Patient Safety

Hospitals operate in an environment where safety risks are high. Despite best efforts, unintentional accidents sometimes occur which are called patient safety incidents. These incidents are unintentional and occur due to the complex hospital environment and human factors. As per World Health Organization, no organization has been able to totally avoid such incidents. However, organizations whose leadership is committed to safety have set patient safety as a key strategic priority, and go all out to allocate resources to build safe systems and minimize risks to patients. As a responsible organization, Max Healthcare’s clinical strategy places patient safety as the topmost priority. We have an unrelenting focus to design our infrastructure, implement processes, closely monitor our systems and evaluate our progress.

Patient Safety Policies

In line with our commitment to ensure the highest levels of patient safety, Max Healthcare has rolled out several patient safety policies. These are an important and effective preventive method for mitigating the risk of adverse events. The total number of policies in the system exceeds hundred. We have a prioritization matrix based on severity and frequency of impact, which we use for driving results.

- **Severity** – Each policy is rated from low (score – 1) to critical (Score – 4) based on the risk of severity of harm it may cause if not followed.
- **Frequency of use** – is based on frequency of usage of policy in day to day patient care ranging from high usage (Score – 3) to low usage (Score – 1).
- The **Final Risk Score** was calculated by multiplying the severity score with the frequency score.

<table>
<thead>
<tr>
<th>Frequency of Use</th>
<th>Potential Severity (Criteria/ Impact – Harm/ Injury to patient)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Critical (4)</td>
</tr>
<tr>
<td>High (3)</td>
<td>12</td>
</tr>
<tr>
<td>Moderate (2)</td>
<td>8</td>
</tr>
<tr>
<td>Low (1)</td>
<td>4</td>
</tr>
<tr>
<td>Interpretation for Prioritization (Scores)</td>
<td>Critical = 12</td>
</tr>
</tbody>
</table>

“**Critical to quality**” measurable checkpoints are identified in the Critical policies above. Department specific checklists are developed for each patient care departments to be evaluated. Thus, an objective way to assess deployment of safe practices is available. This framework is used for our periodic self assessments across all hospitals. Interventions are taken based on learning’s.

The graphs below are a sample of the self evaluation scores for some of the critical policies. The effort is to continuously raise the bar.
Self Evaluation scores for Identified Critical Policies

<table>
<thead>
<tr>
<th>Policy</th>
<th>Assessment</th>
<th>Reassessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vulnerable Policy</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>Admission Policy</td>
<td>95%</td>
<td>77%</td>
</tr>
<tr>
<td>Discharge Policy</td>
<td>98%</td>
<td>90%</td>
</tr>
<tr>
<td>RRT</td>
<td>83%</td>
<td>57%</td>
</tr>
<tr>
<td>Patient Identification</td>
<td>93%</td>
<td>80%</td>
</tr>
<tr>
<td>Fall Prevention</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>Medication Safety</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>Surgical Safety</td>
<td>92%</td>
<td>80%</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>89%</td>
<td>80%</td>
</tr>
<tr>
<td>Initial Assessment</td>
<td>90%</td>
<td>87%</td>
</tr>
</tbody>
</table>

Overall improvement in Compliance to Critical Policies

Assessment: 79%
Reassessment: 90%
Patient Safety Goals

Max Healthcares Patient Safety Goals (PSG) are aimed to improve patient safety practices, clinical outcomes, and reduce the occurrence of preventable adverse events. These goals have been compiled based on international recommendations of World Healthcare Organization, Joint Commission, and on internally identified opportunities for improvement. It is our continuous endeavor to meet and exceed the laid down norms, in keeping with the Max Medical Excellence model.

**Hospital wise improvement between two Assessments**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Reassessment</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital 8</td>
<td>90%</td>
<td>86%</td>
</tr>
<tr>
<td>Hospital 7</td>
<td>76%</td>
<td>97%</td>
</tr>
<tr>
<td>Hospital 6</td>
<td>69%</td>
<td>86%</td>
</tr>
<tr>
<td>Hospital 5</td>
<td>86%</td>
<td>85%</td>
</tr>
<tr>
<td>Hospital 4</td>
<td>64%</td>
<td>83%</td>
</tr>
<tr>
<td>Hospital 3</td>
<td>78%</td>
<td>91%</td>
</tr>
<tr>
<td>Hospital 2</td>
<td>88%</td>
<td>88%</td>
</tr>
<tr>
<td>Hospital 1</td>
<td>86%</td>
<td>95%</td>
</tr>
</tbody>
</table>

**Patient Safety Goals 2015-16**

The purpose of Max Healthcares Patient Safety Goals is to improve patient safety practices, clinical outcomes and reduce the occurrence of preventable adverse events.

