

**“What you measure is  
what you get”**

## **Evaluating the Impact of Lean**

**David Fillingham, Chief Executive  
2<sup>nd</sup> October 2006**

- The Bolton Lean Journey
- The importance of measurement
- Difficulties with measurement
- The Bolton “balanced scorecard”
- Some early results
- What we have learned



# The Bolton Lean Journey

- Began on lean journey only in August 2005
- Since then 450 staff involved in Rapid Improvement Events and double this in awareness raising and other activities
- Significant early successes in trauma, pathology, radiology, laundry, A&E
- Five year strategy for 'lean' agreed as vehicle for organisational transformation
- Recent visit to Thedacare (USA) shows distance yet to travel

# The Importance of Measurement

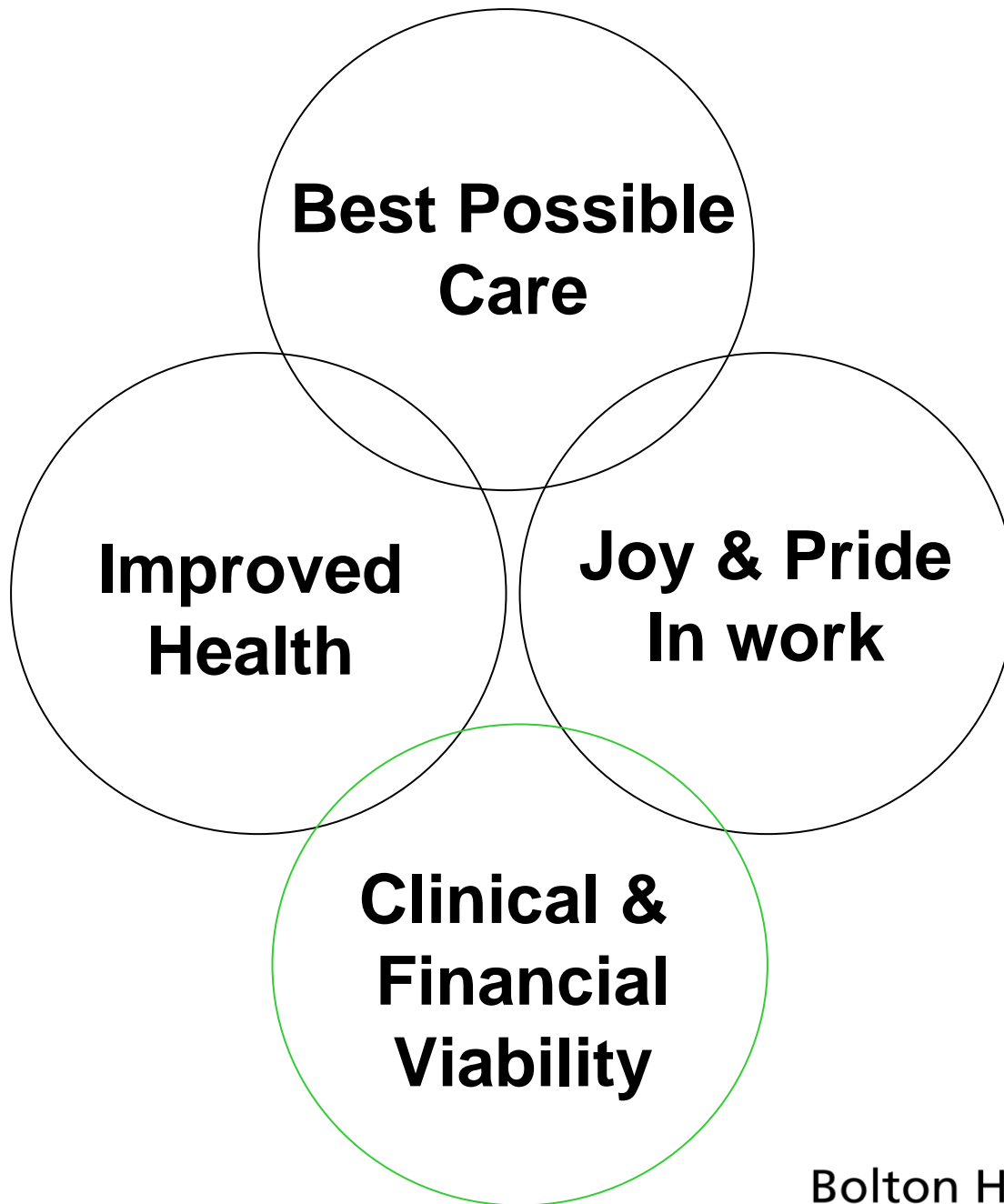
- Understanding when a change is an improvement
- Understanding what works and what doesn't
- Building support and momentum for change
- Avoiding “happy dabbling by enthusiastic amateurs”
- Focuses effort and resources

