

LANDSPÍTALI

THE NATIONAL UNIVERSITY HOSPITAL OF ICELAND

HOW TO MEASURE AND REDUCE PLASTIC IN HEALTHCARE – EXPERIENCES AT LANDSPÍTALI

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8TH OF JULY 2021

LANDSPÍTALI

- Both specialised and general care
- 630 hospital beds
- 94.600 emergency visits
- 341.000 outpatient visits
- 25.400 admissions
- 15.300 surgical procedures
- 3.207 births
- 5700 staff
- 1810 tonnes of waste in 2020; Daily 5 tonns of waste of which 1,4 tonns are recycled.



PROCESS - PLANNING

The audit

9-10th of December 2020

Collected waste from Neonatal and Gastroenterology;
general waste, contaminated and plastic.

Excluded other waste streams e.g. paper, cardboard,
drinking bottles and metal.

Organising venue, PPE, equipment, waste collection etc.



**Project Towards Plastic-Free
Healthcare in
Europe**

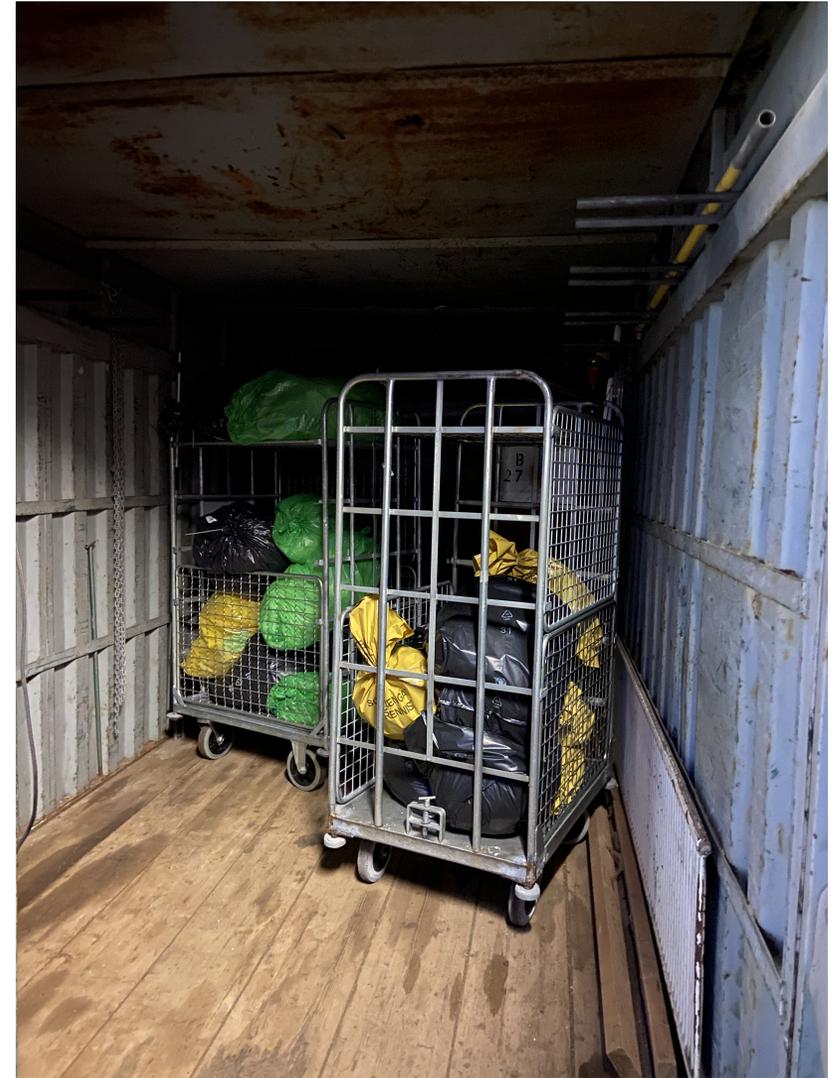


PROCESS - DELIVERY

- Collected 48 hrs of waste from 2 wards (grand total 100,28 kg)
- Conducted the audits under two days
- Team of 4 led by Axion advisor
- Examined one stream at a time - offensive hygiene, general waste and recycling

The team:

1. Hildur Hjartardóttir, nurse and projects manager at the procurement department
2. Ingunn Steingrímisdóttir, nurse at the hygiene department
3. Kolbrún Gísladóttir, nurse and quality manager
4. Hulda Steingrímisdóttir, environmental manager



