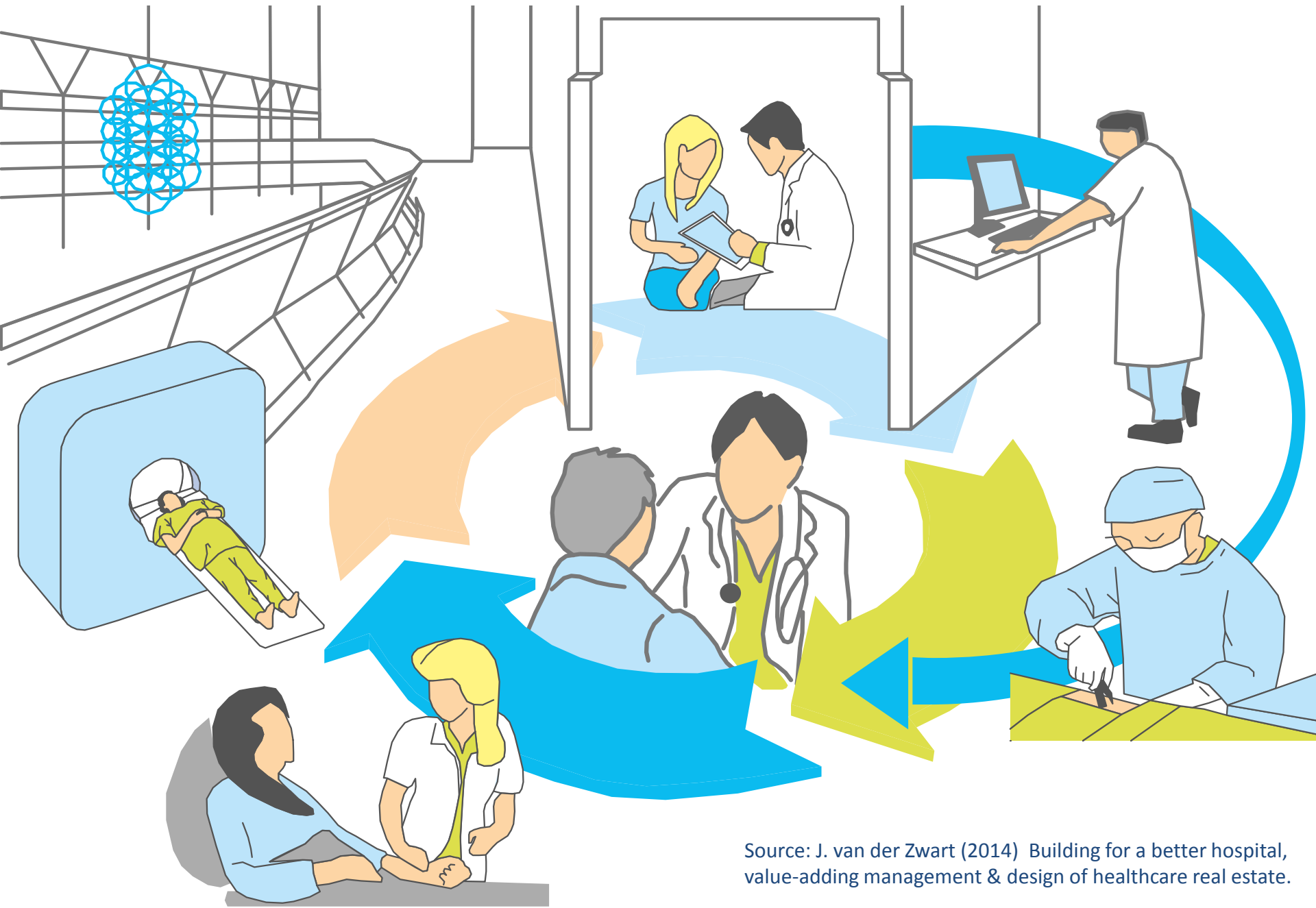
