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UK/US SHINGO SUMMIT

2009

16-18 JUNE

From Lean Tools towards Lean Systems In Acute Healthcare

(The Royal Devon and Exeter Hospitals Experience)

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UK/US SHINGO SUMMIT
2009
HIGH MANAGER 8-9TH JUNE

Background

- Acute teaching Foundation Trust
- Established April 2004
- 850 plus beds
- RCI 83
- Track record of innovation

	2007/08	2006/07	2005/06	2004/05
Revenue	£275m	£258m	£242m	£225
Surplus	£8.4m	£2.9m	£0.5m	(5.8m)
HCC Rating	Excellent/ Excellent	Good/ Excellent	Fair/ Excellent	3 stars
Monitor FRR	4	4	3	2

Key Facts and Figures

	2006/07	2007/08
Outpatients	257,853	271,318
Inpatients and daycases	117,080	123,318
Accident and Emergency	69,964	76,966
Emergency admissions	28,804	29,461
Babies delivered	2988	3,381
Income	£275m	£284m
Surplus	£2.9m	£8.4m
Staff Employed	5,940	6,284

Aspiration

The Royal Devon and Exeter NHS Foundation Trust aspires to be at the leading edge, an organisation which is modern, competitive, distinctive, smart, responsive and flexible

The Early Steps

Autumn 2007

- With Manufacturing Institute - working in 3 main service departments
 - Ultrasound, Histopathology and Pharmacy
- Focus on rapid improvement to tackle known and long standing problems.
- Using primarily process mapping and 5S's techniques.
- Service line management.

Ultrasound Scanning

Objectives

- Backlog reduction
- Permanent solution to minimise wait time

Principles

- Optimise labour efficiency
- Rapid changeover
- FIFO processing (but accounting for clinical need)

Ultrasound Work - Outcomes

- Matched demand and capacity
- Improved flow through the US Dept to reduce takt time to 18 mins or below
- 5s areas identified- Office and Scan rooms
- Wasteful processes understood including:
 - Pts escorted to US
 - Pts changing in the rooms
 - Waiting for portering
- Focus areas for improvement identified.
- Action plan developed

US Standardisation

Before



After



Histopathology

- Objectives
 - Improve turnaround time
 - Simplify and standardise the process for receipt of samples to delivery of slides to pathologist

Histopathology process improvement

- Flow of work in lab e.g. batch size
- Team “cutting” approach
- Labels
- Histories
- Non standard approach to work

Histopathology Standardisation



Histopathology Standardisation (2)



Histopathology Outcomes

- Turnaround time – reduced from 6.5 hours to 2 hours
- Distance travelled reduced from 209m to 91m
- Number of microtomes reduced from 5 – 3
- More space

