



## **Going Lean in Health Care**

**Call 1:  
Eliminating Waste in Health Care**

**January 27, 2005  
2:00 pm – 3:30 pm Eastern  
1:00 pm - 2:30 pm Central  
12:00 pm – 1:30 pm Mountain  
11:00 am – 12:30 pm Pacific**

**James P. Womack, PhD**

# Going Lean in Health Care

## Call 1: Eliminating Waste in Health Care

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### **Calls to Action is sponsored by the Institute for Healthcare Improvement**

#### IHI's Mission

The Institute for Healthcare Improvement is a not-for-profit organization driving the improvement of health by advancing the quality and value of health care.

#### IHI's Vision

The Institute for Healthcare Improvement is a premier integrative force, an agent for profound change, dedicated to improving health care for all. Our measures of success include improved safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.

# Faculty

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*Consistent with the IHI's policy, faculty are expected to disclose any economic or other personal interests that create, or may be perceived as creating, a conflict related to the material discussed. This policy is intended to make attendees aware of faculty's interests, so they may form their own judgments about such material.*

*Unless otherwise noted below, each presenter provided full disclosure information, does not intend to discuss an unapproved/investigative use of a commercial product/device, and has no significant financial relationship(s) to disclose. If unapproved uses of products are discussed, presenters are expected to disclose this to participants.*

**James P. Womack, PhD** is the founder and president of the Lean Enterprise Institute a non-profit education and research organization chartered in 1997 (at the suggestion of Don Berwick) to advance a set of ideas known as lean production and lean thinking. The Institute is conducting a series of research activities to create a tool kit of methods for implementing lean thinking in a wide range of industries. These are being published in a series of workbooks beginning with the value-stream mapping workbook, "Learning to See". The Institute also sponsors a series of educational meetings on emerging topics and promotes the application of lean thinking in activities outside of manufacturing including logistics and distribution, retail, services, maintenance, construction, transportation, healthcare, and government.

The intellectual basis for the Institute is described in a series of volumes and articles co-authored by Dr. Womack over the past twenty years. The most widely known of these are *The Machine That Changed the World* (Macmillan/Rawson Associates, 1990), *Lean Thinking* (Simon & Schuster, 1996, Second Edition 2003), "From Lean Production to the Lean Enterprise", Harvard Business Review, March-April, 1994, "Beyond Toyota: How to Root Out Waste and Pursue Perfection", Harvard Business Review, September-October, 1996; and "Lean Consumption", Harvard Business Review, March 2005. A book on lean consumption will be published by Simon & Schuster in September 2005.

Dr. Womack received a BA in political science from the University of Chicago in 1970, a master's degree in transportation systems from Harvard in 1975, and a PhD in political science from MIT in 1982 (for a dissertation on comparative industrial policy in the US, Germany, and Japan). During the period 1975-1991, Dr. Womack was a full-time research scientist at MIT directing a series of comparative studies of world manufacturing practices.

The Institute for Healthcare Improvement is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The Institute for Healthcare Improvement takes responsibility for the content, quality, and scientific integrity of this CME activity.



# Why “Lean”?

- Term given its current meaning at MIT in 1987.
- Born of a need to describe a product development, production, supplier management, customer support, and planning system (exemplified by Toyota practice) for what it did.
- Compared to traditional mass production methods (e.g., GM), this system required less time, human effort, capital, and space to produce products with fewer defects in wider variety more quickly.
- Because it needed less of every input to create value, we called it “lean”.

# The Core Ideas of Lean Thinking

- All value is the result of a process (which we often call a “value stream”.)
- A manager’s focal plane should be an organization’s value creating processes, rather than the organization itself and the utilization of its assets.
- For each value stream (process):
  - ✓ Accurately specify the value desired by the customer.
  - ✓ Identify every step in the value stream and remove the waste.
  - ✓ Make value flow from beginning to end.
  - ✓ Based on the pull of the customer.
  - ✓ In pursuit of perfection.