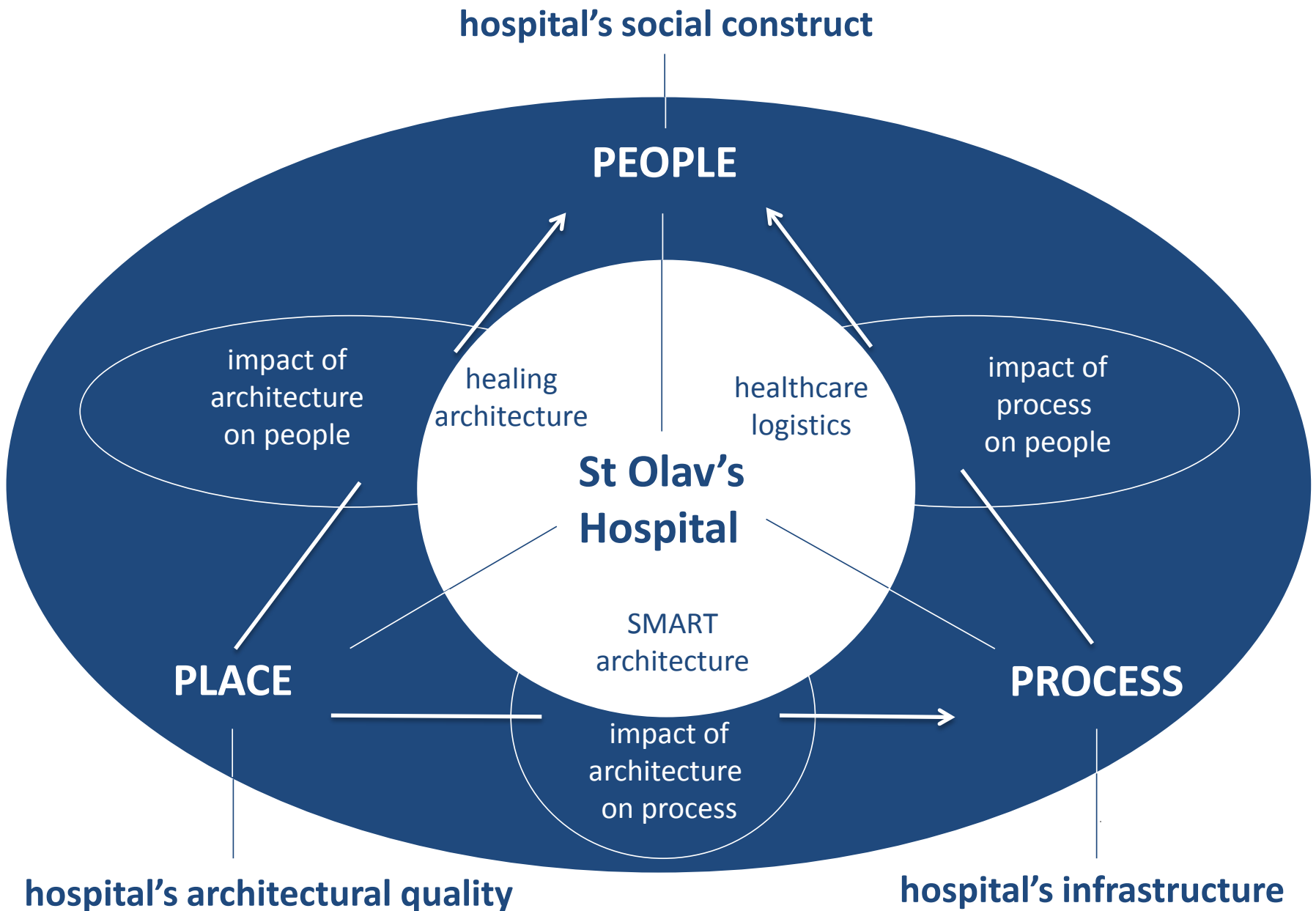