1. Identify Patients Correctly
   - Two patient specifiers
   - ISBAR on all IPS patients

2. Reduce the Risk of Healthcare Associated Infections
   - Compliance to hand hygiene guidelines
   - Evidence-based practices to prevent HAIs

3. Ensure Surgical Safety Protocols for each patient

4. Ensure Medication Safety – Concentrated Electrolytes
   - Identification, reconcile, dosage, storage and proper use of high-alert medications

5. Reduce the Risk of Patient Harm Resulting from Falls
   - Fall Risk Assessment
   - Implementation & monitoring Safety measures

6. Improve Effective Communication
   - Management of “Critical Test Results”
   - Verbal Order Policy
   - Handover-Communication
**Action Plans of Implementation:**
Every goal is brought into sharp focus for a period of 2 months simultaneously in each hospital. The activities undertaken for implementation of each PSG are outlined. Hospitals do a self evaluation, conduct various activities such as training, CMEs, quiz competitions, campaigns etc, to raise awareness and ensure that the best practices are shared and deployed. A brief of the activities held during the year are shared below.

**PSG 1 - Identify Patients Correctly:**
MHC has a Patient Identification Policy as per international standards.
Patient identification is of paramount importance as failure to correctly identify patients can result in a variety of errors like medication, transfusion, testing errors, wrong patient/procedures, discharge of infants to wrong families etc causing great harm. Staffs are expected to follow all the steps that are written in the policy when they are performing patient identification.

An “Internal Baseline Assessment” was carried out in the network using a preformed checklist. This helped to generate the actual level of performance on ground. Results of the baseline assessment were 75%. Hence a minimum target of 85% was set for the hospitals. To achieve the set target, awareness and training programs were launched in all hospitals. Training materials in the form presentations, posters, etc were made available. Awareness campaigns were carried out consisting of a number of activities like grand rounds chaired by the heads of the hospital, poster and quiz competitions, daily e-mailers, signature campaigns, walk around by hospital leaders, skit presentations and awards and recognitions of staff. Post a minimum period of 60 days, a surveillance audit was conducted and findings were recorded. It was noted that overtime there was significant improvement in the scores (which reflected better practice of patient identification on ground) when compared with the baseline assessment.

The compliance to the goal is steadily increasing.

![Graph showing compliance to the goal]

**Process to ensure 2 identifiers are used to verify patient identity during procedures**

- **Surveillance Audit Jun- 15**: 89%
- **Internal Baseline Assessment Apr- 15**: 75%
PSG 2 - Reduce the Risk of Health Care Associated Infections:

At MHC, we have a continuous focus on maintaining compliance to hand hygiene guidelines & bundle care. An online HAI Tracking system has been developed in house. Through the online system, triggers are available for positive cultures in patients on devices. Clinical analysis of triggers and other clinical findings by the treating Physician and Infection Control Nurse has led to accurate and efficient tracking of HAIs. The HAI at Max Healthcare are showing a positive downward trend towards reduction.
PSG 3 - Ensure Surgical Safety Protocols for each and every patient:
The third Patient Safety Goal focuses on the use of an instantly recognized mark for surgical-site identification and encourages the involvement of the patient in the marking process. Also, it points out to the use of a Surgical Safety Checklist to verify preoperatively the correct site, correct procedure, and correct patient and that all documents and equipment needed are on hand, correct, and functional.