# The Difficulties of Measurement

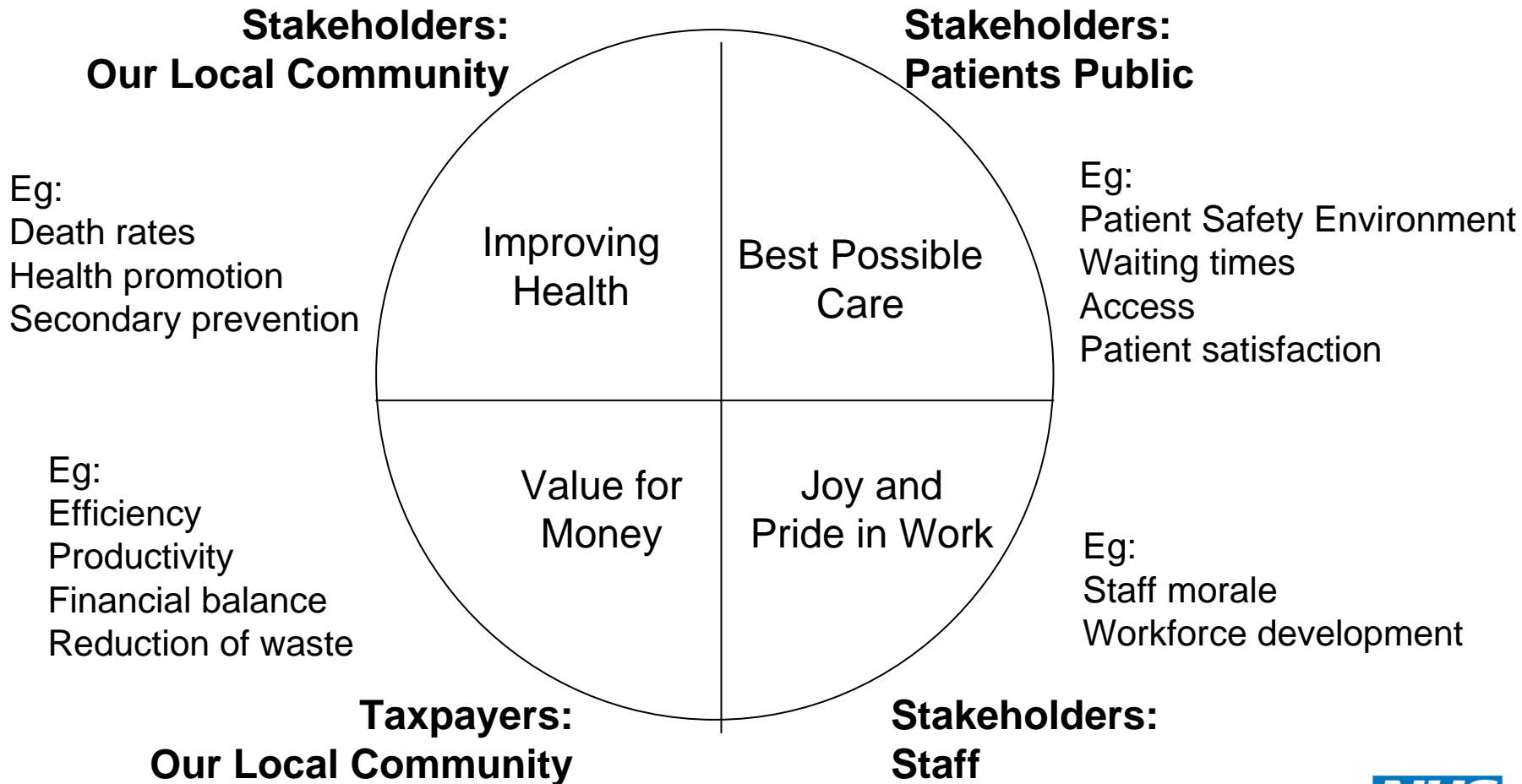
- Data and information illiteracy in the NHS
- Choosing the wrong measures and “gaming”
- Scientific method versus “pragmatic science”
- Translating “lean” data (e.g. steps, flow versus touch time) and measures (Quantity, Cost, Delivery, Morale) into an NHS ‘bottom line’

