



Catalysing action on single-use items in healthcare

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Forewords



As a global healthcare company, we've been looking after people's health for over 75 years, and during that time we've seen that people's health and wellbeing are inherently linked to the environments in which they live. Climate change is a major threat to human health, and we can't escape the fact that the healthcare sector at large is part of this problem – generating 4.4% of global emissions.¹ To support health in a changing climate, we must reimagine healthcare to create net zero, resilient health systems.

We also recognise that the environmental impact of healthcare goes far beyond emissions, and across the healthcare industry we urgently need to tackle the waste and pollution that it generates as well – especially that from single-use items.

The issue of single-use items in healthcare is a complex topic, and while this paper is not intended to serve as a comprehensive review, it aims to increase visibility of the issue, spotlight organisations making positive progress, and showcase the solutions that are currently available.

Plastic pollution in particular poses serious health risks. Plastics used in healthcare often contain thousands of hazardous additives that leach into the environment and persist for decades, threatening patients, communities, and ecosystems.

This issue resonates deeply with our clinical teams. With over 50 million customers and 50,000 healthcare professionals working in our hospitals, clinics, dental practices, care homes, and offices worldwide, it's an issue that we can't ignore, but recognise that any changes to clinical practice must never compromise the quality of patient care.

Fortunately, we're not starting from scratch – many leaders have paved the way and their insights and case studies have greatly informed this whitepaper, helping us advance this conversation towards actionable progress.

We're also deeply grateful to our partners at the international non-governmental organisation Health Care Without Harm, who are instrumental in supporting sustainable transformation in healthcare and encouraging others to join us on this essential mission.

Nigel Sullivan

Chief Sustainability and People Officer, Bupa

Anne Lepetit

Chief Medical Officer, Bupa



Working together, Bupa and Health Care Without Harm are committed to raising awareness across the health sector about the overuse of single-use items, especially plastics, and provide leadership and strong rationale

for why reduction is both possible and financially efficient around the world.

Healthcare is a major user of plastics. Some of these uses are essential, while other uses are incredibly wasteful and costly. In the US alone, in 2020, single-use surgical masks and isolation gowns contributed the carbon dioxide equivalent of 78 coal fired power plants operating continuously.

Because 99% of all plastics are derived from fossil fuels, plastics are also driving the climate crisis, contributing to almost 4% of global greenhouse gas emissions.

Plastics are in our oceans and rivers, in our landfills, and are polluting our air through their incineration.

They have chemically trespassed into our bodies, with microplastics showing up in people's brains, lungs, placentas, and other organs. These microplastics are especially dangerous during the first 1,000 days of a child's life, during critical windows of development. Research is documenting that exposure to some plastics can contribute to diabetes, obesity, and certain types of cancer.

This paper is a first step in this essential process to help healthcare come into greater alignment with its ethical mission to "first, do no harm."

Gary Cohen

President and Founder, Health Care Without Harm

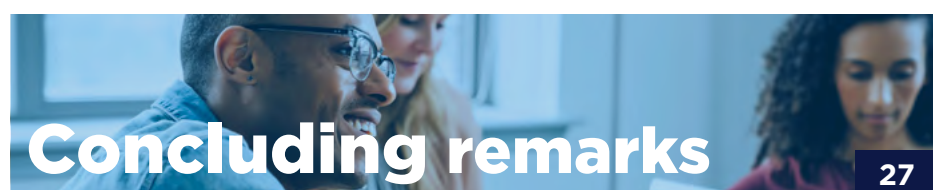


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With thanks for the support from



Executive summary

Over 60% of countries globally have started to ban or tax single-use items, especially plastic products – but so far, no countries have introduced legislation in healthcare. We need catalysts across the healthcare sector, from

manufacturers and regulators to academic institutions, to increase the rate of innovation and research, to give permission to change, while high quality healthcare remains unchanged.

Key considerations

Single-use items are integral to healthcare for infection control and convenience but contribute significantly to **global waste** and **environmental harm**.

These items also pose health risks, with **microplastics** and **toxic additives** linked to serious conditions.

Transitioning to more **sustainable alternatives** presents an opportunity to **reduce carbon footprints**, reduce waste, lower costs, and enhance system resilience.

Consideration should be given to the **secondary impacts** associated with reusable alternatives such as increased **energy demands** for sterilisation of reusables, establishment of **new waste streams**, and product storage.

Collective action is essential to address this complex and growing challenge while maintaining high standards of patient care.



Call-to-action

It's time to take bold, collaborative action to address the challenges of single-use items in healthcare. To all those who work across the healthcare sector – we need to stop complacency, challenge the status quo, and lead with innovation. Each organisation and individual plays a critical role, and we all rely on one another to drive progress.

This white paper outlines key principles for addressing **single-use item reliance** in healthcare, emphasising that any changes maintain the **highest standards of patient care**. It provides **practical, actionable steps** and highlights the need for **further research** into the health and environmental impacts of single-use materials. Throughout, **global case studies** are presented from diverse healthcare settings, showcasing a range of sustainable initiatives and innovations.

Summary of recommendations

This whitepaper outlines recommended actions for key stakeholders, including healthcare providers, regulators, manufacturers, suppliers, distributors, clinicians, and academic partners. Bupa, in collaboration with Health Care Without Harm, is working to turn recommendations into actionable steps that reduce emissions and minimise

healthcare's environmental impact. As a member of Health Care Without Harm's Global Green and Healthy Hospitals network, Bupa is seeking to leverage that global network to drive best practice, foster collaboration, and accelerate the shift toward a sustainable, low-carbon, and resilient healthcare future.

Healthcare providers

- Establish governance structures and a cross-departmental programme team to co-ordinate and drive action
- Review organisational waste policies, processes, and infrastructure, incorporating behaviour change principles where relevant
- Identify products and suppliers who provide more sustainable alternatives to single-use items
- Engage with suppliers and internal teams to identify innovation gaps, and align with clinical requirements
- Gather data and explore research opportunities into cost, carbon, and health outcome impacts.



Healthcare professionals

- Proactively engage and participate in sustainability initiatives seeking to align people and planet health.



Manufacturers and suppliers

- Reformulate custom procedure packs to reduce unnecessary waste
- Accelerate innovation efforts to design out single-use items, create more sustainable alternatives, and influence policymakers where applicable
- Reassess the necessary expiry dates of single-use items, particularly those that are non-sterile
- Modify products to ensure they are compatible with current cleaning/sterilisation methods
- Collaborate with sustainability-focussed healthcare providers, policymakers, and NGOs to design products with high impact
- Scale remanufacturing processes and services, ideally in local regions.



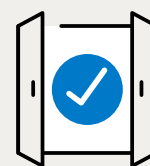
Product distributors and directories

- Improve the visibility of more sustainable alternatives to SUIs through existing product catalogues and/or listings on green procurement platforms
- Consider longer-term vendor contracts.



Healthcare regulatory bodies

- Schedule regular review of guidance and standards to incorporate a sustainability lens as evidence emerges
- Proactively identify and review any regulations or guidance that may contribute to the unnecessary use of single-use items.



Research institutions and funders

- Collaborate with healthcare providers and other researchers to identify research needs, gather data, and conduct research to provide support for a transition from SUIs where merited
- Develop skills in sustainable research practices
- The wider research system, including universities, journals and funders, need to match researcher efforts to advance environmentally sustainable research.



