



# The Economics of Survival: Procurement

Incorporating Sustainability into the Value-Based Procurement Agenda

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# Once in a lifetime events are not once in a lifetime anymore...

*We have a fiduciary obligation to act. For our children, and for the planet. The powerful role of health economics and procurement can become a enormous lever for positive change. Lets embrace this opportunity...*

Sustainability is not a left or right issue: it is a long-term survival issue, an intergenerational justice and equity issue....

Inger Andersen, Under-Secretary General, UNEP



Forest fires in Australia in 2020



Forest fires in Canada in 2021



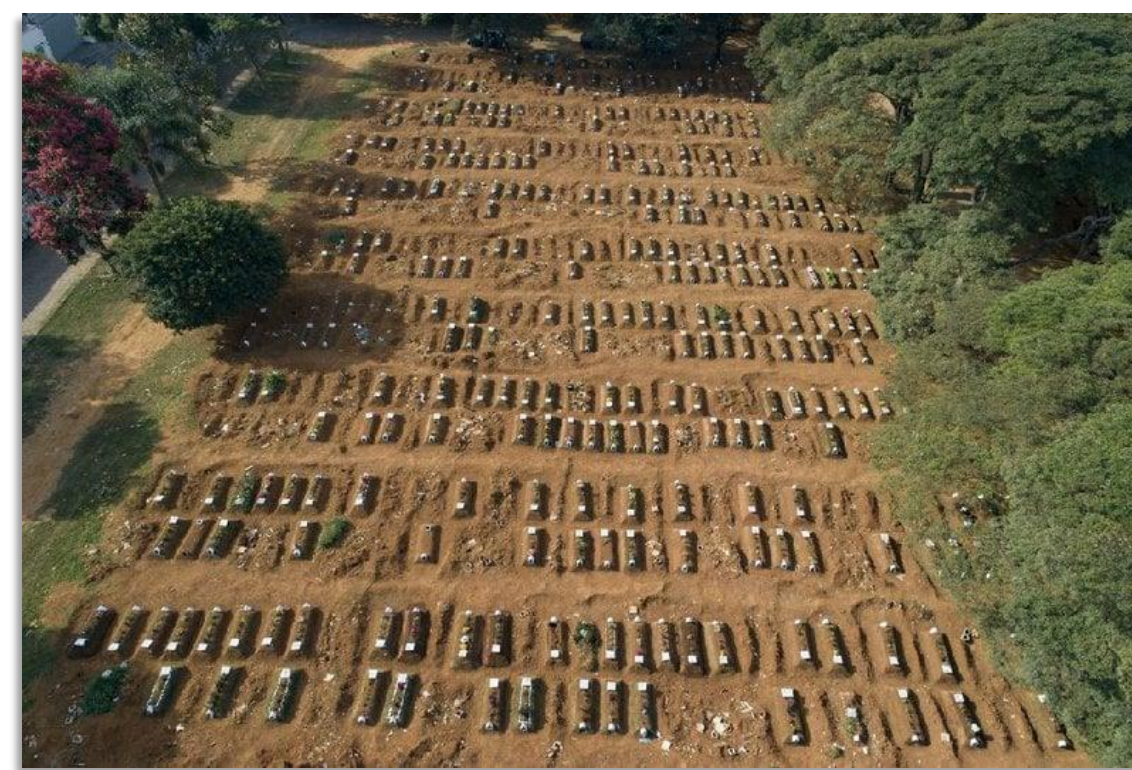
Floods in Bangladesh in 2022



Climate migration



Dying Coral reefs



Brazilian COVID-19 Graveyards

Healthcare systems are already stretched to a maximum. Demand is growing rapidly; chronic illness and aging populations, and now a climate crisis. **Healthcare systems must also respond to unplanned emergency situations, migration crisis, and pandemics.**

We are on borrowed time....