# Bolton's Vision and Aims





# The Bolton Balanced Scorecard



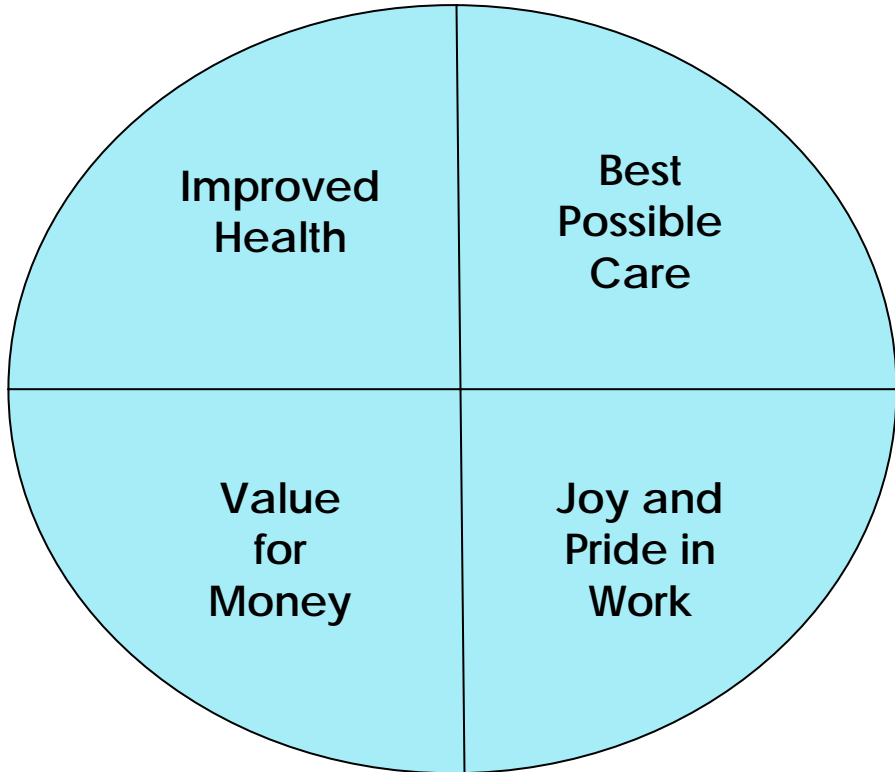
# **Our Aim is to Evaluate Improvement Efforts:-**

- By project/Rapid Improvement Event
- By Value Stream (end to end)
- For Teams, Departments and Divisions
- For the Trust as a whole

# Lean Workstream: Orthopaedic Trauma Pathway

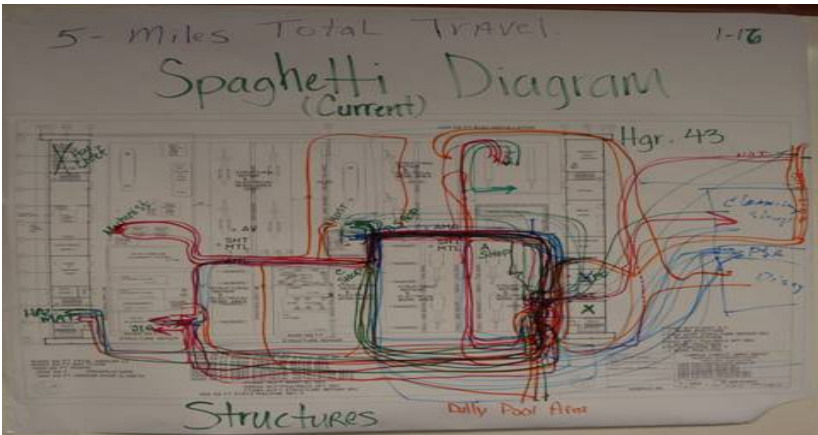
- Time to Theatre reduced by 30%
- Reduced 30-day mortality for # NoF by 37%

- LoS reduced by 32%
- 6S – value of drugs returned £923.33, plus 40 items of IV fluids

