Waste Management in the Healthcare Environment

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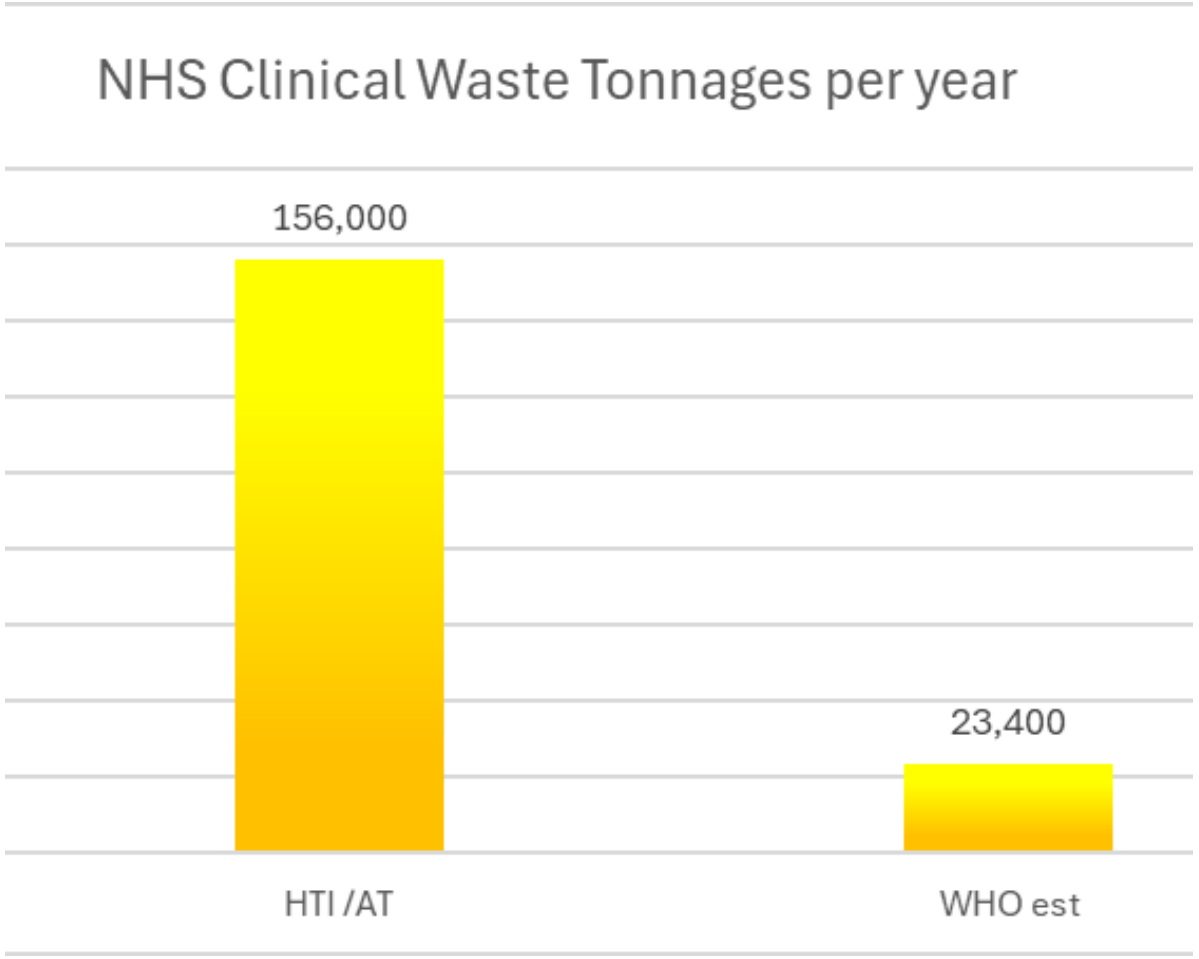
What is a Healthcare Waste?