Pharmacy Implementation

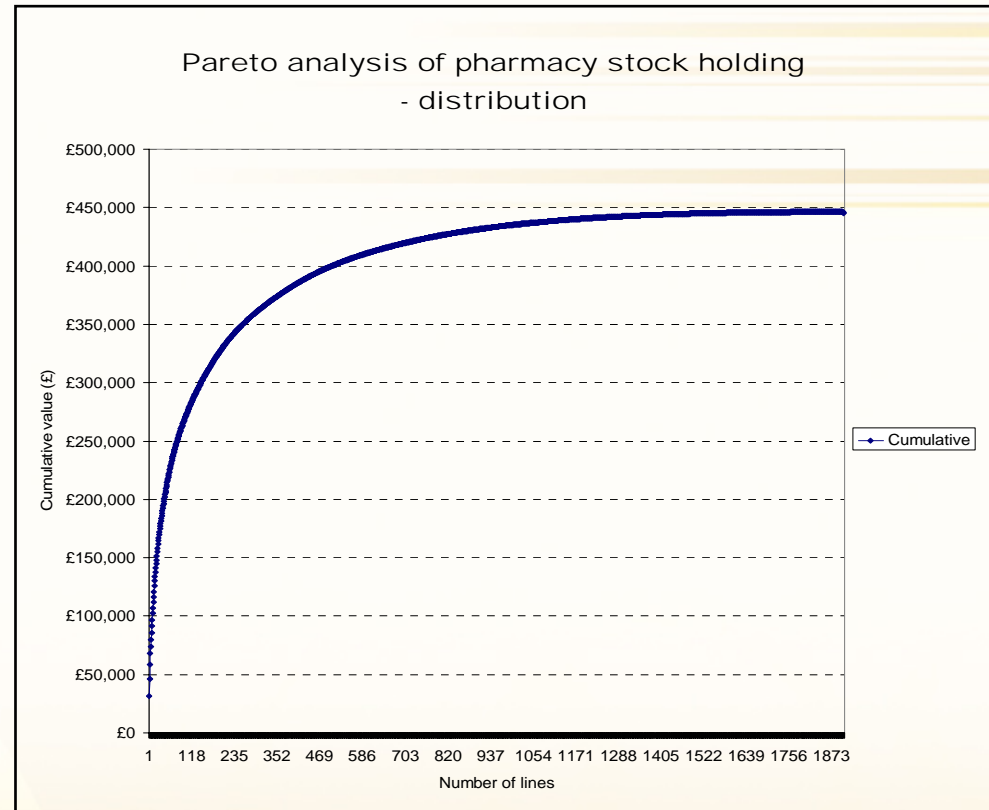
- Stockholding
- Distribution

Pharmacy - Stockholding

Pareto Analysis:

4000 live line items

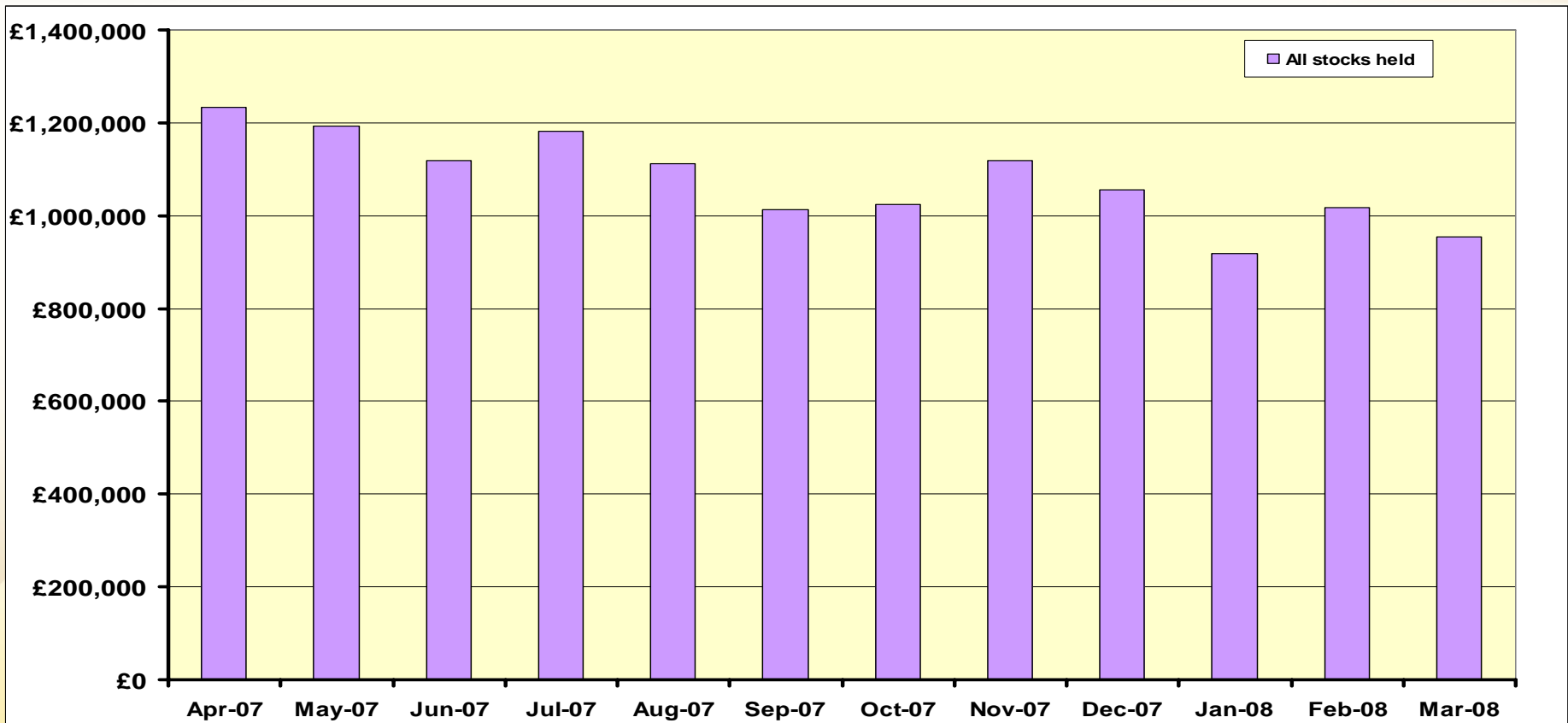
Top 55 items account
for 50% of stock value!
(Distribution)



