



Royal Bolton Hospital   
NHS Foundation Trust

# LEAN - A Basic Guide

**Produced by**  
**The BICS Team.**

"I never thought we could set up a Trauma Stabilisation Unit in a week". –

**Non-elective Orthopaedic Team**

"The Unit has already saved lives"

**Non-elective Orthopaedic Team update.**

How can it be so complex for what seems to be a simple procedure"

**Trauma Discharge Team**

"We thought that we understood what each other did, but we had no idea."

**Medical Discharge Team**

"Lean is not just about sustaining the changes – it is about continuous improvement – there is so much potential and opportunity even in just one office."

**Ante-natal Team**

"Working to demand makes flow smoother, reduces waste and stress on staff"

**Laundry Team**

"Over £2500 of un-needed stock was returned due to the 6s event in Resus."

**A&E Team**

## Why LEAN in Bolton Hospitals NHS Trust?



Bolton has a good track record in service improvement. It needs to continue to improve performance to address current pressures and deliver even better quality services for patients. There is a firm belief based on recent experiences that Lean can achieve this.

“I didn’t believe the power of Lean until I saw it with my own eyes.”

**Day Case Unit Team**

## What is Lean?

Lean is a management philosophy utilising a set of tools that can be applied across all activities of an organization.

Lean is guided by a set of principles that:

- defines the way we do things
- defines the way we think about improvement
- shapes the belief about what is possible

## Lean is based on two main themes:

1. The continuous removal of waste.
2. Respect for people and society.

### 1. What is waste (Muda)?

There are eight types of waste:

- **Injuries** – damage to people  
E.g. Stress
- **Defects** – “stuff” that is not right and needs fixing.  
E.g. A leaky tap
- **Inventory** – “stuff” waiting to be worked.  
E.g. Patients on a waiting list.
- **Overproduction** – too much “stuff”  
E.g. Making too much food for a party, or requesting unnecessary tests and X-rays.
- **Waiting** – people waiting for “stuff” to arrive.  
E.g. Waiting in for the gas man or patients waiting for a ward round.
- **Motion** – unnecessary human movement.  
E.g. Having to walk up and down the ward to obtain appropriate supplies.
- **Transportation** – moving “stuff”  
E.g. Moving patients from ward to ward.

- **Processing Waste** – “stuff” we have to do that doesn’t add value.  
E.g. Continuing to care for patients in hospital when they could be discharged.

## 2. What is Respect for People and Society?

It is about involving the people who do the work, or are affected by the work, listening to their ideas, enabling and empowering them to make the improvements.

### Lean is based on 5 key principles:

1. **Value** - Understand what the ‘customer’ perceives as value.
2. **Value Stream** – How ‘value’ is created and delivered to the customer.
3. **Flow**- Smooth the journey, remove all barriers and interruptions to deliver ‘value’.
4. **Pull** – Linked to the value stream processes and is triggered on demand from the customer.
5. **Perfection** – Continuous improvement.

## 1. What is Value?

Value can be anything that the ‘customer’ perceives to be important to them. For example: What do you value when getting your hair cut? (cost, time, surroundings, quality). How much would you expect to pay? (£5 or £75). What would you expect to get? (15 minute appointment with no fuss or 1 hour with coffee, magazines and calm music?)

“That was excellent. I’m going to tell the Manchester Evening News”

