

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

Evaluating the Impact of Lean

**David Fillingham, Chief Executive
2nd 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

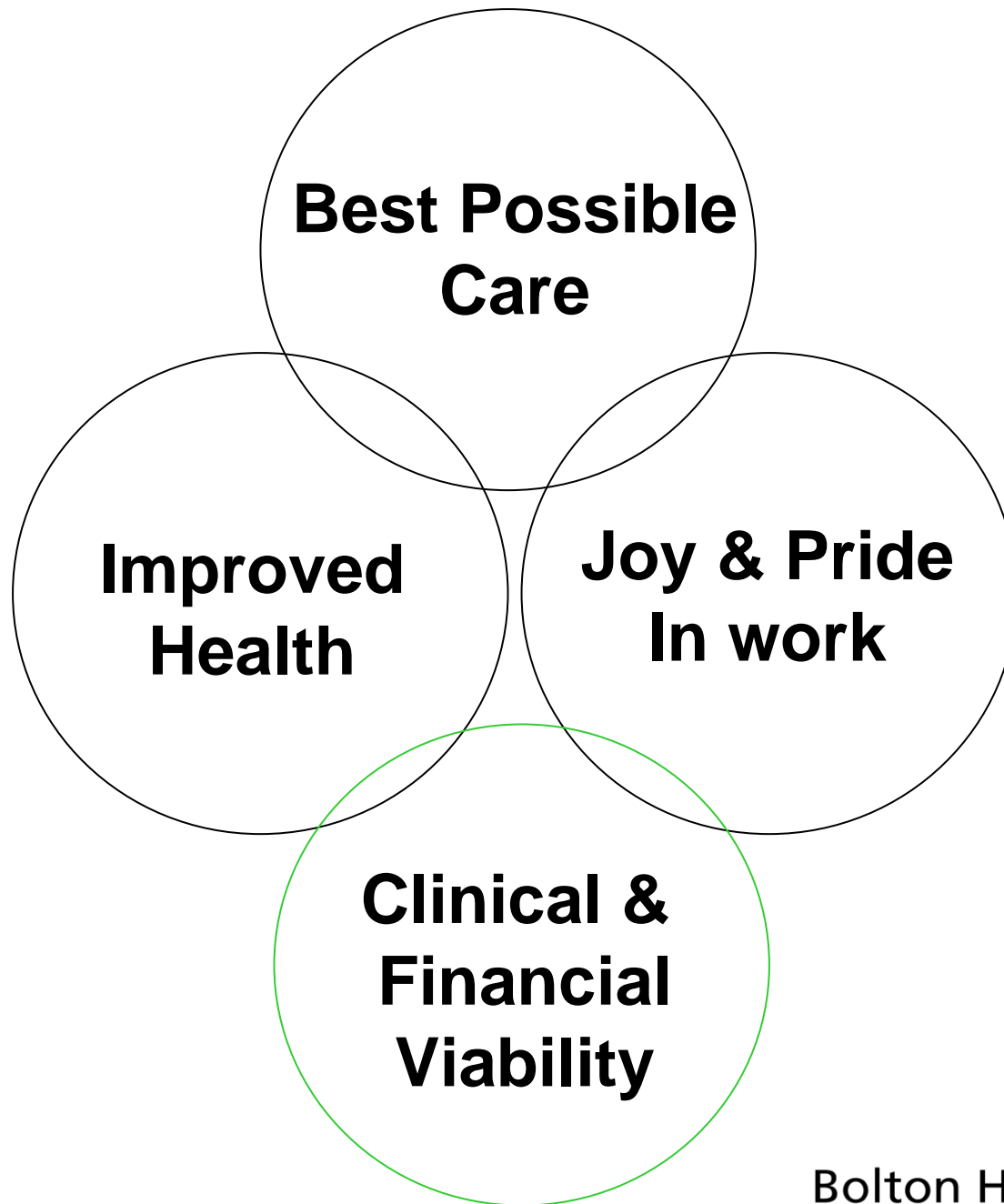
- Understanding when a change is an improvement
- Understanding what works and what doesn't
- Building support and momentum for change
- Avoiding “happy dabbling by enthusiastic amateurs”
- Focuses effort and resources

