



# Towards zero-waste operating theatres

**A joint statement of demand for solutions to support a  
transition to zero-waste operating theatres**

## **A JOINT STATEMENT OF DEMAND FOR SOLUTIONS TO SUPPORT A TRANSITION TO ZERO-WASTE OPERATING THEATRES**

*University Hospitals Bristol and Weston NHS Foundation Trust (UHBW) has identified a requirement for new solutions and alternative products that will support a transition to Zero Waste Operating Theatres.*

*"Theatre staff are increasingly concerned about the volumes of waste and notably plastic waste we see every day. We are all too aware of the impact of plastics on the environment, climate change and human health and are committed to taking the steps needed to bring about real change."*

Amelia Pickard, Consultant Paediatric Anaesthetist, Bristol Royal Hospital for Children, UHBW

*This joint statement of demand has been developed by University Hospitals Bristol and Weston NHS Foundation Trust (UHBW). It describes the current situation and its limitations, why innovation is needed, and the outcomes required of new and alternative solutions. It is being launched with the support of NHS England and NHS Improvement and Healthcare Without Harm Europe.*

*In order to demonstrate a credible market demand for a solution that can deliver these outcomes, we are reaching out to other hospitals that may have a similar need and may, in the future, be interested in buying such a solution and / or collaborating in this initiative.*

*We therefore invite you to read this statement of demand and provide your feedback via a short survey. Alternatively get in touch with us via email. You can find the link to the survey at the end of the document. Please pass this document onto anyone you think would be interested.*

*"NHS England and NHS Improvement firmly believe that aiming for zero waste is the way forward for the NHS. I encourage other NHS Trusts to get behind this initiative and help bring forward solutions to support a zero waste future."*

Fiona Daly, National Sustainability and Workforce Lead, Estates and Facilities NHS England and NHS Improvement, Commercial Directorate

*The following organisations have confirmed that they support this initiative and share this unmet need:*

*Buckinghamshire Healthcare NHS Trust  
County Durham and Darlington NHS Foundation Trust  
East Lancashire Hospitals NHS Trust  
Great Ormond Street Hospital for Children NHS Foundation Trust  
Guy's and St Thomas' NHS Foundation Trust  
Evelina Children's Hospital  
Manchester University NHS Foundation Trust  
Newcastle upon Tyne Hospitals NHS Foundation Trust  
North Bristol NHS Trust  
Royal Cornwall Hospitals NHS Trust  
St George's University Hospitals NHS Foundation Trust  
University Hospitals Sussex NHS Foundation Trust*

*The following organisations have confirmed that they support and endorse this initiative:*

*Centre For Sustainable Healthcare  
GASP - Greener Anaesthesia and Sustainability Project  
Green Endoscopy  
SEASN - Severn Environmental Anaesthesia & Sustainability Network  
WEAN - Welsh Environmental Anaesthesia Network*

## Introduction

University Hospitals Bristol and Weston NHS Foundation Trust (UHBW) and the Bristol and Weston Procurement Consortium are committed to supporting the transition to a circular economy. Working with our clinical staff we have identified an unmet need for a range of solutions that will support a transition to zero-waste operating theatres.

The UK NHS disposes of around 600,000 tons of waste each year, around 133,000 tons of which is plastic. Operating theatres are known to be the most resource-intensive area of the hospital, generating as much as 30% of hospital waste. Much of this waste volume is single use plastic (SUP), the majority of which is packaging.

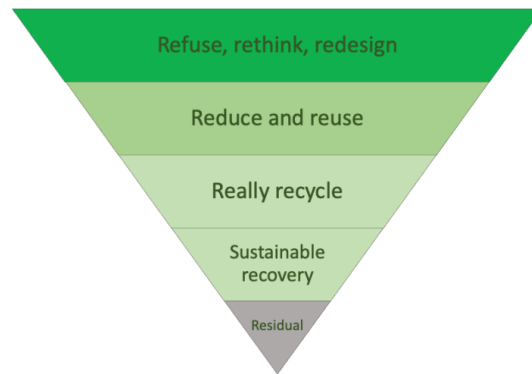
Each operation generates waste. For example, a single cataract operation generates 3kg of waste, and over 100 separate pieces of SUP are used in a tonsillectomy. These volumes are echoed across hospitals worldwide. There are considerable opportunities to reduce the use of SUP and other single use items such as laryngoscope blades and to increase reprocessing, reuse and recycling. [1]

