

HALYARD'S INNOVATIVE EXAM GLOVE DISPENSERS PROVEN TO REDUCE WASTE AND COSTS

Every year, nearly 1.7 million hospitalized patients acquire a healthcare-associated infection (HAI) while being treated for other health issues. Even more concerning is that over 98,000 patients – one out of every 17 – die from an HAI.¹

The use of simple infection-control procedures, such as wearing proper exam gloves, has been shown to help prevent the spread of HAIs.

Unfortunately, the effectiveness of exam gloves can be compromised by packaging that is both unhygienic and wasteful. For example, healthcare professionals are all-too-familiar with the need to reach into a dispenser to try to pull out a glove – a process that could contaminate the gloves inside the box.

Traditional box dispensers are also notorious for dispensing multiple gloves, not just the desired pair, which can lead to contamination when the gloves are

placed back in the box. It also results in unnecessary waste when the gloves are thrown away. Not only does this waste add to the healthcare sector's environmental footprint, it also works against the European Green Deal Sustainable Care goal of making the care and welfare sector more sustainable.²



THE EUROPEAN GREEN DEAL: A COMPREHENSIVE POLICY PLAN FOR ENVIRONMENTAL SUSTAINABILITY IN THE EU

The European Green Deal is a comprehensive policy plan launched by the European Commission in 2019 to make the European Union (EU) more environmentally sustainable. The policy aims to transform the EU into a more sustainable and resilient economy that benefits both people and the planet.

Some of the key actions of the policy include:

- Achieving climate neutrality by 2050 through reducing greenhouse gas emissions and increasing the use of renewable energy sources.
- Investing in sustainable transport, including electric vehicles and public transport.
- Improving the energy efficiency of buildings through renovation and retrofitting.
- Promoting sustainable agriculture and reducing the use of pesticides.
- Developing a circular economy by reducing waste, reusing materials, and promoting recycling.
- Preserving and restoring biodiversity, including protecting forests and oceans.
- Supporting the transition to a more sustainable economy through research and innovation.
- Ensuring a just transition for workers and communities affected by the shift to a green economy.

The European Green Deal and Flanders' Green Deal Duurzame Zorg³ are two initiatives aimed at promoting sustainability in different sectors.



While the European Green Deal focuses on transforming the EU into a more environmentally sustainable and resilient economy through various actions such as achieving climate neutrality, investing in sustainable transport, promoting sustainable agriculture, and developing a circular economy, the Green Deal Duurzame Zorg targets the healthcare sector in Flanders to reduce its environmental impact, improve health and well-being, and save costs through measures like energy efficiency, waste reduction, water management, and sustainable food and mobility. Both initiatives involve collaboration between stakeholders to achieve their goals and are part of the broader Green Deal initiative that aims to promote sustainability in various sectors of society.

DESIGNING A SMARTER GLOVE DISPENSER

Halyard has taken a significant step towards delivering the European Green Deal by introducing innovative dispenser designs that can help to address both glove contamination and waste reduction challenges in hospitals. By taking the glove dispenser back to the drawing board, Halyard was able to develop several new and innovative designs that not only mitigated the risk of contamination, but also helped to reduce costly waste, thus promoting sustainability and environmental responsibility.

ACCORDING TO STUDIES CONDUCTED BY THE HALYARD HUMAN CENTRED DESIGN TEAM, THE NEW DESIGNS STATISTICALLY OUTPERFORM STANDARD DISPENSER BOXES IN TERMS OF WASTE REDUCTION.

SMARTPULL*

Features two separate openings on the box, with the smaller opening controlling dispensing when the box is full to reduce waste by facilitating single glove dispensing and the larger one providing easier access to the gloves when the box is half empty.



ECO PULL*

This patented design uses a folded panel and a rubber band to continuously lift gloves to the top of the box as each pair is removed.

THE RESEARCH

Each study involved external medical professionals, including registered nurses.⁴ After receiving proper training, the subjects were instructed to dispense all the gloves from a given box (approximately 250 gloves).

As each glove was dispensed, the moderator noted any failures, including:

- Multiple gloves dispensed in hand
- Dispensed glove(s) falling onto sink, floor or other surface
- Bulking or clumping (i.e., more than one glove in a cluster as packed, resulting in either the glove not being dispensed or falling out in a clump)
- Sticking (i.e., glove attached to other glove or gloves when dispensed)
- Carton tears

THE FINDINGS

Both the SMARTPULL* and ECO PULL* dispensers demonstrated a statistically verifiable ability to reduce waste.