## Patient using the new Orthopaedic Pre-operative Assessment Service

## 2. What is a Value Stream?

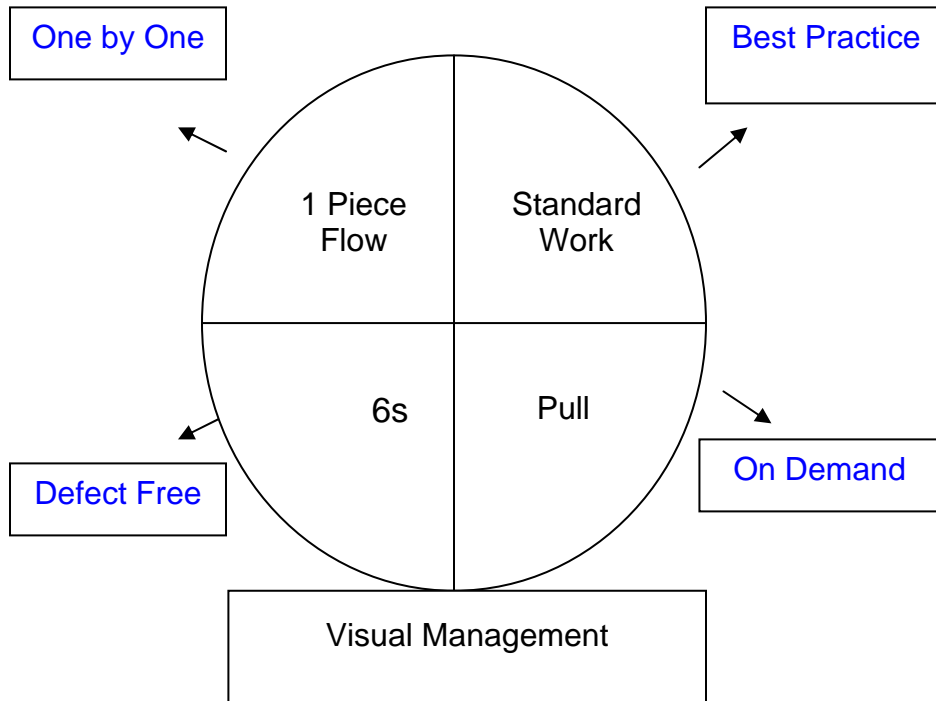
A Value Stream is how we deliver our work from start to finish. It is how we deliver ‘value’ to the customer.

The work that we do comes under 3 categories:

	<b>Example: Air Travel</b>	<b>Example: Patient with a Hernia</b>
<b>Value Added</b> – any activity that directly contributes to satisfying the needs of the customer.	Actually flying	Having the operation
<b>Non Value Added</b> – any activity that uses time or resources but does not directly contribute to satisfying the needs of the customer.	Waiting to check in.	Waiting for the operation
<b>Essential but Non Value Added</b> –Any activity that does not add value to the customer, but is required to the deliver the product / service to the customer	Security Checks	Cleaning the theatre

### 3&4 What is Flow and Pull?

There are numerous lean tools to create a system that flows



“I have learnt a completely new approach to planning patient care.”

**Trauma Discharge Team**

**1 piece flow** – means you have put the value-adding steps in sequence, no piles, no waiting, continuous flow.

<p><b>What it is....</b>                  Subway Sandwiches – makes your sandwich fresh, one at a time and fills it by “flowing” your sandwich along the counter. Staff move very little.</p>	<p><b>What it is not...</b>                  McDonalds – most hamburgers are pre-made in batches and kept warm. Staff have to run around between the burgers, fries and drinks.</p>
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“The distance travelled in steps to process blood samples from GPs will reduce from over 2000 to 53 steps by creating flow with Lean.”

**Pathology Team**

**Standard work** - means you create a system to do what’s needed, when needed, in the quantity needed, using the best known way to do the job.

<p><b>What it is....</b>                  There is Standard work when you have:</p> <ul style="list-style-type: none"> <li>- The right TAKT time: available time/ customer demand</li> <li>- The work is organized in sequence, with the right number of people.</li> <li>- Standard Work Documents, e.g. the Cardiac Pulmonary Resuscitation (C.P.R.) algorithm.</li> </ul>	<p><b>What it is not...</b></p> <ul style="list-style-type: none"> <li>- Fire-fighting to meet demand</li> <li>- Ironing clothes before doing the washing, putting them on before they are dry.</li> <li>- Each ward having their own discharge forms.</li> </ul>
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**Pull** - means you don't start doing a task until you are triggered by demand from the customer. Do not do it before you need to.

<p><b>What it is....</b> Making a cup of tea when you feel thirsty.</p>	<p><b>What it is not...</b> Making 20 cups of tea in the morning, just in case you feel thirsty throughout the day.</p>
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**6S** - is a systematic way of creating a safe, clean and orderly workplace and keeping it that way...

