



# Sustainability In Critical Care

## Marginal Gains with Micro Projects

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Nottingham  
Hospitals  
Charity

At the heart of your care

Adult  
Critical Care



# Net Carbon Zero by 2040...

**The NHS has committed to becoming net zero carbon emissions by 2040**

- 4% of England's carbon emissions are produced by the NHS.
- Poor air quality is triggering a growing number of diseases.
- A rising cost of living and increasing mental health issues.

# Our Responsibility

- The NMC

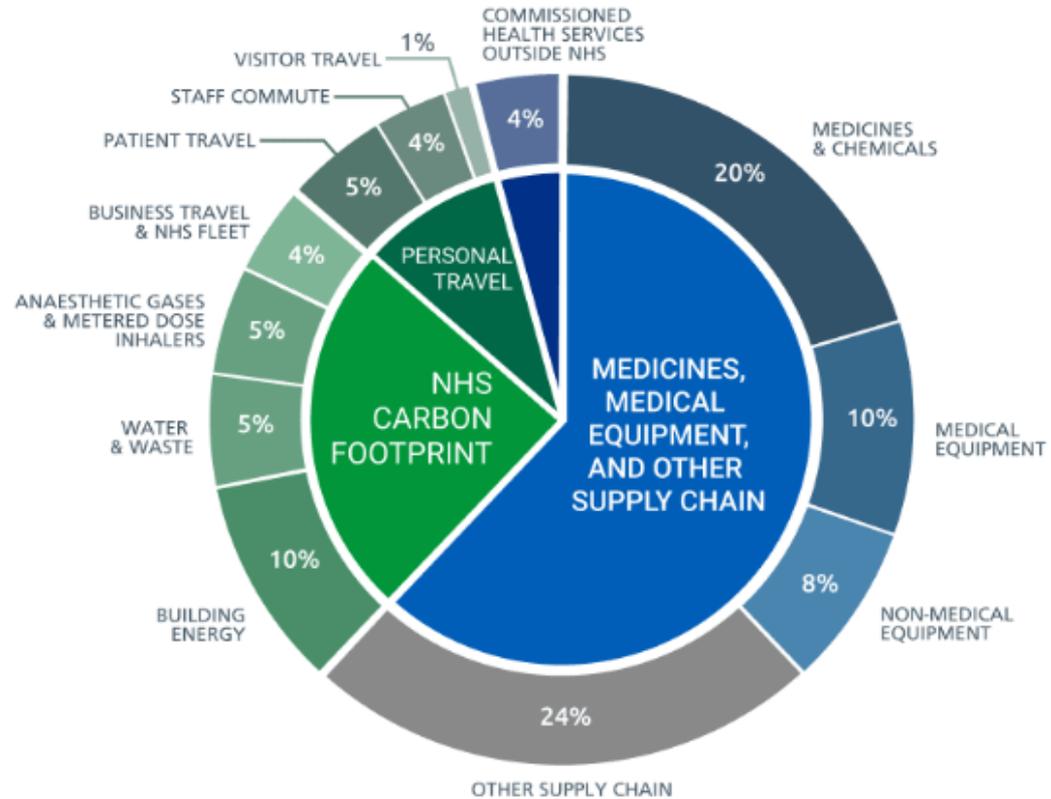
*“People involved in health and care services are increasingly concerned about the environmental impact. Factors such as air quality, weather extremes and sedentary lifestyles are increasing demand on services, and **we are all more conscious of where products come from, how they are made, and what happens to them when we have finished with them**” NMC Strategy 2020-2025*

- Nottingham University Hospitals Trust

*“We need development that meets the needs of the present generations **without compromising the ability of future generations to meet their own needs.**”*

# Our Carbon Emissions

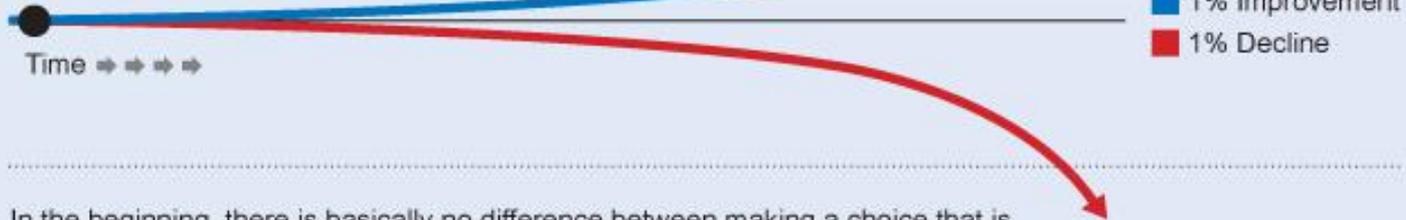
**Figure 2: Sources of carbon emissions by proportion of NHS Carbon Footprint Plus**



