Continuous Value Improvement at the Point of Care

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What problems are we trying to solve?

What challenges do frontline leaders in healthcare face?

- Time pressured - high service demand
- Data rich but information poor
- Unclear on what to prioritise
- Communication challenges
- Variability in quality of care & patient experience
- Inconsistent processes & inefficiencies
- Staff time not always well utilised
- Resource constrained

.....*Putting out fires all day*
Model 1: Squeeze the orange

- Top-down
- Squeeze the non-clinical activities
  - Supply costs
  - Revenue cycle improvements
  - Preferred suppliers / vendors
  - Labor costs
- Clinicians resist ‘standardization’ & cost-cutting
- Morale suffers: done to, not done with
Model 2: “Knowledge is Power”: Bottom Up

Data on cost & quality + Performance Improvement Methods + Management System = Continuous Value Improvement @ the Front-Line
Value Management System

• Provide frontline staff with **timely & useful data** in order to inform improvement efforts that **align with organisational goals**

• Improve **quality**, better utilise **staff capacity** & maintain/lower **costs** as part of routine local management
This is not new … in industry

... focuses on the key principle of Lean thinking, which is creating value for the customer. This focus highlights the need to measure financial progress from a perspective of relevant business issues and real cost instead of traditional standard cost methods.

J.T. Battenberg III,
Chairman, CEO and President, Delphi Corporation,
June 2004
The solution – 3 key elements

Value can be achieved through the application of **improvement science** & these 3 elements:

1. Box Score
2. Visual Management
3. Communication Method - Huddles
1. Box Score

2. Visual Management

3. Communication Method - Huddles

4. Achieving Results
# Box Score

## 1. Performance Metrics

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Week-1</th>
<th>Week-2</th>
<th>Week-3</th>
<th>Week-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge timing to improve the patient access to bed</td>
<td>40%</td>
<td>36%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>Long Term Patients</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>patient experience- What matters to you</td>
<td>0%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>Prevalence study of HDU B Skin issues</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Rejected samples</td>
<td>0.00%</td>
<td>150%</td>
<td>0.00%</td>
<td>0.60%</td>
</tr>
<tr>
<td>Total number of Blood samples</td>
<td>238</td>
<td>190</td>
<td>166</td>
<td>154</td>
</tr>
<tr>
<td>RN overtime hours</td>
<td>176</td>
<td>160</td>
<td>176</td>
<td>136</td>
</tr>
</tbody>
</table>

## 2. Capacity Metrics

<table>
<thead>
<tr>
<th>Capacity Measures</th>
<th>Week-1</th>
<th>Week-2</th>
<th>Week-3</th>
<th>Week-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Nursing care hours/ Day Shift</td>
<td>57%</td>
<td>57%</td>
<td>57%</td>
<td>61%</td>
</tr>
<tr>
<td>Indirect Nursing care hours/ Day Shift</td>
<td>42%</td>
<td>42%</td>
<td>42%</td>
<td>37%</td>
</tr>
<tr>
<td>Available Nursing hours. /Day Shift</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Direct Nursing care hours /Evening shift</td>
<td>55%</td>
<td>55%</td>
<td>55%</td>
<td>60%</td>
</tr>
<tr>
<td>Indirect Nursing care hours/evening Shift</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>Available Nursing hours. /Evening Shift</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Direct Nursing care hours/ Night Shift</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Indirect Nursing care hours/ Night Shift</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>35%</td>
</tr>
<tr>
<td>Available Nursing hours. /Night Shift</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>25%</td>
</tr>
</tbody>
</table>

## 3. Financial Metrics

<table>
<thead>
<tr>
<th>Financial Measures</th>
<th>Week-1</th>
<th>Week-2</th>
<th>Week-3</th>
<th>Week-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN regular time costs</td>
<td>QR.10112</td>
<td>QR.9193</td>
<td>QR.10112</td>
<td>QR.7814</td>
</tr>
<tr>
<td>RN OT costs</td>
<td>QR.11236</td>
<td>QR.7535</td>
<td>QR.12120</td>
<td>QR.16789</td>
</tr>
<tr>
<td>Pharmaceutical costs</td>
<td>QR.16443</td>
<td>QR.15871</td>
<td>QR.18814</td>
<td>QR.19406</td>
</tr>
<tr>
<td>Consumables costs</td>
<td>QR.18550</td>
<td>QR.11790</td>
<td>QR.13560</td>
<td>QR.13120</td>
</tr>
<tr>
<td>Laboratory costs</td>
<td>QR.134064</td>
<td>QR.139800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cost per patient days</td>
<td>QR.1347</td>
<td>QR.1398</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**HH.HDU-B Value Stream Box Score**
Selecting metrics that matter

Process mapping with multi-disciplinary team

Alignment to strategic goals & measures (linkage chart)

IHI's QI Essential Toolkit:
http://www.ihi.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx
### Capacity Measures

#### Why measure capacity?
- Understand how staff are spending their time over different shifts:
  - Direct care
  - In-direct care
  - Available time
- Identify opportunities to better utilise time

