/ departments. 2. **Who**: Data will be collected by the Officer/ staff/ unit in-charge for staff confirmation in service. 3. **How frequent**: 3 monthly data collection (3-year cohort). 4. **Who should verify**: All performance data must be verified by the Head of Administrative Department/ Unit/ Deputy Hospital Director (Administrative)/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ monitoring system in human resource/ administrative unit.
Remarks	:	• **Cohort:** a group of subjects who have shared a particular event together during a particular time span and can be tracked over extended periods. • It is suggested that the Hospital Administrative Unit to prepare a list of the staffs that conform to the above circular and be grouped into 3 monthly cohorts on the 1st of January of every year.

Indicator 23	:	**Percentage of paid bills by discharged patients from the inpatient revenue**
Element	:	**Financial and Office Management**
Rationale	:	Being the main health care provider in Malaysia, government hospitals are providing their services with low charges. By making sure the arrears at the minimum, this will reflect a good hospital revenue management and will lighten the financial burden of the government hospitals per *se*.
Definition of Terms	:	**Inpatient**: Patient who was admitted to the ward. **Paid bill**: Full payment/ settlement of the bill (of any amount that have been charged/ decided by the hospital).

		Discharged patient: Patients who were discharged from the ward.
Criteria	:	**Inclusion:** All patients who were admitted to the ward and require to pay for the hospital bill upon discharge. **Exclusion:** Patients who were exempted from hospital bill based on the *Akta Fi*.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of paid bills by discharged patients (inpatient)
Denominator	:	Total number of discharged patients (inpatient)
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	**≥ 70%**
Data collection	:	1. **Where**: Data will be collected from *Unit Hasil*. 2. **Who**: Data will be collected by the Officer/staff in-charge. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Unit/ Deputy Director (Management)/ Hospital Director. 5. **How to collect**: Data will be collected from the registration book or computerized record system.
Remarks	:	• *Pengecualian bayaran mengikut Perintah Fi (Perubatan 1982)* • *Garis Panduan Pelaksanaan Perintah Fi (Perubatan) (Kos Perkhidmatan) 2014* • *Surat Pekeliling Bahagian Kewangan Bil 2/2006*

Indicator 24	:	**Percentage of assets in the hospital that were inspected and monitored at least once a year**
Element	:	**Financial and Office Management**
Rationale	:	Keeping track of assets by utilizing an updated inventory is an essential task that facilitates hardware and software management, license compliance and regulatory compliance of the assets. A successful asset management solution (i.e. through organized inspection and monitoring system), indeed, could save a lot of hospital money and management hassle.
Definition of Terms	:	**Asset:** Hospital properties that are listed in the hospital inventory. **Inventory:** A complete list of items such as property, goods in stock, or the contents of the hospital.

		Inspect and monitor: Surveillance activity of the hospital assets (placement of the assets/ location of the assets/ function) with complete documentation.
Criteria	:	**Inclusion:** All assets in the hospital inventory **Exclusion:** Assets under beyond economic repair (BER)/ disposal/ investigation due to it being reported as lost.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of assets that were inspected and monitored
Denominator	:	Total number of asset and inventory that were listed in the inventory
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	100%
Data collection	:	1. **Where**: Data will be collected from the administration unit/ departments. 2. **Who**: Data will be collected by the Officer/ staff of the Administration unit in-charge for assets and inventory. 3. **How frequent**: Yearly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Head of Administrative Unit/ Deputy Hospital Director (Administration) / Hospital Director. 5. **How to collect**: Data will be collected from the record book/ registration book/ monitoring system in the administrative unit/ department.
Remarks	:	• It is suggested that the hospital assets inventory, should be generated early of the year. • It is suggested that the final performance to be measured not later than 15th December of the corresponding year.

Indicator 25	:	**Hospital possesses CURRENT Accreditation (MSQH) or MS ISO Certification Status (YES = 1; NO = 0)**
Element	:	**Financial and Office Management**
Rationale	:	Quality is about meeting the needs and expectations of customers, i.e. the patients. In pursuing these measures of quality, possession of MSQH Accreditation or MS ISO standard certification proves the KKM hospital commitments in delivering good quality healthcare with high standard of services.
Definition of Terms	:	**CURRENT:** Belonging to the present time within the validity period of the certificate. **Accreditation:** 1 year or 4-year status, by the MSQH.

