Applying Lean Principles to a Continuing Care Patient Discharge Process

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Paul Hossfield
Stephen Abby
Topics

- Literature Review and Issues in Lean Healthcare
- Hospital Level Value Stream
- Continuing Care
  - Current and Future Value Stream Map
- Post-Discharge Order
  - Current and Future Value Stream Map
- Applied Lean Techniques
  - Standardized Work
  - Visual Display and Controls
  - Error-Proofing
  - 5S
- Summary
Project Scope

- New Graduate Level Course in Lean Manufacturing Systems
- Team Project – Apply lean principles learned in class to a field other than manufacturing
  - Healthcare
  - Restaurant
  - Retail Distribution
  - Small Business
- Create current and future state maps
- Select at least 2 other lean techniques
Literature Review

- Womack and Jones, *Lean Thinking*, 1996
  - Proposed how lean techniques could be applied to services
  - Hospital should focus on effectiveness, rather than efficiency and utilization of resources [4]
- Hospital Board members with experience in manufacturing emphasize lean implementation [6]
Literature Review

- Lean can be applied to
  - Ordering systems
  - Lead time and throughput
  - Admissions and Discharge
  - Bed Availability
  - Waiting rooms
  - Linen distribution

- Metrics for hospital performance
  - # infections per 1000 patients
  - Direct care % by caregivers
  - Overpayment by insurers
  - # of complications
  - # of forms
  - Length of stay
  - Value added time
  - Throughput time

[2, 3, 5, 6, 7]
Literature Review

- Lean apprehension [1] [5]
  - Some healthcare practitioners associate “lean” with lean staffing
  - Employees fear job cuts, layoffs, staff reduction
  - As in manufacturing, a major goal of lean implementation is actually job security
  - Touring lean manufacturing facilities can help
Differential Characteristics of Products and Services

- Transfer of ownership
- Tangible vs. intangible nature of satisfaction
- Product can be stored, services generally can not
- High variability in service tasks, methods, length
- Productive process can coincide with enjoyment
- Customer can take part in delivery (self-service)
- “In-situ” services performed where client is located
- Degree of contact with customer
- Very low flexibility due to highly specialized employees
Hospital-Level Value Stream Map

- **Flow**
  - Groupings and Layout by Process
  - Unique patient treatments grouped by similarities
  - Mostly One-Piece, Unbalanced Flow
  - Non-Pull, Non-JIT, No FIFO
    - Patient does not determine flow
    - Can not pull from end of value stream
    - Can not inventory wellness
Hospital-Level Value Stream Map

- Quality Feedback
  - Built-In Quality (*Jidoka*) in most individual pieces of healthcare equipment, instruments and tools
  - Recursive Customer Interviews
  - Recursive Physical Condition Checks
  - Recursive Checks of Medical Records
  - Customer Satisfaction Survey
  - National Quality Auditing Agencies & Regulators
Hospital-Level Value Stream Map

- **Measurements**
  - Length of Stay (LOS)
  - Customer Satisfaction

- **Issues in Hospital Value Stream**
  - Non-Deterministic Arrivals, Processing Times, and Outcomes
  - Recursion and Parallelism on “Critical Path”
  - Highly Specialized Employees
Continuing Care

- Arrange care for post-hospital recovery
- Educate family and patient on conditions, treatments, and care during and after hospital stay
- Assure patients are prepared to leave when discharged
Average Wait: 12 hours
Average Wait: 20 hrs.
Average Wait: 24 hrs (x 2)
Average Wait: 1 min.
Average Wait: 1 min.
Average Wait: 1 min.
Average Wait: 4 hours
7 Patients
Estimated Capacity: 109
Avg. C/T: 3 min.
Non-Value Added: 15 min.
Mean: When Family
Max: When Transfer
C/T: 27 %
PR: C.C Staff
Procedure Section VII
Forms: Any Necessary
Average Wait: 20 min.

