

Health Systems Design

Maaïke Kleinsmann

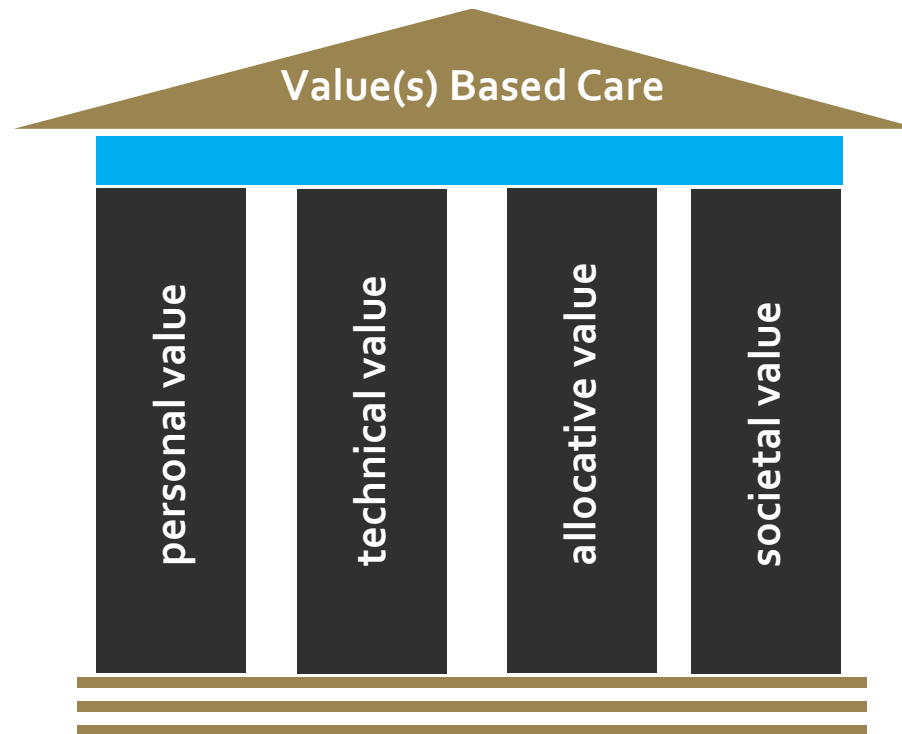
Systemic view on systems

I see the healthcare system as a complex system of **indivisible parts**

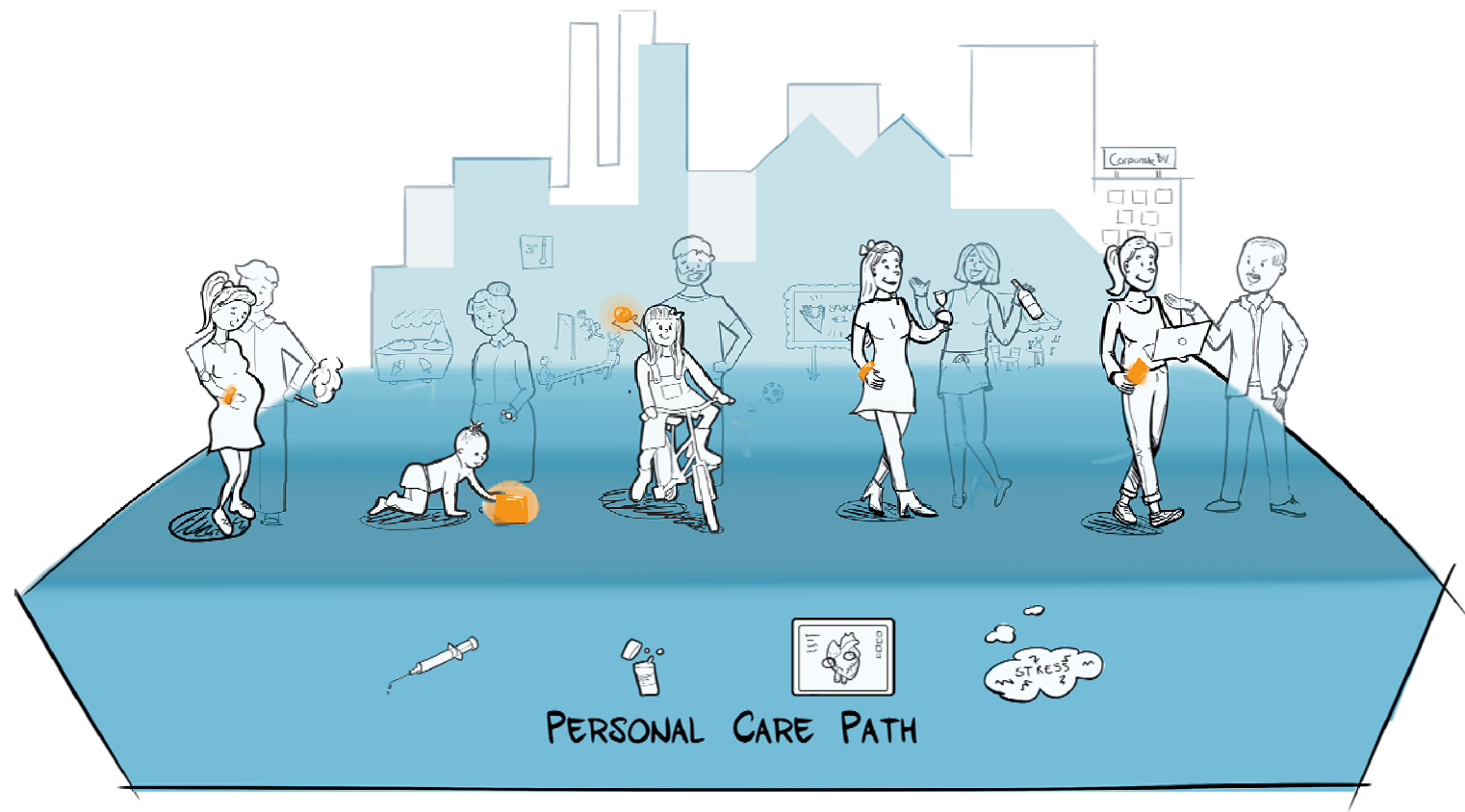
I see the healthcare system as a **sociotechnical system**
(with predictable and unpredictable parts)

