<table>
<thead>
<tr>
<th>NAMA DOKUMEN:</th>
<th>QUALITY AND PATIENT SAFETY (QPS) PLAN UMMC</th>
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<tr>
<td>NOMBOR DOKUMEN:</td>
<td>DS-0814-E03</td>
</tr>
<tr>
<td>MUKA KULIT</td>
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</tbody>
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| TARIKH KELULUSAN : | 29-05-2014 |
| TARIKH BERKUATKUASA : | 29-05-2014 |
| TARIKH KAJISEMULA : | 29-05-2014 |

| PENULIS DOKUMEN : | Mariashabiradalia Mohd Hashim Rusinahayati Mokhtarudin |
| DISEMAK OLEH : | Ketua, Jabatan Kualiti |
| DILULUSKAN OLEH : | Timbalan Wakil Pengurusan-QMS |

DOKUMEN INI ADALAH HAK MILIK SEPENUHNYA PUSAT PERUBATAN UNIVERSITI MALAYA (PPUM). SEBARANG SALINAN SEBAHAGIAN ATAU SELURUHNYA DOKUMEN INI TIDAK DIBENARKAN SAMASEKALI KECUALI MENDAPAT KEBENARAN SECARA BERTULIS DARI BAHAGIAN PENGURUSAN KUALITI, PUSAT PERUBATAN UNIVERSITI MALAYA.
BACKGROUND

University Malaya Medical Centre (UMMC) has been certified for MS ISO 9001:2008 under the scope of ‘Provision of Healthcare Services includes Ancillary and Support Services’ since 3rd May 2002. Following that, the Working Committee of Quality Management System has set priorities to enhance the function of Quality Management System (QMS) in UMMC. In 2009, Quality Management and Safety Working Committee of UMMC have decided to incorporate quality and patient safety in a plan, which is known as The Quality Improvement and Patient Safety Plan in August 2009. The stipulated plan is to support and promote mission, vision and core values of University Malaya Medical Centre (UMMC) through the development of quality and safety culture among staff, patients and visitors in order to improve the functions of the organisation towards patient focused/centeredness such as provision of care, service treatment, medication management, research and ethics, prevention and control of infection.

The Plan has been implemented through continuous integration and coordination of the patient safety activities by medical staff, clinical and support clinical departments at UMMC. UMMC’s staff have to be responsible and committed to their roles in performing activities to ensure the safety of the patients and employees. The Quality Improvement and Patient Safety Plan will hopefully be able to further improves on the UMMC’s Quality Management System (QMS), clinical practices, hospital facilities and environmental safety through the monitoring of Quality Objectives, Clinical Indicator and National Patient Safety Goals measurement by all Departments, as well as outsourced service.

In February 2012, The UMMC Board of Management has approved the establishment of Quality Department with the main objective to further strengthen and enhance Quality and Patient Safety in UMMC. The Quality Department comprises of 2 main divisions which are Quality Management Division and Risk Management Division. The department is strongly supported by the Quality Management and Safety Steering Committee and two (2) other working committees namely Quality Management and Safety Working Committee and
Risk Management Working Committee which will continuously collaborate towards managing quality, safety and risk of the organisation.

The focus of the UMMC Quality Improvement and Patient Safety Plan, in line with UMMC’s Vision and Mission, is to be a world renowned medical centre providing the highest quality healthcare, medical training and research according to the International Standards.

1. GOAL

The UMMC quality improvement and patient safety plan is developed to achieve the following goals:

1.1 To provide continuous quality improvement and patient safety program according to organisation strategic direction, vision and mission

1.2 To adopt and utilize evidence-based practices to improve quality and patient safety according to the laws, act and regulations

1.3 To provide continuous education and training in quality improvement and patient safety

1.4 To use scientific methodology/tools and research findings in performance improvement and patient safety initiatives

1.5 To facilitate effective communication, collaboration and documentation of all performance improvement activities and patient safety

1.6 To develop a linkage in between risk management, quality and patient safety in the organization and building up quality and patient safety culture

1.7 To encourage an environment that support safety, blame free reporting, addresses maintenance and improvement in patient safety issues throughout organization

1.8 To establish mechanism for disclosure of information related to errors

1.9 To identify and continuously monitor the implementation, key quality improvement and safety performance indicators and effectiveness of the safety measures
UMMC shall adopt collaboration and interdisciplinary team approach in order to achieve the goals.

2. SCOPE

The Quality Improvement and Patient Safety Plan are includes planning of the program, assessment, implementation, measurement of performance and continuous monitoring on the effectiveness of the plan. The assessment is based on previous performance measurement, incidents reports, complaint received and litigation claims.

The implementation includes the improvement of UMMC’s Quality Management System, clinical governance, policies and procedures, good clinical practices, hospital facilities and environment.

Measurement of performance is through Key Performance Indicator (KPI), Quality Objectives, Clinical Indicators, Malaysian Society for Quality in Health (MSQH) Indicators, Malaysian Patient Safety Goals (MPSG) and incidents monitoring in all departments and services. These functions include:

2.1 Patient focused functions – World Alliance for Patient Safety and Patient Safety Council Malaysia (PSCoM), Malaysian Patient Safety Goals, Patient and Family Rights and Responsibilities, ethic, provision of care, treatment and services, medication management, prevention and control of infection.

2.2 Organizational functions - improving organization performance, leadership and direction, management of the environment of care, management of human resources, management of financial, management of procurement and management of information.
3. ROLES AND RESPONSIBILITIES

3.1 UMMC is governed by a Board of Management which is responsible for the management and administration of the organization. The UMMC Board of Management delegate authority and responsibility for all matters related to the quality and safety improvement of UMMC through Quality Improvement Steering Committee, Occupational Safety & Health and Environment (OSHE) Committee and Risk Management Committee. The three committees are supported by the relevant sub-committee of UMMC and will collaborate closely to manage and monitor quality, safety, risk and safety of the organization through various committees and teamwork.

3.2 The Quality and Safety Improvement Plan shall be approved by the Quality Improvement Steering Committee whom the members is appointed by the Board of Management.

3.3 The Chairperson of Quality Improvement Committee also known as Management Representatives of Quality Management System (MR-QMS) is appointed by Chairman of Quality Improvement Steering Committee. The Occupational Safety & Health and Environment (OSHE) Committee and Risk Management Committee is chaired by the Director of UMMC. The Committees structure and it relationship are shown in figure 1 as below:
3.4 Each committee has their responsibility in quality improvement and patient safety programs/activities. Terms and Responsibilities of main committees are:

3.4.1 Quality Improvement Steering Committee

Role and Responsibilities:

- Provides leadership, guidance, authority and accountability for performance improvement and safety throughout the healthcare system organization.
- Reviewing and recommending a multi-year Strategic Quality Plan with long term and annual improvement targets, and quality/safety-related policies and standards.
- The committee meets at least four (4) times a year.

