Managing Infection Risk

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23rd April
To outline and discuss how the use of management systems that embrace proactive risk assessment can provide a different and effective approach for infection prevention and control.

To review the challenges of implementing this kind of approach and how it can be used to build awareness of infection risk across the organization and empower staff to act.
DNV GL’s Core Competence

Managing risk

- Maritime
- Healthcare
- Food & Beverage
- Transportation
- Energy
- IT & Telecom
- Public Sector
- Automotive
- Defense
Global position within healthcare

2400
Hospitals and healthcare providers certified by us worldwide.

China
Partnership with China National Health Research & Development Centre addressing risk management in China Healthcare Reform.

1st
First Managing Infection Risk Standard for Healthcare-leading to Center of Excellence- two awarded CoE status with over 30 hospitals working towards.

Research
Have dedicated multi-disciplinary research team focused on understanding patient safety issues and risk.

USA
Recognized by CMS for deemed status for Medicare and Medicaid Reimbursement. About 400 Accredited Hospitals in the US.

Accred.
Multiple hospitals accredited to DNV International Standard. Contracts with hospitals in 10 countries. ISQua Accredited.
Our Healthcare “Footprint”
Managing Infection Risk
Why develop the Standard?

- Management system approaches already common in hospitals, particularly for quality and safety (total quality management)
- Safety / security management systems common in many other major hazard industries
  - Biological laboratories
  - Oil & gas
  - Nuclear
  - Chemical
- Many medical errors and HAIs cases caused by systematic management failure\(^1\)
- No infection risk management system standard for hospitals, only IPC guidelines

\(^1\)http://www.iom.edu/Reports/1999/To-Err-is-Human-Building-A-Safer-Health-System.aspx
What does the MIR Standard designed to do?

- Define the scope for managing infection risks in the healthcare setting
- Facilitate the identification of current best practice in the field
- Allow for a variety of solutions when managing infection risks within a hospital/healthcare facility
- Drive continuous improvement
- Enable you to assure stakeholders of responsible and proportionate infection risk management
Rationale

- Need to provide assurance that infection risk is being managed effectively and proportionately
- Management is responsible and ensures risk is managed responsibly
- Requires that there is a system in place to identify and manage risk on an on-going basis
- Activities are proactively planned, conducted and reviewed
- Roles, responsibilities and authorities are clearly defined and the people are competent
Rationale (cont.)

- Combines controls related to engineering, instructions and people
- Necessary links are in place between related and dependent activities – i.e. is there a systematic approach
- Personnel understand and follow the system to the required level
- The system is ‘alive’ – it evolves and develops in a controlled and proactive manner
18 MIR Elements

- Element 10. Healthcare Facility Requirements and Layout
- Element 11. Healthcare Environment
- Element 12. Equipment and Maintenance
- Element 13. Cleaning, Decontamination, Disinfection and Sterilization
- Element 14. Patient Care
- Element 15. Hand Hygiene
- Element 16. Clothing and Personal Protective Equipment
- Element 17. Movement and Transport
- Element 18. Security
- Element 1. Infection Risk Management System
- Element 2. Risk Assessment
- Element 3. Microbial Surveillance
- Element 4. Antimicrobial Use and Surveillance
- Element 5. Emergency Outbreak Response and Contingency Planning
- Element 6. Accident / Incident Investigation
- Element 7. Personnel and Competency
- Element 8. Human Factors
- Element 9. Occupational Health
Applications

- Centre of Excellence Certification service
- Training
  - Foundation
  - Awareness
  - Lead auditor
- Framework for risk assessment activities (e.g. facility risk)
- Use in developed and developing economy settings
- Raise profile of infection prevention and control and generate discussion and debate
Managing Infection Risk COE Program

Base-Line
- Base-Line Ass.

Implementation
- Alpha Assessment
- Gap Assessment
- Gap Assessment

Center of Excellence
- Initial Audit
- Periodic Audit
- Periodic Audit

MIR Journey

↑ Element based webinar / E-learning module

Mandatory Elements
Optional Elements
Summary

- Reduce the potential for harm to patients, visitors, staff and the environment
- Improve MIR performance beyond legislative requirements and promote continuous improvement
- Engage and motivate all staff to reduce infection risks
- Create competitive advantage through reduction and prevention of errors
- Safeguard your people, organization and reputation
- Find out more and download the MIR Standard at: www.dnvgl.com/healthcare
DNV Managing Infection Risk (MIR) Implementation

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Vice President, Medical Affairs
Sentara Leigh Hospital
Sentara Healthcare
Sentara Healthcare

Mission

We improve health every day.

