

# Futureproofing Health System Infrastructure

## “The future of health infrastructure research”



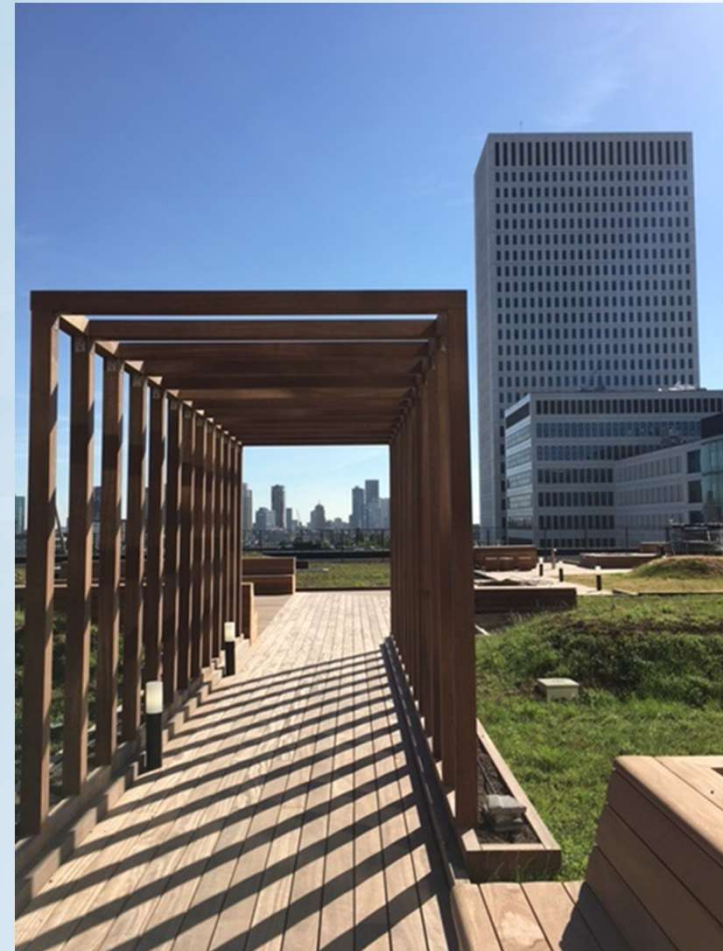
Liesbeth van Heel, Senior policy advisor  
Erasmus University Medical Center Rotterdam

For EuHPN Workshop November 20-22, 2017

# Ensuring high quality, fit for purpose buildings

When would help from other, experienced hospitals be most useful:

- In setting out the integrated business case – requires a boardroom counterpart (now often consultants, banks, PFI/PPS consortia)
- In review sessions or second opinions – using the knowledge, experience and lessons learned from other hospitals (technical requirements, masterplan, contract documents)
- Evaluation of the finished product and benefits realization management as part of the project – to give impulse to innovation and quality improvement

