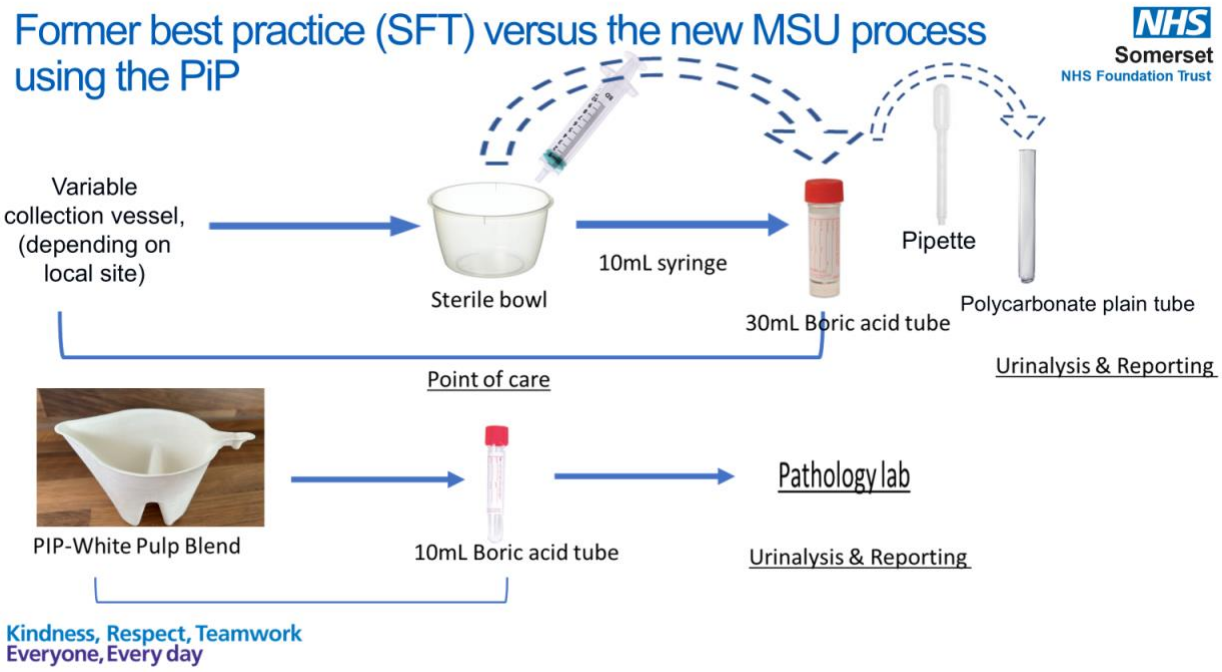
Pee In Pot- A sustainable NHS-derived innovation for mid-stream stream urine collection

The Problem Statement:

- **Inconsistent and variable practices observed at ward and service level in how urine is collected , even more so within community care settings.**
- **Mid-stream urine collection can be time-consuming and there is a risk of sample contamination.**
- **Mid-stream urine collection often involves several steps and plastic items such as a sterile collection vessel, pipetting, or transfer and a 30ml boric acid tube.**

Background : The above elements of a multi-faceted problem statement led one of our consultant Urologists-Mr Nick Burns-Cox to innovate along with a product designer friend and clinical fellow with a special interest in sustainability- to create a sustainable version of an ergonomically designed urine collection vessel. A class 1 IVD device (UKCA). Somerset NHS Foundation Trust has partnered with Polyco Healthline Ltd, who have great sustainable credentials as a supplier and expertise in medical pulp manufacture and design. The two parties are working together to change the way care pathways can be delivered in a more sustainable manner using white medical grade pulp products.

Current revised MSU collection process within Somerset NHS Foundation Trust versus historical (best practice) noting that this process may vary within your own care settings as a provider of healthcare.



Key Lessons Learned from adoption:

1. We introduced a special anti-nesting feature to facilitate the lifting out of each PiP when needed from the carton. The PiP when unpacked will be presented in a carton of (20) with a tear-down strip that enables the PiP to be easily lifted out by the edges.
2. The PiP must not be stored in a sluice room but in an appropriate ward/unit area where it can be easily accessed , hence the carton size has been designed with that in mind.
3. We modified the instructions for use in pictorial alongside written form , following feedback from the UK Infection Prevention & Control Society-Sustainability special interest group.
4. We refined the financial savings calculator for procurement teams to use as part of their adoption case.
5. Roll out in a phased manner works well, starting with high volume MSU sites such as the Emergency Department, Urgent Care, Day Surgery
6. The laboratory team need to check that the 10ml boric acid tube fits their urinalysis analyser, our laboratory uses Becton and Dickenson analysers.

