ISRCTN10480033 https://doi.org/10.1186/ISRCTN10480033

The impact of hospital room design on patients

Submission date 14/06/2023	**Recruitment status** No longer recruiting	[_] Prospectively registered [X] Protocol
Registration date 14/06/2023	**Overall study status** Completed	[_] Statistical analysis plan [X] Results
Last Edited 17/07/2026	**Condition category** Other	[X] Individual participant data

Plain English summary of protocol

Background and study aims
Many patients experience stress during hospitalization. In these hospital settings, the impact of the design of inpatient rooms on patients is still not well understood. The aim of this study is to assess the effects of different design principles on patients.

Who can participate?
Patients who were hospitalized for at least one night in the Netherlands

What does the study involve?
The patients are randomly allocated to one of the four conditions in an online randomized trial using the survey program Qualtrics. Patients are exposed to a video, pictures, floor plan, and a detailed description of the facilities in the room.

What are the possible benefits and risks of participating?
None.

Where is the study run from?
Hanze University of Applied Sciences, Groningen, The Netherlands

When is the study starting and how long is it expected to run for?
March 2021 to August 2022

Who is funding the study?
This study was funded by the Delta Prize (Deltapremie) number PR.01.2. (The Netherlands)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
The impact of the hospital inpatient room on patients' stress

Study objectives
Evidence-based design, feng shui design, and golden ratio design will reduce patient's anxiety during hospitalization

Ethics approval required
Ethics approval not required

Ethics approval(s)
According to the Dutch Law for medical research involving human subjects (WMO), a waiver for ethical assessment was provided by the Medical Ethical Committee of the Medical University of Groningen (METc 2022/259). The study was conducted according to the declaration of Helsinki.

Primary study design
Interventional

Study design
Multi-arm parallel-group randomized trial

Study type(s)
Other

Health condition(s) or problem(s) studied
Design hospital room

Interventions
In an online multi-arm parallel-group randomized trial participants were randomly assigned (1:1:1:1) to one of four conditions, namely golden ratio condition, feng shui condition, evidence-based design condition, or the control condition.

Participants were exposed to a 2-minute video of the patient room, two pictures of the patient room, two pictures of the bathroom, the 3D floorplan, and a detailed description of the facilities in the rooms.

Participants were automatically randomized by the online survey program to one of the four intervention groups (Qualtrics).

Intervention Type
Behavioural

Primary outcome(s)
Anxiety is measuring using the STAI-6 scale after viewing the video

Key secondary outcome(s)
1. Sense of coontrol, social support, and positive distraction is measured using the SHEDS scale after viewing the video
2. Pleasantness of the room was measured using a 10-point bipolar scale after viewing the video

Completion date
22/08/2022

Eligibility

Key inclusion criteria
1. Aged 18 years or older
2. Hospitalized in their lives for at least one night in the Netherlands

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
100 Years

Sex
All

Total final enrolment
740

Key exclusion criteria

Hospitalized for the last time at a (1) psychiatric ward, (2), at a rehabilitation clinic, or (3) for the birth of their child

Date of first enrolment
24/06/2022

Date of final enrolment
30/06/2022

Locations

Countries of recruitment
Netherlands

Study participating centre
Hanze University of Applied Sciences
Zernikeplein 7
Groningen
Netherlands
9704 AA

Sponsor information

Organisation
Hanze University of Applied Sciences

ROR
https://ror.org/00xqtxw43

Funder(s)

Funder type
Government

Funder Name
Nationaal Regieorgaan Praktijkgericht Onderzoek SIA

Alternative Name(s)
Nationaal Regieorgaan Praktijkgericht Onderzoek, National Board of Practice-Oriented Research SIA, National Board of Practice-Oriented Research, Regieorgaan SIA, NRPO-SIA

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Netherlands

Results and Publications

Individual participant data (IPD) sharing plan
All data will be available with publication.

IPD sharing plan summary
Published as a supplement to the results publication

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		05/06/2024	11/06/2024	Yes	No
Dataset		05/06/2024	17/07/2026	No	No
Protocol file	version 1.0	04/05/2022	17/07/2026	No	No