3.4.2 Hospital Internal Policy Committee

Role and Responsibilities:

- Establish specific guidelines regarding the principles of basic services provided based on management decisions and resources available.
- Internal Policy Committee shall meet at least four times a year.

3.4.3 Risk Management Committee

Role and Responsibilities:

- Review incident analysis report prepared by Clinical Risk Management Committee.
- Review data and risk assessment analysis of patient complaint, medico-legal cases, potentially compensable events and medical malpractice claims.

- Review the recommendation made by various committees under risk management program and approves the recommendation of appropriate safety, control and loss prevention efforts.

- Review the implementation of the risk management program plan and procedures.

- Monitor systems and procedures to control and eliminate conditions which could contribute to accidental loss.

- Recommend an appropriate education/training programs, hospital wide or department-specific, to be developed as needed. These programs will be suggested as a result of tracking and trending analysis of Hospital incidents report and adverse events.

- Responsible to facilitate at least once annually a high risk process revision and assessment such as Failure Mode & Effects Analysis in an effort to proactively address patient safety, risk reduction, and loss prevention.

- Conduct a yearly review of the strengths and weakness of the hospital risk management program including the effectiveness of the program and modify the program upon the evaluation.
3.4.4 **Quality Improvement Committee**

Provides leadership, guidance and necessary morale and physical support to all staff in any quality initiative programs. The committee meets 12 times a year. Other responsibilities are;

- Identify the currently known best practices and recommending corrective actions
- Making recommendations to the Quality Management and Safety Steering Committee on all matters related to the quality of care, patient safety culture and customer service
- Monitoring summary report of hospital and medical staff quality and patient safety activities. The committee will report the Quality Management and Safety Steering Committee at least quarterly
- Monitoring quality objectives and clinical indicators (quarterly and annual in-depth report)
- Appoint, guide and monitor the QIT’s/QAs progress through reports and periodic presentations. Selecting projects for problem solving
- Recommend an appropriate trainings and educations program to the Quality Management and Safety Steering Committee in order to improve quality and safety services, work processes, safe environment and human resource management

3.4.5 **Clinical Risk Management Committee**

Role and Responsibilities:

- Review clinical incident data, clinical risk assessment analysis and trending of clinical incidents/adverse event prepared by Risk Management Division.
- Review report of all Root Cause Analysis done for clinical Serious Safety Event and recommend the corrective and preventive measures.

- Review all the mortality and morbidity analysis done by Clinical Assurance Committee.

- Review report of Medication Safety Committee, Fall Prevention Committee and Infection Control Department Surveillance activities.

- Suggest and coordinate an appropriate safety, control and loss prevention efforts such as identification of Potentially Compensable Events (PCEs), development of policy, improvement of practice and procedures, facilities and infrastructure and staff development program as a result of various data analysis and assessment.

- Report to Risk Management Committee on the incident analysis data and recommendation as prevention and control measures for approval and implementation.

- Review and suggest an appropriate clinical risk training program

- Review request made by patient or Head of Department for bill waiver/reduction related to medical malpractice and serious safety event and make recommendation to Risk Management/Bill Waiver Committee or UMMC Board of Management
3.4.6 Complaint/Grievances Committee

Role and Responsibilities:

- To ensure effective management of complaints, including complaints made each period and provide feedback to the complaint.
- To review any unresolved issues or recurring, including complaints that have been categorized as "finished".
- Plan and suggest measures for improvement if necessary.
- Data should be analyzed periodically and submitted to the Risk Management Committee.
- Convene meetings at least every 3 months.
- The quorum of the meeting is two thirds of the members including the Chairman.
- Regular reporting to the Board of any serious complaints or unresolved.

3.4.7 Clinical Quality Assurance Committee (CQA)

Role and Responsibilities:

- Identify and ensure processes and procedures are adhered to and if necessary treatment recommendations will be submitted to the clinical unit.
- Discuss all cases of mortality and assess the factors that contribute to the occurrence of mortality and decide whether or not an investigation should be carried out on a case. The Committee may also request a unit / clinical departments to present a case if necessary.

- Monitoring of Clinical Quality indicators for mortality cases and make recommendations to prevent recurrence of the error.

- Submit reports to the Medical Advisory Committee UMMC.

### 3.4.8 Pre Accreditation and Certification Committee

Role and Responsibilities:

- Discuss and analysis key issues regarding the accreditation/certification proposal in terms of budget, advantages and disadvantages certification/accreditation for the organization.
- Recommend to the UMMC Management whether to adopt or not the accreditation/certification proposal
- Provides leadership and guidance to any Accreditation or Certification Working Committee and receive periodic progress report from the team.
- The team meets at least 4 times a year.

The committee would make a recommendation but the decision to adopt any accreditation or certification in UMMC lies to the Management Committee. To date, UMMC has been achieved certification in MS ISO 9001:2008 and Lab Accreditation in MS 15189:2007. UMMC also audited by the International Atomic Energy Agency (IAEA), initiated by Nuclear Agency of Malaysia on periodic basis.
3.4.9 Medical Record Committee

Role and Responsibilities:

- Determine the policy and strategy of the storage, preservation, use and archiving of medical records, including test results and diagnostic images.

- Review the requirements of the relevant data on patient treatment.

- Quality improvement plan of medical records.

- Formulating policies of online access to patient information for treatment purposes.

- Formulating policies for the purpose of accessing patient information in teaching, research and reference.

- Establish policies and other policies needed to ensure the safety of patient information.

- Report to the Quality Improvement Committee.

3.4.10 Medication Safety Committee of UMMC

Responsible to evaluate the safety of UMMC medication management and use (MMU) system in order to minimize medication errors and promote positive clinical outcomes for the patients we serve. The committee meets bimonthly or as determined by the Chairperson.
Terms of reference of the committee are as follow:

- To enhance reporting of medication related incidents and near-misses by promoting a non-punitive reporting culture through the UMMC intranet-based incident reporting system
- To implement strategies to reduce or minimize medication related incidents and near-misses
- To develop a multidisciplinary and systematic approach in evaluating medication usage (medication management and use) system when an error occurs
- To report quarterly, medication related incidents and near-misses to Risk Management Committee
- To conduct training and education of all new medical, pharmacy and nursing staff in medication safety
- To publish medication related incidents and near-misses in the monthly Pharmacy Update

The committee reports directly to Risk Management Committee concerning safety issues, recommendations, and actions. The committee also reports medication errors and near misses to the National Medication Safety Centre.

### 3.4.11 Fall Prevention Team

Roles and Responsibilities:

- Monitor fall rates, trends and fall sentinel events
- Recommend improvement initiatives and strategies for fall prevention.
- Evaluate all fall-related initiatives and fall prevention processes as appropriate.
- Identify and evaluate appropriate equipment utilized for fall prevention
- Report to UMMC Quality Management and Safety Working Committee and also Risk Management Committee concerning safety issues, recommendations and actions.
- To conduct training and education to all related health care professionals
- Meet bimonthly or as determined by the team leader

The team has the ability to incorporate other members with specific expertise if required.