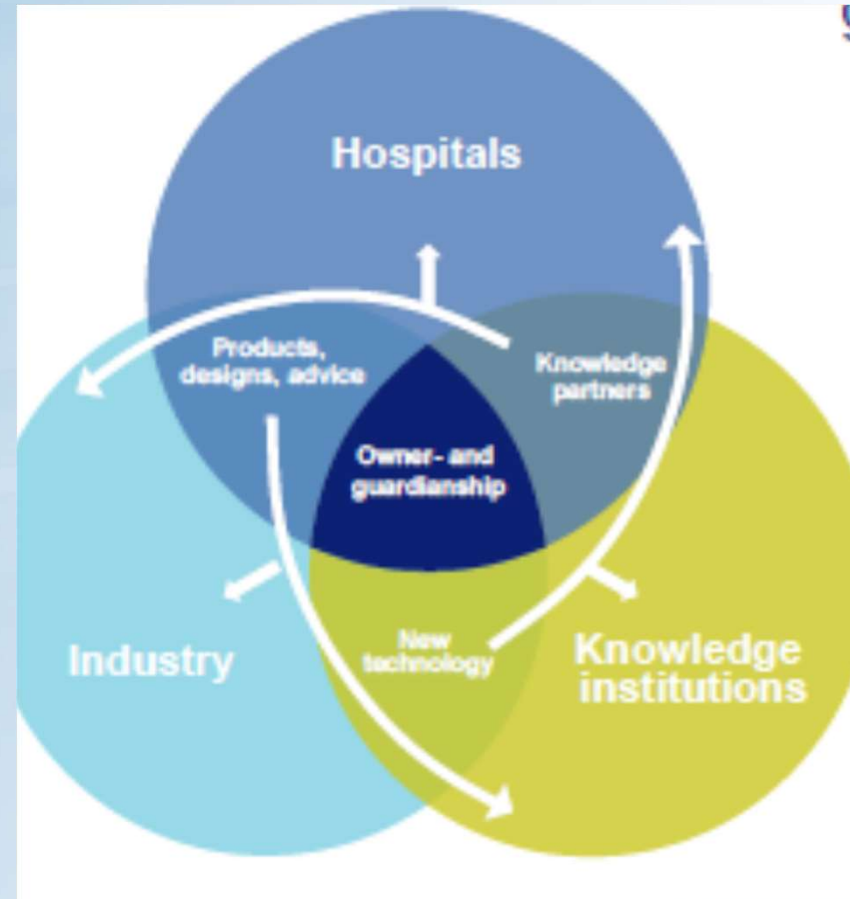


# My closing thoughts last year

Hospitals are becoming “hubs” in a Web of Care; these networks (often around a University Medical Center) are needed to face new challenges

Hospitals with our kind of experience can become “hubs of knowledge” supporting owner- and guardianship for other initiatives

A platform like EuPHN could be used as an example for creating a knowledge sharing network ‘at home’ to accelerate the future of health infrastructure (and research)



# What did we do since November 2016

- (Second) meeting at the Ministry of Health with a discussion memo, sharing our analysis of missed opportunities and higher societal costs ('market failure')
- Series of interviews with potential sponsors of the network in the industry and the knowledge institutions, based on this discussion memo
- In February we shared these findings with the other hospital representatives and tried to look ahead for the next steps





# How did we continue

- Reported findings to the initial partners – many leads to follow up
- Gave an update to the EuHPN Board in March
- We started a LinkedIn group and invited existing contacts to join it
- We held a knowledge sharing meeting in June, which seemed successful
- But: we struggle in finding the energy to continue, not making it our 'private party'

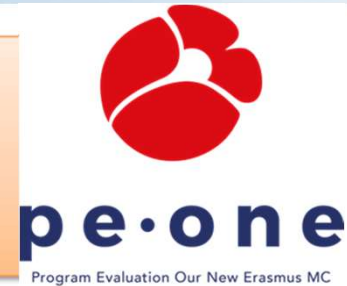


# Building on the evidence base – PE-ONE

Program Evaluation-Our New Erasmus MC  
PE-ONE

Steering group and  
Sounding board group

Supervision:  
M. Van Dijk  
M.C. Vos  
M.E. Van Heel



CHANGE

- Change management
- Ownership
- Management
- Innovations

Supervision: VACANCY  
PhD-Fellow: M.E. Van Heel

WELCOME

- Patient experience
- Patient safety
- Staff experience
- Healing environment

Supervision: M. van Dijk  
PhD-Fellow: VACANCY

MOVE

Infection prevention

Supervision: M.C. Vos  
PhD-Fellow: VACANCY

Collaboration Rotterdam / Delft / Leiden

POE

GREEN VIEW



# WELCOME study



welcome  
pe-one

What are the effects of a single-room set-up compared to a multi-bedded ward set-up in terms of