Our ambition is for this initiative to help drive the circular economy. We will aim to achieve this through a combination of:

- Making procurement choices based on the waste hierarchy, ie:
  - Progressively eliminate problematic or unnecessary plastics and favour those items that can be reprocessed, reused, or are responsible [2]
  - Where products cannot be safely reprocessed or reused, selecting products that are recyclable, or compostable
- Changing behaviour and choices of theatre staff through ongoing engagement and education
- Adopting environmentally sustainable waste management practice and contracts [3]
- Demonstrating a wider demand for Zero Waste solutions

Together, these practices will progressively increase resource efficiency, keep plastic out of the environment, and ultimately achieve full circularity.

Figure 1. Routes to Zero Waste Theatres. We will explore what is possible with the supply chain and consult with suppliers as to how we can support and work with them to bring forward new solutions and better outcomes for healthcare, the environment and society. While reduction is helpful, one-off reductions will not deliver zero waste. All solutions will need to demonstrate that they are on a pathway to zero waste, i.e. to entering a circular flow.



## Why change and innovation are needed

Most plastic waste does not decompose; it can last for centuries in landfill, and there are increasing concerns about the amount of plastic in the environment, polluting land, rivers, and seas, and about the impact of waste management practices including incineration and waste to energy. [4] Worldwide marine plastic pollution alone is expected to treble to 150 million tonnes by 2025 if nothing is done. Furthermore, the cost of disposal in the NHS is significant, some £115 million in 2019.

*"Plastic is an extraordinary material and has an important role to play in modern healthcare. However, the current volumes of plastic that are processed and then end up in waste streams has a significant environmental impact, financial cost and is detrimental to health. The Trust is committed to taking positive action and to working with other hospitals and suppliers to progress to Zero Waste Operating Theatres, meaning all solutions have a route to circular material flow."*

Sam Willitts, Head of Sustainability, UHBW

The drivers for change are considerable. There is increasing consensus among customers and suppliers that the way we use and dispose of plastic has to change. The UK Government aims to eliminate avoidable plastics by the year 2042 and in the Trust's [Sustainable Development Strategy](#), 2020-2025 (SDS) we pledge to take significant strides to reduce the use of single use plastics and work with partners and suppliers to support the circular economy.

UHBW has made incremental progress in reducing plastic waste in line with the [NHS Plastics Pledge](#) and the UHBW [Sustainable Development Strategy](#), notably in non-clinical use such as catering. However more needs to be done; the publication of the NHS Net Zero Targets, increasing public and staff concern and the impact of the COVID pandemic on waste volumes requires us to step-up our efforts across the Trust and across healthcare in general.

"We need to move away from today's linear take-make-waste model and fundamentally rethink the way we design, use, and reuse plastics. A systemic shift tackling the root causes is required: a transition towards a circular economy for plastic, in which it never becomes waste or pollution." [5]

Procurement of all consumables and their disposal also contributes significantly to the NHS Carbon Footprint. Plastic consumables feature highly in the priority list identified by the NHS Sustainable Development Unit (SDU) as being among the largest contributors to carbon emissions of all items procured by the NHS.

The NHS Net Zero commitment is for the NHS Carbon Footprint to reach net zero by 2040 and for the NHS Carbon Footprint Plus to be net zero by 2045. At UHBW we are committed to decarbonise sooner, aiming to be carbon neutral by 2030. Working with suppliers to develop and adopt new solutions plays an essential role in enabling us to reach our goal.

Delivering the scale of change necessary to ultimately achieve Zero Waste Operating Theatres will require the engagement of internal stakeholders, collaboration with our healthcare partners and partnership with the supply chain. While some of the opportunities we have identified internally can be considered 'quick wins', our focus now will also require innovation on the part of our suppliers and changes in our procurement choices and practices.

While many alternatives already exist on the market, for example reusable gowns and drapes and supplier take-back schemes, means to widen their availability on the market and uptake are needed. This may include the ability to demonstrate whole life cycle value through reduced waste, and for this to be visible in the procurement choices being made.