Activities undertaken for PSG 3 were:
A “Surgical Safety Booklet” was released Pan Max.
- Strengthening of Surgical antibiotic prophylaxis protocol implementation
- Distribution of MHC Surgical Safety Handbooks to key clinicians. Soft copy made available to all
- Conduct of Compliance Assessment audits
- Conduct of CME’s & CNE’s
- Standardized department specific Surgical Site Infection reporting forms introduced for all surgical specialties
- MHC Surgical Safety Film was developed and displayed to all concerned staff
Department of Anaesthesiology & Pain Management
Max Super Speciality Hospital, Saket
cordially invites you for a

CME on
Surgical Safety – Our Motto

on Friday, 30th October 2015 | 11.00 am onwards
at the Auditorium, Max Hospital, Saket (West Block)

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00 am - 11.20 am</td>
<td>SURGICAL SAFETY CHECKLIST: ITS RELEVANCE by Dr. Kamal Kumar Fotdar</td>
</tr>
<tr>
<td>11.20 am - 11.40 am</td>
<td>SHORT SKIT by Department of Anesthesia, Department of Surgery and OR Staff</td>
</tr>
<tr>
<td>11.40 am - 12.00 noon</td>
<td>SURGICAL SAFETY PART-I by Dr. Suchin Jain</td>
</tr>
<tr>
<td>12.00 noon - 12.20 pm</td>
<td>SURGICAL SAFETY PART-II by Deepli Bhatnag</td>
</tr>
<tr>
<td>12.20 pm - 12.40 pm</td>
<td>SURGICAL SAFETY PART-III by Amar Singh Bhandari</td>
</tr>
<tr>
<td>12.45 pm - 1.00 pm</td>
<td>SHORT FILM: “How to perform Surgical Safety Checklist”</td>
</tr>
<tr>
<td>1.00 pm - 2.00 pm</td>
<td>LUNCH</td>
</tr>
</tbody>
</table>

Max Super Speciality Hospital, Saket
1-2, Prest Enclave Road, Saket, New Delhi-110 017
Ph: +91-11-4611 5050, 8611 4545, www.maxhealthcare.in
PSG 4 - Ensure Medication Safety (Concentrated Electrolytes):

PSG 4 focuses on safe medication practices with particular stress on identification, location, labeling, and storage of high-alert medications. It also lays emphasis on the labeling, use, administration and storage of concentrated electrolytes

- New protocol on “Concentrated electrolytes” was released. Training was imparted in all units for implementation of the same
- Mailers for creating awareness were designed and circulated Pan Max
- Quiz and poster competitions were conducted
- Conferences were organized ensuring participation of maximum staff

MHC Patient Safety Goal 4
Ensuring Medication Safety – Look Alike & Sound Alike Medications

Look Alike Medications – Are defined as that category of drugs that ‘appears’ the same. That is their physical appearances match.
Examples: Ampicillin & Amoxicillin

Sound Alike Drugs – Are defined as that category of drugs which ‘sound’ the same. These drugs are very similar in their pronunciations.
Examples: Ciprofloxacin & Clarithromycin

Precautions to Ensure Safety:
- Proper Storage:
  - Look alike stored in ‘Pink’ colored containers
  - Sound alike stored in ‘Blue’ colored containers
- Prescription – Capital letters. Generic names to accompany the brand names
- No abbreviations to be used
- The list of LASA medications should be available (posted) in all dispensing areas.

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Safe Prescription of Medicines
Its in Our Hands

BEFORE
- Assess the patient thoroughly
- Always ask for known allergies
- Consider any medication the patient is already taking
- Check for contraindications & interactions

DURING
- Prescribe the correct medication to the correct patient
- Don’t use abbreviations
- Make sure your prescription is legible and easy to read
- Explain what you are prescribing to the patient and why

AFTER
- Watch out for any unprecedented reactions
- Review the indications for the drug regularly

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MHC Patient Safety Goal 4
Reduce the Risk of Adverse Drug Events Involving Electrolytes
Administration of electrolyte replacements must be carefully managed. If dosing is not appropriate, serum levels of electrolytes may exceed the normal range, which can lead to serious adverse events.

Changes for Improvement
- Remove all concentrated electrolytes from floor stock, except where authorized.
- Secure concentrated electrolytes in emergency carts or boxes by placing them in an extra box, so that staff takes an extra step to access them.
- Standardize intravenous electrolyte solutions.
- Use protocols for intravenous electrolytes: Set dose limits for electrolytes.
  (No loading dose and bolus dose, concentration limit, diluent and line choice ie central/peripheral)
- Conduct independent double-checks of order and dosage
- Use order sets or pre-printed orders for intravenous electrolytes

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Ensure Medication Safety
PSG 5 - Reduce the Risk of Patient Harm Resulting from Falls:

This goal stressed on the implementation for the initial assessment of patients for fall risk and reassessment of patients when indicated by a change in condition or medications, among others. Measures are to be implemented to reduce fall risk for those assessed to be at risk.