- **Definition of healthcare waste**
- Healthcare waste is waste produced during human or animal healthcare, or related research activities. It covers both clinical and offensive wastes and also includes any waste generated within a healthcare environment. Obviously the most prolific healthcare waste producer are hospitals but healthcare wastes also include many different sectors as below;
- Wastes produced by healthcare in the community, and similar types of waste produced by non-healthcare activities are included, for example:
- cosmetic body piercing and body art
- non-medicinal procedures in the hair and beauty sector
- substance abuse and crime scene clean ups

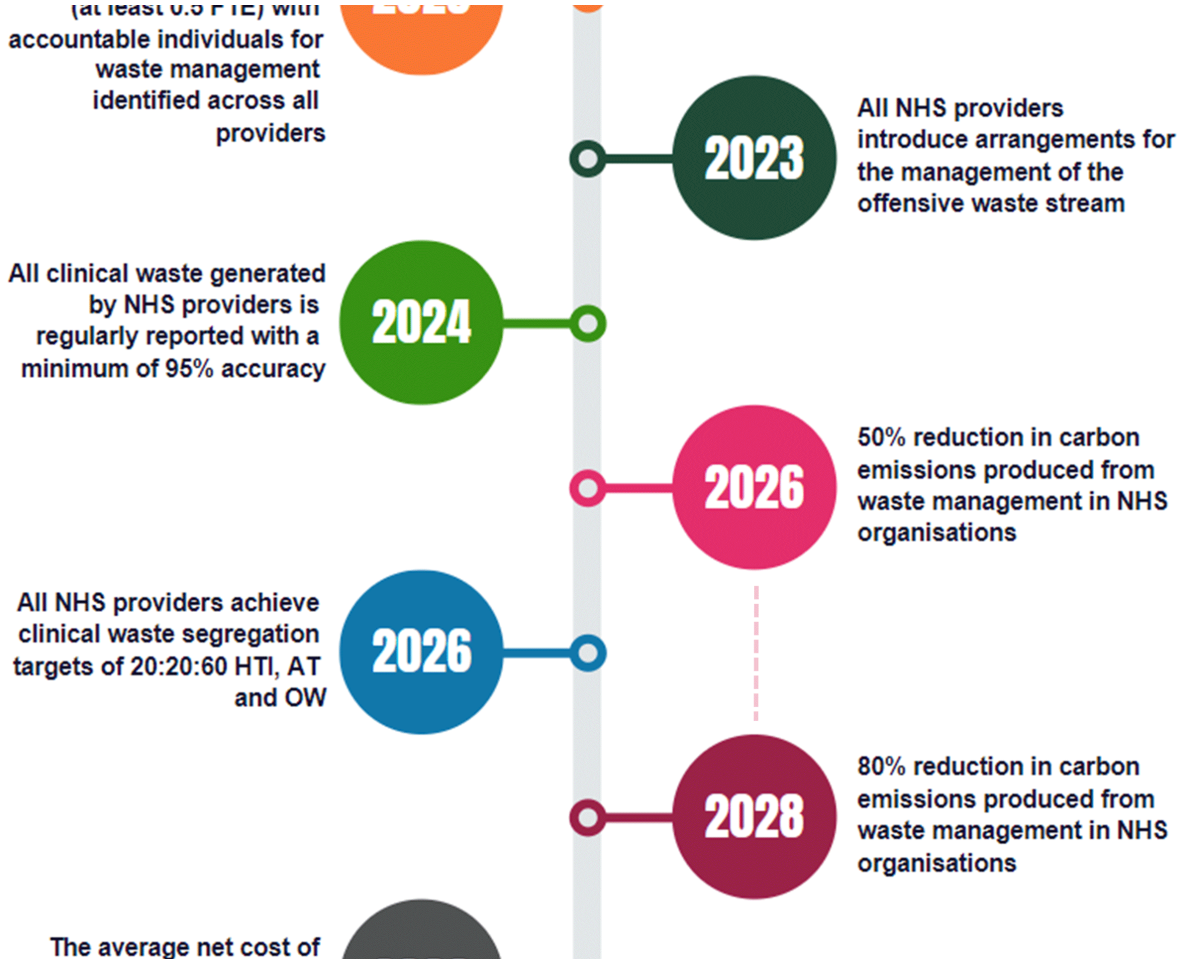
What is a Healthcare Waste?