I think that **data enabled design methodologies can support the gradual transformation** of the healthcare system into a preferable one

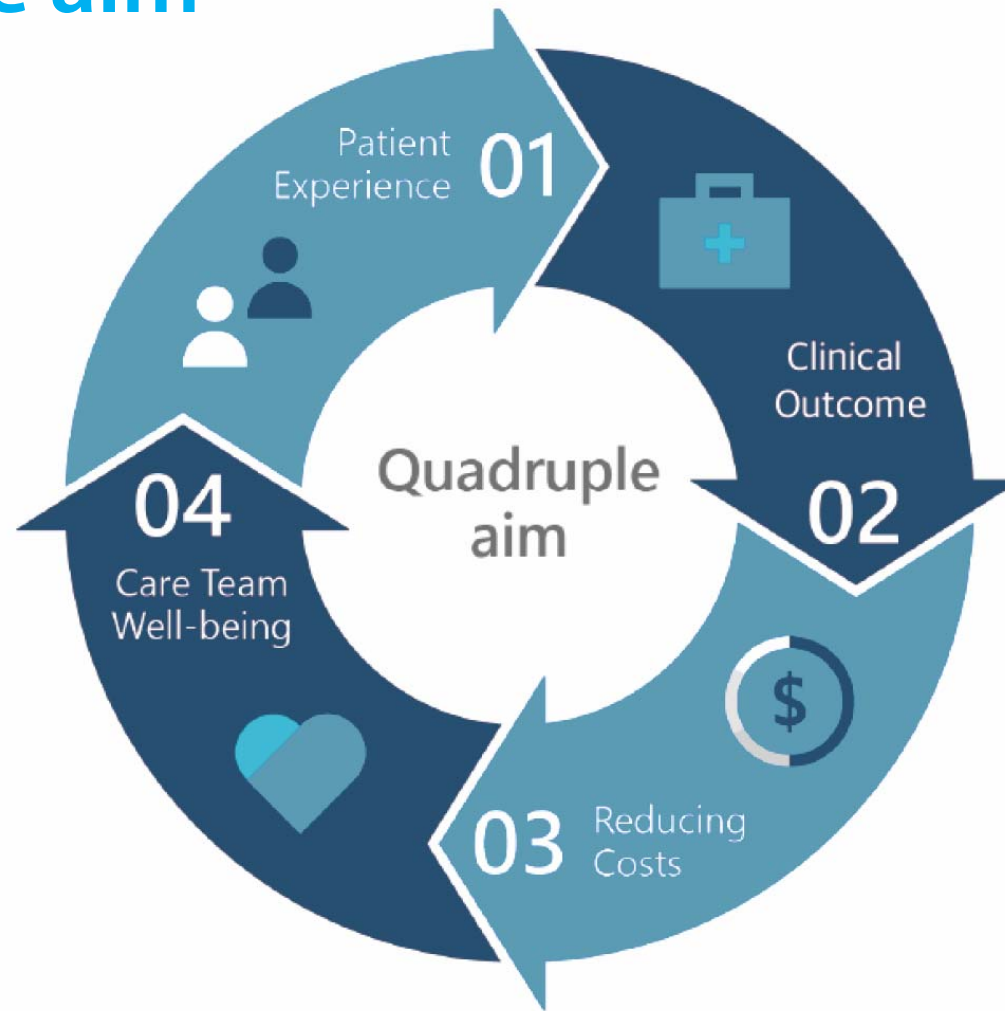
The principles of value(s) based care



Life course approach



Quadruple aim



**Cardio
Lab** 



 **TU Delft**

 **Supported by
Hartstichting**



Lab Director

Prof. Dr. ir. Maaïke Kleinsmann



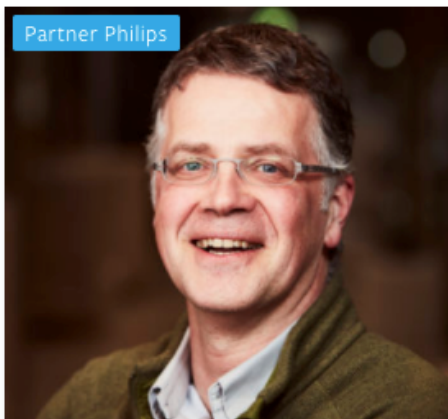
Coordinator CardioLab Program

