THE QUALITY COLLOQUIUM

EVIDENCE-BASED MEDICINE AND HEALTH SYSTEMS

LEADERSHIP IMPLEMENTS DISEASE MANAGEMENT GUIDELINES AND REPORTS RESULTS THROUGH A “QUALITY METRIC”

August 22 – 25, 2004
Cambridge, MA
Objective

To define and explain how to implement guidelines based on evidence for all organizations ... and why

The Challenge

To standardize care and change practice across a vast, diverse healthcare System
NORTH SHORE – LONG ISLAND JEWISH HEALTH SYSTEM
- HOSPITALS -

- Affiliated
- Owned
- Sponsored

System Office
- NSUH - Manhasset
- Long Island Jewish Med. Ctr.
- NSUH at Forest Hills
- Franklin Hospital Med. Ctr.

Peninsula Hospital

Eastern Long Island Hosp.

Central Suffolk Hosp.

Southampton Hosp.

Huntington Hospital

NSUH at Glen Cove

NSUH at Syosset

NSUH at Plainview

Southside Hospital

NSUH at Forest Hills

Southampton Hosp.

NSUH at Syosset

NSUH at Plainview

NSUH - Manhasset

L I Jewish Med. Ctr.

NSUH at Forest Hills

Franklin Hospital Med. Ctr.

NSUH at Glen Cove

Statue of Liberty

2002 Total Population = 5 Million

201.17 km
Creating Consistent Care Across….

- 5,670 Hospital & Nursing Home Beds
  - 3 Tertiary Care Hospitals
  - 2 Specialty Care Hospitals
  - 13 Community Hospitals
  - 4 Long-Term Care Facilities
  - 1 Children’s Hospital
  - 1 Psychiatric Hospital
  - 3 Regional Trauma Centers
  - 3 Area Trauma Centers
  - 1 Burn Center

- 7 Home Health Agencies
- Research Institute
- Core Laboratory
- Center for Emergency Services
Educating Staff

- 32,000 Employees (largest employer in region)
  - 7,000 Nursing Professionals
- 7,000 Active Physicians & Dentists
  - 800 Full-time
- 6,000 Volunteers & Auxiliary
- 1,200 Residents & Fellows in 89 Accredited Programs
- 1,300 Medical Student Rotations
Evidence-Based Medicine Education

- **Medical Staff**
  - Defining the standard of care (CMS)

- **Resident/Fellows**
  - Didactic sessions, field experience and projects *

- **Quality Mgmt. Directors**
  - Communicating data-driven information.

- **Nursing**
  - Changing practice and enhancing competency (Magnet designation)

- **Clinical Task Forces**
  - Developing guidelines
  - Identifying best practices

* "A Critical Literature Appraisal of Care Pathways and Structured Order Sets in Internal Medicine"
A Critical Literature Appraisal of Care Pathways and Structured Order Sets in Internal Medicine

Source: Edward Wu, M.D. Quality Management Rotation

**OUTCOME**
- Positive: 46%
- Negative: 12%
- Mixed: 18%
- Unchanged: 24%

**LENGTH-OF-STAY**
- No Change: 50%
- Improved: 50%

**PROCESS CHANGE**
- No Change: 50%
- Improved: 50%

\[ n = 59\% \text{ of parameter} \]
\[ \text{Note: Only 60\% used statistical analysis (multivariate)} \]

\[ n = 47\% \text{ of parameter} \]
\[ \text{Note: Only 50\% used statistical analysis (multivariate)} \]
A Critical Literature Appraisal of Care Pathways and Structured Order Sets in Internal Medicine

- More randomized controlled studies need to be done particularly studying the incremental effect of structured order sets
- Studies are needed which include more education of the care pathway
- Order sets are on the horizon and have yet to be studied in detail

Source: Edward Wu, M.D.
Quality Mgmt. Rotation
Trustees
Senior Management
Managers (480)
New Employees
Enrichment Courses

Value of data
Understanding the variation
Importance of documentation

Quality Management Methodologies

Education Across Continuum for All Employees

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Leadership Values Quality

North Shore LIJ THE ROAD AHEAD...

- Service Excellence
- Quality
- Operational Performance
- Community Health & Advocacy
- Physician Partnerships
- Workforce Development
- Research
- Education

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Consistent Quality Patient Care

Objective: To become the leader in providing quality healthcare which can be defined and measured.

