



Efficient Solutions for Sustainable Surgery

Fact sheet:

Environmental impact of surgery

- Surgery is the most energy-intensive sector, and achieving sustainability in surgery is an emerging strategy for decreasing the carbon footprint of the health-care system. However, environmental costs associated with surgical care are often overlooked, and this issue has been largely ignored in the past but is gaining increased recognition.¹
- Globally, the health-care sector was responsible for **4.6% of global greenhouse gas emissions in 2017**.²
- The health-care sector of the USA represents **nearly 10% of the country's total CO₂ emissions**.³
- Hospitals are considered the second most energy-intensive buildings in the USA.⁴
- Overall, the **carbon footprint of surgery** in the US, UK and Canada is estimated to be **9.7 million tons of CO₂ per year**.⁵
- Most operating theatres are ready to serve 24 h a day, 7 days per week. Maintaining this activity level requires lighting, heating, ventilation and strict air conditioning settings. These requirements account for up to 40% of global healthcare emissions.^{6,7}
- **Operating theatres in northern America are unoccupied up to 40% of the time over a 24 h period.** For example, in Washington State, USA, a hospital reduced energy consumption by 60% by decreasing ventilation output during inactive periods.^{8,9}
- **ORs generate 50–70% of total hospital clinical waste**.¹⁰
- One surgical procedure generates the same amount of waste as a family of four weekly in the USA.¹¹
- Surgical packs of sterile instruments are frequently opened before surgery begins. 80% of surgical solid waste is generated before the patient enters the operating theatre, and most of this waste is associated with packaging.¹²

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Problem

Surgery and its Environmental Toll

Surgery, a medical marvel, has long been vital for patients’ health and well-being. However, hidden beneath the lifesaving procedures is an environmental cost that we can no longer afford to ignore. The very sector that mends us is one of the most energy-intensive contributors to our planet’s greenhouse gas emissions. Let’s delve into the disconcerting facts that reveal the grim environmental challenges of surgery.

Assessment

Identify the Environmental Challenges

CARBON FOOTPRINT

The healthcare sector, including surgery, is responsible for 4.6% of global greenhouse gas emissions. In the USA, healthcare contributes nearly 10% of the nation’s CO₂ emissions. Shockingly, the collective carbon footprint of surgery in the US, UK, and Canada reaches a staggering 9.7 million tons of CO₂ per year.

ENERGY CONSUMPTION

Hospitals, where surgeries predominantly occur, rank as the second most energy-intensive buildings in the USA. Operating theaters, designed to serve 24/7, are energy-hungry, accounting for up to 40% of global healthcare emissions.

WASTE GENERATION

Operating rooms generate a significant portion of total hospital clinical waste, amounting to 50-70%. Astonishingly, one surgical procedure generates as much waste as a family of four does in a week in the USA, with packaging waste being a substantial contributor.