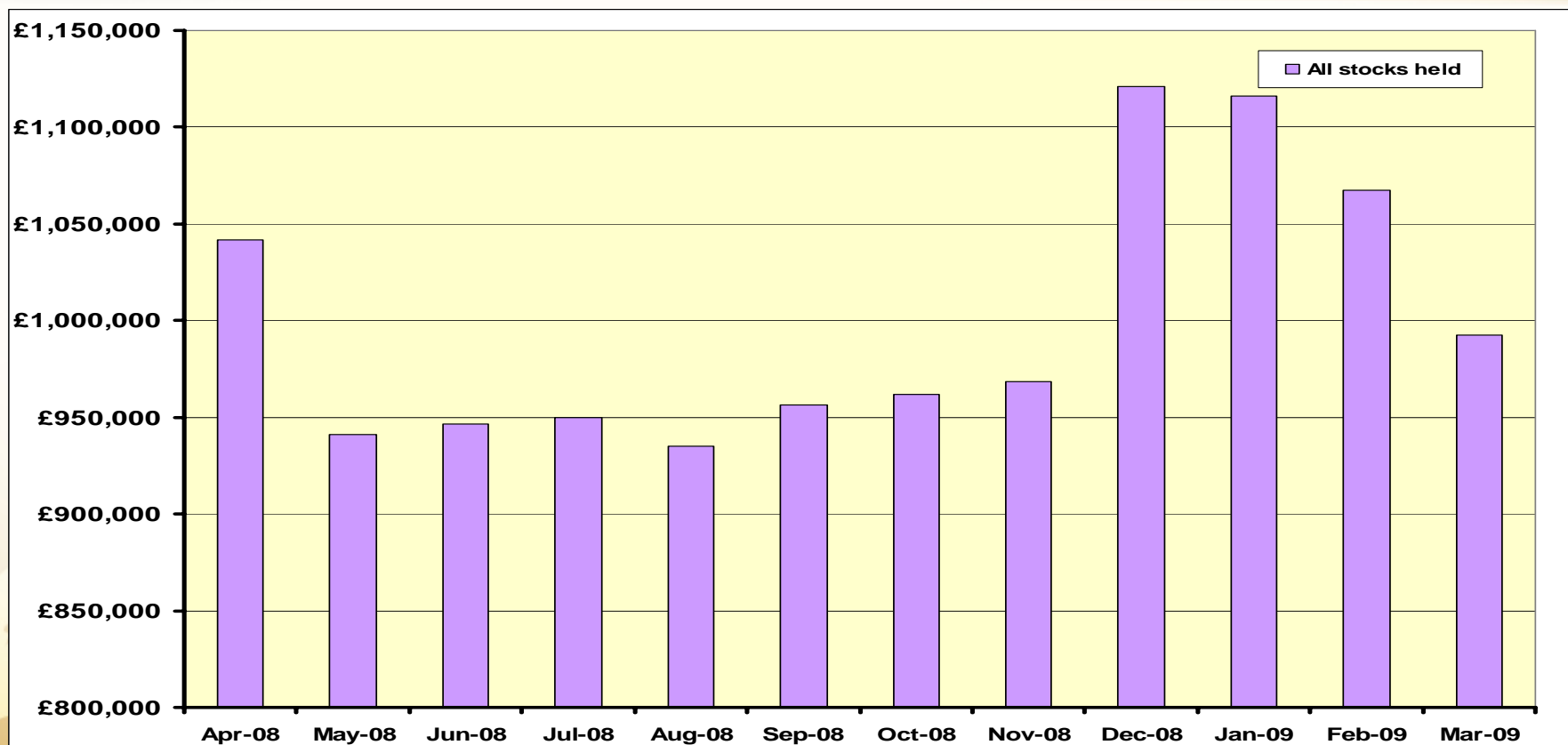
Stockholding – High volume items

- Sample of high volume items in distribution
- Reduced reorder levels and quantities based on lead time and average daily demand

Pharmacy Stockholding - Before



Stockholding - After



Results

- Reduction in stock holding of 7.26% (£78,300 average per month)
- Savings in value and volume