Strategies:
- Create a culture of safety and quality at the bedside.
- Promote utilization of CareMaps® as we embrace evidence-based medicine.
- Focus on processes.
- Educate future generations of medical and nursing professionals on quality principles.
## Top Medical DRGs
### Jan 2003 - Dec 2003

<table>
<thead>
<tr>
<th>DRG#</th>
<th>Description</th>
<th>Cases</th>
<th>AVG LOS</th>
<th>Evidence-Based Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>143</td>
<td>Chest Pain</td>
<td>6,354</td>
<td>1.9</td>
<td>✓</td>
</tr>
<tr>
<td>127</td>
<td>Heart Failure &amp; Shock</td>
<td>4,606</td>
<td>6.3</td>
<td>✓</td>
</tr>
<tr>
<td>089</td>
<td>Simple Pneumonia and Pleurisya (Age &gt;17 w/ CC)</td>
<td>4,303</td>
<td>7.1</td>
<td>✓</td>
</tr>
<tr>
<td>183</td>
<td>Esophagitis, Gastroenteritis and Miscellaneous Digestive Disorders</td>
<td>3,662</td>
<td>2.45</td>
<td>✓</td>
</tr>
<tr>
<td>088</td>
<td>Chronic Obstructive Pulmonary Disease</td>
<td>2,981</td>
<td>6.1</td>
<td>✓</td>
</tr>
</tbody>
</table>

(excludes: OB/GYN, psych, & rehab)
### Top Surgical DRGs
**Jan 2003-Dec 2003**

<table>
<thead>
<tr>
<th>DRG#</th>
<th>Description</th>
<th>Cases</th>
<th>AVG LOS</th>
<th>Evidence-Based Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>527 / 517</td>
<td>Percutaneous Cardiovascular Procedures</td>
<td>4,716</td>
<td>1.7</td>
<td>✓</td>
</tr>
<tr>
<td>209</td>
<td>Joint and Limb Reattachment Procedures of Lower Extremity</td>
<td>2,772</td>
<td>5.3</td>
<td>✓</td>
</tr>
<tr>
<td>148</td>
<td>Major Small and Large Bowel Procedures w/ CC</td>
<td>1,572</td>
<td>13.1</td>
<td>✓</td>
</tr>
<tr>
<td>494</td>
<td>Laparoscopic Cholecystectomy w/o C.D.E. w/o CC</td>
<td>1,424</td>
<td>2.4</td>
<td>✓</td>
</tr>
<tr>
<td>288</td>
<td>O.R. Procedures for Obesity</td>
<td>1,255</td>
<td>2.8</td>
<td>✓</td>
</tr>
</tbody>
</table>

(excludes: OB/GYN population)
Who Wants Evidence-Based Medicine?

External Groups
- JCAHO
- CMS
- NPSF
- NQF
- AHA
- Advocacy (Leapfrog)

Internal Groups
- Nursing- communication
- Quality Management – develop measures to define performance and opportunities for improvement and communication
- Utilization/Case Management - CareMap®
Evidence-Based Medicine from Three Perspectives
Analysis of the Variance Between Expected Outcome (Evidence) and Actual Outcome (Practice)
Out of 100 indicators (10 hospitals times 10 measures) reported to CMS, 34 exceeded the top 10% level reported by all hospitals.
Performance Improvement Best Practice and Opportunities for Improvement

Top Performing

Bottom Performing
## Public Reporting: Preliminary Hospital Performance

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Q3 2003</th>
<th>Q4 2003</th>
<th>Q1 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Hospital B</td>
<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Hospital C</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Hospital D</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Hospital E</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Hospital F</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Hospital G</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Hospital H</td>
<td>6</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Hospital I</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hospital J</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Q3 2003 Green = 13  Q1 2004 Green = 34
Public Reporting: Preliminary Indicator Performance

- AMI ACEI for LVSD Rate
- AMI Aspirin at arrival Rate
- AMI Aspirin prescribed at discharge Rate
- AMI Beta Blocker at arrival Rate
- AMI Beta Blocker prescribed at discharge Rate
- CAP Antibiotic Timing Rate
- CAP Oxygenation assessment Rate
- CAP Pneumococcal screening and/or vaccination Rate
- HF ACEI for LVSD Rate
- HF LVF assessment Rate
Leadership Developed Quality Metric

