



Surgical Instrument Tray Optimization and Standardization at AUH

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Agenda

Introduction

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- Aarhus University Hospital (AUH)
- The problem
- Existing literature

Method

- Design approach
- Data collection

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Introduction

The authors



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Mads Granlie

- M.Sc. Eng. in operations and supply chain management

Introduction

Aarhus University Hospital

The hospital

- 60.000 surgeries yearly
- 10.000 staff
- 100.000 daily contacts
- Largest hospital in Denmark

The CSSD

- 141.000 instruments in circulation
- 90-100.000 trays processed yearly
- 150 staff



Introduction

The problem

Quality

- Unequal sizes
- Rust
- Wear and tear

Capacity

- Physical space
- Productivity

Complexity

- Simplicity
- Recognition



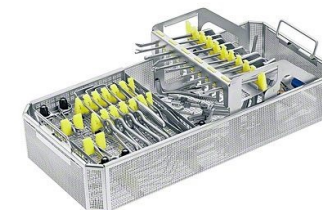
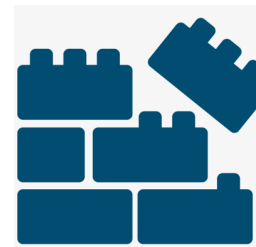
Introduction The Literature

- Design only
- Specialty centric
- Potential confirmed several times
- Focus on reduction rather than capability



Method Design Approach

- Holistic view
- Reduction
- Consolidation or separation
- Modularization
- Standardization



Method Data collection

- Instrument tray composition and instrument quantities
- Before and after design workshop



Results

Specialty	Before optimization			After optimization			Reduction			
	Tray types	Total no. of trays	Total no. of instruments	Tray types	Total no. of trays	Total no. of instruments	Tray types	Total no. of trays	Total no. of instruments	
Urology	16	73	2.589	16	83	2.195	0%	-14%	15%	
Odonto-maxillar	11	55	1.952	9	48	1.507	18%	13%	23%	
Gynecology	11	56	1.621	8	38	1.192	27%	32%	26%	
Otolaryngology	27	135	4.776	22	135	3.943	19%	0%	17%	
Cardio/Vascular/Pulmonary	18	112	5.020	16	110	4.436	11%	2%	12%	
Neuro surgery	18	85	2.723	14	88	2.570	22%	-4%	6%	
Gastroenterology	18	129	4.158	15	122	3.156	17%	5%	24%	
Plastic surgery	22	127	3.717	17	162	2.887	23%	-28%	22%	
Orthopedics	64	269	8.164	48	278	7.449	25%	-3%	9%	
Obstetrics/Pediatrics	15	82	2.338	15	83	2.080	0%	1%	11%	
Same day surgery	38	217	6.300	35	224	5.492	8%	-3%	13%	
Total	258	1.340	43.358	215	1.371	36.907	18%	0%	15%	Median
							15%	0%	16%	Mean

Discussion

- Multiple methods and multidisciplinary expert groups
- Total reductions rather than reductions per tray
- Preliminary data shows it positively impacts CSSD efficiency
- What is the impact on actual OR efficiency improvement?

Conclusion

- Reduction in instruments overall is possible
- Indications that reductions in instruments in circulation also impacts CSSD efficiency
- Requires executive management support
- Buy in of several professions and specialties in the hospital are paramount

Any Questions?