- **Definition of healthcare waste**
- Under the banner of Healthcare Wastes are many different types of waste some related to clinical wastes and some are what we would see everyday in any environment or facility.
- The NHS generates over 156,000 tonnes of clinical waste that is sent for High Temperature Incineration or Alternative Treatment every year.
- A study carried out by the **W**orld **H**ealth **O**rganisation in 2023 revealed that of all the healthcare wastes generated in all of these establishments only 15% was actually classed as actually being infectious or hazardous.
- All wastes generated in a hospital environment are a Healthcare Waste, only *some* are clinical wastes.



What is being done to reduce this amount of waste?

- **In 2023 NHS England produced a Healthcare Technical Memorandum (HTM 07-01)**
- HTM 07-01 (2023 version) replaces the previous 2013 edition and details the environmental benefits of the safe management and disposal of healthcare waste, It also presents opportunities for cost savings, safer working practices and reducing carbon emissions related to the management of waste.
- One aspect of this is what is known as the 20-20-60 Target.
- This is aimed at eliminating avoidable waste and supporting the drive to prevent all wastes being incorrectly classified so incorrectly disposed of.
- The 20-20-60 relates to the % ratio on 20% being High Temperature Incineration-20% being Alternative Treatment and at least 60% being Offensive Wastes by 2026.



Challenges

- 🏥 **Challenges in NHS Waste Management.**
- Although there are many challenges facing waste management in the healthcare sector, there are a few fundamental points which seem to be a recurring and major contributing factor to why things can go wrong.
- 🔍 **Misconceptions About Waste Classification**
- This is probably one of the most common issues we find and across a wide range of healthcare services and departments.
- **Clinical vs. Offensive Waste**: Many staff default to classifying all patient-related waste as clinical, leading to overuse of yellow and orange bags and unnecessary incineration or treatment.
- **Legacy Practices**: “That’s what we’ve always done” is a cultural barrier that resists change, even when protocols evolve.