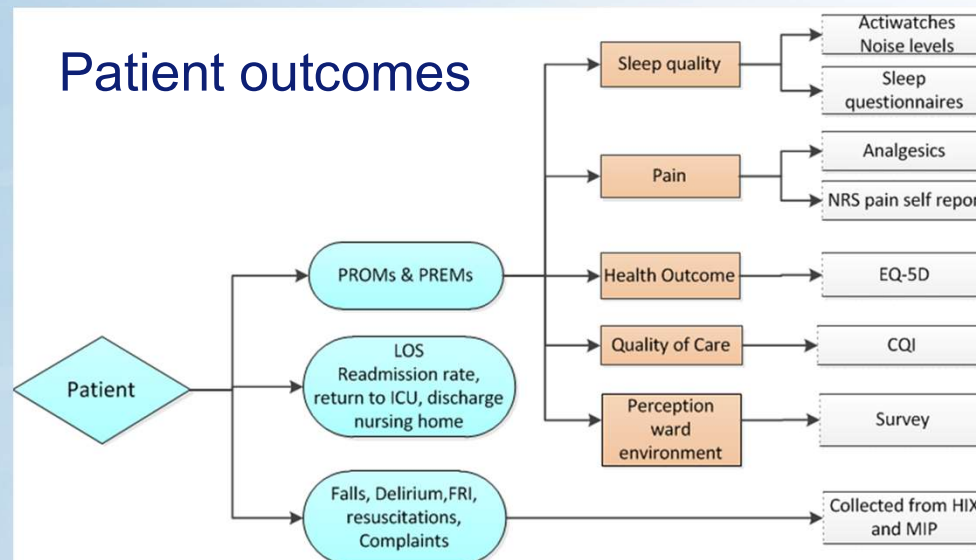
- patient safety,
- patient experiences and
- staff experiences?

## ORIGINAL RESEARCH

**One size fits all? Mixed methods evaluation of the impact of 100% single-room accommodation on staff and patient experience, safety and costs**

Jill Maben,<sup>1</sup> Peter Griffiths,<sup>2</sup> Clarissa Penfold,<sup>1</sup> Michael Simon,<sup>3,4</sup> Janet E Anderson,<sup>1</sup> Glenn Robert,<sup>1</sup> Elena Pizzo,<sup>5</sup> Jane Hughes,<sup>6</sup> Trevor Murrells,<sup>1</sup> James Barlow<sup>7</sup>

