Holistic outcome-based approach towards sustainable healthcare: aligning the system purpose through system visualisation

I. Cecilia Landa-Avila, Gyuchan Thomas Jun, Rebecca Cain and Carolina Escobar-Tello.

RSD7 2018

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AGENDA

INTRODUCTION:

The challenge to make sense healthcare systems

METHODOLOGY:

Workshop

RESULTS:

Individual and team visualisations

IMPLICATIONS:

Outcomes as shared language / Visual technique

CONCLUSIONS:
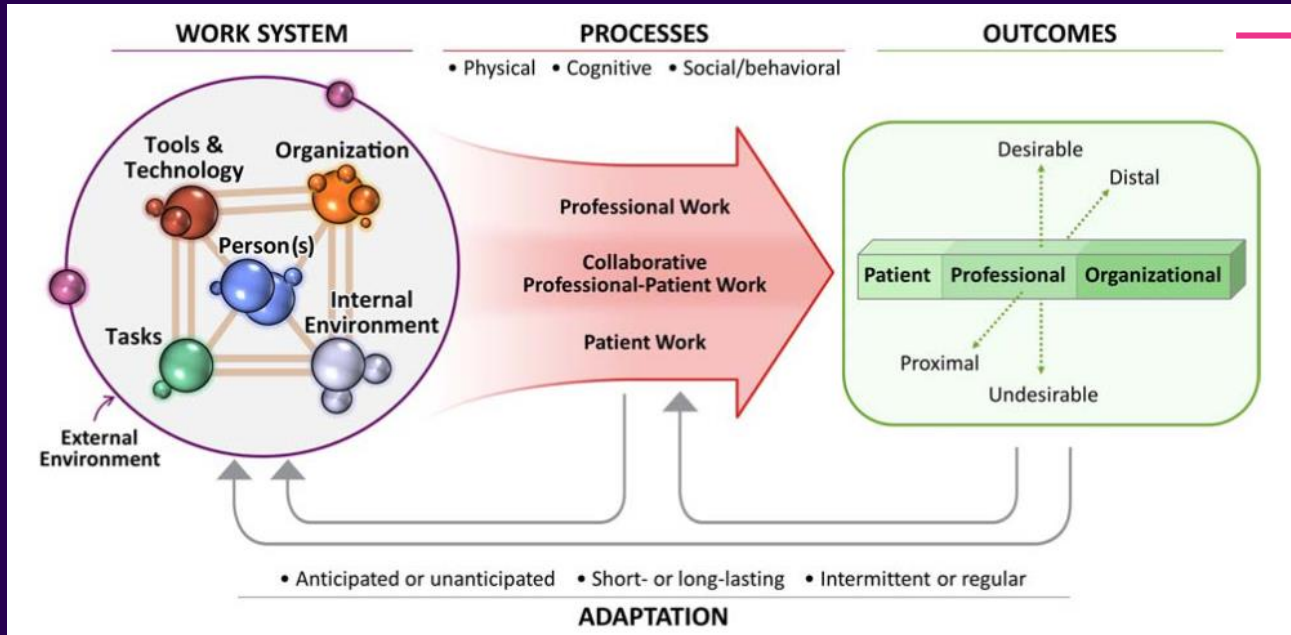
Trigger meaningful discussion / Enable holistic perspective

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INTRODUCTION

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The challenge to *visualise* healthcare systems

To visualise as enabler to communicate complex problems and to build shared solutions.

WORK SYSTEM · Tools & Technology · Organization · Person(s) · Tasks · Internal Environment · External Environment

PROCESSES · Physical · Cognitive · Social/behavioral — Professional Work · Collaborative Professional-Patient Work · Patient Work

OUTCOMES — Desirable · Distal · Patient · Professional · Organizational · Proximal · Undesirable

ADAPTATION · Anticipated or unanticipated · Short- or long-lasting · Intermittent or regular

SEIPS 2.0 (Holden et. Al., 2013)

Main structure that produce processes which shape outcomes.