		MS ISO: ISO 9000 family of Standards by International Organisation for Standardization (ISO). It is an international consensus on good quality management practices.
Criteria	:	**Inclusion criteria:** Hospital with Accreditation (MSQH) or MS ISO certification (any family of MS ISO) **Exclusion criteria:** NA
Type of indicator	:	Sentinel outcome indicator
Numerator	:	Current Accreditation or MS ISO status: Attained or Renewed
Denominator	:	NA
Formula	:	Numerator Performance
Standard	:	Achieved or Sustained Accreditation/ MS ISO status (1)
Data collection	:	1. **Where**: Data will be collected from the Hospital Director's Office or Unit/ Department assigned by the Hospital Director. 2. **Who**: Data will be collected by the Officer/ staff of a Unit/ department in-charge and assigned by the Hospital Director. 3. **How frequent**: Yearly data collection. 4. **Who should verify**: All performance data must be verified by the Hospital Director. 5. **How to collect**: Data will be collected from the record book/ Accreditation or MS ISO Certificate.
Remarks	:	• In general, hospitals are encouraged to undergo Accreditation. However, in the case of structural/ infrastructure/ financial issues which prevent the hospitals from undergoing Accreditation, it is suggested that these hospitals undergo MS ISO Certification instead. • Although only a particular area or a specific department of the hospital is certified with the ISO Certification, it can be considered as the hospital performance.

Indicator 26	:	Percentage of personnel with complete documentation 3 months prior to their time-based promotion in the corresponding year
Element	:	Financial and Office Management
Rationale	:	Complete documentation within three (3) months prior to t time-based promotion of a personnel shows the efficiency of t hospital management. By ensuring the complete documentatic the promotion of a personnel will not be delayed.
Definition of Terms	:	**Complete documentation:** • Refers to that all needed/ required documents for promotion have been prepared. • The monitoring and documents should be prepared by the Administrative/ Human Resource Unit
Criteria	:	**Inclusion:** All eligible personnel.

		Exclusion: Staff who were transferred in less than 3 months.
Type of indicator	:	Rate-based structural indicator
Numerator	:	Number of eligible personnel with complete documentation three (3) months prior to time-based promotion
Denominator	:	Total number of eligible personnel due for time-based promotion
Formula	:	Numerator x 100% Denominator
Standard	:	**≥ 90%**
Data collection	:	1. **Where**: Data will be collected from the administrative unit/ departments. 2. **Who**: Data will be collected by the Officer/ staff of the Administrative unit in-charge for time based promotion. 3. **How frequent**: 3 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Administrative Unit/ Human Resource Unit/ Deputy Hospital Director (Administrative)/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ monitoring system in the administrative/ Human Resource unit/ department.
Remarks	:	• It is suggested that the hospital to identify the staffs who are eligible to be promoted according to the time-based promotion in early of the year. Example: If an officer is scheduled to be promoted in July, the documentation must have been completed by April. • The time-based promotion for *Pegawai Kumpulan Pelaksana* is in parallel with *perkara (10) Pekeliling Perkhidmatan Bilangan 8, Tahun 2013, dan Garis Panduan Kementerian Kesihatan Malaysia Ruj. (31) dlm. KK(S)-523(681) Jld 2 bertarikh 26 November 2013.*

Indicator 27	:	**Percentage of Safety Audit findings identified whereby control measures had been taken in the corresponding year**
Element	:	**Environmental (Technical) Support**
Rationale	:	To ensure safety of the patient and healthcare workers involved.
Definition of Terms	:	**Safety Audit:** An audit that is conducted by the hospital Safety and Health Committee (JKKK) / Person in charge of safety to assess the compliance of the hospital to safety and health. **Safety Audit finding**: Any item in the safety audit format OHU/ Audit/ BU (general) with score of 0 and 1. Scoring scale:

		<table><tr><td>0</td><td>Not comply</td></tr><tr><td>1</td><td>Comply, but not complete</td></tr><tr><td>2</td><td>Comply, and complete</td></tr></table> **Control measures:** - Any effort to reduce the risk related to the hazard through various control measures such as elimination, substitution, engineering control (e.g. use automation or LEV), administrative control (e.g. SOP, policies or work rotation) and personal protective equipment (PPE). - Multiple control measure can be used. **Taken**: Action has been carried out as mentioned above.
Criteria	:	**Inclusion:** Hazardous areas, e.g. CSSD, kitchen, laboratory, Radiology or Diagnostic Imaging Department/ Unit, Cytotoxic Drug Reconstitution, Engineering Department (workshop), mortuary, wards, hospital compound. Areas that must be included: - Critical Care Area (ICU/ CCU/ NICU/ HDW) - ED - Pathology Laboratory - Kitchen - Radiology/ Diagnostic Imaging Department Optional Areas: - Cytotoxic Drug Reconstitution - Engineering Department - Wards – compulsory for hospital without Critical Care Area - Mortuary - Hospital compound - Other area **Exclusion:** Areas under construction.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of Safety Audit findings identified during the safety audit whereby control measures had been taken
Denominator	:	Total number of Safety Audit findings that had been identified
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	**≥ 70%**
Data collection	:	1. **Where**: Data will be collected from the hospital's Safety and Health Committee (JKKK) / OSH unit/ departments.

		2. **Who**: Data will be collected by the hospital's Safety and Health Committee (JKKK) / Person in charge of safety (Safety Officer). 3. **How frequent**: Yearly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Safety and Health Committee (JKKK) / OSH unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ audit finding report/ minutes regarding safety/ monitoring system by the hospital's Safety and Health Committee (JKKK).
Remarks	:	• Based on the requirements in Occupational Safety and Health Act 1994 (Act 514), Safety and Health Committee must be established in the hospital. • Safety audit needs to be conducted in the hospital. • Based on the Safety Audit format given (OHU/ Audit/ BU form), the problem identified will be scored 0 or 1. • After the control measure, had been acted upon, the Safety and Health Committee will need to discuss the effectiveness of the control measure. • Any form of action taken to improve the safety audit finding, for example, a letter to the State Health Office, is accepted as a control measure had been taken. • All the findings should be identified and documented during the assessment/ audit. • Head of the OSH Unit needs to make sure that the Safety Audit Report is sent to the State *KPAS* officer. • Head of the OSH Unit needs to make sure that the HPIA report is sent to *Penyelaras OSH, Bahagian Perubatan, JKN.* • Safety Officer of the hospital must be appointed by Hospital Director. • The audit findings must be presented to the Hospital Director before submission to the State Health Office. • The report of the audit can only be submitted to the State Health Office after validation by the Hospital Director.

Indicator 28	:	**Percentage of Facility Engineering Plant Room Inspection (EPR) with report submission done by Engineering Unit Personnel in the corresponding year**
Element	:	**Environmental (Technical) Support**
Rationale	:	EPR allows the Engineer to identify any technical issues and problems with the hospital facilities. By doing a schematic inspection, it will ensure that FEMs in the hospital are well-maintained throughout the year.
Definition of Terms	:	**Facility Engineering Plant Room:** A room which facilitates all Facility Engineering Maintenance System (FEMs) that prolongs

		the life span and enhances the performance of equipment and facilities cost effectively. **Inspection:** Inspection done by the Engineer/ Assistant Engineer **Engineering Unit Personnel**: Engineer/ Assistant Engineer
Criteria	:	**Inclusion:** All EPR done by the Engineering Unit Personnel **Exclusion:** EPR done by the concession company representative only.
Type of indicator	:	Rate-based process indicator
Numerator	:	Number of EPR for Facility Engineering Maintenance System (FEMs).
Denominator	:	Total number of EPR that are supposed to be carried out in the corresponding year: - **52 times** annually (once per week) in hospital with Engineering resident (Engineer/ Assistant Engineer/ Technical assistant). - **26 times** annually (fortnightly) in hospital without Engineering resident.
Formula	:	Numerator x 100% Denominator
Standard	:	≥ 80%
Data collection	:	1. **Where**: Data will be collected from the hospital Engineering Unit/ Department. 2. **Who**: Data will be collected by the Officer/ staff in charge of the Engineering Unit/ Department assigned by the Hospital Director. 3. **How frequent**: Monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Engineering Unit/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ log book of inspection.
Remarks	:	