### Fourth Quarter 2003

#### Heart Failure

<table>
<thead>
<tr>
<th>Metric</th>
<th>Goal</th>
<th>Jan-Mar03</th>
<th>Apr-Jun03</th>
<th>Jul-Sep03</th>
<th>Oct-Dec03</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVF Assessment</td>
<td>100%</td>
<td>87.5%</td>
<td>86.6%</td>
<td>86.5%</td>
<td>87.9%</td>
</tr>
<tr>
<td>ACEI for LVSD</td>
<td>95%</td>
<td>71.4%</td>
<td>73.7%</td>
<td>75.9%</td>
<td>78.1%</td>
</tr>
</tbody>
</table>

#### Community Acquired Pneumonia

<table>
<thead>
<tr>
<th>Metric</th>
<th>Goal</th>
<th>Jan-Mar03</th>
<th>Apr-Jun03</th>
<th>Jul-Sep03</th>
<th>Oct-Dec03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygenation Assessment</td>
<td>100%</td>
<td>98.1%</td>
<td>98.9%</td>
<td>98.2%</td>
<td>98.4%</td>
</tr>
<tr>
<td>Pneumococcal Screening and Vaccination</td>
<td>75%</td>
<td>29.9%</td>
<td>46.3%</td>
<td>45.3%</td>
<td>47.3%</td>
</tr>
</tbody>
</table>

**Desired Direction**

+ = ➖

**Change in Trend From Previous Period**

- Color Key:
  - ➖ 5+ %
  - ➖ 5 %
  - ➖ 5+ %

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**Leadership Developed Quality Metric**

**Health System**

**Fourth Quarter 2003**
# Physician Profile

## North Shore University Hospital at Plainview

**Physician License:** XXX  
**Physician Name:** XXX  
**Jan - Sep 2003**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Pts in Numerator</th>
<th>Pts in Denominator</th>
<th>Rate (%)</th>
<th>CMS Top 10% Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Myocardial Infarction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspirin at arrival</td>
<td>3</td>
<td>3</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Aspirin prescribed at discharge</td>
<td>2</td>
<td>2</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>Beta Blocker at arrival</td>
<td>3</td>
<td>3</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Beta Blocker prescribed at discharge</td>
<td>2</td>
<td>2</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td><strong>Community Acquired Pneumonia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antibiotic Timing</td>
<td>14</td>
<td>17</td>
<td>82</td>
<td>86</td>
</tr>
<tr>
<td>Oxygenation assessment</td>
<td>17</td>
<td>17</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Pneumococcal screening and/or vaccination</td>
<td>2</td>
<td>13</td>
<td>15</td>
<td>73</td>
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<tr>
<td><strong>Heart Failure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACEI for LVSD</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>92</td>
</tr>
<tr>
<td>LVF assessment</td>
<td>6</td>
<td>9</td>
<td>67</td>
<td>97</td>
</tr>
</tbody>
</table>

### Hospital Performance for Public Reporting Indicators

![Bar chart showing hospital performance indicators](chart.png)

- AMI - ACEI for LVSD: 57%
- AMI - Aspirin at arrival: 82%
- AMI - Aspirin prescribed at discharge: 79%
- AMI - Beta Blocker at arrival: 97%
- AMI - Beta Blocker prescribed at discharge: 87%
- CAP - Anticoagulants: 68%
- CAP - Oxygenation assessment: 98%
- CAP - Pneumococcal screening and/or vaccination: 36%
- HF - ACEI for LVSD: 70%
- HF - LVF assessment: 77%
## Physician Profile

### Heart Failure Public Reporting

**Franklin Hospital Medical Center**  
**Jan - Sep 2003**

<table>
<thead>
<tr>
<th>Physician License</th>
<th>Physician Name</th>
<th>LVF Numerator</th>
<th>LVF Denom</th>
<th>LVF Rate</th>
<th>ACEI Numerator</th>
<th>ACEI Denom</th>
<th>ACEI Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td></td>
<td>13</td>
<td>14</td>
<td>93</td>
<td>2</td>
<td>3</td>
<td>67</td>
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<tr>
<td>143</td>
<td></td>
<td>4</td>
<td>13</td>
<td>31</td>
<td>1</td>
<td>3</td>
<td>33</td>
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<tr>
<td>175</td>
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<td>13</td>
<td>54</td>
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<td>13</td>
<td>92</td>
<td>5</td>
<td>7</td>
<td>71</td>
</tr>
<tr>
<td>116</td>
<td></td>
<td>6</td>
<td>12</td>
<td>50</td>
<td>2</td>
<td>2</td>
<td>100</td>
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<td>182</td>
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<td>75</td>
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<td>83</td>
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<td>0</td>
<td></td>
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<tr>
<td>196</td>
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<td>11</td>
<td>100</td>
<td>3</td>
<td>5</td>
<td>60</td>
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<td>221</td>
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<td>100</td>
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<td>198</td>
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<td>8</td>
<td>88</td>
<td>3</td>
<td>3</td>
<td>100</td>
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<td>8</td>
<td>8</td>
<td>100</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<tr>
<td>165</td>
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<tr>
<td>172</td>
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<td>2</td>
<td>6</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Out of 10 publicly reported measures, 1 were above the top 10% CMS benchmark.

