UNIVERSITY | TECHMED OF TWENTE. | CENTRE THE TECHMED EVENT

### Innovative Solutions: MedTech and Process Efficiency in Tackling Staff Shortages Erwin Hans, CHOIR - University of Twente



### Towards more impact on healthcare transformation through a transdisciplinary approach

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### CHOIR

Center for Healthcare Operations Improvement & Research

http://www.utwente.nl/choir







### 1: How can we maintain equitable access to high quality care

# without additional expenses / capacity?



### 2: How can we make more impact on this challenge?



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### Transforming healthcare: potential solutions

- Prevention
- Shift of care towards the patient's home
- 'Zinnige zorg' (appropriate care)
- Technology to support *delivery* and *organization* of care
- Address systemic perverse incentives
- Data-driven decision making, AI, etc.
- Integrated capacity planning / collaboration

### Integrated capacity planning, within and amongst care providers



Increase production + Reduce waiting + Reduce work pressure



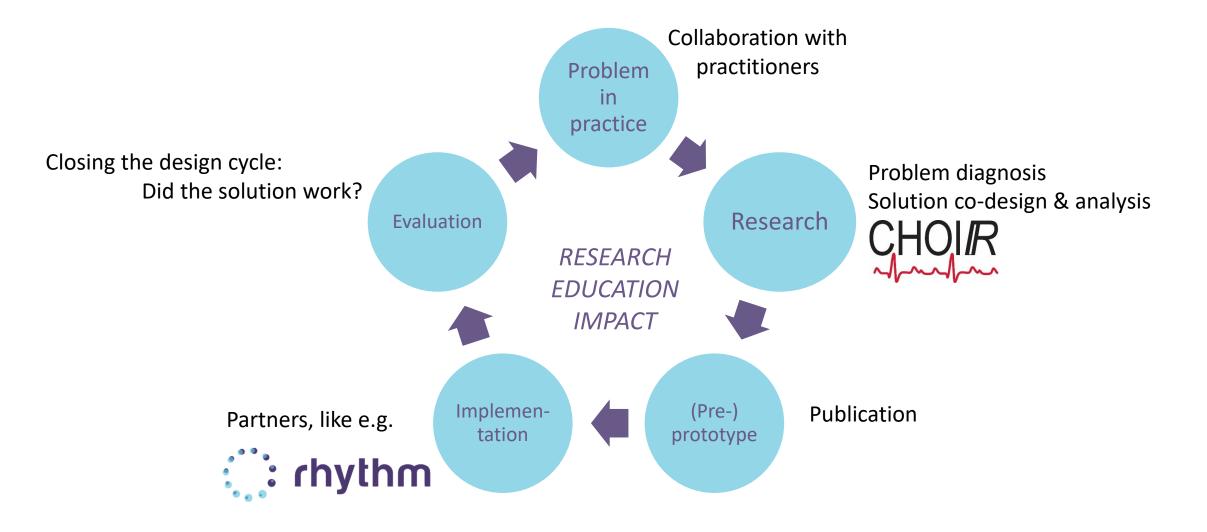
### A holistic / integrated view on...

- Entire care pathway
- Performance (quality of care, service and labor, productivity, sustainability)
- Decision hierarchy
  - System perspective
  - Organization perspective strategic, tactical, operational
- Managerial areas (medical, capacity, material, financial, ...)



### 2: How can we make more impact on this challenge?

### An impact-driven approach to research and education





### **Barriers for transformation**

- Complexity of challenges
- Risk-avoiding nature of healthcare
- Leadership
- Lack of training
- Lack of international academic reward for impactful research
- Siloed scientific world, in *research* and in *education*



### Perspectives

#### **Cost-effectiveness**

Systems Engineering

#### **Operations Management**

#### Capacity-effectiveness

**Organizational behavior** 

#### Sustainability

Leadership

Change management

Judicial



Dr. Anke

health

services

Prof.dr. **Carine Doggeri** 



**Technology** in Healthcare **Transformations** 

**Dr. Mireille Post-Hubers** 

Organisational change scholar

Implementing organisational

change

Prof.dr.ir. **Erwin Hans** 

Dr.ir. Gréanne Leeftink Industrial Engineer Healthcare process optimisation



Dr. Caroline **Fischer** Public administration scholar Management of public services

> Prof.dr. **René Torenvlied**

### **Education**

- More interdisciplinary education in UT's (healthcare) programmes
- Medical schools in hospitals should be about more than (technical) medicine
- An interdisciplinary executive training programme organized by TechMed for the healthcare sector

### **Center for Healthcare Operations Improvement and Research**

WE CAN SUSTAIN CARE UNDER REDUCED RESOURCES THROUGH OPTIMIZATION OF THE LOGISTICAL PROCESSES VIA CAREFUL USE OF MODELS AND DATA





Dental First Aid Surgeon

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