Across the healthcare sector

- Collaborate with external partners and participate in regional/global networks to share insights
- Facilitate the delivery of engagement and training initiatives for healthcare staff and employees likely to be involved in, or affected by, the shift towards more sustainable items.





SUIs have become abundant in healthcare, with a dramatic shift in recent decades from reusable to single-use driven largely by factors such as infection prevention and control (IPC), cost, convenience, procurement, and product innovation.²

Studies in the UK estimate that an average of 21 single-use items (SUIs)³ are used per dental procedure in primary and secondary care, as well as 30 to 64 SUIs⁴ for various surgical procedures.

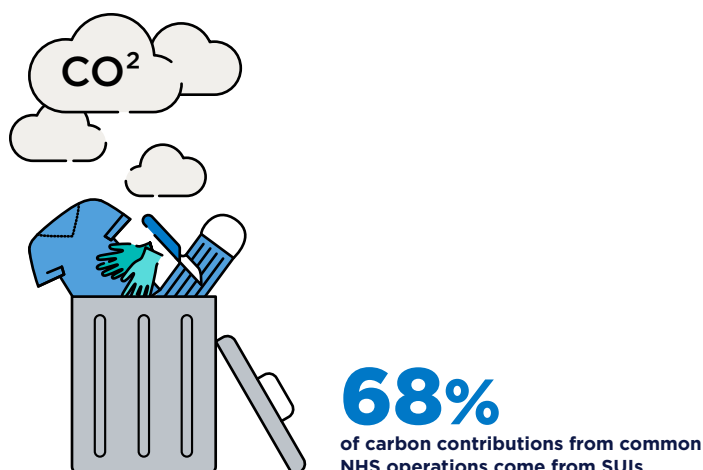
It would be difficult to find a clinical setting in many parts of the world that doesn't rely on SUIs – from the instrument trays in operating rooms to the rinsing cups in dental practices, the medicine pots in care homes, and the countless pairs of gloves used daily by healthcare workers.

In the five most common surgical operations carried out in the NHS in England (carpal tunnel decompression, inguinal hernia repair, knee arthroplasty, laparoscopic cholecystectomy, and tonsillectomy), 68% of carbon contributions⁴ came from SUIs, such as single-use gowns, patient drapes, and instrument table drapes.

These clinical items are used for safe and effective delivery of care, with infection control a key safety consideration. However, reusable items can provide an effective and more sustainable alternative.

Additionally, the upward trend in global health demand and resource consumption – caused in part by ageing populations, increasing levels of chronic disease, and climate change impacts⁵ – is accelerating both the production and consumption of single-use products. SUIs can be made from – and packaged in – any number or combination of materials, but plastic is undoubtedly prevalent in many.

In March 2022, at the UN Environment Assembly, a historic resolution was adopted to develop an international legally binding instrument on plastic pollution. While the treaty negotiations are primarily focused on reducing or capping virgin plastic production – a measure that could significantly influence supply and demand – Health Care Without Harm successfully campaigned⁶ to the Intergovernmental Negotiating Committee on Plastic Pollution for special consideration for the healthcare sector in the developing Plastics Treaty, not a blanket exemption. A blanket exemption would have been inconsistent with the health mission of the sector, as plastic harms human health and the environment at each stage of its life cycle, and would inhibit innovation and momentum for plastics reduction, reuse, and redesign.



Planet



Collective action is required across the healthcare sector to transform the systems in which materials are produced, used, and disposed of, to drastically reduce the environmental

harm caused by the large volumes of single-use, predominantly plastic, items. Small changes alone will not be enough to address the growing demand for healthcare; instead, these efforts must be integrated into a broader, systemic approach.

SUIs significantly contribute to the healthcare waste stream: one UK NHS study⁷ found that, across the whole supply chain, 15 product categories represent 69% of total weight of plastic used, with disposable items like gloves, protective clothing, wipes, and continence care products accounted for more than 50% of total plastic usage. Globally, plastic makes up between 22%⁸ to 83%⁹ of healthcare waste, depending on the region, facility, and department, with an estimated 35–40% of all plastic products¹⁰ produced globally being single-use – higher still in healthcare.

The environmental impact is significant: 42% of healthcare plastic waste is incinerated,¹¹ and incinerating solid waste generates more CO₂ emissions per megawatt-hour of electricity than burning coal, gas, or oil.¹²

The production, disposal, and incineration of these materials are not only driving climate change but also polluting ecosystems and destroying habitats, leading to a reduction in biodiversity.¹³ This biodiversity loss, in turn, has significant negative effects on human health.¹⁴

If current trends continue, the global volume of waste – including healthcare waste – is projected to rise by over 50% by 2050.¹⁵ Despite growing awareness, the proportion of recovered materials in the global economy has decreased over the past five years,¹⁶ reflecting the urgent need for systemic, cross-sector action to transition to a circular economy, and to discontinue our dependence on extracting resources from these ecosystems.

People



The volume of waste generated from SUIs,¹⁷ particularly plastics, is growing year on year, and this is having a detrimental impact on human health. The human health

impacts of plastics are of increasing concern¹⁸ – whether that's from micro- and nano-plastics in the air, food, and water; the risks associated with chemicals from plastic production;¹⁹ or the additives to alter material performance – and subsequently released from – the disposal or incineration of plastics.

Plastic pollution also disproportionately affects marginalised communities, and communities living near plastic production and waste sites, according to the United Nations Environment Programme (UNEP).²⁰

The PlastChem project report found more than 16,000 compounds are used or unintentionally present in plastics,²¹ and less than 6% of those chemicals are subject to global regulation. Astonishingly, for 66% of those chemicals, we have no hazard information and more than 3,000 known chemicals of concern in plastics are unregulated. In France, plastic tubing containing DEHP – a chemical that is commonly added to plastics to make them flexible – is already banned in paediatric, neonatal, and maternity departments.²²

Microplastic pollution has been linked to various health impacts,²³ including cancer, infertility, child developmental delays, and negative impacts to

the cardiovascular, gastrointestinal, and respiratory systems. It has also been linked to worsened health outcomes. One study examined 312 patients who had fatty deposits, or plaques, removed from their carotid arteries.²⁴ Nearly 60% of the samples contained microplastics, and patients with evidence of microplastics were over four times more likely to experience a heart attack, stroke, or death, than those without.

Safe levels of exposure to plastics, and the chemicals within them, are not currently known, but negative links to health have been found. For example, some medical equipment made from PVC contains additives²⁵ that are known to disrupt the endocrine system,²⁶ and studies have found that the greater the frequency and duration of contact with these PVC products, the higher the concentration of endocrine-disrupting additives in blood and urine samples.

These challenges together raise significant risks in the use of SUIs within the healthcare sector. Plastics are a diverse range of materials and compositions, and the lack of granularity in our understanding of this material complexity necessitates an understanding of the social barriers, waste management logistics, and unintended consequences of potential alternatives, to ensure decision-making is comprehensively informed.



There is a transformative opportunity across the healthcare sector to replace a significant proportion of single-use items (SUIs) with a verifiably more sustainable alternative. By using reusable or reprocessed products/materials, reducing product use through changing the behaviour of clinical teams or switching to products made of more sustainable materials, there is a real opportunity for the healthcare sector to lead by example, advocate for multi-sector action, and demonstrate the wide-ranging benefits.

Cost savings

Reusable items are often more expensive per unit than SUIs, but because they can be used many times, they are often more cost effective in the long-term – even when factoring in cleaning, disinfection, or sterilisation costs. This is especially true in clinical environments where compliance and material recovery is in-built.