- New protocols and tools on OPD & Pediatric fall risk assessment were released.
- New tools were introduced
- Training was imparted in all units for implementation of the same.
- Skits and conferences were conducted for creating staff awareness
MHC Patient Safety Goal 5
Reduce the Risk of Patient Falls

Ways of Preventing Patient Falls:
- Create a safe environment
- Carry out proper and complete "Morse Fall Risk Assessment"
  - During admission
  - Every morning shift thereafter till discharge, and
  - As the patient condition warrants
- Educate patient and families
- Ensure good documentation of patient’s fall risk assessment

“With each of your efforts, let us target 2016 as a year of ZERO FALLS, beginning with Jan 2016”

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Preventing falls, one step at a time

Create a safe environment
- Familiarise patients / family members with the hospital environment
- Keep frequently used personal possessions within safe reach
- Avoid wet floor
- Keep bed at right height with wheels locked and side rails up
- Clean up spills promptly

Assess patient’s risk
- Use Morse Fall Risk assessment tool to identify the risk for falls
- Assess the level of risk on admission, transfer, change of status after a fall, before and after medication administration (antiarrhythmics / anticonvulsants / antihypertensives etc)
- Shift-wise handover of all patients

Reduce patient’s risk
- Assist patients in walking, standing and during transportation
- Do frequent rounds to meet patient needs
- Review medication associated risk of falls
- Assist patients with sensory deficit problems
- Educate the patient to use call bell to alert staff whenever requires assistance
- Make sure side rails are raised and use safety belts during transportation of patients
- Educate patient / family regarding orthostatic hypotension, food and drug interaction and its effects and prevention
- Educate patient on medications which can cause imbalance and drowsiness (benzodiazepines, hypoglycemic drugs, sedatives etc)
- Avoid slippery footwear

Evaluate interventions
- Documentation of care provided
- Include fall prevention interventions in plan of care
- Ensure completion of post fall assessment and incident reporting
- Regular intervention for high risk patients

CONSEQUENCES OF A FALL
- Results in injuries / fractures / head injuries
- Increases average length of stay in hospital
- Requires medical / surgical / critical care interventions
- Financial impact on patient / hospital
PSG 6 - Improve Effective Communication:

This by far is also one of the most important goals for ensuring patient safety. This goal focuses on:

- **Critical Test Results**: Defining and reporting of the test results within a defined time period.
- **Handover communication**: Exchanging information, transferring responsibility of care, providing continuity of care and make timely decisions.
- **Verbal Orders**: Receiving, reading back, implementing and counterchecking the correctness of the verbal order

Activities undertaken were:

- Policies reviewed and incorporated in manuals of respective departments.
- Structured handover and transfer forms developed for use Pan Max.
- Widespread trainings and events organized to ensure effective implementation.
- Mailers released Pan Max for creating awareness.
- A two day workshop with national faculty was organized on “Communication Skills”. 50 participants consisting of a mix of doctors, nurses and hospital managers attended the program. This was organized in collaboration with the “Consortium of Accredited Healthcare Organizations (CAHO)”
MHC Patient Safety Goal 6

Improve Effective Communication

THE GOAL COVERS:

VERBAL ORDERS
- The complete verbal order is documented and read back by the receiver and confirmed by the individual giving the order.
- The complete telephone order is documented and read back by the receiver and confirmed by the individual giving the order.
- The complete test result is documented and read back by the receiver and confirmed by the individual giving the result.

CRITICAL RESULTS
- The hospital has defined critical values for each type of diagnostic test.
- The hospital has identified by whom and to whom critical results of diagnostic tests are reported.
- The hospital has identified what information is documented in the patient record.

HANDOVER COMMUNICATION
- Standardized critical content is communicated between staff during handovers of patient care.
- Standardized forms and methods are used for a complete handover process.
- Data from handover communications are tracked and improved.

MHC Patient Safety Goal 6

Reporting of Critical Tests Results

Read back and confirm

TAT
- Communicate as early as possible but not later than 15 minutes.

Documentation
- In Lab/Diagnostic area: Document on the Critical Tests Results Reporting Records/Register

In Patient Records:
- Name of test
- Critical results/values obtained
- Informed by – name, department
- Date & time of Critical value received
- Received by – name, department
- Communicated further to
- Action started

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New Initiatives

USE OF TECHNOLOGY FOR PATIENT SAFETY

Masimo Patient SafetyNet

About Patient Safety Net: Masimo’s Patient Safety Net is a remote monitoring and clinician notification system that helps in continuous monitoring of patients. It displays the information at a central station and allows for alarms and alerts from the bedside devices to be sent directly to clinicians via pagers.