The Difficulties of Measurement

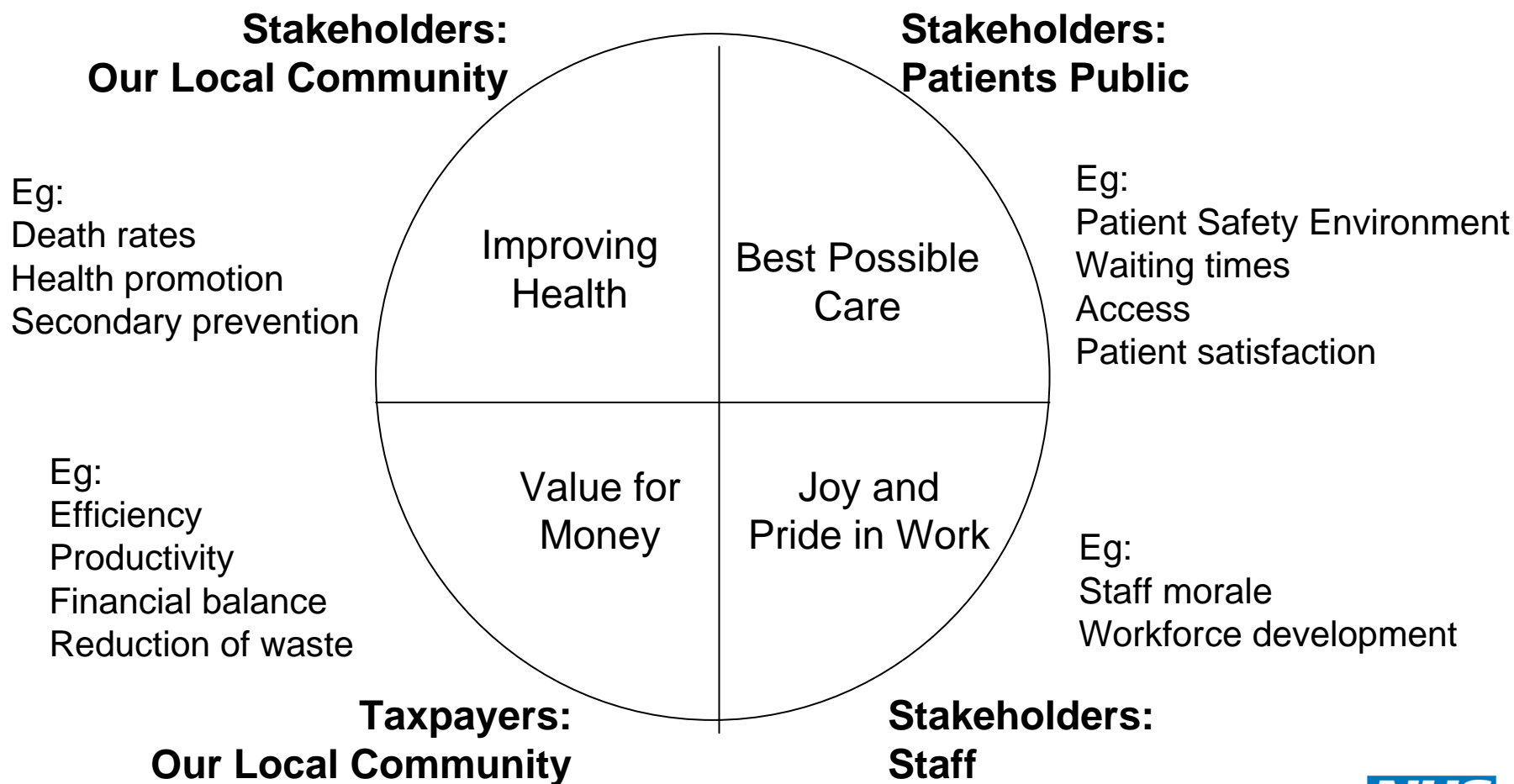
- Data and information illiteracy in the NHS
- Choosing the wrong measures and “gaming”
- Scientific method versus “pragmatic science”
- Translating “lean” data (e.g. steps, flow versus touch time) and measures (Quantity, Cost, Delivery, Morale) into an NHS ‘bottom line’