A **comprehensive** framework that **inform** about the different **elements of the systems.**
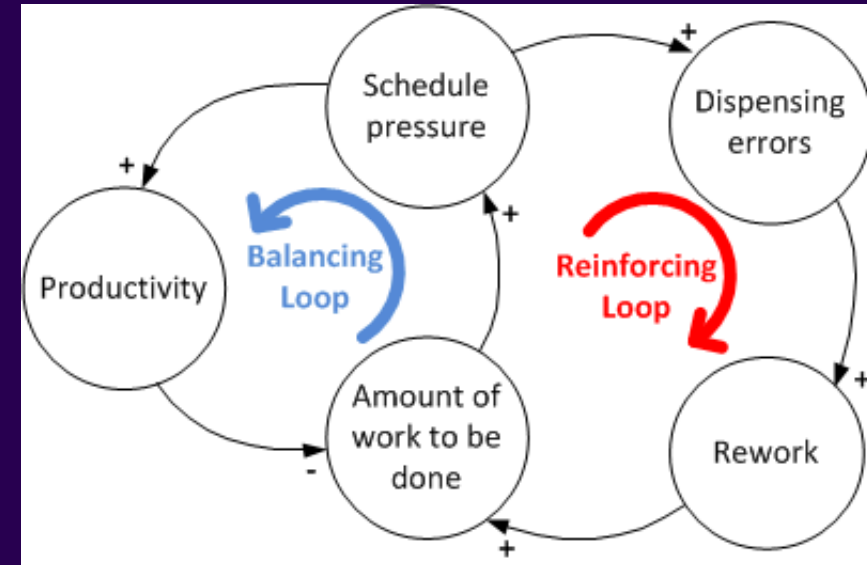
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The challenge to *visualise* healthcare systems

Some tools are focused in explore one type of element
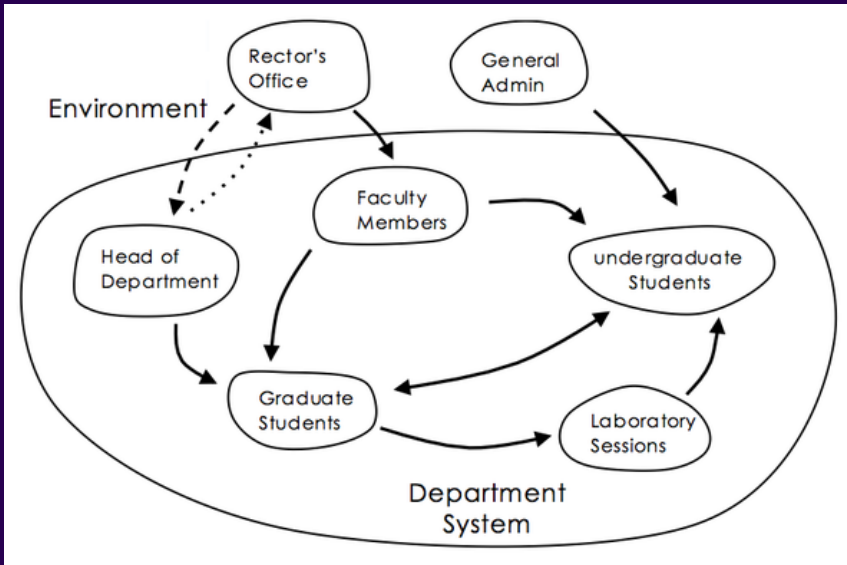
Influence diagram
(From Johnson, 2017)