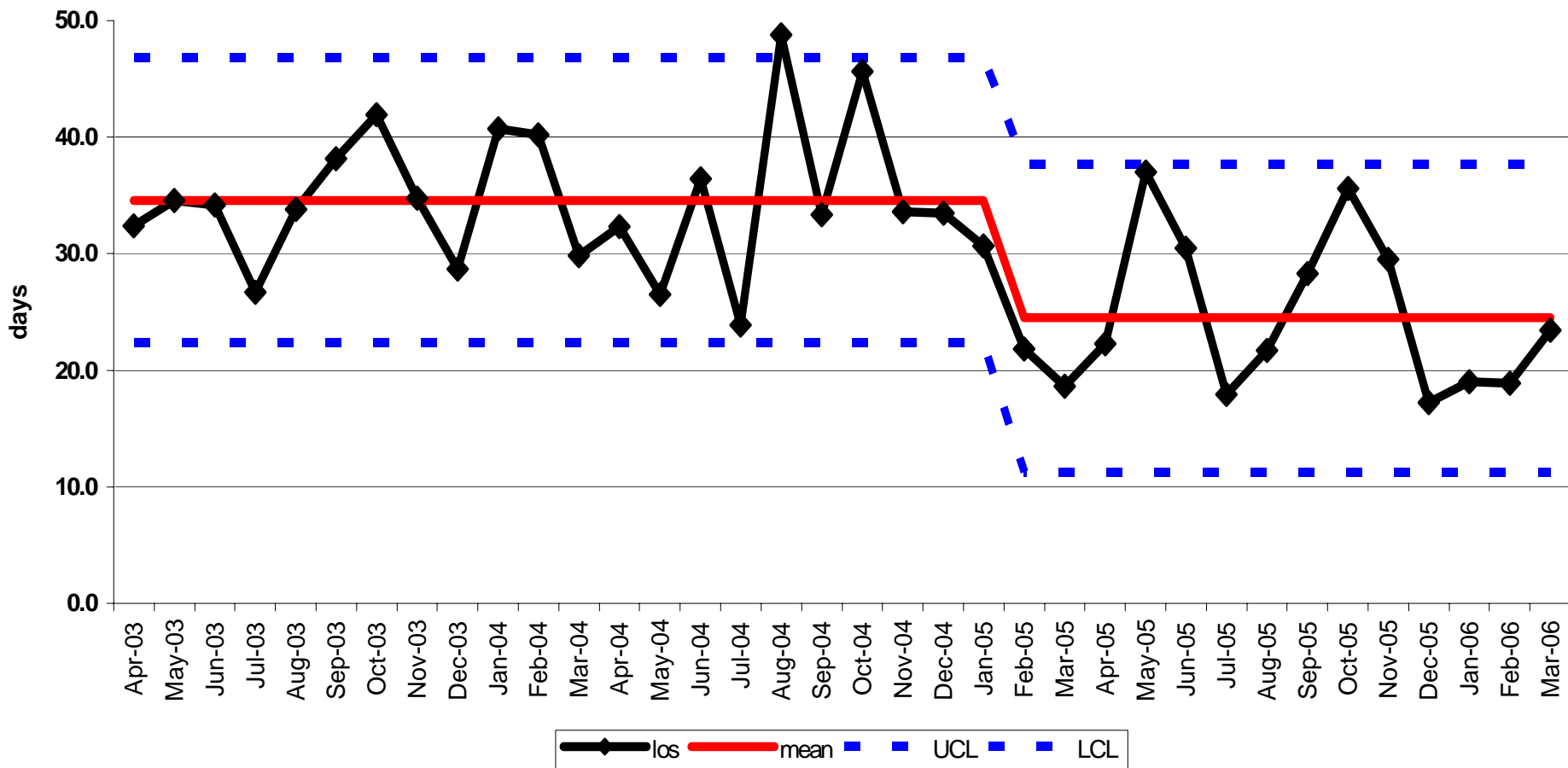


- Specialist care now provided in high dependency environment
- Increased Ortho-Geriatrician input (125%)

