Lean Journey in Healthcare

GO AND SEE | ASK WHY | RESPECT PEOPLE

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Belek ANTALYA

« Dünya Klasında Hastaneler için…»

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- LeanSixSigma in Healthcare – Villanova University, USA
- Advanced Lean Training do Virginia Mason Institute, Seattle,USA
- Lean Coach Centro Hospitalar Lisboa Central – Portugal

Why?

One in ten patients in OECD countries is **unnecessarily harmed** at the point of care.

More than **10% of hospital expenditure is spent on correcting preventable medical mistakes** or infections that people catch in hospitals

How deal with?

- Patients arrive to early to the surgery room
- Near miss drug mistakes
- Operating plan just delivered 24 hours before surgery day, and a lots of cancelation
- Operational assistant in motion just to delivery papers
- Nurses duplicate work (taking notes in a paper and later introduce the information in a laptop)
- Healthcare mistakes
- Long length of stay
- Hospital acquired Infection rate
- Poor Schedule of surgery and diagnosis exams
- Unnecessary motion
- Unclear communication between medicine team

Imagine 99.9% quality…

Imagine 99.9% quality…

- 15 defective surgeries/year
- 17 defective transfusions/year
- 1,000 defective medication administrations/year
- 182 wrong meals served/year
- 17,000 defective bills sent/year
- 125 defective paychecks/year

Why?

- Lean management in Health - early 2000's in the US and in the UK.
- Face the evolution of the healthcare system, where patients multiply and have heavier needs, whereas **the budgetary context gets more and more constraint**
- Looking for **"Zero Defect" for patients and respect for people**!

> "Focusing on the highest quality and safety means pursuing zero defects in health care by removing waste and designing mistake-proofed processes. The tools of the Virginia Mason Production System support this work, but it is the culture that sustains it."
>
> Erica Cumbee, Transformation Sensei, Virginia Mason Institute

www.virginiamasoninstitute.org

$$Q = A \times \frac{(O + S)}{W}$$

Q	: Quality
A	: Appropriateness
O	: Outcomes
S	: Service
W	: Waste

Waste:

Any task or item that does not add value from the perspective of the customer.

Nurse Time at Bedside

Process Name: RN TIME AT BESIDE

Product Line: HOSPITAL

Model Name or Part:

Scope of Operations

Percent Load Chart (Bar Chart)

From:

To:

Date: 5/25/06

Department

Supervisor

Sum Total of Operator Cycle Times:

Takt Time: 48'

$$\frac{\text{Sum of Operator Cycle Times}}{\text{Takt Time}} = \frac{\Sigma \text{ O.C.T.}}{\text{T.T.}} = ____ = \square$$

Team Members Required

% OF Time

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%

32%

90%

Operator: RN BEFORE KAIZEN | RN AFTER KAIZEN

Operator Cycle Time

Flows of Medicine

Flow of Patients

Flow of Family and Relationships

Flow of Providers

Flow of Medications

Flow of Supplies

Flow of Information

Flow of Equipment

Flow of Process Engineering

Flows of Oncology Care

Results of Flow Improvements

Ted's Journey	Before	After	% Change
Lead time (arrival to start of treatment)	240 minutes	90 minutes	**-63%**
Non-Value added time	194 minutes	52 minutes	**-73%**
Distance traveled	222 meters	55 meters	**-76%**

What?

"*All five of us are very good at what we do, but we all do it differently. At least four of us must be doing it wrong.*"

Cardiac surgeon, Mayo Clinic

How?