Given the current healthcare economic landscape,²⁷ finding opportunities to reduce costs without compromising care is critical. The cost savings achieved by transitioning away from SUIs could help alleviate some of these financial pressures while contributing to sustainability goals.

Whilst more data is needed to define breakeven points for reusable healthcare items – such as understanding how many reuses are needed to achieve cost and carbon effectiveness – the case for change is growing.

Similarly, medical remanufacturing restores a used medical device to “as new” functional and safety standards, and can result in up to 50% cost savings per product and reduced waste to landfill and incineration.²⁸ Medical reprocessing offers similar benefits, and involves enabling a device to be reused by any – or a combination – of the following processes: cleaning, disinfection/decontamination, sterilisation, refurbishment, and repackaging.

In 2020, Bupa Cromwell Hospital in London were using single-use laryngoscope handles and drug trays. Since February 2023, Cromwell Hospital have switched to reusable handles and trays, preventing the incineration of around 1,900 laryngoscope handles and over 9,000 drugs trays each year. The hospital saved almost 3,500 kg CO₂e and £10,000 in the first year that has been reinvested into patient care.²⁹

Spotlight: Sanitas CIMA Hospital (part of Bupa) and La Ribera University Hospital, Spain (Health Care Without Harm Global Green and Healthy Hospitals)

Both hospitals have replaced single-use plastic infectious waste containers with reusable alternatives. For Sanitas CIMA, they have reduced the volume of this waste type by 15% since 2022. For La Ribera, this has resulted in over €119,000 in savings for the hospital since implementation in January 2020.³⁰ HCWH has collated many global case studies on reducing plastics in the health sector.³¹



Carbon savings

In 2017, the World Bank, in collaboration with Health Care Without Harm, published an estimated calculation which found that the health care sector generated roughly 5% of global carbon emissions.³² Health Care Without Harm estimates that 71% of global healthcare emissions are primarily derived from the health care supply chain (Scope 3),³³ and therefore reducing emissions from the production, transport, and disposal of hospital equipment and devices is urgent and relevant for the sector.

Moving away from single-use items where clinically appropriate can help to reduce emissions, with one study achieving average reductions in carbon footprint of 38-56% through switching a number of SUIs to reusable.³⁴

Life cycle assessment data has also shown that the global warming impact can be reduced by around 50% for remanufactured surgical items compared with single-use.³⁵ Carbon benefits can also be maximised by use of renewable energy for remanufacturing and device sterilisation.

Climate resilience

There is an increased likelihood of extreme weather³⁶ and pandemics in the future,³⁷ linked to climate change, which poses a threat to healthcare infrastructure and supply chain resilience.³⁸

Therefore, owning supplies of reusable items or using local suppliers, rather than relying on regular long-distance shipments and supply of SUIs, would increase the resilience of healthcare systems. For example, during the COVID-19 pandemic 66% of Belgian companies using circular techniques did not suffer any financial losses compared to 2% of 'non-circular' companies.³⁹

Spotlight: Revolution-ZERO

Revolution-ZERO offers a range of products and services, including reusable medical textiles such as gowns, theatre drapes, curtains, warm-up jackets, aprons, and transfer sheets. These solutions address challenges in supply chain resilience, quality, emissions, and waste associated with the single-use medical textile industry.

The Royal Cornwall NHS Trust in the UK adopted Revolution-ZERO's reusable sterile gowns and theatre drapes, which they have estimated leads to annual savings of £83,000, 20 tonnes of waste and 222 tonnes of CO₂e emissions for a hospital running 10 elective operating theatres 250 days a year. During this period, clinicians reported improved comfort and experience, and there was a decrease in surgical site infections for total hip and knee replacement surgeries.

In addition, Revolution-ZERO successfully trialled reusable aprons across Bupa Care and Dental settings in 2023. They are collaborating with Bupa teams in the UK and Spain to implement a range of solutions, from real-time environmental impact reporting to piloting low-impact products such as aprons, warm-up jackets, and reusable curtains.



Revolution-ZERO

More effective, more economic, more sustainable

“Average reductions in carbon footprint of 38-56% were achieved by switching to reusable items”

Green Surgery: Reducing the environmental impact of surgical care, 2023

Employee and patient engagement

The visibility and prevalence of SUIs in healthcare settings makes this an important agenda for employees and patients. A 2023 report commissioned by Bupa (the Bupa Wellbeing Index,⁴³ a landmark survey that uncovers the state of the UK's health and wellbeing) highlighted the detrimental impact the climate crisis can have on mental health, with 42% of workers reporting negative effects due to their employer's inaction on climate – up from 33% in 2021. The findings, alongside earlier studies,⁴⁴ demonstrate a strong desire among employees to participate in sustainability initiatives, and the SUI issue can make an effective contribution to that engagement.

There is a strong desire among employees to participate in sustainability initiatives, and the SUI issue can be effective in that engagement.

Spotlight: Doctors for the Environment Australia, Professor Eugenie Kayak

“Integral to the healthcare sector cutting both SUIs and carbon emissions is a rapid transition to renewable energy sources, as the carbon intensity of electricity impacts carbon footprint comparisons between reusable and single-use devices. For example, cleaning and sterilising reusable equipment with energy predominantly sourced from brown coal (lignite) can lead to the carbon footprint of the reusable equipment being greater than the comparable disposable item.⁴⁰

Therefore, as health professionals our responsibility includes the judicious use of resources (including medical equipment and devices), a move away from single-use where clinically acceptable, and advocating for an urgent transition to renewable energy.”

In many sectors, customer retention is driven by sustainability messaging and brand awareness.

But it is essential that this is genuine and quantifiable, as accusations of greenwashing can push customers away.

Sustainability is becoming increasingly important to patients and customer groups. Whilst there is a lack of research into patient-specific attitudes to sustainability in healthcare, one study in a UK dental setting found that, of 373 patients, 91% ranked the sustainability of the practice as one of the most important aspects of their care.⁴¹ Another dental study found patients were willing to compromise their time, convenience, and duration of their appointment, as well as pay more, to reduce the impact of their dental treatment on the environment⁴² – both of which demonstrate the shift in consumer attitudes on this agenda, partially driven by the highly visible Covid-19-related healthcare waste that has drawn attention to the problem.





Recommendations

The recommendations on the following pages are intended to be practical, directive, and reflective of the breadth of organisations that make up the healthcare sector, including regulators, academia and the supply chains before and after the healthcare provision. The recommendations are accompanied by case studies that illustrate implementation examples.

These have been written and reviewed in collaboration with our contributors, who have offered their expert insight and advice on this agenda. Whilst not exhaustive, many of the recommendations are interlinked, and genuine sustainable change will come from collaboration between these different systems. Wherever possible, the highest level of evidence available has been cited throughout (systematic reviews and meta-analyses).

In collaboration with Health Care Without Harm, Bupa aims to translate these recommendations into tangible local actions to reduce emissions and minimise healthcare's environmental impact. Through Health Care Without Harm's Global Green and Healthy Hospitals network – representing over 70,000 hospitals and health centres in 80 countries – Bupa is committed to sharing best practices, generating insights, and driving practical solutions to enable rapid, meaningful change.

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Healthcare providers

→ Establish governance structures and a cross-departmental programme team to co-ordinate and drive action.

Identifying and implementing more sustainable alternatives to single-use items (SUIs) will require effective collaboration between a number of internal and external teams, including procurement, supply chain, estate management, clinical and executive leadership, and infection prevention and control (IPC). The wide-range of potential benefits and impacts that require consideration – from cost, to environmental impact and change management – necessitate a collaborative approach, as well as governance and reporting, with clear communication channels between executive and programme areas.

