2016 SHIP Lean Training & Mini-Project

Webinar 1

Introduction to Lean Thinking January 12, 2016

Presented by: John L. Roberts, MA Lean Healthcare Black Belt

Today's Webinar: Introduction into Lean Thinking

- -The Challenge to Healthcare
- -The Principles of Lean Healthcare
- Eight Areas of Waste in Healthcare
- -The Voice of the Customer
- Discussion

The US Healthcare Delivery system is now undergoing fundamental change ...

CHANGE

AHEAD

- Care delivery is enhanced by attention to value (valuebased purchasing or VBP)
 - Efficiency matters to both consumers and payers
- Clinical Integration is the future delivery model

Unsustainability, not politics, is driving reform...

Cumulative Increases in Health Insurance Premiums, Workers' Contributions to Premiums, Inflation, and Workers' Earnings, 1999-2015



SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2015. Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation (April to April), 1999-2015; Bureau of Labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 1999-2015 (April to April).



Health Expenditure and Gross Domestic Product (GDP) per Capita

National Health Expenditures per Capita, 1990-2023



SOURCE: Kaiser Family Foundation calculations using NHE data from Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, at http://www.cms.hhs.gov/NationalHealthExpendData/ (Historical data from National Health Expenditures by type of service and source of funds, file nhe12.zip; Projected data from NHE Historical and projections 1965-2023, file nhe65-23.zip).



U.S. HEALTH CARE RANKS LAST AMONG WEALTHY COUNTRIES

A recent international study compared 11 nations on health care quality, access,

efficiency, and equity, as well as indicators of healthy lives such as infant mortality.



Overall Health Care Ranking

Source: K. Davis, K. Stremikis, D. Squires, and C. Schoen, Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally, 2014 Update, The Commonwealth Fund, June 2014.



The health care cost curve will bend...because it has to

Income Available For Nonhealth Goods And Services, Under Different Gaps Between Growth Rates Of Health Spending And Gross Domestic Product (GDP) Per Capita (Projected), 2008–2084



Physicians/Hospitals once dealt with two choices: Capitated or Fee-for-service

Health care reform brings many new paradigms:

- Primary Care Medical Home (PCMH) with varying incentives
- Centers for Medicare & Medicaid Services (CMS)
 Bundled/Episodic Payment Program
- Evolving Physician compensation models (Relative value units or RVU, net revenue, quality, access, panel size)
- Pay-for-Performance
- Value-based purchasing (VBP)
- Accountable Care Organizations (bending the trend) and sharing the savings

Economic realities compel CMS to "trial change"- Center for Innovations

- Fundamental changes as to how care is
 - Delivered
 - Reimbursed
- Significant changes to reimbursement rates for
 - Hospitals
 - Physicians
- Reimbursement will be <u>linked</u> to performance
 - Quality
 - Cost (Value-based Purchasing)
- Hospitals and physicians will be paid for
 - "Bundles"
 - "Episodes of Care"
 - Clinical Integration and Information Technology (IT) Deployment that benefits patients

The challenges facing health care systems cannot be solved without clinical integration

- "Value-based purchasing" will place new pressures on hospitals and physicians to eliminate waste, redundancy and unexplained variation
- CMS and other payers will continue to push us toward bundled services that define quality and efficiency
- Physicians and administrators must break down the silos of today to redesign care delivery or suffer the consequences of a failed system.

There is no "Plan B"

In a recent expert testimony to the U.S. Congress, it was noted that of the \$2.5 trillion spent on healthcare, a significant percentage did not add value for patients.

What do you expect the percentage of nonvalue-added expense was?

- b) 15 25%
- c) 30 50%
- d) 55-75%



The Answer:

c) 30 – 50%

The reported, non-value-added expense was 30 – 50% of the total spent, which translates from \$750 billion to \$1.25 trillion that was not contributing to patient well-being.





If this figure is correct, there is huge opportunity for improvement.

Think about this question:



If you are buying a product or service for yourself, what is the first thing you look for?

- Price
- On-time delivery
- Quality
- Service

That is difficult to answer without a specific product or service in mind.

You look for value.



Whether you are buying a \$40,000 car or a week's supply of vegetables, the price, availability, the quality and service all have a place in your decision making.





Our patients and customers use the same kind of decision making as you do.

Patients and clients expect the best possible balance of price, availability, quality, and service.



They expect top value.

The answer MUST come from us!



To create a delivery model that is unmatched in the eyes of our patients and positions us as a financially strong destination employer for staff and clinicians.

To create a culture of continuous improvement to respond to the changing healthcare environment.