- Reduced documentation and hand-offs from 144 to 83
- Reduced paperwork by 42%

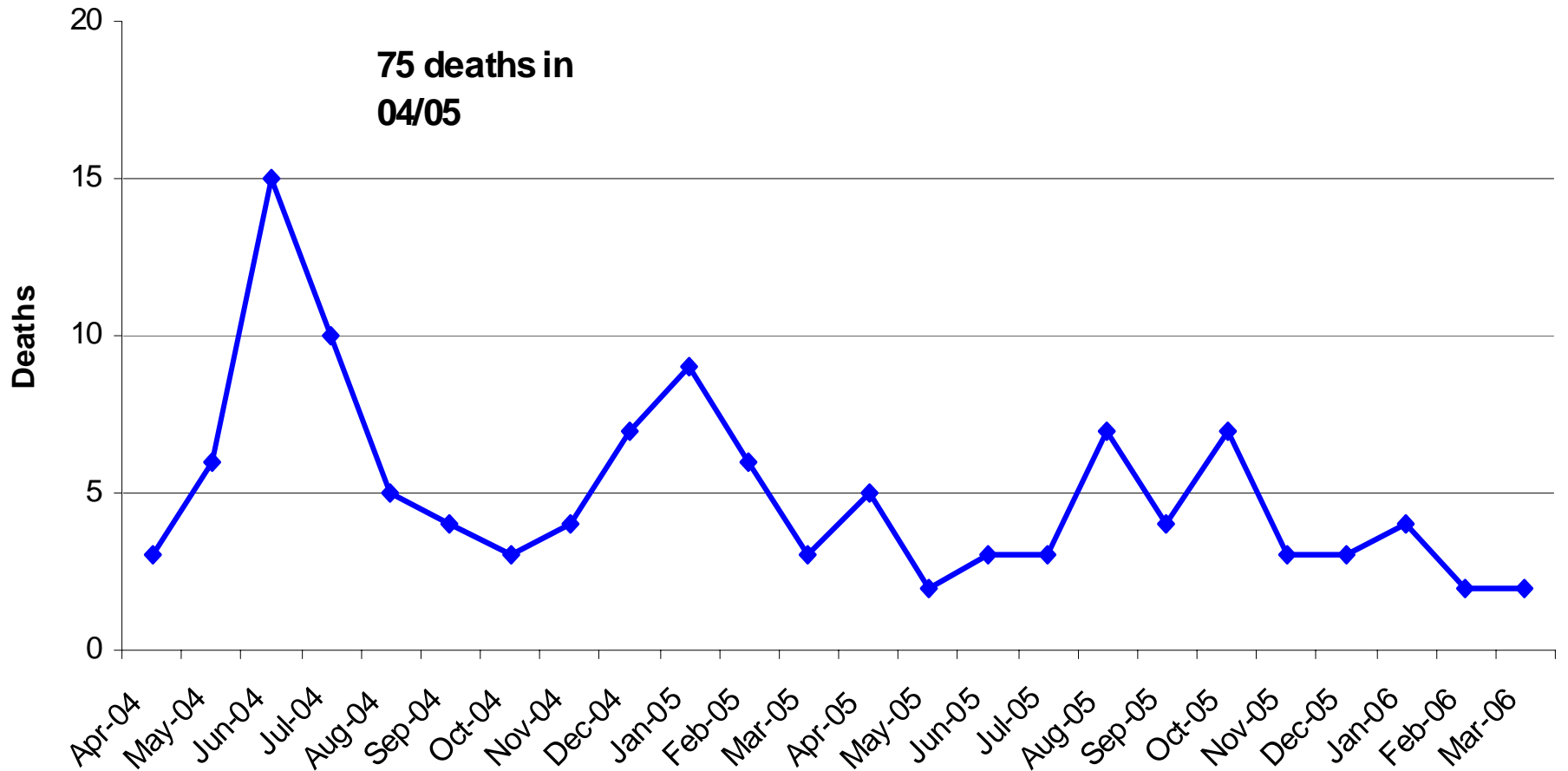


Average Hospital LOS for Fractured Neck of Femur  
April 2003 to March 2006



# Deaths of patients with a presenting diagnosis of fractured neck of femur 2004/5 v 2005/6

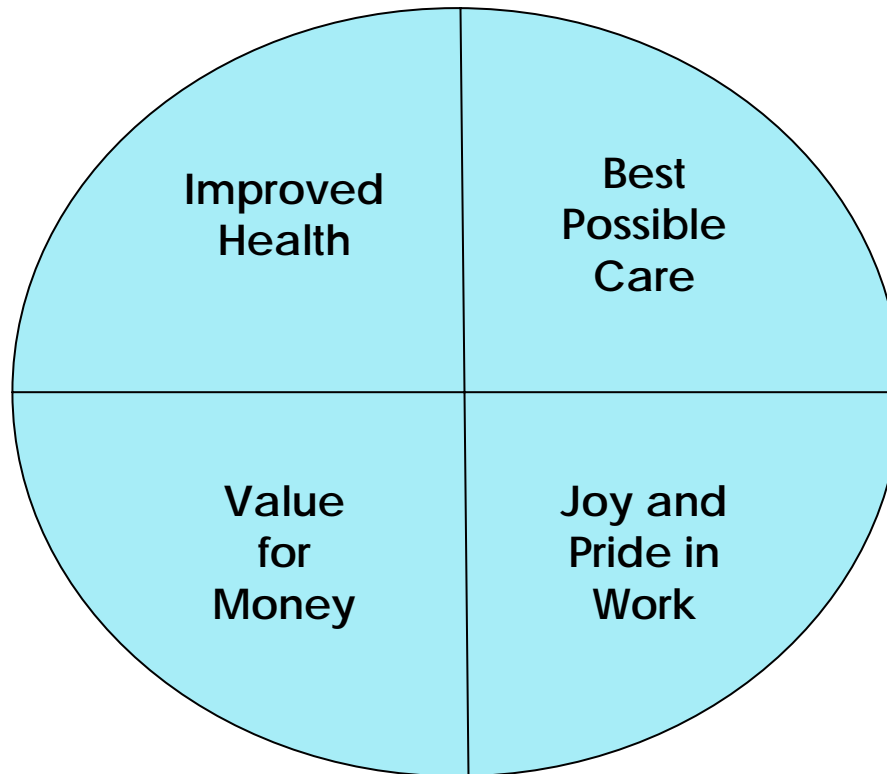
75 deaths in  
04/05



## Lean Workstream: 6S in A&E

- Faster response times
- Fewer adverse incidents

