



## LEAN workshop

EAHP Congress Hamburg

March 25-27, 2015

H Kjer – N Curatolo

**Conflict of interest**  
**Nothing to disclose**

## Interactive query

### True or false

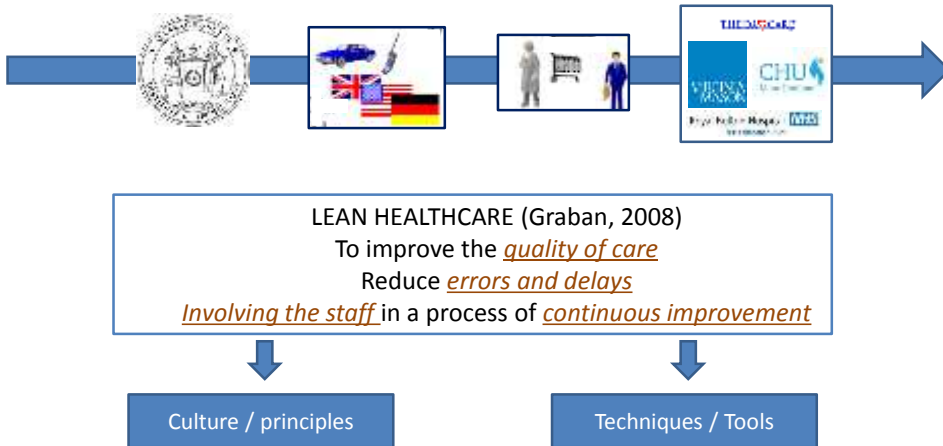
Please give your answers to the questions

1. Lean is about working faster
2. There are 6 different types of waste in Lean

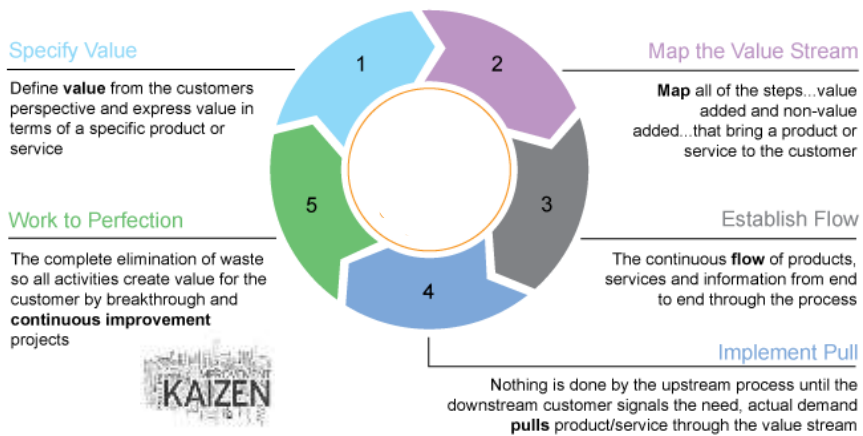
## Agenda

1. **What is LEAN?** (Niccolo)
2. The process of **"Coffee Brewing"** (Henrik)
  - Value Stream Mapping (VSM)
  - Waste
3. The process of **"Clinical Trial drugs dispensing"** (Niccolo)
  - Gemba
  - Value Stream Mapping (VSM)
  - The Spaghetti diagram
  - 5S
  - Check lists (Visual Management)
  - Kan Ban (Pull)
4. **LEAN management eq. Change Management** (Henrik)

# The Lean Approach



# The five LEAN principles



# Lean culture













Take 45 seconds to memorize these new symbols for the numbers  
1 – 10

1		6	
2		7	
3		8	
4		9	
5		10	

Write down as many of  
the new symbols as you  
can remember...

Check your answers

- |   |   |    |   |
|---|---|----|---|
| 1 |  | 6  |  |
| 2 |  | 7  |  |
| 3 |  | 8  |  |
| 4 |  | 9  |  |
| 5 |  | 10 |  |

We are looking at the pieces rather than the whole.

This is sometimes referred to as **“Silo Thinking”**



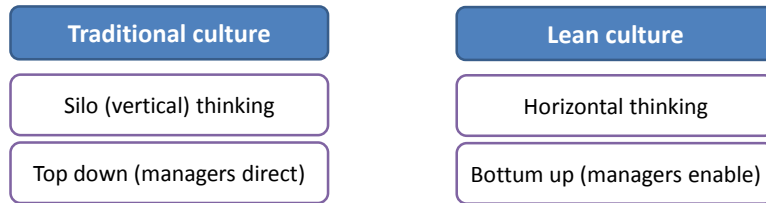
Let's think Lean!

1	2	3
4	5	6
7	8	9

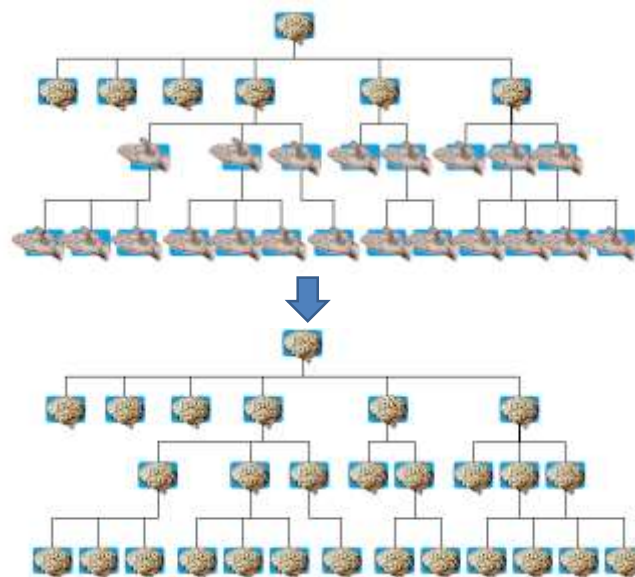
10 = X

Learning to see how things are connected within an overall system

# Lean culture



## Bottum up



# Lean culture

Traditional culture	Lean culture
Silo (vertical) thinking	Horizontal thinking
Top down (managers direct)	Bottom up (managers enable)
Understanding value through your own point of view	Understanding value from patient's point of view