*Unit Performance includes only Med, Med/Surg, Medicine and Internal units only

- Performed BETTER than the top 10%
- Performed below the top 10%, but above the top 50%
- Performed WORSE than the top 50%

Quality Management Q3 2003
NS-LIJHS Quality Management EBM Task Forces

- Pneumonia
- Heart Failure
- Myocardial Infarction
- Coronary Artery Bypass Graft Surgery
- Hip and Knee Orthopedic
- Stroke
- Bariatric Surgery
- Pediatric Cardiac Surgery
- Hyperbaric Wound Treatment
- Critical Care
- Skin Care
- Sterilization

- Fall Prevention
- Health Information Management
- Infection Prevention
- Needle Stick Safety
- Oncology
- Safe Practices
- Credentialing
- Bioethics
- Perioperative
- Mental Retardation /Developmental Disabilities
- Discharge Planning
- Utilization Management
- CareMap®/Variance
NS-LIJHS Quality Management EBM Task Forces

**Charge**

Provide understanding, direction, education and tools to achieve improved processes/outcomes

**Benefits**

- Optimize patient care
- Standardize measures
- Share best practices
- Identify gaps in safe patient care
- Improve clinical involvement
- Enhance communication
Results

**Acute Myocardial Infarction**
- Pilot of standardized admission orders
- Pilot of rapid diagnostic testing
- Incorporating CEMS into treatment protocols

**Orthopedic/CABG**
- Standard protocol for antibiotic administration

**Heart Failure**
- Development of education module on CD ROM and Intranet
- Physician champions conduct around the clock educational programs for staff

**Pneumonia**
- Standardized orders for immunizations
- Educational video for patients
Educating Patients
Evidence-Based Medicine is Used for LOS Management
Example: LOS Management Community Hospital

Hospital B - ALOS
(excluding hospice, psychiatric, rehab and detox)
Continuum of Care Process Description

Admission Cycle
- Pre-Admission Testing
- Emergency Room
- Admitting
- Transfers
- Physician Offices

• Information Collection
• Admission Protocols
• Discharge Planning Begins

Treatment Cycle
- Service Facilitators
- Clinicians
- Ancillary Services
- Social Work

• Case Mgmt./Floor Nurses
• Results Reporting

Discharge Cycle
- Medical Records
- Discharge

• Retrospective Reporting
• Billing Documentation
Result: Care of Pneumonia

- Profit
- Patient Taking PO Meds
- Misuse/Underuse “1-Day Stays” → Costs
- Overuse → Costs

Clinical Pathway

Day 1: Underutilization Antibiotic Home
Day 3: Optimum Switch Antibiotics (IV to PO) Plan for Discharge
Day 5: Optimum Implementation of Discharge
Day 7: Overutilization Excess Days Improper Discharge Process

Quality Lowers Cost
### Outcomes Indicators – March 2004

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Hos A</th>
<th>Hos B</th>
<th>Hos C</th>
<th>Hos D</th>
<th>Hos E</th>
<th>Hos F</th>
<th>Hos G</th>
<th>Hos H</th>
<th>Hos I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unplan 30Day Readm Rate</strong></td>
<td>****</td>
<td>****</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>***</td>
</tr>
<tr>
<td>Benchmark Range: (4.62-7.12)</td>
<td>5.36</td>
<td>6.59</td>
<td>9.65</td>
<td>7.96</td>
<td>7.66</td>
<td>7.51</td>
<td>10.42</td>
<td>2.44</td>
<td>11.03</td>
</tr>
<tr>
<td><strong>Unplan Return OR Rate</strong></td>
<td>1.36</td>
<td>0.00</td>
<td>0.47</td>
<td>1.19</td>
<td>1.67</td>
<td>2.10</td>
<td>1.10</td>
<td>0.62</td>
<td>1.30</td>
</tr>
<tr>
<td>Benchmark Range: (0.78-1.28)</td>
<td>1.36</td>
<td>0.00</td>
<td>0.47</td>
<td>1.19</td>
<td>1.67</td>
<td>2.10</td>
<td>1.10</td>
<td>0.62</td>
<td>1.30</td>
</tr>
</tbody>
</table>