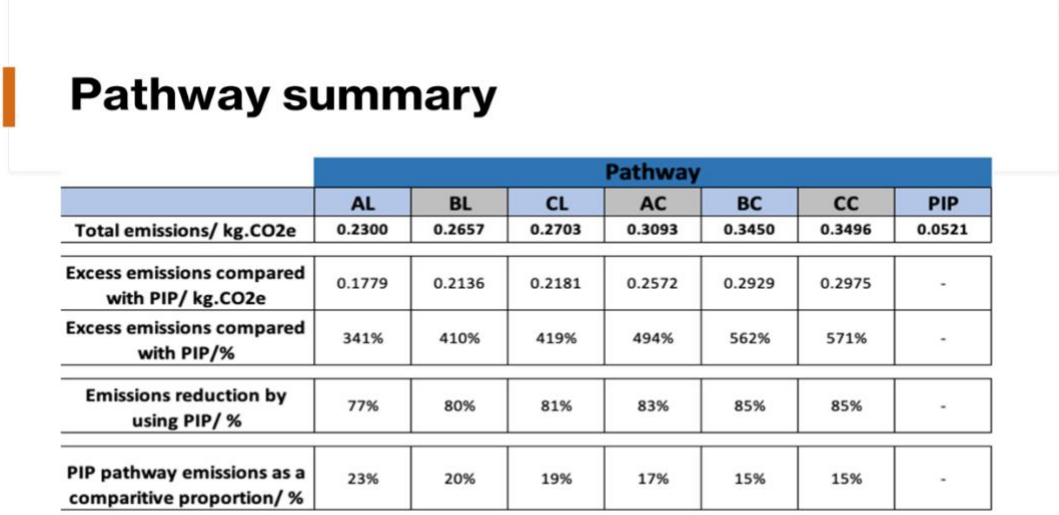
7. The wards /care settings must stop stocking 30ml boric acid tubes for urine samples and order 10ml boric acid tubes for urine samples. These only require 6-7ml of urine and must not be filled to the top from the PiP.
8. The PiP must be held from underneath, the pouring snout is not to be held as a handle.

The case for change:

1. Saves money by swapping out of several items within your current MSU collection pathway and introduces carbon savings and indirect cost savings in terms of Healthcare Assistant and Lab Technician time.