**Fortunately, the knowledge and resources in this room, can support positive change.**

Source: [The Climate Emergency \(unep.org\)](https://www.unep.org/); Alira Health research



# Disclaimer



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### Current :

- **Chair of the HTAi Medical Device Interest Group (with support from the Hospital Based HTA Working Group)**
- **Vice Chair ABHI Sustainability Working Group**

### Past:

- 2014 – 2018: Chair of ISPOR Medical Device & Diagnostics Special Interest Group
- 2108 – 2019: Advisor - EU Funded Horizon 2020 Work package COMED (Consortium for Cost & Outcomes Analysis of Medical Technologies)
- 2014 – 2018: Chair of Evidence & Payers Working Group at MedTech Europe, and Procurement Working Group contributor
- 2014 – 2018: Head of Market Access & Pricing at Becton Dickinson, specializing in Medication Delivery Systems and Diabetes Care
- 2007 – 2013: Senior Portfolio Consultant at CIBC in Canada covering healthcare sector

# 5 Key Numbers to Remember: The Environment & Procurement

"....we in healthcare are indeed '**the fifth biggest country**'... but **also 12.5% of GDP**... Add consumer healthcare, and that's **another £460bn as a minimum**. We also interdigitate with (rough guess) **>80% of supply chains** (from glass and steel for needles and syringes and buildings; cement; chemicals; electronics; refrigeration; packaging' transport; food... and more.... So we CAN change the world." **Dr Hugh Montgomery, OBE**



**5<sup>th</sup>:** The global ranking of healthcare systems in terms of carbon emission, if healthcare was a country

**12.5%:** Percentage of global GDP spent on healthcare

**30 Million:** number of people forced to flee their homes in 2020 due to climate disasters

**2 times:** the rate we are exceeding the 1.5°C/2.7°F limit on global warming goal 3°C/5.4°F

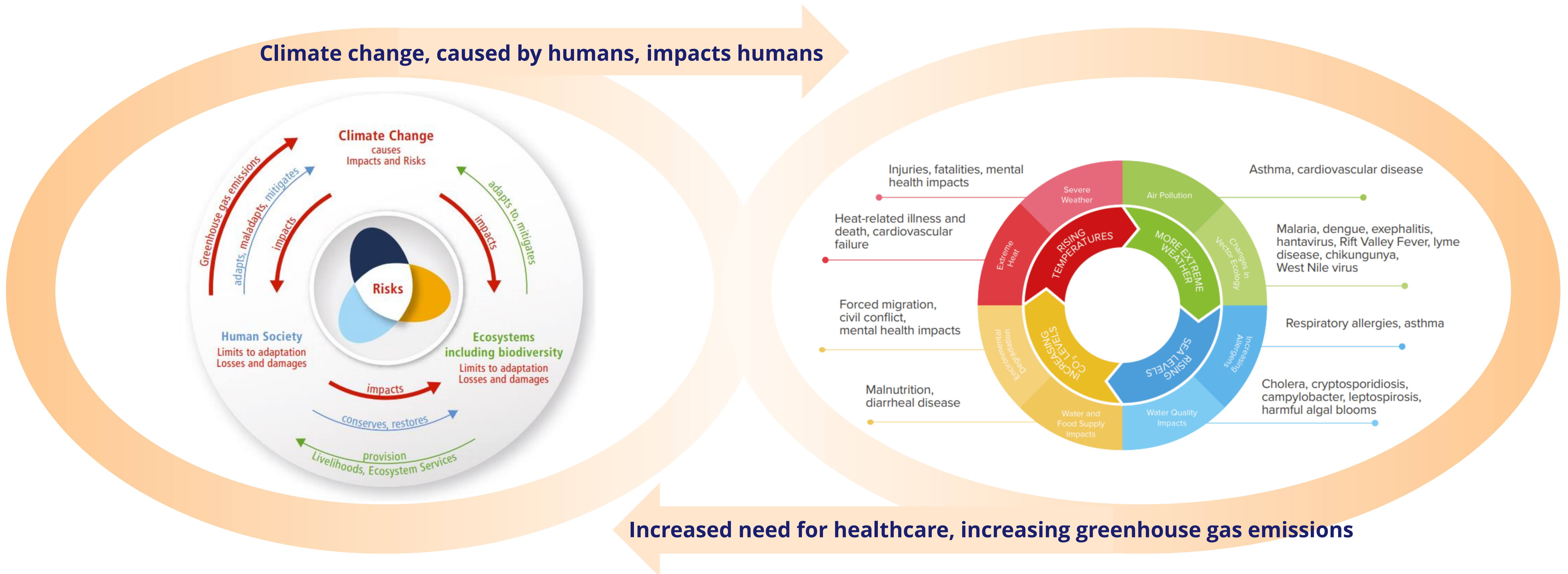
**~80%:** interconnectivity of healthcare with other industry supply chains

