

THINKING ALOUD

Shining a much-needed light on Singapore's healthcare carbon emissions

THE first-ever effort to measure the carbon emissions of Singapore's healthcare sector marks a crucial step in the country's green ambitions. The sector's environmental impact often flies under the radar, but is a pressing issue.

On Wednesday (Sep 17), the inaugural national emissions report for Singapore's healthcare sector was released by the Ministry of Health (MOH), MOH Holdings and the Centre for Sustainable Medicine at the National University of Singapore (NUS).

The report revealed that Singapore's healthcare system releases 4.1 million tonnes of carbon dioxide equivalent each year – roughly the same as powering all 1.4 million households in the Republic for more than a year.

The study identifies key sources of the healthcare system's emissions, enabling the industry to "target emissions where it matters most, while safeguarding and enhancing patient care", NUS and MOH said in a press release.

Healthcare rarely comes up in conversations about going green, with more attention paid to visibly "dirty" sectors, such as transport. But globally, healthcare accounts for about 4 per cent of carbon emissions – more than aviation or shipping.

Hospitals are especially carbon intensive, emitting 2.5 times as much greenhouse gas as commercial buildings. Certain drugs also have a large carbon footprint, such as the anaesthetic gas desflurane. An hour of surgery using desflurane is estimated to produce emissions with a global warming effect equivalent to driving over 300 km.



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According to the NUS-MOH study, medicines and medical products account for about a third of the Singapore healthcare system's emissions. Thankfully, the city-state has in recent years cut the use of desflurane by 45 per cent, and the use of nitrous oxide, another potent greenhouse gas, by 35 per cent. Some hospitals have "virtually eliminated" the use of desflurane,

the report noted. They have also reduced nitrous oxide by over 70 per cent. This is thanks to replacing leaky manifolds – systems which distribute medical gases – with efficient canister systems.

But there is room for further emissions reductions. Potential steps include efficient procurement to minimise expired medication, and reducing overprescriptions. Patients can switch from metered-dose inhalers to dry powder inhalers, which have a lower carbon footprint, where clinically appropriate.

Some may worry that such moves to reduce emissions and waste may compromise patient welfare. However, this does not have to be the case. Even simple decisions at the level of each healthcare professional can make a difference without changing the patient experience. For instance, nurses can be trained to avoid opening up more single-use equipment than required before surgeries.

Overall, the NUS-MOH study struck a positive tone, noting that the city-state delivers healthcare at 20 per cent lower carbon intensity than other advanced economies. That said, there remain many improvements that can be made. Continued efforts to decarbonise healthcare can pave the way for Singapore to become a model for sustainable medicine internationally.