Bolton's Vision and Aims





The Bolton Balanced Scorecard



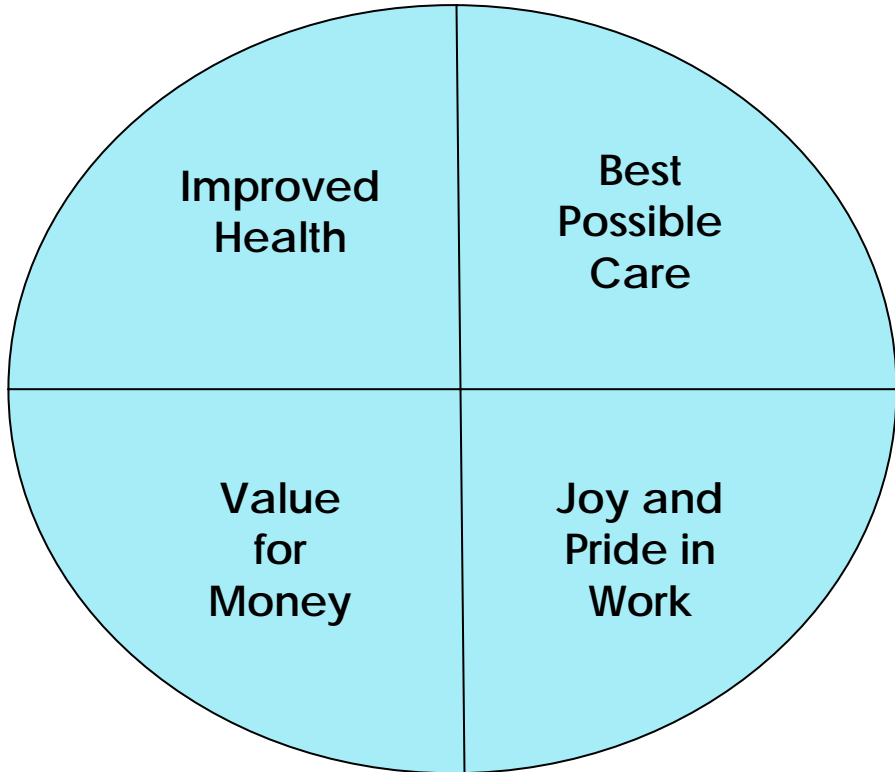
Our Aim is to Evaluate Improvement Efforts:-

- 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

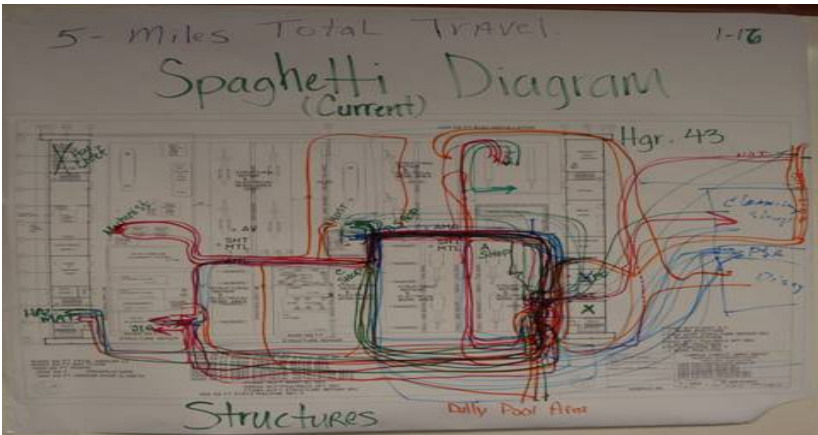
- Time to Theatre reduced by 30%
- Reduced 30-day mortality for # NoF by 37%