Structures and governance should be tied into existing structures; for example, a sustainability committee should report to the board and/or procurement teams to ensure it is not isolated and receives adequate attention.

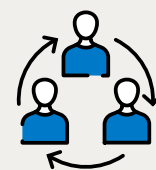
“The wide range of potential benefits and impacts that require consideration necessitate a collaborative approach”

Case study: Bupa Cromwell Hospital, UK

Sustainability initiatives are driven by the Cromwell Hospital Green Team,⁴⁵ a dedicated group of environmentally conscious staff who champion sustainability across the hospital. The team leads efforts to reduce carbon emissions, collaborates with suppliers to minimise environmental impact, and gives staff a voice and a platform to share ideas.

Founded by staff from diverse departments – including nursing, infection control, theatres, estates and facilities, procurement, and communications – the Green Team has grown to include dedicated sustainability specialists. These experts focus on energy efficiency, waste reduction, and sustainable healthcare principles, with the autonomy and responsibility to promote sustainable practices within the hospital. There are reporting lines into executive team members which subsequently feed in to, and align with, the broader global sustainability agenda at Bupa.

So far, the team have focused on switching out various SUIs for reusable alternatives, including drugs trays, laryngoscope handles, blood pressure cuffs, tourniquets, and ECG and electrophysiology cables.



Case study: Philippine Heart Center, Philippines (Health Care Without Harm's Global Green and Healthy Hospitals)

The Green Procurement Team is composed of representatives from different departments including engineering, housekeeping, IPC, emergency response, pulmonary medicine, central supply (nursing department), and human resources. The Green Procurement Team led the institutionalisation of a Green Procurement Standard into the Philippine Heart Center Policy Manual in 2012. The policy highlights important components in the procurement of products and services and is consistent with the national policy for sustainable public procurement.



→ Review organisational waste policies, processes and infrastructure, incorporating behaviour change principles where relevant.

Effective waste management processes are a critical success factor when it comes to transitioning away from SUIs to more sustainable alternatives. At the most basic level, it is essential to ensure that more expensive, reusable products are not disposed of in the same manner as SUIs, and that disposal of end-of-life products remains as sustainable as possible.

→ Identify products and suppliers who provide more sustainable alternatives to SUIs in your global region.

The range of alternatives to SUIs and the supporting infrastructure will vary from region to region, as will regulations governing the use of certain products. Healthcare providers should therefore familiarise themselves with any resources or local case studies that detail where alternatives to SUIs have been successfully implemented.

It is important to assess and assure the sustainability of the alternative products with suppliers, using a shared methodology for life-cycle assessments, to avoid unintentionally switching to a product that causes more harm to the planet.

Case study: Health Care Without Harm

Health Care Without Harm's sustainable procurement guidance documents offer a roadmap to develop a sustainable purchasing strategy that prioritises community and environmental health and safety while reducing costs.⁴⁶ Resources are available for:

- Gloves
- Disinfection and hygiene
- PVC and DEHP
- Collections
- Food
- Medical devices and supplies
- Non-medical devices
- Building materials and furnishings.



Case study: Health Care Without Harm waste audit

Health Care Without Harm have created a plastic waste audit template for hospitals⁴⁷, containing detailed instructions and methodology for data collection. The spreadsheet is already populated with common categories of products and plastic types found in healthcare waste, enabling hospitals to determine the percentage of plastic waste by waste stream and department. The aim is not for hospitals to reduce plastic waste at the expense of increasing overall waste production, but rather to reduce overall waste, including plastic. When communicating the findings of audits and launching subsequent initiatives, take into account the drivers of behaviour change: make it simple, relevant, accessible, and sociable.



Case study: Bupa

Bupa is working to reduce healthcare resource consumption through our 'Single-use Switch' initiative, aiming to save millions of items from landfill and incineration each year. For the campaign, the Sustainable Healthcare team created [longlists](#) of currently SUIs that can be switched to reusable products, as well as related information on the cleaning of those items. The items being replaced are decided locally in each business unit in each geography amongst the clinical and sustainability leads, to ensure identification of a clinically effective, regulatory compliant, and more sustainable alternative.

The Sustainable Healthcare team had feedback on these lists from clinical teams and made changes based on their advice – for example, some items were removed and instead flagged as an item to reduce usage of instead of switching, as a reusable alternative is not available yet, or does not offer the same clinical quality. An important part of the initiative, and often the most effective approach, is to first reduce overall use of SUIs, then to switch to alternatives.

For example, Bupa's New Zealand aged care centres has focused first on cleaning and reusing plastic medicine and pill pots, and the second phase is to procure stainless steel reusable pots.



→ Engage with external suppliers and internal teams to identify innovation gaps, and align with clinical requirements.

Healthcare providers will typically procure SUIs from a range of manufacturers, suppliers, or distributors – with cost and quality key factors in procurement decision-making. Applying a sustainability lens and involving clinical leaders in supplier engagement or tender processes will be an effective way of integrating clinical quality, sustainability, and product efficacy.

Case study: UK – Vanguard

The Royal Surrey NHS Foundation Trust, UK, partnered with Vanguard to start collecting used harmonic scalpels⁴⁸. The used items are sent to a Vanguard reprocessing facility to be remanufactured. In 2022, they diverted approximately 70 kg of waste and earned the trust around £2,000 for the collected devices. They also switched to procuring the remanufactured scalpels, saving around £11,000 and reducing their emissions by almost 42 kg CO₂.

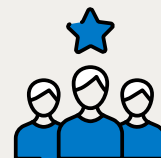


Case study: Asia-Pacific – Medsalv

Medsalv have worked with Cabrini Health, Australia, to remanufacture single-use tourniquets after trials with reusables had failed to meet Cabrini's practical needs. Cabrini used over 3,500 remanufactured tourniquets from April to August 2024, eliminated waste costs entirely, and reduced purchase costs by over 50%. When not damaged during clinical use, Medsalv estimates tourniquets can be safely remanufactured up to 40 times.

Oliver Hunt – Founder & CEO, Medsalv:

“A common misconception is that remanufacturing single-use devices is unsafe or unregulated. In reality, we work with nearly 120 hospitals across Australia and New Zealand, meeting or exceeding the same stringent regulatory standards as any manufacturer – often more. The ‘aha’ moment usually comes when we explain that the ‘single-use’ label is often a choice by the manufacturer and doesn’t mean the device can’t be remanufactured, provided the right technical and regulatory processes are in place. Once people see the rigour of our processes, they recognise our remanufacturing is both safe and cost-effective. Overcoming this misunderstanding is key, and we’re making strong progress, one ‘aha’ at a time. Implementing a Medsalv programme for a hospital is about creating change – changing healthcare for good. As with any change in a slow-moving sector, it can be challenging, but hospitals with adaptive, innovative cultures and strong leadership have successfully implemented our programs rapidly, regardless of size.”



→ Gather baseline data and explore research opportunities into cost, carbon, and health outcome impacts.

The scarcity of high-quality hospital and system-level data linked to cost, carbon, and clinical impacts of moving away from SUIs to more sustainable alternatives presents a research opportunity for provider organisations that could support wider healthcare sector adoption.