3.4.12 Root Cause Analysis Committee (RCA)

**Background**

The UMMC Director or Deputy Director shall decide on the need to form the committee and the member shall be appointed by the Director of UMMC.

**The composition**

The RCA Committee shall be appointed by the Director of UMMC and consist of at least 5 members of clinical consultants/specialists from a minimum of 3 clinical departments, Head of Risk Management Division, support clinical representative and one nursing representative including the chairman.

The Director shall appoint the member who have the skills, knowledge and experience to conduct RCA and who are not directly involved in the provision of the health services associated with the events.
Risk Management Division of Quality Department shall acts as the secretariat of the committee and Risk Management Division Officer shall be the secretary.

**Terms and Reference:**

Role and responsibilities:

The role of the RCA Committee is to analyze and investigate the event, and make recommendation to prevent similar events from recurring.

The RCA Committee shall initiate Investigation within a week of the appointment

The investigations shall include:

- To confirm the occurrence of serious safety events/ incident
- To investigate and analyse the root cause of the events based on the concept of Root Cause Analysis that focus on systems and processes improvement and not on individuals
- To identify the critical area/problem/issue related to the events
- To identify and choose the best recommendation of the problem solutions
- To recommend preventive and quality improvement measures including the timeline of the action if necessary
- Prepare the RCA report for the Director approval that contains a description of the event, the factors the team consider to have contributed to the event and recommendations that will prevent further recurrence of the adverse event within 45 days of the appointment.
3.4.13 Radiation Safety Subcommittee

Radiation Safety Subcommittee is consists of members from various departments whereby the activities in each department involving atomic activity using irradiating apparatus and radioactive materials.

**Radiation Safety Subcommittee (RSS), UMMC:**

- To advise the Director of UM Medical Centre on policy with regard to the use of ionization radiation and radioactive materials in diagnostic x-ray, nuclear medicine, radiotherapy, laboratories and researches.
- To draw up rules and regulations on the proper use and disposal of ionizing radiation and radioactive material in the hospital and to ensure that the rules are strictly adhered to.
- To ensure that good results are obtained from the use of ionizing radiation on patients.
- To be responsible for the application renewal and amendment of license.
- To institute a radiation protection program for the UM Medical Centre.
- To consider and review any specific radiation problem from time to time.
- To make suggestion and recommendation on the training of personnel in radiation protection.

4. QUALITY IMPROVEMENT PRINCIPLES

Quality Improvement is a systematic approach of assessing and improving services. The organization approach to quality improvement and safety is based on the High reliability organization principles which are as the following:
4.1 Safety Governance

4.1.1 Strong leadership, direction and support of governing body especially Director to quality improvement and safety activities are the keys of successful organization performance measurement and improvement. The involvement of organizational leadership will assures the quality improvement and safety initiatives programs in consistent with organization mission, vision and strategic plan.

4.1.2 The UMMC Quality and Safety programs are supported by many quality and safety committees as mention earlier and the Department Quality Managers (DQMs). Each department/unit shall appoint DQM who will be responsible to coordinate and monitor safety and continuous quality improvement activities in their respective department/unit. The DQMs also a key person for the department/unit in helping Quality Management Division maintaining the MS ISO 9001 certification, MS ISO 15189 accreditation and Malaysian Society for Quality in Health (MSQH) accreditation requirements in the department/unit. The Quality Management Division will have a meeting at least twice a year with all DQMs to discuss about safety and quality continuous improvement issues.

4.1.3 The management of UMMC shall provide full financial and physical resources relevant to safety, quality and risk management programs.

4.2 Improvement of services for patients/customer satisfaction

4.2.1 Improvement of systems and processes.

4.2.1.1 Improving patient flow and integration.
UMMC has taken the approach in designing patient/consumer centered systems capable of improving patient/consumer flow and integration that was recognised within the organization. Examples of the improvement are:

- **Centralised Blood Sampling Centre** makes the process of blood sampling and collection for investigations to be done centrally by experienced phlebotomies before the clinic appointment. The results will be available during the clinic visits and these will help the doctors making decision on the patient management.

- **UMMC PharmCare Services** where patients with prescription more than a month (long term medication) will be able to collect their medication without queuing for long hours. Pharmacy also developed efficient medication appointment reminder system via ‘Short Messages System’ (SMS) and supplies medication via Post Malaysia Sdn Bhd. (National Postal Services). PharmUMMC service provides non-formulary medication and certain medical devices with subsidised price.

- **Day Surgery Unit** will allow the patients to have less complicated surgery or procedures to be done without requiring hospital admission. Daycare Services will allow patients to be reviewed and received treatment without hospitalization. Avoiding hospitalization can result in cost savings and reduction in hospital admission.

- **Admission and Discharge Counter** located at Lobby South Tower is a centralized area for admission and discharge process and procedures for all clinical services except for Maternity and Paediatrics services. There is a comfortable patient waiting area for admission and discharge lounge for
discharged patient awaiting their family to pick them. The centralized finance counters available at this area make the bill payment process easier for patient.

4.2.1.2 Use of modern technology system

UMMC has invested in Electronic Health Information Management System such as iPesakit, eHAS, eMR, MORIS, LabCentre and PACS to improve the services by improvement of reliability, accessibility, accuracy and timeliness of data, information, and communication. The system supports the organization for tracking, trending, analyzing and monitoring clinical data, management data, clinical and non-clinical results.

With advances in medical science, the use of advanced medical technology is encouraged, therefore UMMC allocate a reasonable fund in purchasing latest medical equipments for promoting safe and quality patient care.

4.3 Quality improvement project and initiatives

4.3.1 The organization shall conducts continuous quality improvement initiatives and takes action when indicated, such as improvement of existing process and/or develops new services. UMMC shall encourage improvement activities among staff. Individual staff should involve in Easy Quality Project that focusing improvement in their daily/routine work process. Whereas, a group of staff can work as Quality Improvement Team (QIT) team or Quality Assurance (QA) team to improve the systems, processes and outcome of the services.
4.3.2 Units/Departments are encouraged to set up the quality improvement project focusing on patient/customer's satisfaction and safety. Individual with Easy Quality Project, QITs and QA teams shall present their planning project to the Quality Management Division, and then the Quality Management and Safety Working Committee for advice and guidance before the team initiate the quality project in order to avoid inappropriate project.

4.3.3 The Quality project will be facilitated by Department/Unit facilitator and Head of Quality Management Division/Quality Officer. The Quality officer will monitor the progress of the project quarterly and provide necessary assistance.