# The Types of Processes

- Some processes are primary, serving an external customer.

Example: A diagnostic or treatment process for a patient.

- Some processes are internal, to support the primary processes.

Example: Hiring the staff to operate the diagnostic or treatment process; billing for the services provided; maintaining the equipment needed for diagnosis and treatment.

- Primary processes are easier to see, but support processes are equally necessary. (They create value for the primary process.)

# The Nature of a Process

- A process is a set of actions (steps), each of which must be accomplished properly in the proper sequence at the proper time to create value for some customer.

Insurance example:

- ✓ Receive the burial insurance claim.
- ✓ Verify the data.
- ✓ Verify the death certificate.
- ✓ Calculate the amount to pay out.
- ✓ Write the check.
- ✓ Send the check.

# The Perfect Process

We are all in search of the perfect process.

But perhaps you have not realized this!

The perfect process has some simple but challenging attributes:

- It creates precisely the right value for the customer.

Value is hard to determine for external processes and even harder to determine for internal processes.

But note: In the absence of correctly specified value, every step in any process is muda (waste)!

Special challenge in specifying value in healthcare: Who is the customer? The patient? The patient's family? The insurance company? The government? The doctor? The mega medical center?

# The Perfect Process

- Each step within the process must be:
  - ✓ Valuable (Every step is either valuable to the customer, incidental work (Type 1 Muda, such as the billing system), or pure waste (Type 2 Muda, such as invalid or lost test results).
  - ✓ Capable (Six Sigma)
  - ✓ Available (Total Productive Maintenance)
  - ✓ Adequate (Theory of Constraints or Toyota Production System)
  - ✓ Flexible (Toyota Production System)

Note that a failure along any of these dimensions produces some type of waste.

Toyota often uses seven categories of waste: overproduction, waiting, conveyance, processing, inventory, motion, & correction.

# The Perfect Process

- The steps/actions in the process are linked by:
  - ✓ Continuous flow, downstream from the scheduling point (TPS)
  - ✓ Pull, upstream from the scheduling point (TPS)
  - ✓ Leveled demand, from the pacemaker/scheduling point (TPS)

Note that a failure along any of these dimensions produces additional waste.

# The Perfect Process

- The actions in the process are satisfying for people to perform, managers to manage, and customers (patients) to experience:
  - ✓ No fatalities.
  - ✓ No injuries or pain.
  - ✓ No boredom.
  - ✓ No humiliation.
  - ✓ A sense of providing and receiving a valuable good or service.
  - ✓ A sense of personal fulfillment & accomplishment.

Note that putting good people in a bad process is the best way to produce “bad” people!

# The Perfect Process in Summary

- The right value (purpose).
- The best method and the least waste (process).
- The highest sense of accomplishment and satisfaction (people).

# How Can We Create the Perfect Process for Every Purpose?

Start by identifying the key processes (value streams) in your organization:

- ✓ Which are primary?
- ✓ Which are support?
- ✓ Which are the most important to your customers?
- ✓ Which are the most important to the success of your organization?
- ✓ Which are the most troubling to your people?

# Think About Process Oversight

Ask who is responsible for each process.

When you discover that the answer is “no one”,  
appoint someone!

Note that in the early going it helps if the someone is a  
“someone”. (That is, a widely respected person  
with a bright future in the organization.)

Responsibility doesn't mean a full-time job and it  
certainly doesn't mean direct reporting by those  
involved in the process.

