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Improvement Cymru Academy Toolkit Guide



5S

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What is 5S?

5S is a collaborative improvement tool consisting of a series of steps that can be used to help create an incrementally streamlined and efficient workplace by removal of waste in processes.

5S works by helping us to collaboratively identify which items are necessary and which are not (observing and analysing), organising, cleaning and setting up procedures for performing these tasks on a regular basis.

5S is an enabler to creating the conditions to deliver our primary goal - safer patient care (a means rather than an end) by having the correct quantity of the required items at the point they are used.

5S helps to reduce risks related to human factors e.g. inattention/distraction, lack of resources, pressure, etc., which can impact safe patient care.

5S is not about getting rid of everything, it is about having a professional environment where:

• Things are immediately made ready for the next person and can be easily found.

• The process for doing this is agreed and understood by everyone in the workplace.

• Changes are maintained once they have been implemented until they are second nature.

• Things are not set in stone, there is the option to go back and make changes when are not quite right.

• The rationale for doing things, is communicated to everyone involved.

The 5S methodology is a **systematic approach** to workplace organisation. This method includes the five steps of:

- **Sort** (remove what is not needed)
- **Set in order** (right thing in the right place)
- **Shine** (keeping the area clean and tidy)
- **Standardise** (an agreed, consistent process)
- **Sustain** (continually maintain and improve)

The steps of 5S involve reviewing all items in a workspace, removing unnecessary items, organising, cleaning, performing maintenance, and making sure that the agreed changes become habit. “A place for everything and everything in its place”.



Points to note

The five steps should be followed in sequence but shouldn't be rigidly followed, as you may need to go back through the steps to further refine and improve the changes being made.

There is a common misconception that staff won't have time to carry out the additional tasks involved in 5S. However, evidence suggests that in completing these tasks, more time will be saved overall and safety will be improved.

For sustainability there must be a plan in place for performing the tasks associated with these steps on a regular basis.

Safety is paramount and no changes should be made that impact quality or safety. Communication is key to avoiding the risk of removing any safety critical items.

By starting with 5S you will be able to see visible changes in your clinical area and staff will see that they are empowered to make changes to improve safety.

Background

The 5S methodology originated in Japan and was first implemented by the Toyota Motor Corporation. The methodology was developed as a way to make 'just in time' (JIT) manufacturing possible. Developed by Hiroyuki Hirano, it provided a structure and firm foundations for improvement programs from which he pointed out a series of identifiable steps, each building on its predecessor.

Today, many people are moving toward a 6S system with the addition of safety as the sixth S. This shows that while 5S has a long history and there have been some changes over time. As new innovations are made, 5S can adapt to keep up with them.

While the formalised 5S system that we see today has only been around since the 70s, the concepts behind it are actually ancient. There is evidence of 5S concepts going back as far as the 16th century. Venice shipbuilders used 5S concepts to help streamline their production. History tells us that they were able to reduce the amount of time it would take to build a ship from days or weeks to just hours.

Benefits of 5S

The benefits associated with using 5S methodology in the health and care environment include:

- Increased quality and safety – some clinical risks will be eliminated.
- Time will be saved – less time searching for things, items being at a defined locations including a map of where to find them.
- Reduced costs – elimination of surplus consumables/equipment.
- The clinical area will ‘look and feel’ better – space will be created.
- Things will be easier for staff – increased reliance that commonly used items will be available closer to where they’re needed.
- Mistakes and errors will decrease – there will be less rework and duplication.

When to use 5S

The type of workspace that would benefit from 5S could typically be an area that is prone to accumulation of surplus items or an area with high usage, where resources become depleted very quickly.

Once an area has been identified, the purpose of 5S is to make a workspace to function better by making it an easier place to work. This occurs by helping spaces to make sense. For example, tools and materials are placed in logical defined locations based on who needs them, how frequently they're needed, etc. Also having spaces cleaned regularly will highlight any out of place items, including both items that should be there and those that should not.

How to use 5S

Sort



Sort, the first S, focuses on eliminating items from the workspace that are not needed. This can be described as 'waste' or surplus to requirements.

An effective visual method to identify these unneeded items is called "red tagging", which involves evaluating the necessity of each item in a work area and sorting it appropriately.

A red tag is placed on all items that are not needed in that area. This includes items that are not in the proper location, in surplus quantity, are obsolete, out of date or are broken/defective.

Once you have identified the red tag items, move these items to a central holding area for subsequent disposal, recycling or reassignment.

1) Remove everything red tagged from the defined area
2) Only return what is necessary for daily duties
3) Discard any broken, unnecessary or outdated items
4) Any items that you are unsure of are escalated for a team decision. You need to gain consensus before removing from the area.
5) If shelving or cupboards are not used or required, remove them too – this will prevent unwanted items being stored there and create more functional space
6) Items agreed necessary to complete the job then need to be '*set in order*'

Set in order



The second S, 'Set in order', focuses on creating efficient and effective storage methods to arrange items so that they all have a home and are clearly labeled (including quantities), which then make it easy for them to find and put away.