Critical steps to develop a continuous improvement culture in a organization

Board Engagement

Develop capabilities

Operational structure

Lean Metodology implementation

Sustain Results

Daily Management

World Class Management System

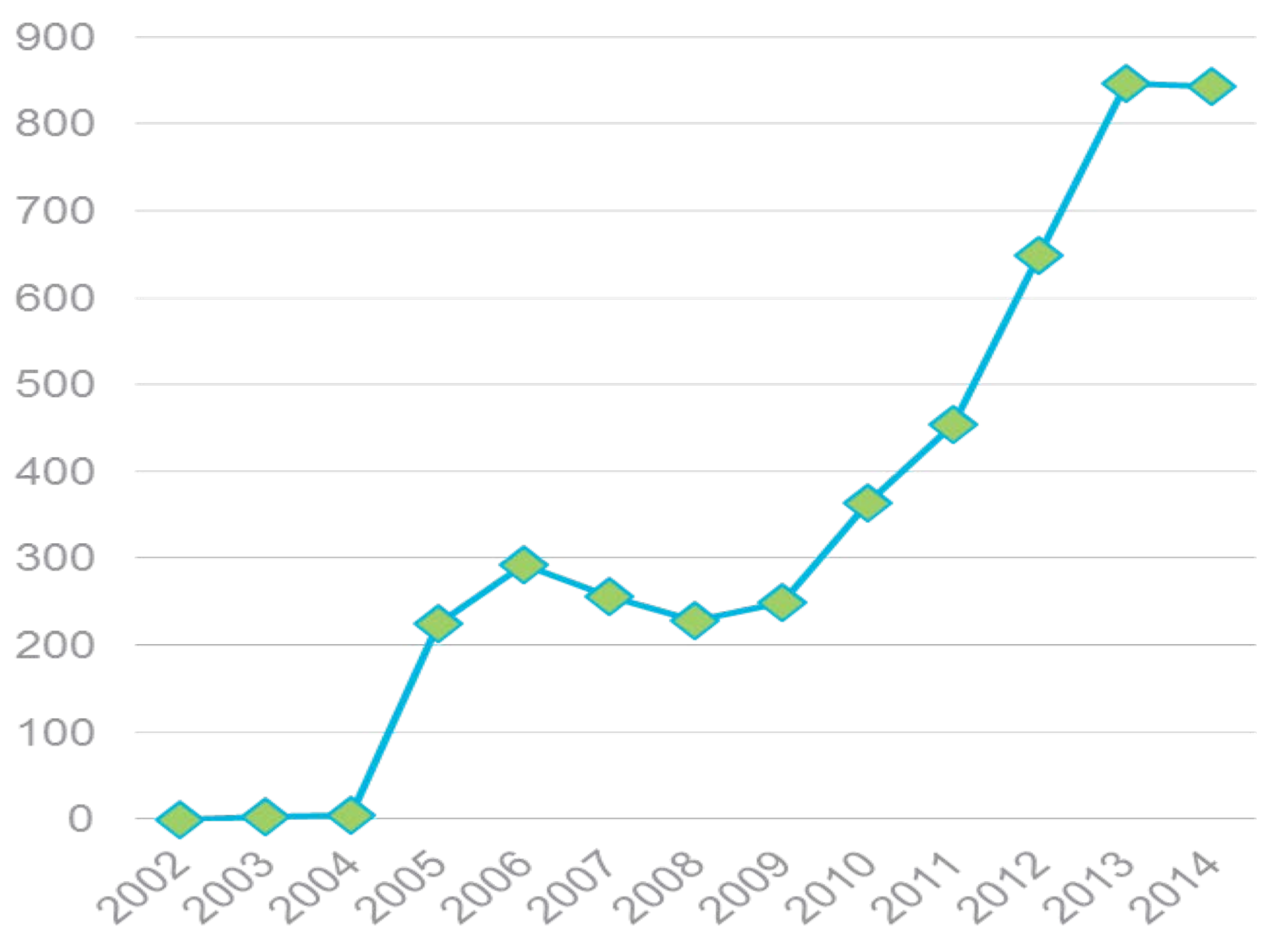
Management by Policy
Provides focus and direction

World-Class Management System

Daily Management
Manages daily work

Cross-Functional Management
Aligns across the organization toward full customer satisfaction