# So where to start?

## Marginal gains...

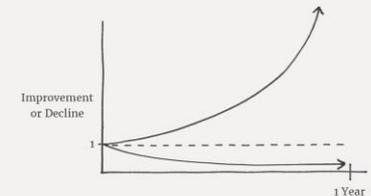
### Aggregation of Marginal Gains



In the beginning, there is basically no difference between making a choice that is 1% better or 1% worse. In other words it won't impact you very much today. But as time goes on these small improvements or declines compound and you suddenly find a very big gap between people who make slightly better decisions on a daily basis and those who don't.

### The Power of Tiny Gains

1% better every day  $1.01^{365} = 37.78$   
1% worse every day  $0.99^{365} = 0.03$



JamesClear.com

# The 'Bin Police'



### Medicines for Disposal X

**SHARPS BIN with ABSORBENT SHEET**

- Glass ampoules
- Vials
- CD/Desirable drug vials & ampoules must be emptied & witnessed by 2 registered practitioners
- All syringes including enteral syringes
- All fluid bags containing medicines + giving sets
- Needles
- Cannulas

**PHARMACEUTICAL WASTE SOLIDS**

Medicines unsuitable for reuse/return including:

- Expired medicines
- Single tablets
- Inhalers & creams
- Patches
- Medicines from outside the hospital

**PHARMACEUTICAL WASTE LIQUIDS ONLY**

Used or part-used nutritional supplements and TPN bags (containing fat)

Empty/part filled liquid medicines bottles (no CD's or desirable liquid drugs)

**NO SHARPS**

Close when full

**DO NOT DISPOSE** fluids down sink which contain medicines

### Medicines for Return ✓

**OMNICELL RETURNS BIN**

Ward stocked drugs, which are in date can be returned to the Omnicell

**NO CD's or Desirable Drugs**

**NO Fridge Items**

Search 'Omnicell Drug Returns' and put all drugs in the one tray

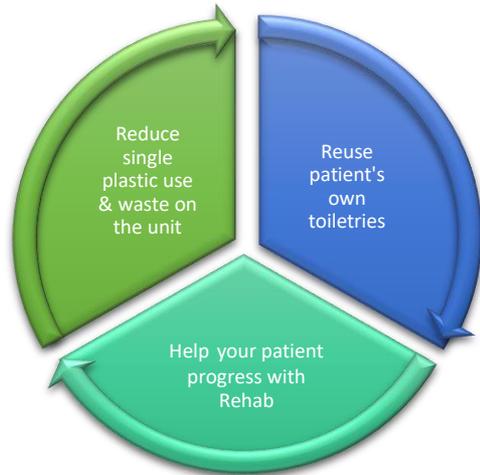
**PHARMACY RETURNS UNIT**

Unused medicines issued by NUH pharmacy ONLY & have not left the hospital & are in date

**NO Cytotoxic medicines or Fridge items.** If suitable for return these should be handed to the pharmacist at their next visit

