Value Stream Mapping & Lean Event Education
What Is a Value Stream?

- Defines **value** from the **customer’s perspective**
- All of the actions and tasks, both value added and non-value added, required to bring an item (an idea, information, product or service) from its inception through delivery.
  - These include actions to process information from the customer and actions to transform the product on its way to the customer.
- Value streams vary in scope: reach beyond the enterprise to single process size
What Flows Through the Value Stream?

Products, information, or services flow through a value stream

- In manufacturing or distribution, *materials* are what flow
- In health services, *patients* are what flow
- In office areas, *information* is what flows
  - In service areas, *external customer needs* flow through the value stream
  - In administration, *internal customer needs* flow through the value stream
- In many cases, the item flowing in service or administration is a document, an order, or a request
Purpose of Value Stream Mapping & Analysis

- Develop a common understanding of the current process
  - The relationship of process steps
  - A true picture of the process
- Create a baseline to measure improvements against
- Define a vision of the future process
- Establish common leadership objectives
- Identify opportunities for improvement
- Design an implementation plan for improvements

“If you can’t describe what you are doing as a process, you don’t know what you’re doing.”  W. Edwards Deming
Value of a Value Stream Map

- The Value Stream Map provides visibility of the entire process
  - The process may cross functional boundaries
  - Without the map, you may focus on the wrong areas to try to improve
  - Sub-optimization may result
Analyzing the Value Stream

Planning tool to optimize results of eliminating waste

current state VSM + 

Lean Basics = 

future state VSM
# Key Tool: The Charter

## Project Information

### Leadership
- **Executive Steering Committee:**
  - VP
  - Dr.
  - VP
  - Dr.
  - VP
  - Director
  - VP

### Management Guidance:
- **Executive Sponsor:**
  - VP
- **Co Facilitators:**
  - XXX
  - YYY
- **Lean Coach:**
  - ZZZ

## Process Purpose

### Process Owners:
- XXX
- YYY

### Team Members:
- RN
- RN- Primary nurse
- LVN
- HUC
- ED tech
- EVS
- ED resident
- ED Reg
- Bed Board
- Floor nurse
- IT (ad hoc)

### Observers:
- (Outsiders & next PO)
  - TTTT
  - UUUU
  - VVVV

## Process Scope: Start/Stop

### Start:

### End:

## Process Scope: In/Out

### In Scope:

### Out of Scope:

## Project Goals

### Goals/Key Measures:
- XXX = XXX min
- XXX = XXX min
- Pt Sat = XXX score
- YYYY = XX min
- YYYYY = XX min
- ZZZZ = XX min

## Problems/Case for Change
- Time
- Quality
- Pt Sat
- Cost

## Project Time Frame

### Milestone/Date
- Scoping Session #1
- Scoping Session #2 sponsor meeting
- Scoping Session # 3
- All Team Prep Phone Con (1 hr, 11-noon)
- Training day
- VSM Vision & Implementation plan
- Follow-up
- Working sessions
- 14 day follow-up
- 30 day follow-up/Audit (25% of Actions done)
- 60 Day follow-up/Audit (50% of Actions done)
- 90 Day follow-up/Audit (75% of Actions done)
Setting up and “Scoping” a Lean Value Stream Mapping Project

- Charter and other Pre-work
- Roles for the VSM Team
  - Executive Sponsor
  - Process Owner
  - Lean Coach (Facilitator)
  - Workshop Participants
Role of the Executive Sponsor

- Owns the Charter!
- Addresses necessary cross-functional involvement
- Ensures appropriate participating in the workshop (make sure the subject matter experts are freed up full-time for the 3-day event, and part-time to implement Action Items)
- Serves as a proactive roadblock buster for the project
- Presents project status to leadership
- Participates in:
  - Scoping
  - Workshop Kick-off
  - Leadership Panel
  - Project Reviews (30/60/90 day follow-up audits)
Role of the Process Owner

- Owns the Setup Tasks and Action Plan!
- Leads VSM project from pre-scoping through implementation
- Ensures action item pre-work is complete for scoping, workshop, and reviews
- During VSM event, takes over ownership during Action Item assignments
- Responsible for project meeting scheduling, preparation, and minutes
- Documents the implementation plan after the workshop and schedules 30-, 60-, and 90-day reviews
- Drives implementation plan activities for completion of the project
- Provides updates to Sponsor
- Monitors post-workshop process performance seeking opportunities to continuously improve and standardize work
Role of Lean Coach

- Coaches Process Owner in the application of lean principles and tools
- Leads project scoping while mentoring Process Owner
- Prepares Process Owner for workshop
- Trains team and facilitates most of the workshop activities, sometimes with the Process Owner
  - Transfers lean skills to leaders and participants
- Helps participants track and measure future state improvements
- Serves as the subject matter expert in driving and institutionalizing lean throughout the organization
Role of Workshop Participants

- Participate in the 3-day event as Subject Matter Expert (SME) (full-time); be the change agent for implementing Action Items (part-time)
- Representative staff as SME from each area that touches the process
- Staff who are well respected within their area
- Group of less than 15 is ideal
Value Stream Process Steps

1. Prepare
2. Gather Data & Develop Current State
3. Develop Future State & Action Plan
4. Execute to Plan
5. Align
Value Stream Process

**Step 1 - Prepare**

- Gather Preparatory Information
  - Document the Case for Change
  - Define the Scope (start and end of process)
  - Identify the Requirements
  - Review/establish Measurements

- Set Logistics for Event
  - Participants
  - Location
  - Materials
  - Meals/Refreshments
  - Etc.
Value Stream Process

Step 2 - Gather Data (Develop Current State)