Indicator 29	:	Percentage of Fire Drill that has been carried out by the hospital in the corresponding year: a. Fire Drill at hospital level: Once a year b. Table Top Exercise at hospital level: Twice a year
Element	:	Environmental (Technical) Support
Rationale	:	Fire drills are essential in any workplace or public building for practicing what to do in the event of a fire (Terry Penney, 2016). Not only do they ensure that all staff, customers and visitors in the premise understand what they need to do in case of fire,

		but they also help to test how effective the fire evacuation plan is and to improve certain aspects of the fire provisions.
Definition of Terms	:	**Fire Drill:** A practice of the emergency procedures to be used in case of fire. **Fire Drill with multiple Agencies:** Fire Drill that involves Fire & Rescue Department or/and other agencies (e.g. St John Ambulance/ Red Crescent) with the hospital staff/ personnel. **Tabletop exercise**: A meeting to discuss a simulated emergency situation. Members of the team/ hospital review and discuss the actions they would take in a particular emergency, testing their emergency plan in an informal, low-stress environment. Tabletop exercises are used to clarify roles and responsibilities and to identify additional campus mitigation and preparedness needs. The exercise should result in action plans for continued improvement of the emergency plan.
Criteria	:	**Inclusion:** All hospital building. **Exclusion criteria:** Nil
Type of indicator	:	Rate-based process indicator
Numerator	:	a. Number of Fire Drill that has been carried out in the corresponding year. b. Number of Tabletop Exercise that has been carried out in the corresponding year.
Denominator	:	a. Total number of Fire Drill that has been planned in the corresponding year. b. Total number of Tabletop Exercise that has been planned in the corresponding year.
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	100%
Data collection	:	1. **Where**: Data will be collected in the Administrative unit/ Safety department/ Engineering Department/ OSH Unit (depending on the hospital). 2. **Who**: Data will be collected by the Officer/ staff in-charge of the unit/ department. 3. **How frequent**: 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Administrative Unit/ Department/ Deputy Hospital Director (Administrative) / Hospital Director. 5. **How to collect**: Data will be collected from the record book/ Action Report/ verified meeting minutes with the unit/ department.
Remarks	:	

TECHNICAL SPECIFICATIONS OF SPECIFIC INDICATORS

Indicator 1	:	Number of Uncontrolled Diabetes Mellitus (DM) patients admitted to MOH Hospital in the corresponding year
Focus	:	Diabetes Care
Rationale	:	Diabetes is a leading cause of cardiovascular disease, blindness, kidney failure and lower limb amputation in many countries in the world (OECD 2014). By 2035, it is projected that approximately 600 million people will be diagnosed with diabetes. Thus, by looking at the burden of the disease in the health care setting, i.e. particularly in the hospital, this will allow the healthcare policy makers in taking more drastic measures in controlling the disease.
Definition of Terms	:	**Uncontrolled Diabetes Mellitus (DM):** Blood Glucose Level of a DM patient, who is on diabetic medication (oral/ injection), which is not within the acceptable range that requires hospital admission.
Criteria	:	**Inclusion:** All diabetic patients (on medication) who was admitted to the ward for uncontrolled DM as a primary or secondary diagnosis (including defaulters). **Exclusion:** 1. Any patients who were diagnosed with uncontrolled DM secondary to tumour/ genetic diseases. 2. Patients with Gestational Diabetes Mellitus.
Type of indicator	:	Sentinel outcome indicator
Numerator	:	Number of Uncontrolled DM patients admitted to the hospital
Denominator	:	-
Formula	:	-
Standard	:	NA
Data collection	:	1. **Where**: Data will be collected at the hospital registration counter (including ED Counter)/ Ward/ Medical Record. 2. **Who**: Data will be collected by the staff in-charge of the registration counter for admission to the ward / staff in charge in the ward and submit to the Quality Unit of the hospital for compilation. 3. **How frequent**: 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Hospital Quality Coordinator/ Deputy Hospital Director (Medicine)/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ admission book.
Remarks	:	

