Design for a resilient acute care system

Transformation strategies to anticipate a growing and aging population

Project context

If nothing changes, one in four employees must work in the healthcare sector in 2040 (WRR, 2021). Therefore, acute care must undergo a fundamental system transformation to effectively address the needs of a growing and ageing population, while on the other hand there is a growing scarcity of personnel.
Currently, the acute care chain consists of cooperating care providers such as hospitals, ambulances, general practitioners, and nursing homes in each region. *Regionaal Overleg Acute Zorgketen* (ROAZ)-agencies organize the collaboration and have been given the responsibility to formulate transformation plans for the acute care chain.

Project approach

This graduation project used a systemic design approach to facilitate the transformation towards a more resilient system. Resilience theory was consulted in this project, because of the prevalent framing of the growing older population, as a pressure on acute services. To produce transformation plans, the design process consisted of three phases. The first was mapping the current state of the system, the second was proposing a resilient state, and the third was exploring strategic responses aimed at achieving that state. Central to a transformation from one system state to another is a shift in paradigm (Meadows, 2008). Four paradigm shifts are derived from interviews with experts and stakeholders from the acute care domain.

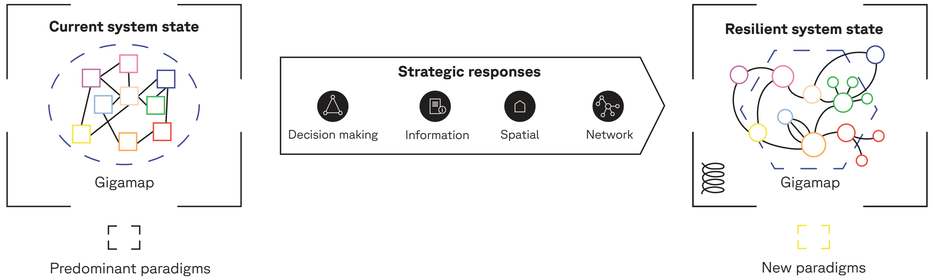
Four paradigm shifts

From viewing care as a business for professionals to approaching care as a social undertaking.

From a belief in the makeable human, to live with a view of the end.

From perceiving care as a commodity to seeing care as a common good.

From the wish to live independently at home to the desire to live old together.



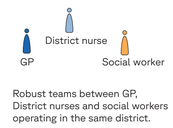
Shaping paradigm shifts through responses

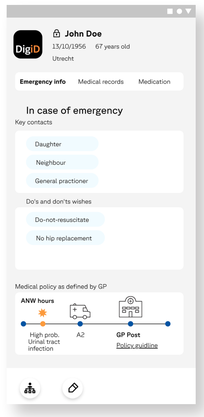
Paradigm shifts are at the foundation to how we can transform our acute care system. However, they still have to be made tangible. The shifts are shaped in four responses addressed at decision-making processes, information flows, spatial concepts, and social network.

Decision making

1. Mission command management model for care

We need a management structure which enlarges trust, flexibility, and professional freedom of action. A military mission command structure can be adapted to the context of acute care. Mission-command embraces operationally ambiguity and sees this as advantage, while commanders aim to be as clear as possible in their strategies and their underlying intentions (Braw, 2022).





Information

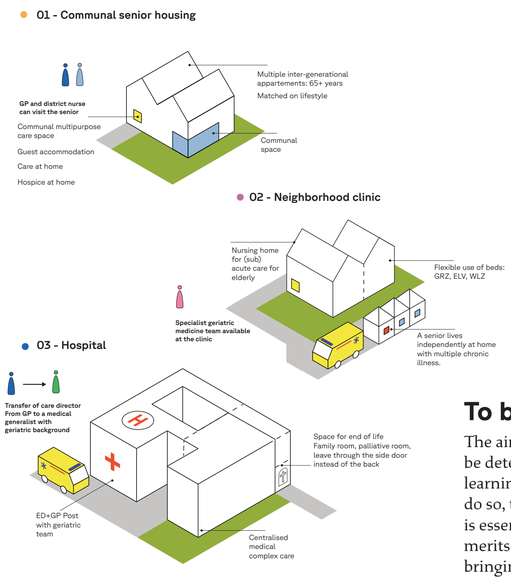
2. Improve information flow

There is a need for a central information structure to improve decision-making processes in and before acute situations. Information entailing acute care policies based on a patient's values, wishes, and needs must be made available prior to an acute situation.

Spatial

3. New arrangements for acute elderly care

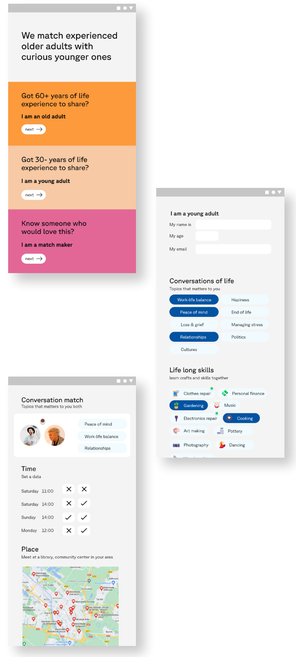
There is a need for new (architectural) typologies and processes to address different (sub-)acute care situations. These options lie for instance in communal senior housing, neighbourhood clinics, and geriatric emergency squares in hospitals. Acute process needs to facilitate space for geriatric, and palliative skills of professionals, especially at ambulance organizations and ED's.



Network

4. Foster intergenerational social network

At last, we must create a longing for intergenerational social networks instead of enforcing obligatory social service. We need to foster intergenerational social networks, based on value exchanges between generations. Stronger social networks, when directed at reassurance, are likely to indirectly lower the pressure on the acute care chain.



To be continued

The aim was to make the system more resilient, which can only be determined retrospectively. Therefore, through a continuous learning process, the proposed responses need to evolve. To do so, the involvement of seniors next to other professionals is essential. While the systemic design approach has shown its merits in the context of acute care, a political journey awaits in bringing paradigm shifts and their responses closer to reality.

Jesse Geurtsen
Design for a resilient acute care system
December 1, 2023
IDE Master Graduation Project
Strategic Product Design

Committee
Prof. dr. ir. Kleinsmann, M.S.
MSc, Nieuwborg, A.
Dr. Fresen, T. & Wessel, M.

Organisation
In collaboration with
ROAZ Noord-Holland/Flevoland

TU Delft

Faculty of Industrial Design Engineering

Delft University of Technology