Reduction of single use plastic waste from the operation rooms

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Overview

METHODS

RESULTS

IMPLICATIONS

NEXT STEPS

QUESTIONS

Methods

Direct Observations

- Composition of categories of products
- Material flow analysis
- Roles of involvement

Post-use sampling (FTIR)

- Fourier transform infrared spectroscopy: a technique used to obtain infrared spectrum of absorption, emission, and photoconductivity

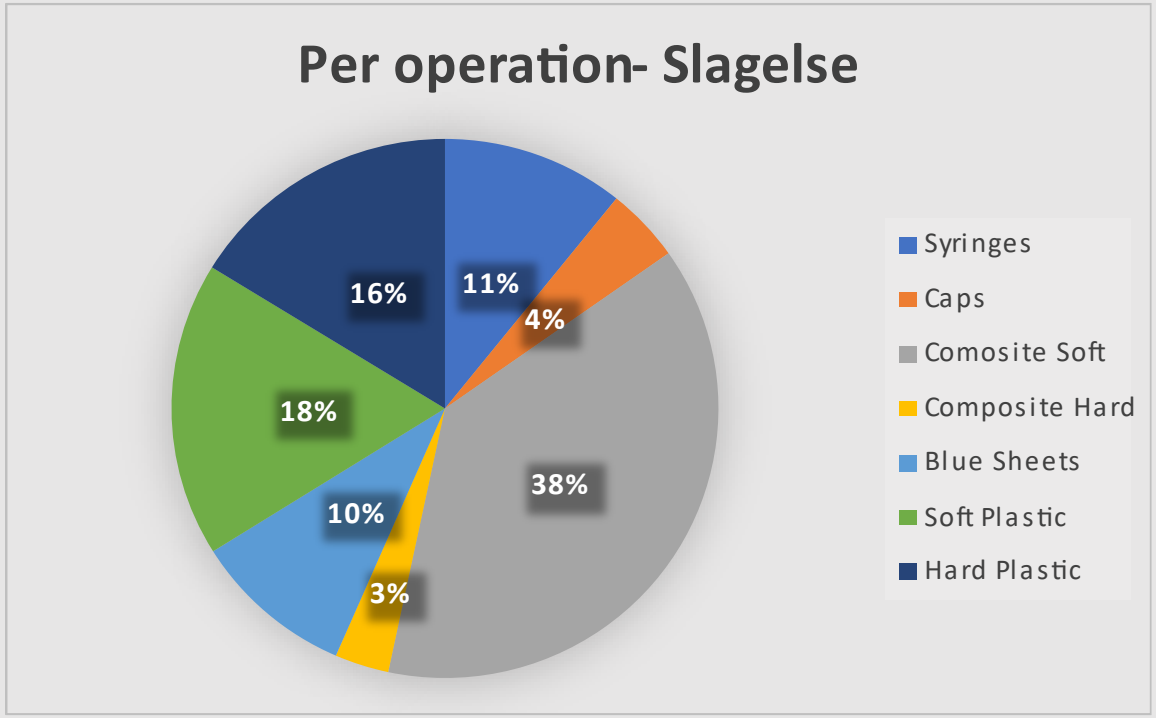
Surveys

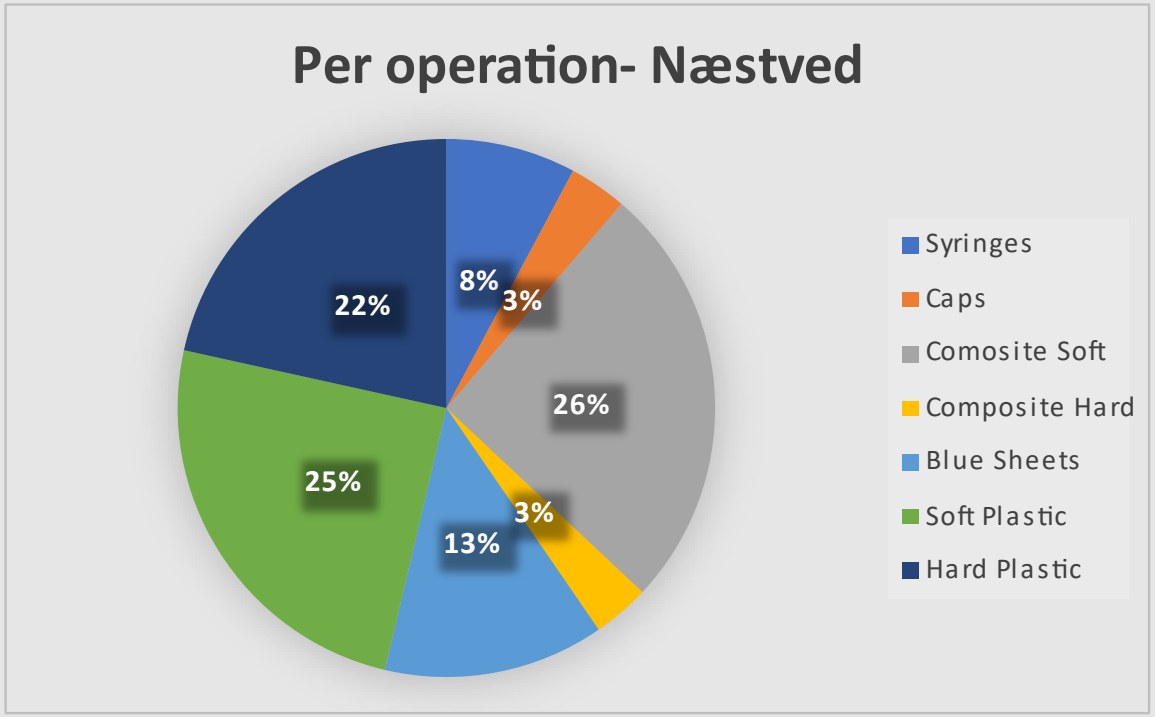
- Voluntary staff surveys
- 34 total

Results

Types and amounts of products used per operation

- Differences between hospitals
- Differences between departments
- Procedural differences between hospitals