CC Non-Value Stream Activities (Support)

Admitting
Performance Improvement
Communications
Risk Management
Administration
House Keeping / Infection Control

HOSPITAL

Supplies
Utilization Review
Health Information Services
MEDITECH
Laboratory
Patient Financial Services
Medical Standards and Review
Dictary
Social Work
Rehabilitation
Physical, Occupational, and Speech Therapy
Cardio-Pulmonary Services
Physicians and Medical Staff
Nursing Staff

Suppler = Customer
Continuing Care (CC) Department Value Stream Map

EXTERNAL CUSTOMERS

Family
Insurance Agency
Continuing Care Services (Nursing Homes, Skilled Home Care Agencies, Community Resources)

Supplier = Customer
Continuing Care (CC) Patient
AND MEDICAL CHART

CARE UNIT DIVISION BY CCC
WING A 18
EMERGENCY (ER) 15
HOLDING (AR) 4
NURSERY 16
PEDIATRICS 4
WING B (26)
ICU 8
WING C (10)
SAME DAY SURGERIES (FLEX)

A Continuing Care (CC) Patient
AND MEDICAL CHART

Average Arrival Rate: 13 per day

Identify Patient for CC

CC Assess CC Patient Status & Needs

Assign a Level of Care, ID Screen, PASSR

Create & Review CC Patient Discharge Plan

Implement Discharge Plan

Reassess Discharge Plan Periodically

Perform Discharge Once Order Given

Capacity: 109
Max: C/T: 25 min.
Min: 5 min.
Max: 4 hrs.
Uptime: 27 %
PR: C.C Staff
Procedure Section I and II
Forms: Demographics/ Face Sheet, Start Checklist
Average Wait: 6 hrs.

Capacity: 109
Max: C/T: 25 min.
Min: 5 min.
Max: 4 hrs.
Uptime: 27 %
PR: C.C Staff
Procedure Section III
Forms: Multi-Disciplinary Assessment, Min-Mental
Average Wait: 4 hrs.

Capacity: 109
Max: C/T: 3 min.
Min: C/T: 3 min. Id Screen and PASSR
Uptime: 27%
PR: C.C Staff
Procedure Section IV and UR POLICY SECTION I
Forms: Multi-Disciplinary Assessment, Id Screen and PASSR
Average Wait: 4 mins.

Capacity: 109
Max: C/T: 15 min.
Min: C/T: 15 min.
Uptime: 27%
PR: C.C Staff
Procedure Section V
Forms: Multi-Disciplinary Assessment
Average Wait: 4 mins.

Capacity: 109
Max: C/T: 15 min.
Min: C/T: 15 min.
Uptime: 27%
PR: C.C Staff
Procedure Section VI
Forms: Multi-Disciplinary Assessment, Continuity of Care Referral, Nursing Facility Referral, Maternity Early Discharge
Average Wait: 4 mins.

Capacity: 109
Max: C/T: 15 min.
Min: C/T: 15 min.
Uptime: 27%
PR: C.C Staff
Procedure Section VII
Forms: Complete CC Checklist, Complete all CC Documentation and Forms
Average Wait: 20 mins.

Estimated Capacity: 109
Max: C/T: 3 hrs
Value Added: 15 min.
Non-Value Added: 165 min.
Min: When Family
Max: When Transfer
C/T: 27 %
PR: C.C Staff
Procedure Section VIII
Forms: Any Necessary
Average Wait: 20 mins.

24 Hour Mark

Estimated Capacity: 109
Max: C/T: 3 hrs
Value Added: 15 min.
Non-Value Added: 165 min.
Min: When Family
Max: When Transfer
C/T: 27 %
PR: C.C Staff
Procedure Section IX
Forms: Complete CC Checklist, Complete all CC Documentation and Forms
Average Wait: 20 mins.

