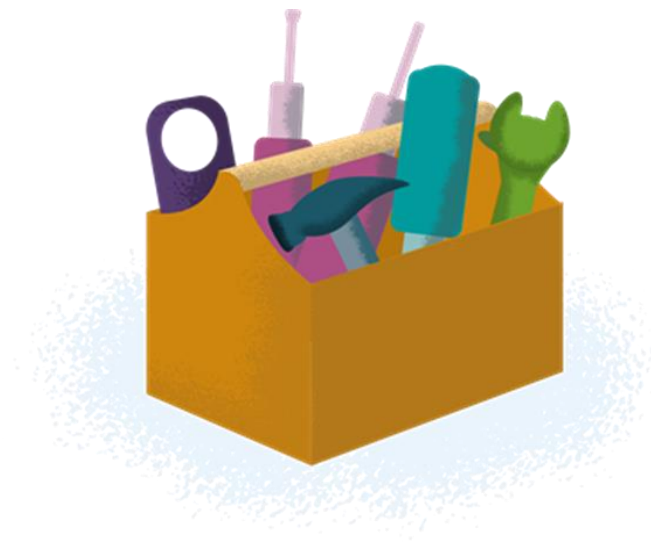


Improvement Cymru Academy Toolkit Guide



Kanban

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Introduction

Kanban is a powerful visual tool within Lean Improvement methodology that can be used for continuous improvement. Kanban is a Japanese word with 'Kan' meaning 'Visual' and 'Ban' meaning 'card' or 'board'. It is a visual signal or trigger to make, move or order something. It provides visual control or feedback and replaces a control-based schedule or plan meaning that a Kanban is flexible and adaptable. A Kanban is a tool that sits within principle four of the lean principles called 'Implementing Pull'. There are many examples of a Kanban in everyday life. For example, you may be using a toothpaste that becomes empty. You will then replace it with a new toothpaste that is in your cupboard and add this item to your shopping list. The next time you go shopping you will replace the toothpaste in the cupboard with a new one. This type of Kanban is known as a three-bin approach. Despite it being a simple concept, a Kanban can be used for complex projects and work.

Rationale

There are several benefits of using a Kanban within organisations and processes:

1. Culture of Continuous Improvement

Kanban encourages a culture of continuous improvement because it allows teams to review their processes, identify areas for change and make that small sustainable improvement that is needed. (See our [Culture of Continuous Improvement Toolkit Guide here](#) for more information)

2. Transparently and Collaboration

Due to a Kanban being a visual tool it promotes transparency especially when using a Kanban board. Staff can easily track the progress of tasks, understand priorities better and work effectively with each other. This helps with managing work as everyone will have a shared understanding of the work that needs to be done.

3. Person-Centred approach

The main goal of a Kanban is also to do work when it is required by the customer. In healthcare, most of the time the customer is the patient. A

kanban forces work to be pulled based on the actual demand ensuring that our patients drive our processes. A person-centred approach not only aligns with Lean methodology but also other concepts such as the Six domains of quality (See our [Six Domains of Quality toolkit guide here](#) for more information) and co-production (See our [Co-production toolkit guide here](#) for more information).

4. Flow optimisation and reduction in wastes

A Kanban can help to streamline processes by visualising the tasks that need to be done. They allow work moving through different stages and bottlenecks to be identified allowing improvements to be made to minimise unnecessary work. By focussing on what is essential, the eight wastes of Lean can be reduced (See our [TIMWOODS toolkit guide here](#) for more information).

5. Flexibility and Adaptability

A Kanban allows work teams to adapt to changing requires, adjust the priorities and be responsive to new activities.

Background

Kanban was developed by Taiichi Ohno at Toyota during the 1940s as a way of optimising the production process. Instead of producing work based on the anticipated demand, Taiichi Ohno's Kanban framework supplied products based on customer demand taking the company from a 'push' system where Toyota were creating the work to 'push' into the market to having a 'pull' system where work was created based on the demand.

Difference between a Push system and Pull system.

Many healthcare processes work off a push system rather than a pull system. In push system, patients and information are often passed on regardless of resources and capacity available at the next stage along the patient journey. Activities are scheduled in advanced based on forecasting however forecasts are not always accurate. Push allows activities to build up and this can lead to inefficiencies. In a

pull system you need to align resources with the actual demand. Resources become available when required by the patient and not when the resource is ready.

When to use it?

You should use a Kanban when there is a build-up of work in progress to improve flow and efficiency; this will improve staff morale as well as help to manage the work in progress. A kanban board should also be used to help staff visualise the flow of work and increase transparency. A Kanban can also be used in project management to manage work flowing through a process.

How to use it?

A Kanban can be physical or electronic and there are several ways in which you can use a Kanban in Improvement.