Values

People, Quality, Patient Safety, Service, Integrity

Vision

Be the healthcare choice of the communities we serve.
Sentara Healthcare

- 126-year not-for-profit mission
- 12 hospitals; 2,727 beds; 3,713 physicians on staff
- 12 long term care/assisted living centers
- Extended stay hospital
- 5 Medical Groups (~900 providers)
- 450,000 - member health plan
- Sentara College of Health Sciences
- $4.6B total operating revenues
- $6.2B total assets
- 27,000+ members of the team
- AA/Aa2 bond ratings
Sentara Healthcare System

- Series of community hospital mergers
- Belief that integration would lead to better comprehensive care for patients
- Medical Groups
- Hospitals
- Nursing Homes
- Medical Transportation
- Home Health
- Optima Health
September 2008
DNV deemed by CMS as accrediting agency

2009
Began discussions concerning accreditation groups

October 12-14, 2010
DNV surveyed one Sentara hospital (Sentara Williamsburg Hospital)

October 14, 2010
Sentara Williamsburg Hospital received DNV accreditation

February 2012
Sentara Healthcare system committed to DNV

September 2012
First Sentara Healthcare system wide DNV survey
Infection Prevention: Who is looking?

- Governmental Agencies
  - CDC - National Healthcare Safety Network
  - Center for Medicare & Medicaid Services - Federal Government
    - Pay directly or indirectly for a large portion of healthcare
    - Conditions of Participation: if non compliant, no federal money
    - Infection Prevention & Control: 3 Standards; Surveyor Workbook has 50 pages with 217 questions
  - Department of Health - State
- Other groups
  - Insurance companies with regulations/incentives
  - Media/Patients
Managing Infection Risk

• DNV outlined to Sentara a new concept to transform hospital systems by establishing proactive assessment and mitigation of risks

• Risk Assessment
  – Intuitively done in all aspects of life
  – Improves with experience
  – Imbedded in medicine

• Healthcare workers tend to be process driven

• Resonance with healthcare workers
Journey

• Internal deliberations
  – Accreditation & Regulatory, Infection Prevention & Control and Clinical leadership

• Crux of debate: Would a rigorous system based on structured risk assessment improve Sentara’s infection prevention capability?

• Two Sentara hospitals volunteered to pilot the certification process
Steps

**Sentara’s Organizational Structure**
- Executive Sponsors and Leadership commitment
- Steering Committee (Facility Services, Infection Prevention & Control, Quality & Safety, Regulatory & Accreditation)

**November 2012 DNV MIR GAP Assessment**
- On site, 4-5 days
- Hospital wide participation

**November 2012 DNV MIR Education/Training**
- 3 days training for identified leaders
Preparedness

• Risk assessed a few processes (trials)
  – Room cleanliness/Patient transport
  – Sterilization/Disinfection
  – Clean and Dirty linen processes
  – Food Services

• Implemented change

• Audited processes

• November 2013: Notified DNV of MIR Certification intent
Internal MIR Gap Assessment Audit

• February 28, 2014: Complete Internal Gap Assessment
• DNV MIR Projects: Based on DNV MIR original gap assessment findings
  – ESD risk for potential cross contamination
  – Tube system potential for cross contamination
  – Transporting of isolated patients
  – Surgical Performance Improvement
  – Medication storage for the isolated patients
• April 2014: Required Corrective Action Plans to be completed and Validation of Self Gap Assessment performed.
### PLANNING ACTIVITIES

**COMPLETION PERIODS**

**Jan 2014**
- Notify DNV of MIR Certification Intent Nov 23, 2013
- Application Submission Nov 25, 2013
- ARS/Legal Review Approval DNV MIR Agreement
- Submit DNV Agreement by Jan 31, 2014

**Complete 2nd Quarter 2014**
- Complete Level 1/Work Plan by 2/1/2014
- Complete Gap Assessment: 2/28/2014 DNV MIR Projects SLH:
  - ESD risk for potential cross contamination - 3/1/2014
  - Tube system potential for cross contamination - TBD
  - SVBGH:
    - Transporting of isolated patients - TBD
    - OR PI Improvement – TBD
  - Joint Project:
    - Medication storage for the isolated patient - TBD
- Allow 2 Months for Corrective Action (CA) Implementation
- SVBGH - Dir IC Validation of Self-Gap Assessment CA April 14 - 17, 2014
- SLH - Dir IC Validation of Post MIR Certification CA June 3 - 6, 2014
- Dir. IC & Dir. ARS Collaboration with Sr. Leadership to Determine Survey Window. Completion Date: 2/6/2014

**2nd Q 2014**
- 4 – Days
  - 4 – Surveyors (2 teams) for each site.
- DNV CEO indicated that a Certification Audit May be More Days to complete a thorough & credible MIR audit
- ARS Dir approved with NO additional Expenses Based on Agreement Audit Must be Scheduled Prior to Sept 2014 (SH Annual Survey IS0 Compliance)
- Audits Will Not be Scheduled During Holiday Weeks
- Post the Last Day of Audit
  - SVBGH – 5/9/14 & SLH 5/15, 14
  - SVBGH Audit Report Final Received - 05/25/2014 (16 Days)
  - SLH Audit Report Final Received - May 30, 2014 (15 Days)
- Within 90 Calendar Days SLH Survey May 12 - 15, 2014
- SVBGH Survey - May 6 - 9, 2014
- Key Dates:
  - CAPs Assigned - 5/29/14
  - MIR CAP Imples - 7/17/14 (Excluding Approved Extensions)
  - Internal Verification Audit - Week 8/1 - 4/8, 2014
  - CAP (Final) Due to DNV 9/4/14

