

Sustainable Hospital:

a Case Study at LUMC Clinical Microbiology Laboratories

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RELEVANCE

- Global healthcare contributes to 4.4% of the world's greenhouse gas emissions
- Increasing reliance on disposable medical instruments, heavily used in lab settings
- Intensive energy use from machines that require uninterrupted operation time

METHODOLOGY



qualitative research



single case study



intensive interview

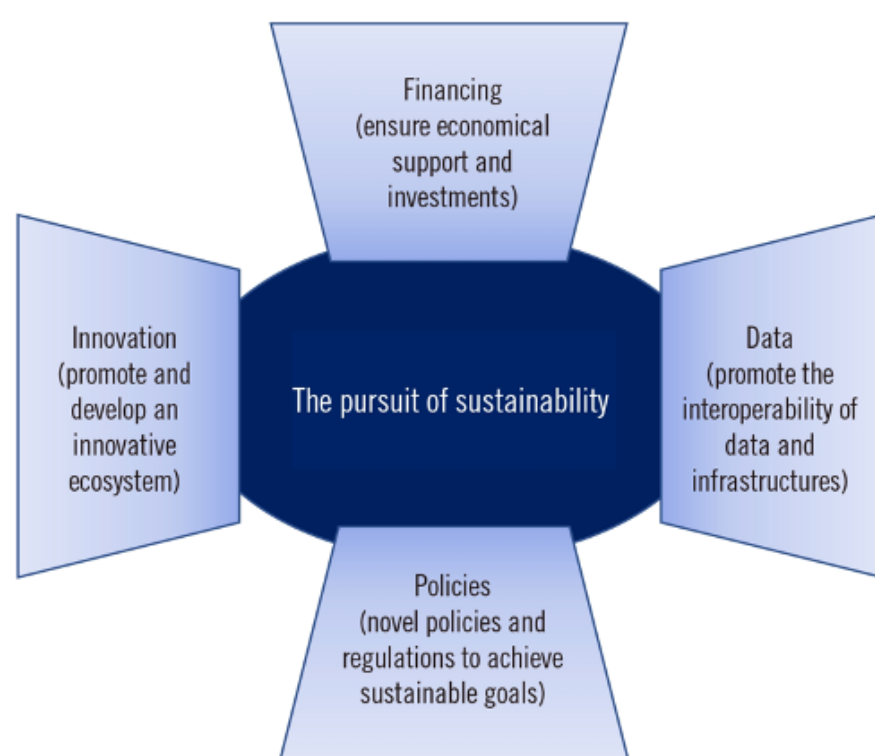


grounded theory

In order to answer the research question: "**How can the clinical microbiology laboratories at LUMC move towards a sustainable future?**" different stakeholders were interviewed, including technicians from the labs, representatives from LUMC waste management department, purchasing department, and Van Straten Medical. Semi-structured intensive interviews were conducted to allow interviewees the maximum freedom to expand on their personal experience and opinions. Answers were then coded using grounded theory to extract some overarching themes that help answer my research question.

FRAMEWORK

Pillars of Sustainable Development in the Laboratory Medicine Environment



RESULTS & RECOMMENDATIONS

1st order codes:

- Excess waste from disposables and packaging
- Chemical & hazardous wastes from lab procedures
- Huge energy consumption from uninterrupted operating machines
- Sustainable lab practices are too expensive or too old fashioned
- Costs outweigh sustainability when purchasing instruments
- More sustainable instruments not compatible with existing machines
- Lack of support from the hospital board, financially and tangibly
- Resistance to green initiatives from some colleagues

2nd order codes:

Current sustainability challenges

RECOMMENDED

- Green teams self-organized by each department
- Adequate recycling practices
- Green initiatives such as less printer paper use, less water & energy use

Existing sustainable efforts

- Purchasing department needs to investigate more sustainable options
- Hospital board needs to be more involved and provides more support
- Green teams from all departments need a bigger platform to connect
- Take-back program from suppliers to recycle packaging
- Collaboration with other hospitals and labs to require greener designs from instrument suppliers
- Find alternatives for single use disposables