“Stopping the line” Organization-wide Involvement



1. Staff report issues using the Patient Safety Alert System
2. Leadership investigates and resolves issues
3. Board Quality Committee review/ approve closure of high-severity issues

grupas sağlık

Patients Falls

Falls and Falls with Injury / 1000 Patient Days Overall VMMC

Falls / 1000 Patient Days: 0,00 – 10,00

Falls University Begins

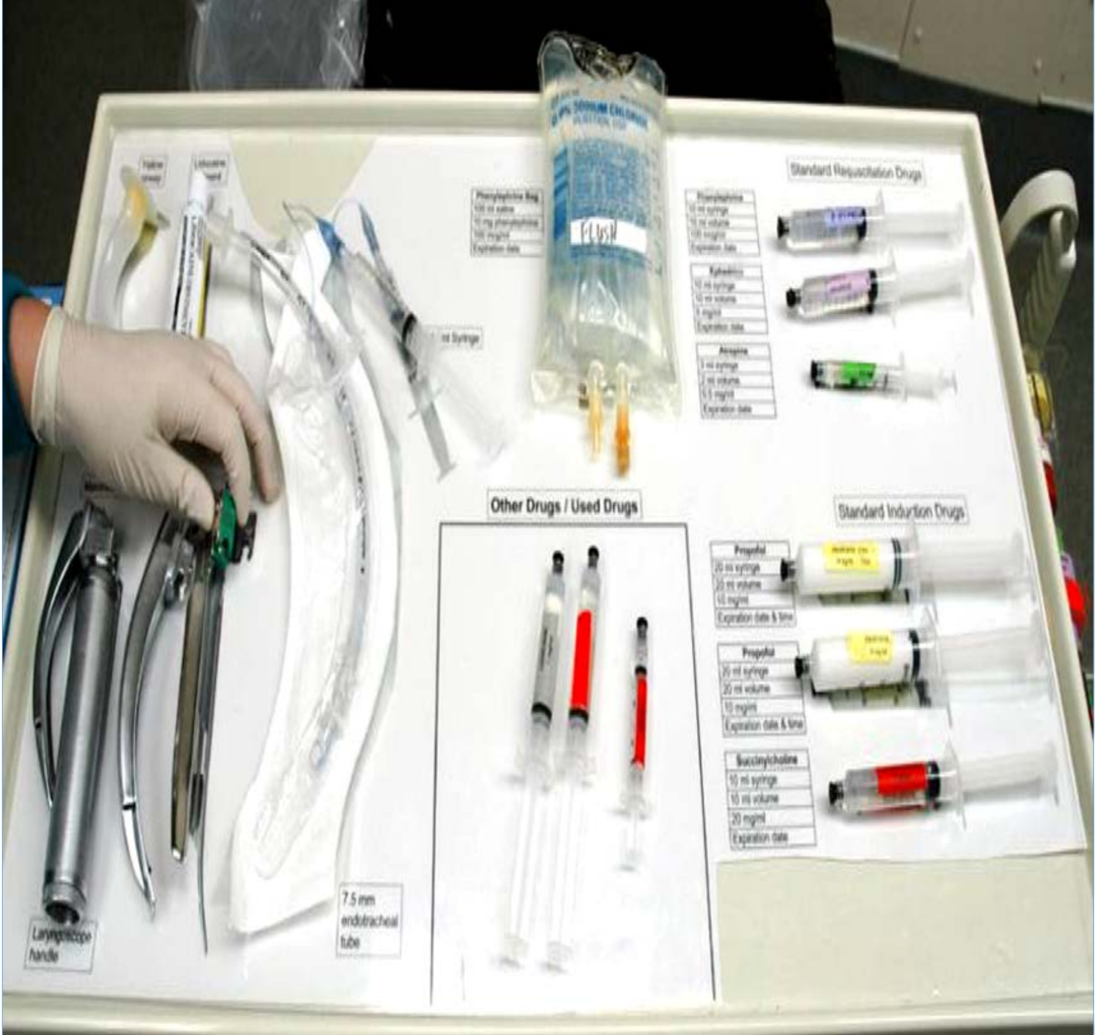
TWI Hourly Rounding Begins

Time Frame	Overall VMMC Average Falls / 1000 PT days	Overall VMMC Average Falls with Injury / 1000 PT days
Avg Y2006	3,33	1,04
Avg Y2007	3,04	0,77
Avg Y2008	3,10	0,99
Avg Y2009	2,74	0,81
Jan-09	3,74	1,73
Feb-09	2,56	0,75
Mar-09	2,88	0,96
Apr-09	3,41	0,43
May-09	2,92	0,44
Jun-09	2,91	1,02
Jul-09	2,18	0,44
Aug-09	2,35	0,73
Sep-09	1,68	0,61
Oct-09	2,13	0,71
Nov-09	1,65	0,45
Dec-09	1,33	0,30
Jan-10	2,30	0,46
Feb-10	1,67	0,17
Mar-10	1,79	0,30
Apr-10	1,29	0,29

Start with 5S

5S Anesthesia Shadow Board

Before



After

Lean Healthcare all over the World

grupas
sağlık

Where?

lean
health
PORTUGAL

grupas
gelişim

Where?

Virginia Mason Medical Center (Seattle),
Stocks decreased by 53% and response time by 65%.
Using Teamwork and Innovation
to Achieve Zero Preventable Hospital-Acquired VTE Events

Canada
Kingston General Hospital (Ontario)

USA
Thedacare (Wisconsin) reorganized their scheduling processes.
Wait times for consultation dropped from 14 weeks to 31 hours.

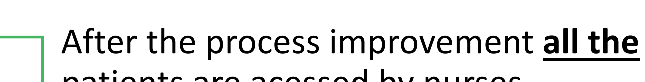
Mount Sinai, John Hopkins, Cleveland Hospital, Mayo Clinic….

France
Hopital Broussais (Paris) reshaped their patient, reduce waiting times were cut by more than 40%

Sweden, Danmark, Singapoure, Colombia,

Portuguese Lean Healthcare Cases

Inpatient Nutritional Risk Assessment