**90 Day Window Ends (SVBGH – 8/7/14 & SLH – 8/13/14 )**
- TBD - Post Last Day Audit (Assuming No Adverse Decisions)
- TBD - Within 30-45 Business Days Post Receipt of Final Audit Report
- On-Site Re-Audit Survey Sept 4, 2014
- Celebrate!
- TBD - Project to Occur Sept/Oct 2014
- NOTE: All NC 1 must be Removed or Downgraded to a NC 2 before Certification

### HOSPITAL (SVBGH/SLH) PRE-PLANNING PHASE

- **Facility Decision**
  - Finalize DNV MIR Decision
  - DNV Cost Negotiation 12/4/2013
  - Facility Admin Team Membership approval / Presidents approval of finances 12/23/2013

- **Complete MIR**
  - Level 1 & 2 Action Plan/Work Plan
  - Communication & Education MIR Standards, Certification & Survey Process (Managers Medical/Hospital Staff)

- **Complete Gap Assessment**
  - Assessment/Planning Activities
  - DNV MIR Project Completion with development and implementation of lessons learned

- **Complete Implementation of Corrective Actions**
  - By the End of the Pre-Planning Period
  - Ongoing DNV Roll - Out Activities

- **Complete**
  - Confirm with DNV Final Survey Window
  - Ongoing Validation of Corrective Actions

### HOSPITAL POST ASSESSMENT PHASE

- **Receipt of Initial Certification Report from DNV**
  - Submittion of Corrective Action Plans (CA) for Non-Conformity (NC) Findings
  - NOTE: All NC must be verified as Corrected
  - Prior Submission to DNV
  - Any Required Extensions will be determined on a case by case basis

- **Receipt of DNV Final MIR Certification Report & Approval of Corrective Action Plans (CAP) for Non-Conformity (NC) Findings**

- **Receipt of MIR Certificate**
  - Communicate SLH & SVBGH MIR Certification Internal
  - External/Community

### DNV Managing Infection Risks (MIR) Planning for Certification; CY2014 (Update DLC 6/4, & 7/22, 2014)
Initial Certification Audit

- May 6-9, 2014: Sentara Virginia Beach General Hospital
- May 12-15, 2014: Sentara Leigh Hospital
- Surveyed to the standards
- Number of surveyors: 4
- 4 days of process for each facility
- Intense, learning experience for all
- Nonconformity Findings:

<table>
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<tr>
<th>Facility</th>
<th>Major (Cat-1)</th>
<th>Minor (Cat-2)</th>
<th>OFI</th>
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<tr>
<td>SLH</td>
<td>10</td>
<td>11</td>
<td>8</td>
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<tr>
<td>SVBGH</td>
<td>10</td>
<td>15</td>
<td>10</td>
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</tbody>
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*Many Findings crossed over to both facilities
*OFI = Opportunity For Improvement
DNV MIR Certification Follow-up Survey

- September 4-5, 2014: 1 day for each facility
- Number of surveyors: 3
- Focused only on nonconformities
- Outcome
  - All major nonconformities removed
  - 3 minor nonconformities (Cat 2) remained
  - All 3 apply to both hospitals
- October 2014: Certified DNV-GL “Center of Excellence for Managing Infection Risk” (First in the World)
Ongoing Work

• Never done – every new procedure, process, facility needs to be assessed for risk

• Commit resources to improve processes around outstanding nonconformities
  – Medical staff educational requirements
  – Verify immunization of all healthcare workers (including medical staff)
  – Antibiotic Stewardship

Note: Involves system wide implementation, as it is an accreditation requirement.
Personal Insights

• Importance of formalized management structure

• The “hierarchical class structure” of medicine
  – Education
  – Immunization

• “Conflicted” relationships in modern healthcare
  – Physicians as customers
  – Physicians as our agents
Success Stories

• Hand hygiene audit compliance has doubled since 2013
• Cleanliness testing results improved across high touch surfaces, known to be a contributing factor to the spread of pathogens
• MRSA HAIs down by 67%, with only one MRSA infection CY2014
• Increased in system wide staff compliance with appropriate use of personal protective equipment
• Front line staff involvement
  – Electricians: “Hand Wash” sign
  – Painters: Audits of hand sanitizers
  – Waiting room reading materials
Impact

Patient Safety

Leadership
- Structure
- Controls
- Audits

Employee
- Awareness
- Participation

Culture
- “Silo Breaking”
- Part of Safety Journey

"Silo Breaking" - Part of Safety Journey
Future

- Serious communicable disease risks
- Public awareness perceptions and management of risks
- Financial Rewards/Penalties

Everyone needs to be involved and engaged. It is not just the job of a few – it is everyone’s responsibility. There needs to be a steadfast commitment across the entire system to take the necessary steps to ensure patient safety.
Questions?