Total Uptime on 24 hour Day = 27%
AVERAGE LOS = 3.7 days
Value Added Time: 133 minutes
Non-Value Added Time: 165 minutes
Wait Time = Rest/ Treatment Time = 86.9 hrs.
Assume Time Occurring Between CC Steps is Value-added to Patient as Rest and Required Testing and Procedures
Ave. Throughput Time = 3.71 days
## Continuing Care

### Current Value Stream Map

### Summary Table

<table>
<thead>
<tr>
<th>CC Department Level Activities</th>
<th>A*</th>
<th>NVA</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait # 1</td>
<td>720</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify Patient for CC</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Wait # 2</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC Assesses CC Patient Status &amp; Needs</td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Wait # 3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assign a Level of Care</td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Wait # 4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create &amp; Review Discharge Plan</td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Wait # 5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement Discharge Plan</td>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Wait # 6</td>
<td>2880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reassess Discharge Plan Periodically</td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Wait # 7</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform Discharge Once Order Given</td>
<td>165</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Minutes</td>
<td>5043</td>
<td>165</td>
<td>133</td>
</tr>
<tr>
<td>Minutes</td>
<td>5208</td>
<td></td>
<td>133</td>
</tr>
</tbody>
</table>

*A is Treatment, Rest, and Wait Time

**NVA is Categorized Non-Value Added Activity

***VA is Value Added
Continuing Care
Future Value Stream Map

- Reduce time from when the discharge order is given by the physician to when the patient is actually discharged
  - Free-up bed sooner
  - Less work for CC Coordinators to do the day of discharge
  - Improve service quality and discharge speed to improve customer satisfaction
Customer Satisfaction Survey: Discharge Process

- Extent to which you felt ready to be discharged.
- Speed of discharge process after you were told you could go home.
- Instructions given about how to care for yourself at home.
- Help with arranging home care services if needed.
Current Post-Disposition Process

1. **Physician Gives Discharge Order (In Medical Record)**
   - **No**
   - **Yes**

2. **Flag the Patient File If the Patient Is a CC Patient (Colored Flag)**
   - **Alert Patient of Discharge**
   - **Coordinate Transportation**

3. **Pull CC Patient Documents**
   - **Perform Checks: Services, Documents, Insurance**

4. **Create a Discharge Checksheets for Services, Documents, and Insurance**
   - **Yes**
   - **No**

5. **Physician Discharges Patient Form 851**
   - **CC Patient File**
   - **Non-CC Patient Discharge Form**
   - **1 CC Patient File on Each Floor**

6. **Complete Any Remaining External Service Arrangements, Documents, or Insurance Checks**

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**Visual Methods**
Current Post-Discharge Order Process (cont.)

- ALERT FAMILY
- ARRANGE SUPPLIES TO BE SENT WITH PATIENT
- NURSING HOME OR HOME CARE?
  - NURSING HOME
    - NOTIFY NURSING TO COMPLETE PAPERWORK
    - COPY RECORDS NEEDED FOR TRANSMISSION & PLACE IN ENVELOPE IN MEDICAL RECORD
    - DELIVER ENVELOPE WITH RECORDS TO AMBULANCE DRIVER
  - HOME CARE
    - MEDICAL RECORD
    - CC PATIENT FILE
    - DOES A FORM OR MATERIAL REQ NEED TO BE FILLED OUT? NO
    - NURSE COMPLETES PAPERWORK AND COPIES RECORDS NEEDED FOR TRANSMISSION
    - WHAT HAPPENS TO CC PATIENT FILE? HOW IS IT RETURNED FROM NURSE?
    - NURSE FAXES COPY OF DOCUMENTS TO AGENCY
    - MEDICAL RECORD
    - CC PATIENT FILE
    - COPY OF RECORDS FROM CC PATIENT FILE

CC PATIENT FILE
Current Post-Discharge Order Process (cont.)