4.3.4 All staff involves in any quality improvement initiatives will be rewarded by UMMC Management.

4.3.5 Quality improvement initiatives plan are:

- Every Quality Improvement initiatives shall be present to the management once the project ready.

- Quality Management Division will be organizing Quality Improvement Team/Quality Assurance Project Competition every year internally.

- Quality Management Division will be submitting Quality Improvement Team/Quality Assurance Project either in oral or poster category for Asian Hospital Management Award Competition every year.

- Quality Management Division will be submitting Quality Improvement Team/Quality Assurance Project either in oral...
or poster category for National Convention of Quality Assurance every 2 years.

5. **RISK MANAGEMENT PRINCIPLES**

Risk management is the process of making and carrying out decisions that will assist in prevention of adverse consequences and minimize the adverse effects of accidental losses upon an organization.

Risk management process includes:

5.1 **Risk Assessment**

Risk assessment is done by risk identification, risk analysis and prioritization of the risks. Incident reporting is one of the sources can identify the risks.

5.1 Incident reporting

5.1.1 Reporting of events/incidents.

- It is essential to have event/incident been reported. When event/incident occurs, it is usually the result of many contributing factors and how the system has been designed. To prevent event/incident from recur; it is necessary to find the root cause and improve the design/process of the system.

- UMMC shall adopt a *non punitive culture* in order to encourage staff to report all the incidents/events. UMMC has developed a policy where all serious safety events shall be reported to the Director and Deputy Director.
Professional (DDP), who may delegate duties by referring the events to the Head of Risk Management Division or Head of Quality Department or Legal Unit officer to initiate further investigation depends on the types of events.

- It is important to determine the action needed in response to event/incident by effective analysis in order to prevent the recurrence.
- Incident reporting system is one of the tools used to report the events and incidents. UMMC Incident Management Policy and Procedures can be accessed at UMMC Intranet. Electronic copies of the form are available at www.ezform.ppum.icare.net (UMMC web-portal).

5.2 Risk analysis

Risk analysis is a process of determining the frequency, probability and the severity of the adverse events. The tools to assess and analyze risk are:

- Root Cause Analysis (RCA) – A process for identifying the basic of causal factors that underline variation in performance, including the occurrence or possible occurrence of sentinel events.

- Failure Mode and Effect Analysis (FMEA) – A systematic way of examining a design prospectively for possible ways in which failure can occur. It assumes that no matter knowledgeable or careful people, errors will occur in some situations and may likely to occur

- Risk scoring - A process to assess the probability and severity of the risks
- Analyzing the tracking and trending of incidents, complaint and litigation cases

- Risk Assessment through Risk Assessment System (e-Risiko) (UMMC Web Portal)

5.3 **Error Reduction and Prevention Strategies**

5.3.1 Method of error reduction and prevention are but not limited to the following:

- Development of policies, procedures and guidelines
- Audit and Survey activities
- Surveillance activities
- Improvement of patient and healthcare providers communication
- Awareness program on safety, quality and risk management
- Safety, Quality and Risk Management Training Program
- Orientation program for newly appointed staff.
- Innovation, Safety and Environment Week

5.3.2 All newly appointed staff will be given an orientation program within 2 weeks of report duties.

5.3.3 During an Orientation Program, awareness on quality, safety and risk management will be given includes:

- Quality Management System Standard (Certification and Accreditation of ISO standards and MSQH standard)
- Introduction to Patient Safety and Risk Management
- Emergency preparedness, Fire safety and Evacuation procedures
5.3.4 The following are the list of Quality and Safety Training in UMMC.

- Phlebotomy, Venipuncture and Intravenous Therapy Course
- Healthcare Risk Management Course
- Patient Safety Curriculum
- Patient Safety Seminar
- Life Savings Skills Training
- Incident management and RCA Workshop
- MEWS Score and Life focused Care training
- Clinical Risk Management Workshop
- Healthcare Risk Management Workshop
- Quality Assurance Project Training
- Advance Quality Assurance Project Training
- Internal Auditor Refresher Course
- Lead Auditor Training
- Strengthening & reinforcing course of internal audit
- Control of non conformance, corrective action & preventive action
- Effective document and record management
- Technique of analysing causes and responded NCR
- Course of innovation and creativity team (KIK)
- Workshop on Formation and Monitoring quality objectives and quality indicators

* Some other Safety training Programs are conducted by Nursing Development Unit and Training Division, Human Resource Department.

5.4 Employee Accountability (Just Culture)

- Communication openness (staff feel free to speak up if something could negatively impact patient care, feel free to question decision of those with more authority)
- Feedback and communication about error (given feedback about changes put into place based on events, informed about errors that happen on this unit and discuss ways to prevent from happening again)

- Non-punitive response to error (staff feels mistakes not held against them, not kept in personnel file, understand person who made mistake is not the problem)

6. PERFORMANCE MEASUREMENT AND IMPROVEMENT

In keeping with UMMC vision, mission and core values, performance measurement and improvement is used to measure the quality of services given to the patients, families, employees and communities.

6.1 UMMC currently is monitoring, measuring and evaluating the performance of organizational Key Performance Indicators (KPI) and Quality Indicators aspects through collection and analysis of various data of all indicators. (The KPIs for Hospital are described in the Appendix I, Quality Indicators (Clinical indicators and Quality Objectives) are described in Appendix II and III and Malaysian Patient Safety Goals Indicators are described in Appendix IV.

6.2 Performance Measurement and Improvement Process

6.2.1 UMMC is using PDCA cycle for improvement process

A. PLAN – Assess the current situations and improve processes of patient care

i. Opportunity /Problem identification and desired outcome
The opportunity or problem statement is a brief, clear statement of the issue to be studied. It must be specific, observable, measurable and manageable issue. Ideally this will be identified through previous collected data.

ii. Identify most likely cause(s) through data analysis

The cause(s) of a problem may be identified by reviewing relevant existing data, collecting baseline data on several items thought to be most likely causes of the problem.

iii. Identify potential solution(s) and the data needed for evaluation

List potential solutions that may be result in the desired outcome(s). Choose one or more solutions that can be reasonably instituted.

B. DO – Define the barriers and implement process

The solution(s) most likely to be successful should be implemented. It is often preferable to do this on a small scale to see if the changes will work.

Make the data collection easy enough and the time frames short enough so that data collection can be repeated frequently to allow for trending of changes over time. If the date not available, build baseline measures before implementing change so that it will be possible to measure whether an improvement has been produced.
C. CHECK/STUDY – Analyze data and develop conclusion

The objective of data analysis is to test the theory regarding whether or not the changes made has led to the desired outcome. It is essential that both the data elements and the anticipated analysis be planned before changes are implemented.

D. ACT – Recommendation for action/ further study/another improvement opportunity

Action in this step depends upon the results of data analysis. If the tested solution has shown to produce the desired change, one may look for another improvement opportunity if the initial test was done on a small scale.