Hvordan kan vi skabe brugervenlige sygehuser?

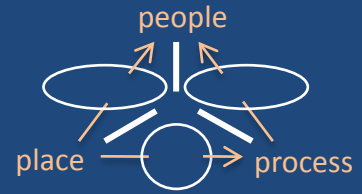


Source: J. van der Zwart (2014) Building for a better hospital, value-adding management & design of healthcare real estate.



HEALTH PROMOTING ARCHITECTURE

St Olav's Hospital as a best practice case study



What is the contribution of architecture of St Olav's Hospital to the healing process of patients and the effectivity of healthcare professionals?

three perspectives:

hospital's social construct

where people meet and interact

hospital's infrastructure

in which clinical processes are efficient and effective

hospital's architectural quality

the physical environment where professionals work and patients receive treatment

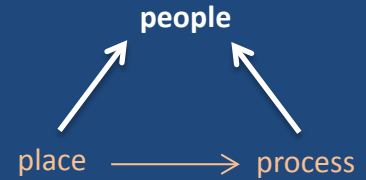


Source: TSO

<https://www.arkitektur.no/st-olavs-hospital?tid=158202>

HOSPITAL'S SOCIAL CONSTRUCT

when people meet and interact



How do patients and employees experience, perceive and appreciate the public and communal areas of the St Olav's Hospital?

Kvinne-Barn senteret

objectives

use of public areas and communal spaces by patients, parents & professionals.

approach

naturalistic observations

walk along interviews

architectural analysis one centre



Source: Alvaro et al (2015) Design and evaluation: the path to better outcomes.

http://www.bridgepointhealth.ca/en/what-we-do/resources/research/Bridgepoint_Report_-_FULL_-_March_13.pdf

From spaces to places, domestication processes of hospital architecture

Marianne E. Fostervold, Johan van der Zwart

Gutten skjerner ansiktet mot sola, henger over rullestolkanten, sutrer: «Men det er så varmt!».

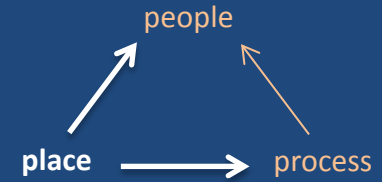
Hun sier i telefonen: «Hvis noen sier at du har gjort noe feil, så kan du si at du bare skal gi opp, men du kan jo bare gå videre».

En annen kommer og sier: " jeg satt inne og ventet jeg, jeg så ikke meldingen din".
De har et møte om en sykepleier i praksisperiode som har gjort noe feil.



HOSPITAL'S ARCHITECTURAL QUALITY

a place for professionals and patients



How does the architectural design of the single patient rooms organised in sengetun wards support the initial objectives of St Olav's Hospital?

hospital wards in 4 different centres

objectives:

evaluation place on staff and patients outcomes.

approach:

staff observations, travel distances and interviews

patient interview

architectural analysis wards



Usability evaluation of hospital architecture

Geir Hansen, Aneta Fronczek-Munter, Johan van der Zwart

1 Defining the Evaluation

Defining the objective and the scope for the evaluation
Review of the user organisation
Planning and anchoring the evaluation

2 Mapping Usability

Collecting facts
Conducting mapping (structured group interview)
Analysing and comparing data
Defining the focus of further evaluation

3 Walk-through Usability

Defining topics / sub-topics
Choosing participants
Defining route and stops
Conducting the walkthrough
Summarising the results
(WHERE AND WHOM?)