Indicator 2	:	**Percentage of Diabetes Mellitus (DM) patients who were under regular clinic follow-up with A1c ≤ 6.5% in the corresponding year**
Focus	:	**Diabetes Care**
Rationale	:	Diabetes is a leading cause of cardiovascular disease, blindness, kidney failure and lower limb amputation in many countries in the world (OECD 2014). By 2035, it is projected that approximately 600 million people will be diagnosed with diabetes. Thus, by looking at the burden of the disease in the health care setting, i.e. particularly in the hospital, this will allow the healthcare policy makers in taking more drastic measures in controlling the disease.
Definition of Terms	:	**A1c:** **R**efers to *glycated haemoglobin (A1c),* which identifies the average plasma glucose concentration and it reflects the average blood glucose levels over 8-12 weeks. For diabetes patient, the acceptable reading for A1c < 4**8 mmol/mol (6.5%).** **Regular clinic follow-up**: Scheduled Outpatient Clinic follow-up for DM patients.
Criteria	:	**Inclusion:** All DM patients who were on Diabetic medication (oral/ injection) with A1c ≤ 6.5% during the clinic visit. **Exclusion:** 1. Patient whom defaulted the clinic follow-up > 3 months. 2. Patients with Gestational Diabetes Mellitus.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of DM patients who were under regular clinic follow-up with A1c ≤ 6.5%
Denominator	:	Total Number of DM patients who were under regular clinic follow-up with A1c blood monitoring
Formula	:	Numerator x 100% Denominator
Standard	:	**≥ 20%**
Data collection	:	1. **Where**: Data will be collected in the Diabetes follow-up Clinic/ Medical Specialist Clinic (MOPD). 2. **Who**: Data will be collected by the staff in-charge of the clinic and submit to the Quality Unit of the hospital for compilation. 3. **How frequent**: 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Deputy Hospital Director (Medicine) / Hospital Director. 5. **How to collect**: Data will be collected from the record book/ clinic registration book.
Remarks	:	Clinical Practice Guideline, Management Type 2 Diabetes Mellitus, 5th Edition, 2015

		- Target control for A1c in DM patient is ≤ 6.5%. - Standard for tertiary healthcare facilities is ≥ 20%.

Indicator 3	:	Number of Uncontrolled Hypertension patients admitted to MOH Hospital in the corresponding year
Focus	:	Cardiovascular Care
Rationale	:	• Hypertension is defined as a persistent elevation of systolic BP of 140 mmHg or greater and/or diastolic BP of 90 mmHg or greater. • The National Health and Morbidity Survey (NHMS) 2011 have shown that the prevalence of hypertension in Malaysia for adults ≥ 18 years has increased from 32.2% in 2006 to 32.7% in 2011. For those > 30 years old, the prevalence has increased from 42.6% to 43.5%. • The relationship between BP and risk of cardiovascular events is continuous, consistent and independent of other risk factors. The higher the BP, the greater the chance of myocardial infarction, heart failure, stroke and kidney diseases. The presence of each additional risk factor, such as dyslipidemia, diabetes mellitus or smoking status, compounds the risk.
Definition of Terms	:	**Uncontrolled Hypertension:** The blood pressure of a hypertensive patient, who is on anti-hypertensive medication, which is poorly controlled (not within the acceptable range) that requires admission to the hospital.
Criteria	:	**Inclusion:** Patients with uncontrolled hypertension who were admitted to the ward for Uncontrolled Hypertension as a primary or secondary diagnosis. **Exclusion:** 1. Any patients who were diagnosed with Uncontrolled Hypertension secondary to tumour/ genetic diseases. 2. Patients who are in pregnancy.
Type of indicator	:	Sentinel outcome indicator
Numerator	:	Number of Uncontrolled Hypertension patients admitted to the hospital
Denominator	:	-
Formula	:	-
Standard	:	NA
Data collection	:	1. **Where**: Data will be collected at the hospital registration counter (including ED Counter)/ Ward/ Medical Record. 2. **Who**: Data will be collected by the staff in-charge of the registration counter for admission to the ward / staff in charge in the ward and submit to the Quality Unit of the hospital for compilation. 3. **How frequent**: 6 monthly data collection.

