Overview
Topics for Discussion

Patient Safety Metrics and Initiatives

– Performance Metrics
– What Safety Measures Matter to Patients
  ▪ Public display of metrics
  ▪ White boards for inpatient rooms to identify patient doctor and nurse/daily schedule/patient preferences

– Identifying Harm and Mitigating Risks
  ▪ Daily Safety Huddles
  ▪ Event Reporting Systems
  ▪ Trigger Tool--Harm Investigation (ICU and other AE cases)
  ▪ 24 hour death reviews

– Communication with Staff about Safety and Quality
  ▪ NIH Clinical Safety Rounds
  ▪ Patient Safety and Quality Liaisons
Topics for Discussion (continued)

Worker Safety: Occupational Injuries and Illnesses—Managing Risk

– Safety Goals for Clinical Center Employees

– Processes to Achieve Safety Goals
  ▪ Proactive measures
  ▪ Response to occupational injury or illness
    – 2016 incident case rates
    – Focus on musculoskeletal injuries during patient transfers

▪ Continuing Challenges
Performance Metrics
Whole-house Central-Line Associated Bloodstream Infection (CLABSI) Rate

Infections per 1000 Catheter Days

n=2 pts
Intensive Analysis: CLABSI
Patient #1
- 28 y/o male patient with ALL and prolonged neutropenia and relapsed disease
- Organism: *Staphylococcus epidermidis*

**Analysis of care 48 hours prior to infection**

### Patient Factors
- Neutropenic
- Meticulous care management
- On pass 12 hours prior to positive blood cultures
- Night sweats requiring daily showers

### Clinical Practice
- Unit early adopter of CLABSI risk mitigation strategies
- Low frequency of line access
- Dressing and cap procedures appropriate
- Alcohol caps not universally used on the unit
- Unit-based nurses provided care

### Policies and Procedures
- Procedure deviation: Alcohol caps not consistently used

### Culture
- Unit leads organization in implementing “best practices” in line care

**Improvement Strategies**
- Investigate factors associated with inconsistent use of caps
- Reinforce meticulous line care with patients – especially when on pass or off unit
Patient #2
- 20 y/o male with Large B-cell lymphoma and XMEN disorder, fatty liver, obesity
- Organism: *Sphingomonas* sp.

**Analysis of care 48 hours prior to infection**

<table>
<thead>
<tr>
<th>Patient Factors</th>
<th>Clinical Practice</th>
<th>Policies and Procedures</th>
<th>Environment of Care</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Obese</td>
<td>• Hygiene challenges due to patient size</td>
<td>• Potential procedure deviation: Hand hygiene</td>
<td>• Presence of organism in unit sinks</td>
<td>• Normalization of Deviance (e.g., hand hygiene)</td>
</tr>
<tr>
<td>• Transferred to an outside hospital for a procedure for 48 hours; 15 days prior to CLABSI diagnosis</td>
<td>• Glove changes may not have been performed as required</td>
<td></td>
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<tr>
<td></td>
<td>• Unit-based nurses provided care</td>
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</table>

**Improvement Strategies**
- Investigate factors/lapses in appropriate procedures; role of normalization of deviance
- *Sphingomonas* environmental sources investigated and remediation plan in place
What Safety Measures Matter to Patients?
Key Safety Issues of Importance

- Conference call with 10 patients on the Patient Advisory Group
- Issues/Measures of Concern
  - Hospital acquired infections
  - Medication errors
  - Rapid Response Team activation
  - Communication with care team
  - Event reporting
  - Staff education about safety
- Communicate results frequently and publically
- Stressed the importance of knowing about improvement strategies
Looking Forward...

- Increase engagement of patients
  - Improvement teams
  - Hospital committees

- Public display of metrics
Identifying Harm and Mitigating Risk
Daily Safety Huddles
Huddles

- Representatives from all NIH CC departments and most ICs
- Attendees check-in with department/IC prior to Huddle
- Gather from 8:40 am - 9:00 am
- Report out on safety events that occurred in the last 24 hours and look forward to possible future issues
- Outcome: Improved communication about events and more efficient and immediate action
Event Reporting Systems
<table>
<thead>
<tr>
<th></th>
<th>Occurrence Reporting System</th>
<th>Anonymous Reporting Hotline</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2016</td>
<td>393</td>
<td>2</td>
</tr>
<tr>
<td>November 2016</td>
<td>366</td>
<td>3</td>
</tr>
<tr>
<td>December 2016</td>
<td>268</td>
<td>3</td>
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</tbody>
</table>
Trigger Tool – Harm Investigation
Trigger Tool

- **Trigger Types**
  - Inpatient deaths
  - ICU admissions
  - Unplanned readmission within 30 days
  - Returns to the Operating Room
  - Use of pro- or anti-coagulants
  - Medications
    - Narcan
    - Protamine sulfate

- **ICU Case Reviews Conducted** (since January 2016)
  - Total ICU cases reviewed: 730
  - Intensive harm reviews conducted: 59
“n” = 59 cases

<table>
<thead>
<tr>
<th>Expected Event</th>
<th>Unexpected Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Known event or complication • Rate noted in the literature (while not desired, can be expected in some patients undergoing the procedure)</td>
<td>• Outcome/complication not expected given patient co-morbidities or type of procedure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Preventable Harm</th>
<th>Preventable Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Inherent to medical therapy • No deviation in procedures</td>
<td>• Deviation from procedure • Delay in care</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Non-Preventable Harm</th>
<th>Preventable Harm</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>21</td>
</tr>
</tbody>
</table>