**Autopsy Request Rate**

Benchmark Range: (72.69-25.66)

<table>
<thead>
<tr>
<th></th>
<th>Hos A</th>
<th>Hos B</th>
<th>Hos C</th>
<th>Hos D</th>
<th>Hos E</th>
<th>Hos F</th>
<th>Hos G</th>
<th>Hos H</th>
<th>Hos I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autopsy Request Rate</strong></td>
<td>***</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>**</td>
<td>INS</td>
<td>0.00</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>84.38</td>
<td>1.20</td>
<td>36.59</td>
<td>15.19</td>
<td>94.41</td>
<td>0.00</td>
<td>75.47</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- *****/**: Hospital/System performed BETTER than the benchmark
- ****: Hospital/System performed within average.
- */: Hospital/System performed WORSE than the benchmark
- **NA**: Hospital does not report on this indicator. Note: SIUH has a two month lag in their reporting of the SSI Rate
- **INS**: Hospital does not meet sample size requirements and was not benchmarked.
- **Empty Cell**: Hospital should report data on this indicator, but did not submit data this month.
- **Benchmark**: Developed using the system's previous year's performance.
- **NB**: Pre-Existing Pressure Ulcers does not receive a performance rating.
Case Management Uses EBM Guidelines Across Continuum

Multidisciplinary Patient Centered Care

- Laboratory
- Nutrition
- Occupational Therapy
- Pharmacy
- Physical Therapy
- Radiology
- Respiratory Therapy
- Speech Therapy
- Environmental Services

Coordination (Pre, During and Post Discharge)
The NS-LIJHS CareMap®

- Disease-specific
- Helps to direct the care towards evidence-based best practices
- Provides a standard of care for varied patient populations with discipline-specific goals, focusing on patient and cost outcomes
- Increases collaboration and efficiency by prospectively planning for care
- Strengthens accountability by linking assessment and intervention strategies with patient outcomes
CareMap® Creation Methodology

PRIORITIZATION

DEVELOPMENT

APPROVAL

IMPLEMENTATION

USE

OUTCOME
CareMaps® Encourage Patient Education

Patients partner in their care

Patient Friendly CareMaps® provide patient information on:

- Disease Process
- Treatment Goals
- Patient’s Role
- Tests
- Medications
- Diet
- Activity
- Discharge Planning
Heart Failure

If you have heart failure that has caused you to be in the hospital, it probably means that your heart muscle has weakened to the point where it has allowed your body to collect too much fluid, causing difficulty breathing and/or a low energy level.

<table>
<thead>
<tr>
<th>Tests</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Your medication will be adjusted to improve your heart function and remove the extra fluid. Medicine that removes the extra fluid is called a diuretic (water pill). All medications will be ordered by your doctor. You may also receive medication called ACE-inhibitors and Beta-blockers. These medications are important in protecting your life and decreasing your chance of being rehospitalized. Feel free to question your Health Care Team about these medications. If you are being given a diuretic (water pill), it is important to note if you are urinating soon after taking the medicine and if you are urinating more or less, or the same amount as the day before. Please report this to both your nurse and doctor. By giving you the diuretic early in the day, it helps the doctor to know if that day's dose is working.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of liquid you drink will be limited to decrease the stress on your heart. Your diet will be ordered by your doctor. You may be on a low sodium (salt), low fat or a low cholesterol diet. A Registered Dietitian is available to talk to you about your diet needs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diet</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking will help you feel better and improve how your heart works. Check with your doctor and nurse before you begin. Please call for help before getting out of bed for the first time or if you are feeling unsteady or weak.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>We have made a plan that we believe will get you well as quickly and safely as possible. This plan begins early in the morning with a weight check in order to know if you are losing fluid. Ask about your daily weight. You will also be given information about your condition and the medication you are taking by members of the Health Care Team. You will also be taught the importance of weighing yourself everyday and writing it down in a book that can be brought to your physician's office. You will be taught to check your feet and legs for swelling, what you should do if your symptoms get worse, whom to contact your doctor, and the importance of a low sodium diet. If you are a smoker, you will be educated on the effects of smoking on your body and given information on how to stop.</td>
<td></td>
</tr>
</tbody>
</table>

| Education  |  |

Your discharge plan will be based on your needs. If you need help with care at home, or were receiving home care services, please tell your nurse and ask about home care programs available for patients with heart failure. A Social Worker/ Case Manager may visit you to talk about discharge planning. The Health Care Team will go over your discharge instructions and answer any questions you or your family may have. If any questions come up after you go home please call your doctor.
Heart Failure Specific Supplemental Discharge Instructions