- DOES A COPY OF DOCUMENTS GO TO MEDICAL STANDARDS AND REVIEW?
  - YES: SEND COPY OF DOCUMENTS TO REVIEW BOARD
  - NO: ADMINISTRATOR INPUTS PATIENT INFO INTO CC DATABASE

- CC PATIENT DOCUMENTS FILED IN CC DEPARTMENT IN HOME CARE FILE OR NURSING HOME FILE ALPHABetically

- End

- COPY OF RECORDS FROM CC PATIENT FILE
- CC PATIENT FILE
- CC PATIENT FILE
Improvements to Post-Discharge Order Process

- Transportation & Communication
- Materials
- Quality Assurance: Services & Equipment
- Final Documentation Processing
Transportation & Communication

- Agreements with Transportation Suppliers
  - Currently must wait until discharge order is given to schedule/arrange for patient transportation
  - Currently a delayed response for pickup
- Negotiate quicker response to request for transport
  - “Intent to Discharge” notice the day before
  - Push lean/JIT concepts back to transportation suppliers
- Family Transport: Incorporate Beeper Service
Materials

- Move on-line activities to off-line:
  - stage materials to be sent home with a patient the day before expected discharge
  - 5S supply closets on each unit
  - Remove unneeded/outdated materials
  - Organize and Sustain
  - Make space for staging soon-to-be-discharged patient’s discharge materials
  - Use Visual Displays and Controls
  - Quality feedback: Check items pulled for patient against Multi-Disciplinary Assessment Form
Quality Assurance

- Currently No Assurance Methods to verify
  - All services are arranged
  - All equipment and materials are arranged
  - Transportation is arranged
  - Patient has received necessary information for continuing care

- Quality Assurance would reduce delays, improve customer satisfaction and care
Documentation

- Eliminate Waste
  - Standardized Work
  - Error-Proofing
  - 5S
- Visual Displays and Controls
- Streamlined a Data Entry Process
## Remove Non-Value Added Activities

### CC Department Level Activities

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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>Minutes</th>
<th>Current</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minutes</strong></td>
<td>5043</td>
<td>165</td>
<td>133</td>
</tr>
</tbody>
</table>

### Post Discharge Order Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Current</th>
<th>New</th>
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<tr>
<td><strong>Minutes</strong></td>
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</tr>
<tr>
<td><strong>Hours</strong></td>
<td>2.30</td>
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<tr>
<td><strong>Days</strong></td>
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<td>0.01</td>
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<table>
<thead>
<tr>
<th>Activity</th>
<th>NVA</th>
<th>VA</th>
<th>Current Total</th>
<th>Removed</th>
<th>On-Line</th>
<th>Off-Line</th>
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<tbody>
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<td>Pull CC Patient File and Perform Checks</td>
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<td>1</td>
<td>10</td>
<td>9</td>
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<td>-</td>
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<tr>
<td>Complete Remaining Tasks</td>
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<td>0</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Alert Patient</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>-</td>
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<tr>
<td>Alert Transportation</td>
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<td>1</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>-</td>
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<tr>
<td>Wait for Transport</td>
<td>90</td>
<td>0</td>
<td>90</td>
<td>85</td>
<td>5</td>
<td>-</td>
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<tr>
<td>Alert Family</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>-</td>
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<tr>
<td>Arrange Supplies</td>
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<td>10</td>
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<td>Process Documentation</td>
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<td>20</td>
<td>20</td>
<td>20</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Patient Leaves with Docs</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>-</td>
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<tr>
<td>AA Records Stats and Files</td>
<td>10</td>
<td>2</td>
<td>12</td>
<td>10</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

| **Minutes**                                  | 5208  | 133 |

* A is Treatment, Rest, and Wait Time
** NVA is Categorized Non-Value Added Activity
*** VA is Value Added
Standardized Work:
Alignment of Procedures

- 45 total existing Work Procedures for CC
  - 7 for CC procedures and policies
  - Remaining are detailed guidelines for specific tasks

- Align 7 Work Procedures to VSM
  - Remove redundancies, including conflicting segments
  - Organize and order methods and procedures to VSM
  - Added a detailed procedure for post-discharge order
Standardized Work: Results

