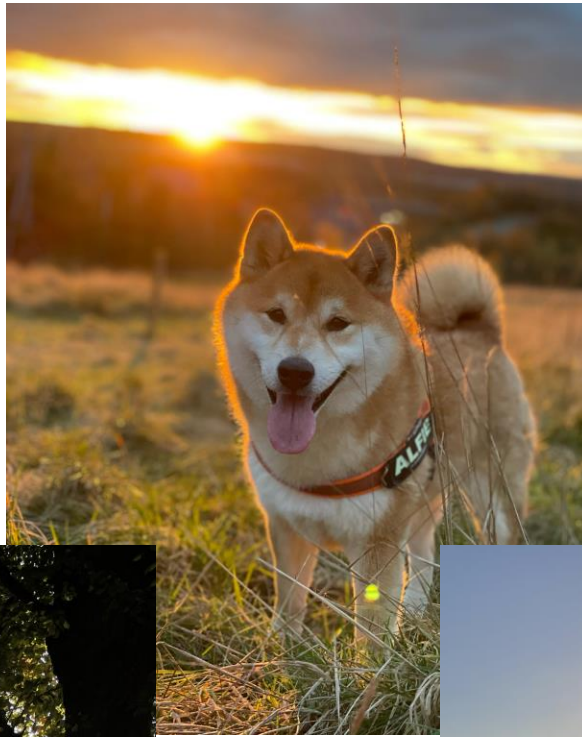


GREEN SURGERY  
CHALLENGE

# Environmentally Sustainable Change in Theatre - Our Experience and How-to Guide

Dr Katie Boag

*Academic Clinical Fellow ST1 - General Surgery*

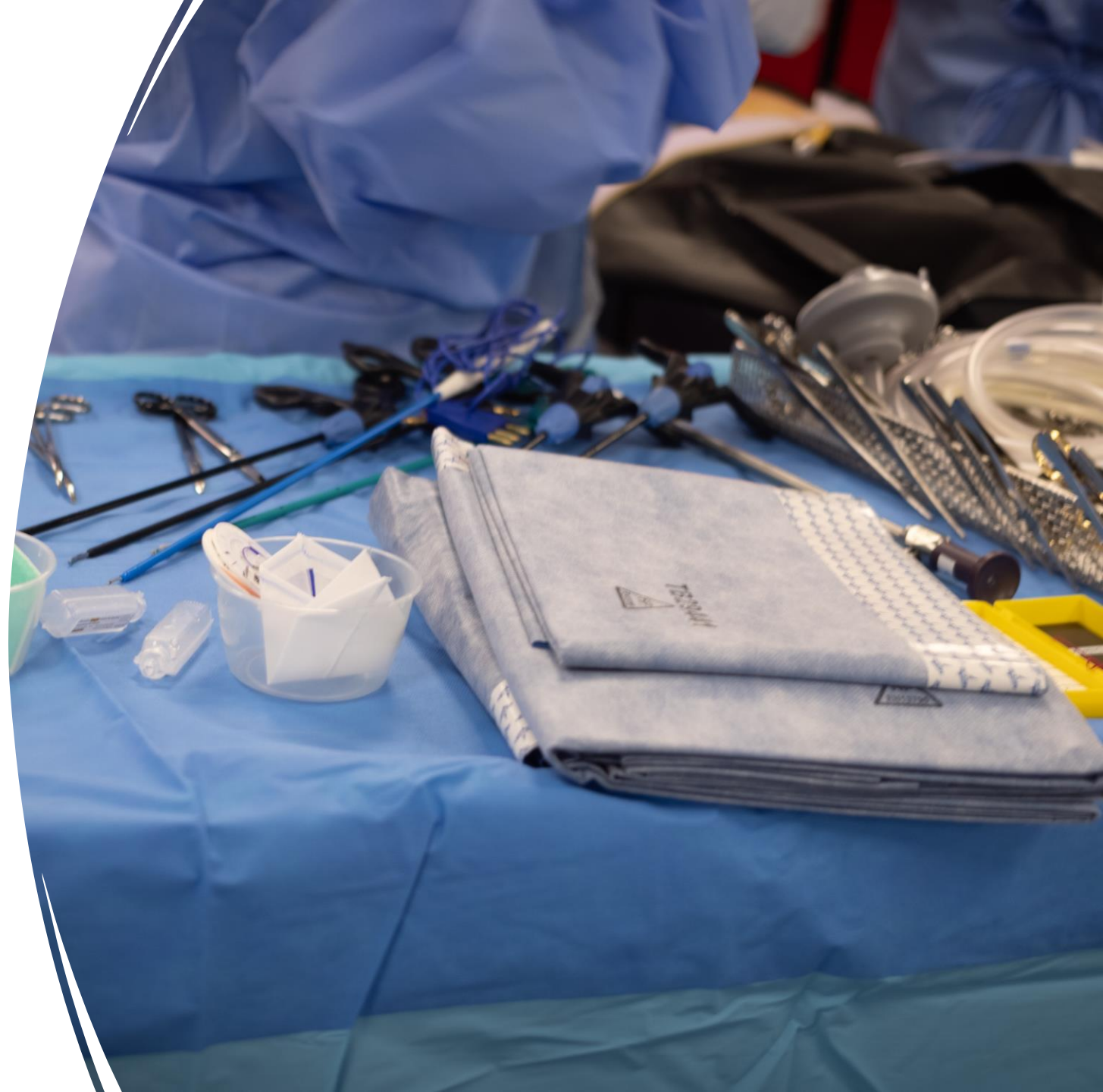




# The Green Surgery Challenge

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- Collaborative national competition
- Opportunity to showcase ideas and practices less harmful to the environment and build social sustainability.
- 'A Holistic Approach to a Green and Sustainable Laparoscopic Appendicectomy'



# Catheter Elimination

**“Have you emptied your bladder”**

## Carbon Saving

Per Procedure	<b>0.863kgCO<sub>2</sub>e</b>
Annual (80% applicability, 418/522)	<b>360kgCO<sub>2</sub>e</b>
National (80% applicability (41600)	<b>28,700kgCO<sub>2</sub>e</b>

## Financial Saving

Per Procedure	<b>£2.70</b>
Annual	<b>£1100</b>
National	<b>£90,000</b>

# Green Laparoscopic Tray

119 items opened routinely (2 trays) to 41 items (1 tray)

## Carbon Saving

Per Procedure	1.77kgCO <sub>2</sub> e
Annual (80% applicability, 418/522)	745kgCO <sub>2</sub> e
National (80% applicability (41600)	59,200kgCO <sub>2</sub> e

## Financial Saving

Per Procedure	£22.91
Annual	£9567
National	£760,000 ( <i>wide variability in practice</i> )

# Reusable surgical drapes and gowns

“Wash them don’t throw them!”

## Carbon Saving

Per Procedure	3.84kgCO <sub>2</sub> e
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Annual (95% applicability, 498/522)	1900kgCO <sub>2</sub> e
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National (80% applicability (41600)	152,000kgCO <sub>2</sub> e
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## Financial Saving

Per Procedure	Financial impact unavailable. ‘Special
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Annual	Item’ contract with BBraun Ltd
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National	
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# Retractor for Abdominal Insufflation-Less Surgery

In collaboration with The Leeds  
Global Health Research Group

## Carbon Saving

Per Procedure	89.6kgCO <sub>2</sub> e
Annual (50% applicability, 261/522)	23,385kgCO <sub>2</sub> e
National (50% applicability (21000))	1,881,600kgCO <sub>2</sub> e