Source: UN Climate Change [5 Alarming Facts About Climate Change](#) | UN Office for Partnerships Accessed November 2022; Alira Health analysis, Dr Hugh Montgomery, OBE



# Sustainability in Healthcare. A Choice: Patient or Population Health?

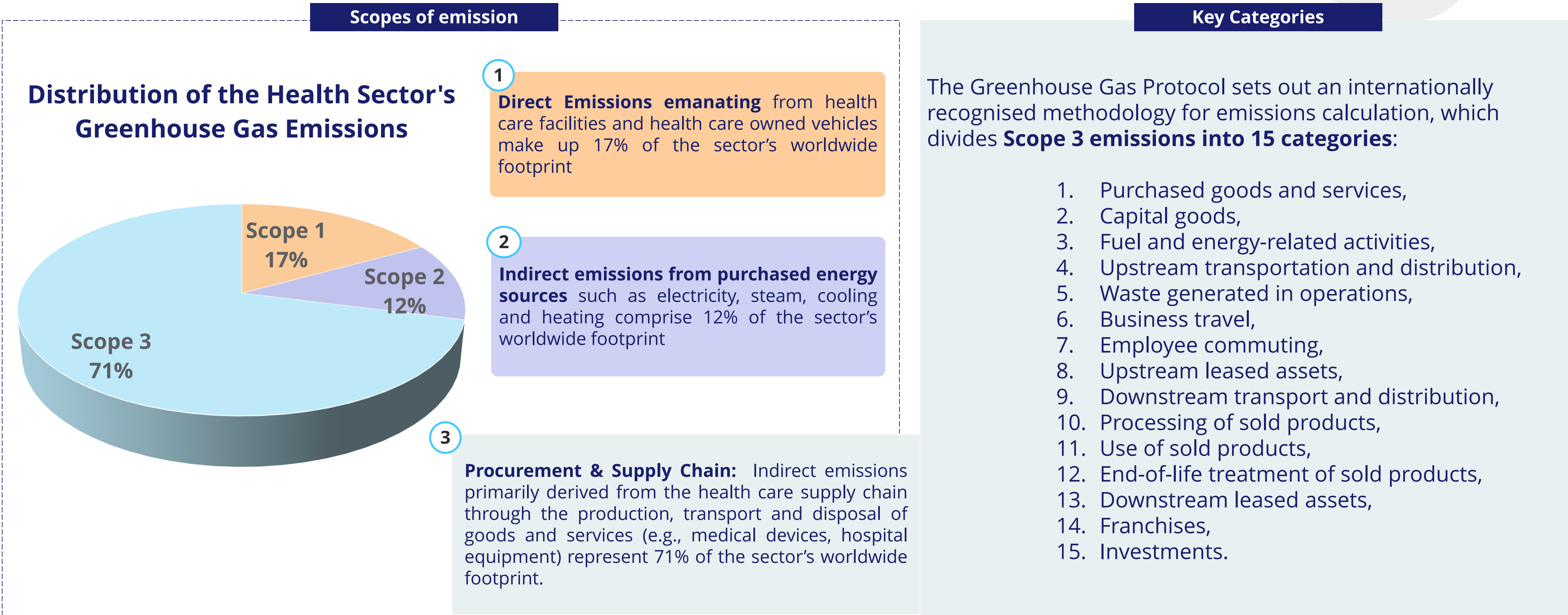
*Climate change is a health issue. Although there is an ethical conundrum emerging: how do you manage a technology where individual patient outcomes are improved, but Co2 emissions increase and damage population health?*



Source: 1) [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_FinalDraft\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_FullReport.pdf), (2) [https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint\\_092319.pdf](https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_092319.pdf)

# This WILL be a ‘Market Access’ Issue: Scope 3 Emission strategies

*Sustainable healthcare refers to a system that enhances, sustains, or restores health while avoiding adverse effects on the environment and taking advantage of opportunities to boost and repair it for the benefit of both present-day society and future generations.*