Accurate baseline data is vital to demonstrate the case for change, benefits, and impacts of moving to more sustainable alternatives. It can also help healthcare providers to prioritise and categorise SUIs by metrics such as volume, cost benefits, and complexity. The more accurate the baseline data, the easier it will be to apply emerging life cycle assessment data from suppliers retrospectively to calculate actual carbon savings. Health Care Without Harm have created a plastic waste audit template for hospitals, containing detailed instructions and methodology for data collection⁴⁹.

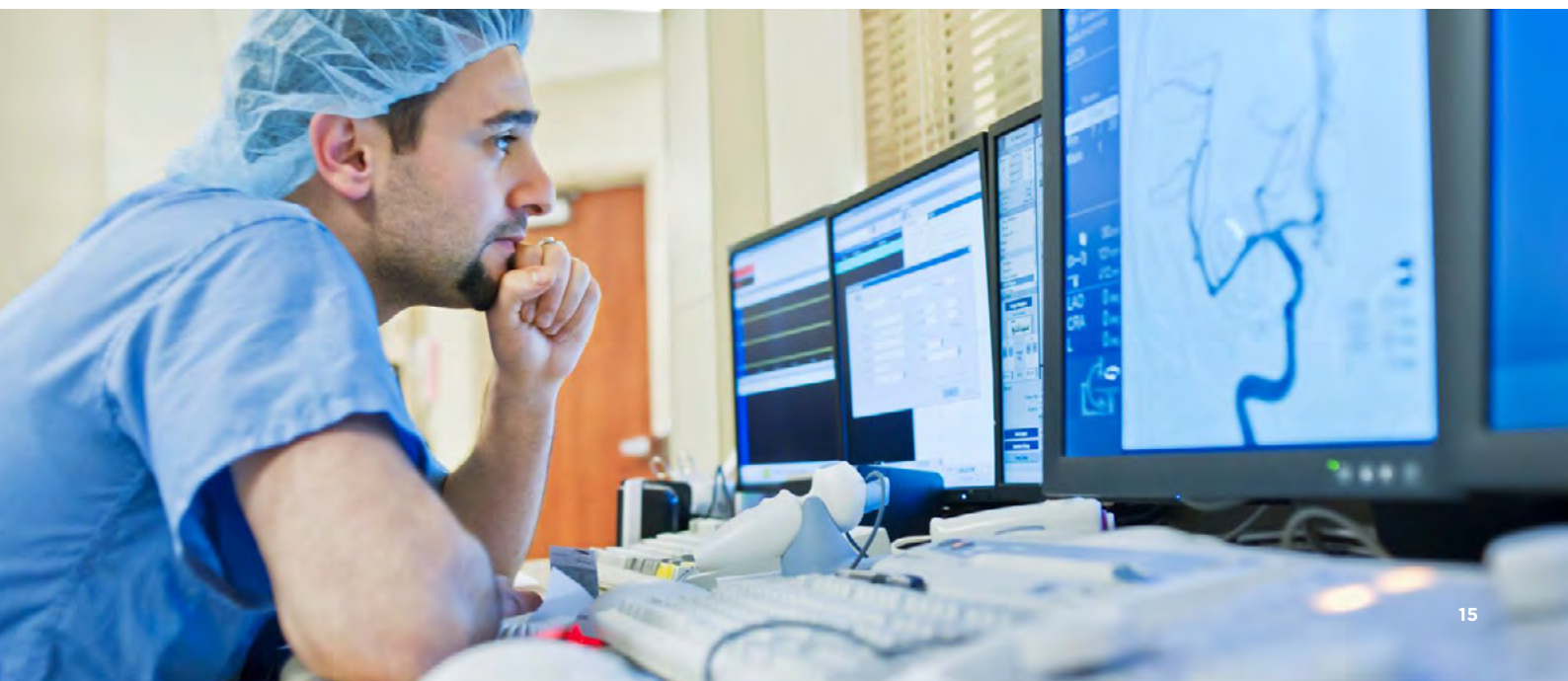
Case study: South West Healthcare, Australia (Health Care Without Harm Global Green and Healthy Hospitals)

The healthcare service has focused on replacing single-use plastics, which included purchasing already available biodegradable and compostable items, as well as providing feedback to a supplier supporting the development of new compostable items. In one year, this resulted in the avoidance of 328,000 pieces of plastic medical waste going to landfill, which included plastic straws, injection trays, kidney dishes, denture pots and lids, and anaesthetic trays⁵⁰.



Case study: Colombias Hospital Fundación Clínica Shaio, Colombia (Health Care Without Harm Global Green and Healthy Hospitals)

The hospital's cardiac catheters are now sterilised and remanufactured – the gold and silver from the catheters is later reused, as well as the plastic packaging⁵¹. Since 2018 they have remanufactured 670 catheters, which has saved 1,500 kg CO₂e and earned them over \$1,000.



Healthcare professionals

→ Proactively engage and participate in sustainability initiatives seeking to align people and planet health.

As some of the most trusted individuals in our society, the healthcare workforce has a unique opportunity to inspire action, advocate for change and demonstrate leadership in sustainability. Moving away from single-use items (SUIs) to more verifiably sustainable alternatives may impact clinical teams more than anybody else, and therefore it is essential that healthcare professionals are engaged, supportive, and contribute in a constructive manner.

This applies across the organisation from clinical management leaders of organisations to frontline teams involved in the day-to-day provision of care. There is a need for clinical leadership internally within institutions and externally with policy makers and regulators to support the transition to alternatives to SUIs.

Case study: UnitedHealth Group, Brazil (Health Care Without Harm Global Green and Healthy Hospitals)

After being proposed by clinical staff in 2020, all 32 hospitals in the Brazilian UnitedHealth Group are now repurposing uniforms.

They have used the textiles to produce new threads to make bags and sheaths. The organisation avoided sending 261 tons of waste to landfill, and saved 343 tons of CO₂.⁵²



“There is a need for clinical leadership to support the transition to alternatives to SUIs”



Manufacturers and suppliers

→ Reformulate custom procedure kits to reduce unnecessary waste.

Sterile surgical kits prepared for common procedures often contain a number of items that are never used. As a result, many hospitals and health systems have identified cost-saving and waste reduction opportunities by taking an in-depth look at the items found in these kits and exploring alternative approaches.

Case study: University of Minnesota Medical Center Fairview, US (Health Care Without Harm's Global Green and Healthy Hospitals)

Administrators, surgeons, and nurses identified kit items that routinely go unused during procedures, and then worked with their supplier to avoid the unnecessary purchase and subsequent disposal of those supplies. The hospital reformulated operating room kits which reduced their total waste by over 2,400 kg per year and led to more than \$81,000 in cost savings⁵³.



→ Reassess the necessary expiry dates of SUIs, particularly those that are non-sterile.

Determining a product expiry date takes into account a wide-range of considerations. Where sustainability has not been considered previously, an opportunity may exist to incorporate this lens.

If, after reassessment, expiry dates cannot be safely changed, then options to minimise wastage could include improving packaging to guarantee sterility of products for longer or offering reprocessing to re-sterilise the device⁵⁴.

Some evidence suggest that expiration dates in healthcare may be overly conservative; A 2006 study of 122 pharmaceutical drugs showed that two-thirds of the expired medications were stable every time a lot was tested⁵⁵. Each of them had their expiration dates extended, on average, by more than four years.

→ Modify products to ensure they are compatible with current cleaning and sterilisation methods

Modifications to products that do not result in a major change of clinical process, or can save staff time will enable easier adoption – they would ideally require little additional training for use and would still offer convenience to staff. Cleaning and sterilisation processes should avoid using environmental and human health toxicants where possible.