Patient-Specific Discharge Information

Your discharge weight is __________ pounds. Your last creatinine was __________ mg/dL.
Your last ejection fraction was ___% OR mildly/moderately/severely reduced (circle one)

Heart failure is an on-going (chronic) disease. It requires YOUR care and participation everyday in order to offer you the highest quality of life, decrease the chance you will be re-hospitalized and lower your risk of dying from this disease. Just like in the hospital, checking and recording your weight on a daily basis is critical. Each morning after waking up and going to the bathroom, you should check your weight. Then record it on a calendar or piece of paper that will be available to bring to each of your doctor visits.

( ) Smoking cessation material provided/counseling given: If you are a current smoker or have stopped within the last year, you have been provided with smoking cessation advice. It is extremely important for your health to discontinue smoking.

( ) Discharge Medications: Please see the accompanying general discharge sheet.

( ) Follow-up appointment: Please see accompanying general discharge sheet.

( ) Diet: Please see the accompanying discharge sheet for special dietary concerns. Just like in the hospital, limiting your fluid intake is important. This can significantly reduce the fluid you retain and may allow you to need lower doses of diuretics (water pills). You should also watch your salt intake as if advised by your physician.

( ) Activity: If you are able to exercise, adequate physical activity is important for your well-being. Please discuss with your physician any restrictions on your activity level.

Notify your physician immediately, call 911 or come to the emergency room if you have chest pain or tightness or if you are extremely or suddenly short of breath. It is equally important to contact your physician with any questions you may have or if your weight increases more than 5 lbs from your discharge weight, experience chest pain, increasing shortness of breath leg swelling.

American Heart Association/American College of Cardiology Guidelines

1. If current smoker or has smoked within 12 months smoking cessation advice given and documented on the chart ___ Yes ___ No
2. Ejection Fraction checked within past 6 months and documented on the chart ___ Yes ___ No
3. The patient is on an ACE-I on discharge (or contraindication explained) and recorded on the chart ___ Yes ___ No

MD

Please sign

4. Heart Failure Specific Supplemental Discharge Instruction Sheet given ___ Yes ___ No

Please sign

Discharge Nurse

To document our high quality of care

Data for outpatient care

Heart Failure specific home instructions

Doctor’s signature

Nurse’s signature
### Ejection Fraction

- PT assessment
- Daily weight
- Smoking cessation

### Variances

- ACE-I
- Fluid guidelines
- Pt friendly map

### Reminder for smoke and EF RECORDING

### Sample Page of CareMap®

**Heart Failure Code 311-C**

**Endorsed by the NS-LIJHS Task Force**

**Day 1**  
**Date:** __/__/__

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consults</strong></td>
<td>Nutrition screen</td>
</tr>
<tr>
<td>1. Physical Therapy screening</td>
<td>Nutrition consult ordered ( )</td>
</tr>
<tr>
<td><strong>Tests</strong></td>
<td>Echocardiogram performed: ( )</td>
</tr>
<tr>
<td>2. Echocardiogram ordered if EF not assessed within the past 6 months</td>
<td>EF documented in the medical record as % or mild, moderate or severe dysfunction</td>
</tr>
<tr>
<td>Cholesterol profile, BNP level</td>
<td></td>
</tr>
<tr>
<td>Electrocardiogram</td>
<td></td>
</tr>
<tr>
<td>Pulse Oximetry</td>
<td>Oxygen level greater than 90% ( )</td>
</tr>
<tr>
<td><strong>Monitors &amp; Team Process</strong></td>
<td>Admission history and assessment completed ( )</td>
</tr>
<tr>
<td>Admission history and assessment</td>
<td>Vital signs every hours</td>
</tr>
<tr>
<td>3. Daily weight performed</td>
<td>Patient smoked in last year: ( )</td>
</tr>
<tr>
<td>Telemetry ordered</td>
<td>Patient in pain-free: ( )</td>
</tr>
<tr>
<td>Patient smoked in last year: ( )</td>
<td>Patient's skin is intact ( )</td>
</tr>
</tbody>
</table>
| Pain management assessed ( ) | Pain relief 