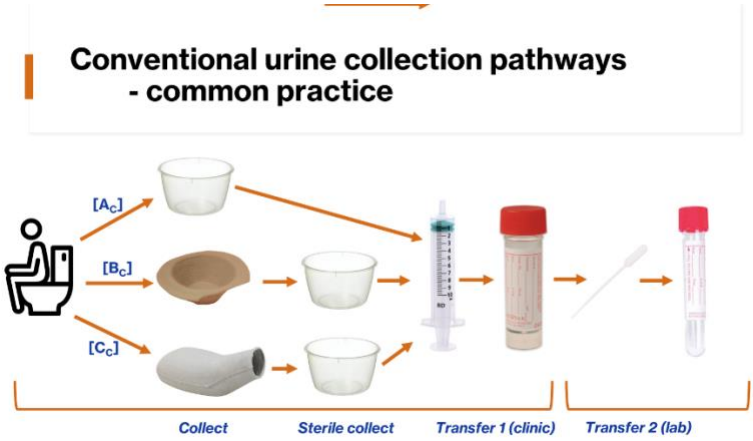
PiP Cost Savings Model (2024).xlsx

2. Carbon savings are significant > 77%, dispose via maceration

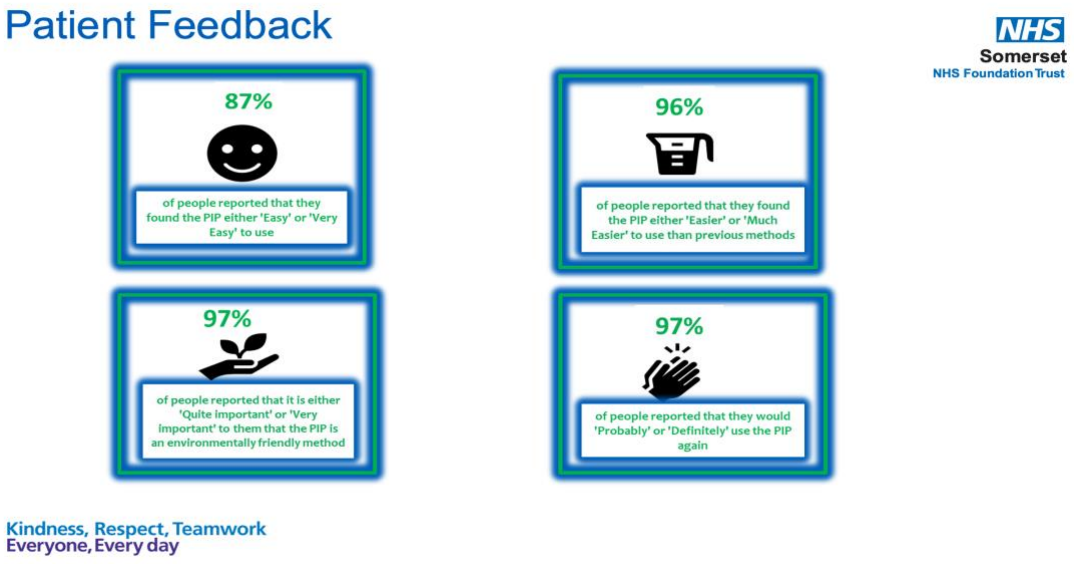


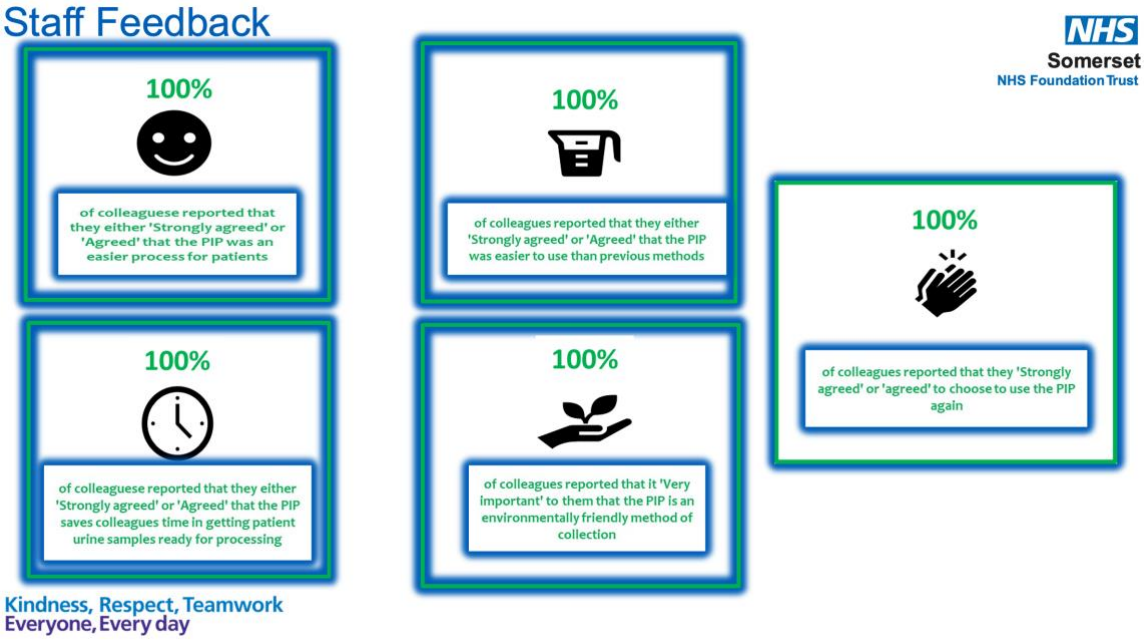
Pathway summary

	Pathway						
	AL	BL	CL	AC	BC	CC	PIP
Total emissions/ kg.CO2e	0.2300	0.2657	0.2703	0.3093	0.3450	0.3496	0.0521
Excess emissions compared with PIP/ kg.CO2e	0.1779	0.2136	0.2181	0.2572	0.2929	0.2975	-
Excess emissions compared with PIP/%	341%	410%	419%	494%	562%	571%	-
Emissions reduction by using PIP/ %	77%	80%	81%	83%	85%	85%	-
PIP pathway emissions as a comparitive proportion/ %	23%	20%	19%	17%	15%	15%	-