## Patient outcomes



### Abbreviations

CQI=Consumer Quality Index

LOS, length of stay

PROMs, patient-reported outcome measures

FRI =freedom reduction interventions

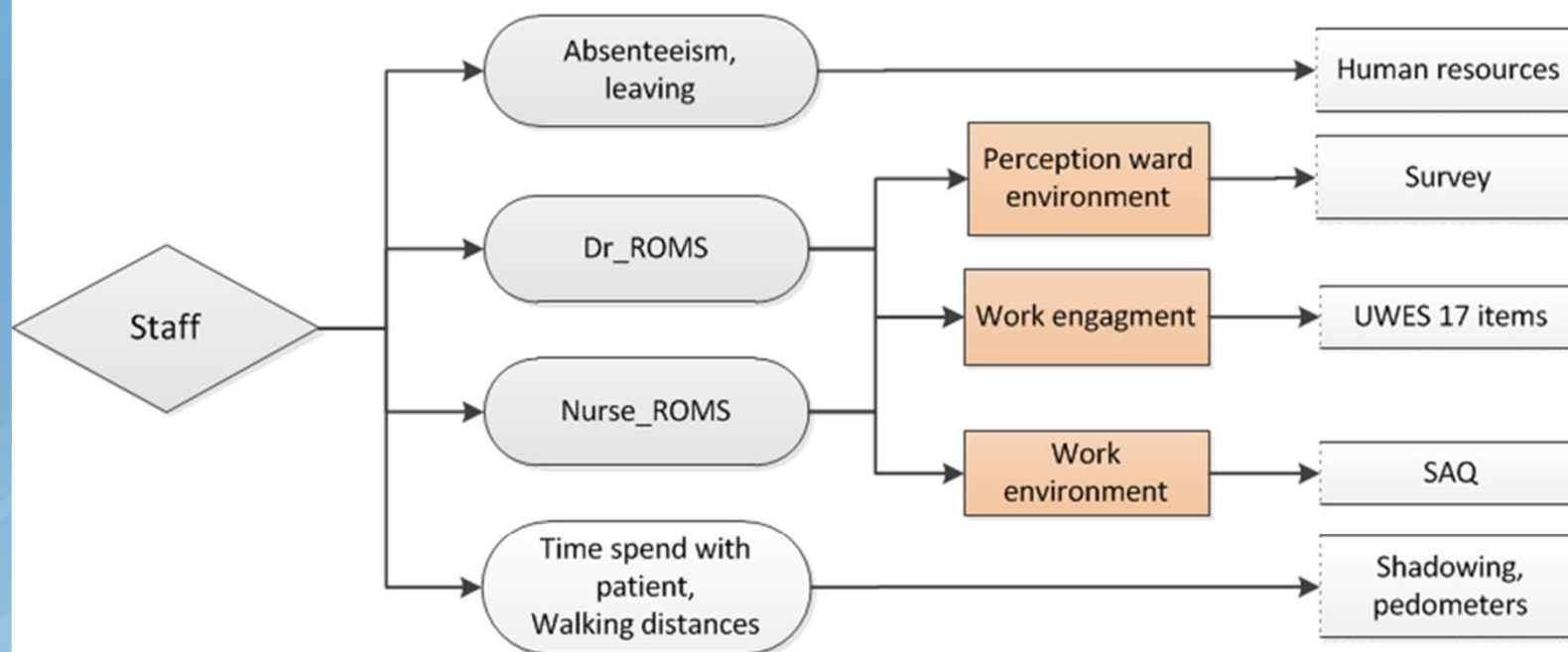
PREMs, patient-reported experience measures



# Nurses and doctors outcomes



welcome  
pe-one



## Abbreviations

Dr-ROMs, doctor-reported outcome measures  
Nurse\_ROMs, nurse-reported outcome measures  
UWES, Utrecht Work Engagement Scale  
SAQ, Safety Attitude Questionnaire

T=0 November-March 2017/2018

T=1 November-March 2018/2019

T=2 November-March 2019/2020





# MOVE study



- MicroOrganisms Versus the Environment of old and new patient rooms
- Pre- and Post move measurements of the building and colonization in patients
- Can we proof that all the infection prevention attention in the design phase and choice of materials actually pays off?

move  
pe·one



# POE – office concept



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**pe·one**

Program Evaluation Our New Erasmus MC

- Replicating the workspace appreciation survey from November 2012 and 2013
- Focus on office building prior and after (2018) introduction of activity based workspaces
- Additional questions about shared workspaces and design elements in office furniture
- Again with a control group for which the office workspace concept does not change

Research

 THE CENTER FOR HEALTH DESIGN<sup>®</sup>

## Effects of Newly Designed Hospital Buildings on Staff Perceptions: A Pre-Post Study to Validate Design Decisions

Eliane Schreuder, MSc<sup>1</sup>, Liesbeth van Heel, MSc<sup>2</sup>, Rien Goedhart, MSc<sup>2</sup>, Elise Dusseldorp, PhD<sup>3</sup>, Jan Maarten Schraagen, PhD<sup>1</sup>, and Alex Burdorf, PhD<sup>4</sup>

Health Environments Research  
& Design Journal  
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 **ONE**