| **Active Problems** | Oxygen as ordered |
| **Treatments** | DVT prophylaxis: yes ( ) no ( ) |
| **Medications** | If diuretic yes, intravenous or oral administration ( ) |
| 4. If EF is below 40% use: | Patient on ACE-I ( ) or is ACE-I intolerant ( ) |
| ACE-I inhibitor (ACEI) unless contraindicated if so, consider angiotensin II receptor blocker (ARB) | ACE-I held: Hypotension ( ) Renal failure ( ) |
| Other ( ) Specify |Other ( ) Specify |
| Diuretic prescribed: yes ( ) no ( ) |  |
| **Diet** | Fluid guidelines reinforced ( ) |
| Dietary requirements assessed | Patient understands fluid and salt restriction ( ) |
| Fluid guidelines reinforced ( ) | Correct diet ordered: 2 gram sodium ( ) ADA ( ) |
| **Activity** | Activity guidelines discussed ( ) |
| Out of bed as tolerated ( ) Bed rest ( ) |  |
| **Teaching** | Patient verbalizes understanding of heart failure plan of care ( ) |
| Patient verbalizes an understanding of medications and pain scale ( ) |  |
| **Discharge Planning** | ACC/AHA guidelines for smoking cessation and EF assessed ( ) |
| Guidelines for smoking cessation and EF entered on Heart Failure Specific Supplemental Discharge Instruction sheet: |  |
| **Team** |  |
| 1. |  |
| 2. |  |
| 3. | Revised 3/04 draft 6A |
NS-LIJHS CareMap Variance Analysis
Heart Failure - Outcomes

- O2 sat is >90%
- EF documented in MR
- Free from weight gain
- Tolerates activity level
- Verbalizes understanding of dietary regime
- Participates in ADL’s
- Verbalizes understanding of discharge medications
- Received education regarding smoking cessation

% Met

Q4 2003 (n=471) vs Q1 2004 (n=590)
Quality Management Data Identified
Variation in Assessment and Treatment of Pressure Injuries

Improving Nursing Decision-Making
Involves a Standardized Approach

- Nursing Competency
- Risk Assessment
- Assessment/Reassessment
- Treatment
- Measure/Benchmarking
- Participate in Validation of Data with External Sources

Example: Skin Care Guidelines
Using Guidelines for Skin Care Achieved Good Outcomes

Pressure Ulcer Incidence vs. National Benchmark

For the year 2002, no payments were made for decubitus ulcer lawsuits for the entire Health System!!
<table>
<thead>
<tr>
<th>Nosocomial Press. Ulcer Rate</th>
<th>Hos A</th>
<th>Hos B</th>
<th>Hos C</th>
<th>Hos D</th>
<th>Hos E</th>
<th>Hos F</th>
<th>Hos G</th>
<th>Hos H</th>
<th>Hos I</th>
<th>Hos J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark Range: (0.74-1.33)</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>1.47</td>
<td>0.88</td>
<td>1.40</td>
<td>1.32</td>
<td>1.34</td>
<td>1.37</td>
<td>1.27</td>
<td>1.43</td>
<td>0.69</td>
<td>0.00</td>
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<table>
<thead>
<tr>
<th>PT Fall Index</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Benchmark Range: (2.80-3.10)</td>
<td>***</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>2.58</td>
<td>4.82</td>
<td>3.70</td>
<td>3.66</td>
<td>2.44</td>
<td>2.30</td>
<td>5.52</td>
<td>6.07</td>
<td>4.23</td>
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</table>

<table>
<thead>
<tr>
<th>PT Med/Surg Restraint Index</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark Range: (5.10-31.80)</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>11.67</td>
<td>66.83</td>
<td>26.14</td>
<td>46.66</td>
<td>7.12</td>
<td>19.67</td>
<td>36.41</td>
<td>33.56</td>
<td>50.28</td>
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</table>

<table>
<thead>
<tr>
<th>SSI Rate</th>
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<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark Range: (0.95-1.31)</td>
<td>**</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>***</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.01</td>
<td>0.00</td>
<td>1.09</td>
<td>2.02</td>
<td>2.41</td>
<td>1.44</td>
<td>3.68</td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

