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Combining Lean Methods with Activity-Based Costing
to Target Major Gains
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UK Geographic Location Population Served

North Middlesex University Hospital
1 acute site, 1 mental health site, 40 physicians offices, another 80 shared



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Who are we!

- We serve 500,000 people in our area.
- We have 160+ languages in the community.
- Did 3.2M tests (not billables) in Clinical Biochemistry last year.
- We have no control on transport.
- We have no say in Budget setting, usually month 9 out turn.

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Why lean and activity based costing!

I have leaned the staff-

Got rid of 40% of them,

Heck how do I manage ISO 15189 and the
FD wants more this year!

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Lean and Activity based costing 2

Lean helps you understand the process.

Activity based costing helps you understand the business.

Cost and Value, they are the same!

Cost defines the unit price of an item

Value defines the worth of an item

When looking at cost we need to look at true cost

Chemistry Process



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Defining Value

We are rubbish at doing this in the NHS

Until we run out of money!!!!

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Quality as a marketing tool as well as cost avoidance.

To make real savings we need to look across silo's.

Offer a test in one area to improve the patient experience in another.

Value becomes important.

Patient experience is the new driver for the NHS.

Improving this gets business from outreach.

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So what!

We often make decisions based on unit price.

AUTOMATE AND SAVE

but do we?

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Process and hidden cost.

Understand the process effect of what you are doing.

Cutting 2 WTE by automation but spending \$250K on maintenance is not a saving.

Running every test on every bit of kit is process efficient but financial suicide.

True cost vs. easy measured cost

	Company A	Company B	Company C
<u>Direct Materials</u>			
Reagents	2.15	3.80	3.50
Consumables	1.80	1.15	1.42
Analyzer	1.25	0.00	1.75
Service	0.85	0.55	1.00
	<u>6.05</u>	<u>5.50</u>	<u>7.67</u>
<u>Activity Costs</u>			
Consumables preparation	1.35	1.75	0.67
Testing	0.85	1.87	0.82
Results validation	2.50	1.95	1.66
Maintenance	1.20	1.45	0.56
Waste handling	0.75	1.21	0.35
Supplies management	1.23	1.67	1.11
Sales contact	1.61	2.20	1.45
	<u>9.49</u>	<u>12.10</u>	<u>6.62</u>
Total	<u>15.54</u>	<u>17.60</u>	<u>14.29</u>

Improving value, decreasing cost

- If you buy automation and run the service just the same as before.....
- Pack it up and give it back

Remember

Automation of a poor process gives you an automated poor process, not a good process.

Mark Jamrog
Executive War College
New Orleans
May 2003

Low volume HIGH cost

We need to turn X around in 50 minutes, we get two a day.

Cost per test = kit price /theoretical tests

100 tests per kit \$100 kit. Therefore \$1 per test, charge \$2.50 for profit.

On two bits of kit so its always ready.

True cost

2 controls per day, 1 calibration per week, 2 tests a day.

1 machine 43.75% efficient

2 machines 28% efficient

Reimbursement \$109 on 1 machine

\$70 on 2.

This is without considering the rest of the activity around the process.

Some useful process management sound bites

Mark Jamrog again

You get what you deserve...

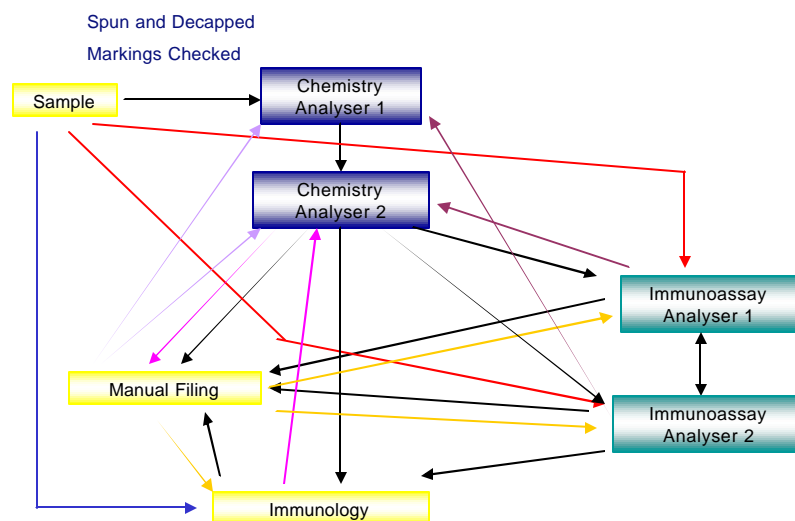
You deserve what you tolerate...