Effectively communication the results of the test, as well as rewarding those involved in the improvement.

6.2.2 The MR-QMS should decide on data collection continuity and monitoring of sustainability of achieved improvement.

6.3 UMMC using SMART principles for Performance measurement and indicators.

S- Specific
M- Measurable
A- Attainable/Achievable
R- Relevant
T- Time bound
Continuous evaluation on performance measurement and effectiveness of the action is part of continuous improvement program. The aims are to reduce the risks to the patients and staffs and to ensure patient safety and quality of care. The continuous improvement program involves Quality Assurance (QA) program and Risk Management program.

7. PROGRAM EVALUATION

Quality and Patient Safety Plan will be evaluated annually by Quality Improvement Committee. The recommendation for continuous improvement will be discussed in the meeting. The report will be forwarded to the Quality Improvement Steering Committee meeting for endorsement.
Appendix I

DIRECTOR’S KEY PERFORMANCE INDICATORS

<table>
<thead>
<tr>
<th>NO.</th>
<th>STATEMENT</th>
<th>STANDARD</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>To achieve and sustain certifications and accreditations</td>
<td>Yearly/ As per requirement</td>
</tr>
<tr>
<td>2.</td>
<td>Achievement of Hospital Performance and Quality Indicator</td>
<td>≥ 80%</td>
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<tr>
<td>3.</td>
<td>Hand Hygiene Compliance</td>
<td>≥ 75%</td>
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<tr>
<td>4.</td>
<td>Incidence Rate of MRSA</td>
<td>≤ 0.4%</td>
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<tr>
<td>5.</td>
<td>Healthcare-associated Infection Rate (HAI)</td>
<td>&lt; 5%</td>
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<tr>
<td>6.</td>
<td>Elective Surgery Cancellation Rate</td>
<td>&lt;10%</td>
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<tr>
<td>7.</td>
<td>Patient Satisfaction</td>
<td>≥ 80%</td>
</tr>
<tr>
<td>8.</td>
<td>Percentage of audit queries where response or action had been taken</td>
<td>100%</td>
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<tr>
<td>9.</td>
<td>Completeness of discharge summary upon discharge</td>
<td>100%</td>
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<tr>
<td>10.</td>
<td>Attainment of set standards for waiting time (WT) to consult doctor or specialist at selected clinics: WT ≤ 120 minutes for at least ≥ 80% of patients for Medicine, Surgery &amp; Gynaecology Clinics</td>
<td>100%</td>
</tr>
<tr>
<td>11.</td>
<td>UMMC as partner in providing facilities for research activities that received grant yearly</td>
<td>Minimal 3 Million per year</td>
</tr>
<tr>
<td>12.</td>
<td>Percentage of CME attendance for individual houseman comply to mandatory training requirement</td>
<td>100%</td>
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**HOSPITAL CLINICAL OUTCOME**

<table>
<thead>
<tr>
<th>NO.</th>
<th>STATEMENT</th>
<th>STANDARD</th>
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<tbody>
<tr>
<td>1.</td>
<td>Hospital Mortality Rate</td>
<td>&lt; 3.5%</td>
</tr>
<tr>
<td>2.</td>
<td>Incidence Rate of Wrong Surgery Performed</td>
<td>0%</td>
</tr>
<tr>
<td>3.</td>
<td>Incidence Rate of Patient Fall with serious injury</td>
<td>&lt; 0.5 %</td>
</tr>
<tr>
<td>4.</td>
<td>Incidence Rate of Medication Error that harmful to patient</td>
<td>0 case</td>
</tr>
<tr>
<td>5.</td>
<td>Incidence Rate of Blood Transfusion Error (excluding near misses)</td>
<td>0 case</td>
</tr>
<tr>
<td>6.</td>
<td>Percentage of medical reports prepared within &lt; 4 weeks</td>
<td>≥ 90%</td>
</tr>
</tbody>
</table>
Appendix II

QUALITY INDICATORS (CLINICAL INDICATOR AND QUALITY OBJECTIVE)

CLINICAL QUALITY ASSURANCE (CQA) INDICATORS:

<table>
<thead>
<tr>
<th>JABATAN</th>
<th>PETUNJUK</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANESTHESIOLOGY DEPARTMENT</td>
<td>Incidence of re-intubation in recovery</td>
<td>0.3%</td>
</tr>
<tr>
<td></td>
<td>Intraoperative and in recovery CPR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unplanned admissions to ICU within 24 hours of surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prolonged stay (2 hours) in recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inadvertent dural puncture during regional anesthesia</td>
<td></td>
</tr>
<tr>
<td>MEDICAL DEPARTMENT</td>
<td>Post procedural mortality</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>Deaths due to acute myocardial infarct</td>
<td>&lt; 20%</td>
</tr>
<tr>
<td></td>
<td>i. Dengue fever</td>
<td>No deaths</td>
</tr>
<tr>
<td></td>
<td>ii. Dengue hemorrhagic fever /Dengue shock syndrome</td>
<td>Mortality &lt; 5%</td>
</tr>
<tr>
<td></td>
<td>Status asthmaticus</td>
<td>No deaths</td>
</tr>
<tr>
<td></td>
<td>Perforation incidences in Endoscopy Unit</td>
<td>&lt; 0.5%</td>
</tr>
<tr>
<td>TRAUMA AND EMERGENCY DEPARTMENT</td>
<td>Dispatch and ambulance preparedness for primary response</td>
<td>&gt;90% with dispatch time of 5 minutes or less</td>
</tr>
<tr>
<td>PEDIATRIC DEPARTMENT</td>
<td>Preventable death. Definition : % of death that could have been prevented</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>JABATAN</td>
<td>PETUNJUK</td>
<td>STANDARD</td>
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<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>Deaths due to gastroenteritis</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Deaths due to dengue hemorrhage fever /Dengue shock syndrome</td>
<td>Mortality &lt; 5%</td>
</tr>
<tr>
<td></td>
<td>Deaths status asthmaticus</td>
<td>No deaths</td>
</tr>
<tr>
<td></td>
<td>Deaths due to diabetes ketoacidosis</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>PSYCHOLOGY MEDICINE DEPARTMENT</td>
<td>Death due to suicide in the ward</td>
<td>No deaths</td>
</tr>
<tr>
<td></td>
<td>Incidence of relapses</td>
<td>&lt; 40%</td>
</tr>
<tr>
<td></td>
<td>Staff assaulted by patient</td>
<td>&lt; 30%</td>
</tr>
<tr>
<td></td>
<td>Transfer of patient to:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Hospital Bahagia Ulu Kinta</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Hospital Kuala Lumpur</td>
<td></td>
</tr>
<tr>
<td>IN-PATIENT SERVICES</td>
<td>Incidence of pressure sores in non-ambulatory patients</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>BIO-MEDICAL IMAGING DEPARTMENT</td>
<td>Morbidity associated with image guided percutaneous intervention of the chest (aspiration/ drainage/ biopsy/ RFA):</td>
<td>≤ 10%</td>
</tr>
<tr>
<td></td>
<td>i. Significant pneumothorax</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Significant haemoptysis</td>
<td>≤ 10%</td>
</tr>
<tr>
<td></td>
<td>Morbidity associated with image guided percutaneous intervention of the abdomen (aspiration/ drainage/ biopsy/ RFA):</td>
<td>≤ 10%</td>
</tr>
<tr>
<td>JABATAN</td>
<td>PETUNJUK</td>
<td>STANDARD</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>i. Significant haemorrhage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Morbidity associated with neurointerventional procedure:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Permanent neurological deficit ≤ 15%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Death ≤ 10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extravasation of contrast media &lt; 3%</td>
<td></td>
</tr>
<tr>
<td>OPERATION THEATER (OT SUB-COMMITTEE)</td>
<td>Wrong procedure performed</td>
<td></td>
</tr>
<tr>
<td>OPHTHALMOLOGY DEPARTMENT</td>
<td>Posterior capsule rupture &lt; 30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rate of reoperation within one week &lt; 5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cataract surgery:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Corneal decompensation requiring corneal grafting &lt; 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Endophthalmitis &lt; 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Suprachoroidal haemorrhage &lt; 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trabeculectomy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Suprachoroidal haemorrhage &lt; 1%</td>
<td></td>
</tr>
<tr>
<td>OTHORHINOLARING OLOGY DEPARTMENT</td>
<td>Rate of post procedural mortality &lt; 10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wound breakdown (clean surgery) &lt; 1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rate of post operation wound breakdown &lt; 5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rate of post-tonsillectomy bleeding &lt; 5%</td>
<td></td>
</tr>
</tbody>
</table>