Causal loops diagram
(From Shire, Jun and Robinson, 2018**)**

Outcomes remain as an underexplored dimension

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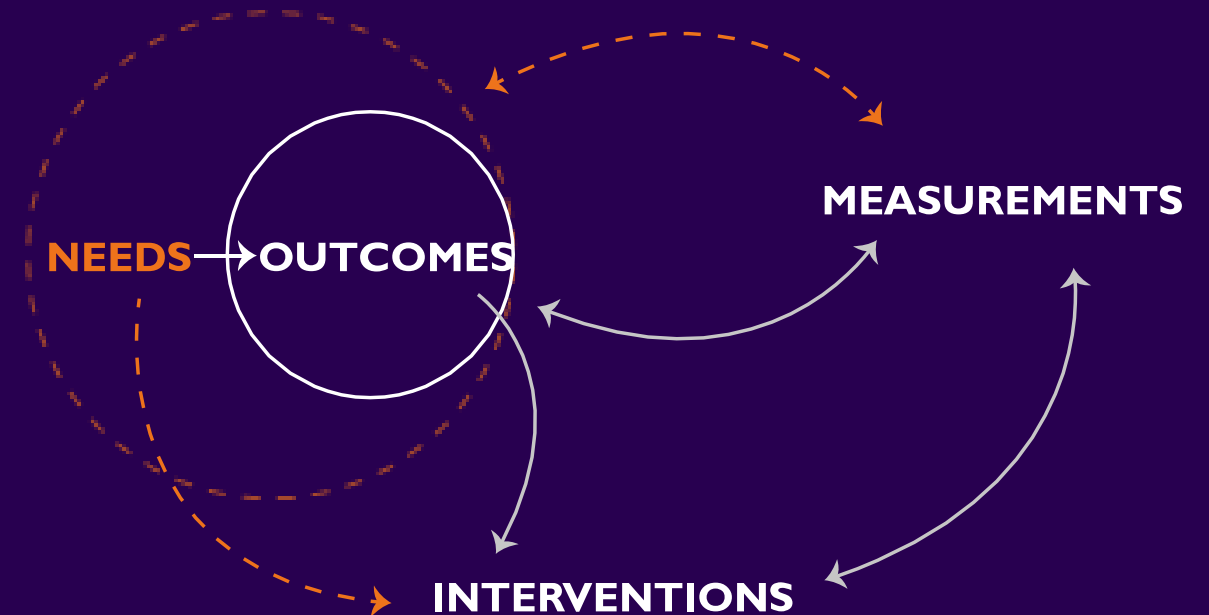
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Why outcome-based?

1. Outcomes imply a _need_ (a reason)

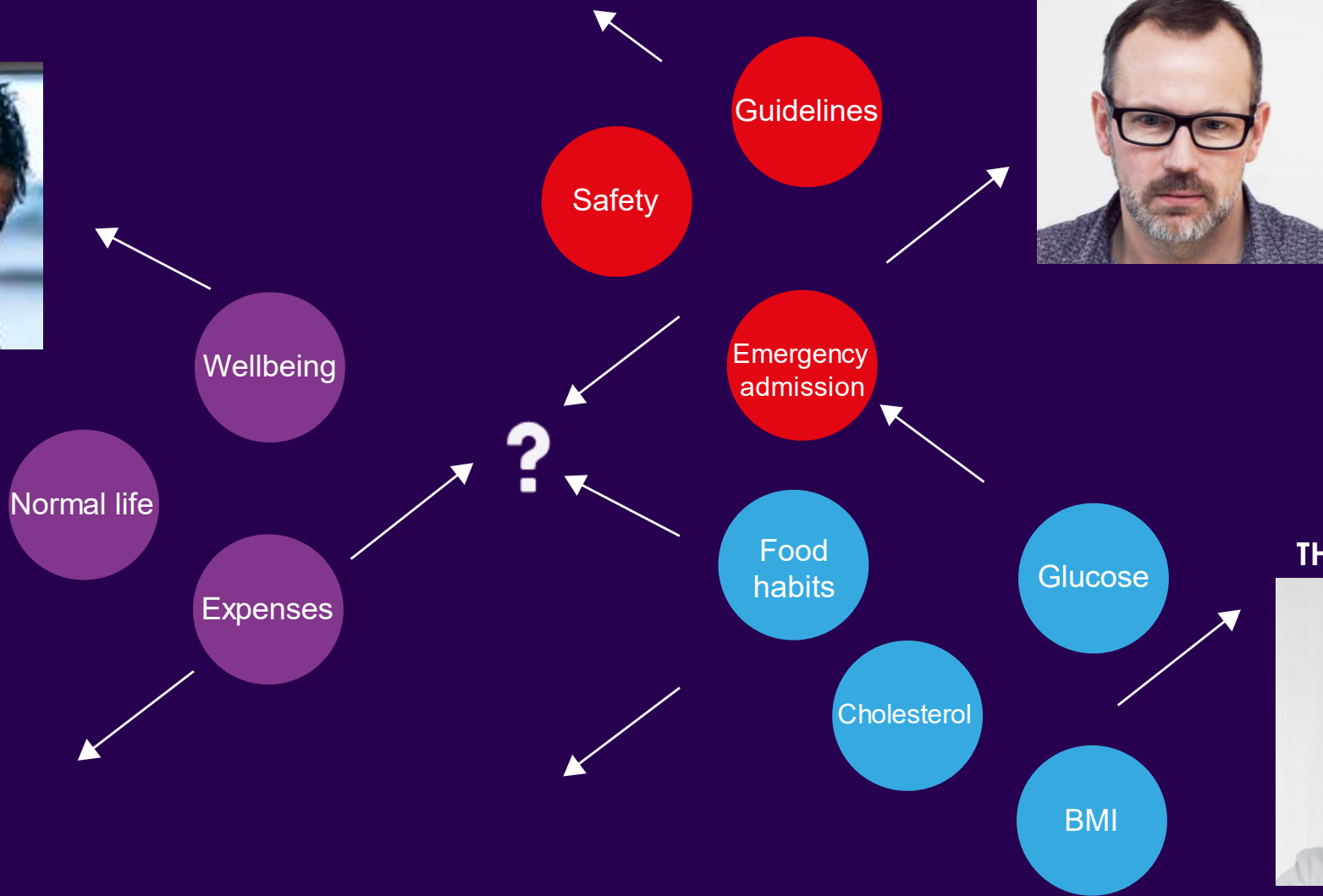**2. Outcomes should be a _general agreement_ towards the goal and aims of the system.**