Ir. Ruud van Heur



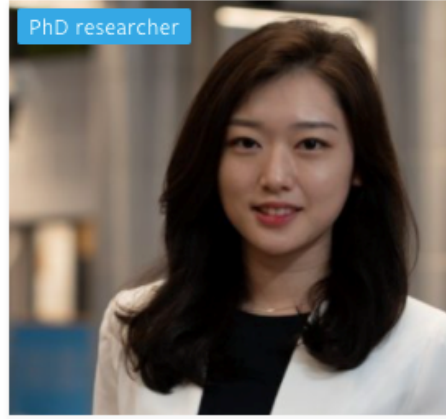
Partner TU Delft

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Partner Philips

ir. Jeroen Raijmakers



PhD researcher

Jiwon Jung MSc



PhD researcher

Valeria Pannunzio MSc

Other collaborators



Leids Universitair Medisch Centrum



Cardiologie Centra Nederland



Quantified Self



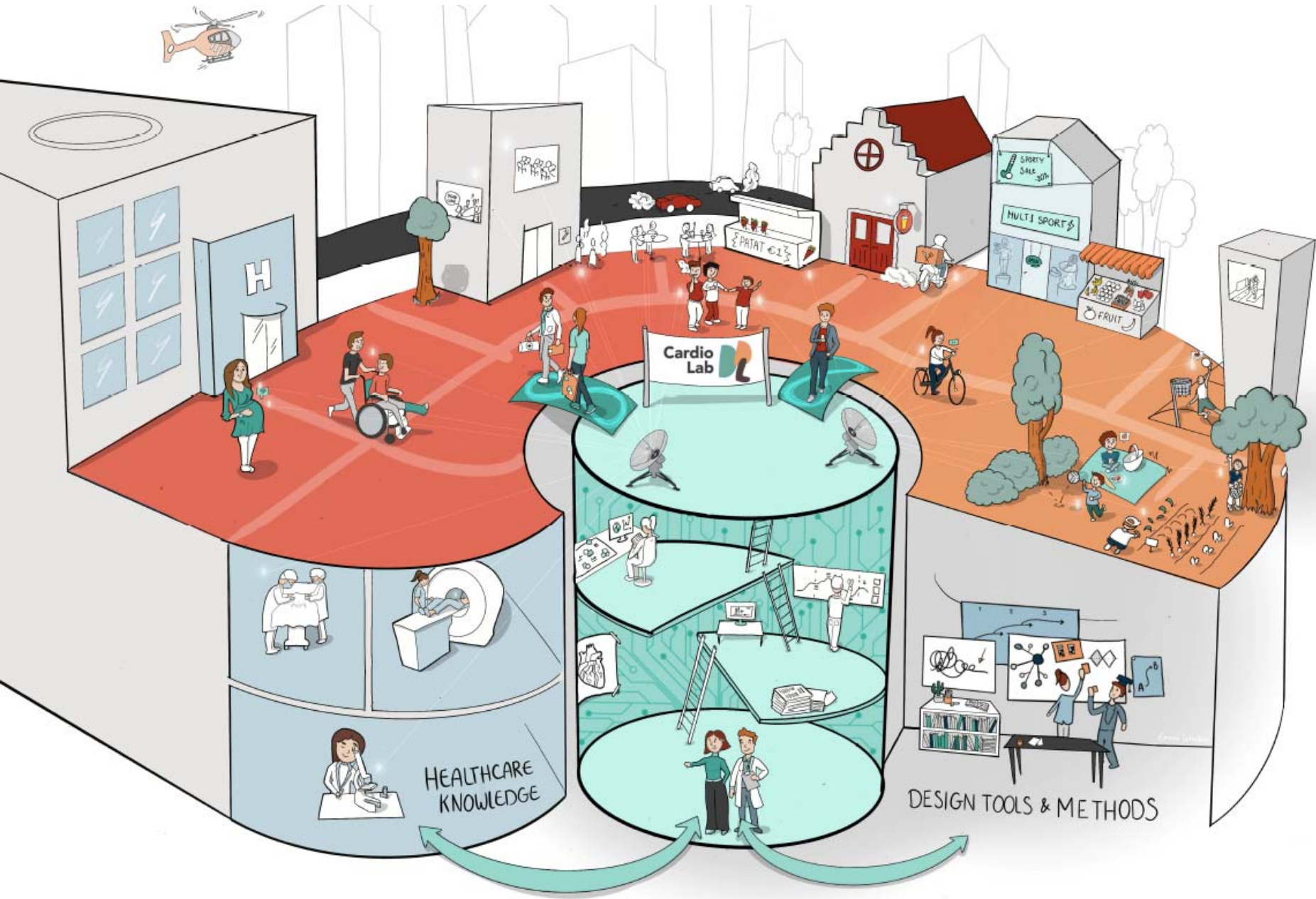
Harteraad voor mensen met hart- en vaatandoeningen