Tarih Berkuatkuasa: 29-05-14
No. Kajisemula: R00
<table>
<thead>
<tr>
<th>JABATAN</th>
<th>PETUNJUK</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of re-operation of head and neck</td>
<td>Rate of re-operation of head and neck surgery cases within same admission</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>surgery cases within same admission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OBSTETRIC &amp;</td>
<td>Perioperative Mortality</td>
<td></td>
</tr>
<tr>
<td>GYNECOLOGY DEPARTMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Elective operation</td>
<td></td>
<td>&lt;5%</td>
</tr>
<tr>
<td>ii. Emergency Operation</td>
<td></td>
<td>&lt;10%</td>
</tr>
<tr>
<td>OBSTETRIC</td>
<td>Rate of post operation wound</td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td>breakdown</td>
<td></td>
</tr>
<tr>
<td>(caesarean section only)</td>
<td></td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Rate of maternal death occurring</td>
<td>Rate of maternal death occurring within 42 days post-partum</td>
<td>National Standard 26 PER 100,000</td>
</tr>
<tr>
<td>within 42 days post-partum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of maternal readmission within</td>
<td>Rate of maternal readmission within 14 days of delivery (due to obstetric</td>
<td></td>
</tr>
<tr>
<td>14 days of delivery (due to obstetric</td>
<td>related causes)</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>related causes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perinatal mortality (22 weeks</td>
<td>Perinatal mortality (22 weeks gestation to 7 days after delivery)</td>
<td>7.5 per 1,000</td>
</tr>
<tr>
<td>gestation to 7 days after delivery)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence of post partum hemorrhage</td>
<td>Incidence of post partum hemorrhage of more than 1.5 liters</td>
<td>0.5%</td>
</tr>
<tr>
<td>of more than 1.5 liters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence of recurrence eclampsia in</td>
<td>Incidence of recurrence eclampsia in the hospital</td>
<td>0%</td>
</tr>
<tr>
<td>the hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incidence of 3rd and 4th degree</td>
<td>Incidence of 3rd and 4th degree perinea injuries</td>
<td></td>
</tr>
<tr>
<td>perinea injuries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unplanned return to theatre</td>
<td>Unplanned return to theatre</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>GYNECOLOGY</td>
<td>Rate of reoperation within the same admission</td>
<td>&lt;5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intra and post operative mortality:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Within 24 hours</td>
<td></td>
<td>&lt;5%</td>
</tr>
<tr>
<td>ii. &gt; 24 hours to 30 days of operation</td>
<td></td>
<td>&lt;5%</td>
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<tr>
<td>Tarih Berkuatkuasa:</td>
<td></td>
<td>29-05-14</td>
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<tr>
<td>No. Kajisemula:</td>
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<td>R00</td>
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<tr>
<td>JABATAN</td>
<td>PETUNJUK</td>
<td>STANDARD</td>
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<td>------------------------</td>
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<td>-----------</td>
</tr>
<tr>
<td>Unplanned return to theatre</td>
<td></td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>Genitourinary injuries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURGERY DEPARTMENT</td>
<td>Perioperative Mortality - elective &amp; emergency operation:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. General Surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- elective</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>- emergency</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>ii. Urology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- elective</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>- emergency</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>iii. Neurosurgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- elective</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>- emergency</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>iv. Cardiothoracic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- elective</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>- emergency</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>Wound breakdown</td>
<td></td>
</tr>
<tr>
<td>ORTHOPEDIC SURGERY DEPARTMENT</td>
<td>Perioperative Mortality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. Elective operation</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>ii. Emergency operation</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td></td>
<td>Incidence of POP cast complications</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>JABATAN</td>
<td>PETUNJUK</td>
<td>STANDARD</td>
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<tr>
<td></td>
<td>Intra and post operative mortality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i.  Perioperative mortality</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>ii. &gt; 24 hours to 30 days of operation</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td></td>
<td>Rate of unscheduled reoperation within same admission</td>
<td>&lt; 5%</td>
</tr>
</tbody>
</table>

*Note: The clinical indicators proposed by Clinical Quality Assurance (CQA) Committee*
Appendix III

QUALITY OBJECTIVES:

AMBULATORY SERVICES

80% of out-patients with appointment received treatments within 2 hours and not above than 3% of patients received treatments more than 4 hours.

LABORATORY MEDICAL DIVISION

a) 90% of CBC, RFT, and LFT tests will have TAT < the laboratory 2 ½ hours (For Complete Blood Count Test (CBC), Renal Function Test (RFT) and Liver Function Test (LFT))
b) 90% of TSHN will have TAT within 24 hours (Thyroid Stimulating Hormone, Neonatal (TSHN))
c) 95% of INR will have a TAT within 1.5 hours (International Normalized Ratio (INR))
d) 90% of HbA1c test will be reported within 24hours (working hours)
e) 85% of RFT (Renal Function Test) of Trauma and Emergency Department can be obtained within 60 minutes upon receipt of referral.
f) 90% of CBC (Complete Blood Count) of Trauma and Emergency Department can be obtained within 45 minutes upon receipt of referral.