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

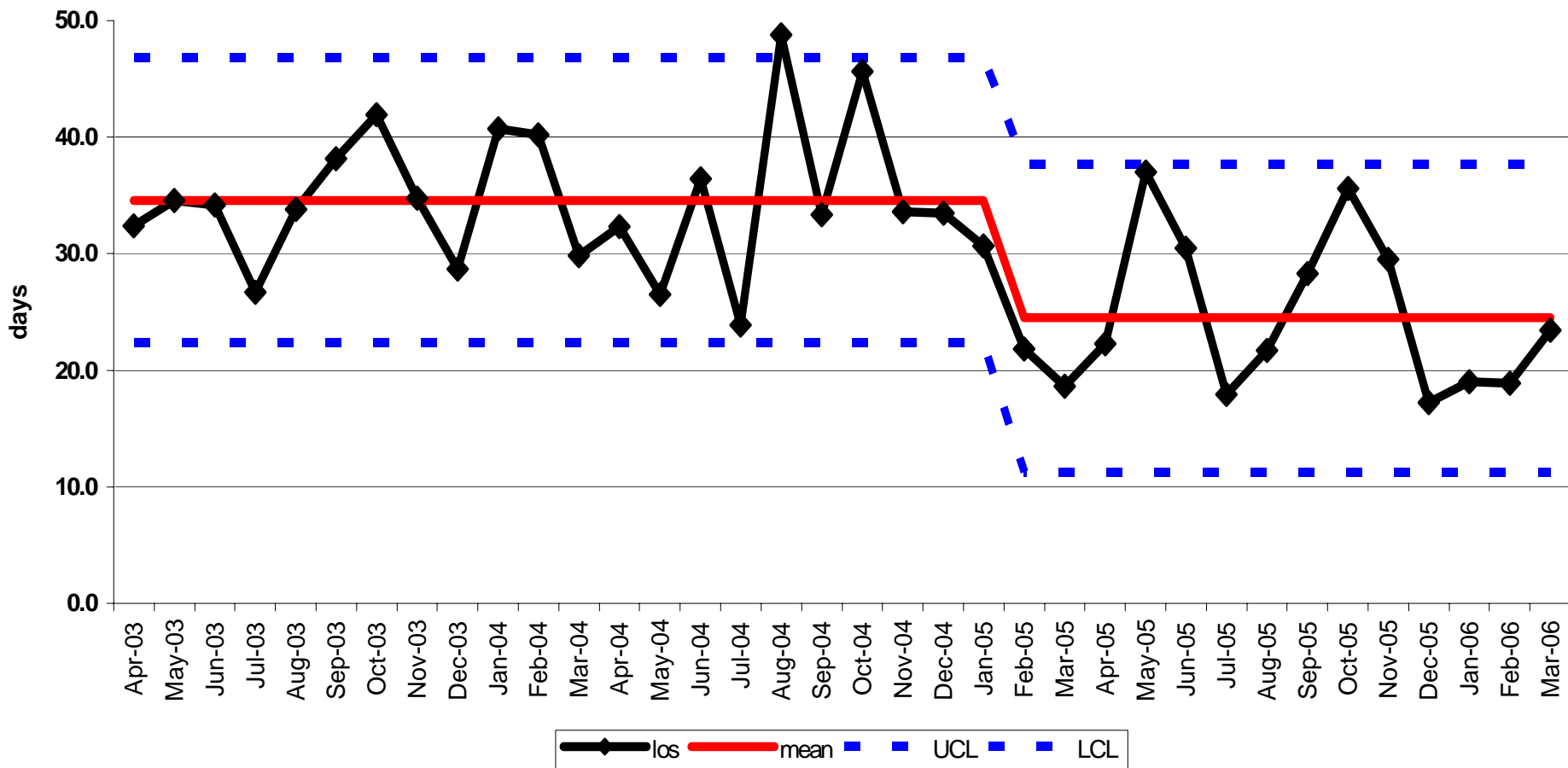


- Specialist care now provided in high dependency environment
- Increased Ortho-Geriatrician input (125%)