# GREEN VIEW

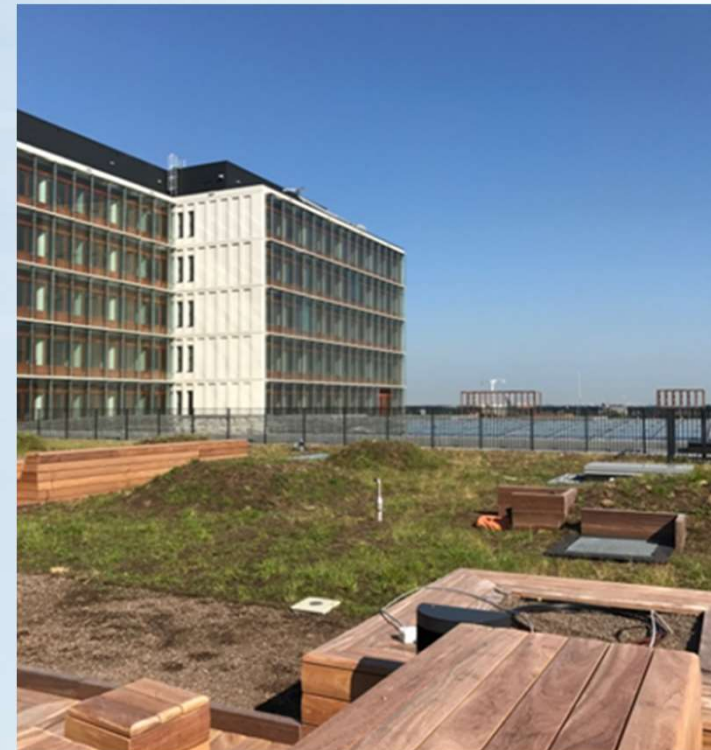


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*Erasmus*

- Replication of the landmark study by Roger Ulrich 'View from a window...'
- Including more patients (2x 135 instead of 2x 23)
- Comparable length of stay and protocolized treatment plan
- In single rooms (instead of double rooms)
- Comparison of data from medical records
- Additional focus on the quality of the view, and lighting levels (in different seasons)
- Starting with a systematic description of old and new spaces (also on behalf of the Welcome study)

**pe·one**

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} **ONE**

# CHANGE



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change  
pe·one

To be defined for my PhD candidacy

- Analyzing process and results of the transition to the new building (with associated innovations) from a change management / organizational perspective
- Looking at 'ownership of change' in the different stages of design, construction and implementation
- Interaction of process, IT and building
- In an international comparison?





# Concluding remarks

- To future proof: always look for the next step (disruptive or incremental)
- Learn from others, stick to your plan, challenge it, and adapt it if necessary
- Our journey may be nearly finished after 20 years, but even on our campus redevelopment continues (Children's Hospital, Biomedical Research Facilities)



# See you in Rotterdam!

Visit us at

[www.erasmusmc.nl/nieuwbouw](http://www.erasmusmc.nl/nieuwbouw)

Contact me at

[m.vanheel@erasmusmc.nl](mailto:m.vanheel@erasmusmc.nl)

Liesbeth van Heel,  
Erasmus MC



**Save the date!**  
13 and 14  
April 2018

## The next step in hospital design

Presenting the new Erasmus MC

### KEY-NOTE SPEAKERS

- Christina Akerman (president of ICHOM)
- John Cooper (John Cooper Architecture)
- Ernst Kuipers (CEO Erasmus MC)

### GUIDED TOURS

- Guided tours in the new Erasmus MC

### WORKSHOP TOPICS

- Smart technology and innovation
- Connected Human Spaces
- Concepts for ambulatory care
- Concepts behind the new nursing wards
- Future-readiness of hospitals
- Building process management

**Thursday 12 April 2018**

Pre-conference session on City and Hospitality in association with Architecture Institute Rotterdam (AIR).



Location: Erasmus University Medical Center, Rotterdam, The Netherlands

For more information please contact us by  
[newbuild2018@erasmusmc.nl](mailto:newbuild2018@erasmusmc.nl) or view our website.

**WEBSITE**