Consideration should be given to the availability of laundering facilities for reusable textiles, as the absence of onsite facilities could lead to increased emissions from transportation for cleaning.

Case study: Bupa Dental

In Bupa Dental Care practices in the UK and Ireland, initiatives are underway to reduce single-use pouching, which is the practice of storing instruments in sealed pouches to maintain their sterility until use. To reduce usage, they are trialling pouching instruments used together in a single pouch and not pouching instruments used the same day. This follows appropriate national infection control guidance⁵⁶, which states that many instruments can be kept for one day in an appropriate clinical setting whilst unwrapped. The impacts of reducing pouching include saving staff time, reducing the volume of clinical waste, and generating financial savings; in one practice, they were able to reduce total pouching by 56%.



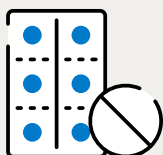
→ Accelerate innovation efforts to design out single-use or create more sustainable alternatives, and influence policymakers where applicable.

Developing more sustainable alternatives to SUIs that maintain clinical quality requires a strong innovation mindset. Achieving widespread adoption at pace and scale will require manufacturers and suppliers to work with regulatory bodies to fast-track the verifiably sustainable alternatives for regulatory approval where appropriate, particularly when there is lifecycle and environmental impact evidence, as well as health outcomes data.

There is a hierarchy of action: firstly, elimination of unnecessary uses, then optimise design for reuse, and then design for recycling. To be designed for recycling, materials need to be easy to disassemble to component parts of the same material, and not contain chemicals of concern⁵⁷.

Case study: Dry moulded fibre tablet blister packs

Blister packs are one of the most ubiquitous forms of plastic pharmaceutical packaging – up to 85% of solid unit drug doses are packed in this form in Europe⁶². PulPac, who are using dry moulded fibre to innovate in the packaging industry, have developed a tablet blister pack that can be recycled in existing paper waste streams⁶³. The production process produces up to 10 times less CO₂ versus plastic.



For example, the Association of British HealthTech Industries have recommended the Medicines and Healthcare products Regulatory Agency should approve the use of electronic Instructions for Use (e-IFUs) to reduce the excessive use of paper and facilitate the reduction of fuel in the transit of medical products⁵⁸.

Material choices for manufacturing should consider the below to reduce carbon footprint⁵⁹:

- Moving from single-use to single-patient use where appropriate
- Devices that are reusable should be designed for longevity – maximising the number of uses
- Designing devices for ease of recycling at end of life, for example from mono-materials
- Using recycled materials where possible, which can reduce carbon by 90% for materials like high-density polyethylene (HDPE)⁶⁰.

Case study: Cassava Bags

Cassava Bags Australia produce water-soluble and compostable products made from the cassava plant⁶¹. They were winners of Bupa's 2022 eco-Disruptive competition, which connects start-ups with dedicated Bupa teams to help develop innovative solutions to the biggest environmental challenges in healthcare. Bupa have trialled products such as bin liners for kitchens and clinical products such as headrests and tray sleeves across a number of Bupa Dental practices around Australia. The bags are biodegradable and fully compostable and compliant with AS 5810 Home Compostable, AS 4736 Industrial Compostable standards, and EN 13432 standards, which means they meet stringent international standards for compostability.



→ Collaborate with sustainability-focussed healthcare providers and NGOs to design products with high impact.

Through partnerships with healthcare providers and NGOs that have expertise on sustainable healthcare, manufacturers and suppliers will have access to clinical leaders and insights that will support product design, specification, and innovation of high use products that have potential for high impact. The products will also have a higher likelihood of successful clinical adoption. In addition, this approach would improve the likelihood of success of any applications for promoting products on sustainable procurement sites such as Greenhealth Exchange.⁶⁴

Case study: European Commission

The Directorate-General Research and Innovation recently put out a call for Pre-commercial Procurement (PCP) proposals to make health and care systems environmentally sustainable, climate-neutral, and circular.⁶⁵ They were looking for:

- Consortia of healthcare procurers who wanted to green healthcare
- Proposals that address direct and indirect environmental footprint
- Proposals that aim at enhancing circularity, reducing waste, and optimising resource use.



Case study: Southern Cross Auckland Surgical Centre

Together with Southern Cross Auckland Surgical Centre, Medsalv investigated remanufacturing patient transfer sheets. Nearly 40 patient transfer sheets were used every day and thrown in the bin, at a cost of \$10 per sheet. However, the material could not be cleaned, and the handles permanently stretched during use. The hospital team instead approached Medsalv, who saw the opportunity to design a patient transfer sheet for reuse. The hospital previously used 4,300 single-use patient transfer slides annually – they now need just 100 reusables, saving 903kg of clinical waste annually.



Case study: The Swedish National Agency for Public Procurement

To secure robust public sector contracts for a sustainable future, it is essential to understand existing needs⁶⁶. This procurement platform for suppliers incorporates sustainability criteria to drive innovation in the healthcare sector, emphasising both environmental and social impacts.



→ Scale remanufacturing processes and services, ideally in local regions.

For many healthcare facilities, the access and local availability of repair, refill, or remanufacture facilities is a barrier to action. Currently, the largest market for remanufactured and refurbished medical devices is the US, and there is increasing demand from Brazil, India, Russia, China, and South Africa.⁴⁸ Centralised Food and Drug Administration (FDA) oversight in the US has enabled widespread medical device reprocessing; whilst in Europe, fragmented national regulations under the Medical Device Regulation (MDR) has left reprocessing in the pilot phase in many markets.

Scaling manufacturing of more verifiably sustainable alternatives in local regions is also important to reduce emissions and improve climate resilience.

In the US, the Association of Medical Device Reprocessors (AMDR) reported \$465m savings achieved by hospitals and surgical centres in 2023 through the sale of over 30 million regulated, reprocessed devices to more than 11,000 healthcare centres.⁶⁷ This equates to almost 10 million Kgs of medical waste diverted from landfill.

“Collaboration between manufacturers, healthcare providers, and supply chain is essential to overcome barriers and accelerate sustainable practices”

Case study: Remanufacturing single-use devices

North America – Stryker case study:

Stryker’s Sustainability Solutions (SSS), a business unit of Stryker, focuses on reducing the environmental impact of single-use medical devices through reprocessing and remanufacturing. In 2023, SSS diverted over 5 million pounds of waste from landfills and saved hospitals \$238 million. Over the last five years, the programme has helped save nearly \$1 billion while preventing 25 million pounds of waste from entering landfills.

One major initiative, “Redesigned for Sustainability,” incorporates environmental improvements across the product lifecycle. Efforts include using bio-based plastics, eliminating PVC from tubing, reducing packaging weight, and increasing recyclability. In addition, life cycle assessments have shown that reprocessed devices reduce carbon footprints by an average of 40% compared to newly manufactured devices.

In one example, Health Canada have permitted Stryker to reprocess the sleeve of the sequential compression device product (SCD), designed to promote blood circulation and prevent blood clots in patients, and sell them back to health authorities. Over seven years, around 60,000 devices have been diverted from landfill and the estimated cost saving is \$6.3 million⁶⁸.

Despite these successes, challenges remain for broader adoption, including navigating complex manufacturer contracts, physician adoption, and aligning sustainability goals with financial incentives. Collaboration between manufacturers, healthcare providers, and supply chain is essential to overcome these barriers and accelerate sustainable practices, like remanufacturing, in healthcare.