<p><b>What it is....</b> Most peoples kitchens</p>	<p><b>What it is not...</b> Most peoples garden sheds or garages.</p>
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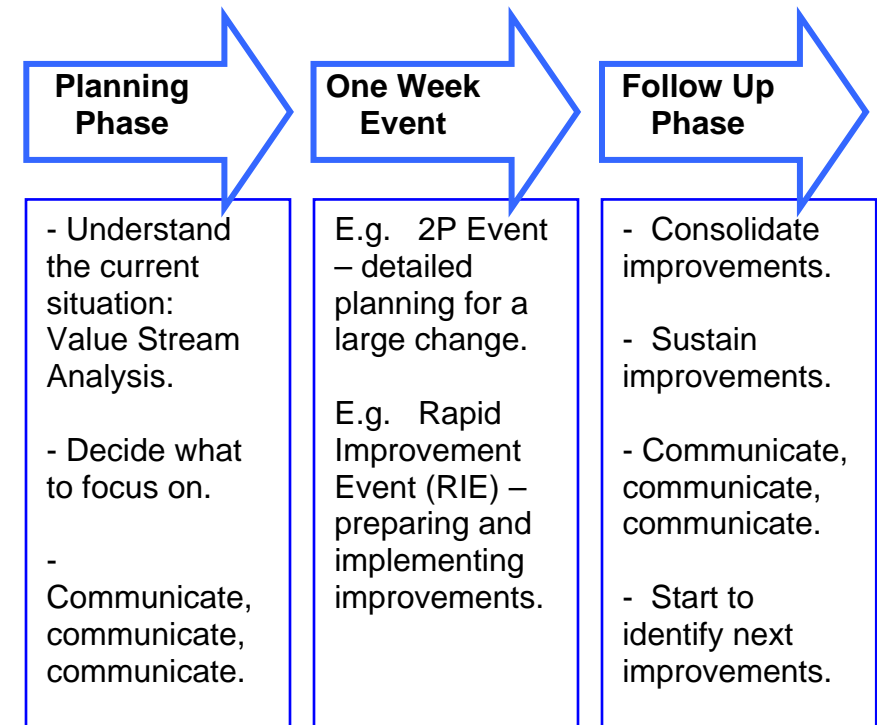
**Visual Management** - a system that enables anyone to immediately assess the current status of a given process at a glance

<p><b>What it is....</b> Departure board at an airport.</p>	<p><b>What it is not...</b> A white board on a ward with just the patient names on it.</p>
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## 5. What is perfection?

Lean is about creating a culture of continuous cycles of improvement. It is not about one-off projects, but eliminating waste and making improvements forever.

## How does it all happen?



“There are lots of opportunities for improvement.”

**Urgent Care (Older People’s event)**

“We felt empowered to get things done.”

C1/CCU Team

“Levelling the load between different team members can speed up a process with the staff having to work harder / faster”

**Blood Sciences Team**

## Remember when doing lean....

- Discard conventional fixed ideas.
- Think of how to do it, not why it cannot be done.
- Do not make excuses. Start by really questioning current practices.
- Do it straight away, even if for only 50% of the target.
- Correct it straight away if you make a mistake.
- Wisdom is brought out when faced with hardship.
- Ask why, why, why and then why again.
- Avoid spending money of lean. Use creativity over capital
- Involve the people in the area.
- See the wisdom of ten people not the knowledge of one
- Communicate, communicate, communicate and then communicate again.
- Lean ideas are infinite.
- Lean improvement is forever.

## If you would like to know more about lean.

See the Bolton Hospitals NHS Trust, Service Improvement Team (BICS Team) Intranet site. "[Bolton Improving Care System](#)"

Email or phone any member of the BICS Team:

Email: <a href="mailto:BICS.Team@rbh.nhs.uk">BICS.Team@rbh.nhs.uk</a>
Phone: <a href="tel:01204390482">01204 390482 (internal 5482)</a>

Speak to a colleague that has been involved in an event – there is a growing band of them!

Visit your local library or book shop. There are loads written on the subject, a good starting point would be "The Toyota Way", by J.K.Liker.

"These improvements are fantastic. I like everything that has been implemented this week."

**A&E Doctor**

"Hard work, exhausting, but worth the effort."

**Antenatal 6s Team**

"It provides a platform to make sure changes that I have always wanted to"

**Pharmacy Team**