- Reduction in stock holding has liberated space
- New space used more effectively
- Less clutter and waste

Pharmacy - Workplace Organisation – 5S

- Applying workplace organisation to improve workflow

Workplace Organisation (5S)

Before



5S Initial audit score 15%

After



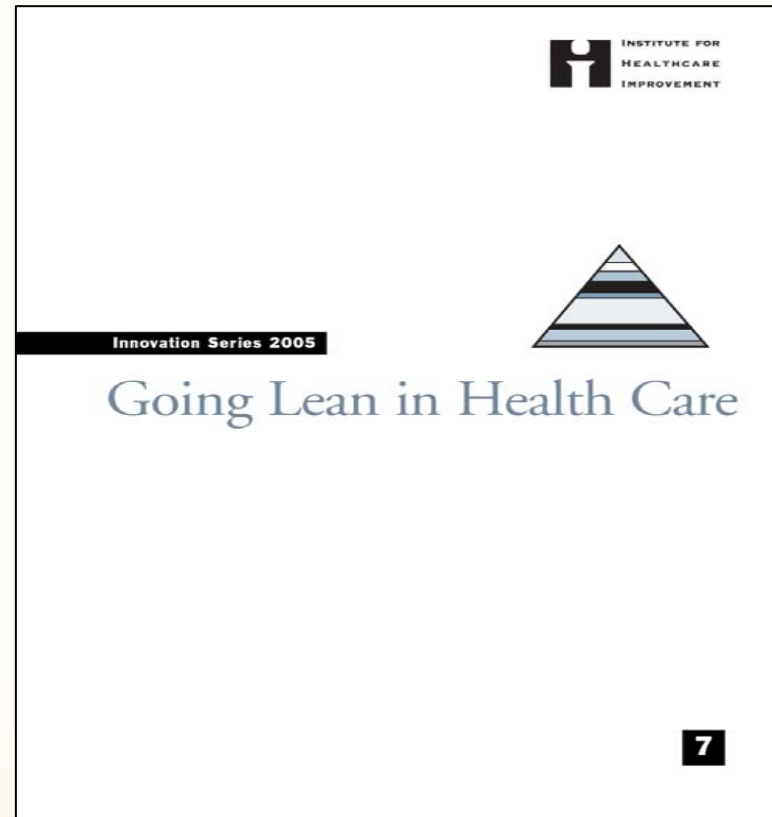
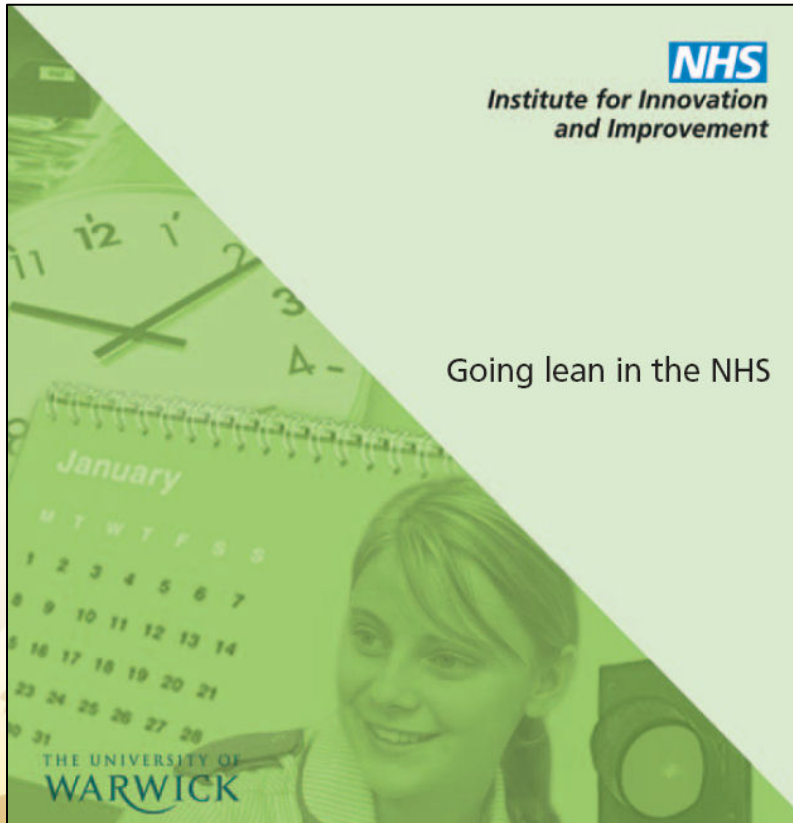
5S Current audit score 60%