# Determine the Current State

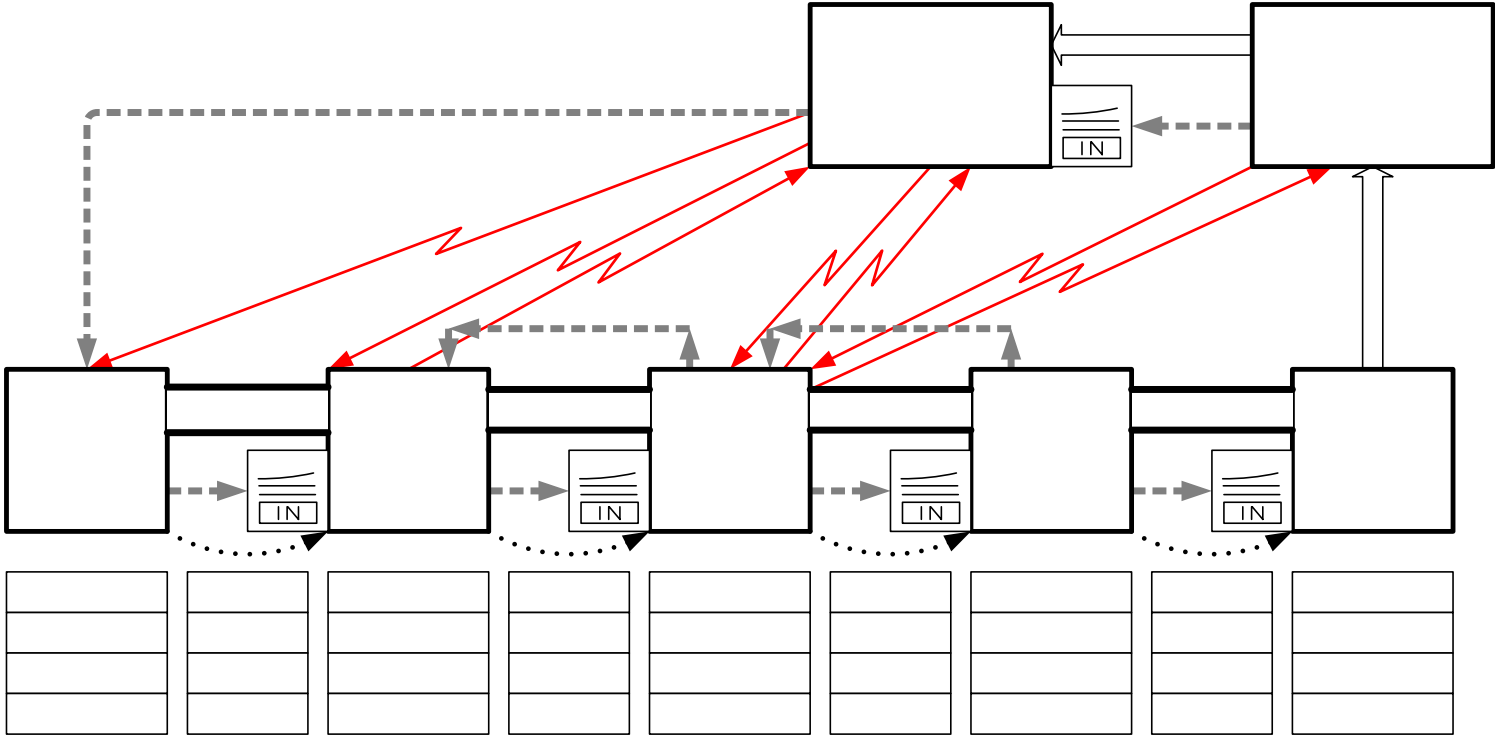
Select the most important processes (but only a few).

Form a team of the responsible person and those involved in the using the process – customers, participating employees across functions – perhaps assisted by a technical advisor.

Map the process as it currently operates, taking extra care to specify value from the standpoint of the customer (external or internal.)

Label this map the “current state”, making sure that everyone agrees that the map is truly accurate.