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>CBC</td>
<td>Complete Blood Count</td>
</tr>
<tr>
<td>RFT</td>
<td>Renal Function Test</td>
</tr>
<tr>
<td>LFT</td>
<td>Liver Function Test</td>
</tr>
<tr>
<td>TSH</td>
<td>Thyroid Stimulating Hormone</td>
</tr>
<tr>
<td>INR</td>
<td>International Normalized Ratio</td>
</tr>
</tbody>
</table>

Tarikh Berkuatkuasa: 29-05-14
No. Kajisemula: R00
MEDICAL REHABILITATION DEPARTMENT

80% of outpatients with appointment will receive rehabilitation treatment within 30 minutes.

PUBLIC RELATION DEPARTMENT

a) All complaints received will be acknowledged 1 working days from date of receipt.

b) Complaints feedback:
   i. 70% complaint feedback on clinical issues are communicated to the complainant within a period not later than 30 working days.
   ii. 80% complaint feedback of non-clinical issues are communicated to the complainant within a period not later than 10 working days.

MEDICAL RECORD DEPARTMENT

a) 97% of patients’ folder for treatment will be provided.

b) 80% of medical reports completed within 4 weeks.

c) 95% of medical records send within 72 hours after discharge.

PHARMACY DEPARTMENT

i. Out-patient pharmacy

75% of out-patients will get medication within 30 minutes after the prescription received at the pharmacy counter.

ii. In-patient pharmacy

75% of in-patients will get medication within 30 minutes after the prescription received at the pharmacy counter.

Conduct ward examination twice a year
iii. **Logistic pharmacy**

Make orders from vendors/agents within one week’s time after medication stock fall to ‘strike level’

iv. **PharmUMMC**

75% of out-patients will get medication within 30 minutes after the prescription received at the pharmacy counter.

v. **Pharmaceutical production**

100% of production of pharmaceutical products at all times

**TRAUMA AND EMERGENCY DEPARTMENT**

a) Waiting Time Relative to Triage Category: Malaysian Triage Category (MTC)
   - Red seen immediately (100%)

b) Waiting Time Relative to Triage Category: Malaysian Triage Category (MTC)
   - Yellow seen within 30 minutes (≥80%)

c) Waiting Time Relative to Triage Category: Malaysian Triage Category (MTC)
   - Green seen within 90 minutes (>70%)

**CLINICAL ONCOLOGY DEPARTMENT**

a) 90% of radiotherapy patients (main and radical) will start treatment not later than four weeks after the first consultation session at the Oncology Clinic.

b) At least 75% of breast cancer patients requiring adjuvant chemotherapy treatment will begin no later than 6 weeks from the date of surgery.
IN-PATIENT SERVICES

a) 100% of admitted patients in the ward will be assessed and receive treatment within 5 minutes after admission.

b) 100% of patients transported to the ward ICU, CCU, CICU, Maternity Ward, SCN / NICU and Pediatrics 1 will be evaluated and re-examined by a doctor at the hospital within 30 minutes.

c) 90% of patients will be evaluated and re-examined by a doctor at the hospital within 30 minutes (except discipline of Otorhinolaryngology, Ophthalmology, Psychiatry, Hematology, Oncology and patients admitted for elective who was examined by a doctor at the Admission counter).

d) For discipline of Otorhinolaryngology, Ophthalmology, Hematology, Oncology and patients admitted for elective who was examined by a doctor at the Admission counter - "90% of patients will be evaluated and re-examined by a doctor at the hospital within 2 hours".

e) Discipline of Psychiatry

i. 100% of patients in need of intervention "chemical restraint" or / and "physical restraint" during the entry will be evaluated by a doctor and check on the ward within 4 hours.

ii. 90% of patients who did not require intervention "chemical restraint" or / and "physical restraint" will be evaluated and examined by a doctor at the hospital within 24 hours.

CLINICAL UNIT (OPERATING THEATRE (OT) SUB-COMMITTEE)

85% of patient schedule for operation will be operate under normal circumstance.

MEDICAL SOCIAL WORK DEPARTMENT

a) 90% of the medical social work cases received, will seen within 1 working day (24 hours)

b) 80% of cases of financial assistance through internal resources are resolved within 14 working days after full document is available.
Dietetic Department

a) 95% of referred inpatients will be attended to on the referred within (24 hours) (working hours) upon receipt of referral.
b) 90% of referred outpatients will be attended to on the referred day (24 hours) upon receipt of referral.
c) 100% of patients will have a proper diet as ordered by the ward.

Procurement Department

a) 90% of procurement processes (open tender) for equipment, disposable supplies dismantle medications and work/services will be dealt within 120 days of the calculated from the date of advertisement closed to the date of approval of the Tender Board meeting.
b) 90% of the procurement process (quotation) for equipment, disposable supplies, medications and work/services will be dealt within 90 days from the date of offered close to the meeting of Quotations Committee.
c) 90% of local production of purchase orders executed within 7 working days from the date of receipt of the order form and supporting documents to the date of approval.

Engineering Department

a) Priority 1 : 95% of repaired services will be completed within 24 hours
b) Priority 2 : 90% of repaired services will be completed within 3 working day
c) Priority 3 : 90% of repaired services will be completed within 7 working day
d) 90% linen provided within one (1) working day
e) 100% of clinical waste at Temporary Store should be carried out within 24 hours by a contractor for disposal.
INFECTION CONTROL DEPARTMENT

Healthcare Associated Infection (HCAI) rate not above than 5%

RADIOGRAPHY COLLEGE/NURSING COLLEGE/ MEDICAL LABORATORY TECHNOLOGY COLLEGE

a) 90% of lectures executed as schedule in every semester
b) 90% of final year student will successfully completed training.
c) 50% of final year trainees will obtain at least CGPA 3.0 during Diploma’s conferred.

CONTINUOUS ADVANCE NURSING EDUCATION COLLEGE

a) 90% of lectures and clinical practice will resemble as schedule in every semester.
b) 100% of trainees will pass within maximum educational year.

TRANSFUSION MEDICINE DEPARTMENT

a) 100% of the blood supply needed for elective surgery (for cases non-complicated cases) will be delivered before the case is ongoing.
b) 100% of the supply of blood for thalassemia patients can be provided on the date of appointment.

INFORMATION TECHNOLOGY DEPARTMENT

a) Priority 1: 100% of ICT complaint will be settled within 24 hours
b) Priority 2: 80% of ICT complaint will be settled within 48 hours
c) Priority 3: 80% of ICT complaint will be settled within 3 working day
d) Priority 4: 80% of ICT complaint will be settled within 5 working day
e) 99% of infrastructure and ICT application at UMMC available each year.