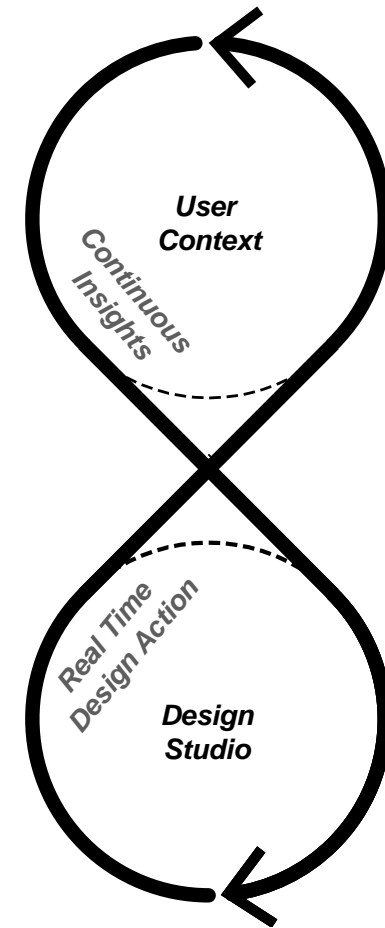
Academic Medical Center University of Amsterdam



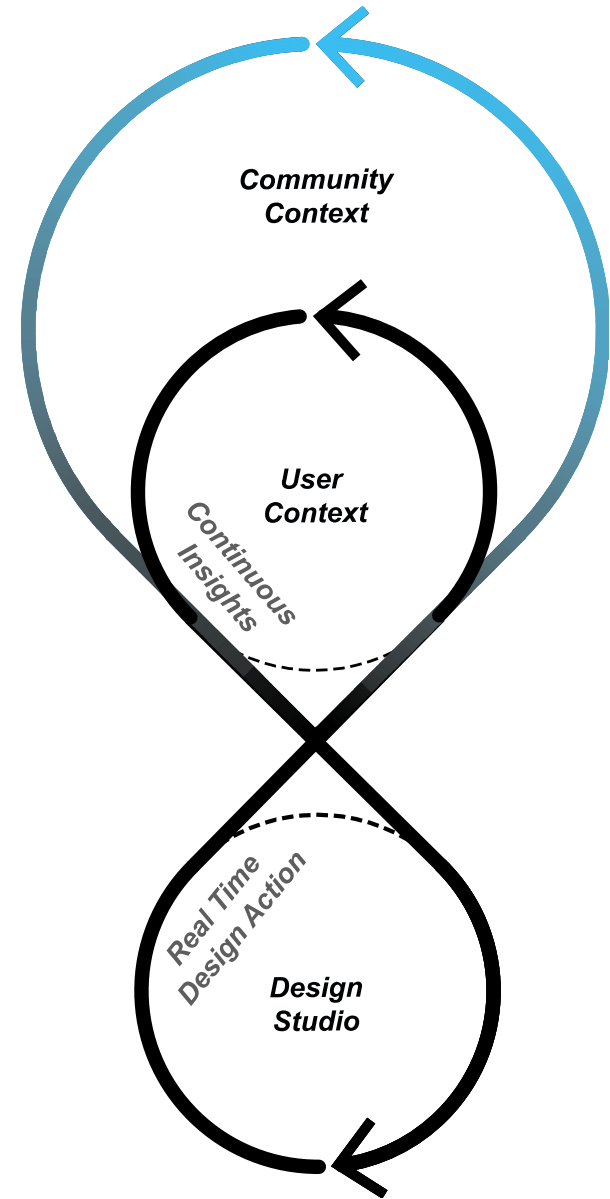
Dutch CardioVascular Alliance



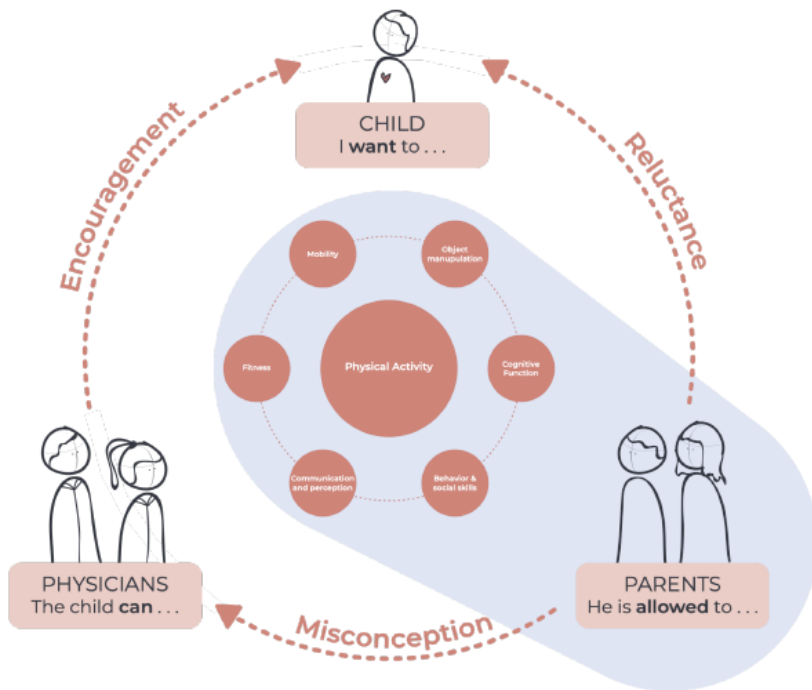
Data enabled design



Data enabled design



[PhD project Jiwon Jung]



stichting hartekind

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Zoeken...

My husband found her skin color a bit gray ... But according to the nurse, it was because of the light, and I was only too happy to believe that!

The story of [redacted] born with interrupted aortic arch and a VSD

On Wednesday June 18, 2014 our beautiful daughter [redacted] was born after forty-one weeks of pregnancy. It was a long, difficult birth, which eventually ended in an emergency caesarean section. It was 3,295 grams in weight and 48 cm long.

At first glance she seemed healthy. She didn't cry when she came out of the belly, but this was normal, they said. And if she cried, it was a very weird, stuffy scream, but no special attention was paid to that either. We were parents for the first time, so then