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

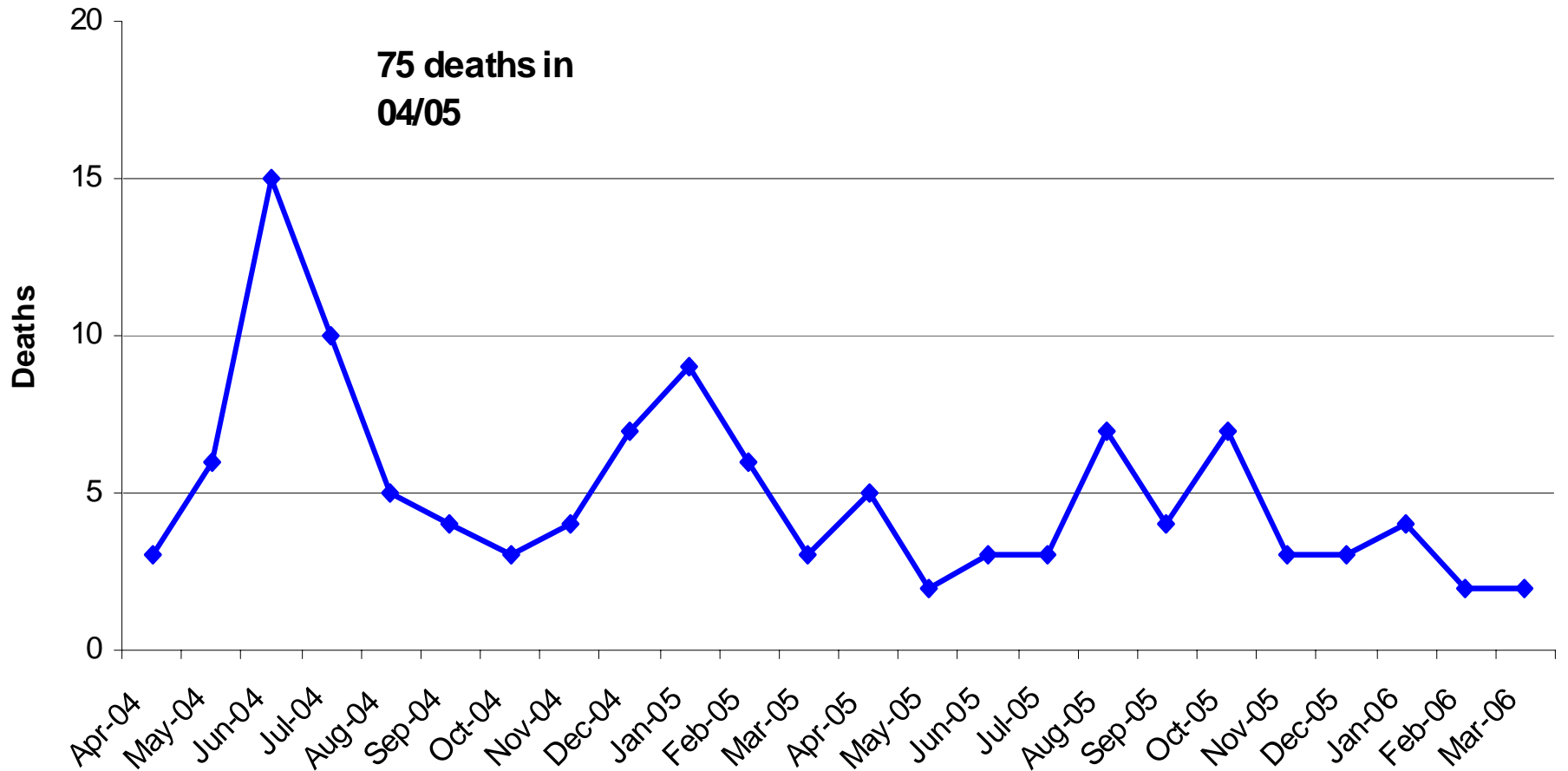


Average Hospital LOS for Fractured Neck of Femur