***/○: Hospital/System performed BETTER than the benchmark
**/●: Hospital/System performed within average.
*/●: Hospital/System performed WORSE than the benchmark
NA: Hospital does not report on this indicator. Note: SIUH has a two month lag in their reporting of the SSI Rate
INS: Hospital does not meet sample size requirements and was not benchmarked.
Empty Cell: Hospital should report data on this indicator, but did not submit data this month.
^Benchmark: Developed using the system's previous year's performance.
NB: Pre-Existing Pressure Ulcers does not receive a performance rating.
# Standardized Evidence-Based Guideline

## Skin Assessment with Braden Scale

<table>
<thead>
<tr>
<th>History of:</th>
<th>Bruises</th>
<th>Lacerations</th>
<th>Lesions</th>
<th>Pressure Injury</th>
<th>Rashes</th>
</tr>
</thead>
</table>

### MOBILITY STATUS

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Completely limited</td>
</tr>
<tr>
<td>2</td>
<td>Very limited: Obesity/Limited Mobility or has experienced an episode of immobility &gt; 24° during LOS</td>
</tr>
<tr>
<td>3</td>
<td>Slightly limited</td>
</tr>
<tr>
<td>4</td>
<td>No impairment</td>
</tr>
</tbody>
</table>

### MOISTURE

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Consistently moist</td>
</tr>
<tr>
<td>2</td>
<td>Moist</td>
</tr>
<tr>
<td>3</td>
<td>Occasionally moist</td>
</tr>
<tr>
<td>4</td>
<td>Rarely moist</td>
</tr>
</tbody>
</table>

### ACTIVITY

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bedrest</td>
</tr>
<tr>
<td>2</td>
<td>Chair</td>
</tr>
<tr>
<td>3</td>
<td>Walks occasionally</td>
</tr>
<tr>
<td>4</td>
<td>Walks frequently</td>
</tr>
</tbody>
</table>

### FRICTION / SHEAR

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Problem</td>
</tr>
<tr>
<td>2</td>
<td>Potential Problem</td>
</tr>
<tr>
<td>3</td>
<td>No Apparent Problem</td>
</tr>
</tbody>
</table>

### NUTRITIONAL STATUS

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very Poor</td>
</tr>
<tr>
<td>2</td>
<td>Probably Inadequate</td>
</tr>
<tr>
<td>3</td>
<td>Adequate</td>
</tr>
<tr>
<td>4</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

### SENSORY PERCEPTION

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Completely Limited</td>
</tr>
<tr>
<td>2</td>
<td>Very limited (i.e. epidural analgesia)</td>
</tr>
<tr>
<td>3</td>
<td>Slightly limited</td>
</tr>
<tr>
<td>4</td>
<td>No Impairment</td>
</tr>
</tbody>
</table>

**TOTAL SCORE:**

- Score of 0 – 17
- Patient is at risk and refer to Nutrition.

- The patient has no reddened areas or skin breakdown at this time and is not at risk.
- The patient has no reddened areas or skin breakdown but is at risk and has been placed on skin alert.
- The patient has reddened areas or skin breakdown and the Pressure Ulcer Assessment Form and Protocol has been initiated.

**Initial patient assessment on admission. Reassessment: Daily and prn with changes in patient condition.**
Quality Management Databases

Developing databases allows Quality Management to share information
Quality Management Lines of Communication

Board of Trustees

Committee on Quality

Joint Conference/Professional Affairs Committees

System Performance Improvement Coordinating Group (PICG)

Medical Executive Committee

Medical Boards

System QM Directors Meeting

Site Specific - QM Department

Medical Executive Committee

System Quality Management
Setting New Standardized Proactive Approach To Care

- Quality Structure
- Accountability
- Communication
- Quality Metric
- Education to Clinicians and Patients
- Safety
- Evidence-Based Medicine
- CareMaps®
- Patient Friendly
- Multidisciplinary
- Measures
- Compare and Benchmark Performance
- Databases
- To Share Information
- System Taskforces
- Standardized Care
- Best Practices
- Lessons Learned
“Using guidelines also helps demystify the medical process -- for the patients, the nurses, and the physicians. There is an orderly plan of care for all caregivers to refer to. Specific disease processes can be anticipated to take a certain course, with treatment deliberately informed by expert information. Guidelines help mediate between the art and the science of medicine, between less and more experience. And for the manager, especially, following a clinical pathway or a process guideline can bridge the gap between less and more organized and efficient care. For a new manager, in particular, this is a welcome tool.”

The Quality Handbook for Health Care Organizations, Yosef D. Dlugacz, Andrea Restifo, Alice Greenwood