you think it's right when something like that is said and you don't initially assume that it's wrong. Drinking also did not go well. She did not succeed in grabbing the breast and did not succeed in drinking from a bottle.

In the incubator in Leeuwarden

After spending a day and a night with us, [redacted] was eventually admitted to the incubator ward of the MCL in Leeuwarden. Because she did not want to drink, people did not trust it completely. Earlier, Sybe, my husband, had already noticed that he thought her a bit grayish, but according to the nurse that was because of the light. And I was only too happy to believe that!

How difficult it was to leave her in the incubator ward! Just born and already let go. But we were under the assumption that she would come back to us soon.

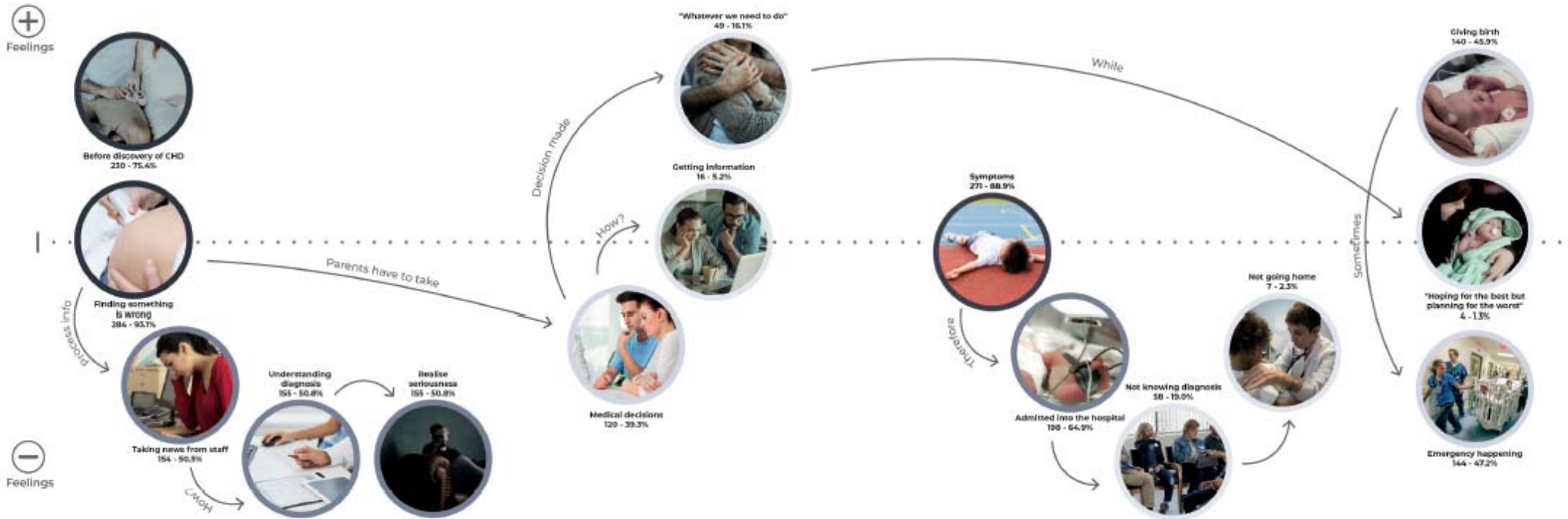
After spending the night in the incubator ward, we were told that she probably had an infection and that she would receive antibiotics. That reassured me then. Because of the antibiotics she would recover quickly and she could come to us again soon.