Pharmacy – Workplace re-organisation Outcomes

- Improved working environment
- Improved health and safety
- Improved team morale / absence rates
- Planned implementation in other areas
- Ongoing need for full engagement from all staff

Learning for Future Activity

- Team learning new skills/ tools
- Working with different staff groups, appreciating contributions from all
- Realising difficulties implementing change
- Training a team of Lean Champions to deliver in-house
- Establish pilot model of excellence before wider roll out.



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Productive Ward at the RD&E

- Preliminary work from **October 2007**
- Re-launched **June 2008**
- **3 Phase**, 18 month roll out plan
- Facilitators part of **Service Development Team**
- **No** central support package.



RD&E Roll out plan.....

	Knowing How we are Doing	Patient Status at a Glance	Well Organised Ward	Meals	Medicines	Patient Observations	Admissions and Planned Discharges	Shift Handovers	Nursing Procedures	Ward Round	Patient Hygiene
Phase 1 - July 2008											
Wynard											
EMU											
Harbourne											
Okement											
Dyball											
Tavy											
Exe											
Lyme											
Phase 2 - January 2009											
Cherrybrook											
Yarty											
Yeo											
Avon											
Bolham											
Cath Lab											
CCU											
Clyst											
Culm											
Taw											
Durbin				Not Commenced	Not Commenced	Not Commenced		Not Commenced		Not Commenced	Not Commenced
Knapp				Not Commenced	Not Commenced	Not Commenced	Not Commenced	Not Commenced		Not Commenced	Not Commenced
Abbey				Not Commenced	Not Commenced	Not Commenced	Not Commenced	Not Commenced		Not Commenced	Not Commenced
Otter				Not Commenced	Not Commenced	Not Commenced	Not Commenced	Not Commenced		Not Commenced	Not Commenced
Dart				Not Commenced	Not Commenced	Not Commenced	Not Commenced	Not Commenced		Not Commenced	Not Commenced
Lowman				Not Commenced	Not Commenced	Not Commenced	Not Commenced	Not Commenced		Not Commenced	Not Commenced

The Productive Operating Theatre: What is TPOT ?