About the Technology: The Patient Safety Net system is built on the patented Signal Extraction Technology (SET®) which has been proven to provide superior performance during conditions of motion and low perfusion. Clinical studies have shown that SET® technology reduces False Alarms (Specificity) by 95% and increases True Alarms (Sensitivity) by 97%.

Alarm Management: One of the major features of Patient Safety Net is its superior alarm management. The system has an intuitive alarm escalation protocol which ensures that alarms when unacknowledged by the primary caregiver, automatically gets escalated to secondary and higher levels, thus ensuring foolproof patient care.

Evaluation and pilot at Max: Demonstrations of the technology have been conducted at several Max units. A pilot has been planned for evaluation of the technology in a 21 bed multidisciplinary ward.
Figure: Features of Safetynet System

- Patient monitoring & Nurse/Clinician alarming system
- SpO2, continuous Hb, respiratory rate monitoring

Figure: Advantages of Safetynet System

- Step-down ICU like environment w/o increased staffing
- Reduced ALOS in ICU
- Reduced numbers of RRT
- Reduced ward ICU transfer

Use of Technology for safe patient identification

Max Healthcare is gradually shifting to an IT based infrastructure. A “bar code” around a patient’s wrist has been introduced to avoid medication errors. The concept of Bar Coded Medication Administration (BCMA) includes...
software that helps to identify correct medications, at the correct time by keeping all the records encoded in bar codes to be administered by the doctor or nurse only. BCMA ensures it is the right patient getting the right medication at the right time, the right dose and by the right route. This greatly reduces medication errors and improves time of delivery. Apart from the barcode readers, it also consists of barcode printer, computer on wheels (COW). The records are thus be digitally recorded, stored and transferred easily for reference.

Smart Sanitization Technology
Smart technologies employ behavioral design and Information Technology to increase hand hygiene compliance. Seamlessly integrated into high traffic doors, these technologies can produce dramatic increase in hand sanitization rates without disrupting normal workflow. Clinical Directorate is looking at several third parties for implementation of such systems. The chosen technology will be implemented across departments and units, post a successful pilot evaluation.

Multidisciplinary Care Approach
Multidisciplinary team care (MDT) is a model of care where clinicians from multiple disciples and representatives from various support teams come together to deliver comprehensive care that addresses as many of the patient’s needs as possible. Apart from day to day healthcare delivery, MDT care can be especially helpful for treatment of emergency cases such as Trauma, Stroke, Myocardial Infarction etc. and for chronic diseases such as diabetes which have multiple co-morbidities.

MDT approach can be broadly classified into i) MDT Care Models that include establishing overarching treatment processes, rounds, discharge processes etc. and ii) Disease specific defined protocols for ex. protocols for Myocardial Infarction or Stroke.
Multidisciplinary Team Care Model

Advantages of Multidisciplinary Team Care
Many research studies have proven advantages of MDT care in healthcare delivery. MDT care has become an established care model in many developed countries with most reputed clinics and hospitals instituting MDT processes and protocols. Clinical Directorate has initiated MDT care model at Max Healthcare and within next two years our vision is to institute these protocols across all units. MDT care will help us achieve Max Healthcare’s vision of ‘Sevabhav’ and ‘Excellence’.

- **Improved Communication** – MDT rounds and protocols improve communication between Clinicians from multiple disciplines and teams such as nursing, billing, paramedics etc.
- **Reduced length of Stay** – A comprehensive treatment plan with all stakeholders on board reduces chances of misdiagnosis, re-treatment, patient transfers, relapse etc. and improves patient outcome and recovery. This reduces patient’s length of stay in the hospital.
- **Improved Safety** – With improved communication and pre-decided goals errors in treatment will reduce leading to better patient safety. Reduced length of stay also reduces number of ventilator days/number of central line days thereby reducing chances of infections.
- **Better patient experience** – A comprehensive treatment plan and integrated approach also makes patient care more smooth and continuous. Processes such as admission, tests, discharges etc. become efficient and timely. Patients also face lesser transfers between departments.