[MSc project Hosana Morales supervised by Gerd Kortuem and Jiwon Jung]

1. Finding something is wrong

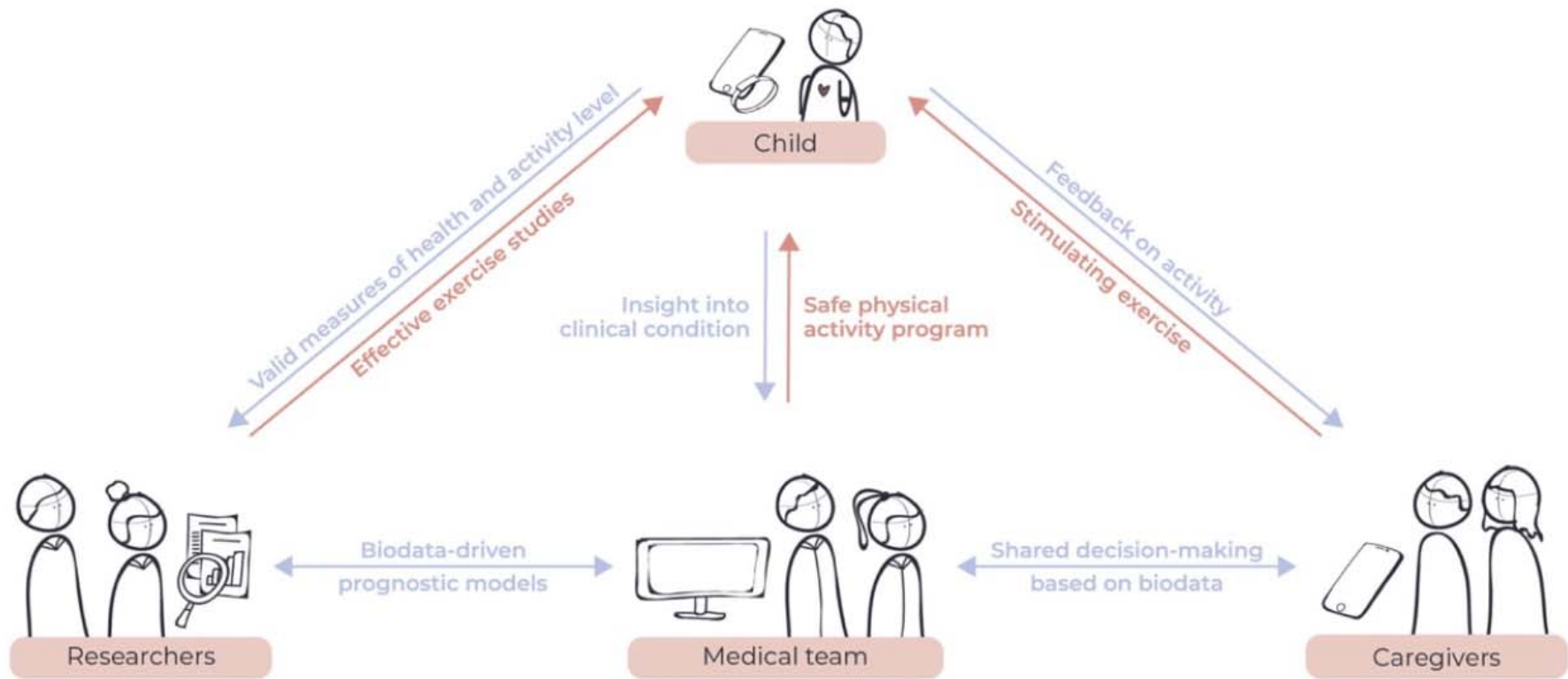
2. Admitted into the hospital

3. Being born

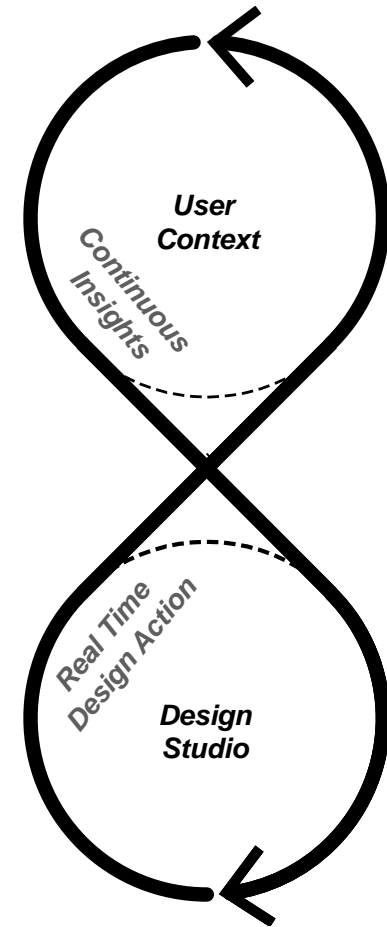