Leadership is the Key...

And mine

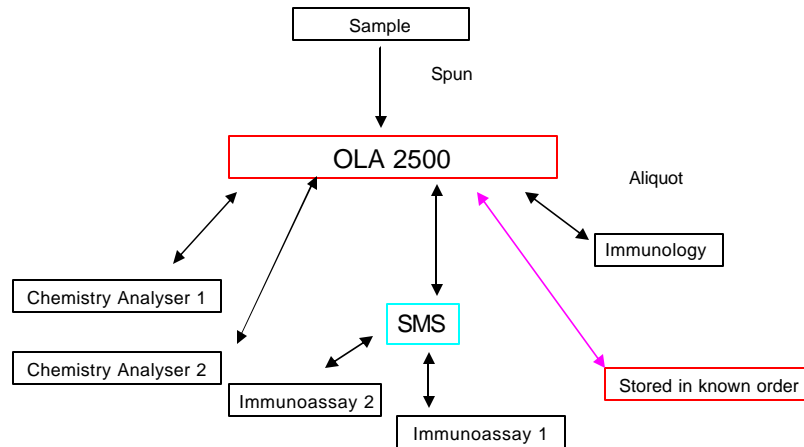
Be productive, not busy...

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The new process

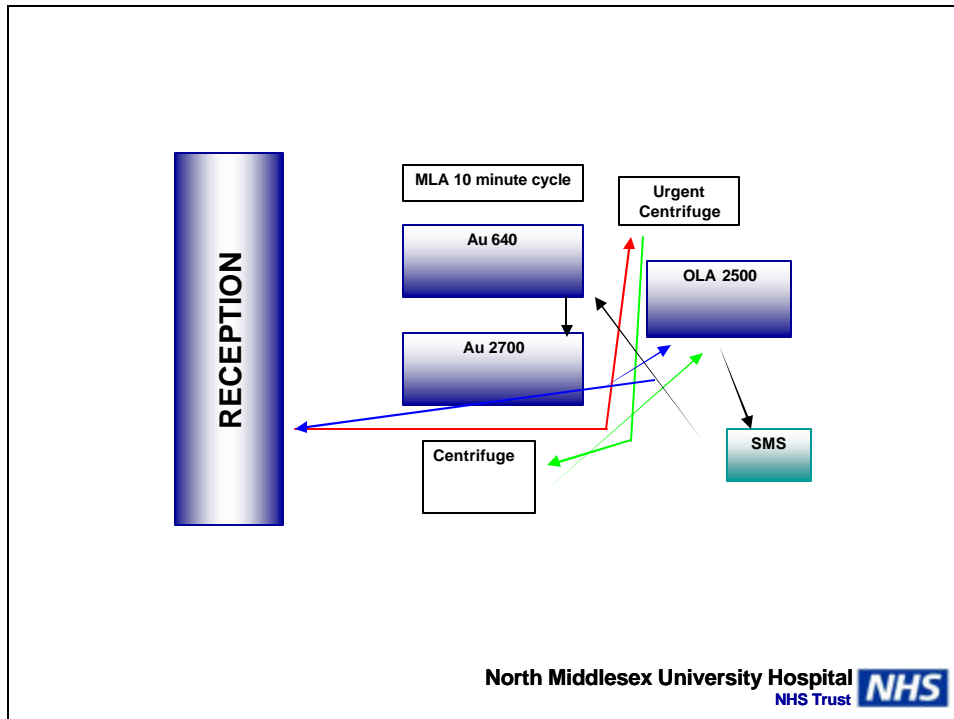


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Lean

- This was lean but what were my staff doing.
- ABC introduced to ensure people were using their time productively.

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Outcomes

- Has the automation and process change made us more efficient and offering a better quality service?
 - Urgent turn around time 45mins +/-10
 - Routine turn around time 55mins +/-10
- This is for standard chemistry.