Source: 1) [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_FinalDraft\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_FullReport.pdf), (2) [https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint\\_092319.pdf](https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_092319.pdf)

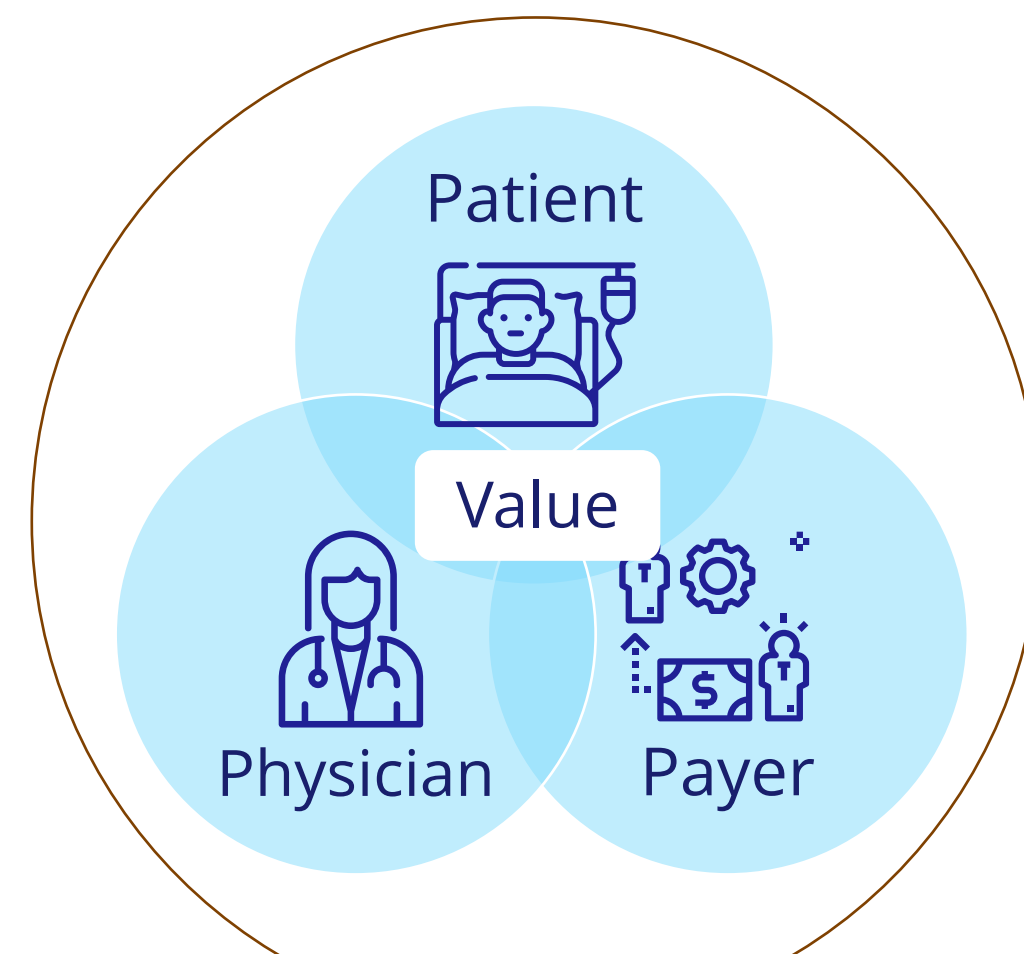


# The Value Challenge: Health Economic & Environmental Policy

*Healthcare has a 'value challenge': discreet stakeholders that represent those benefitting, recommending, and paying for healthcare. This is confounded by macro & population health trends. Now, there is an additional layer: net-zero plans to ensure 'Access'.*

HEALTHCARE IS UNIQUE • HEALTHCARE HAS STRUCTURAL CHALLENGES • HEALTHCARE HAS A SOLUTION

## The Value Challenge



Discrete decisions & value perception by the stakeholders who:

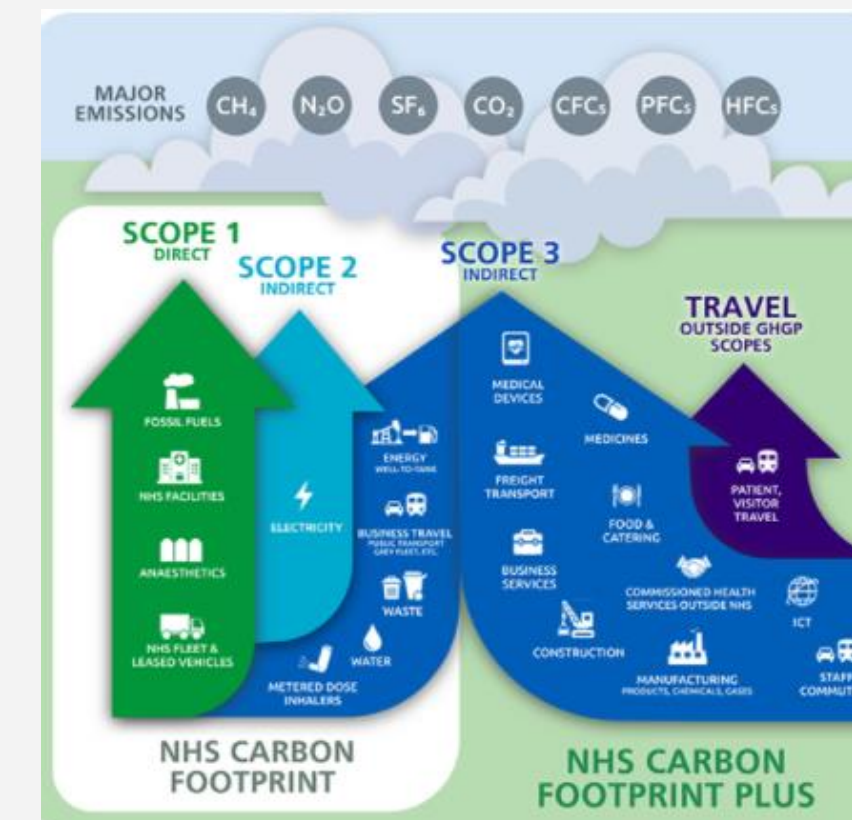
- ✓ **Pay** for value: payers
- ✓ **Benefit from** the value: patients
- ✓ **Prescribe** the value: physicians

## Macro economic & population health trends

1. Improving **population health** outcomes versus **individual** outcomes.
2. **Paying for, and administering healthcare** despite limited budgets, & rapidly growing demand
3. Ensuring healthcare is **equitable** to all demographics, **environmentally sustainable**, and **universal** to all.

## A solution that aligns clinical & economic stakeholder perspectives in one 'language'

$$\text{Sustainable Value} = \frac{\text{Health \& Environmental Outcomes}}{\text{Total (Financial \& Environmental) Costs of Delivering Outcomes}}$$



- Within NHS England, every ICS (formerly CCG) now has a net-zero strategy.
- Procurement teams have a 10% mandate for sustainability criteria
- Other countries are following...

Source: Adapted from Porter M. Redefining Health Care. HBS Press, 2006



# A Case Study from Australia: Dr Forbes McGain

*We are seeing a rapid ground swell of clinical team enable this shift. This means procurement teams will have to follow. Clinical teams are arguably the key user of many MedTech solutions. What clinical teams do, MedTech must adapt too...*



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**HHS Public Access**  
Author manuscript  
*Crit Care Resusc.* Author manuscript; available in PMC 2019 December 01.  
  
Published in final edited form as:  
*Crit Care Resusc.* 2018 December ; 20(4): 304–312.

**The carbon footprint of treating patients with septic shock in the intensive care unit**

**Forbes McGain<sup>1,2</sup>, Jason P Burnham<sup>3</sup>, Ron Lau<sup>4</sup>, Lu Aye<sup>5</sup>, Marin H Koller<sup>6</sup>, and Scott McAlister<sup>4,7</sup>**

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<sup>7</sup>Eco Quantum Life Cycle Consultants, Melbourne, Vic, Australia.

**Abstract**

**Objective:** To use life cycle assessment to determine the environmental footprint of the care of patients with septic shock in the intensive care unit (ICU).

**Design, setting and participants:** Prospective, observational life cycle assessment examining the use of energy for heating, ventilation and air conditioning; lighting; machines; and all consumables and waste associated with treating ten patients with septic shock in the ICU at Barnes-Jewish Hospital, St. Louis, MO, United States (US-ICU) and ten patients at Footscray Hospital, Melbourne, Vic, Australia (Aus-ICU).