		4. **Who should verify**: All performance data must be verified by the Hospital Quality Coordinator/ Deputy Hospital Director (Medicine)/ Hospital Director. 5. **How to collect**: Data will be collected from the record book/ admission book.
Remarks	:	

Indicator 4	**:**	**Percentage of Hypertensive patients who were under regular clinic follow-up with Blood Pressure (BP) control ≤ 140/90 in the corresponding year**
Focus	:	Cardiovascular Care
Rationale	:	• Hypertension is a simple parameter that can be measured easily in every set up and yet is critically responsible for a myriad of complication. • Hypertension control will lead to a reduction in future burden for chronic renal failure, strokes, and ischemic heart disease.
Definition of Terms	:	NA
Criteria	:	**Inclusion:** 1. All patients diagnosed or referred with hypertension in the clinic 2. Patients must have been under follow up with the clinic for at least 12 months. **Exclusion:** 1. Patients aged more than 65 years old. 2. Patients who default treatment. 3. Patients who default follow up for more than 1 visit.
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of Hypertensive patients who were under regular clinic follow-up with BP control ≤ 140/90
Denominator	:	Total Number of Hypertensive patients who were under regular clinic follow-up with BP control ≤ 140/90
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	**≥ 40%**
Data collection	:	1. **Where:** Data will be collected in the Hypertension follow-up Clinic/ Medical Specialist Clinic (MOPD). 2. **Who:** Data will be collected by the staff in-charge of the clinic and submit to the Quality Unit of the hospital for compilation. 3. **How frequent:** 6 monthly data collection. 4. **Who should verify:** All performance data must be verified by the Head of Department/ Deputy Hospital Director (Medicine) / Hospital Director.

		5. **How to collect:** Data will be collected from the record book/ clinic registration book.
Remarks	:	

Indicator 5	**:**	**Rate of patients who received their surgery within 48 hours following an admission for hip fracture in the corresponding year**
Focus	:	Acute Care
Rationale	:	Early surgery for hip fracture is associated with better functional outcome and lower rates of non-union, shorter hospital stays and duration of pain, and lower rates of complications (deep vein thrombosis and pressure sores) and mortality. Although a delay to surgery may not unequivocally impact mortality, the advantages of early hip fracture surgery merit an early intervention.
Definition of Terms	:	**Received surgery:** Any form of orthopaedic surgeries (major/ minor) including skeletal traction and skin traction, that has been performed on the patients who were diagnosed with hip fracture in regards to the condition. **Hip fracture:** Any form of hip fracture, i.e. femoral neck fracture, intertrochanteric fracture, and sub-trochanteric fracture.
Criteria	:	**Inclusion:** All patients who were admitted for hip fractures. **Exclusion:** 1. Poly-trauma patients with intra-abdominal injury/ thoracic injury/ head injury. 2. Patients with medical co-morbidities requiring stabilization before surgery. 3. Patients whom the operation was delayed due to implant unavailability (> 48 hours).
Type of indicator	:	Rate-based outcome indicator
Numerator	:	Number of patients who received their surgery within 48 hours following an admission for hip fracture
Denominator	:	Total number of patients who were admitted for hip fracture
Formula	:	$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$
Standard	:	**≥ 70%**
Data collection	:	1. **Where**: Data will be collected in the Orthopaedic Ward/ Operation Theatre (OT). 2. **Who**: Data will be collected by the staff in-charge of the ward/ OT submit to the Quality Unit of the hospital for compilation. 3. **How frequent**: 6 monthly data collection.