<table>
<thead>
<tr>
<th>Direct Care</th>
<th>Time allocation</th>
<th>Indirect care</th>
<th>Time allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal care (washing/dressing/feeding)</td>
<td></td>
<td>Communication (huddles, handovers)</td>
<td></td>
</tr>
<tr>
<td>Medication administration</td>
<td></td>
<td>Medication preparation</td>
<td></td>
</tr>
<tr>
<td>Hourly rounding (toileting/position changes/skin checks)</td>
<td></td>
<td>Social (MDTs, care homes, district nurses)</td>
<td></td>
</tr>
<tr>
<td>Clinical (catheter/lines/drains/wounds)</td>
<td></td>
<td>Paperwork &amp; documenting in medical record</td>
<td></td>
</tr>
</tbody>
</table>
Financial Measures

• Engage staff from the finance team
• Focus on variable costs
• Try to get weekly data - but be pragmatic
• Aim to maintain/reduce costs ….whilst improving quality

“Yes sir, you can absolutely trust these numbers”
1. Box Score

2. Visual Management

3. Communication Method - Huddles

4. Achieving Results
Visual Management Board
Visual Management Board

- Box score - updated on a weekly basis
- Select ~5 strategic improvement areas based on measures from box score for “deeper dives”
- Use improvement science to get results
Apply improvement science to get results

Model for Improvement

Aim
Measures
Changes
PDSA Tests

PDSA examples

- **Quality (Outcomes & Patient Experience)**
  - Established best practice bundles (phlebitis, VTE, falls etc.)
  - Introduced SOPs for ward rounds & discharge checklists

- **Cost**
  - Substituted high cost pharmaceuticals with lower cost equivalents
  - New ordering processes to reduce unnecessary blood tests

![Value Diagram]

The image illustrates the relationship between Quality and Cost, leading to Outcomes + Patient Experience, with Direct Costs + Indirect Costs.
1. Box Score
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4. Achieving Results
Communication Method - Huddles

- Conducted weekly around the Visual Management Board
- Should involve multi-disciplinary team
- Last < 15mins
- Uses a standard agenda
1. Box Score
2. Visual Management
3. Communication Method - Huddles
4. Achieving Results
Results: Heart Hospital Pilot (Doha)

- Longest period without a skin issue (6 weeks)
- Improved Quality
Results: Heart Hospital Pilot (Doha)

Longest period without a rejected blood sample (6 weeks)

Less Waste
Results: Heart Hospital Pilot (Doha)

Increased time directly with patients

- Increase in percentage of the day shift spent directly providing care to patients from 56% to 75%

Percentage of the day shift spent providing care DIRECTLY to patients

Increase in percentage of the day shift spent directly providing care to patients from 56% to 75%
Results: Heart Hospital Pilot (Doha)

Increased Efficiency

Increase in patients discharged by 1pm from 9% to 79%
Results: Raigmore Hospital Pilot (Scotland)

Increased Efficiency

25% increase in number of patients seen per week
Results: Heart Hospital Pilot (Doha)

- 52% reduction in weekly RN overtime costs
- 33% reduction in weekly laboratory costs
Results: Raigmore Hospital Pilot (Scotland)

Raigmore Hospital Unit 7a, Weekly Average Cost Per Patient

I-Chart

Cost per Patient, £

Lower cost

25% reduction in cost per patient
What have we achieved?

What is a ‘day in the life’ for a frontline leader in health care?

- Visibility of metrics that matter
- Clarity on what to prioritise
- Alignment of efforts
- More effective communication
- Less variability – processes & outcomes
- More efficient & coordinated services
- Improved staff morale & better utilisation of time
- Improved patient experience
- Value – Increased quality & lower costs (ROI)

..... Focus on continuous improvement
How do we get there?

Visual Management + Data (Box Score) + Communication Method (Huddles) + Improvement Capability + Will to Solve Problems + Leadership Support

PROCESS + PEOPLE

VALUE = Quality / Cost = Outcomes + Patient Experience = Direct Costs + Indirect Costs
Additional Enablers

- Effective governance structures & role clarity: Exec. Sponsor, Team Lead, QI Coach, Physician Champion & Project Owners

- Coach & build staff capability

- Embed into routine practices

- Standardise & sustain

- Celebrate success…. & learn from failure
Lessons Learned

• It’s possible to get staff to engage deeply in cost reduction, as long as you empower them; devolve power to the front line

• Teams are capable of continuously *doing the work* and *improving the work* simultaneously, but they need a coherent management structure to organize those workstreams

• Power of building on improvement methods— we could hypothetically do this work with any health system anywhere in the world and see significant benefit
How are we evolving the system?

• Developing standardized tools (training modules, pre-work, team contract, deep-dive tools, coaching guide, progress tracker)

• Building daily management system

• Focusing on strategy deployment with system executives

• Scale up across health systems
Resources

• Value Management References

http://www.ihi.org/communities/blogs/_layouts/15/ihi/community/blog/itemview.aspx?List=7d1126ec-8f63-4a3b-9926-c44ea3036813&ID=302

• IHI Open School http://www.ihi.org/education/IHIOpenSchool/Pages/default.aspx

• IHI’s QI Essential Toolkit

http://www.ihi.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx
Questions