- Keep Separate Work Procedures (A-F)
  - Maintains original philosophies for categorization and separation of work

- Consolidates Seven Procedures into One Master Procedure
  - Orders and organizes work by Value Stream
  - Final procedure reduces 23 pages to 14 pages
  - Further CC consolidation possible in the future
Existing Lean Techniques

- Visual Displays and Controls
  - Status Boards
    - Patient Board
    - Discharge Board
  - Binder Carousel of Medical Records
    - Status Indicator Dial
    - Discharge Flag
Existing Lean Techniques

- **Error-Proofing**
  - CC Coordinator Checks Continuity of Care Referral

- **Continuous Improvements (CI)**
  - Performance Improvement Department
  - CI teams meet twice per year
Continuing Care Checklist

- **Existing Wastes**
  - Defects
  - Over-Processing
  - Inefficiency: Waste of Capacity

- **Lean Methods Applied to Eliminate Wastes**
  - Error-Proofing
  - Standardized Work
  - Motion
  - Waiting
  - 5S
  - Visual Control
### The Continuing Care Checklist

#### PATIENT INFORMATION

<table>
<thead>
<tr>
<th>Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician:</td>
<td></td>
</tr>
<tr>
<td>Admit Date:</td>
<td></td>
</tr>
<tr>
<td>Discharge Date:</td>
<td></td>
</tr>
</tbody>
</table>

#### FORMS

<table>
<thead>
<tr>
<th>Demographic Face Sheet</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini Mental</td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary Form</td>
<td></td>
</tr>
<tr>
<td>Level of Care</td>
<td></td>
</tr>
<tr>
<td>T.D. Screen</td>
<td></td>
</tr>
<tr>
<td>PASSR</td>
<td></td>
</tr>
<tr>
<td>Continuity of Care (Interagency)</td>
<td></td>
</tr>
<tr>
<td>Nursing Facility Referral</td>
<td></td>
</tr>
<tr>
<td>SRS Waiver</td>
<td></td>
</tr>
<tr>
<td>Maternity Early Discharge</td>
<td></td>
</tr>
<tr>
<td>Alcohol / Drug Facilities</td>
<td></td>
</tr>
<tr>
<td>Psychiatric Transfer</td>
<td></td>
</tr>
</tbody>
</table>

#### DISPOSITION

<table>
<thead>
<tr>
<th>Nursing Home Transfer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Home w/ Skilled Nursing</td>
<td></td>
</tr>
<tr>
<td>Home w/ Family</td>
<td></td>
</tr>
<tr>
<td>Home w/ Other</td>
<td></td>
</tr>
</tbody>
</table>

#### INSURANCE

| Blue Chip |  |
| Blue Cross / Blue Shield |  |
| Federal Medicare |  |
| Medical Assistance |  |
| Neighborhood Health Plan |  |
| PHS |  |
| Private Insurance |  |
| Self Pay |  |
| United Health Care / Metra Health |  |
| Other |  |

#### SPECIAL SERVICES

| Durable Medical Equipment |  |
| Durable Power of Attorney |  |
| Meals on Wheels |  |
| Medical Assistance |  |
| Mental Health |  |
| Nursing Homes |  |
| Substance Abuse |  |
| Adoption |  |
| Adult Day Services |  |
| Advocacy |  |
| Agencies for the Blind |  |
| Alzheimer's Disease |  |
| Arthritis Foundation |  |
| Case Management |  |
| Community Action |  |
| Community Diversity |  |
| Community Elder Specialists |  |
| Dental Services |  |
| Early Response |  |
| Education Opportunities |  |
| Eldercare Locator |  |
| Emergency Response |  |
| Family Caregiver |  |
| Friendly Visiting |  |
| Geriatric Assessments |  |
| Health Centers |  |
| Health Insurance Counseling |  |
| Hearing & Speech Services |  |
| Heating Assistance |  |
| Home and Community Care |  |
| Home Equity Mortgage |  |
| Hospice Care |  |
| Housing |  |
| Identification Cards |  |
| Independent Living |  |
| Legal Services |  |
| Medicare |  |
| Medical Services |  |
| Medical Savings |  |
| Nutrition |  |
| Ombudsman |  |
| Prescription Programs |  |
| Protective Services |  |
| Publications |  |
| Respite for Children |  |
| Respite Care |  |
| Senior Centers |  |
| Sr. Citizen Advocates |  |
| Sr. Workforce Development |  |
| Social Security |  |
| Supplemental Security |  |
| Tax Information |  |
| Transportation |  |
| Volunteers |  |
| Other |  |
Continuing Care Patient File Book