Challenges

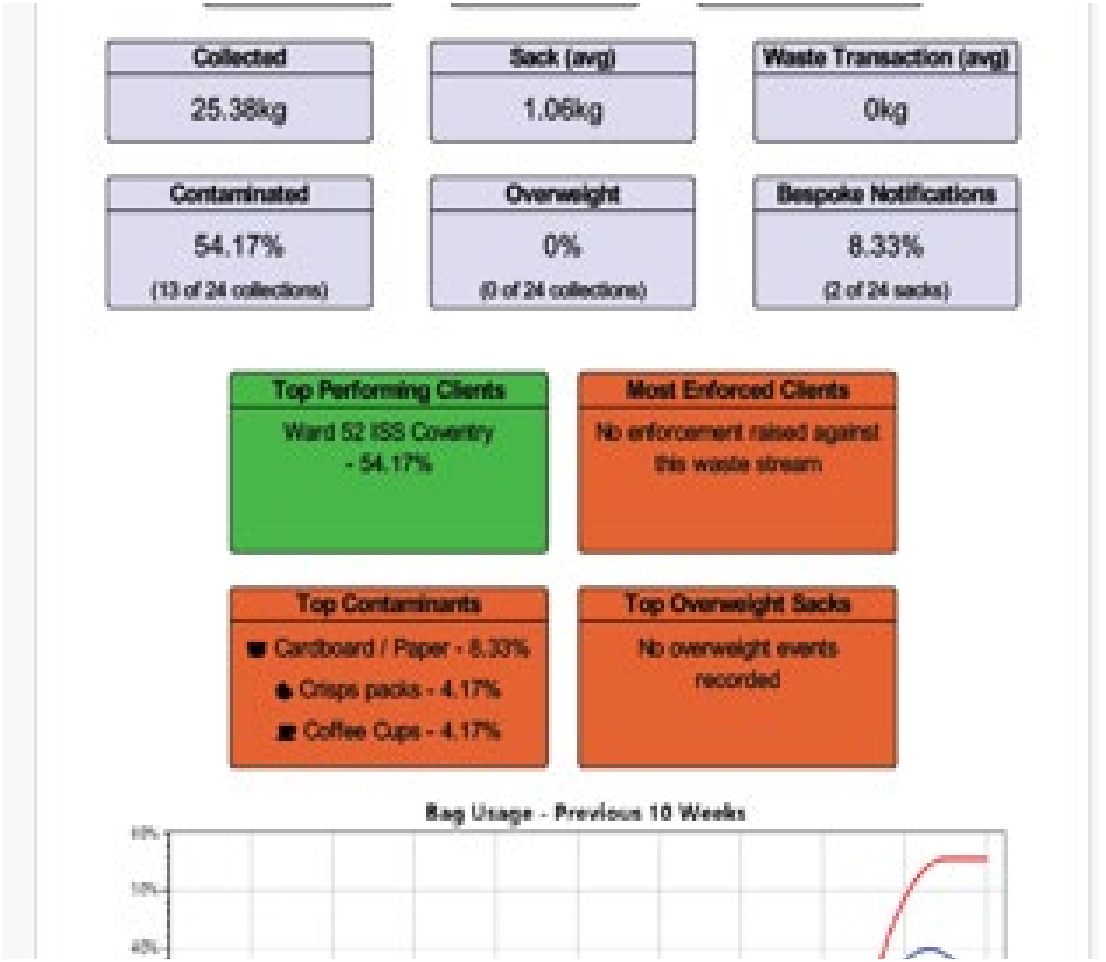
- 📚 **Lack of education, awareness and training**
- **Inconsistent Awareness**: Staff across different bands often receive varying levels of training, if any, on waste segregation.
- This issue can be escalated when bank or agency staff are involved as they may only be at one location or department for a short time and don't always receive adequate levels of waste related training.Training should be done on the job ,at the persons place of work using practical methods.
- **Complex Waste Streams**: Hospitals generate a mix of general, offensive, clinical, pharmaceutical, and hazardous waste—each requiring specific handling.
- 💸 **Financial and Environmental Impact**
- **Overclassification Costs**: Treating non-clinical waste as clinical drives up disposal costs and carbon footprint.
- **Sustainability Goals**: Mismanaged waste undermines NHS efforts to meet net-zero targets and environmental compliance.

Challenges

Waste isn't just what's in the bin—it's a reflection of the choices made by everyone before it got there."
Imagine if every staff member paused for just a moment to ask: *Is this waste clinical because of what it is, or because of what I assume it is?* That shift in thinking could dramatically improve compliance and reduce unnecessary incineration

How big is the problem?

We recently carried out some trials to establish contamination levels in Infectious clinical waste bags and also Offensive Waste bags and the results were surprising.
Naturally the trial was done using only visual assessments on bag contents. How much as a % do YOU think we found that would be classed as non conforming or non compliant?



Challenges

📊 **Key Findings from our assessment**
30 orange infectious waste bags assessed.