MEDICAL DEPARTMENT

i. **NEUROLOGY LABORATORY**
   90% of outpatient with appointment will start examination within 30 minutes upon registration (EEG, TCD and EPS test).

ii. **CARDIORESPIRATORY LABORATORY**
   a) 90% of invasive cardio respiratory (elective) examination will resemble within 4 weeks.
   b) 80% of non-invasive cardio respiratory (elective) will resemble within 4 weeks.
   c) Emergency Examination Request will be ready within 24 hours

HUMAN RESOURCE DEPARTMENT

Post vacancy will be filled up with eligible candidates within 60 working days from the date of vacancies

FORENSIC PATHOLOGY DIVISION

90% of forensic reports will be ready within 6 weeks.

BLOOD BANK

a) 80% of patients with appointment will be taken blood within an hour.

b) The rejection rate of the samples did not exceed 3%.
ANATOMIC PATHOLOGY DIVISION, PATHOLOGY DEPARTMENT

a) 80% of Cyst Epidemal cases will be reported within 7 working day
b) 90% of Mastectomies cases (inclusive ER, PR, C-erb) will be reported within 10 working day
c) 85% of Fine Needle Aspiration Cytology will be reported within 7 working day
d) 85% of Gynae and Non-Gynae Cytology will be reported within 5 working day
e) 90% of Cerebrospinal Fluid Cytology will be reported within 3 working day

QUALITY DEPARTMENT

a) 80% of quality documents will be processed within 5 working day.
b) UMMC Quality Indicators’ achievement monitored on a quarterly basis.
c) 100% incidence of “serious safety event” (SSE) investigated and completed within a 30 day period from the date of notification included in the incident reporting system.
d) At least one training program for risk management and patient safety successfully done every month.

MEDICAL MICROBIOLOGY DEPARTMENT

a) 90% of Virology Laboratory test results to detect infection of Human Immunodeficiency Virus (HIV), Hepatitis A Virus, Hepatitis B Virus, Cytomegalovirus, Rubella Virus and Toxplasma can be obtained within 24 hours on working days. HIV positive test that requires conformation test can be obtained within 48 hours.
b) 90% of accurate results can be achieved in the external quality control activities embark with RCPA program.

Tariikh Berkuatkuasa: 29-05-14
No. Kajisemula: R00
MEDICAL PHYSIC UNIT

a) 100% of employees receive an effective dose does not exceed 5 milisievert (mSv) in a month.
b) 100% of students receive an effective dose does not exceed 1 milisievert (mSv) in a month

ADMISSION COUNTER, AMBULATORY SERVICES

Every patient waiting for bed in the ward undergo general assessment and treatment within 30 minutes after registration

CENTRAL SUPPLY STERILE UNIT

Less than 2% of surgical equipment cleared through the clearing process

BIO-MEDICAL ENGINEERING UNIT

a) 95% of equipment which need preventative maintenance (PM) have their yearly planned PM (PPM) schedule prepared at least 30 days from the start of the year
b) 50% of scheduled maintenance work orders are closed within 40 days.
c) 50% of unscheduled maintenance work orders are closed within 50 days.
d) 70% of equipment has estimated end-of-service date calculated.

NURSING DEVELOPMENT UNIT

Ensure that all nurses working in critical units attended Basic Life Support (BLS) for Healthcare Providers courses.
SECURITY UNIT

Prepare investigation reports for all safety incidents received within 30 days

FINANCE DEPARTMENT

Payment within 14 days

BIO-MEDICAL IMAGING DEPARTMENT

a) Percentage of Plain Films/Images Reported by Radiologists (Standard 80%)

b) Percentage of Radiological Examination Errors i.e. wrong marker, use of primary markers, wrong site X-rayed, wrong patient X-rayed (Standard <5%)

c) Complication rate for Post-Interventional Procedures (Standard 80%)

NUCLEAR MEDICINE UNIT

0% error injection of radiopharmaceuticals to a nuclear medicine patient in a year

SPORT MEDICINE DEPARTMENT

a) 90% of outpatient appointments will receive treatment within 60 minutes from the time appointed.

b) 80% of the patients who followed the exercise program will show an increased level of physical fitness in the last 3 months.
## Appendix IV

### MALAYSIAN PATIENT SAFETY GOALS INDICATOR

<table>
<thead>
<tr>
<th>GOAL NO.</th>
<th>INDICATOR</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Implementation of Clinical Governance (CG)</td>
<td>CG Implemented</td>
</tr>
<tr>
<td>2</td>
<td>Hand hygiene compliance rate</td>
<td>≥ 75% at each audit</td>
</tr>
<tr>
<td>3</td>
<td>Number of “wrong surgery” performed</td>
<td>Zero (0)</td>
</tr>
<tr>
<td></td>
<td>Number of cases of unintended “retained foreign body”</td>
<td>Zero (0)</td>
</tr>
<tr>
<td>4</td>
<td>Incidence rate of MRSA infection</td>
<td>≤ 0.4%</td>
</tr>
<tr>
<td></td>
<td>Incidence rate of ESBL – <em>Klebsiella pneumonia</em> infection</td>
<td>≤ 0.3%</td>
</tr>
<tr>
<td></td>
<td>Incidence rate of ESBL – <em>E.coli</em> infection</td>
<td>≤ 0.2%</td>
</tr>
<tr>
<td>5</td>
<td>Compliance rate for “at least 2 identifiers implemented”</td>
<td>100%</td>
</tr>
<tr>
<td>6</td>
<td>Number of transfusion error (actual)</td>
<td>Zero (0)</td>
</tr>
<tr>
<td></td>
<td>Number of transfusion error (near miss)</td>
<td>*</td>
</tr>
<tr>
<td>7</td>
<td>Medication errors (actual)</td>
<td>Zero (0)</td>
</tr>
<tr>
<td></td>
<td>Medication error (near miss)</td>
<td>*</td>
</tr>
<tr>
<td>8</td>
<td>% of critical value notified within 30 minutes</td>
<td>100%</td>
</tr>
<tr>
<td>9</td>
<td>% reduction in the number of falls (adult)</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>% reduction in the number of falls (pediatric)</td>
<td>**</td>
</tr>
<tr>
<td>10</td>
<td>Incidence rate of pressure ulcers</td>
<td>≤ 3%</td>
</tr>
<tr>
<td>11</td>
<td>#Rate of CRBSI</td>
<td>&lt; 5 per 1000 catheter days</td>
</tr>
<tr>
<td>12</td>
<td>#Rate of VAP</td>
<td>&lt; 10 per 1000 ventilator days</td>
</tr>
<tr>
<td>13</td>
<td>Implementation of Incident Reporting or other methods to investigate incidents</td>
<td>System Implemented</td>
</tr>
</tbody>
</table>
#Applicable to hospital with intensive unit care

* to be determined later pending national data analysis and trending.

** ≥ 10% reduction each year based on the previous year’s data