- Existing Waste
  - Over-Processing
  - Waiting in Main Value Stream

- Lean Methods Applied to Eliminate Wastes
  - Error-Proofing
  - Standardized Work

- Motion
- Defects
- 5S
- Visual Control
Continuing Care Statistics

- Performed by Administrative Assistant
- Existing Method: Manual
  - Search for Data
  - Manual data entry
  - Manual calculations for totals
  - Separate MS Word document
  - Print and distribute
Continuing Care Statistics

- Proposed Method: Semi-automated
  - Use Checklist to avoid searching for data
  - Ease of data entry
    - Checkboxes
    - Drop-downs
  - Automatic Generation, Printing, and Emailing
### Sample Report

#### Disposition:

1. **Nursing Homes**
   - Nursing Home #1: 0
   - Nursing Home #2: 0
   - Nursing Home #3: 0
   - Nursing Home #4: 0
   - Nursing Home #5: 0
   - Nursing Home #6: 0

2. **Hospice/Religious**
   - 0

3. **Transferred to Other Facilities**
   - Hospital #1: 0
   - Hospital #2: 0
   - Hospital #3: 0
   - Rehab/Rehab Center #1: 0
   - Group Home #1: 0
   - V.A. Hospital: 0

4. **Expired**
   - 0

5. **Home w/ Skilled Nursing/Respite**
   - Se Mike Provider #1: 0
   - Se Mike Provider #2: 0
   - Se Mike Provider #3: 0
   - Se Mike Provider #4: 0
   - Se Mike Provider #5: 0
   - Se Mike Provider #6: 0
   - Se Mike Provider #7: 0
   - Se Mike Provider #8: 0
   - Se Mike Provider #9: 0
   - Se Mike Provider #10: 0
   - Se Mike Provider #11: 0
   - Se Mike Provider #12: 0
   - Se Mike Provider #13: 0

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Accomplishments

- **Future State Map**
  - Projected time savings

- **Standardized Work Instructions**
  - Reduced from 23 to 14 pages
  - Eliminated redundancies
  - Improved training process for new hires or floats

- **Checklist**
  - Created checklist that previously did not exist
  - Provided quality control mechanism for standard care
Accomplishments

- **Patient File Books**
  - Provided hospital with a sample binder that all units could adopt
  - Organized all required forms into one location
  - Separated forms for each room and patient into pocket folders to ensure quality

- **Data Reporting Method**
  - Programmed MS Access Database for Daily Entry of Discharges
  - Automated Monthly Report Generation
  - Projected Time Savings and Procedure Simplification
Accomplishments

- Successfully Introduced Lean Healthcare
  - Benefits for training, reduced learning curves, patient and employee satisfaction, improved quality, and decreased length of stay
- Student Team Worked with Hospital Staff
  - Provided perspective of outsiders
  - Translated manufacturing principles to healthcare
  - Low cost "consultants"
  - Students see applications of engineering to service industries and alternate career options
Conclusions

Follow-up

- Binders are in use with the checklist as the first component in each patient’s section
- Database programming was further tailored by the hospital’s in-house programmers and is now in use
- Improved procedures are now part of the hospital’s accreditation process

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References


References