April 2003 to March 2006



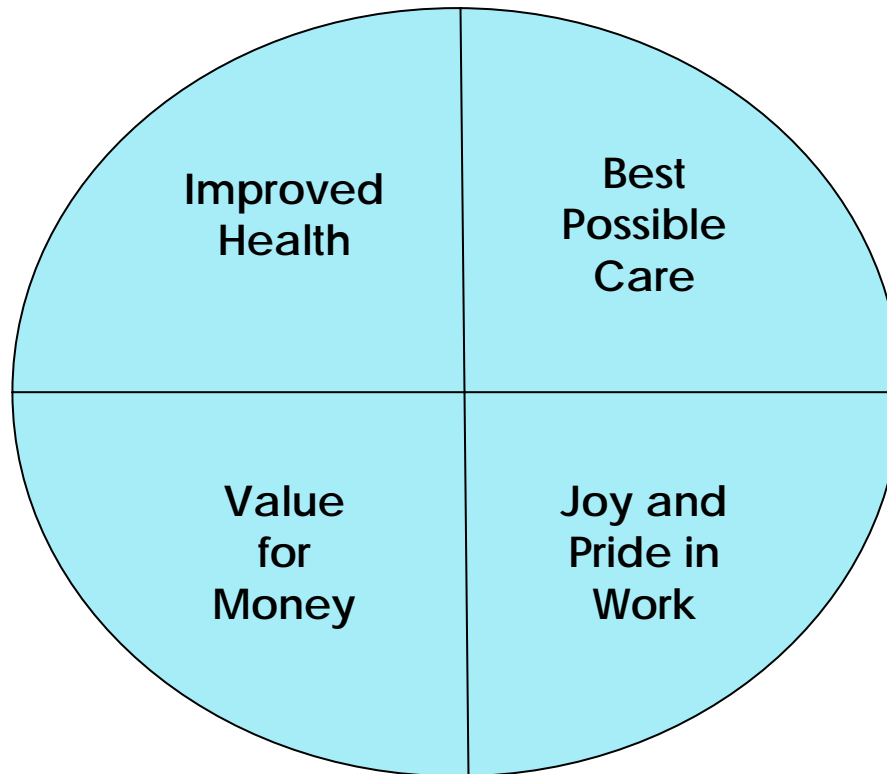
Deaths of patients with a presenting diagnosis of fractured neck of femur 2004/5 v 2005/6