# Insurance Claim Processing



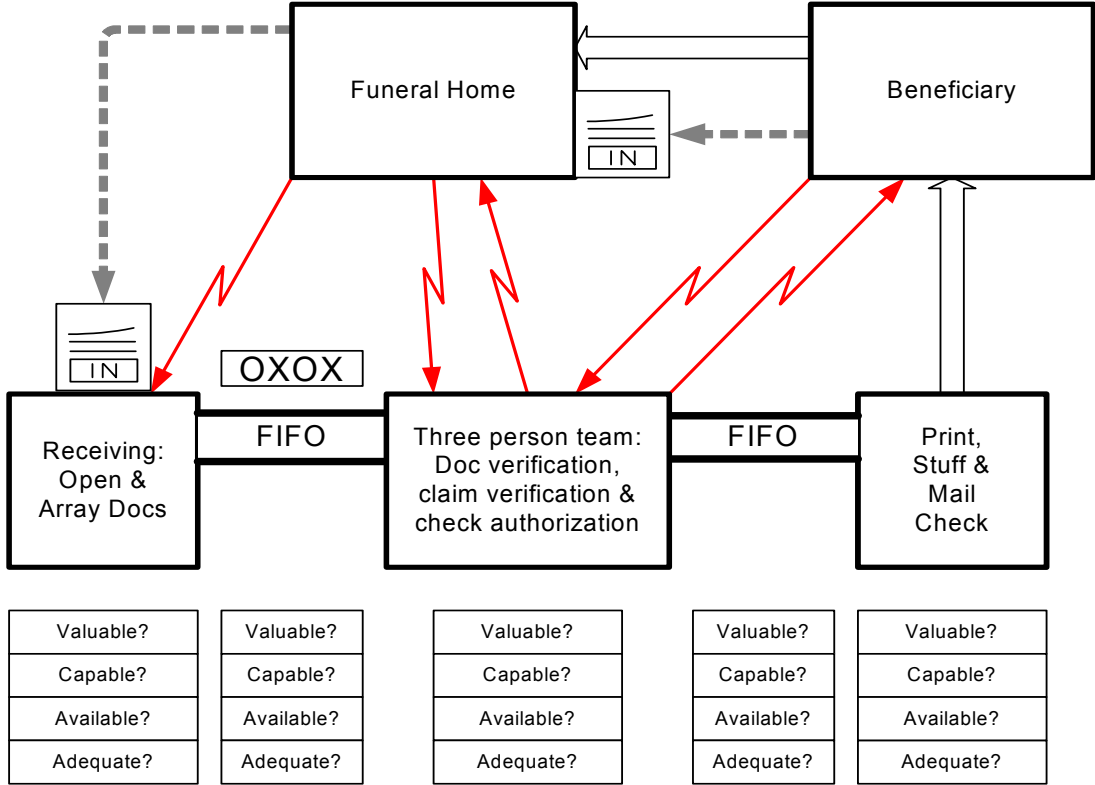
# Envision the Future State

Ask how the process should be changed to move toward perfection.

- If the value of the existing process is found to be incorrectly specified, the entire process may need to be changed or even eliminated.
- One tangled process with many exceptions may need to be split into several parallel processes, each with its own flow path.
- Co-mingled value streams using shared assets may work much better with “right-sized”, dedicated assets.

Label this map the “future state”, making sure that everyone agrees about the key changes in the process.

# Insurance Claim Future State



# Match Organization to Process

Think hard about your organization:

- From the standpoint of its customers, an organization is the sum of its processes, both primary and support.
- Processes flow horizontally toward customers, across departments and functions.
- Organizations are almost always organized vertically, looking upward through departments and functions toward senior management.
- Organizations tend to measure functional performance in terms of asset utilization (people, machines, buildings) and other metrics that may be inconsistent with a perfect process.

# Implement & Sustain Future State

- Implement the necessary changes to create the “future state” process (“Do” in PDCA language)
- Measure the performance compared with the current state and reflect on how it could be better. (“Check” in PDCA language.)
- Introduce the necessary changes to adjust the process. (“Act” in PDCA language.)
- Determine whether the adjusted process is stable and sustainable.