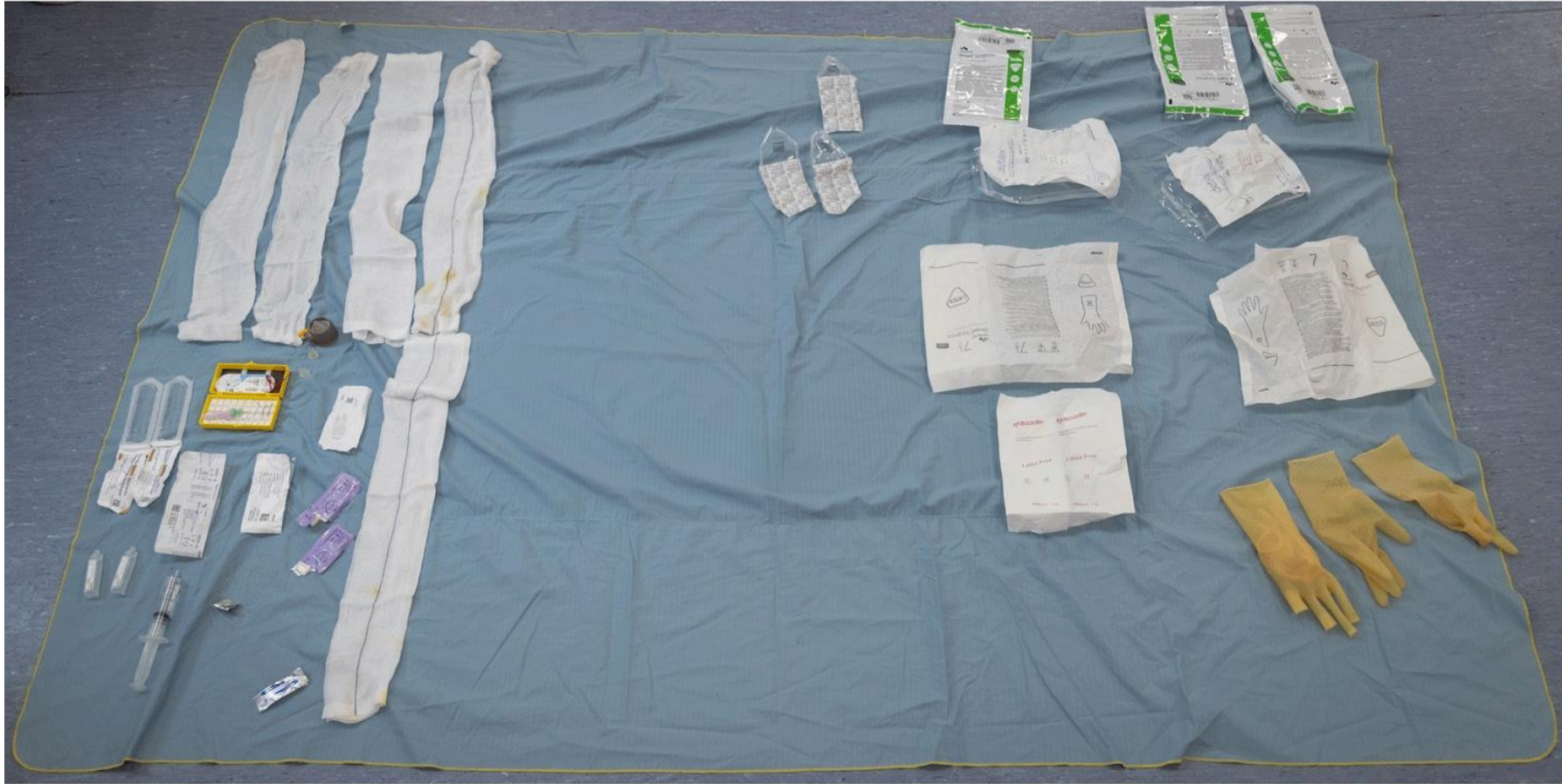
## Financial Saving

Per Procedure	£293
Annual	£76,473
National	£6,153,000









# Bottom Line

“...the emergency of the climate comes down to a single number; the measure of carbon dioxide in our atmosphere”

Sir David Attenborough, COP26, 2021

Carbon Saving	
Per Procedure	96.18kgCO <sub>2</sub> e
Trust Annually (50% applicability, 261/522)	26,400kgCO <sub>2</sub> e
National (50% applicability (41600)	2,140TCO <sub>2</sub> e
Financial Saving	
Per Procedure	£301
Trust Annually	£89,670
National	.....£7,000,000 assuming widespread implementation



## Local Change Since

- Implementation of the green appendicectomy tray as a standard in acute theatres
- 'Green appendicectomy' checklist









# Evaluation of Changes

- 120 appendectomies performed 'green'
- <10% opened any single wrapped items
- Good identification at brief of patients not suitable
- Surgeons and theatre staff satisfied with changes
- Some challenges along the way
- Future expansion





# How To Make Change in Theatre



**Identify a procedure/process you want to change**



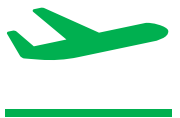
**Process Map**



**Calculate difference**



**Find your procurement team**



**Pilot the change**

# Lessons I learnt (and am still learning)



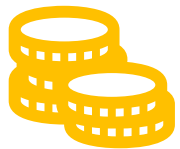
**Collaborate with all relevant stakeholders**



**Choose your changes wisely**



**Don't expect change overnight**



**Entice trust-wide change by demonstrating financial impact**

Thank You!

Katie.boag@nhs.net



@boag\_katie