SORT AND WEIGH



Figure 3 - Gloves categorised ready for weighing



Figure 4 - Syringes categorised ready for weighing



Figure 5 - Sorted peel packs



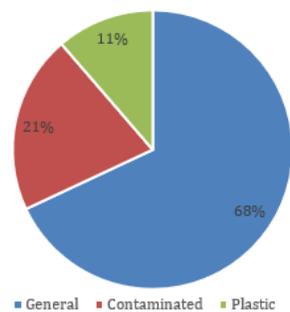
Figure 6 - Sterile wrap categorised for weighing

PRELIMINARY RESULTS

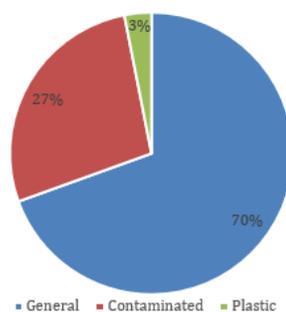
Material Source	Total Mass (Kg)	% of Department Sample	% of Total Sample
Neonatal	52.20	52.05%	52.05%
General	35.50	68.01%	35.40%
Contaminated	10.80	20.69%	10.77%
Plastic	5.90	11.30%	5.88%
Gastroenterology	48.08	47.95%	47.95%
General	33.40	69.47%	33.31%
Contaminated	13.20	27.45%	13.16%
Plastic	1.48	3.08%	1.48%
Grand Total	100.28	100.00%	100.00%

Table 1 - Total sample size and mass by department source and waste stream

Split of Neonatal Sample by Waste Stream

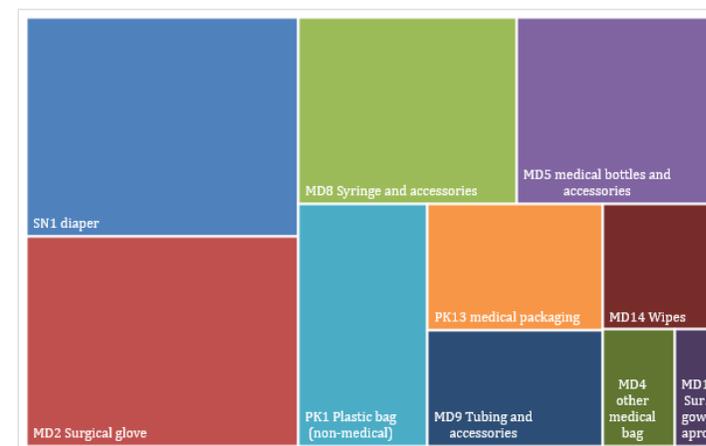


Split of Gastroenterology Sample by Waste Stream



Row Labels	Weight (Kg)	Composition
SN1 diaper	6.34	19.9%
MD2 Surgical glove	6.10	19.1%
MD8 Syringe and accessories	4.34	13.6%
MD5 medical bottles and accessories	4.12	12.9%
PK1 Plastic bag (non-medical)	3.34	10.5%
PK13 medical packaging	2.37	7.4%
MD9 Tubing and accessories	2.17	6.8%
MD14 Wipes	1.61	5.1%
MD4 other medical bag	0.90	2.8%
MD11 Surgical gown / apron	0.60	1.9%
Grand Total	31.88	100.0%

Table 6 - Top 10 product categories in plastic sample





FOLLOW-UP MEETINGS - HOW CAN WE IMPROOVE?

- Contaminated waste – liquid and follow procedures, follow up meeting and special awareness week at neonatal ward.
- Clear signs of insufficient waste sorting at both wards; paper and plastic in general waste.
- A considerable amount of linen in general waste at gastroenterology.
- Improve waste set up; localization of bins, labelling and other waste streams:
 - Electrical waste was improved.
 - Clearer procedures on collecting of medical residuals.



OTHER USEFUL FINDINGS

General waste

Sorting of general waste can be improved, (contaminated waste, paper, electrical waste and plastic).