Major Objectives of Multidisciplinary Care
The objective of MDT care is to ensure that an integrated care is provided to the patient by all the stakeholders involved such as clinicians from different departments, nursing, paramedics, billing, housekeeping etc. The integrated care will involve daily care goals, long term care plan, identifying and mitigating safety risks, to plan for transfers or discharges etc.
MDT Rounds

Rounds are an important part of MDT care model. Rounds taken by Clinicians can include various stakeholders and have specific goals. General rounds or daily rounds can have clinicians representing different departments, nursing team, housekeeping etc. Teaching rounds are focused on improving learning of junior doctors/post graduates/nurses etc. in a multidisciplinary environment. Safety rounds are focused on reducing errors, infections, falls etc. wherein clinicians and nurses evaluate the safety risks of a patient during rounds and ensure risks are mitigated. Discharge focused rounds will involve the billing team along with the clinical teams. These rounds will ensure that medical treatment has been completed and patient or family has been made aware of future requirements and that all the documents etc. are completed on time for a smooth discharge.

Figure – Objectives of MDT Care

<table>
<thead>
<tr>
<th>Develop and refine your aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ex - Establishing Intermediate Medical Care Unit (IMCU)</td>
</tr>
<tr>
<td>• Ex - By xyz date conduct daily multidisciplinary rounds for &gt;3 days post-operative patients</td>
</tr>
</tbody>
</table>

| Structure of rounds is essential |
|---------------------------------
| • Select appropriate team members from multiple disciplines |
| • Develop Daily care goals – Discontinue oxygen by 4 pm, mobilize patient to walk 20 feet Ex. Decide frequency and focus of rounds |

<table>
<thead>
<tr>
<th>Leadership is the key</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assign roles and responsibilities</td>
</tr>
<tr>
<td>• Regular follow ups</td>
</tr>
<tr>
<td>• Timeliness (essential due to involvement of multiple teams)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engage the Patient and Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Orientation of the family to introduce them to the rounding process</td>
</tr>
<tr>
<td>• Encourage participation of family</td>
</tr>
<tr>
<td>• Take their inputs during rounds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement matters</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No. of days/week of MTD rounds</td>
</tr>
<tr>
<td>• No. of disciplines involved</td>
</tr>
<tr>
<td>• %age of patients with documented MTD goals</td>
</tr>
<tr>
<td>• LOS, ventilator days, ICU days etc.</td>
</tr>
</tbody>
</table>

MDT Pilot at Max

Clinical Directorate plans to initiate an MDT pilot in 2016 at Max Saket and Max Patparganj. After a thorough evaluation once the processes and protocols are established MDT model will be rolled out at all MHC’s units.

During the pilot we will consider following patients for MDT care:

• Hospital stay > 10 days
• Patient care involves >= 3 dept
• Outstanding bill > 1 lacs
Teams that will be involved in the MDT pilot are - Clinicians, ER, Nursing and Paramedics, F & B & Dietetics, Pharmacy, Front-office & billing and Digicare/Homecare teams.

**MDT Protocol for Specific Diseases**

Disease specific MDT protocols allow for designing more specific and detailed processes and allow better assignment of roles and responsibilities. The parameters of success also become more particular to the disease and treatment, and hence become easier to track and evaluate, for ex. ‘Door to balloon’ time can be a parameter for Myocardial Infarction (MI) treatment. Two departments where defining these protocols becomes very important are Neurosciences and Cardiac Sciences. Defined protocols in case of emergencies such as Stroke or Myocardial Infarction can save lives of patients.

**Neurosciences - Stroke Protocol**

Stroke is a preventable and treatable disease. Over the past two decades a growing body of evidence has overturned the traditional perception that stroke is simply a consequence of aging that inevitably results in death or severe disability. Evidence is accumulating for more effective primary and secondary prevention strategies, better recognition of people at highest risk, and interventions that are effective soon after the onset of symptoms. Understanding of the care processes that contribute to a better outcome has improved, and there is now good evidence to support interventions and care processes in stroke rehabilitation.

International & National guidelines cover interventions in the acute stage of a stroke (‘acute stroke’) or transient ischaemic attack (TIA). Most of the evidence considered relates to interventions in the first 48 hours after onset of symptoms, although some interventions up to 2 weeks are covered. Keeping this in mind, MHC’s Departments of Neurosciences have come up with a MDT Protocol on Stroke which was rolled out Pan Max. As part of this initiative, data from all hospitals is collected to track and analyse patient outcomes and effectiveness of the MDT Stroke Protocol. Stroke data format and data-fields are attached in the appendix.