# Understanding value

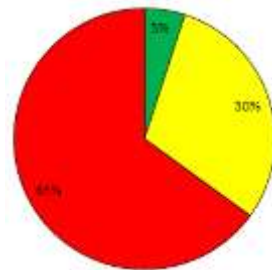
Three types of activities



**Non Value Add**  
 "unnecessary wastes"  
 Waste to **Eliminate!**

**Non Value Add**  
 "necessary waste"  
 Waste to **Reduce!**

**Value Add**  
 Increase!



Waste take up a significant amount of time and costs which can be eliminated

**Typically 95% of all lead time is non-value added**

**Waste are the hidden costs and time which the customer is not paying for**



# Lean culture

Traditional culture	Lean culture
Silo (vertical) thinking	Horizontal thinking
Top down (managers direct)	Bottom up (managers enable)
Understanding value through your own point of view	Understanding value from patient's point of view
Knowledge/experience based management	Visual management

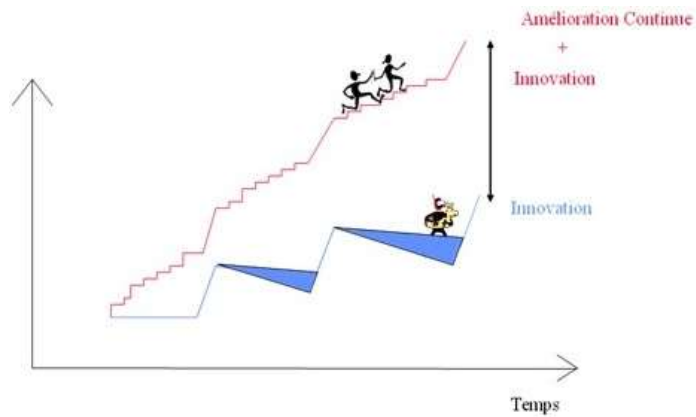
# Visual management



## Lean culture

Traditional culture	Lean culture
Silo (vertical) thinking	Horizontal thinking
Top down (managers direct)	Bottom up (managers enable)
Understanding value through your own point of view	Understanding value from patient's point of view
Knowledge/experience based management	Visual management
Innovation/technology based improvement	Step by step continuous improvement (Kaizen)

## Continuous «step by step» improvement



# Lean culture

Traditional culture	Lean culture
Silo (vertical) thinking	Horinzotal thinking
Top down (managers direct)	Bottum up (managers enable)
Understanding value through your own point of view	Understanding value from patient's point of view
Knowledge/experience based management	Visual management
Innovation/technology based improvement	Step by step continuous improvement (Kaizen)
Increase production to reduce cost	Eliminate waste to reduce cost



**Defect**  
(does not meet expectations)

## WASTE (DOWNTIME)



**Overproduction**  
(producing more than you need to)



**Waiting**  
(waiting in all forms is waste)



**Non-used intellect**  
(using the wrong level of staff for certain tasks)



**T**ransport  
(movement of product, material, resources)

## WASTE (DOWNTIME)



**I**nventory  
(keeping stuff when it isn't required)



**M**otion  
(movement of person that does not add value to the process)



**E**xcessive processing  
(doing more than you need to do)

## Coffee Brewing



## Coffee Kaizen

While watching the video.....

1. ....write down the **wastes** you discover (at least 15 wastes)
2. ....have in mind how you would **improve** the proces

### Coffee Kaizen – Current State












## Coffee Kaizen – Current State



### Small group discussions (10 min)

- Discuss the wastes you discovered incl. which of the 8 types of waste it was
- Discuss how the brewing proces could be improved for each of the wastes discovered

## 8 wastes (DOWNTIME)













- 
-  **Defect** (does not meet expectations):  
error in patient's prescription
  -  **Overproduction** (doing more than you need to):  
medication prepared for several days
  -  **Waiting** (waiting in all forms is waste):  
waiting for a computer
  -  **Non-used intellect** (using the wrong level of staff for certain tasks):  
pharmacist counting medications for To-Take-Away
  -  **Transport** (movement of product, material, resources):  
transporting a chemo to the clinical ward
  -  **Inventory** (keeping stuff when it isn't required):  
stock rooms with too much of everything
  -  **Motion** (movement of a person that does not add value to the process):  
looking for a chart
  -  **Excessive processing** (doing more than you need to do):  
documenting pharmacy intervention both manually and electronically

## Coffee Kaizen – Wastes recognized

### Waste in coffee brewing

1. Goes to sink for water
2. Searching for filters
3. Searching for spoon
4. Searching for coffee
5. Getting coffee
6. Re-fill coffee box
7. Putting re-filled coffee box on shelf
8. Spilling coffee
9. Spoon is bad equipment
10. Wrong counting
11. Spoon into sink
12. Waiting without doing something
13. Searching for thermos (coffee can)
14. Discard redundant coffee
15. All coffee is redundant (unnecessary)

### Waste category

-  Transport
-  Motion
-  Motion
-  Motion
-  Transport
-  Motion
-  Transport and inventory
-  Defect
-  Excess processing
-  Defect
-  Motion
-  Waiting
-  Motion
-  Overproduction
-  Overproduction

## Coffee Kaizen – Future State



## Coffee Kaizen – Future State



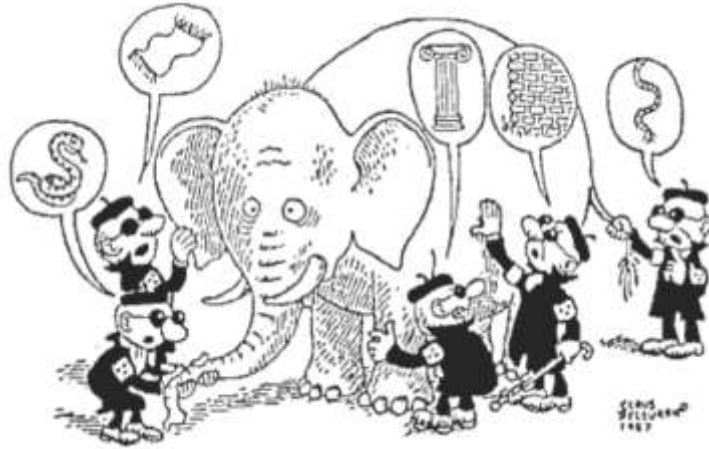


How to use this example in your  
own setting?