- Value of stock returned £2,500



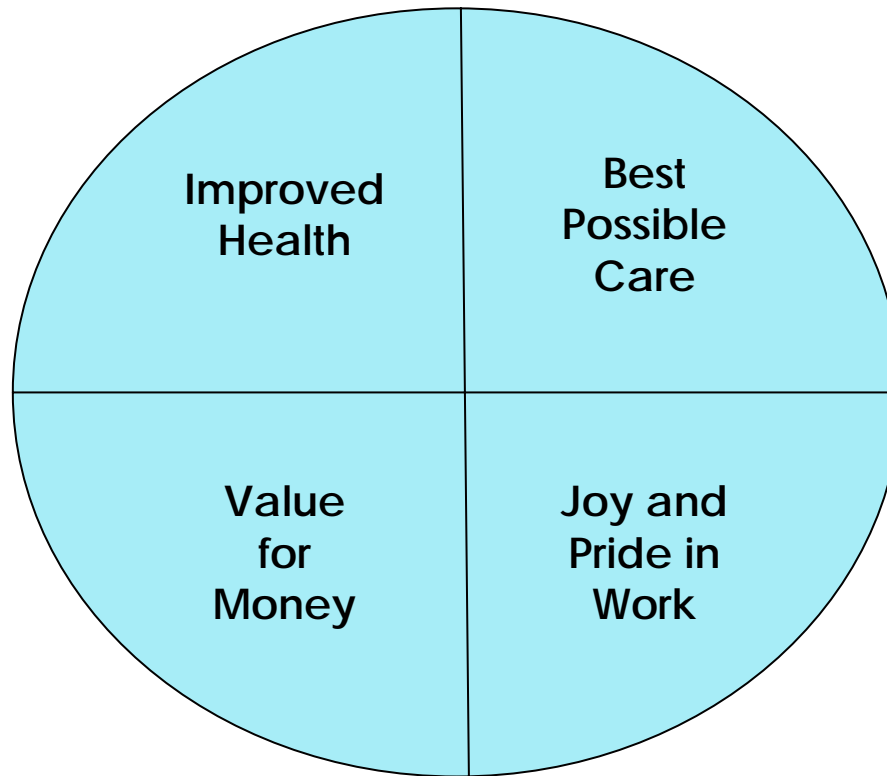
- Improved confidentiality of patient information
- Greater patient confidence instilled by orderly environment

- Reduced staff walking looking for equipment/ documentation/ drugs etc
- Improved hand-over for Ambulance staff
- Improved working between A&E and Anaesthetics staff



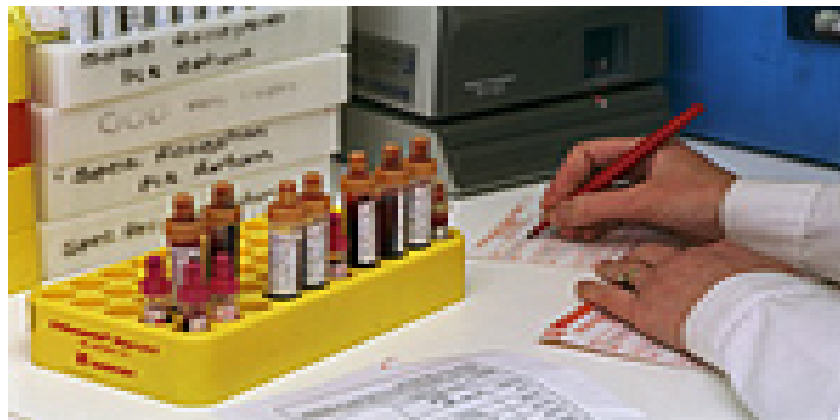
- Improved response to clinicians in primary and secondary care