**Cardiac Sciences – Myocardial Infarction (MI) protocol**

Rapid patient triage and administration of therapy aimed at reperfusion is an essential component in the care of patients presenting with acute myocardial infarction. An MDT program in MI should be designed to facilitate rapid triage and management of patients presenting with acute myocardial infarction. This program can have a major impact on MI patient care at Max units and will need support and involvement of the nursing, pharmacist, paramedical & nonclinical along with the physician teams. The program has parameters like defined timelines for initiation of therapy aimed at reperfusion, conducting ECG, notification to CCU doctor on duty etc.

On similar lines to Stroke Protocol, MHC is committed to roll out a MI protocol at Max Healthcare. We also aim to define data collection metrics for MI protocol to be able to evaluate the effectiveness of the protocol.

**Staff Safety - Immunization Policy for Employees**

Page 19 of 28
Immunization policy for employees was rolled out pan Max by the Clinical Directorate. Policy aims to provide proactive and preventive approach towards health of MHC employees. Immunization policy would include prescribed vaccinations as per employee’s area and nature of work. The objective is to ensure that the applicable employees are provided vaccinations in order to provide an infection free environment to patients and co-workers.

The policy covers all employees and associates of Max Healthcare (Employees, Members on retainership mode, Visiting Consultants and Outsourced staff). Eligible employees and members are required to get the vaccinations as prescribed by the policy (see Appendix). Immunization would be done for all, at the time of: i) Completing the Joining formalities or within a week of joining or ii) Annual Health check-up. Operational responsibility of immunization of employees shall lie with the Medical Superintendents of the units. Human Resources will be responsible for the documentation.

**Patient Safety Metrics**

We have instituted a tracking system, called the ‘quality flash.’ The quality flash is a report that captures all safety related incidents that have occurred in the previous 24 hours. There is an incident reporting system in place that is accessible to each and every staff member. Staff are empowered and encouraged to report near misses, and any safety related accidents in a transparent manner, with an aim to identify learning’s and continuously improve. MHC results are comparable to the best published rates. Some of these are presented below.

**Unplanned Readmissions per 100 discharges**

Globally, the emphasis is to reduce readmissions related to the primary cause of illness. Tracking this metric provides the hospital an opportunity to review in depth the reason for a patient returning to the hospital within 14 days of discharge, in identified specialties. Each readmission is peer reviewed to identify factors that contributed to the readmission, and then make attempts for system wide improvements. The MHC rate has shown a decline over the months, and is way below the benchmark levels.
In a few patients, some inherent pre-existing problems or the illness per se, make them vulnerable to a complication such as bleeding or other problems, and they have to be re-operated. Rarely, it may indicate opportunities that patient care could have been planned and improved. Monitoring the indicator closely and comparing it with other studies provides the reassurance that the surgical outcomes are successful, comparable to globally published levels.
Many factors influence whether a patient will get an infection during hospitalization, such as immunity levels, procedures and invasive techniques that may create routes of infection, and inadequate infection control practices that may facilitate infections to spread. MHC has developed and implemented the best infrastructure, processes and training programs to prevent and control hospital acquired infections. There is an ongoing surveillance of infections and these are tracked and reviewed diligently. Opportunities for improvement are continuously identified. Regular training programs are held for doctors and nurses. The HAI rates are close to the developed countries benchmarks.
Compliance to Medical Documentation

Medical documentation is an important input for continuity and safe care. The organization critically examines each and every patient record for completeness and accuracy. The data is accordingly collated for ensuring that improvements are actioned. The rate of compliance has shown an improvement steadily.
Patient Falls

Patients are sometimes vulnerable to falling and injuring themselves, on account their illness, age, or medications. MHC has stringent policies in place for fall risk assessment and prevention of each patient. We use the Morse fall risk scoring system. The nursing plan of care is accordingly made for each individual patient, to ensure that the risk of patient falls is minimized. The hospital design and processes ensure that this risk is minimal, such as anti skid flooring in toilets, grab bars, use of bedside rails, seat belts for patients in wheelchairs, and assistance for ambulation. There is a patient safety goal which has been implemented to augment our efforts. In case there is a fall, each incident is reviewed in depth to identify causes and ensure corrective and preventive measures are instituted. The fall rate is also at low levels.