38.2% WASTE REDUCTION
with SMARTPULL*

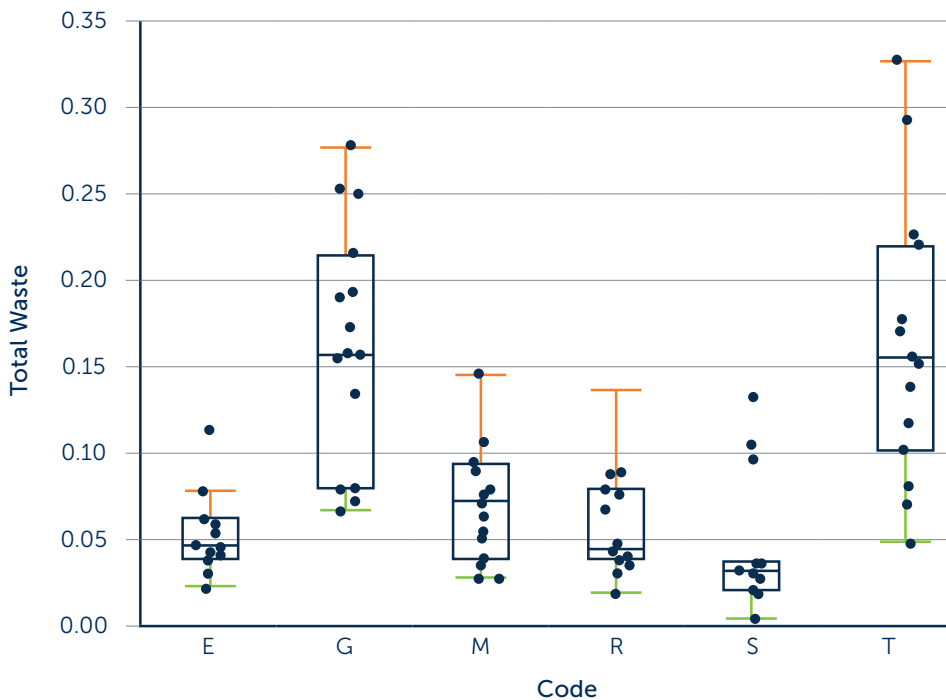
SMARTPULL*

In a head-to-head comparison with dispensers designed by leading competitor brands, the Halyard designed box performed better across the board, including in terms of multiple dispenses, bunching, sticking and overall waste.

RANKING FROM WORST TO BEST

	Highest Proportion of Waste		Lowest Proportion of Waste
Multiple Dispenses	Brand A	Brand B	Halyard
Bunching	Brand B	Brand A	Halyard
Sticking	Brand B	Brand A	Halyard
Total Waste	Brand A	Brand B	Halyard

Total Waste vs. Code



Level	Least Sq Mean			
G	A		0.148930	
T	A		0.142628	
M		B	0.064133	
R		B	C	0.052332
E		B	C	0.051069
S			C	0.032745

Study code

Description

M	Halyard Lavender* Nitrile with Smartpull
T	Brand A competitor glove
G	Brand B competitor glove
E	Halyard Lavender* Nitrile glove with Eco Pull
R	Halyard Lavender* Nitrile glove with Eco Pull
S	Halyard Lavender* Nitrile glove with Eco Pull

ECO PULL*

When compared to traditional glove dispensers, the ECO PULL* design was shown to reduce multiple dispensing by over 50% and total waste by more than 80%. Furthermore, because this design eliminates the need to reach into the box, the gloves inside the ECO PULL* box were found to be nearly 50% less contaminated than gloves in other dispenser boxes.

THE FEEDBACK

Once all gloves had been dispensed, subjects were asked to provide feedback on their experience using the dispenser, with a particular focus on ease of reach. Typical comments recorded include:

- A lot smoother, easy to reach and grab the gloves
- Easy to pull out only the gloves you need
- Less waste from gloves falling on floor
- Not as much need to go digging for gloves
- Gloves don't come out in big clumps
- The gloves stick together less than when using the other dispensers

THE VERDICT

Halyard's glove dispenser systems are proven to provide consistently easy access to gloves. By substantially decreasing incidences of multiple gloves being unintentionally dispensed, these innovative dispensers help hospitals reduce cross-contamination, infection and waste and, in doing so, become safer and more sustainable.

To learn more about the Halyard exam gloves visit our [website](#).

Contact your sales representative to calculate your waste cost saving.

"I FEEL THAT WHEN IN A RUSH, I CAN EASILY PULL THE GLOVES I NEED WITHOUT HAVING OTHERS FALL TO THE FLOOR AND BE WASTED."⁵

References

1. Ghavami, N., Ahmadi, S., & Alizadeh, S. (2018). A Review of Machine Learning in Obesity. *Current obesity reports*, 7(4), 298-306.
2. European Commission. (n.d.). European Green Deal. [online] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_nl [Accessed 3 April 2023].
3. Government of Flanders. (n.d.). Green Deal Duurzame Zorg. Retrieved March 31, 2023, from https://omgeving.vlaanderen.be/nl/green-deal-duurzame-zorg#paddle_components_text_block_87e0c5bd-cb82-48b0-af07-8c8379fc2edc
4. Internal study conducted by O&M Halyard. The study was blind, and was conducted using healthcare professionals. Healthcare professionals were compensated for their participation in the study.
5. O&M Halyard. Study report glove dispensing. GL-DSR00955.

Medical Device Class I
CE 2797
(PPE Cat. III)

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