Results

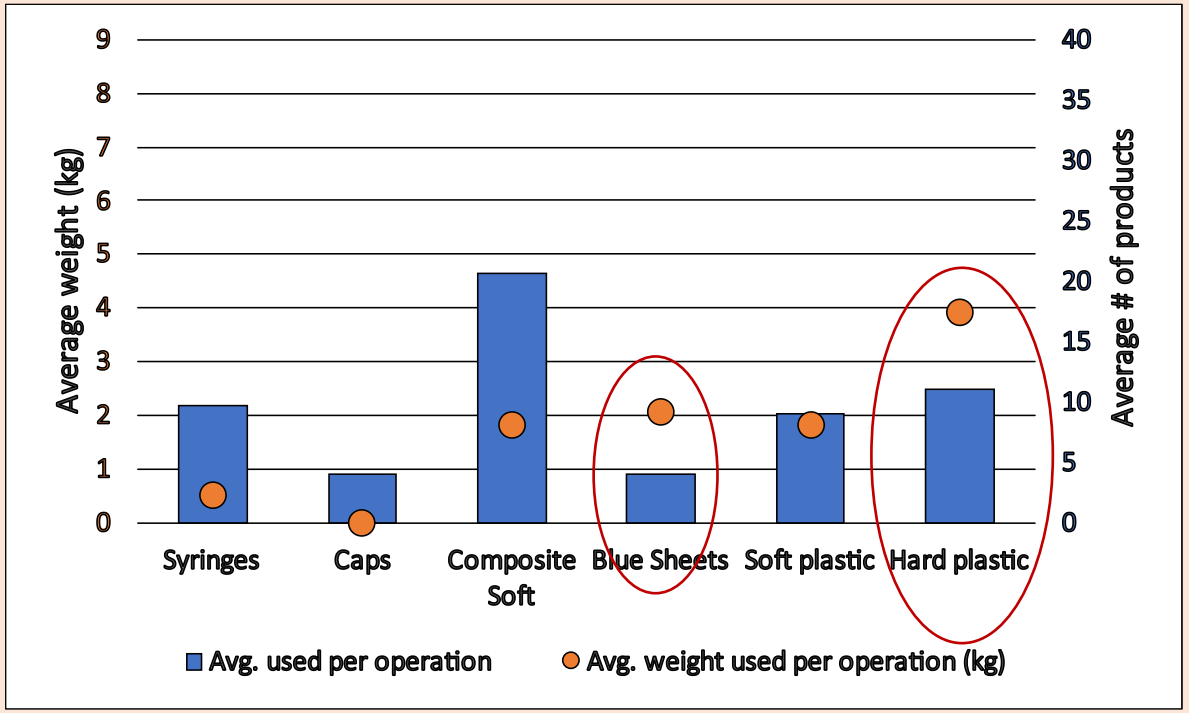
Polymer types

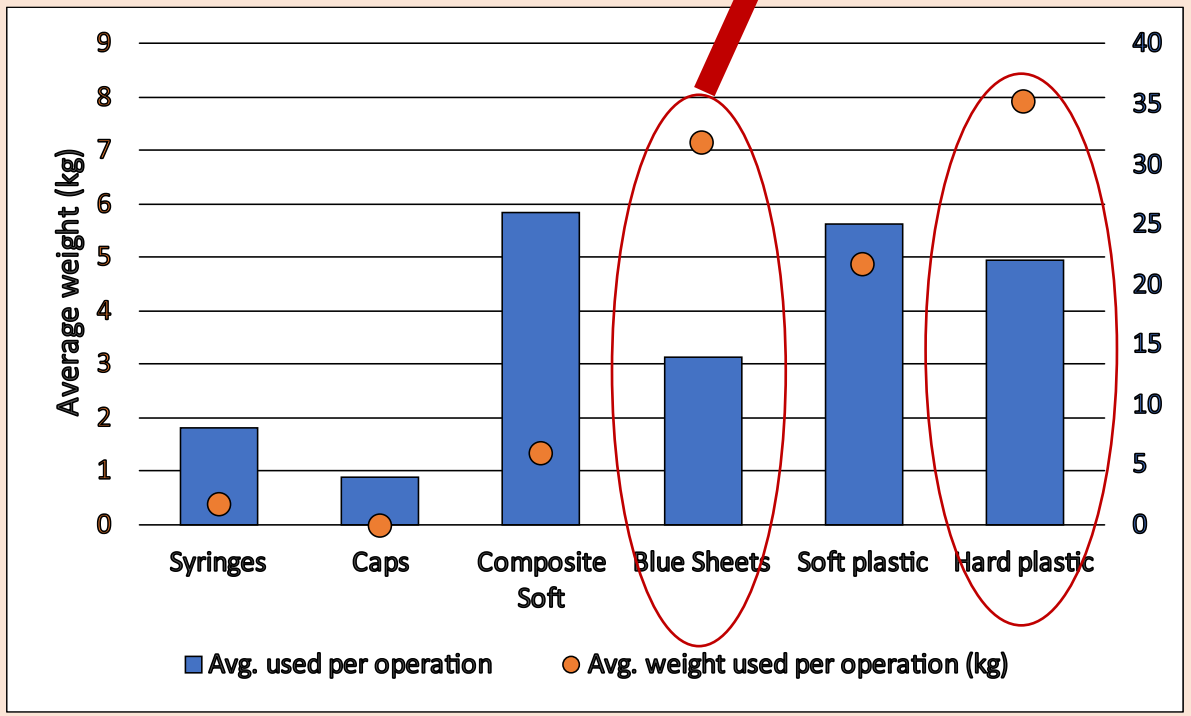
- Specific products analyzed
- Mono-polymer products versus composite products/multi-polymer products
- Implications for sorting
- Illustrates a need for products redesign

Categories:	Products:	Polymer type:
Syringes	**1:** 50 mL **2:** 20 mL **3:** 5 mL	**1:** PP **2:** PP **3:** PP
Caps	**1:** Syringe cap	**1:** PP
Composite (soft)	**1:** Syringe packages (plastic only) **2:** Proset intrafix- Iv tubes **3:** Laryngeal tube **4:** Cap + needle package **5:** Sterile center composite (green tint)	**1:** PE, Nylon **2:** PCT, PE **3:** EVA, Nylon **4:** PP, PE **5:** PP, PET
Blue Sheets	**1:** Haylard **2:** Evercare Surgical sheets **3:** Surgical gowns **4:** Blue gauze cover	**1:** PP **2:** PE, PP, PET **3:** PET **4:** PP
Soft Plastic	**1:** Gas mask wrapper **2:** Nasal Cannula **3:** Nasal cannula wrapper **4:** Suction tube wrapper **5:** Proset intrafix Iv tubes **6:** Biogel indicator- glove wrapper **7:** Surg gown wrapper **8:** tool holder soft plastic **9:** NACL 3000 bag/soft package **10:** Oxygen tube package	**1:** PE **2:** Multi-polymer (5) **3:** PE **4:** PE **5:** Multi-polymer (5) **6:** PCT,PE **7:** PE, Nylon **8:** PE **9:** PVC, PE **10:** PP
Hard Plastic	**1:** Gas face mask **2:** Suction tubes **3:** Laryngeal tube/hard cover **4:** Sharps box **5:** Mini-Spike **6:** Oxygen tubes	**1:** PVC, PC **2:** PBT **3:** Multi-polymer (3) **4:** Multi-polymer (3) **5:** PE **6:** PP