Building a
“Product” for
the NHS!!!

Releasing Time to Lead
The Productive Leader



Available
October 2008

The Productive Operating Theatre



Being
developed –
estimated
completion summer
2009

Releasing Time to Care
The Productive Ward

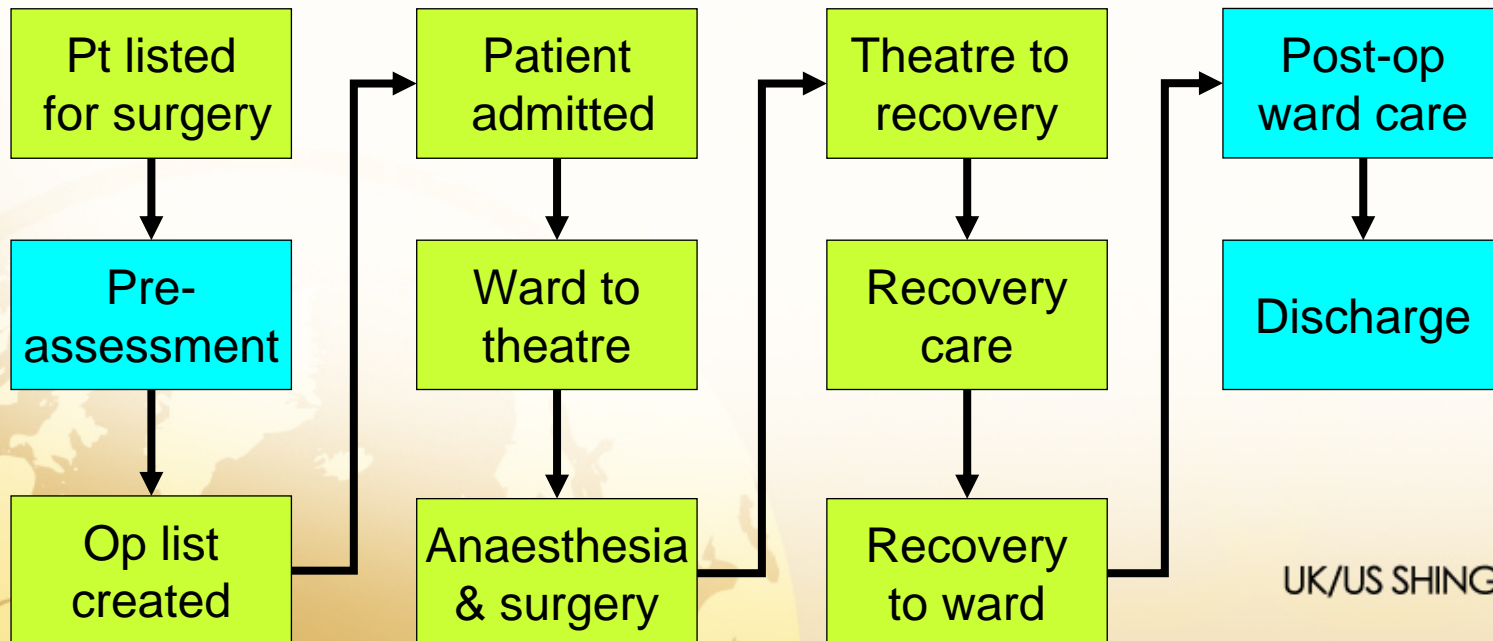


• Available now
• Mental health version available
September 2008 Maternity
version being developed

... and ultimately
for the whole
NHS

The Productive Operating Theatre: What is TPOT ? - Scope of the project

- Delivering surgical services must be pretty straightforward - we do hundreds of operations everyday!
- When you break it down it is an unbelievably complex process
- Project is wide - we have to look at the whole system but cannot be all encompassing



The Productive Operating Theatre: Why operating theatres ?