3. Healthcare is trying to integrate real-world outcomes and consider idiosyncratic elements Tsekleves, E., & Cooper, R. (2017)
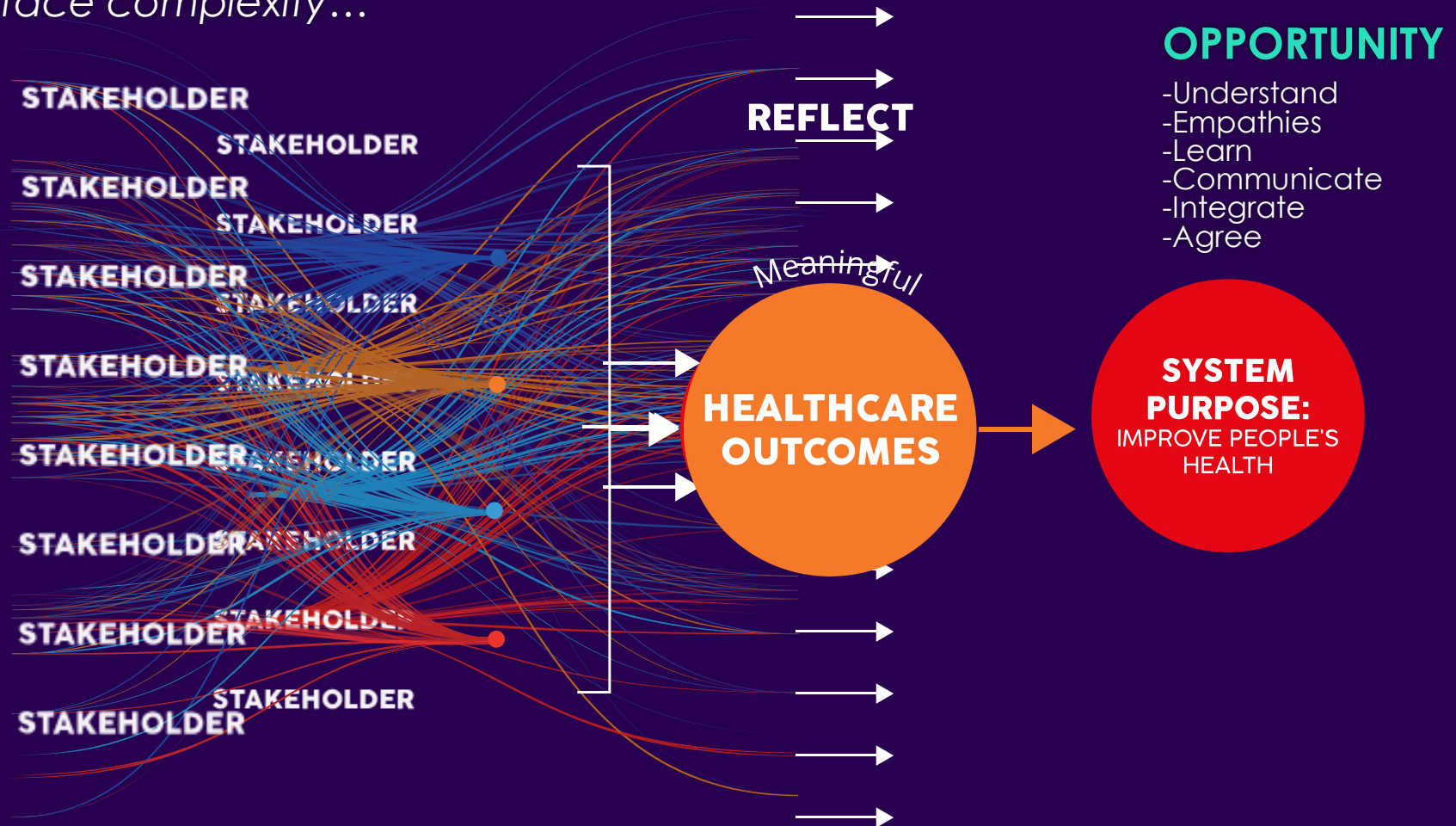
NEEDS ⟶ OUTCOMES