**Main outcome measures:** Environmental footprint, particularly greenhouse gas emissions.

**Results:** Energy use per patient averaged 272 kWh/day for the US-ICU and 143 kWh/day for the Aus-ICU. The average daily amount of single-use materials per patient was 2.4 kg (range 1.0–6.3 kg).

**Intercollegiate Green Theatre Checklist**  
**Compendium of Evidence**

Below are a list of recommendations to reduce the environmental impact of operating theatres. All the relevant guidance and published evidence has been included in the Compendium of evidence, accessed via the QR code:

<b>Anaesthesia</b>		
1	Consider local/regional anaesthesia where appropriate (with targeted O <sub>2</sub> delivery only if necessary)	<input type="checkbox"/>
2	Use TIVA whenever possible with high fresh gas flows (5-6 L) and, if appropriate, a low O <sub>2</sub> concentration	<input type="checkbox"/>
3	Limit Nitrous Oxide (N <sub>2</sub> O) to specific cases only and if using: ▶ check N <sub>2</sub> O pipes for leaks or consider decommissioning the manifold and switching to cylinders at point of use; ▶ introduce N <sub>2</sub> O crackers for patient-controlled delivery.	<input type="checkbox"/>
4	If using inhalational anaesthesia: ▶ use lowest global warming potential (sevoflurane better than isoflurane better than desflurane); ▶ consider removing desflurane from formulary; ▶ use low-flow target controlled anaesthetic machines; ▶ consider Volatile Capture Technology.	<input type="checkbox"/>
5	Switch to reusable equipment (e.g. laryngoscopes, underbody heaters, slide sheets, trays)	<input type="checkbox"/>
6	Minimise drug waste ("Don't open it unless you need it", pre-empt propofol use)	<input type="checkbox"/>
<b>Preparing for Surgery</b>		
7	Switch to reusable textiles, including theatre hats, sterile gowns, patient drapes, and trolley covers	<input type="checkbox"/>
8	Reduce water and energy consumption: ▶ rub don't scrub: after first water scrub of day, you can use alcohol rub for subsequent cases; ▶ install automatic or pedal-controlled water taps.	<input type="checkbox"/>
9	Avoid clinically unnecessary interventions (e.g. antibiotics, catheterisation, histological examinations)	<input type="checkbox"/>
<b>Intraoperative Equipment</b>		
10	REVIEW & RATIONALISE: ▶ surgeon preference lists for each operation - separate essential vs. optional items to have ready on side; ▶ single-use surgical packs - what can be reusable and added to instrument sets? what is surplus? (request suppliers remove these); ▶ instrument sets - open only what and when needed, integrate supplementary items into sets, and consolidate sets only if it allows smaller/fewer sets (please see guidance).	<input type="checkbox"/>
11	REDUCE: avoid all unnecessary equipment (eg swabs, single-use gloves), "Don't open it unless you need it"	<input type="checkbox"/>
12	REUSE: opt for reusables, hybrid, or remanufactured equipment instead of single-use (e.g. diathermy, gallipots, kidney-dishes, light handles, quivers, staplers, energy devices)	<input type="checkbox"/>
13	REPLACE: switch to low carbon alternatives (e.g. skin sutures vs. clips, loose prep in gallipots)	<input type="checkbox"/>
<b>After the Operation</b>		
14	RECYCLE or use lowest carbon appropriate waste streams as appropriate: ▶ use domestic or recycling waste streams for all packaging; ▶ use non-infectious offensive waste (yellow/black tiger), unless clear risk of infection; ▶ ensure only appropriate contents in sharps bins (sharps/drugs); ▶ arrange metals/battery collection where possible.	<input type="checkbox"/>
15	REPAIR: ensure damaged reusable equipment is repaired, encourage active maintenance	<input type="checkbox"/>
16	POWER OFF: lights, computers, ventilation, AGSS, temperature control when theatre empty	<input type="checkbox"/>





# Thank You



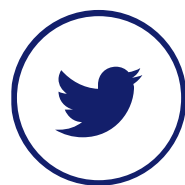
## LET'S KEEP IN TOUCH



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