4 Workshop with User Organisation

Choosing participants
Presentation of the objective and review findings
Discussion of the findings towards the objectives
Structuring and systematising the results


5 Actionplan/Final Report

Review and analysis of results from evaluation
Improving existing buildings/premises - Action plan
Input programming new buildings - Final report

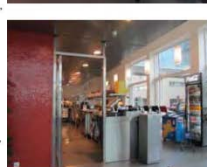
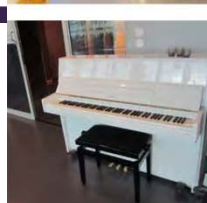
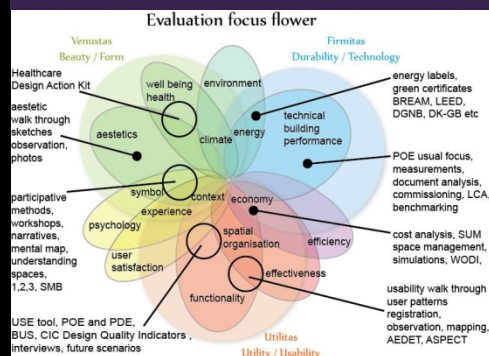
SUMMARY OF FINDINGS FROM THE WALK-THROUGH at Laboratorierenteret St. Olavs Hospital

Planned, conducted and summarised by: Aneta Fronczek-Munter, PhD student, Architect M.Sc.

Participants: Aneta, following the PhD course Evaluation of architecture/ Environmental Aesthetics at NTNU

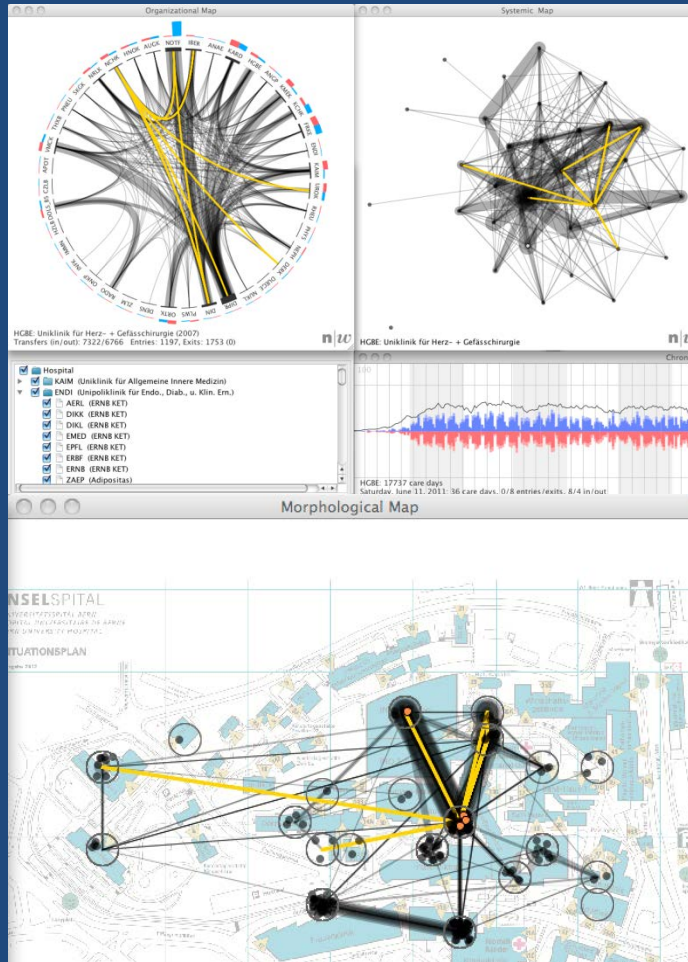
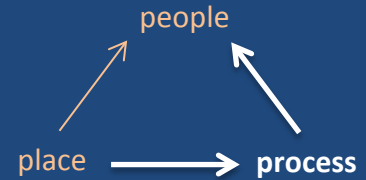
	