Contaminated waste – e.g. insufficient procedures regarding liquids



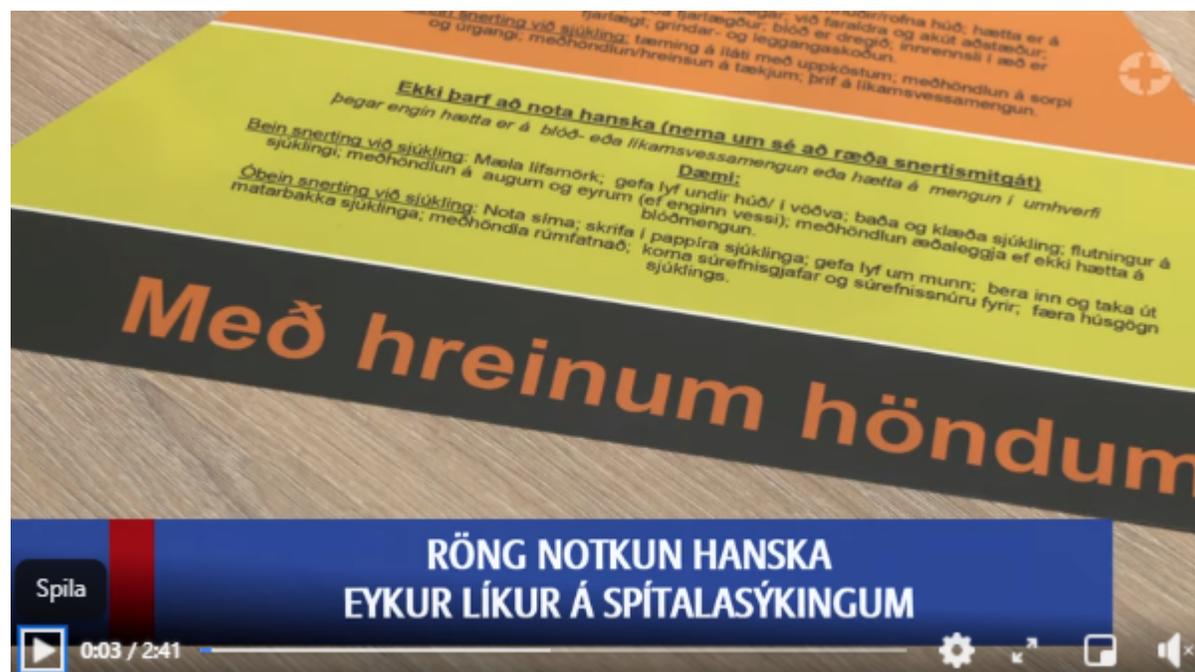
PROBLEMS & LESSONS LEARNED

- The audits highlighted a variety of waste-related issues beside plastic waste
- Hands-on results and pictures for discussion with employees and other stakeholders (waste service company etc)
- COVID
- The Advisor could not be on site

USING THE AUDIT RESULTS

- Comparison between hospitals – learn from each other – baseline?
- Improve waste planning and sorting at the hospital with follow-up meetings and information to employees
- Engaging stakeholders
- Holding workshops to discuss audit findings
- Engage staff on correct use of gloves
- Develop action plan

AWARENESS CAMPAIGN IN JUNE - ONGOING




DO YOU NEED TO WEAR GLOVES?

Use gloves when:

- » there is a risk of contamination with body fluids
- » handling chemicals or medications causing irritation
- » patient is in isolation

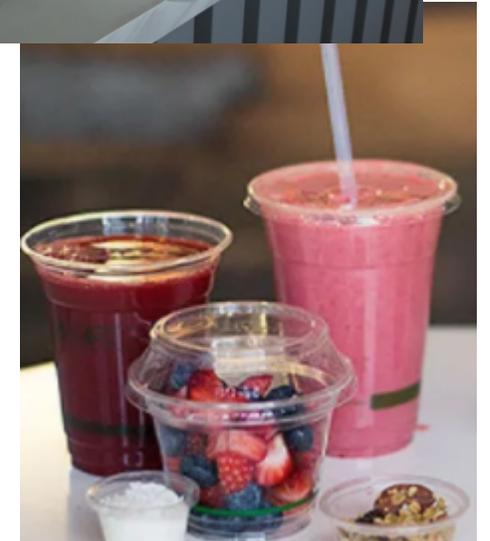
Gloves can never replace hand hygiene – You should never disinfect gloves

HAND HYGIENE IS THE BEST INFECTION CONTROL MECHANISM

Status: Comparing 2019 with the first 3 months of 2021 when covid-19 was almost non existing at the hospital show 62% increase!

ALL READY IMPLEMENTED AT LANDSPÍTALI

- The laundry distribution center used disposable plastic for the textile trolleys. In 2012 reusable textile protection was made for the trolleys, minimizing plastic waste of 10 ton yearly.
- In 2015 LSH stopped using styrofoam take-away boxes in the catering service (123.000 pieces/year) and offered the staff to buy their own reusable ones.
- All drinking bottles and cans are separately collected because of high deposit fee.
- Stopped using single use plastic glasses in 2017
- No plastic disposables at the catering service – to be revised.
- Reusable food trays and items for patients



A close-up photograph of a person wearing full personal protective equipment (PPE) in a clinical setting. The person is wearing a blue protective gown, a blue bouffant cap, a clear face shield, and a white 3M respirator mask. Their eyes are visible through the face shield. The background is slightly blurred, showing a hospital corridor with another person in green PPE in the distance. A small orange horizontal bar is located in the top left corner of the image.

THANK YOU

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