		4. **Who should verify**: All performance data must be verified by the Head of Department/ Hospital Director. 5. **How to collect**: Data will be collected from the patient's record (operative note) / operative record book/ OT operative book.
Remarks	:	

Indicator 6	:	**Number of inpatient suicide among people who were diagnosed with a mental disorder in the corresponding year**
Focus	:	**Mental Health Care**
Rationale	:	• Suicide is a global phenomenon in all regions of the world; in fact, 75% of global suicide occurred in low- and middle-income countries in 2012. Suicide accounted for 1.4% of all deaths worldwide, making it the 15th leading cause of death in 2012 (WHO, 2016). • Effective and evidence-based interventions can be implemented at the population, sub-population and individual levels to prevent suicide and suicide attempts. • Risk for death by suicide is increased if a person suffers from depression alongside schizophrenia, bipolar illness, personality disorder, substance abuse and anxiety disorders.
Definition of Terms	:	**Inpatient suicide:** An act of intentional taking of one's own life while being admitted in the ward. **Mental disorder:** Any form of mental illness that was diagnosed by the Psychiatrist.
Criteria	:	**Inclusion:** All in-patients who were diagnosed with mental disorder. **Exclusion:** Patients who were already discharged, but committed suicide in the hospital compound.
Type of indicator	:	Sentinel outcome indicator
Numerator	:	Number of inpatient suicide among people who were diagnosed with a mental disorder
Denominator	:	-
Formula	:	-
Standard	:	NA
Data collection	:	1. **Where:** Data will be collected in the Psychiatric Ward/ ward that cater patient with mental disorder. 2. **Who:** Data will be collected by the staff in-charge of the ward. 3. **How frequent:** 6 monthly data collection.

		4. **Who should verify:** All performance data must be verified by the Head of Department/ Hospital Director. 5. **How to collect:** Data will be collected from the patient's record / ward record book.
Remarks	:	• The death must be verified by the Hospital Director as a suicidal death.

Indicator 7	:	**Colorectal Cancer Mortality in the corresponding year**
Focus	:	**Cancer Care**
Rationale	:	Colorectal cancer is the second leading cancer among the general population in Malaysia (MOH, 2011). Mortality due to this cancer that occur in the hospital will indirectly reflect the burden of the disease in the hospital setting.
Definition of Terms	:	**Colorectal Cancer Mortality:** Patients who died of Colorectal Cancer.
Criteria	:	**Inclusion:** All colorectal cancer patients who died of Colorectal Cancer or its complications regardless of the stage. **Exclusion:** NA
Type of indicator	:	Sentinel outcome indicator
Numerator	:	Number of Colorectal Cancer patients who died in the hospital.
Denominator	:	-
Formula	:	-
Standard	:	NA
Data collection	:	1. **Where:** Data will be collected in every ward in the hospital/ ED. 2. **Who:** Data will be collected by the staff in-charge of the ward/ ED and submit to the Quality Unit of the hospital for compilation. 3. **How frequent:** 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Hospital Director 5. **How to collect**: Data will be collected from the patient's record (operative note) / ward record book/ ED record book.
Remarks	:	

Indicator 8	:	**Percentage of Obstetric Trauma following vaginal delivery without instrument in the corresponding year**
Focus	:	**Patient Safety**
Rationale	:	Obstetric Trauma is a debilitating injury to the patient. The injury of third- and fourth-degree perineal tears during vaginal delivery extends to the perineal muscles, anal sphincter and