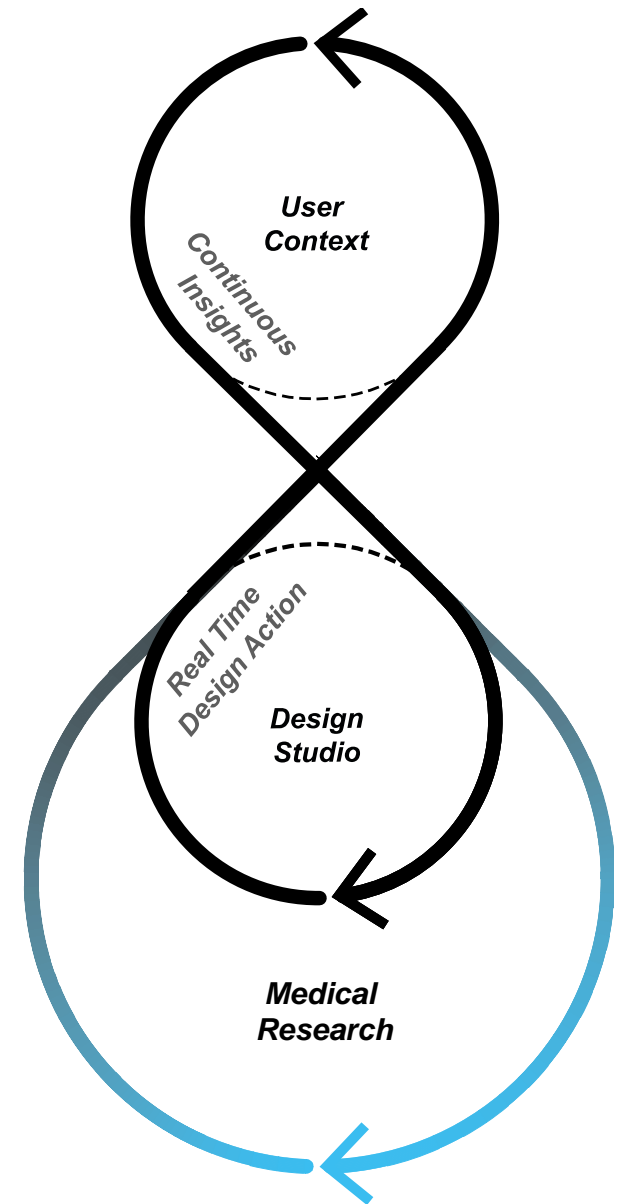


Data enabled design



[PhD project Valeria Pannunzio]

Data enabled design



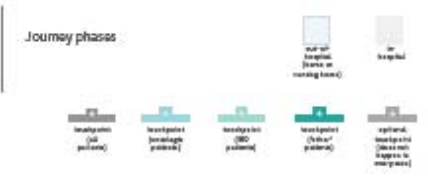
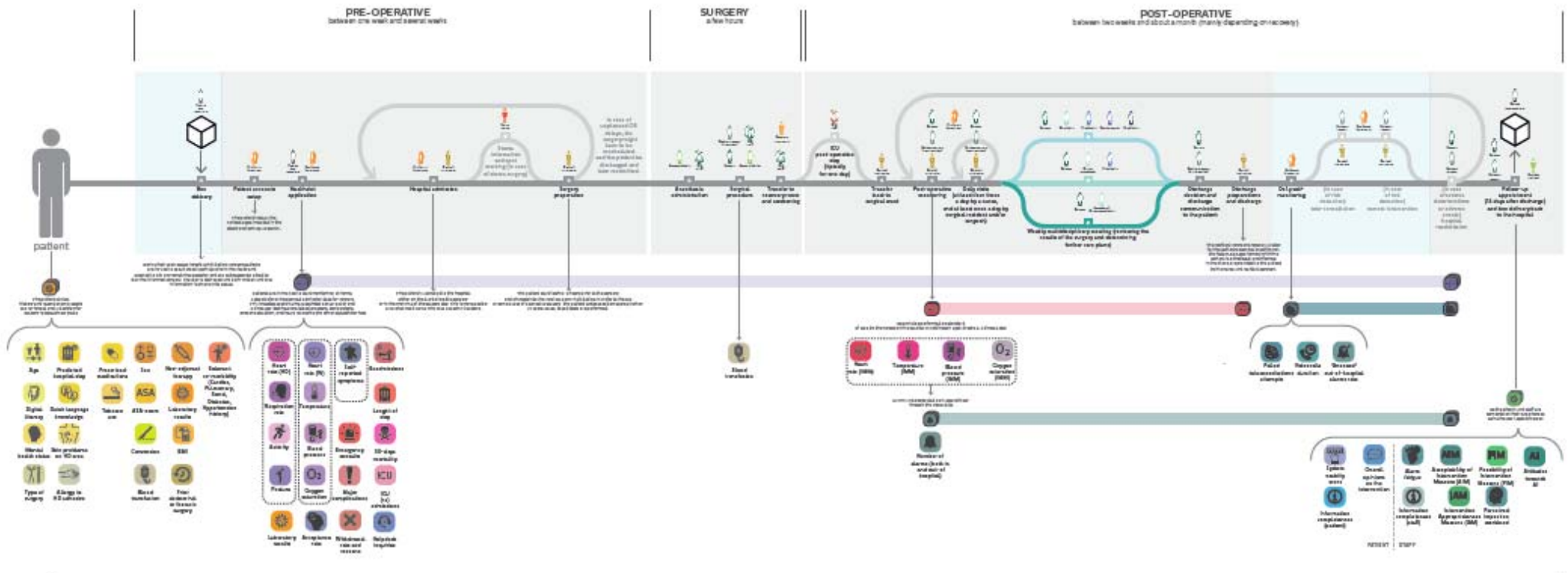
The Perioperative Box



