

Sustainable infection control – gloves off

OPINIONS

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The health and care services can prevent infections just as effectively with a lower climate- and environmental footprint. The consumption of disposable gloves is an important place to start.

The healthcare sector has a significant impact on nature and the environment, and accounts for around 5 % of the global carbon footprint [\(1\)](#). In order to reduce this, the Norwegian Directorate of Health recently drafted a roadmap for a sustainable, low-emission health and care sector [\(2\)](#). Reducing the healthcare services' climate footprint means reducing both unnecessary consumption and activities, and preventing illness. The regional hospital trusts have decided, therefore, that the reduction of healthcare-associated infections is one of their climate and environmental goals in the years up to 2030 [\(3\)](#). However, infection prevention as currently practised in the healthcare services entails a high consumption of equipment. In this article, we discuss how the climate- and environmental impact can be reduced while maintaining infection control and quality in the healthcare services, for example by reducing the consumption of disposable gloves.

Disposable gloves are an important contributor to the carbon footprint

A UK study found that the carbon footprint of personal protective equipment (PPE) is considerable [\(4\)](#). Disposable gloves comprised the largest proportion of this.

«We estimate that the Norwegian healthcare services have an unnecessary consumption of between 70 and 175 million disposable gloves each year»

Based on procurement figures, it was estimated that 300 million latex and nitrile gloves were used in the Norwegian healthcare services in 2019 [\(5\)](#). International studies and a small observational study carried out at Norwegian nursing homes found that in 24–58 % of the situations where gloves were used, there were no indications for glove use [\(6–9\)](#). Given a total consumption of 300 million disposable gloves, we estimate that the Norwegian healthcare services have an unnecessary consumption of between 70 and 175 million disposable gloves each year. This is equivalent to up to 1225 tons of superfluous waste annually.

We can also make a rough estimate based on procurement figures for hospitals in the South-Eastern Norway Regional Health Authority that the total procurement of gloves for the primary and specialist health services rose from 300 million in 2019 to 400 million in 2023. We assume that this post-pandemic increase entails even greater over-consumption, as it cannot be explained by changes in guidelines.

«Studies also show that overuse of gloves leads to reduced compliance with hand hygiene and consequently a decline in patient safety»

PPE must be used when necessary to prevent the transfer of infection. However, the overuse of PPE such as gloves constitutes unnecessary use of resources and is an environmental burden. Studies also show that the overuse of gloves leads to reduced compliance with hand hygiene and consequently a decline in patient safety [\(6, 10\)](#). As well as focusing on the over-consumption of gloves in relation to current guidelines, the Norwegian Institute of Public Health is planning to conduct a critical review of indications for all PPE. The goal is to identify the potential for reducing use without increasing the infection risk.

Reuse of PPE

Reducing unnecessary use is the most effective measure, but the climate- and environmental footprint can also be reduced by changing from disposable to reusable products where feasible. For example, can today's disposable gowns be replaced with reusable gowns? Some studies show that reusable gowns have a significantly lower climate- and environmental footprint than disposable gowns [\(11, 12\)](#). Nonetheless, a transition to reusable gowns requires that these have the same barrier rating as disposable gowns. In addition, logistical and reprocessing challenges must be solved. The reuse of PPE has also been explored in other settings [\(4\)](#), but more knowledge is needed on this.

Greater competence

Healthcare personnel's general competence in infection prevention and control needs to be strengthened. This will help reduce healthcare-associated infections and the over-consumption of PPE. Moreover, it will mean that resource- and equipment-intensive infection control measures, such as isolating patients, are not implemented unless absolutely necessary.

Even at present, healthcare personnel can help reduce the carbon- and environmental footprint in the healthcare services by adhering to current infection prevention and control guidelines, and identifying practices that can be changed.

The reduction of unnecessary glove use is a simple, easily achievable measure that is long overdue.

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