- Deep vein thrombosis
- Pulmonary embolism
- Post-operative infection
- Bacteremia
- Bowel perf with abscess
- Recurrent post-op infection
- Fluid overload requiring ICU admission
- Medication interaction
- Delay in palliative care procedure
Improvement Strategies Deployed

- Medical Morbidity and Mortality Rounds
  - “Recognizing Early Signs of Sepsis”
  - Over 250 attendees

- Peri-operative anticoagulation guidelines developed

- Engagement of surgical staff re: peri-operative antibiotic choices

- Discussion of a Infectious Diseases Consult Clinic for patients with long term infections (e.g., transplant-related infections, unresolved/recalcitrant post-operative infections)
Communicating with Staff about Safety and Quality
Strategies to Improve Communication

▪ “NIH Clinical Safety Rounds”
  – DDIR or CC Director message
  – “5 Things to Know”
  – “From the Patient Safety Huddle”
  – Occurrence Reports
  – Principle of patient safety
  – Other tidbits

▪ Huddles

▪ Institute Patient Safety and Quality Liaison role
Patient Safety and Quality Liaisons

• Primary point of contact for all things PATIENT SAFETY AND QUALITY

• Attend daily patient safety huddles

• Manage and follow-up with all patient safety events related to IC-based care and protocol issues, as appropriate – in collaboration with CC and IC partners

• Coordinate data management (collection, analysis, reporting) of IC-based performance metrics

• Assist in coordinating and responding to Root Cause Analyses and Failure Mode and Effects Analyses

• Active member of the Clinical Quality Committee (or new future group?)

• CC will facilitate formal training in patient safety/quality improvement
Comments/Questions?
OCCUPATIONAL INJURIES AND ILLNESSES
MANAGING RISKS

Michele R Evans, DrPH
Environmental Safety Officer, NIH Clinical Center
Safety Goals for Clinical Center Employees

- Zero Occupational Injuries and Illnesses
- Maximize Lessons Learned from Each Occupational Injury and Illness
Processes to Achieve Safety Goals

Proactive Risk Assessments

ZERO Work-Related Injuries

Root Cause Analysis
Proactive Measures

- Tell all new employees of the value they provide to the organization and share with them leadership’s commitment to their wellbeing and safety.

- Plan, construct, renovate and maintain environs that meet the needs of the occupants as well as nationally recognized codes and standards.

- Address workers’ concerns to stakeholders and leadership through formal and informal communications, e.g., Hospital Safety Committee.

- Develop and implement policies and procedures to manage workplace hazards.

- Institutional and Job Specific Education and Training.
Complete systematic and systemic workplace assessments
  - *Safety Officer, managers and front line staff meet to identify site-specific occupational risks and assess effectiveness of existing controls*

Complete ‘Environment of Care’ Tours
  - *Multidisciplinary subject experts and department staff survey all areas of the hospital as an ongoing improvement process.*

Assess occupational risks associated with new technologies, i.e., Failure Mode and Effects Analysis

Maintain and apply knowledge and best practices from creditable sources.
Response to an Occupational Injury or Illness

- Review and triage each occupational injury and illness report in timely manner.
- Interview the employee.
- Take action to mitigate hazard.
- Implement process for light duty or alternate work assignment.
Response to an Occupational Injury or Illness

- Analyze incident reports from various sources to identify trends and ‘red flag’ events that caused or may cause an injury or illness.

- Complete root cause analysis for ‘high risk’ near misses as well as sentinel events.

- Audit corrective actions for sustainability and effectiveness.
Occupational Injury and Illness Incident Case Rates for Hospitals Nationwide in 2015 Compared with Incident Case Rates for the Clinical Center in 2016 (N= 95)

<table>
<thead>
<tr>
<th>Case Incident Rate</th>
<th>US Hospitals</th>
<th>CC</th>
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<tbody>
<tr>
<td>TRC</td>
<td>6</td>
<td>5.2</td>
</tr>
<tr>
<td>ORC</td>
<td>3.6</td>
<td>2.5</td>
</tr>
<tr>
<td>DAFW</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>DJTR</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>DART</td>
<td>2.4</td>
<td>2.7</td>
</tr>
</tbody>
</table>

TRC = Total Recordable Cases
ORC = Other Recordable Cases
DAFW = Days Away From Work
DJTR = Days Job Transfer Restriction
DART = Days Away, Restriction, Transfer
All CC Occupational Injuries and Illnesses Reported to Occupational Medical Service in 2016 (N= 190)

Musculoskeletal (M/S) Trauma accounted for:
- 86% of the Days Away From Work
- 76% of the Days Job Transfer Restriction
What worked well in 2016?

Reduced musculoskeletal injuries during patient transfers by 50% (8/16)

Multifactorial Approach

- Renovated the facility to eliminate the risk.
- Installed permanent lifts for patient transfer in the ICU.
- Enhanced program and practices to reduce patient falls.
- Raised awareness of proper body mechanics in clinical areas.
Transfer of Decedent to Morgue

Before

Now
Continuing Challenges

- **Musculoskeletal Trauma Without Patient Contact**
  - Mitigate pedestrian trip hazards
  - Remove and/or adjust tension on door closures
  - Ensure adherence to safety measures when cleaning floors
  - Revisit options for chairs with wheels

- **Wounds**
  - Optimize safety while handling ‘sharps’ during bone marrow procedures

- **Light Duty and Alternate Work Assignment Process**
  - Improve intra-department communications & timeliness of placement

- **Resources**
DISCUSSION