Introduction to Lean

Lean is a systematic approach to identifying and eliminating waste through continuous improvement.

- **Key principles**
  - Value is in the eyes of the customer
  - Make value flow without interruptions
    - Improve work flow
    - Standardize work processes
  - Pursue perfection

- **Lean methodology focuses on 7 wastes**
  - Overproduction
  - Excess motion
  - Waiting
  - Inventory
  - Defect correction
  - Over processing
  - Lost creativity/talent

- **Common Lean Tools**

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**Process Map**

**Title: Asthma Triage Process Map**

**Phase: Initiation of Treatment**

- **Triage Nurse**
  - Patient assignment
  - Based on patient load, zone staffing

- **Primary Nurse**
  - Arranged
  - Primary Assessment (Low)
  - Primary Assessment (High)
  - Data entry
  - Low Acuity
  - High Acuity
  - Verbal request for Meds

- **Resident/PA/ NP/ Student**
  - Arranged
  - Primary Assessment
  - Discussion of Patient
  - Primary Assessment

- **Attending MD**
  - Arranged
  - Primary Assessment
  - Order for Tx
**Value Stream Map**

Current state value stream map for registering a new patient at the ABC hospital emergency room

**Spaghetti Diagram**

- G-bay
- H-bay
- Nurse station
- Treatment room
- B-bay
- A-bay

- Travel during drug round
- Controlled drugs cupboard
- Drug trolleys
- Worktop
- Bed
- Electronic medication storage
- Fridge
- Ward stock cupboard
Pareto Chart

Hospital Acquired Conditions
Jan 2011 - August 2012

<table>
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<tr>
<th>Condition</th>
<th>Number of Events</th>
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<tbody>
<tr>
<td>BSI</td>
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Fishbone Diagram

Improving Communication During Hospitalist Hand Off
Cause and Effect Diagram

- Environmental
  - Patient Load
  - Noise Level
  - Clinical Workload at Shift Change
  - Space
  - Privacy
  - Multiple Providers Handing Off to One or One Provider Handling Off to Many
  - Time of Day

- Process
  - Interpersonal Communication
  - Variation in Style
  - Standardization
  - Unclear Communication
  - Opportunity for Questions
  - Flexibility
  - Orientation
  - Duration
  - Patient Acuity or Complexity
  - Availability of PC
  - Availability of Information in EMR
  - Limited Information on New Admissions
  - Limited Information on New Admissions
  - Written Tool Quality
  - Physician Documentation Content and Quality

- Distractions
  - Emergent Issues
  - Staff Interactions
  - Patient Needs
  - New Results
  - New Admissions
  - Emergent Issues
  - Pager Messages
  - Provider Familiarity

- Data
  - Inadequate or Insufficient Information
Pokayoke (error proofing)

http://www.thetoyotasystem.com/lean_inventions/poka_yoke-you-can%E2%80%99t-go-wrong.php

5S

Lean Six Sigma: 5S

5S is a workplace organization technique composed for five primary phases: Sort, Set In Order, Shine, Standardize, and Systematize.

- **SORT**: Keep only necessary items in the workplace.
- **SET IN ORDER**: Arrange items to promote efficient workflow.
- **SHINE**: Clean the work area so it is neat and tidy.
- **STANDARDIZE**: Set standards for a consistently organized workplace.
- **SYSTEMATIZE**: Maintain and review standards.

The content included in this document is provided as a brief overview of Lean concepts. Numerous websites and texts are available that provide additional information about Lean.

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