- Observe and gather data
  - Walk the value stream - see the actual work place
  - Follow and make notes about “item” and information flow
  - Gather data for each step in the flow
    - Trigger/done
    - Actual cycle time
    - Defect rate
    - Quality
    - Actual lead time
    - On time delivery
    - Batch sizes
    - Variations
    - Output
    - Staffing
    - Overtime
    - Work in process

- Map the flow of items
- Map the flow of information
- Add data and issues
Value Stream Process

Step 3 – Future State & Action Plans

- Discuss the ideal state
- Develop the future state map
- Develop action plans & cadence tracking
  - Build draft time line for implementation
- Communication & training as required
# Action Plan Template

<table>
<thead>
<tr>
<th>#</th>
<th>Process Step or Function</th>
<th>Original Problem</th>
<th>Action Items</th>
<th>Person Responsible</th>
<th>Due Date</th>
<th>Metrics and Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Value Stream Process

**Step 4 – Execute to Plan**

- Implement improvements
  - Conduct Workshops, events, projects, bursts per implementation plan

- Achieve value stream objectives

- Create an environment of continuous improvement
Value Stream Process

Step 5 – Align

- Conduct Value Stream Alignment Meeting
  - Periodic basis (based on action plan schedule)

**Agenda**
- Review event implementations & results
- Review impact to value stream metrics (individual events and overall)
- Review next quarter events
- Review changes in business environment
- Communicate results
- Update value stream as required
- Update implementation plan as required
- Address resistance and sustainment issues
Value Stream Process

Additional Tips for Success

- Capture as you go:
  - Issues
  - Acronyms / terminology
  - Parking Lot issues
  - Action items
- Establish a time each day for Leadership to visit the workshop
  - Status update
  - Ask questions
  - Barrier busting
- Capture at the end of each day:
  - Lessons Learned
  - Agenda for next day
- Champion summarization for Leadership at end of each day (email):
  - Team accomplishments for the day
  - Agenda for next day
A Simple Example

Customer Need: Stapled pages

- **Info: Location of stapler**
- **Info: Where to place staple**

**Pick Up Paper**
- Time: 1 sec.
- Distance: 0

**Walk to Stapler**
- Time: 5 sec.
- Distance: 20 ft.

**Staple Paper**
- Time: 2 sec.
- Distance: 0

**Walk to Desk**
- Time: 5 sec.
- Distance: 20 ft.

**Put Down Paper**
- Time: 1 sec.
- Distance: 0

**Excess Travel**

Total Time: 14 sec.
- Total Dist: 40 ft.
- Value Added Time: 4 sec.
- Value Added Dist: 0

Value Added Time: 28%
Emergency Room – Current State

1. Patient
2. Hospital Records
   - Out Patient Registration
   - Wait
3. Nurse
   - Taken to ER Room
   - Wait
4. Doctor
   - Examines Patient
   - Wait
5. Nurse
   - Brings Medical Supplies
   - Wait
6. Doctor
   - Treats Patient
   - Wait
7. Patient
   - Goes Home
8. Attending Nurse
   - Examines Patient
9. Attending Physician
   - Receives Patient history, Vital Statistics
10. Insurance Company

Material Flow:
- Out Patient Registration
- Go to Waiting Area
- Taken to ER Room
- Nurse Examines Patient
- Doctor Examines Patient
- Nurse brings Medical Supplies
- Doctor Treats Patient
- Departing Instructions
- Patient Goes Home

Information Flow:
- Treatment Information
- Patient history
- Vital Statistics
- Available Room
- Diagnosis & Supply Needs
- Patient ready for Treatment
- Diagnoses & Departing Instructions
- Insurance Info
- Nature of Injury
Remember

- The Value Stream Map is a plan
  - Helps you get from the current state to the future state
  - A good plan creates the opportunity for success – even if you can’t see the path to get there
Pre-Transplant Current Value Stream Map

Undesirable Effects (UDE’s)

Total Leadtime: 270 days (ave.)

VSM Example

Used with permission from UM Health System
Pre-Transplant **Future** Value Stream Map

"Kaizen Bursts" (changes to Flow)

Total Leadtime: <<90 days (ave.)
Types of Lean Events

Value Stream

5S  Kaizen  Project  Do-it  Burst
Kaizen event

- 3-5 days
- Scope significant - can be cross-functional
- 6-12 people or more
- Quick impact
  - 80% of improvements implemented during event
  - 20% of improvements implemented within 30 days
- Implementation per prior management agreement
Typical Kaizen Schedule

- Day 1 – Training
- Day 2 – Analyze Current Process
- Day 3 – Define New Process
- Day 4 – Test & Finalize New Process
- Day 5 – Report Out & Celebrate

Some of these “days” may be reduced to “hours,” depending on the scope of the effort
Burst Event

- Short duration (2-4 hours)
- Minimal scope/Single issue
- 4-6 people
- Quick impact
- Intended for relatively simple tasks
Do-It

- Very short duration (1-2 hours)
- Simple scope/Single task
- 1-3 people
- Immediate impact
- No decisions or management intervention required
Project

- Long duration (3-12 months)
- Complex scope
- Multiple departments/functions
- Long-term impact
5S

- Typically a 3-5 day event
- Provides workplace organization
- 6-12 people
- Provides framework for monitoring & continuous improvement
How do we know which event type to use?

- Type of activity
- Scope of process/task
- Resources required

Don’t worry about fitting the event type into a specific category
Keys to Successful Events

- Have the right people in the room
- Empower the team to make immediate changes to the process
- Full participation from all team members
- Attack process, not people
- Agree on measures and how they will be collected
- Review action plan frequently for progress
Questions?