INEFFICIENT RESOURCE UTILIZATION

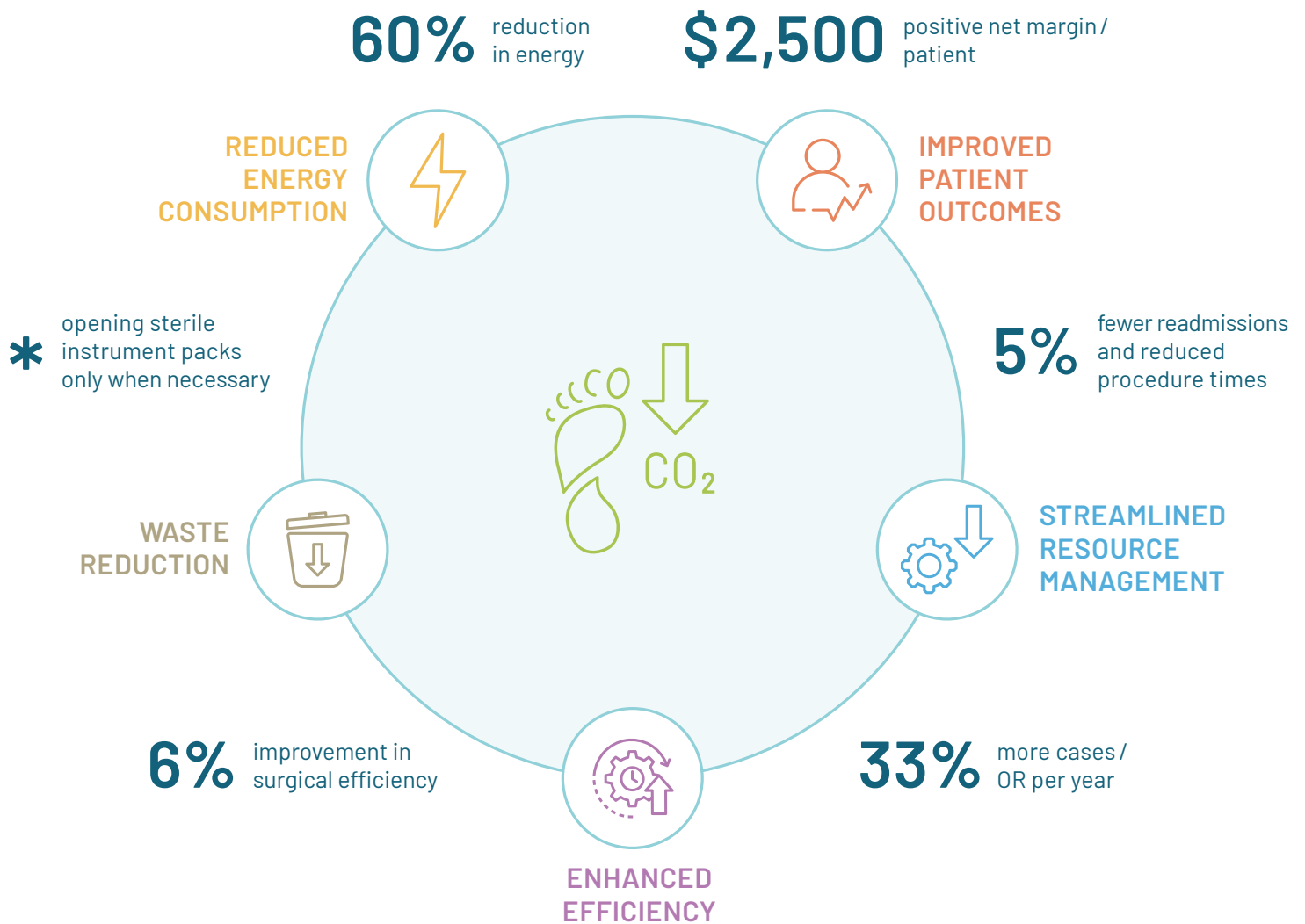
Operating theaters in North America sit vacant up to 40% of the time over a 24-hour period, leading to egregious energy wastage.



Solution

Caresyntax: Transforming Surgery for a Sustainable Future

Caresyntax is delivering an innovative solution that not only recognizes these pressing environmental challenges but also offers tangible remedies while elevating surgical practices and patient outcomes.



As we strive for sustainability in healthcare, especially within the surgery sector, the environmental challenges are undeniable. Caresyntax's data-driven platform is not just addressing these challenges but leading the way toward a greener, more efficient, and patient-centric future for surgical care. With Caresyntax as the driving force, sustainable surgery is no longer a distant dream but a reality within our healthcare systems.

Solution

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REDUCED ENERGY CONSUMPTION

Harnessing the power of data analytics, Caresyntax optimizes energy use in operating theaters. Hospitals can now significantly reduce energy consumption during idle periods, echoing the success of a Washington State hospital that achieved a remarkable 60% reduction in energy usage. This not only reduces carbon emissions but also slashes operational costs.



STREAMLINED RESOURCE MANAGEMENT

Caresyntax offers a comprehensive digital surgery toolset, minimizing the need for extensive IT support and constant updates. This streamlines resource management and significantly reduces capital expenditures for new operating rooms, contributing to substantial cost savings.



WASTE REDUCTION

Caresyntax introduces innovative practices to minimize waste generation. Through its platform, surgical teams can now manage packaging waste more efficiently by opening sterile instrument packs only when necessary. This monumental shift can substantially reduce the colossal waste generated before patients even enter the operating room.



IMPROVED PATIENT OUTCOMES

Caresyntax's real-time clinical decision support and customizable surgical safety checklists enhance patient care. Improved patient outcomes, in turn, lead to 5% fewer readmissions and reduced procedure times, translating to a positive net margin of \$2,500 per patient and increased eligibility for discounts with fewer readmission penalties.



ENHANCED EFFICIENCY

The platform not only addresses environmental concerns but also enhances surgical efficiency, reducing the need for protracted surgeries and curbing resource consumption. On average, Caresyntax achieves a remarkable 6% improvement in surgical efficiency by reducing block overages and increasing surgical group release time. This leads to fewer cancellations, enabling hospitals to accommodate a remarkable 33% more cases per operating room per year.

Caresyntax worldwide

2,800
ORs

32,000
Surgical
Teams

3M+
Procedures
per year



caresyntax.com

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