The journey to sustainable healthcare

Economic impact

Sustainability in the operating room requires a broader view of the entire product journey. Multi-patient products are often seen as a sustainable choice, but we need to look beyond just life cycle assessments to truly understand their impact. They do not measure financial or economic impact, so factors like unit and reprocessing costs, inventory management, opportunity costs, and adverse events require separate assessments.

Sustainability goes beyond just greenhouse gases and waste management, all aspects of the product journey need to be considered to achieve the goal of sustainable healthcare.

Adverse events

The World Health Organization (WHO) estimates **patient harm costs in primary and ambulatory care at 2.5% of global health expenditure[1].** In the EU, adverse events account for 8-12% of hospital admissions[2], costing around €21 billion annually, or 1.5% of total health expenditure[3]. Many of these events are preventable, with multi-patient products contributing to patient safety risks, especially through failures in reprocessing[4].

Inadequate cleaning can lead to cross-contamination, increasing risk of healthcare-acquired infections (HAIs)[5], additional treatments, extended stays, litigation, and reputational damage. These costs must be considered in sustainability assessments of medical products.

Mölnlycke®

Costs of product purchase

Accurate cost assessments for medical products are essential. Current evaluations rely on data from manufacturers about average use ranges, but evidence shows that reused products may fail earlier than expected. Operating room delays due to unavailable or unsterilised sets add significant costs. A study shows that such **delays occur in 1 in 100 cases[6],** further underscoring the need for better data to assess true costs.

Costs of product use over the life cycle

Full life cycle costs of medical products include capital costs, transportation, cleaning chemicals, end-of-life disposal, and labour for reprocessing, maintenance, and inventory management. Studies often overlook these full costs when comparing multi-patient and single-patient products. When considering all factors, single-patient products may be more cost-effective.

For example, **disposable instruments used in foot and ankle surgeries saved over $400 per case by reducing hospital labour and sterilisation expenses[7].** Comprehensive cost assessments are essential for more accurate sustainability decisions.

To evaluate the sustainability of a medical product, we need sustainability assessments that take a holistic approach by assessing the product journey and the economic impact.

Your choices today can drive a more sustainable future in healthcare.

To learn more, scan here:

1. World Health Organization (2021) 'Global patient safety action plan 2021–2030: towards eliminating avoidable harm in health care', *World Health Organization*, p. 3. Available at: https://iris.who.int/bitstream/handle/10665/343477/9789240032705-eng.pdf?sequence=1 [Accessed 27 Feb 2025].
2. European Commission (2020) 'Patient safety factsheet', *European Commission*. Available at: https://research-and-innovation.ec.europa.eu/system/files/2020-03/ec_rtd_patient-safety_factsheet.pdf [Accessed 27 Feb 2025].
3. European Union (2016) 'Costs of unsafe care and cost effectiveness of patient safety programmes. Final report', *European Commission, DG Health and Food Safety*. Available at: https://health.ec.europa.eu/system/files/2017-02/2016_costs_psp_en_0.pdf [Accessed 27 Feb 2025].
4. World Health Organization (2019) 'Facts in pictures: Patient safety', *World Health Organization*. Available at: https://www.who.int/news-room/facts-in-pictures/detail/patient-safety [Accessed 27 Feb 2025].
5. Browne, K., White, N., Tehan, P., et al. (2023) 'A randomised controlled trial investigating the effect of improving the cleaning and disinfection of shared medical equipment on healthcare-associated infections: the Cleaning and Enhanced disiNfection (CLEEN) study', *Trials*, 24, p. 133. Available at: https://doi.org/10.1186/s13063-023-07144-z [Accessed 21 Jan 2025].
6. Ly, J.A., Wang, W.L., Liss, F.E., Ilyas, A.M., & Jones, C.M. (2022) 'Comparative cost analysis of single-use sterile versus reprocessed distal radius volar plate sets', *Archives of Bone and Joint Surgery*, 10(5), pp. 420–425. doi: 10.22038/ABJS.2021.57852.2872.
7. Welker, D.M. & Hofbauer, M.H. (2019) 'The clinical and economic case for sterile, disposable instruments and implants', *Infection Control Today*, 1 August. Available at: https://www.infectioncontroltoday.com/view/clinical-and-economic-case-sterile-disposableinstruments-and-implants [Accessed 28 Feb 2025].

Find out more at www.molnlycke.com

Mölnlycke®