- Theatres are the “engine room” of acute surgical services
- Intense concentration of specialist skills often in short supply
- “High risk” environment with multiple invasive procedures (major complication rate of 3 - 17%; mortality up to 0.8%)
- High consumer of resources - but a major income generator
- Ultimate limiting factor in reducing treatment times for surgery

The Productive Operating Theatre: Project aims

- To give patients an even better experience by improving the reliability and safety of care and driving down waiting times
- To measure and understand current theatre performance and to promote and evaluate ways of increasing productivity and efficiency by reducing waste - in its broadest sense
- To enhance the working lives of theatre staff by making their working environment more efficient & well ordered
- To make continuous improvement part of everyday working culture and sustain the improvements achieved by developing more effective team working and leadership

The Productive Operating Theatre: The four dimensions

Patient's experience
& outcomes

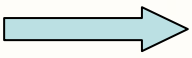


Team performance
& leadership

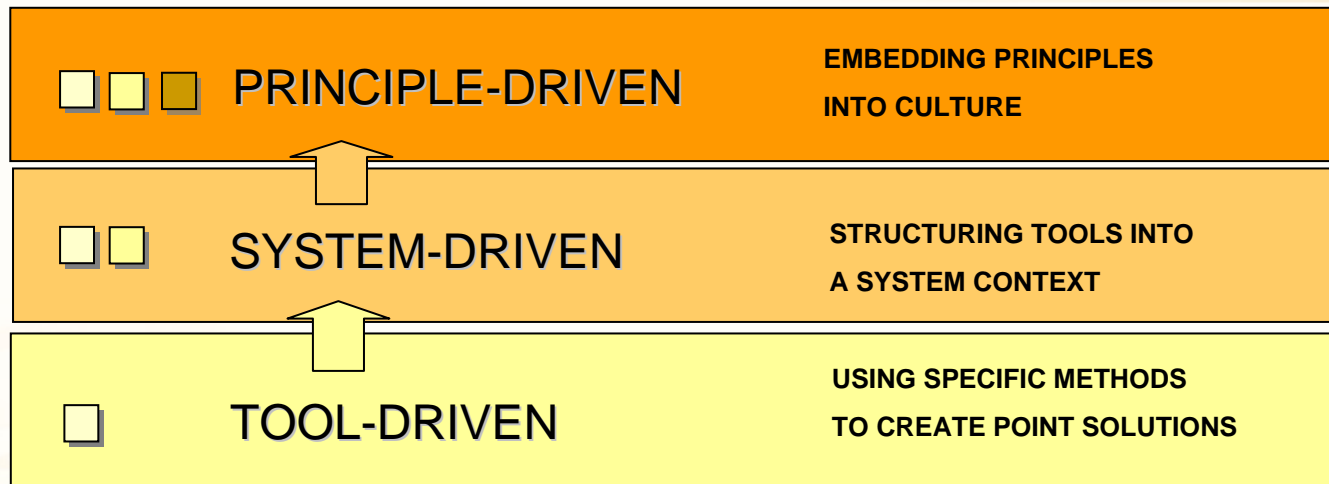
Reliability &
safety of care

Value

TMI Learning from work with RD&E (and elsewhere)

- Importance of leadership / profile
- Lean vs RD&E way  hybrid
- Co-ordinating function
- NHS Culture and pace of change (slow.....)
- The support necessary to ensure sustainability for improvement (in Manufacturing environments this is often a given)
- There are some very good and supportive individuals and we should support them in their development.

SHINGO – LEVELS OF TRANSFORMATION



Opportunities (for the future)

- Medium term resourcing.
- Lean Leadership.
- Organisational understanding.
- Organisational commitment.
- Comfortable with principles To look at the bigger picture first and identify focus areas for next round of improvements.
- Establish a clear internal support structure for lean Implementation.

(Next steps.....??)

- Force field analysis
- Exec Team – ensure understanding
- How to do this? (We know what we'd like to do!)
- Incorporate Lean thinking into the culture Visit another organisation – further on than us!