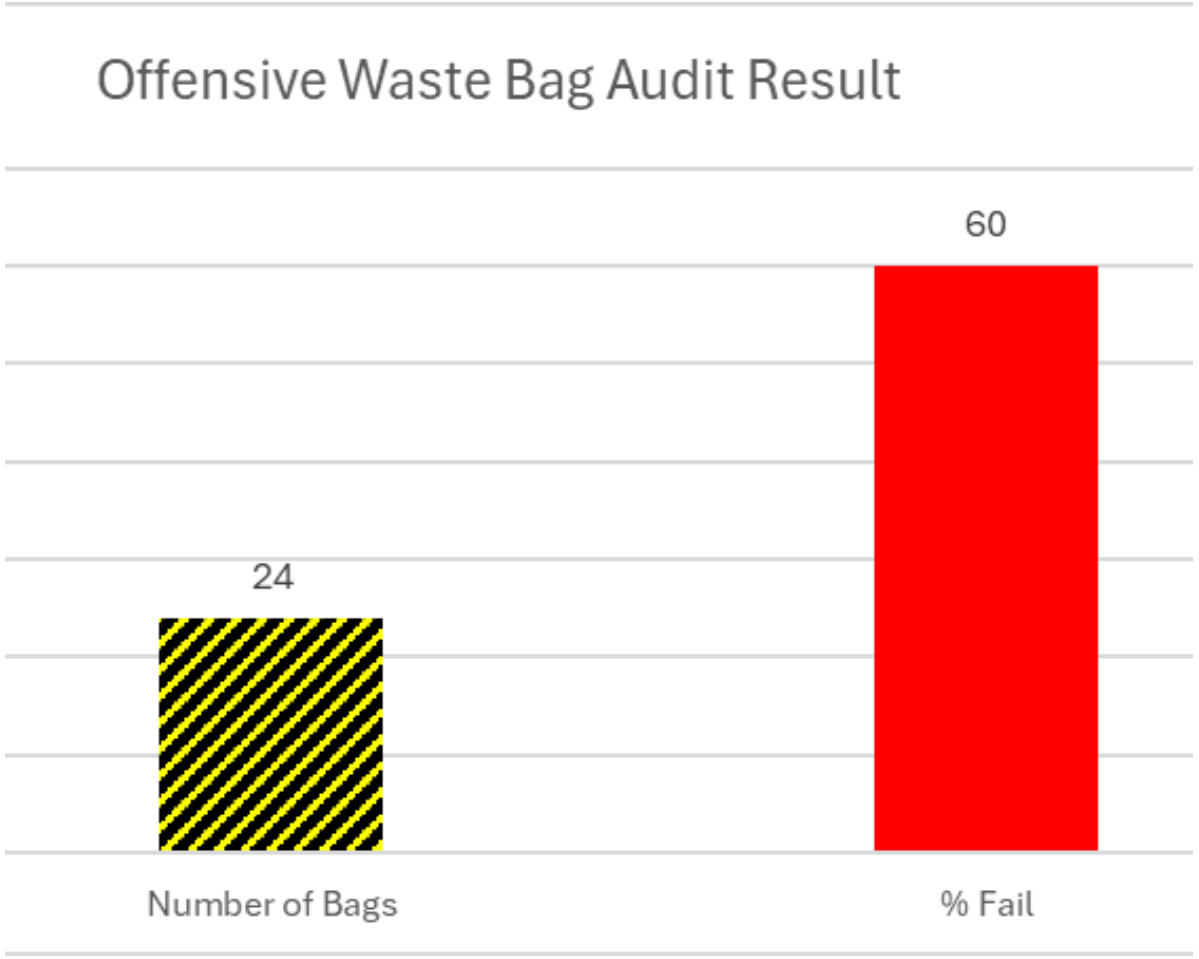
54% were contaminated with what appeared to be non-clinical waste

Examples of contamination:
Newspapers, full plastic bottles of soft drink, food and beverage containers.
Total weight: of the 30 bags= 20kg of infectious waste

Implication: ~10.8kg of that may have been avoidable, non-infectious waste, but is sent to Alternative Treatment Process at a high cost and contributing to high amounts of C02.
If the results of this trial are correlative across other areas of the hospital, the estimated total annual weight of waste disposed of unnecessarily would equate to over 20,000kg.

Challenges

- We also carried out the same trials on offensive waste bags
- The results of this were even more alarming.
- 🗒️ Offensive Waste Bag Assessment: Key Takeaways
- 24 bags assessed
- 64% appeared noncompliant.
- Common contaminants: glove boxes, newspapers, general packaging and food.
- Implication; 1.5kg of waste in every single offensive waste bag could have been disposed of into recycling or even general wastes.
- The correlative impacts based on this trial equate to over 41,000kg a year in weight being disposed of as offensive wastes that could have potentially been recycled.