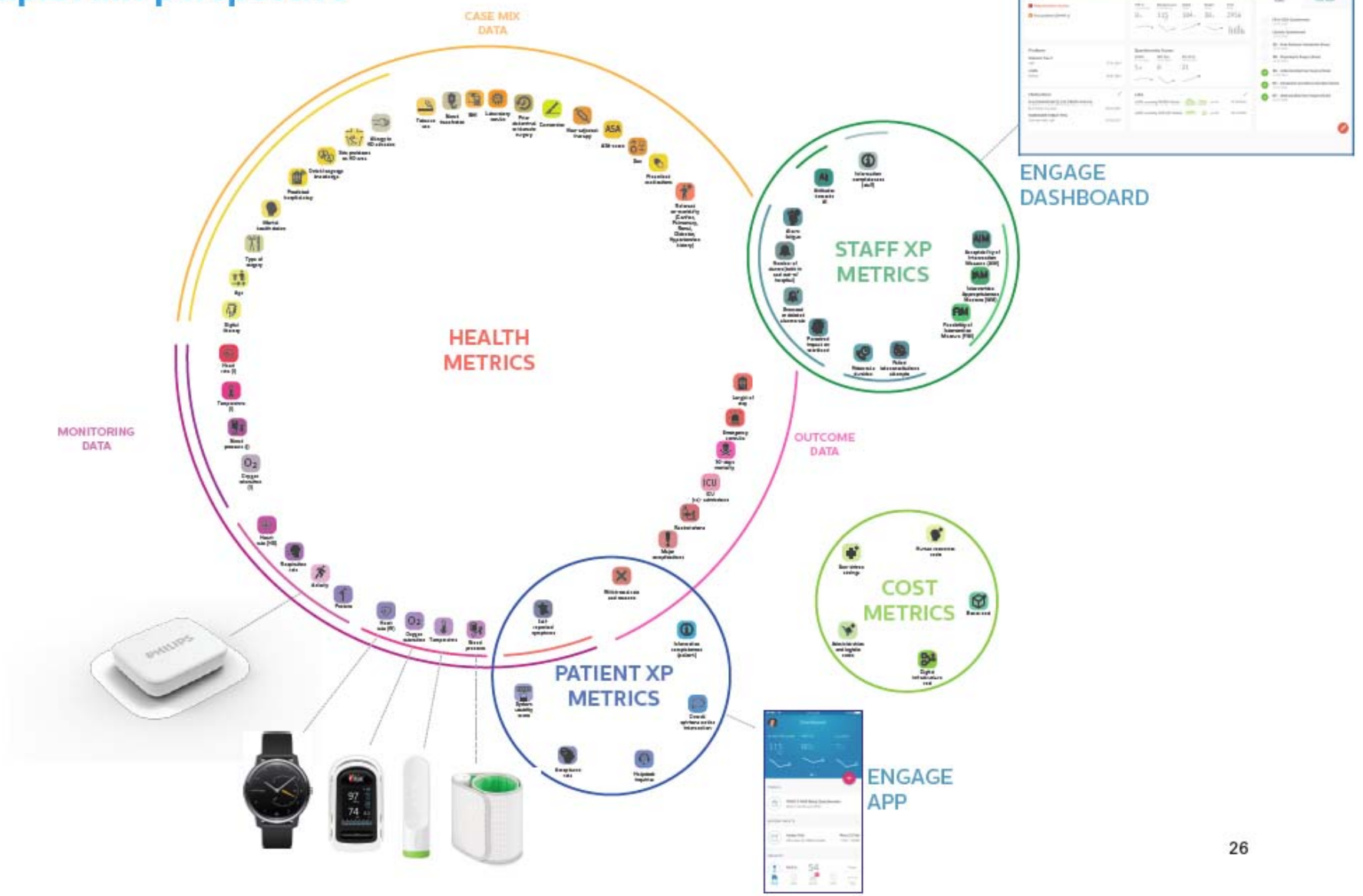
140 patients
55 data points
5 eHealth devices
1.5 years

Overall research objective:
investigating whether the Box system leads to improved clinical outcomes (especially in terms of major adverse events and readmissions).

Service-system perspective



Quadruple Aim perspective



Quadruple Aim perspective