Transformation is not optional –

The change in the healthcare system needs to be:

- Easier <u>and/or</u>
- Better and/or
- Faster and/or
- > Cheaper (Value)



Lean Transformation is not optional – It is a <u>Survival</u> Imperative

- Cost cutting and efficiency gains not the same
- Lean looks beyond basic cost-cutting exercises to create a culture focused on <u>waste elimination</u> and <u>operational</u> <u>excellence</u>

The Key - Process Improvement

Introduction to Lean Concepts What is Lean Healthcare?

Lean is both:

- A simple strategy that focuses on the elimination of wastes, variation, and work imbalance, so that each step in the process creates value for the customer.
- ✓ A philosophy and a mindset that allows us to properly align our processes and provide an environment in which people can be successful.



There are five guiding principles in Lean:

- 1. Identify value from a customer perspective.
- 2. Map the flow of a product or service.
- 3. Make the product or service flow.
- 4. Create pull, based on customer demand.
- 5. Continually find ways to improve.

Lean Thinking Principles for Healthcare

Principle	Lean Hospitals Must:
Value	Specify value from the standpoint of the end customer (the patient).
Value Stream	Identify all the value-added steps across department boundaries (the value stream), eliminating steps that do not create value.
Flow	Keep the process flowing smoothly by eliminating causes of delay, such as batches and quality problems.
Pull	Avoid pushing work on the next process or department; let work and supplies be pulled, as needed.
Perfection	Pursue perfection through continuous improvement

Lean practices in industry have had remarkable impact in adding value for clients. Many early concepts were developed in Japan, where conditions during the second half of the twentieth century demanded a new approach.



That is the reason why many terms used in Lean environments – Kaizen, Kanban, and heijunka, for example – have Japanese names.

Healthcare organizations have reported reductions of:

- ✓ 25%-30% in labor cost per test
- ✓ 25%-40% in patient Emergency Room wait times
- ✓ 50% in Hematology turnaround time

Improved processes help us achieve the Lean goal of providing an environment in which people can be successful.

One lab reported:

"We have eliminated almost 90% of our rework, and can go for days without a page from Nurses or Doctors....So without all the rework, 90% of the stress level of our job has been eliminated."



How are costs affected?

Lean initiatives typically result in dramatically reduced costs for the same level of service.



It becomes possible to improve both quality and quantity of service without negatively affecting the budget.

Why isn't every organization Lean?

A part of the problem stems from the belief that hospitals ARE unique and different.

Everyone has to be convinced to get on board. Management has to provide the necessary support.



Focus

Collaboration

Alignment



- Learn new tools and techniques
- Develop new processes and follow new procedures
- Question the perception of what has value and how to measure it
- A BIG change in culture

There are many tools and components that will help you as you implement Lean.

On your journey, remember that each component contains only part of the answer.



When the components are combined into an interrelated system that everyone learns and puts into continuous practice, you are developing a LEAN culture.



There are many tools in the Lean Toolbox. Knowing them and using them correctly is critical. Some of the more common tools that you might use are:

- Value Stream Mapping
- A3 Problem Solving
- Root Cause Analysis
- 5S Workplace Organization
- Standard Work
- Mistake Proofing
- Flow/Work Cells
- Heijunka
- Kanban/Supermarkets
- Quick Changeover (Turnover)
- Kaizen Events



Eight Areas of Waste in Healthcare



Seeing with "New Eyes"

As you learn to "see" your processes in new ways, you develop what are called "eyes for waste" so that you can first identify wastes and then eliminate them in a systematic way.



This is a <u>primary</u> focus of Lean.



customer will pay for.

8 Types of Wastes – "DOWNTIME"



How Does Waste Affect Me?

Causes physical fatigue
 Causes emotional fatigue
 Increases frustrations
 Increases stress
 Causes you to blame others
 Steals your time



The Challenge is to...



- Defects
- Overproduction
- Waiting
- Transportation
- Inventory
- Motion
- Extra Processing
- Non-Utilized Talents

have the courage to see it as waste! Why? **Because waste**

often hides itself as work!!

Lean practitioners often categorize all work in one of three groups:

Value-Added Work is any activity that transforms the product or any service that our client (or patient) is willing to pay for.

Non-Value-Added but required Work

is any activity that does NOT add value as defined above, but is currently required in order to deliver the product or service to the client or patient. (e.g., regulations)



Non-Value-Added Work is any activity that consumes time and/or resources, but does not add any value.

Waste of **overproduction** happens whenever a process step produces faster than, earlier than, or more than the next step in the process can handle.