STOP 3 – Canteen	
Interest group A – only Aneta, short stop	
Positive observations	<ol style="list-style-type: none"> 1. Colourful, red, black grey, furniture, walls 2. light, modern, tidy, clean, 3. big windows: view towards outside, but also from outside see activity inside, people, light 4. piano standing in the room! 5. Easy to find way (already from outside)
Negative observations	<ol style="list-style-type: none"> 1. Sound from machines, dishwasher, fridges (also standing right by the window and stop the view) 2. Entry from foyer around the kitchen. so you don't see the food/people seating at tables. when entering canteen, a communication back
Selected topics:	
4. & 2. Attractiveness for employees/ patients	Image/ aesthetics attrac
3. Ease of orientation (floorplan, signage, colour)	a bit confusing entrance
Suggestions for improvement	When planning think of Remove the cola fridge

Stop 3 - Cantine, pictures by Aneta Fronczek-Munter



HOSPITAL'S INFRASTRUCTURE

efficient and effective clinical processes



How efficient is the architectural layout of St Olav's Centre Model in relation to the clinical processes?

outpatient clinic, diagnostics & wards.

objectives:

process of clinical pathways & patient flows.

approach:

modelling patient flows as clinical processes in an Building Information Model (BIM)

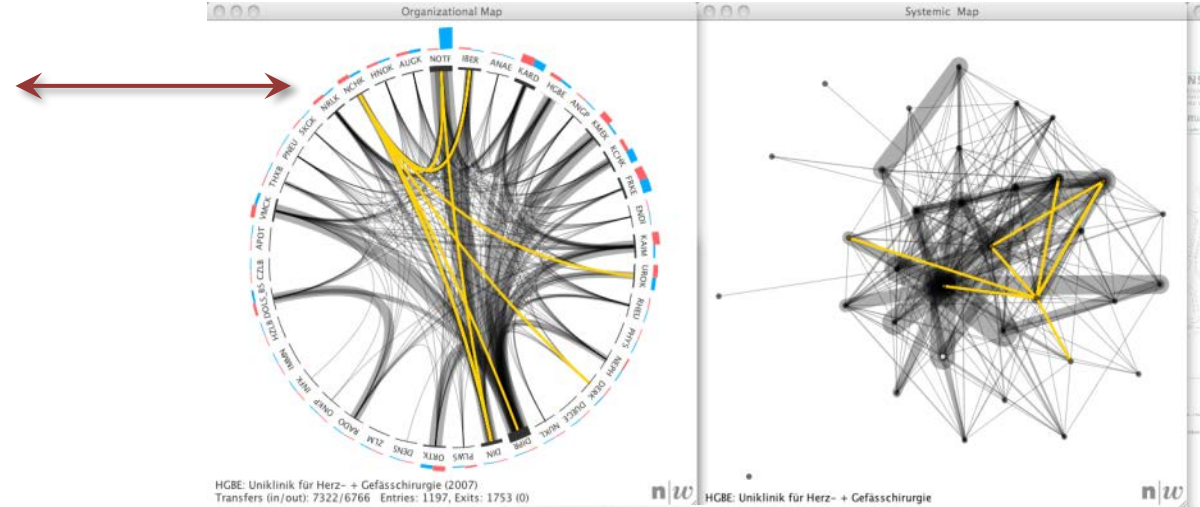
patient information meta-data analysis

architectural analysis hospital campus

Source: Walter et al (2013) Masterplan: a different view on electronic Data, ECHE Conference Bern.