Solutions; Eliminate Waste in the 1st place.

An example of how we can eliminate waste is that we also recently carried out a review of wastes generated in a Robotic Assisted Prostatectomy Operating theatre.

It was shown that all wastes generated both before during and after the procedure were being disposed of into yellow clinical waste bags and sent for high cost HTI.

This equated to over 28kg of waste per procedure.

As the procedure would not normally be performed on a patient that would produce infectious wastes and no chemical or medicinal waste is produced there was no need for yellow waste bags at all.

Working in collaboration with the senior trust theatre staff we implemented a new process where prior to the patient entering the theatre all waste bags were recycling for packaging etc.

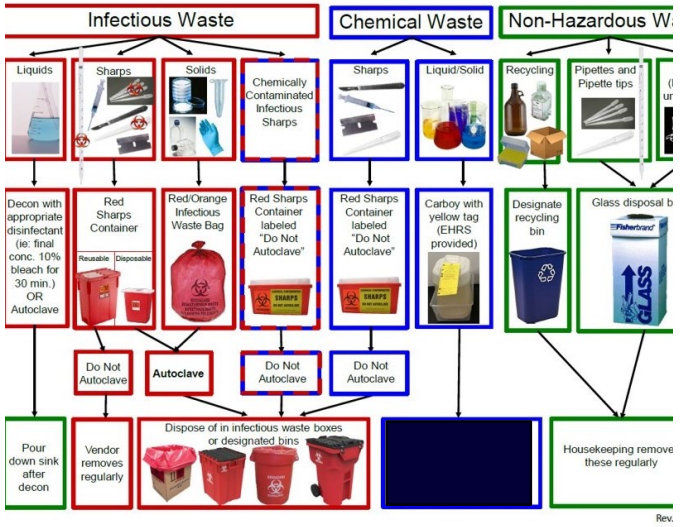
When the patient entered the theatre room the bags were changed to offensive wastes. This resulted in a saving of over 25kg on HTI wastes per procedure, with an annual Co2 reduction of 20 tons.

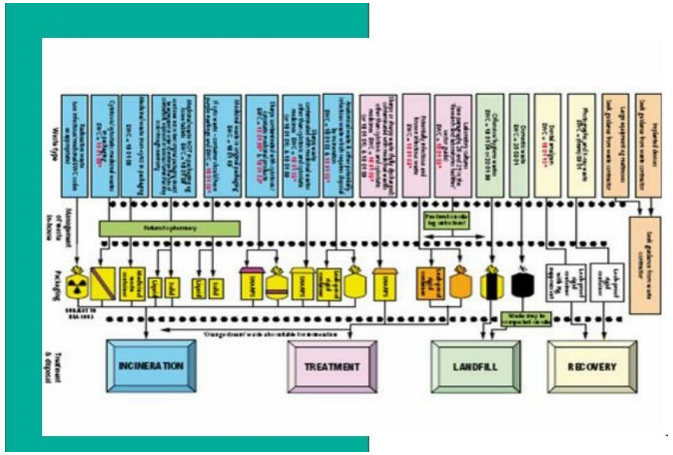
Solutions

Healthcare wastes can be a complex mix of many different materials and in some circumstances, this can lead to waste disposal posters or signs looking more like an underground train map rather than helping the person disposing of their wastes make the right choices.

I appreciate that there could be a need for multiple waste disposal bins with different colour bags and bins in different areas ,depending on what wastes are generated in those areas, but shouldn't we keep it simple and make sure that the person holding that waste material is aware of not only what it is they are holding but the contamination of that material which depicts where it should go.

All too often if we make it too difficult to understand the result is usually the waste is disposed of into the nearest bin!





Solutions

There are a number of ways we can do this.