Adult Critical Care

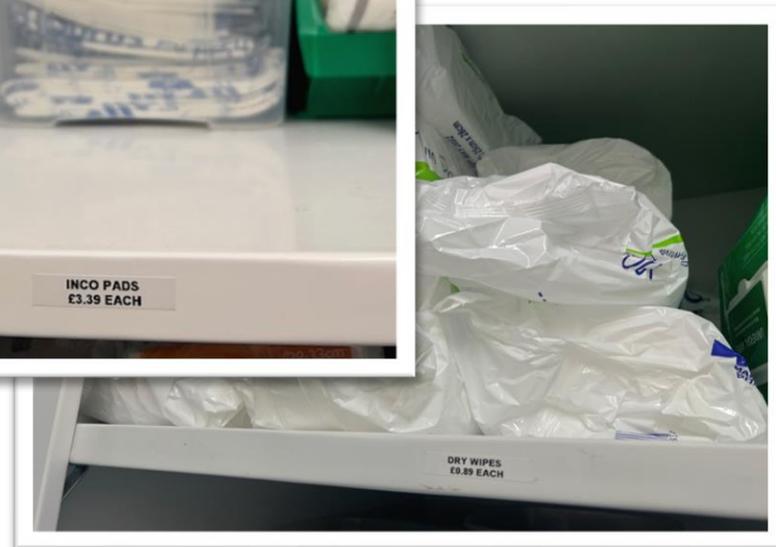
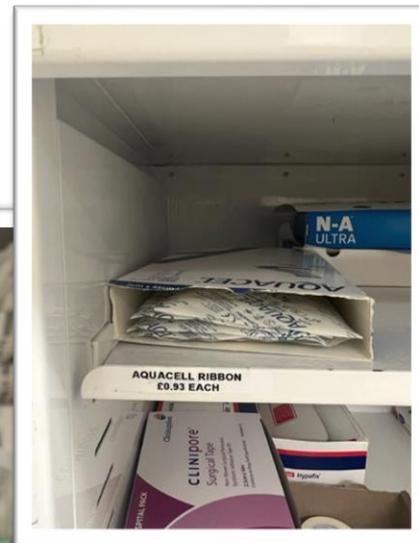
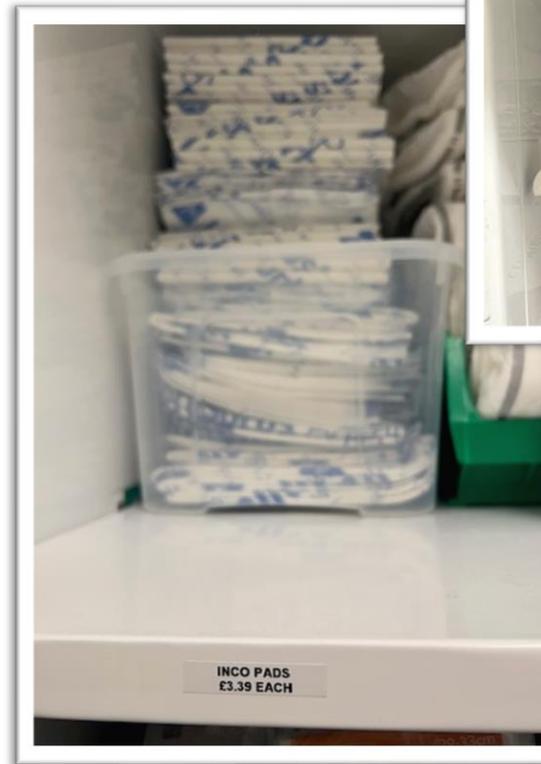
# Reduce, Reuse, Rehab & Recycle



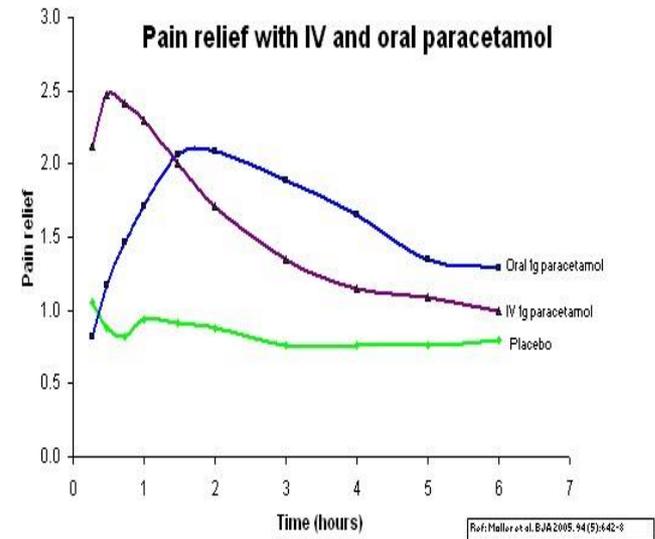
A **reduction** of toiletries used from hospital stock minimises single-use plastic waste. **Reusing** patients own toiletries can help a patient feel more like themselves, and encourages **rehabilitation**.



# Reducing stock waste



# IV vs. Oral Paracetamol



# Cool sticks

- Reducing the use of Ethyl Chloride local anaesthetic spray, and implementing cool sticks to assess sensory block.



# Staff areas

- Recyclable cups
- Cutlery
- Online staff files



# The future....



# References

- Cranfield, K., Tanner, B., & Mulvihill, E. (2021) *Costs, beliefs and use of intravenous versus oral paracetamol in an orthopaedic trauma unit* Available at: [Costs, beliefs and use of intravenous versus oral paracetamol in an Orthopaedic Trauma unit \(getmoodle.net\)](#) (Accessed 30<sup>th</sup> March 2023).
- National Health Service (2022) *Delivering a 'net zero' National Health Service* [Online] Available at: [B1728-delivering-a-net-zero-nhs-july-2022.pdf \(england.nhs.uk\)](#) [Accessed 27<sup>th</sup> May 2023].