This includes doing more than what is needed by the patient or doing it sooner than needed.

A broad example of this is the performance of unnecessary diagnostic procedures.
Examples of Overproduction

- Making <u>more</u> than is required by the next process
- Making it <u>earlier</u> than is required by the next process
- Making it <u>faster</u> than is required by the next process



- \checkmark Pills given out early
- Multiple bosses & multiple jobs cause wrong order of jobs
- ✓ Duplication of tests

Overproduction occurs because we don't always know the process order that will best meet the demand.

This leads to imbalance of work and doing the wrong thing at the wrong time – often for what we believe are the right reasons.





Waste of Inventory

Hospitals create waste when they incur excess inventory costs, storage and movement costs, spoilage and waste.



One example is letting supplies expire and then disposing of them, including out-of-date medications.

Examples of Inventory Waste

Any supply in excess of a one-piece flow through your process:

- Pharmacy stock
- Supplies (discount)
- Specimens waiting for analysis
- Files, manuals
- Patients...



An unfortunate side effect of inventory problems is "hoarding."

When practitioners and staff do not trust inventory management, they hoard extras away, which generally just makes the overall inventory problem worse!



When either raw inventory or work-in-process inventory is sitting idle, it sill consumes time and space and adds cost.



Inventory also moves around, on carts and other conveyances or, in the case of patients, in wheelchairs or on stretchers.

The Waste of Transportation

Unnecessarily moving patients, specimens or materials throughout a system is wasteful. This type of waste is evident when the hospital has a poor layout, such as a catheter lab located a long distance from the emergency department.



Any unnecessary travel experienced by a person or material between processing steps is **Waste of Transportation**.

Examples of the Waste of Transportation



- ✓ Moving same patient, specimens, or supplies
- ✓ Defects/rework
- ✓ Poor layout
- ✓ Poor scheduling



The Waste of Waiting

Waiting for the next event to occur or the next work activity can eat up time and resources. Patients waiting for an appointment is a sign of waste, as is employees waiting because their workloads are not level.



Whatever the cause, waiting adds unnecessary time and cost to the organization as well as reduces patient satisfaction.

Examples of the Waste of Waiting:



✓ For bed assignments ✓ Discharge ✓ Testing results ✓ Approvals ✓ Equipment ✓ Couriers ✓ People...



Waste of Motion

This waste occurs when we need to move to obtain information, instruments, equipment, materials, or other resources to complete a process. Each extra lift, turn, push, pull, or step adds time and cost.



Other examples of **Waste of Motion** include looking for patients, specimens, treatment supplies, or test reports.



Do employees move from room to room, floor to floor and building to building more than necessary? That accounts for one type of waste.

For example, lab employees may walk miles per day due to a poor hospital layout. Waste of Motion can also contribute to fatigue. When you are tired, you are more likely to make errors or produce lower quality work.



Waste of Rework (defects)

Rework occurs whenever a task is not completed correctly the first time, so that one or more steps must be repeated.



This includes all time spent doing something incorrectly and inspecting or fixing errors.

One example of defect waste is the time spent looking for an item missing from a surgical case cart.

Examples of **Defects**

- ✓ Medication error
- ✓ Wrong procedure
- ✓ Wrong patient
- ✓ Missing information



- ✓ Paperwork doesn't match
- ✓ Information entered incorrectly
- ✓ Incompatible software
- ✓ Lack of standard work



Waste of Over Processing

Over processing is created by performing unnecessary work that does not add value for the patient or client.

This describes work performed that is not valued by the patient or is caused by definitions of quality that aren't aligned with patient needs.

One example is extra data stamps on forms, with the resulting data never being used.





Why? Admissions thought day surgery needed it.

Day surgery separated the document from the patient file and diligently filed the document by date.

Why? Day surgery thought it must be important because admissions had sent it!

A hospital admissions department routinely completed a form for each patient checking in for day surgery and sent a document with the patient file.

Example of Over Processing

Sometimes **over processing** is deliberately chosen as a method of preventing quality problems and errors. This is one approach to protecting ourselves against negative outcomes, but is it a great approach?

Besides being wasteful, over processing can sometimes even introduce new errors (e.g., duplication of information)

A better – and more Lean – approach is to determine the root cause for potential errors and design the root causes out of the process.



Over Processing often results through poor information sharing. "Mary" gave her history five times, but when she arrived for surgery, the anesthetist was not aware that Mary's jaw was wired shut.





Clearly, this is unacceptable. We need to ask questions such as:

"What specifically is preventing information sharing?"