Stryker advises healthcare organisations to invest in comprehensive sustainability programmes that integrate environmental goals into all levels of hospital operations, supporting a circular economy and reducing dependency on SUIs.



Product distributors and directories

→ Improve the visibility of more sustainable alternatives to SUIs through existing product catalogues and/or listings on green procurement platforms.

Making verifiably sustainable alternatives to SUIs visible, or promoted ahead of existing single-use items, could help to raise awareness for healthcare providers of the presence of such items. Setting a goal to provide reusable alternatives in all relevant product categories could be a positive ambition.

There are also a number of sustainable procurement platforms in healthcare such as GreenExchange where sustainable products can be listed by distributors⁶⁹, and highlighting the cost savings of any reusable or reprocessed items to customers could also help with adoption of these platforms.

Case study: NHS Supply Chain Sustainability Brochure

This brochure details single-use plastic alternatives for catering consumables in hospitals⁷⁰. The document shows the supplier, disposal method, and material for each product, and includes a guide to explain what should be considered when purchasing more sustainable alternatives.



Case study: Consider longer-term vendor contracts

Longer-term contracts give suppliers more freedom and flexibility to offer innovative solutions, which may require more investment.

This may also help the supplier to spread the expense associated with less environmentally impactful approaches, and can offer more scope for continuous improvement and innovation.



Case study: Practice Greenhealth Cost of Ownership Calculator and Approved Lists

The calculator is designed to support hospitals in considering environmental costs in their procurement decision-making, and ultimately to minimise both financial costs and environmental impacts⁷¹. For the purposes of this calculator, environmental costs refer to realised financial costs that are linked to environmentally damaging or resource consuming activities, such as water, energy consumption, and end of life disposal.

Practice Greenhealth also have an “Approved” seal, developed to make identification of sustainable products easier for purchasers⁷². Products that carry the seal have been through a review process and have been found to meet the criteria established by Health Care Without Harm and Practice Greenhealth for sustainability.



Healthcare regulatory bodies

→ Schedule regular review of guidance and standards to incorporate a sustainability lens as evidence emerges.

Regulatory regimes and technical standards often predate circularity and have potential to further enable the healthcare sector to recognise opportunities and align internationally.

For example, since January 2020, the UK National Institute of Clinical Excellence (NICE) updated guidance to state “the evidence on cost effectiveness does not support using sets of single-use instruments to reduce the risk of Creutzfeldt–Jakob disease (CJD) transmission”⁷³. In 2022, the Spanish Parliament passed a Law on Waste and Contaminated Soil for a Circular Economy, which includes specific goals focused on single-use plastics and the reduction of waste generally, including non-hazardous healthcare waste⁷⁴.

The healthcare sector is also affected by wider sector changes; since 2022 the UK has had a Plastic Packaging Tax (PPT) which applies a rate of £210.82/tonne (2023 tax year rate) on plastic packaging components with less than 30% recycled plastic that are manufactured or imported into the UK. Globally, the OECD have provided guidance on Extended Producer Responsibility (EPR) – a policy approach designed to shift the responsibility for products from municipalities and consumers to producers⁷⁵.

Compliance is crucial in healthcare, and products that offer a verifiably sustainable alternative to single-use should be fast-tracked for regulatory approval – especially those with evidence of the breakeven points for reuse and the known carbon impact of any change in material.

Case studies referenced throughout this paper provide evidence of the positive carbon, cost, and patient outcomes related to moving away from SUIs.

→ Proactively identify and review any regulations or guidance that may contribute to the unnecessary use of single use items.

Advocate for modernising guidelines to better reflect evidence, if any, to support single-use or reusable devices of all types, identify information gaps, and propose risk stratification that accounts for environmental impact, costs, and supply chain resilience.

Additionally, engage with regulatory bodies and other healthcare industry stakeholders to align standards and requirements, and support a shift toward more resilient and sustainable practices.

Case study: UK Government Design for Life Roadmap

This roadmap, published in 2024, sets out the UK government’s ambition to transition away from all avoidable single-use medical technology products towards a functioning circular system by 2045 that maximises reuse, remanufacture, and recycling.⁷⁶



Research institutions and funders

Support from research institutions and funders is greatly needed to enhance the insight and evidence base that will enable actors across the healthcare sector to make the case for change.

The UK National Institute for Health and Care Research (NIHR) has recently announced new research funding of £25m to help the health and social care system become more sustainable and reach net zero.⁷⁸

→ Collaborate with healthcare providers and other researchers to identify research needs, gather data, and conduct research to provide support for a transition from SUIs where merited.

More evidence is needed on the cost, carbon, and health outcomes of using items that are reusable, remanufactured, retrofitted, and repaired, as well as the impact of eliminating items.

Undertaking detailed environmental impact assessments of all medical products would require a lot of time and resources – instead, identifying categories of products likely to have the largest combined impact should be prioritised. Additionally, ensuring transparency and credible assessments is critical to addressing concerns about both real and perceived greenwashing.

Based on the barriers and challenges faced by healthcare, more research is needed on:

- Material and product design for safety, reusability, and sustainability including identifying principles of design in healthcare
- Behavioural science on the most successful ways to introduce new products to clinicians
- An authoritative assessment of essential versus non-essential uses of plastics in healthcare, and where to target efforts for the greatest impact

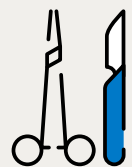
Case study: Circular Economy of Medical Devices (ReMed)

The ReMed project is a UKRI funded collaborative research programme between Loughborough University, University of Leeds and Nottingham Trent University aiming to create novel design and material specifications, reprocessing technologies, and digital tools to demonstrate the technical, economic, and operational viability in the UK of circular lifecycles for small medical devices.⁷⁷

Four reference case study products have been selected in consultation with industry partners, considering their aggregate value and complexity of circular options. These include:

- Multilayer Polymer Intravenous Fluid Bags
- Surgical Tools
- Inhalers
- Blood Glucose Monitors.

The findings from these case studies will be transformed into digital reference models, providing valuable insights that can be applied across various healthcare value chains. The aim is to lower the high costs and environmental impact tied to the traditional, single-use lifecycle of medical devices. By rethinking these lifecycle paths, the reference models serve as practical tools to inspire sustainable changes across the industry to improve the resilience of future supply of medical devices.



Continued over >

- The business case for high impact, high volume product substitutions
- Benchmarking best practice in reducing waste generation during routine procedures (including South-North learning where outcomes are similar but waste generation differs dramatically)
- Creation and regular updating of a central compilation of best practice
- Health impacts of single-use items (SUIs), especially plastics
- Health outcomes of more sustainable alternatives
- Lifecycle assessment (LCA) and Environmental Impact Assessment (EIA) data on cleaning reusable items
- LCA and EIA data on common healthcare materials and devices to compare products.

Case study: Circularity in Healthcare Materials Provision (CHaMP)

The University of Manchester and Bupa UK have partnered in a three-year research partnership to reduce the healthcare sector's environmental impact and waste.⁷⁹ This collaboration aims to address challenges of SUIs and plastic waste through enabling reuse and recycling in healthcare settings while maintaining high clinical standards. Key focus areas include understanding social practices, lowering the footprint of sterilisation, improving segregation and recycling processes, and assessing environmental impacts. By combining academic expertise and with access to Bupa's clinics and people, the partnership seeks to develop innovative strategies and systemic changes to achieve sustainability in healthcare without compromising patient care.



→ The wider research system, including universities, journals and funders, need to match researcher efforts to advance environmentally sustainable research.