- Reduction in floor space – 50%
- Reduced man-hours – non-value adding steps
- Optimise usage of new equipment in work flow



- Routine sample processing time reduced from average of 5 hours to less than 60 minutes
- GP sample processing reduced from 16 hours to less than 60 minutes

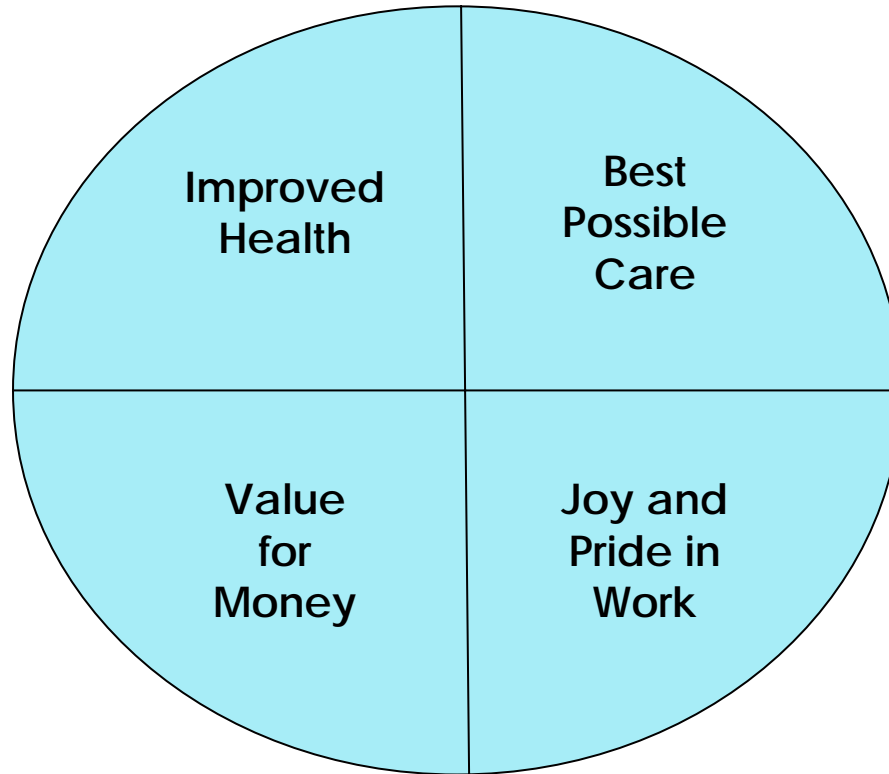
- Staff involved in future state planning
- 6S created a better working environment designed for flow



## Lean Workstream: Radiology (Plain Film)

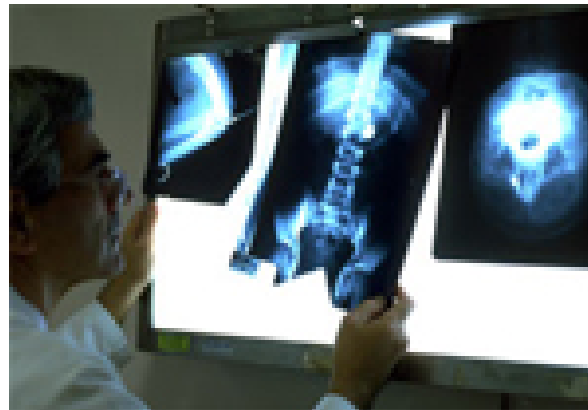
- Clearance of film backlog and maintenance of throughput - reduced clinical risk