75 deaths in
04/05



Lean Workstream: 6S in A&E

- Faster response times
- Fewer adverse incidents



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

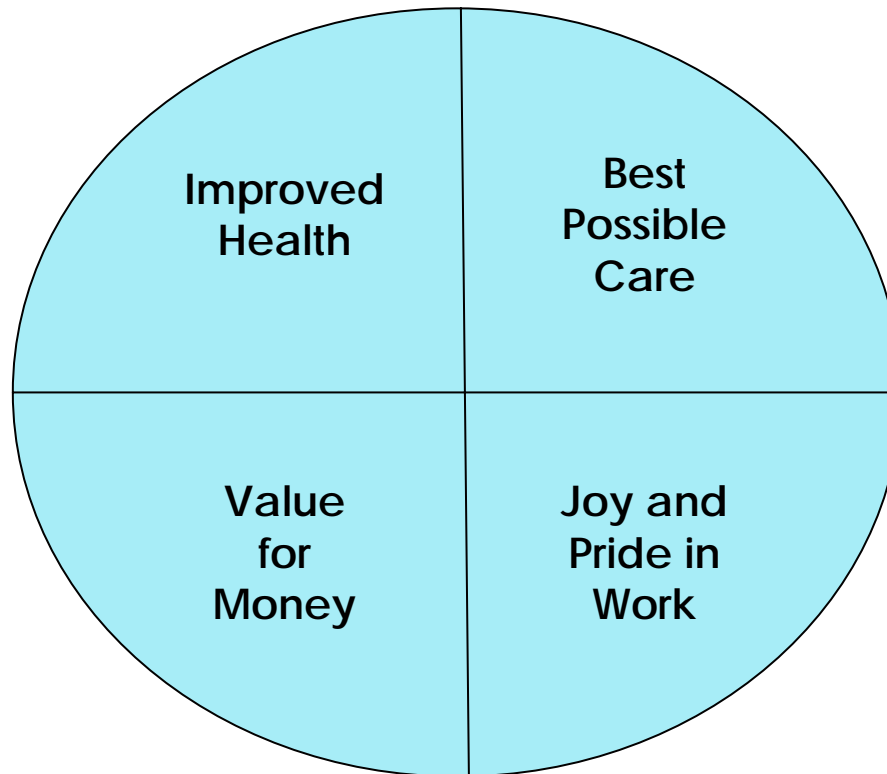
- Value of stock returned £2,500

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



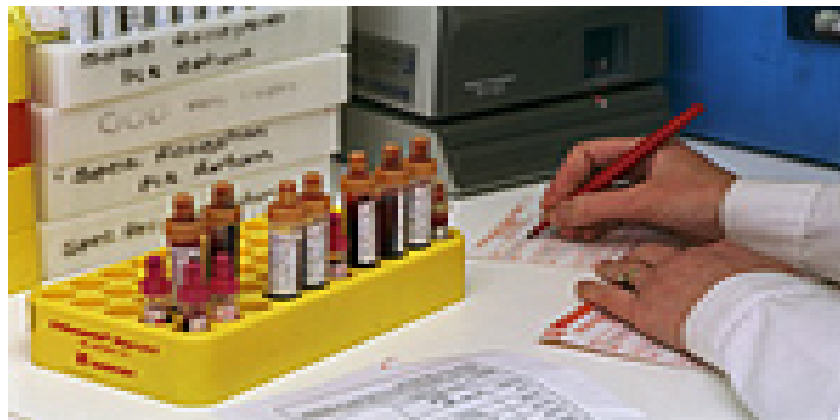
- Improved response to clinicians in primary and secondary care

- 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

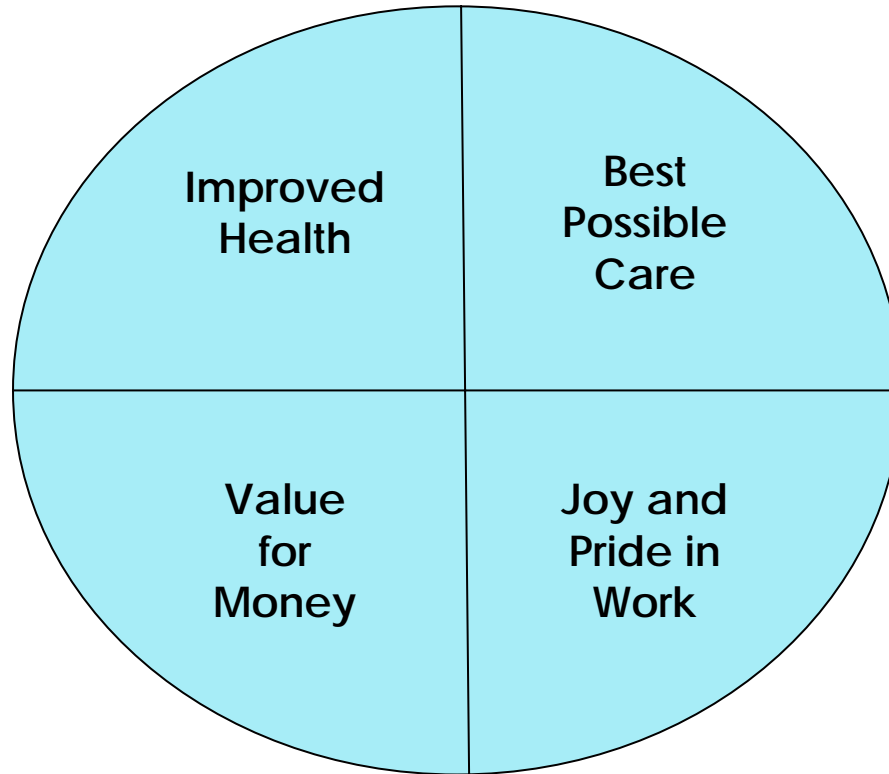
- Staff involved in future state planning
- 6S created a better working environment designed for flow