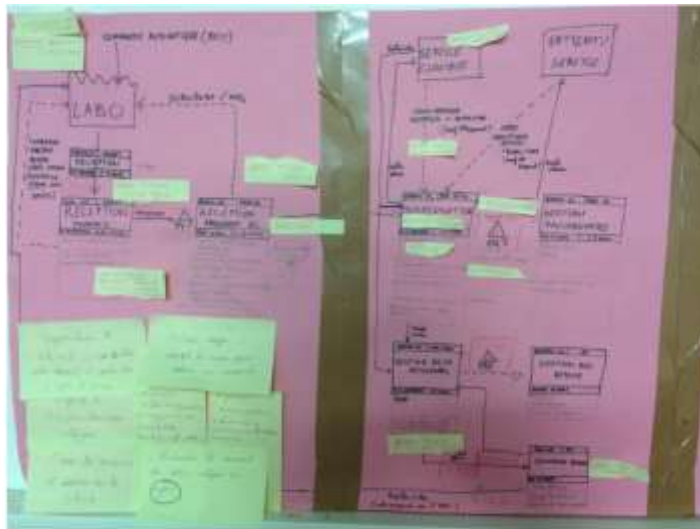
Case study  
**Clinical trial drugs  
dispensing process**

## Map the Value Stream

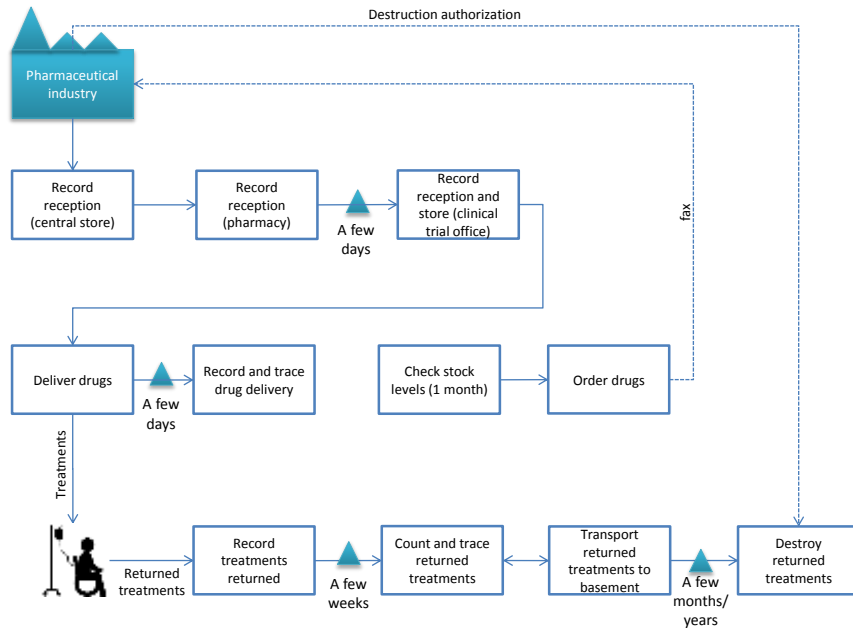
It's all about having the same picture



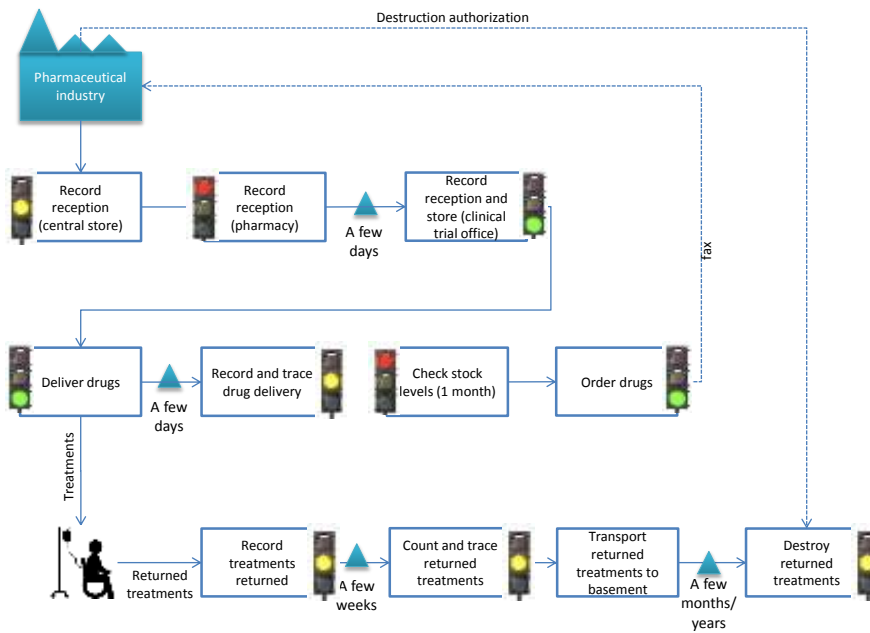
## Map the Value Stream



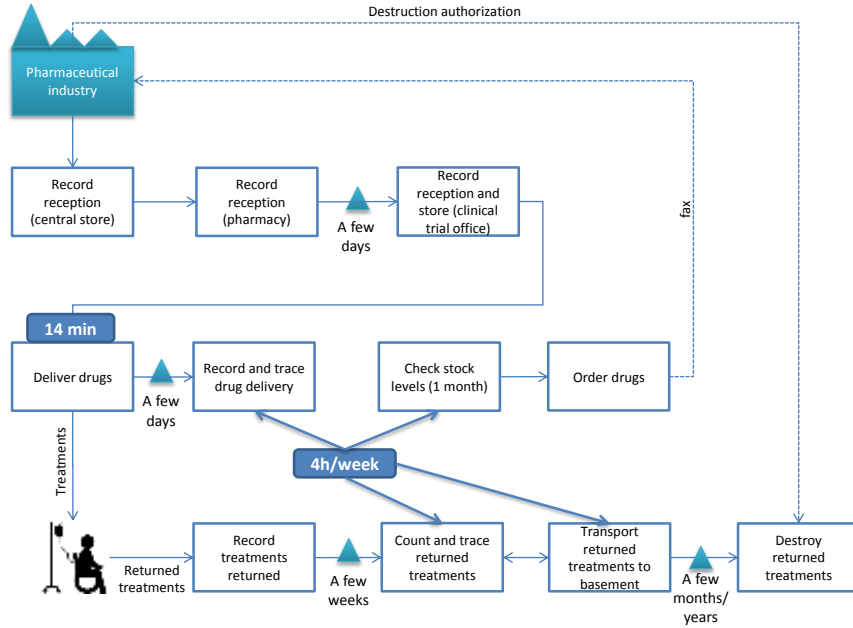
### Map the Value Stream



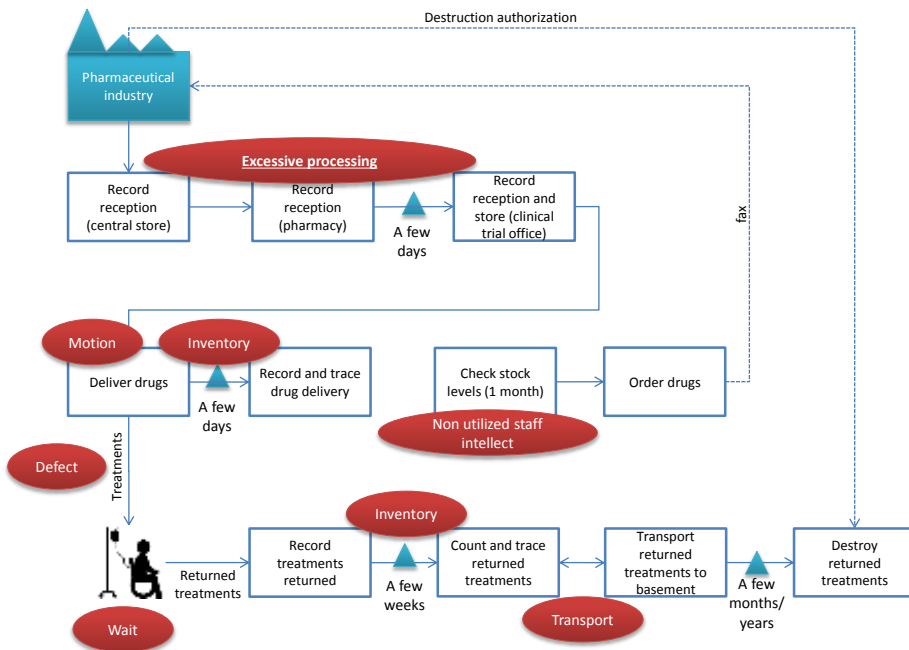
### Map the Value Stream

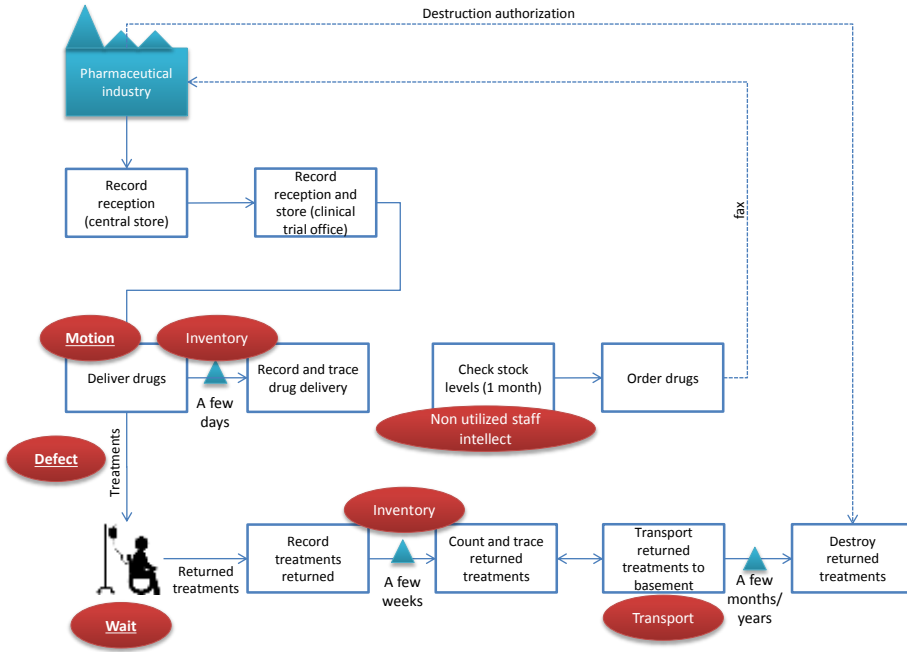


# Measure

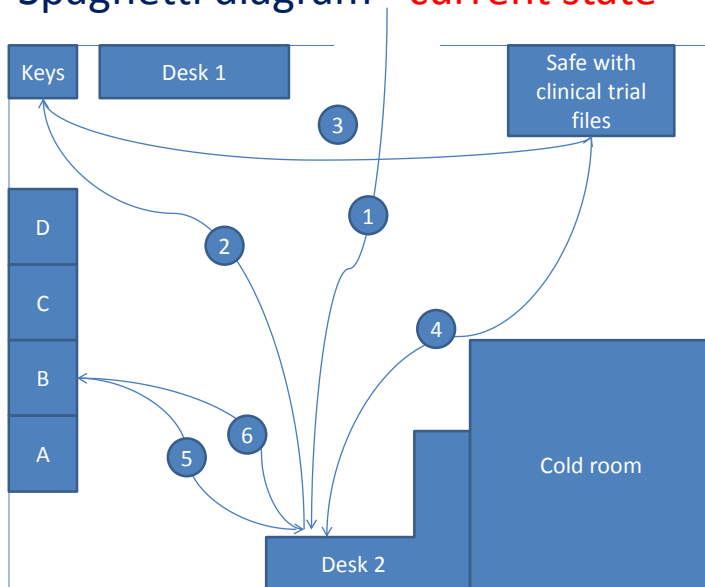


# Analyze and Improve



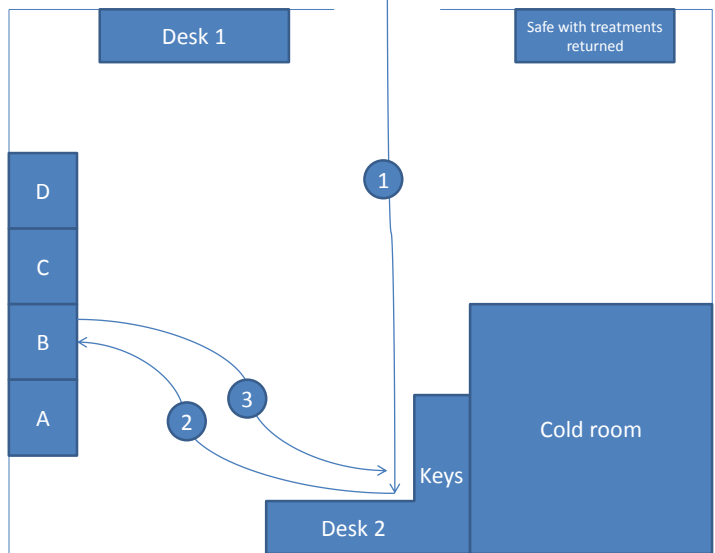


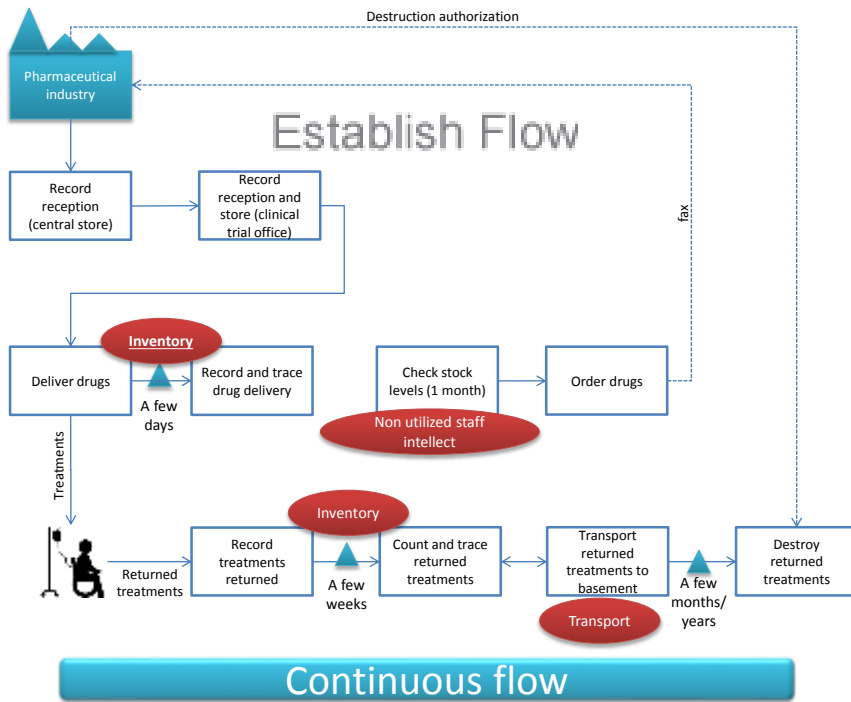
### Spaghetti diagram - current state





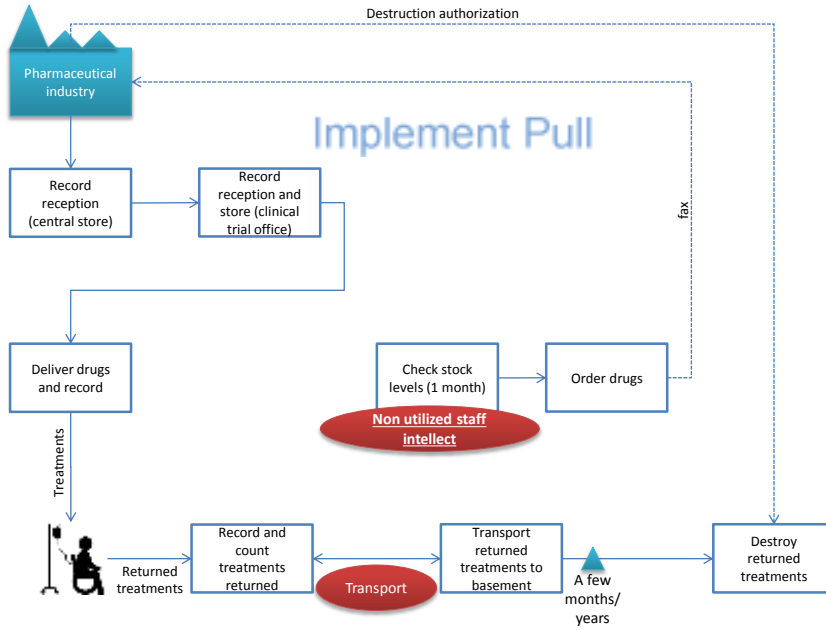
### Spaghetti diagram - future state





## Visual management Check list

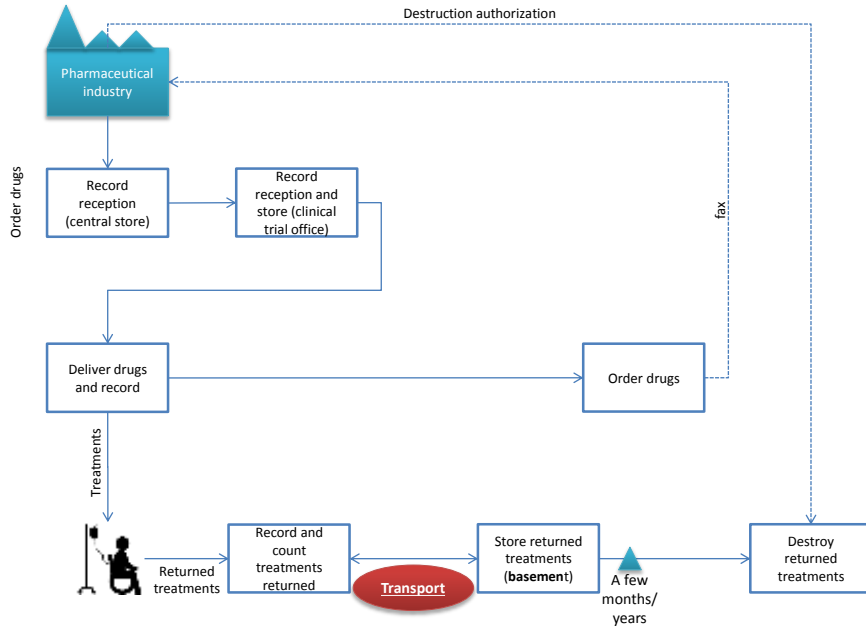




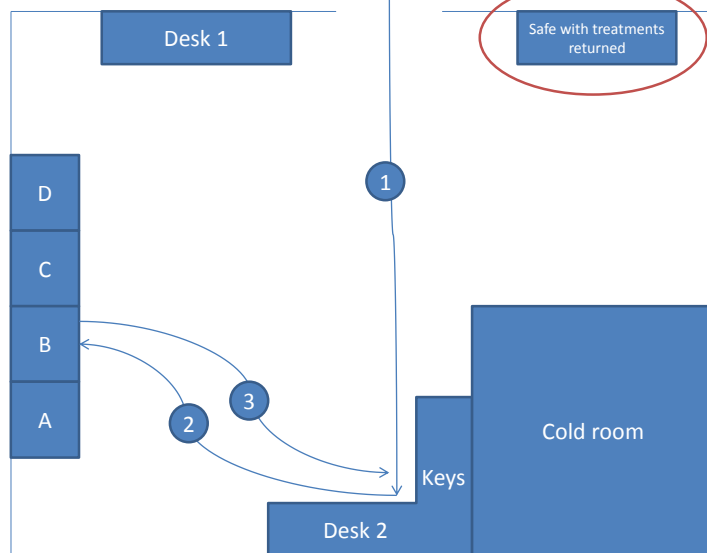
## Pull: kanban system



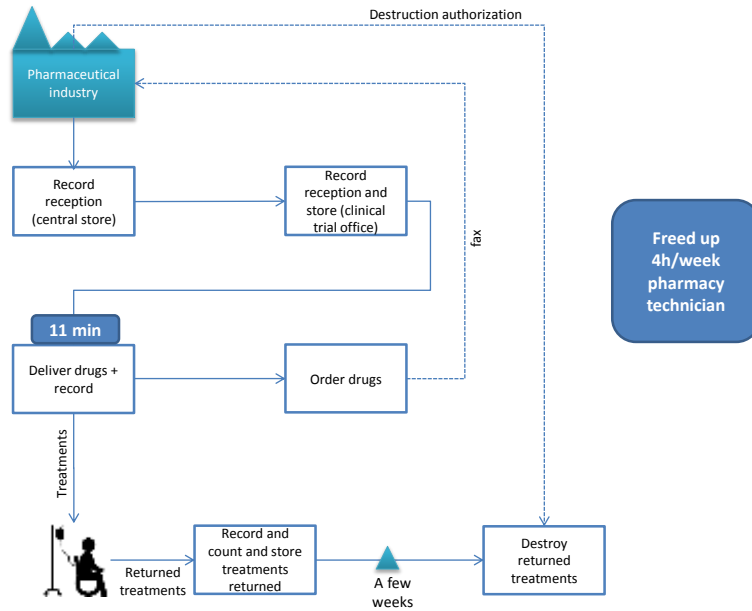