- Just 10 nutritionists for 900 beds
- Only 55% of inpatients was assessed about nutritional risk

- After the process improvement **all the** patients are acessed by nurses
- Nutritionists are called for risk patients

Centro Hospitalar Lisboa Central (1352 beds, 6 sites)

Purchase process

- Standard process among 6 pharmacies
- 5000 hours of administrative tasks by pharmaceutics
- Reduce 5% of monthly stock value (600.000 €)

Pré-Operatory process

- Reduce 11% cancelations
- Pre-op nurse call
- Continuous flow of outpatient
- Parents receive text message along the surgery

Unitary dosis (pharmacy)

- Revertences per patient DrugTraceability

Hospital de Cascais (375 beds)

Surgery Room

- Patient waiting time in the transfer decrease from 30 minutes to maximum 15
- All patients be marked before go to the room

Pré-Operatory process

- Reduce 25% cancelations
- Pre-op nurse call
- 3000 yearly , nurse hours saved (eliminate a step)
- Parents receive text message along the surgery

Operating Plan

- Reduce last surgery cancelation,since the surgery time was added with anaesthesia time

Schedule now is made with surgeon and anaesthetists

Lessons and learning

Achievements

Key to observe processes with **patient eyes**

Leadership skills is key to engage staff and manage change management

Quick win results assure staff enthusiasm to more complex measures

Resilience is a key factor

Barriers

Lack of Lean knowledge

Resistance to change **“it was always like this”**

Hard to **implement daily management** tools

"The secret of getting ahead is getting started. The secret of getting started is breaking your complex overwhelming tasks into small manageable tasks, and then starting on the first one."

- Mark Twain

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