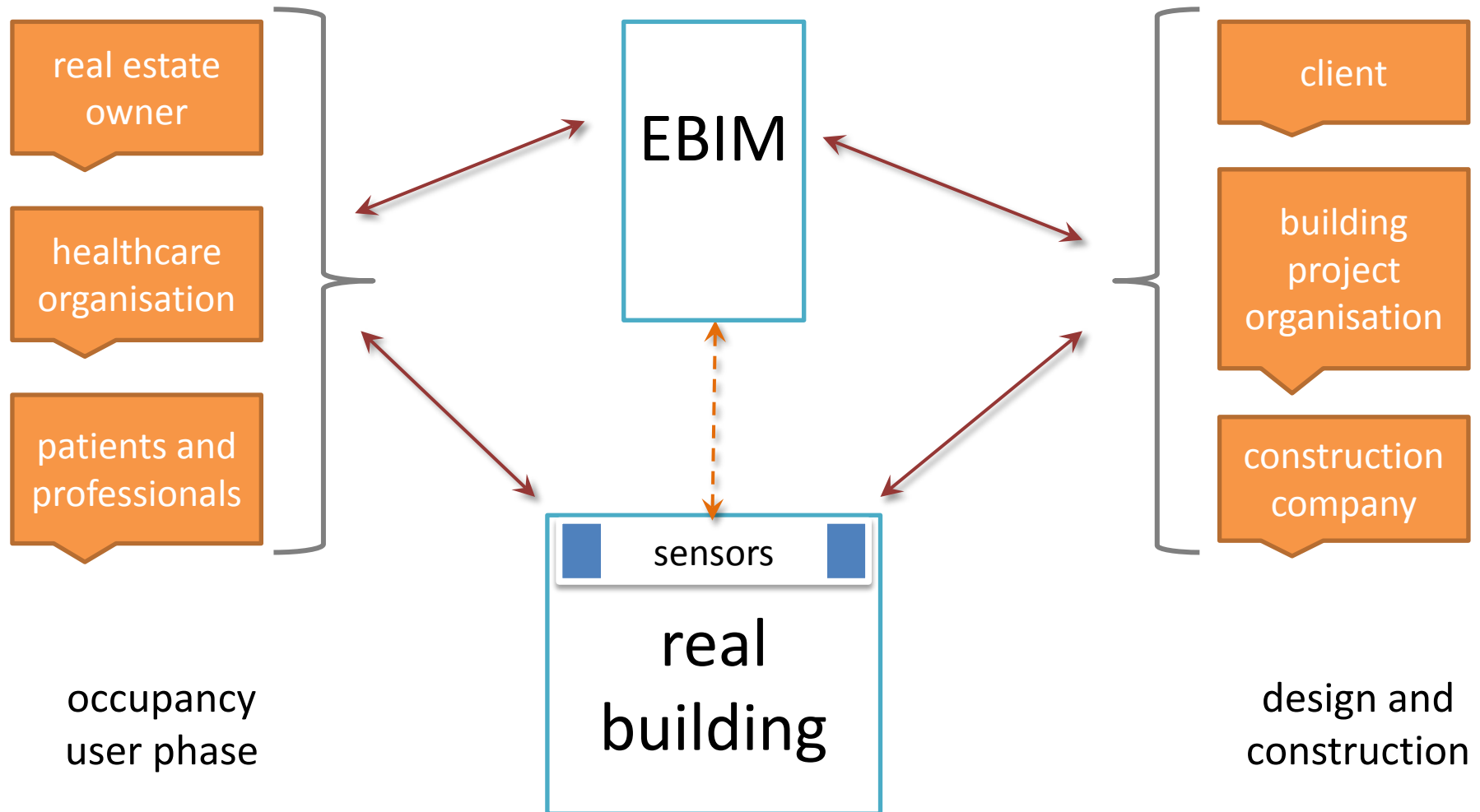
smart hospital architecture, data driven simulation model for hospital infrastructure

Johan van der Zwart, Aneta Fronczek-Munter, Tor Åsmund Evjen, John Krogstie, Jorulv Rangnes, Dominique Brodbeck