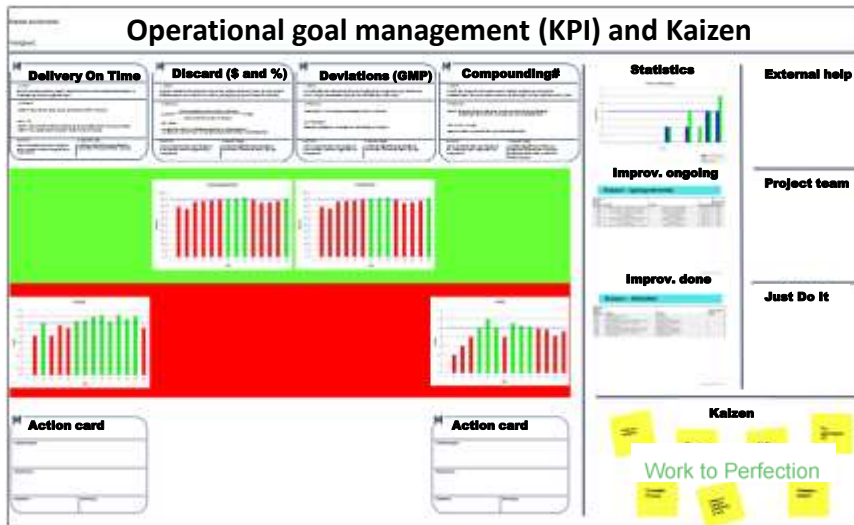
### Spaghetti diagram - future state



# Implement



## Monitor and improve : OBEYA Board – an example from a Danish context



OBEYA board meeting  
at the Hospital Pharmacy,  
Herlev Hospital, Capital Region of Denmark.



# Successful LEAN



**LEAN Tools**



**Employees**  
- Involvement  
- Well doing

**LEAN Management**  
**Change Management**



# Successful LEAN



LEAN Tools



**Employees**  
- Involvement  
- Well doing



**LEAN Management**  
**Change Management**



## LEAN Management = Change Management



Kotter JP. "Leading Change", HBI

## A. Preparation

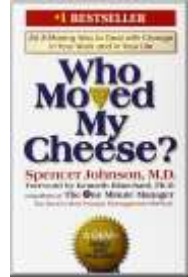
Create the climate for change

SPENCER JOHNSON  
WHO MOVED MY CHEESE

What you are afraid  
of is never as bad as  
what you imagine.  
The fear you let build  
up in your mind is  
worse than the situation  
that actually exists.



4. Communicate the vision
3. Create a vision for change
2. Form a powerful coalition