Results

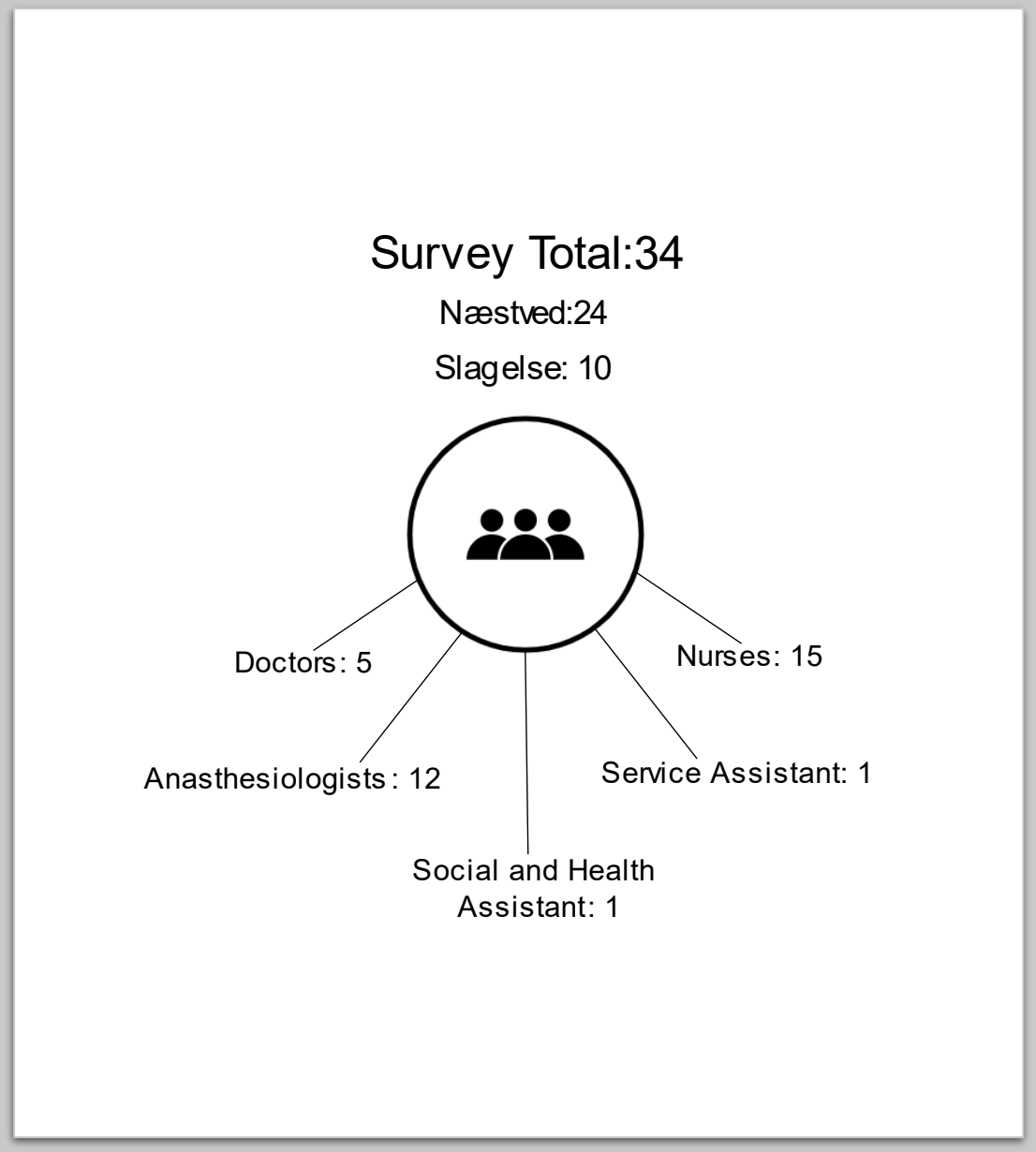
Weights: Slagelse v Næstved





Results- Surveys

- Expert opinion of staff
- Implications of barriers and solutions to reducing unnecessary single use plastic



Implications

Next Steps

“Life cycle assessment or LCA is a methodology for assessing environmental impacts associated with all the stages of the life cycle of a commercial product, process, or service”

- LCA of single use and reusable products/packaging
  - Composite soft packaging and Envriopoouch
  - Haylard sterile sheets and steel reusable coantianters

Questions?