This also serves to highlight any items that shouldn't be there and helps to prevent reverting back to how it was before.

Set in order can only be implemented once the first step - *Sort,* has cleared the work area of items that are not needed.

Strategies for effective '*Set in order'* include marking areas with tape to indicate where items should be, affixing labels and placards (with item name and quantities) to designate proper storage locations and other methods such as date stamping items, and if required install shelving and cupboards.

1) Give every item a location.

- Items used on a regular/daily basis need to be placed in accessible locations close to the point of use (as reasonably practicable).
- Items used on a weekly basis should be stored on a shelf or in a cupboard within the work environment.
- Items used on a monthly, quarterly or annual basis should be stored in an appropriate location – possibly outside the work area and pulled when required (just in time).

2) Mark off (with tape or marker) and label each location. The reason for this is to test the layout and validate that the changes work for the teams, once tested over a period of time they can then be made more permanent.

Shine



Once the clutter is removed and the remaining items are organised, the next step is to thoroughly clean (or shine) the work area. Daily follow-up cleaning is necessary to sustain this improvement (use cleaning as a form of inspection).

Working in a clean environment enables staff to notice where the process is working or where there are opportunities for further improvement. By being clearly able to see all item locations it helps to ensure processes local to this area are followed and in turn any required consumables/equipment are always there ready to be used. These positive changes, if left unattended, could revert back resulting in equipment failure and increase the potential risk to patient safety.

Develop a plan where cleaning is incorporated into the daily routine and is followed by the team.

Standardise



Once the first three steps have been implemented, the next step is to *standardise* the best practices in the work area. *Standardising*, ensures a consistent approach to maintaining the first three steps.

The three steps in this part of the *standardising* process are assigning 5S job responsibilities (Sort, Set in order, Shine), integrating 5S duties into regular work duties, and checking on the maintenance of 5S.

Some of the tools used in *standardising* the 5S procedures include job cycle charts, a layout map of the area, visual cues, for example: signs, placards, display scoreboards, scheduling of "five-minute" 5S periods and check lists.

The second part of *standardising* is prevention. This includes preventing re-accumulation of unneeded items, reverting to how the area was before, preventing procedures from breaking down and preventing equipment/materials from getting dirty.

Sustain



Sustain is often the most difficult S to implement and achieve. It centers on making 5S part of the norm and adopting the procedures that support it. Changing entrenched behaviours can be difficult, and the tendency is to return to the status quo and the "old way" of doing things.

Sustain focuses on defining a new way of working and standard approach to work place organisation. Without the sustain step the achievements of the other steps will not last.

Tools for sustaining 5S include signs and posters, newsletters, pocket manuals, team and management check-ins, performance reviews, and department tours.

Organisations typically seek to reinforce 5S messages in multiple formats until it becomes "the way things are done."

You can make 5S become a way of life by:

1) Practicing and repeating the process

2) Educating staff

3) Linking 5S directly to the day job

4) Empowering staff to improve and maintain their workplace

For the purposes of 5S, specifically consider how the layout and organisation of an area could increase or decrease waiting time, movement, and unnecessary transportation of items.

Sort - When in doubt, move it out and make a team decision
Set in order - A place for everything and everything in its place
Shine - Keep it clean
Standardise - Create a consistent approach for carrying out tasks and procedures
Sustain - Sustain gains through a disciplined approach

What next?

Start small and discuss with your team a workspace that could really benefit from 5S. Consider frequent occurrences where the team has spent the most time searching for items or them not being at the point of use. Then begin the process, but always ensure that there is communication with the team who regularly use the areas of implementation.

Helpful Tips

5S is not the removal of all items from an area but the streamlining of the workplace to ensure the most frequently accessed items are available at the point of their use. When setting in order consider how often the item is used and if very infrequent can it be stored somewhere else and then be drawn to the area when required?

Additional resources

If you would like to learn more about making improvement to your workplace take a look at our website for what we offer you 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 can offer.

References

https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/Bringing-Lean-to-Life.pdf (accessed 24/06/2022)

https://asq.org/quality-resources/lean/five-s-tutorial (accessed 24/06/2022)

YouTube Links

15 min video but good for further learning or take away

(11) 5S in Healthcare FMC: Improving workflow through workplace organisation - YouTube (accessed 24/06/2022)

NHS Video

(11) UHCW Using 5S to Improve Efficiency - YouTube (accessed 24/06/2022)

NHS 5S with Kanban

(11) Kanban and 5S for stock management in NHS Highland - YouTube (accessed 24/06/2022)

Lean in Healthcare

What is 5S? Detail Explanation with ANIMATION - YouTube (accessed 24/06/2022)

Numbers game

The 5S Game (Lean Six Sigma) - YouTube (accessed 24/06/2022)

Standard Definition Video but great examples in Healthcare

5S Healthcare - YouTube (accessed 24/06/2022)