*"Procurement is key to us tackling some of our current challenges. We need to create progressive frameworks that allow us to purchase zero waste goods and services, and that help us achieve our net zero carbon and circular economy ambitions."*

Fiona Daly, National Sustainability and Workforce Lead, Estates and Facilities NHS England and NHS Improvement, Commercial Directorate

We are adopting a number of measures to progressively reduce the use of single use plastic material, and increasingly divert plastic 'waste' to circular material pathways by enabling behavioural change among our staff, changing our procurement practices, setting progressive targets for our suppliers, and sending clear signals to the market regarding the direction of travel to zero waste healthcare.

Making Zero Waste Operating Theatres a reality also means fundamentally rethinking our approach to 'waste' management. This is being addressed through a parallel initiative to source an environmentally sustainable integrated waste reduction and management service. You can find this Statement of Demand at: [www.ecoquip.eu/procurement-projects/towards-zero-waste-operating-theatres.html](http://www.ecoquip.eu/procurement-projects/towards-zero-waste-operating-theatres.html).

*"Achieving our objectives will require action on multiple fronts, changes in the procurement choices we make, and innovation in the supply-chain."*

Rachael Pemberton, Deputy Director of Procurement, Bristol & Weston  
NHS Purchasing Consortium

## **Wider market demand**

Achieving our ambitions requires that we demonstrate to our suppliers that there is a credible market demand, i.e. that other healthcare providers have similar commitments and requirements and will change their purchasing patterns to achieve them.

We are therefore working with NHS England and NHS Improvement and Health Care Without Harm (HCWH) Europe to help us to reach out to other hospitals and healthcare providers and find those that have the same or similar commitment and would be interested in buying solutions to support this objective.

*"Health Care Without Harm Europe strongly supports this collaborative approach and endorses this statement of demand. The healthcare sector needs to completely rethink how products are designed and consumed, and focus more on safe, reusable alternatives rather than relying on recycling, which still remains largely inefficient. Through initiatives like this Joint Statement of Demand, we can work together to increase the demand and uptake of solutions that prevent creating waste in the first place."*

Arianna Gamba, Circular Healthcare Programme Manager, Health Care  
Without Harm Europe

Following this consultation with other Trusts and healthcare providers across Europe, we will embark on a market consultation to determine the best way to work with the supply chain to support the transition to Zero Waste Operating Theatres. We hope to identify 'quick wins', market-ready or near market solutions and opportunities for innovation and co-creation with our suppliers and we will explore with our partners and supply chains the contracting, service and framework models that can facilitate this transition.

*"We want to join forces with other healthcare providers who want to take positive action to address this problem which will have benefits for the environment and health, and it makes economic sense."*

Joaquim Duarte, Sustainable Waste Manager, UHBW

## The requirement

UHBW has identified a requirement for new and / or alternative medical devices, products and services that will support a transition to Zero Waste Operating Theatres (ZWOT).

The outcomes we are seeking to achieve:

- Minimising the use of single use plastic (SUP) and other single use items
- Increasing use of reprocessing, sterilisation, cleaning technologies and other services
- Eliminating problematic or unnecessary plastic packaging, for example through
  - Reducing the quantity of plastic packaging
  - Eliminating unnecessary packaging
  - Any necessary packaging is 100% reusable, recyclable or compostable
- Increasing genuine plastic recycling (zero export and zero incineration of recyclables)
- Diverting plastic recyclates and waste to an appropriate circular material flow for reuse
- Eliminating residual 'waste' and waste to landfill without resorting to incineration including waste to energy

ZWOT solutions and alternatives should:

- Have a clear route to zero waste, and not simply lock in a one-off reduction
- Respect the waste hierarchy, seeking first to reduce unnecessary consumption, then to keep items as much as possible in the economy by reusing
- Ensure patient and staff safety and not compromise patient outcomes
- Reduce embedded carbon emissions
- Minimise environmental and health impact
- Meet all necessary standards and regulations
- Demonstrate life-cycle efficiencies
- Ensure that human rights and labour rights are respected

These requirements will be supported by a fundamental rethink of our approach to consumption and 'waste' management towards an environmentally sustainable waste reduction and management service.