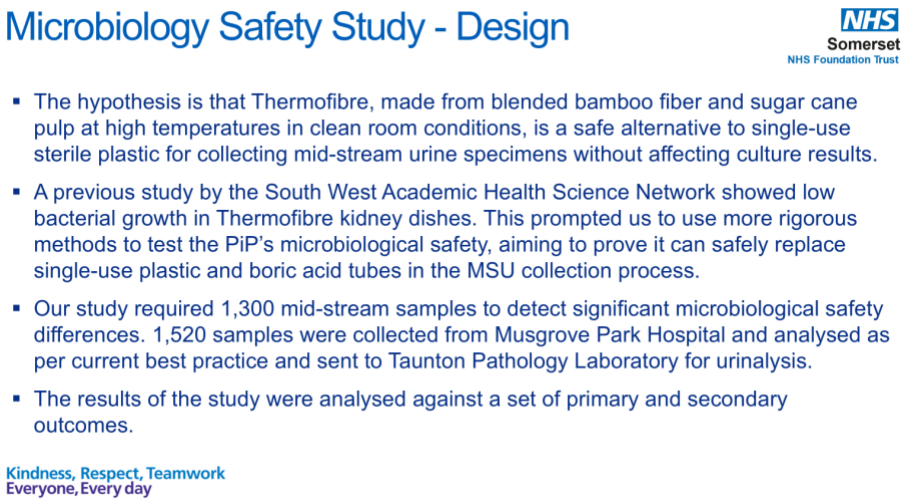


3.Very well accepted by both patients and staff





3. The “game-changer” from an Infection , Prevention & Control Perspective : univalent from a microbiological safety perspective as a sterile plastic vessel for collection of a MSU.



Outcomes from the Microbiology Study (PiP versus single use sterile plastic vessel)

NHS Somerset NHS Foundation Trust

SECONDARY OUTCOMES:

The negative culture results confirm an **acceptable level of equivalency.**

Negative culture summary table

organism	PiP + prop.	plastic + prop.	difference	lower C.I	upper C.I	ratio
Mixed Growth	0.069546	0.073939	-0.004388	-0.013215	0.004443	0.940594
No significant growth	0.486823	0.486091	0.000731	-0.012478	0.013940	1.001506
Culture Not indicated.	0.388726	0.382138	0.006579	-0.005317	0.018475	1.017241
Streptococcus Group B	0.001275	0.001275	0.0	-0.001764	0.001764	1.0

Step. B for *non* antenatal samples

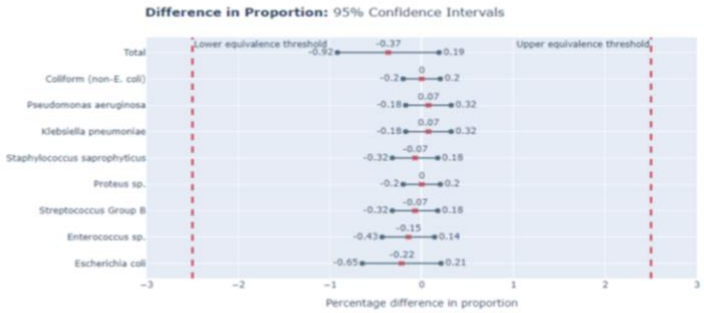
Kindness, Respect, Teamwork
Everyone, Every day

Outcomes from the Microbiology Study (PiP versus single use sterile plastic vessel)

NHS Somerset NHS Foundation Trust

PRIMARY OUTCOMES:

- Reportable culture results for 6 common bacteria (Positive Culture Results).
- No significant difference based on normal laboratory variation being <2.5%.



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4. The PiP Product is available through NHS Supply Chain (Medical Pulp Category): catalogue number & order code ....., available in packs of 10 cartons (20 PiPs/carton) cost: £68 + VAT (200) , here is an embedded image file of the carton packaging and the packaging in which the PiP will be shipped to your healthcare facility . The “ask” is that you consider adopting this as part of a more sustainable and cost-effective means of collecting MSUs.

PIP20 Inner artwork2 Final 161024.pdf

PiP20 Outer artwork 171024.pdf

Who to contact with any questions:

generic email: (commercial@somersetft.nhs.uk) , you will receive an acknowledgement within 1 working day

Suggestion:

Take a look at You Tube Video :

https://www.youtube.com/watch?v=g6jwpyO2lSA

OUR OFFER TO YOU:

- To facilitate a MS-Teams based training session on how to adopt the PiP, attended by our Infection Prevention and Control Team, and a member of the coordinating project team