1. Create urgency



Find it here:

<http://classes.sdc.wsu.edu/classes/cstm301/readings/who%20moved%20my%20cheese.pdf>

Watch it here:

<https://www.youtube.com/watch?v=JL0Xg6YTK>

## A. Preparation

Create the climate for change

4. Communicate the vision
3. Create a vision for change
2. Form a powerful coalition
1. Create urgency



## A. Preparation

Create the climate for change



## A. Preparation

Create the climate for change



# A. Preparation

Create the climate for change



~~Complaints~~

## The House of Influence

Compounding of cytotoxics at Herlev Hospital

	Floor	Manufacturing	Conditions	Working environment	GMP	Culture
Influence ↑ Management and employees	Penthouse	<ul style="list-style-type: none"> <li>LEAN-teams</li> </ul>	<ul style="list-style-type: none"> <li>Union Representative</li> </ul>	<ul style="list-style-type: none"> <li>SOPs</li> <li>Working environment Representative</li> </ul>	<ul style="list-style-type: none"> <li>Batch journals</li> <li>SOPs</li> </ul>	<ul style="list-style-type: none"> <li>Good teamwork</li> <li>Non-violent language</li> </ul>
	1. floor	<ul style="list-style-type: none"> <li>LEAN</li> <li>Work Schedules</li> <li>The daily structuring</li> </ul>	<ul style="list-style-type: none"> <li>Responsibilities</li> <li>Courses</li> <li>Working hours</li> </ul>	<ul style="list-style-type: none"> <li>Tværgående dokumenter i KFS SP (G03)</li> <li>Arbejds miljø-Udvalget (AmiU)</li> <li>Arbejds miljø-gruppe (AmiG)</li> </ul>	<ul style="list-style-type: none"> <li>GMP project</li> </ul>	<ul style="list-style-type: none"> <li>Action plans</li> <li>Working environment actions plans</li> </ul>
	Ground-floor		<ul style="list-style-type: none"> <li>Salaries</li> <li>Dismissals</li> <li>Recruitments</li> <li>Breaks</li> </ul>	<ul style="list-style-type: none"> <li>Working environmental SOPs</li> </ul>	<ul style="list-style-type: none"> <li>Transversale SOPs</li> </ul>	<ul style="list-style-type: none"> <li>Mission</li> <li>Vision</li> <li>Values</li> <li>Policies</li> <li>KPIs</li> </ul>
Authorities/ Legal	Foundation	<p>Agreements:</p> <ul style="list-style-type: none"> <li>Pre-orders Before 2 pm ≥ 90%</li> <li>Same day ≤ 1½ time ≥ 75%</li> <li>LEAN!</li> </ul>	<ul style="list-style-type: none"> <li>Salaries</li> <li>Contracts</li> <li>Job descriptions</li> <li>Vacation</li> <li>IT</li> </ul>	<ul style="list-style-type: none"> <li>Working environmental proclamations and resolutions</li> </ul>	<ul style="list-style-type: none"> <li>Resolutions</li> <li>EU-GMP</li> <li>National SOPs</li> </ul>	<ul style="list-style-type: none"> <li>Policies</li> <li>Third yearly survey on working environment</li> </ul>

## B. Implementation

Consolidation of results and more changes



### Hard stuff

- LEAN Competences
- LEAN Teams
- Triple → double control of the batch documentation