Hospital Acquired Pressure Ulcers

A pressure ulcer, or commonly called a bedsore, is a known cause of pain, and additional treatment for vulnerable patients. Those patients, who are unable to move easily and have reduced circulation or fragile skin, are at risk. Further, prolonged surgery, impaired mental or bowel and bladder function, use of tubes and equipment, inadequate nutrition and fluid depletion may add to the risk. Critically-ill patients in ICUs are at highest risk for the development of new pressure ulcers during their hospital stay. At MHC, we ensure pressure sore prevention care is in place for all patients. These include daily skin assessment and care, regular repositioning, measure and ensure calorie intake, glucose control, and use of special mattresses amongst others. Nurses are trained and competent in these protocols. With all these efforts the HAPU prevalence rate remains at a low level.
Medication Errors

A medication error is an unintended gap in the medication process that leads to, or has the potential to lead to, harm to the patient. These can happen during prescribing, dispensing or administration of medications. The risks are compounded by multiple handovers, multiple steps, and sound alike and look alike medications etc. At MHC, we have developed and instituted several protocols and procedural quality checks at each step of the medication flow process. Staff training is mandatory. The electronic health record and hospital information system is designed for inbuilt safety checks. These include bar coding for medication administration, allergy alerts, alerts for drug - drug interaction and dosages etc. Each Physician has access to drug information, so that he or she can ensure the correct medication is ordered. High risk medications are double checked. Storage and Labeling is standardized. Infusion pumps are used to ensure correct dosing calculations and administration. Computerized physician order entry at majority of our units ensures legible and efficient medication orders. Generic drug prescribing, brand substitution enables cost effective medication practices. The organization is now introducing electronic prescription systems in OPDs, in a phased manner to further the safety and efficiency of medication practices. Prescription and medication audits help us as for self evaluation to measure our progress and improve. Medication error reporting is encouraged, in the spirit of continuous learning and improvement.
Phlebitis

Sometimes phlebitis may occur at the site where a peripheral intravenous (IV) line was started, or blood sample taken. The surrounding area may be painful or developed a bruise. In rare cases, the same can get infected. It is a constant endeavor of our staff to minimise pain and discomfort to our patients. Protocols for proper hand wash, use of gloves and disinfectants, and certifying competency of our nurses in phlebotomy techniques have helped majority of our patients to have safe and clean procedures. Close tracking of the unintentional phlebitis complication ensures thorough evaluation and insights.
As part of our commitment for patient safety, MHC has initiated a pilot patient Safety Culture Survey at one of its hospitals to gain understanding of views of clinical staff on various issues related to patient safety and to further identify solutions to improve the same. The tool used was adopted from AHRQ (Agency for Healthcare Research in Quality) Hospital Patient Safety Culture Survey. Around 50% sample staff was involved in the survey consisting of nurses, doctors, dieticians, pharmacists, physiotherapists, technicians and administrative personal. The survey helped the management gain understanding on the staff perspective on transparency, non punitive working environment, responsiveness and communication, staff confidence and challenges existing in the workplace and accordingly institute measures to address them. Going forward, the survey will be conducted annually across all units. The overall result is as below:

**% wise breakup of respondents - Patient Safety Culture Survey in Max DDN**

<table>
<thead>
<tr>
<th>Profession</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>44%</td>
</tr>
<tr>
<td>Attending Physician</td>
<td>10%</td>
</tr>
<tr>
<td>Resident Physician</td>
<td>3%</td>
</tr>
<tr>
<td>Dietician</td>
<td>1%</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>2%</td>
</tr>
<tr>
<td>Technician</td>
<td>14%</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>1%</td>
</tr>
<tr>
<td>Administration</td>
<td>24%</td>
</tr>
<tr>
<td>Dental</td>
<td>1%</td>
</tr>
</tbody>
</table>

**% Staff Confidence in Hospitals Safety Norms**

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>21%</td>
</tr>
<tr>
<td>Very Good</td>
<td>49%</td>
</tr>
<tr>
<td>Acceptable</td>
<td>28%</td>
</tr>
<tr>
<td>Poor</td>
<td>1%</td>
</tr>
<tr>
<td>Failing</td>
<td>0%</td>
</tr>
</tbody>
</table>