A coordinated approach is necessary to reduce the risk of duplication and limit burden on individual researchers. As highlighted in the Wellcome Trust's *Advancing environmentally sustainable health research*,⁸⁰ there are strong networks in high-income countries that exist to support sustainable research in wet labs. However, no similar networks were identified for computational research, clinical settings, or qualitative research, and no relevant networks were found in low- or middle-income settings.

→ Develop skills in sustainable research practices.

Expertise in sustainable healthcare needs to be more widely accessible. Upskilling research practitioners who work across multiple research projects, and can embed and integrate learnings from multiple sectors such as healthcare, economics, engineering, and technology, could build the required expertise at scale.

Case study: Monash Health and Monash University, Australia

Peripheral intravenous cannulas (PIVCs) cost Australian emergency departments up to \$594 million annually, and nearly \$306 million of that is attributed to cannulas that are never used. Earlier in 2024, Monash Health launched a five-year study that will focus on improving the use of PIVCs.⁸¹ The trial will aim to reduce unnecessary PIVC insertions and improve patient care, with the goal of implementing best-practice guidelines to 50% of emergency departments nationally.

Monash Sustainable Development Institute have also convened the Transitions to Sustainable Health Systems consortium⁸² – a group of leading health sector organisations, of which Bupa is a member, from across policy, practice, and research to collectively identify priorities and practical actions to accelerate emissions reduction in the Australian health system. They are at scoping phase, and SUIs have been identified as a key area for further work. At present case studies have been identified throughout the consortium process that highlight the work being done on increasing the use of reusable blood pressure cuffs, insulin pens, surgical gowns and drapes, and reducing the use of gloves, calf compressors, and bed pads (blueys).



Across the healthcare sector

→ Collaborate with external partners and participate in regional/global networks to share insights.

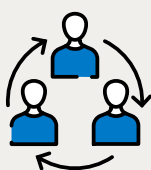
Accelerating progress on this issue will only be achieved through collaboration and the sharing of best practices. There are a growing number of coalitions, alliances, and networks that provide a platform for sharing insights on single-use items (SUIs) – both globally and regionally.

Case study: Health Care Without Harm Global Green and Healthy Hospitals network

The international network of hospitals, healthcare facilities, health systems, and health organisations is dedicated to reducing their environmental footprint and promoting public and environmental health. Global Green and Healthy Hospitals has 10 interconnected sustainability goals for hospitals and health systems to work towards at their facilities. To support members to achieve those goals, Global Green and Healthy Hospitals offers access to a diverse array of exclusive and innovative tools and resources. They include cutting-edge online platforms that connect institutions, colleagues, and experts from around the globe to educational tools and events that keep members current on sustainable healthcare innovations.

The network has over 2,000 members in 86 countries representing almost 72,000 hospitals and health centres who are using innovation, ingenuity, and investment to transform the health sector and foster a healthy, sustainable future.

Recently, they have also established a circularity working group,⁸³ to facilitate the need for collaborative actions for a sustainable healthcare sector and planet. The aim of the working group is to exchange ideas and best practices, support each other in projects, and collaborate on initiatives. The key themes are related to circular healthcare with a focus on chemicals, plastics, textiles, and policy.

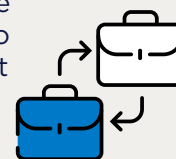


Case study: Sustainable Markets Initiative Health Systems Taskforce

The Sustainable Markets Initiative (SMI) was launched as the 'go-to' global private sector organisation on sustainable transition, convening top organisations to innovate, accelerate, and deliver on a just, sustainable, and prosperous future.⁸⁴

The SMI's Health Systems Task Force is a public-private strategic partnership, bringing together CEOs and leaders across healthcare industries such as pharmaceuticals, biotechnology, healthcare provision, insurance, global health, academia, and advocacy.⁸⁵ The Taskforce is taking joint, scalable action to accelerate the delivery of net zero healthcare – to improve individual, societal, and planetary health.

Bupa is part of several Taskforce workstreams that have been identified as priority topics by CEOs; including the European Network on Climate & Health Education (ENCHE), who are working with medical schools to teach more than 10,000 trainee doctors about the health impacts of climate changes, and also the Circularity Working Group, who are working on collaborative actions to reducing the environmental impact of plastics and packaging.⁸⁶



➔ Facilitate the delivery of engagement and training initiatives for healthcare staff and employees likely to be involved in, or affected by, the shift towards more sustainable items.

Surveys have shown that healthcare workers want to play a greater role in sustainable healthcare,⁸⁷ but access to training and healthcare-specific content is often limited. Identifying key stakeholders within a provider organisation and engaging them directly will ensure a greater chance of programme success.

In instances where healthcare professionals indicate their preferences for equipment, for example in surgical kits, ensuring they are aware of SUI alternatives, and the associated benefits, is a step towards system-level change.

The healthcare sector is a trusted voice for patients, making it important to communicate the necessary sustainable changes to them. For example, by ensuring they understand that reducing SUIs will not compromise health outcomes.

Case study: St. Paul's Hospital, Philippines (Health Care Without Harm Global Green and Healthy Hospitals)

Every department across healthcare organisations can have an impact. At the start of the Covid-19 pandemic the hospital administrator foresaw a steep increase in waste generation, and so asked the linen department to develop reusable PPE.⁸⁸ They saved \$1.3 million USD by using washable PPE between April and December 2020.



Case study: Health Care Without Harm Health Care Climate Learning Initiative

Browse videos and case studies at [Health Care Climate Learning Initiative](#) to learn how healthcare around the world is implementing decarbonisation and climate resilience,⁸⁹ as well as an online Climate Impact Training programme.⁹⁰



Spotlight: Bupa sustainable healthcare training

Bupa has developed sustainable healthcare training content for the healthcare workforce, including an introductory webinar titled “An Introduction to Sustainable Healthcare”, attended by over 500 patient-facing colleagues. This was followed by the development of a YouTube series for healthcare professionals on the health impacts of climate change, the environmental impact of healthcare, and the importance of advocacy from the healthcare sector.⁹¹ The Role of Healthcare Professionals in Climate Action, featuring Bupa clinicians, has over 800,000 views in total so far.

These can be found on Bupa's [website](#)



Concluding remarks

To meet the health needs of today without compromising the health of future generations, there must be widespread adoption of more sustainable models of healthcare that deliver lower emissions, less waste and greater resilience without compromising clinical outcome.



Small changes alone, such as the individual examples shared in this document, will not be enough to address the growing demand for healthcare; instead, these efforts must be integrated into a broader, systemic approach. Delivery will be dependent on collaboration, therefore collective action is required across the healthcare sector to transform the systems in which materials are produced, used, and disposed of, to drastically reduce the environmental harm caused by the large volumes of single-use, predominantly plastic, items.

Sector-wide, there is a need for consistency of measurement for calculating and comparing impact, and for transparency in sharing this information to avoid unintended consequences.

Coming together through partnerships to agree and align on a singular view of best practice will avoid duplication and create standards that all can contribute to, and lead to authentic sustainable change.

All actors within the healthcare sector are in a position of influence over others, and all are collectively responsible for delivering applicable, cross-sector insight, accelerating learning and knowledge sharing, and building frameworks for change that support healthy people and a healthy planet.

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Abbreviations

CO₂e

Carbon dioxide equivalent

IPC

Infection prevention control

LCA

Life-cycle assessment

NHS

National Health Service

SUI

Single-use items

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