Lean Workstream: Radiology (Plain Film)

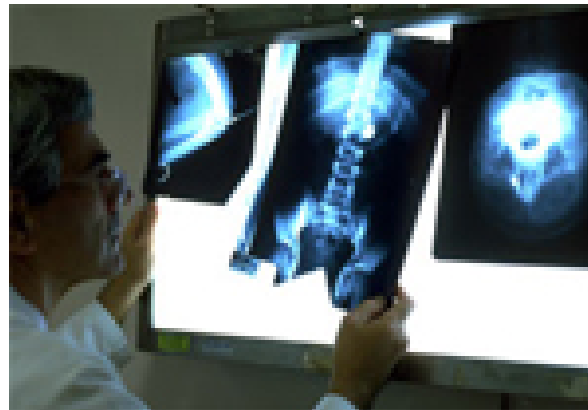
- Clearance of film backlog and maintenance of throughput - reduced clinical risk

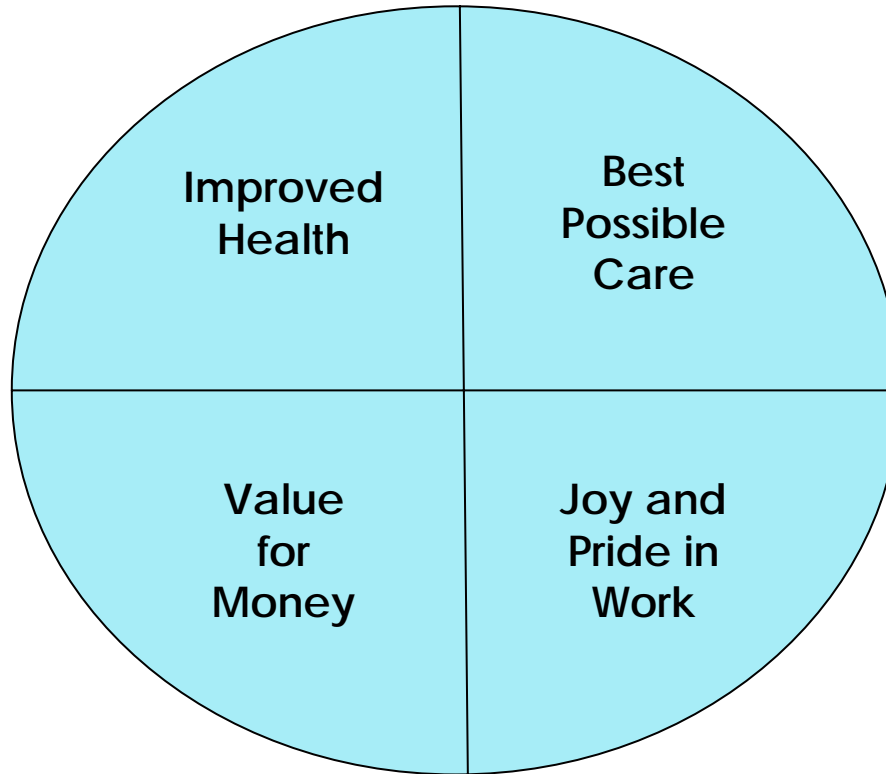
- Reduced the time wasted searching for, transporting and matching films



- 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						
Diagnostics																	
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”.