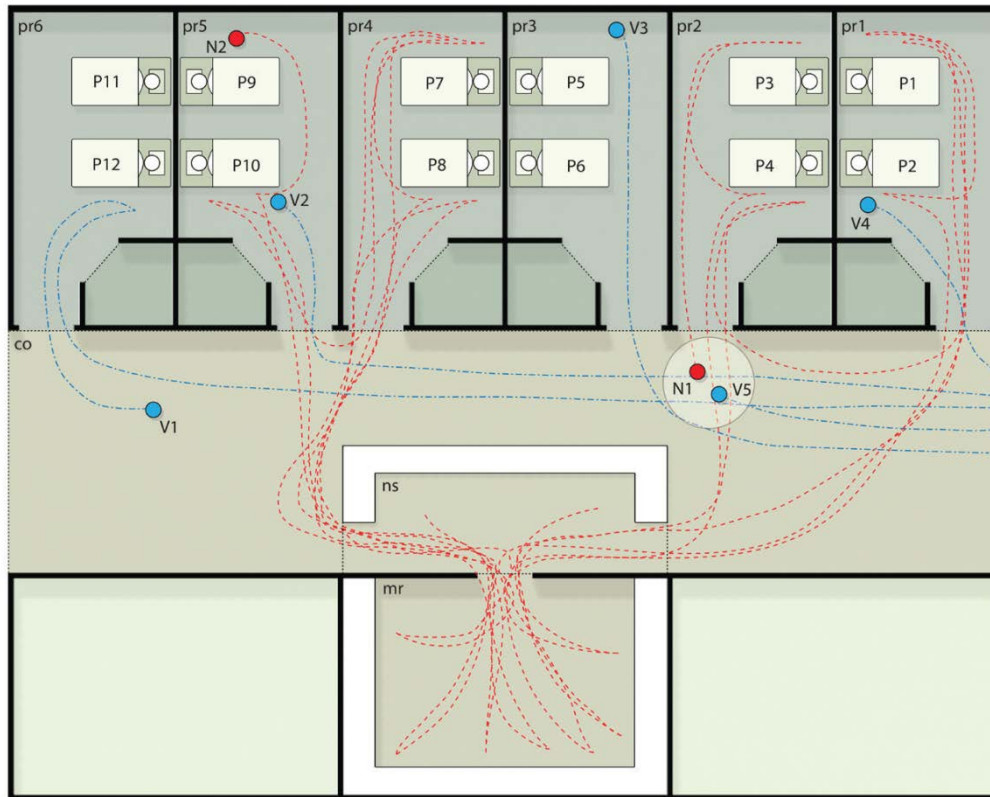
Enterprise BIM

Tor Åsmund Evjen, Jorulv Rangnes, John Krogstie,
Aneta Fronczek-Munter, Johan van der Zwart



Hospital architecture simulation: evaluation of two inpatient units in Norway & Israel

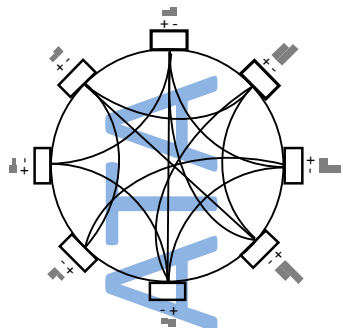
Nirit Putievsky Philosof, Johan van der Zwart



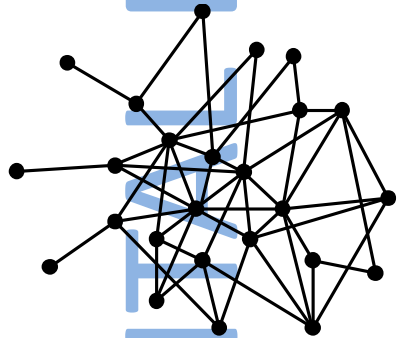
Lauvnes (2012)
Sengetun, et
brukbart konsept?
SINTEF A22564
åpen report.

Schaumann, D., Pilosof, N. P., Date, K., & Kalay, Y. E. (2016). A study of human behavior simulation in architectural design for healthcare facilities. *Annali dell'Istituto Superiore di Sanità*, 52(1), 24-32.