		bowel wall, and these require surgical treatment post-delivery. Possible long term complications include continued perineal pain and anal incontinence. These types of tears can be prevented/ reduced by employing appropriate labour management and care standards.
Definition of Terms	:	**Obstetric Trauma:** Refers to the perineal laceration/ tear during delivery in the hospital.
Criteria	:	**Inclusion:** Patients who underwent vaginal deliveries in the hospital: • without instrumentation. • sustained third (3rd) degree and fourth (4th) degree perineal laceration/ tear. **Exclusion:** Patients who were delivered outside of the hospital.
Type of indicator	:	Rate - based outcome indicator
Numerator	:	Number of patients with Obstetric Trauma following vaginal delivery without instrument in the hospital
Denominator	:	Total number of vaginal deliveries without instrument in the hospital.
Formula	:	Numerator x 100% Denominator
Standard	:	**≤ 1%**
Data collection	:	1. **Where:** Data will be collected in the Labour Room/ Operation Theatre (OT)/ any ward in the hospital. 2. **Who:** Data will be collected by the staff in-charge of the Labour Room/ OT/ ward and submit to the Quality Unit of the hospital for compilation. 3. **How frequent:** 6 monthly data collection. 4. **Who should verify**: All performance data must be verified by the Head of Department/ Hospital Director. 5. **How to collect**: Data will be collected from the patient's record (operative note) / Labour Room record book.
Remarks	:	

Indicator 9	:	**Successful quit smoking rate at quit smoking clinic in Hospital**
Focus	:	
Rationale	:	This indicator is intended to enhance the effort on reducing the burden of Non-communicable Diseases (NCD). Through this initiative, client who is registered with quit smoking clinic will be given quit date through NCD risk factors intervention program.
Definition of Terms	:	**Registered Client:** Client that is registered in Quit Smoking Clinic registration book/ record.

<table>
<tr><td></td><td></td><td>Successful Quit Smoking Client:
Client that has stop smoking for ≥ 6 months consecutively.

Quit Date:
Date that is agreed by client to start quit smoking.</td></tr>
<tr><td>Criteria</td><td>:</td><td>Inclusion:
NA

Exclusion:
NA</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 client with quit date successfully quit smoking.</td></tr>
<tr><td>Denominator</td><td>:</td><td>Total number of client with quit date for the previous year</td></tr>
<tr><td>Formula</td><td>:</td><td>Numerator x 100%
Denominator

a) Successful quit smoking rate (Jan-Jun)
(July- December of previous year cohort)
<table><tr><td>Number of client with quit date successfully quit smoking (January-June cohort)</td><td rowspan="2">X100</td></tr><tr><td>Total number of client with quit date (July-December) for the previous year</td></tr></table>
b) Successful quit smoking rate (July-December)
(January - June of the current year)
<table><tr><td>Number of client with quit date successfully quit smoking (July-December cohort)</td><td rowspan="2">X100</td></tr><tr><td>Total number of client with quit date (January-June) for the current yeat</td></tr></table></td></tr>
<tr><td>Standard</td><td>:</td><td>≥ 30%</td></tr>
<tr><td>Data collection</td><td>:</td><td>1. Where: Data will be collected in the Quit Smoking Clinic in Hospital.
2. Who: Data will be collected by the staff in-charge of the the Quit Smoking Clinic and submit to the Quality Unit of the hospital for compilation.
3. How frequent: 6 monthly data collection.
4. Who should verify: All performance data must be verified by the Head of Department/ Hospital Director.
5. How to collect: Data will be collected from the patient's record/ Quit Smoking Clinic record book.</td></tr>
<tr><td>Remarks</td><td>:</td><td></td></tr>
</table>

Nota: Sila rujuk Surat Arahan Pelaksanaan Pemantauan Petunjuk Prestasi Utama (KPI) Pengarah Hospital Melalui Hospital Performance Indicator for Accountability (HPIA) *dan Pengukuhan KPI Perkhidmatan Klinikal Program Perubatan, ruj : KKM87/P3/12/6/3 Jld.12(35) bertarikh 05 Mei 2014 serta Garispanduan Pengukuhan Pelaksanaan dan Aplikasi* Hospital Performance Indicator for Accountability (HPIA) *dan Petunjuk Prestasi Utama (KPI) Perkhidmatan Klinikal Program Perubatan.*

Jika terdapat sebarang pertanyaan/ maklumat lanjut berhubung pemantauan indikator HPIA dan Specific Indicators *sila hubungi;*

Urusetia/ Sekreteriat HPIA
Unit Survelan Pencapaian Klinikal (CPSU)
Cawangan Kualiti Penjagaan Perubatan
Bahagian Perkembangan Perubatan
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