ABC

Looks for Value

Holistic approach to process management

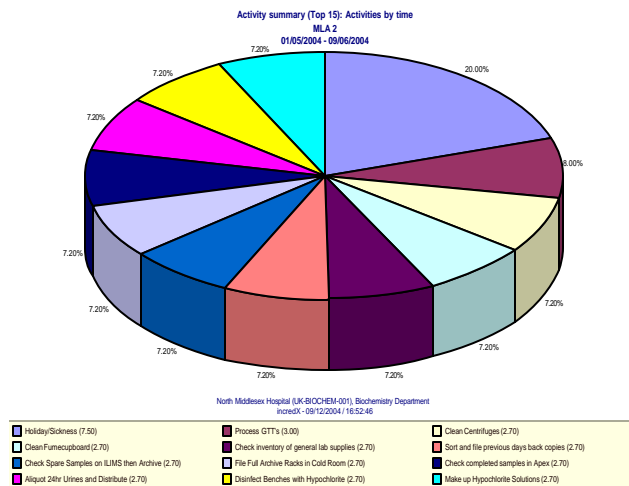
Defines activities in terms of business
sustaining and non business sustaining

Allows these activities to be reviewed for
appropriateness

We can lean the staff using this.

ABC analysis

- mla



ABC data collection

Job Timesheet - Weekly

Royal Victoria Hospital Belfast. (UK- IMM-001)
Immunology Department



Job/Activities Monday Tuesday Wednesday Thursday Friday

Clinical decisions (CD)

Authorising Patient Results (CD-01)					
Adding Comments to patient records					
Requesting Reflex Tests (CD-03)					
Telephone Calls to Referring Physician					

Unallocated (ZU)

Unallocated time (ZU-01)					
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Total Hours					
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ABC- Activity Based Costing

Value adding vs Business sustaining (Top 15)

24/05/2004 - 28/05/2004

Medical Laboratory Assistant (MLA)

MLA 1

Value added

Non-Business sustaining Business sustaining

Non-Value added

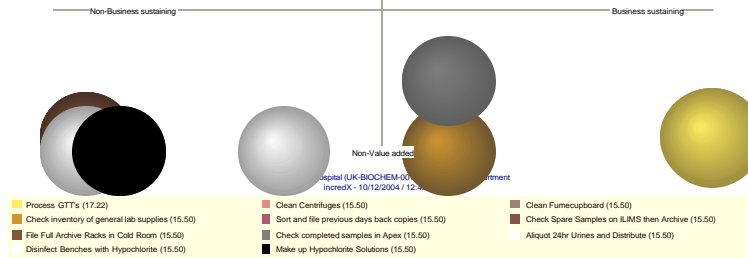
North Middlesex Hospital (UK-BIOCHEM-001), Biochemistry Department
incredX - 10/12/2004 / 12:42:26

- Centrifuging Routine Samples (75.35)
- Load/Un-Load AUs (43.06)
- Load/Un-Load OLA (32.29)
- Load/Un-Load SMS (21.53)
- Collect Samples from SR (21.53)
- Daily/Weekly OLA Maintenance (10.76)
- Centrifuging Urgent Samples (10.76)

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ABC- Activity Based Costing

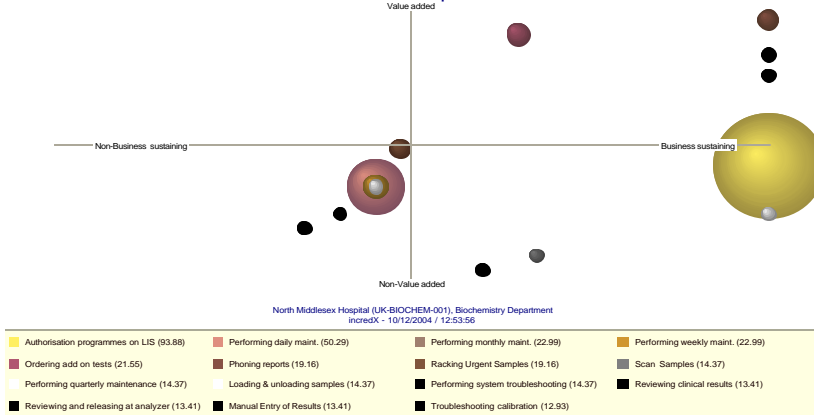
Value adding vs Business sustaining (Top 15)
24/05/2004 - 28/05/2004
Medical Laboratory Assistant (MLA)
MLA 2
Value added