"How can information flow between processes be improved?"

Waste of Not Utilizing/Underutilizing People's Skills

Wasting people's ideas or talents costs time and money, whereas staff engagement leads to increased staff satisfaction.



This waste is caused when employees are not engaged, heard or supported. Employees may feel burnt out and cease sharing ideas for improvement.

If employees are not properly trained or if they are given unnecessary tasks, their time is literally being wasted instead of being directed toward adding value to the organization.

Not Utilizing/Underutilizing Employees' Knowledge, Skills, and Abilities

CONFUSED

DISORIENTED

UNSURE

PERPLEXEL

BEWILDERED

- ✓ Causes of People Waste
- ✓ Incompatible hiring practices
- ✓ Politics
- ✓ Corporate culture
- ✓ Improperly trained employees
- ✓ Old guard thinking
- ✓ Business culture

As you continue your journey in Lean practices, you will increasingly "see" what was previously "invisible."

Lean Six Sigma: 8 Wastes



Talent

Underutilizing people's talents, skills, & knowledge.



Transportation

Unnecessary movements of products & materials.



Inventory

Excess products and materials not being processed.



Defects

Efforts caused by rework, scrap, and incorrect information.



Motion

Unnecessary movements by people (e.g., walking).



Overproduction

Production that is more than needed or before it is needed.



Waiting

Wasted time waiting for the next step in a process.



Overprocessing

More work or higher quality than is required by the customer. More important than naming the waste is recognizing that waste exists and focusing on finding the underlying root cause instead of externally treating the symptoms.

This often means shedding old ways of thinking and, in effect, changing our paradigm.



By focusing efforts on reducing wasteful activities, healthcare organizations can more efficiently attain organizational objectives and financial stability.



What is Voice of the Customer?



The "voice of the customer" (VOC) is a process used to capture the **stated and unstated** requirements/needs from the customer (internal/external) to provide the best-in-class service/product quality.



The Voice of the Customer

Who is the customer?

- Patient
- Patient's Family
- Patient's Physician
- The Payer
- Regulatory Agencies
- Other Caregivers





Voice of the Customer

To meet or exceed customer expectations, organizations must fully understand all product and service attributes that contribute to customer value and lead to satisfaction and loyalty – called critical to quality (CTQ) characteristics.





Customer Focus

- Customer is principal judge of quality
- Organizations must first understand customers' needs and expectations in order to meet and exceed them
- Organizations must build relationships with customers



The Voice of the Customer

The VOC can be captured in a variety of ways:

- Direct discussion or interviews
- Surveys
- Focus groups
- Customer complaints
- Observation

Voice of the Customer consists of both qualitative and quantitative methodologies.

The Voice of the Customer

The **Kano Model** is a tool that can be used to prioritize the Critical to Quality characteristics, as defined by the Voice of the Customer. The three categories identified by the Kano model are:

Must Be: The quality characteristic must be present or the customer will go elsewhere.

Performance: The better we are at meeting these needs, the happier the customer is.

Delighter: Those qualities that the customer was not expecting but received as a bonus.

Understanding the Voice of the Customer (Patient) is Critical

The impact of customer satisfaction on profitability is widely researched and reported.

- For every patient complaining, there are 20 more who do not complain, but will not return.
- Understanding the patient's wants has an immense implication on the satisfaction, retention, staff morale, and profitability of an organization.



The Voice of the Customer

A key feature that differentiates a successful organization from a not-so-successful organization is that a successful one listens to what the customer needs and creates products and services that exceed the expectations.



Your Assignment

Waste Walk Exercise

Before you can fix a problem, you must first see it. However, the longer you're in the same place, the more difficult it is to see the waste around you.

Taking a "waste walk" is one way to make the waste visible again.

Barriers to a Lean operation: The Eight Wastes







Take a Hike (or walk).....

It is a maxim in Lean thinking that to fix any problem you must first see the waste. However, the longer you have worked in a system, the harder it is to see the waste around you.

Taking a "waste walk" is one way to make the waste visible again. A waste walk is simply a planned visit to where work is being performed to observe what's happening and to note the waste.

Waste Walk Goals



- Engage & educate staff to facilitate cultural change
- Must easily identify waste with minimal training
- Allows for rapid transition into Lean projects
- Increase efficiency, safety and customer satisfaction while reducing the cost of care

Thank You!

John L. Roberts, MA

Midwest Health Consultants, Inc. 2222 Stone Creek Loop S Lincoln, NE 68512

> 402-421-2356 jroberts@mwhc-inc.com