- **1. Microlearning Modules**
- Break content into short, focused lessons (2–5 minutes each).Ideals for Huddles? And busy staff.
- Can be delivered via mobile, ESR, or even QR codes on posters.
- **2. Scenario-Based Learning**
- Use real-world examples (e.g. Trackersack audits, inhaler recycling) to show consequences of misclassification.
- Interactive case studies help staff apply knowledge, not just memorize it.
- **3. Visual Aids & Colour Coding**
- Infographics, bin posters, and laminated cheat sheets reduce cognitive load.

- **4. Gamification & Quizzes**
- Turn training into a challenge: “Can you spot the 3 mistakes in this waste bag?”
- Leaderboards or small incentives can boost engagement.
- **5. Role-Specific Customization**
- Tailor content for porters, nurses, cleaners, and admin — no one-size-fits-all.
- Use job-relevant examples to increase relevance and retention.
- **6. Peer Champions & On-the-Spot Coaching**
- Empower trained staff to coach others during shifts.
- Builds a culture of accountability and shared learning.

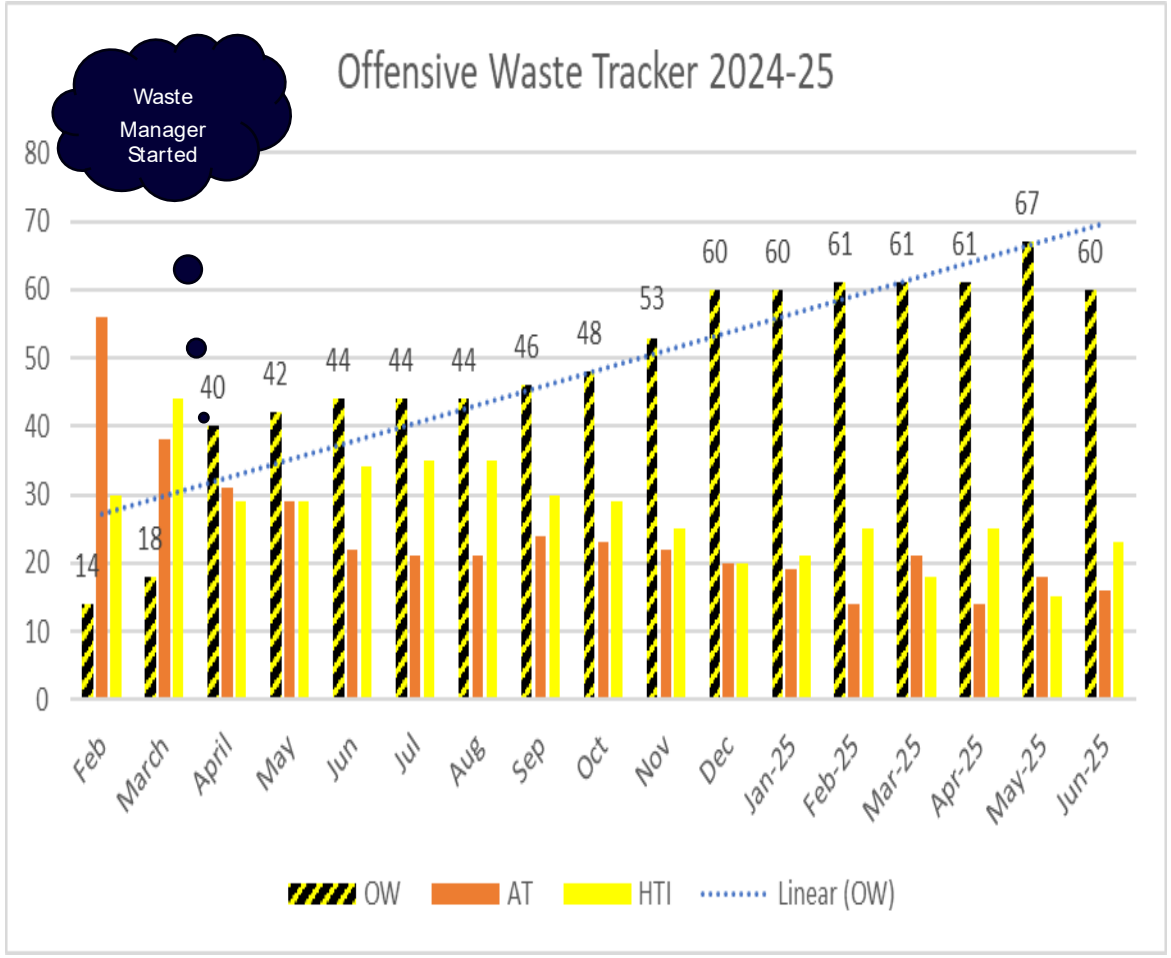
Will it work?