For more information see: [www.ecoquip.eu/procurement-projects/environmentally-sustainable-waste-reduction-and-management-service-for-hospitals.html](http://www.ecoquip.eu/procurement-projects/environmentally-sustainable-waste-reduction-and-management-service-for-hospitals.html).

## **What can you do next?**

Thank you for taking the time to read this Statement of Demand. UHBW is keen to identify and engage with other hospitals and healthcare providers, in the UK and beyond, that have the same or similar needs or may be aware of potential solutions before we start communicating with the supply-chain. At this stage, we have the flexibility to adapt the Statement of Demand to include particular needs that would increase the relevance for other interested healthcare customers.

Demonstrating that there is a wider potential market will better encourage potential suppliers to invest in developing innovative solutions, and help to bring economically viable alternative solutions to the market.

Your voice is vital to encourage suppliers to innovate to provide solutions and procurement priorities to take fully into account the impact of the choices being made. If you also believe that this is an unresolved issue / unmet need or would like to provide feedback, then please follow the link below. This will take you to a short survey which will help us to gather views and gauge interest.

**[Click here to complete the survey.](#)**



## About the buyer

University Hospitals Bristol and Weston NHS Foundation Trust (UHBW) was formed on 1 April 2020 following the merger of University Hospitals Bristol NHS Foundation Trust and Weston Area Health NHS Trust. We aim to be a beacon for outstanding education, research and innovation.

Bringing together a combined workforce of over 13,000 staff, the new Trust delivers over 100 different clinical services across 10 different sites serving a core population of more than 500,000 people.

We aspire to be a leader in the field of sustainable healthcare using our influence to enable our staff, patients, suppliers and healthcare partners to achieve a sustainable and resilient health and care system for our region and nationally. We are committed to becoming carbon neutral by 2030, improving air quality and reducing our use of single use plastics.

With services from the neonatal intensive care unit to care of the elderly, we provide care to the people of Bristol, Weston and the south west from the very beginning of life to its later stages.

Our staff are the lifeblood of our Trust. They provide general diagnostic, medical and surgical services to the populations of central Bristol, south Bristol and North Somerset. These services are delivered from our Bristol city centre campus and Weston General Hospital with some services delivered in community settings such as South Bristol Community Hospital.

We also provide specialist services such as children's services, cardiac and cancer services, and other smaller specialist services that are nationally commissioned, to a wider population through the south west and beyond.



## References

1. Rizan C et al. Plastics in healthcare: time for a re-evaluation. Journal of the Royal Society of Medicine; 2020, Vol. 113(2) 49-53
2. (adjective) a medical instrument that is wholly or partly reusable
3. [www.ecoquip.eu/procurement-projects/environmentally-sustainable-waste-reduction-and-management-service-for-hospitals.html](http://www.ecoquip.eu/procurement-projects/environmentally-sustainable-waste-reduction-and-management-service-for-hospitals.html)
4. <https://waste-management-world.com/a/cewep-only-invest-in-additional-waste-to-energy-capacity-where-needed>
5. [www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy](http://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy)

### General information

[gaynor.whyles@jeraconsulting.com](mailto:gaynor.whyles@jeraconsulting.com)  
[www.ecoquip.eu](http://www.ecoquip.eu)

### Specific information on this document

[samuel.willitts@uhbw.nhs.uk](mailto:samuel.willitts@uhbw.nhs.uk)  
[www.uhbw.nhs.uk/](http://www.uhbw.nhs.uk/)

---

## About EcoQUIP+

EcoQUIP Plus ([www.ecoquip.eu](http://www.ecoquip.eu)) is a collaborative innovation procurement project in the healthcare sector. EcoQUIP Plus aims to demonstrate how pro-innovation procurement methods can improve the efficiency, quality and sustainability of healthcare and to increase the take up of much needed innovative solutions through collaborative actions.

If you would like to find out more about EcoQUIP+ please visit:



[www.ecoquip.eu](http://www.ecoquip.eu)



[@EcoQuipPlus](https://twitter.com/EcoQuipPlus)



With the contribution of the COSME  
Programme of the European Union

The content of this document represents the views of the authors and the EcoQUIP Plus Consortium only and is their sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Executive Agency for Small and Medium-sized Enterprises (EASME) or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.