Note that the only sustainable process is one that the participants believe in.

The best way to create belief in the correctness of a process is for participants to be able to see it in its entirety and to understand its logic.

The best way to create vision and understanding is to directly involve participants in improving the process.

# Generalize Your Initiative

Once tests with a few processes have proved your improvement methods:

- Develop a “Plan for Every Process”.
- Determine and clearly explain what you will do with excess people and assets.

Hint: Service processes can only perform at a high level for the customer if employees feel the management is improving processes in a fair and equitable way. So, deal with processes painful to employees early, tell the truth, and use excess people to grow whenever possible.

- Tackle every process across your organization, in order of importance.

# Expand and Sustain Your Efforts

Once you have tackled all of your processes:

- Start the cycle again! (The former “future state” is now the “current state” as you head for the next “future state”.)
- Start looking at extended processes shared downstream and upstream with other organizations.
- Frequently review the Plan for Every Process and take a value stream walk together along every process to prevent regression.
- Share your successes (and failures) with your community through IHI!

# The Quality Chasm Report: Priority Areas for National Action Discussion Group

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## HOW TO PARTICIPATE:

Step 1: Log on to the QualityHealthCare.org website at <http://qualityhealthcare.org/qhc>. If you have not yet registered with the QualityHealthCare.org site, you can do so by going to the Registration Page (link to <http://qualityhealthcare.org/qhc/users/login.aspx>).

Step 2: From the QualityHealthCare.org website home page, click on Discussion Groups, located on the left hand side of your screen (<http://qualityhealthcare.org/qhc/forums/>).

Step 3: Click the **Improvement Methods** Discussion Group.

Step 4: Select **The Quality Chasm Report: Priority Areas for National Action** Discussion.

## POST A NEW COMMENT OR QUESTION:

Step 1: Click **Create a New Thread**.

Step 2: Enter a topic name in the **Subject** field, and then enter your comment or question in the **Message** field.

Step 3: Click **Preview** to review your message.

Step 4: Click **Post** to post your message.

## ADD COMMENTS TO TOPIC:

Step 1: Click the **Thread** title.

Step 2: Click **Reply**.

Step 3: Again, enter your comment in the **Message** field.

Step 4: Click **Preview** to review your message.

Step 5: Click **Post** to post your message.

## **Continuing Education Credit Information**

Calls to Action participants can earn contact hour credits for participating in the audio conference call on *Going Lean in Health Care: Eliminating Waste in Health Care* by going to: <http://www.ihl.org/myihi/certificates/> to complete a brief General Evaluation. The code for the call is: **Lean 1**. Call participants must complete the General Evaluation for the call before a certificate for continuing education credit can be issued.

### **HOW TO RECEIVE A CERTIFICATE OF CREDIT:**

Step 1: Go to the Event Certificate Center section of the IHI site at <http://www.ihl.org/myihi/certificates/>.

Step 2: Enter the code for this call: **Lean 1**.

Step 3: Complete and submit the General Evaluation, then follow the prompts to request a certificate for continuing education credit for this call.

### **NURSING CREDITS AVAILABLE:**

The Institute for Healthcare Improvement is approved as a provider of continuing education in nursing by the Massachusetts Nurses Association, which is accredited as an approver of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation. This continuing education activity carries 1.5 Contact Hours.

### **PHYSICIAN CREDITS AVAILABLE:**

The Institute for Healthcare Improvement is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The Institute for Healthcare Improvement takes responsibility for the content, quality, and scientific integrity of this CME activity.

The Institute for Healthcare Improvement designates this educational activity (Calls to Action) for a maximum of 1.25 credits per call towards the AMA Physician's Recognition Award. Each physician should claim only those hours of credit s/he actually spent in the educational activity.

#### **Upon completion of this program, participants will be able to:**

- Participants will be able to describe how a waste reduction strategy can improve quality while reducing costs in a variety of industries