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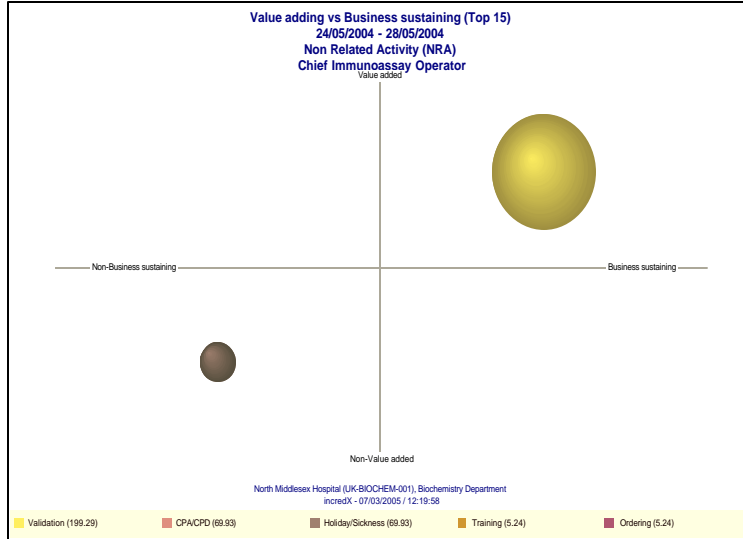
ABC- Activity Based Costing

Value adding vs Business sustaining (Top 15)
24/05/2004 - 28/05/2004
Olympus Operator (OLY-OP)
Senior Olympus Operator 1
Value added



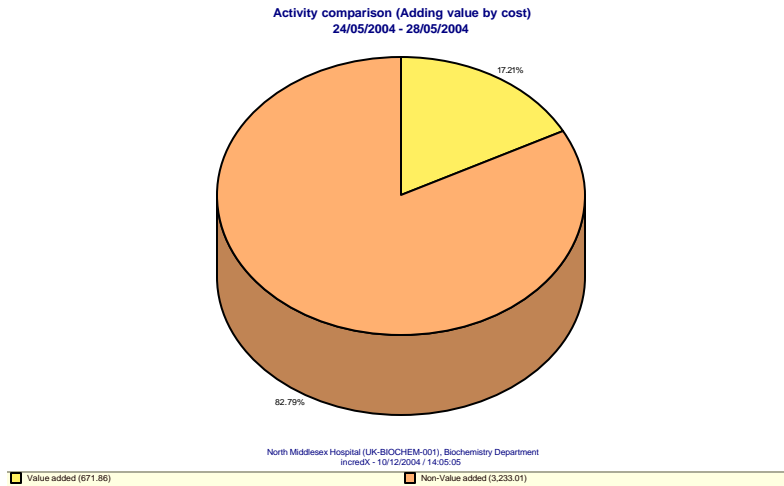
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ABC- Activity Based Costing



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ABC- Activity Based Costing



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What does this mean

- The ABC report has been done independently, we provided data.
- 17.2% value added was the highest score for any laboratory undertaking this scheme when we submitted the data.
- Our reagent efficiency for Immunoassay averaged 92.6% against a mean recommended of 80% and a UK average of 85%

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Summary of ABC

- The ABC report concluded that we used the appropriate grade of staff for the appropriate task, which gave us the high value added score.
- We leaned the staff by ensuring they did duties applicable to their grade.
- Remove the waste of inappropriate activity.

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Cost avoidance vs. savings

- Make a saving it is gone forever.
- RPI and workload increase cause a never ending downward spiral if this is how you look at finance.
- Baseline then look at cost avoidance- how much have I not spent by making service improvements.

Cost avoidance and Lean

Year	CPT without change	Actual CPT	Immunology CPT	Avoided cost
2000-1	£0.97	£0.97	N/A	0
2001-2	£1.00	£0.89	N/A	£236,757.50
2002-3	£1.03	£0.80	£15.11	£515,414.25
2003-4	£1.06	£0.54	£12.74	£1,310,481.12
2004-5	£1.09	£0.63	£5.85	£1,456,578
2005-6	£1.12	£0.63	£6.81	£1,426,126
2006-7	£1.15	£0.61	£11.65	£1,163,523

Conclusion

- No staff cuts, increase of 1 FTE for working time compliance.
- Workload 2000 = 1.9M tests 2007=3.2M tests.
- Combining Lean and ABC has resulting in a cost avoidance of £ 6,108,880 in 6 years.
- My pay/ non pay budget last year was £1,716,011
- I have given the trust over 3 years free pathology.
- We are ISO 15189 compliant (CPA).
- Any questions??