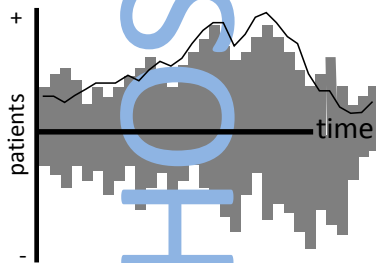
project data



organisational view

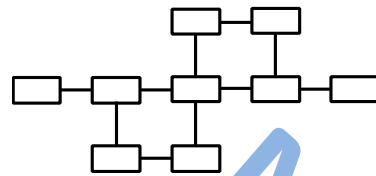


systematic view

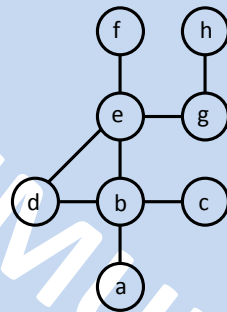


chronological view

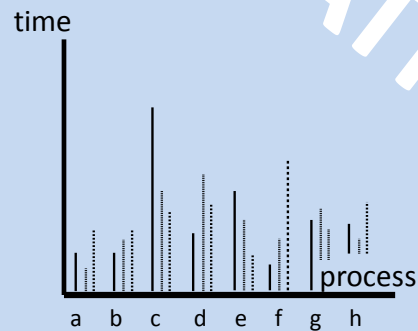
process



clinical process model

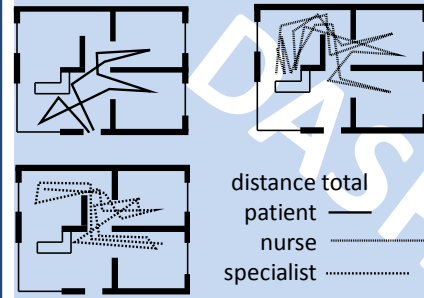


configuration simulation data

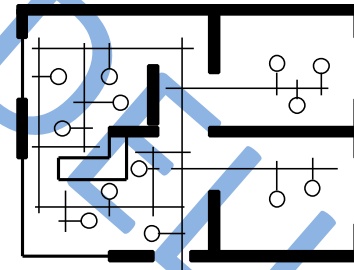


capacity simulation data

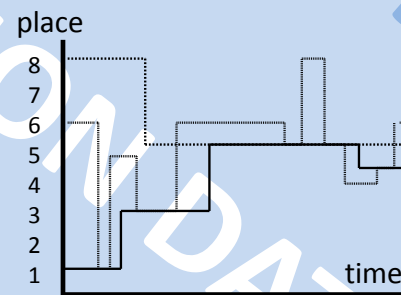
place



configuration dashboard

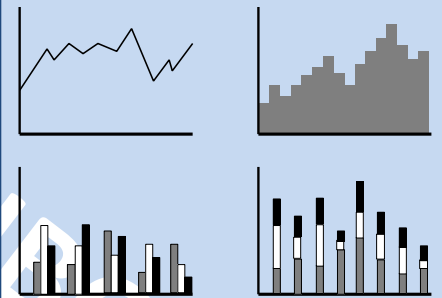


architectural layout model

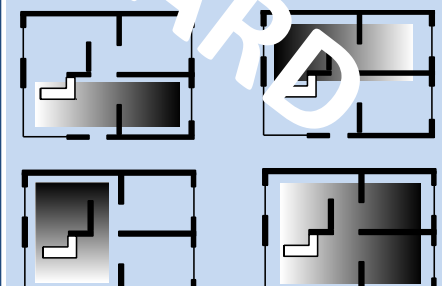


occupancy simulation data

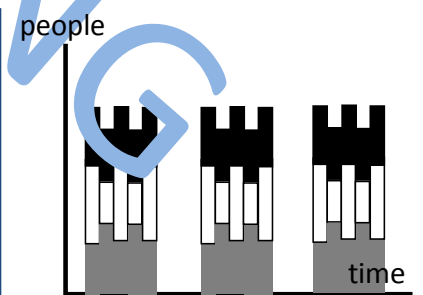
people



capacity dashboard



occupancy dashboard



patient flow model