Three-Bin Approach

The three-bin approach is a practical way of controlling inventory at different stages. It helps to establish flow, reduce waste, and prevent overspending on stock. A three-bin approach allows an organisation to control stock during the process. An example of a three-bin approach is shown in diagram one. In manufacturing a three-bin approach works so that a bin made up with the same stock is placed at the production line and another bin is placed with the same stock in the stockroom. Once bin one becomes empty then it is replaced with the bin in the stockroom. This signals that more stock needs to be ordered and the stock room bin is replenished once stock is received, and the process is repeated.

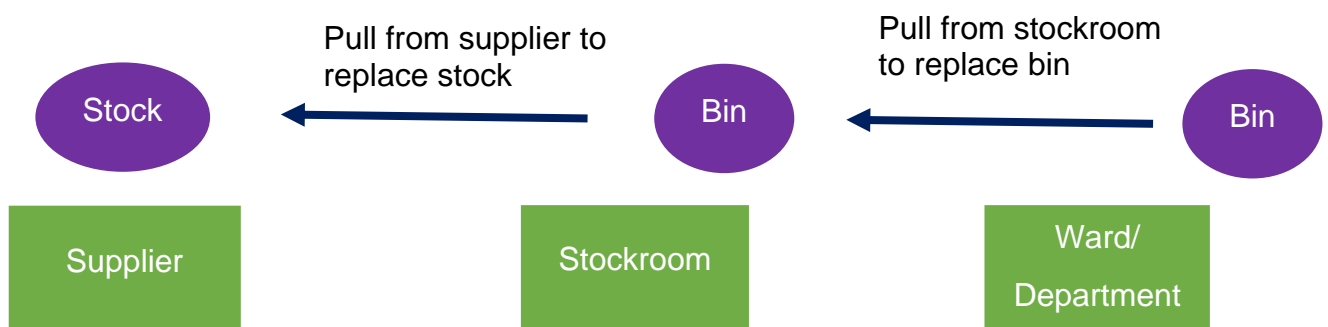


Diagram one: Kanban Example of a Three-Bin approach.

In healthcare, this approach may be used, or another approach is used using Kanban cards or labels. For example, there could be a packet of cleaning wipes within the clinic room. When these get used, you could get another set of wipes from the cupboard in the room. The wipes in cupboard would have a label or tag on it stating what the item is and where it needs replacing too. This could be then put in a Kanban post, and someone will replace the wipes when they are scheduled to take the post.

Click on the link here to see an example of how a Kanban has been used within a healthcare setting:

[Kanban and 5S for stock management in NHS Highland \(youtube.com\)](https://www.youtube.com/watch?v=...)

Kanban Board

Another example of a Kanban is a Kanban board. A Kanban board can be used to visualise work in progress. Diagram two shows an example of a Kanban board. With a Kanban board you could place work in the to do section and when it is started move it to the in-progress section and when complete move it to the completed section.

To Do	In Progress	Complete

Diagram two shows an example of a Kanban board.

Diagram three shows an example of how a Kanban board works within healthcare. The example shows a Kanban board using in a day surgery unit. You could move patient along the board once they have been admitted, the pre-operative checklist completed, observations completed, once they have been seen by the surgeon and

then when they are ready for surgery. This is way of communicating with staff where each patient is within the process.

Admission	Pre-op checklist	Observations	Seen by Surgeon	Ready for surgery

Diagram 3 shows a Kanban board example in Healthcare.

What Next?

Are there any processes within your workplace that could benefit from a Kanban to establish flow and increase communication and transparency within your team? You could do a Gemba walk to identify areas where a Kanban would be useful (See our [Gemba toolkit guide here](#) for more information).

Helpful tips

There are several things to consider after a Kanban has been implemented.

1. Never start work without a Kanban signal.
2. Only to the amount of work indicated by the Kanban.
3. Always attach a Kanban to the work being done or moved.
4. Never pass on a known defect

Additional Resources

If you are interested in learning more about how improvement practices can benefit your workplace, we offer a range of training courses. Visit our website for more information. <https://phw.nhs.wales/services-and-teams/improvement-cymru/improvement-cymru-academy/> or email us

improvementcymruacademy@wales.nhs.uk to find about the improvement courses we offer.

Further reading

Croft, D. (2023). Guide: Kanban. Available at: 28 Feb 2024.

<https://www.learnleansigma.com/guides/kanban/> (Accessed 28 Feb 2024)

Feldman, K. (2024). Using Kanban to streamline processes and improve efficiency.

Available at: <https://www.isixsigma.com/dictionary/kanban/> (Accessed: 28 Feb 2024.)

Lord, Z., Smith, L. (2015). Bringing Lean to Life: Making processes flow in

healthcare. Available at: <https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/Bringing-Lean-to-Life.pdf> (Accessed 28 Dec 2023).

NHS Institute for Innovation and Improvement. (2007). Going Lean in the NHS.

Available at: <https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/Going-Lean-in-the-NHS.pdf> (Accessed 28 Dec 2023)

NHS Highland. (2017). Kanban and 5S for stock management in NHS Highland.

Available at: <https://www.youtube.com/watch?v=omkdK6Ffajc> (Accessed: 28 Feb 2024)