### Soft stuff

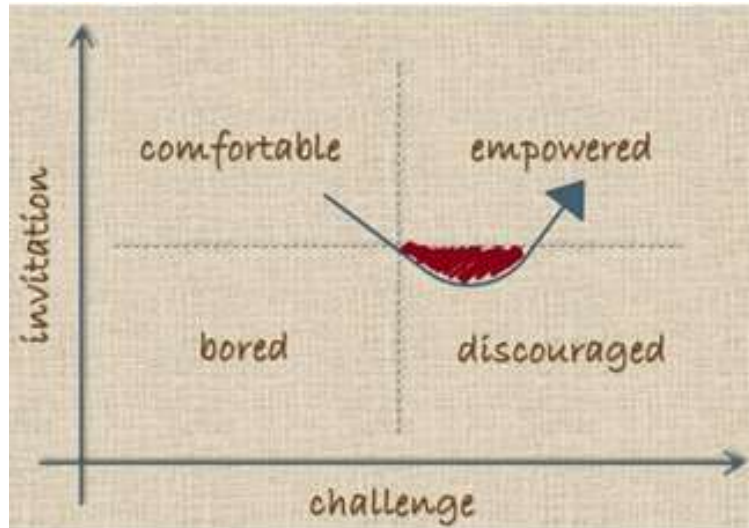
- Smiley board (well being of employees)
- Invitation and challenge

### Invitation and challenge





## Invitation and challenge



### C. Consolidation

8. Make it stick

Anchoring the mindset of improvement in the CULTURE



## C. Consolidation

8. Make it stick

Anchoring the mindset of improvement in the CULTURE



## C. Consolidation

8. Make it stick

Anchoring the mindset of improvement in the CULTURE

### The Improvement Kata

Four steps for achieving goals

1. Understand the Challenge
2. Grasp the Current Condition
3. Establish Your Next Target Condition (TC)
4. Experiments Toward the Target Condition

Mike Rother

### The Five Questions

- 1) What is the Target Condition?
- 2) What is the Actual Condition now?  
*(True Card Over)*
- 3) What Obstacles do you think are preventing you from reaching the target condition?  
Which "one" are you addressing now?
- 4) What is your Next Step? (next PDCA / experiment) What do you expect?
- 5) When can we go and see what we Have Learned from taking that step?

\*You'll often work on the same obstacles for several PDCA cycles

## C. Consolidation

8. Make it stick

Anchoring the mindset of improvement in the CULTURE

**The Improvement Kata**  
Four steps for achieving goals

1. Understand the Challenge

2. Grasp the Current Condition

**COACHING KATA**

**The Five Questions**

- 1) What is the Target Condition?
- 2) What is the Actual Condition now?  
.....(Two Card Chart).....
- 3) What Obstacles do you think are preventing you from seeing the target condition?  
Which "war" are you addressing now?
- 4) What is your Next Step?  
(Next experiment)? What?
- 5) How quickly can we Have Learned from.....  
\*Put this work in the container

*How to create a Positive Work Culture*

### Interactive query True or false

Please give your answers to the questions

1. Lean is about working faster
2. There are 6 different types of waste in Lean

## Interactive query

### Answers

1. Lean is about working faster

– FALSE –

Don't work harder (or faster); work smarter

2. There are 6 different types of waste in Lean

– FALSE –

There are (min.) 8 types of waste

# The End



# Extra slides

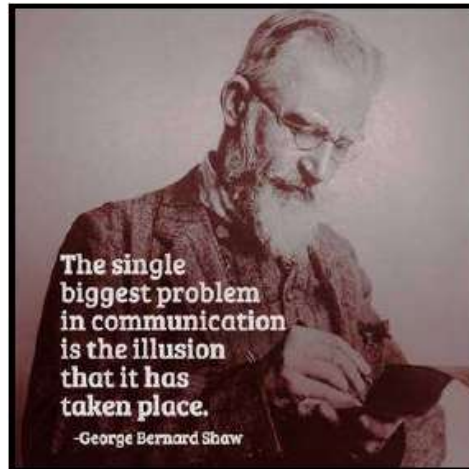
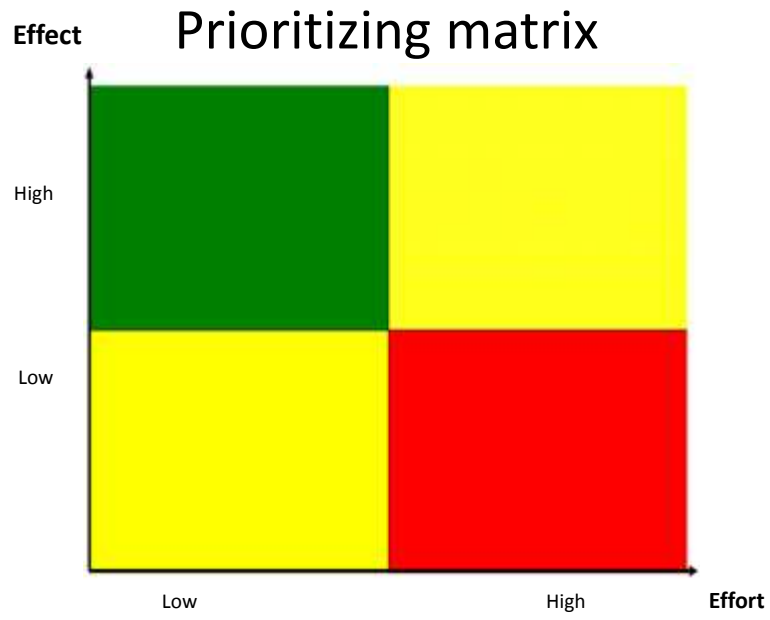
## What is Lean?

### **Lean is not...**

- About eliminating jobs
- Forcing people to work harder
- Speeding up the work
- Only for car industry
- Only common sense

### **Lean is...**

- A management methodology AND philosophy
- Focusing on value from the customer's perspective
- Doing more by better utilizing existing resources
- The continuous pursuit of the perfect process through waste elimination
- Empowering employees by allowing them to make changes



“Your time is limited so don’t waste it living someone else’s life. Don’t be trapped by dogma—which is living with the result of other people’s thinking. Don’t let the noise of others’ opinions drown out your own inner voice. Stay hungry, stay foolish.”

Steve Jobs, Stanford address, 2005.