Yes it will work and we will achieve ,if not beat the 20-20-60 targets and continue to do so. As more and more people are empowered with sufficient and appropriate information allowing them to make the right choice will result in more efficient waste segregation, not only on clinical wastes at work but on any decision that person has to make when disposing of any wastes.

One crucial element of making this work is a collaborative approach between NHS staff and Waste Management Teams.

The advantage of having a dedicated Waste Manager is that they can help the trusts on their journey with support and advise when its needed and to see it through with a passion.

The evidence speaks for itself as you can see from the graph opposite, this shows the offensive waste % over a period of time where there was no waste manager and also the performance when the waste manager started and strategies started to take effect.



Whats Next?

Lets continue to work together, it really does produce great results.

Don't let the scale of the task deter you from making changes, do it one step or ward or department at a time.

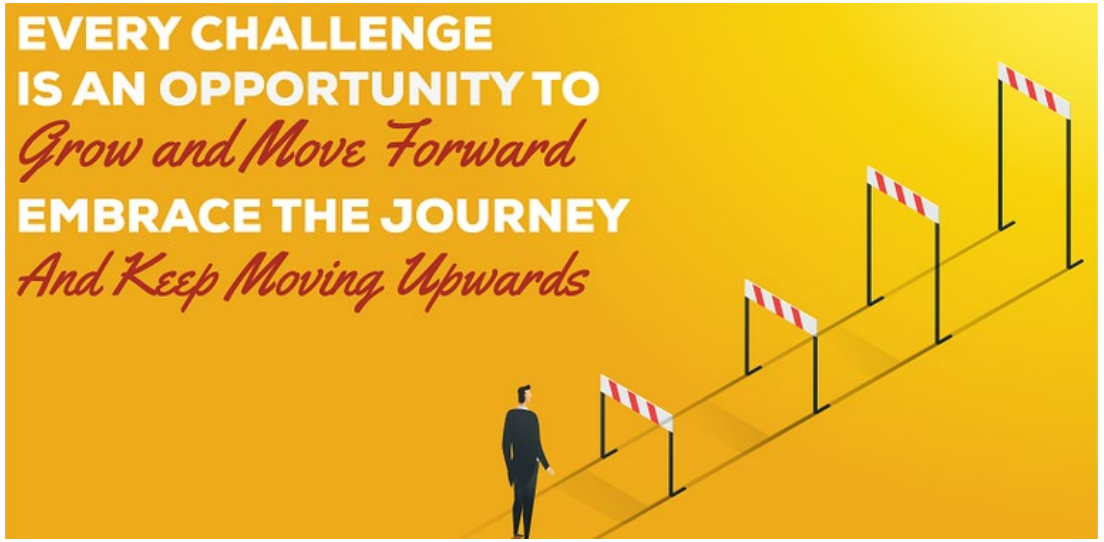
Don't be afraid to ask questions.

Adopt re-useable containers for sharps instead of single use containers which only add to the weight of the waste and add C02 emissions all the way through.

Encourage suppliers to the NHS to have recyclable packaging.

Provide support for each other ,always with patient care as priority but lets also consider what we do away from the patient.

Success!



Thankyou

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