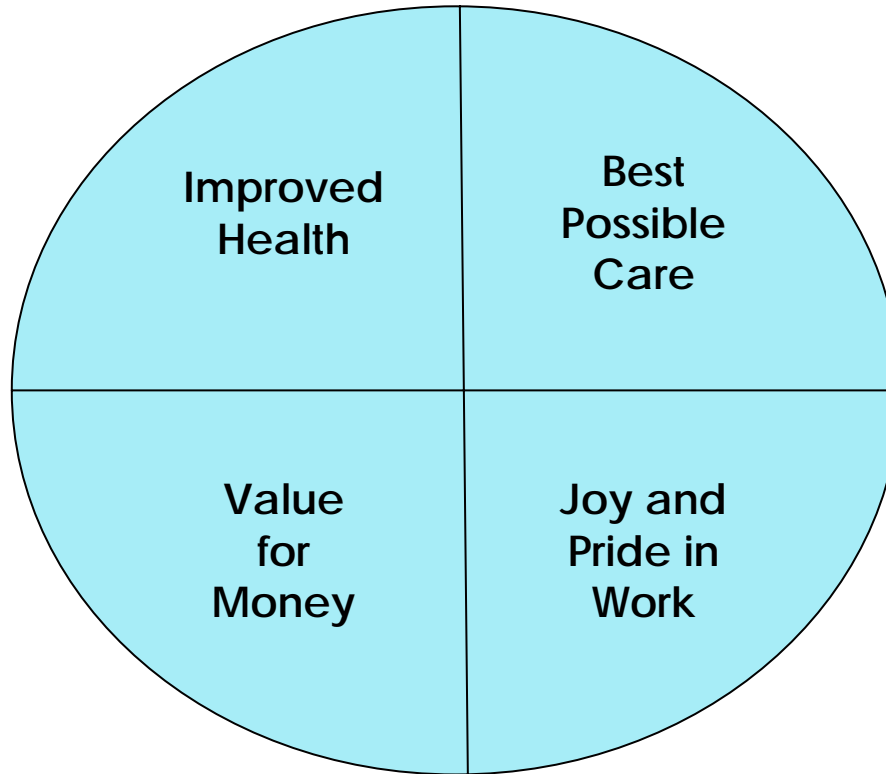
- Reduced the time wasted searching for, transporting and matching films



- On-the-day reporting of "hot" and urgent films
- GP film reporting reduced from 5-7 weeks to average of 10 days

- Control Board in place to indicate when staffing capacity is stretched
- Workplace organised for flow
- Staff involved in planning the redesign
- Improved teamwork amongst staff





- Improved availability of products to customers (in-house and external)

- Floor space required reduced by 35% (commercial "sort" cell)
- Overall capacity increase (when redesign complete) 25% (equivalent to £300k income)

- Involvement of team in redesign and service and work environment
- More variety in routine tasks – multi-tasking
- Improved health and safety
- In-house service successful tender – jobs secured and potential



# Programme Managing our Lean Benefits Realisation

PROGRESS UPDATE PERIOD ENDING:

31st AUGUST 2006

Key (Copy & Paste)

On target Slight Delay Off track

Measurement Headings:

Best Possible Care = BPC Improving Health = IH Joy & Pride = J&P Value for Money = VFM

Date	A3 Event Area	DGM	Owner	Measures					Cost Measures			Running total ££	Action/Comment	Progress Smiley			
				Measurement Heading (BPC; IH; J&P; VFM)	Measure	Baseline	Target	Actual	Cost/Quantity/B	Target/Reduction	Actual						
<b>Diagnostics</b>																	
Oct/Nov 05	Pathology Blood Sciences	Andrew Cogan	David Hamer/David Slater/Peter Gray	VFM	Reduced floor space	Reduction by 50%	Reduction by 50%							No need for new build £500K+, actual expenditure £40K			
				BPC	Decrease process time for urgent samples	<1 hr	<1hr	<1hr							Target 25%, actual 24% All data in process of being re - collected		
				BPC	Decrease process time for routine samples	Between <1 hr - 24 hr for GP samples	<1 hr all samples									Target 25%, actual 82%	
				VFM	Decrease steps for van driver	2462 steps/run	57 steps/run									Reduce by 97%	
				VFM	Reduce steps for analysis of routine bloods	309	57	82%								Reduce by 82%	
Dec-05	Pathology	Andrew Cogan	David Hamer/David Slater/Peter Gray	VFM/IH	Reduce NVA steps for cross match	323	69							Reduce by 79% Planning stage			
				VFM	Reduce NVA steps for group & save	95	7								Reduce by 91%		
				VFM	Reduce NVA steps for antibodies	111	30								Reduce by 73%		
				VFM	Reduce NVA steps for stock blood fridge	160	50								Reduce by 70%		
Feb-06	Pharmacy	Andrew Cogan	Christine Lowe	J&P	Decrease NVA steps formini bags plus									Reduce by 25%			
					Reduce NVA staff time							saved per week			Time used up in additional QC checks		
					Reduce NVA process steps	10 steps		6 steps									
					Reduce steps travelled by staff	257		157								Reduced by 100 steps	

# Things I wish we'd done better and/or sooner.....

- Be clear about measurable goals at outset of any 'lean' initiative
- Link measurement of lean to line management goals and targets
- Be tough on people about collecting and using appropriate data
- Recognise that a failure to deliver the expected improvement is an opportunity for invaluable learning
- Develop a tool for measuring impact of 'lean' on staff attitudes and morale

**“In God we Trust. For everything else, show me the numbers”.**