MEASUREMENTS

INTERVENTIONS

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It *looks* like different outcomes trigger different paths

An outcome-based approach

A step forward to face complexity…

REFLECT

Meaningful

HEALTHCARE OUTCOMES

SYSTEM PURPOSE: IMPROVE PEOPLE'S HEALTH

STAKEHOLDER (repeated)

OPPORTUNITY
-Understand
-Empathies
-Learn
-Communicate
-Integrate
-Agree

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Understanding healthcare system through outcomes

Consider what is **meaningful** for **all the stakeholders** in healthcare

Defining **expected effects/changes** based in **meaningful needs**.

A *common* **language** of the system

HOLISTIC HEALTHCARE *OUTCOME* TOWARDS PURPOSE FINDING

Align the system to the shared goals, towards an active system.

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How to enable the understanding systems?

Methods to facilitate the *grasp* of complexity

Graphic methods

visualisations

- Assist to **communicate complex and big** amount of data (Jones and Bowes, 2016).

- **Facilitate sensemaking** from multiple perspectives (Jones and Bowes, 2017).

- Increase the **quality of knowledge** sharing in participatory techniques (Comi, Bischof and Eppler, 2013).

- Foster elicitation of **experiential knowledge** (Bresciani and Eppler, 2009).

- Increase **mutual orientation** of participants (Comi and Eppler, 2011).
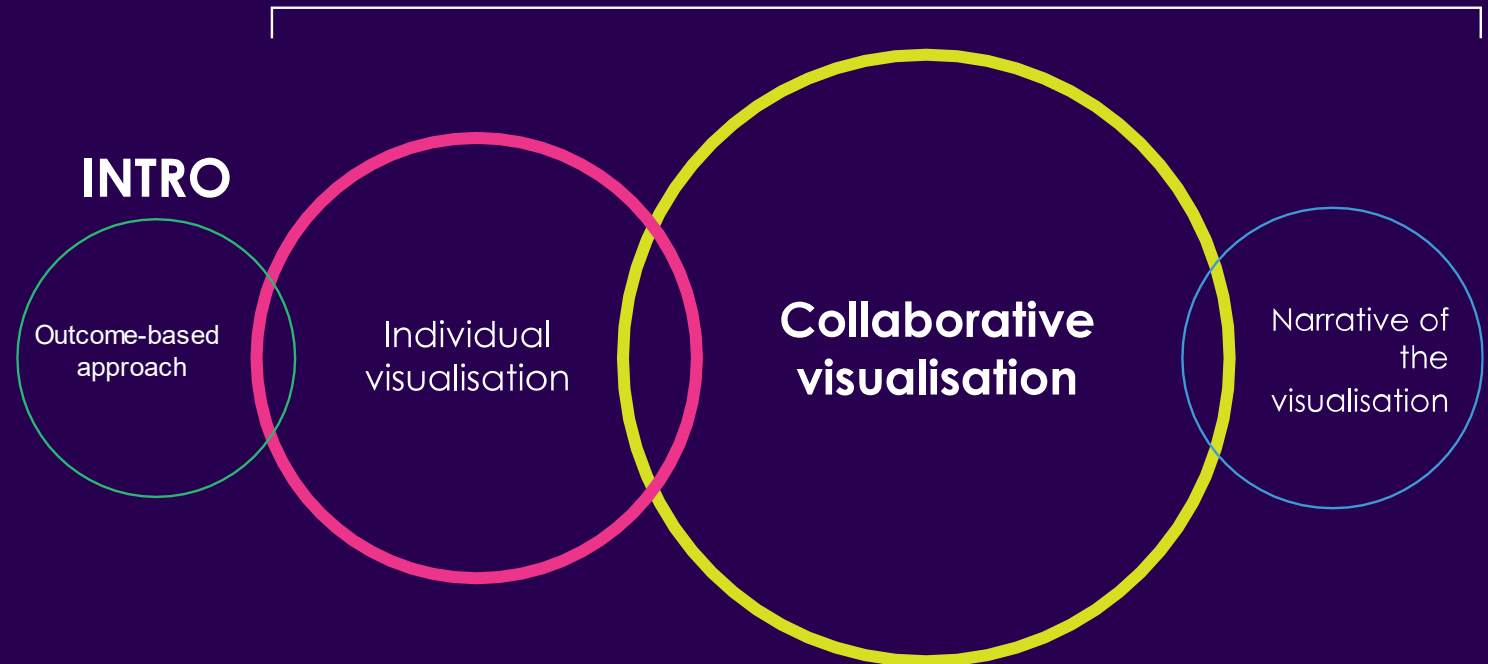
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The objective of the study

- Commonly good to **use visuals** to **communicate** complex problems.

- Could be the **facilitators** of the following tool.

To explore how **designers visualise** complex interactions between multiple **outcomes** of the system to align the system.

- A step **forward** into **the bigger picture** of systems.

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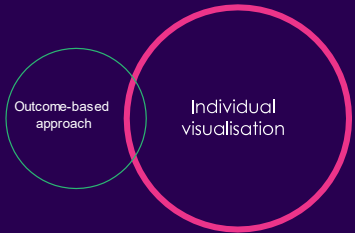**I. Cecilia Landa-Avila, Gyuchan Thomas Jun, Rebecca Cain and Carolina Escobar-Tello.**

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METHODOLOGY

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Workshop (overall process)

Use of visualisation as
FACILITATION technique

INTRO

- **Participants**: 25 designers, working in 5 members teams.
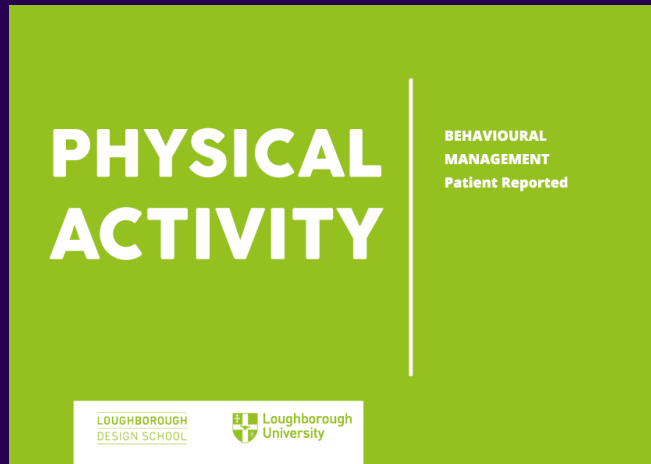
- 3 facilitators

Outcome-based approach

Individual visualisation

Collaborative visualisation

Narrative of the visualisation

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Process

Healthcare outcome familiarisation

Discussion

Individual visualization (brainstorming)

Narrative of visualisations

Outcome-based approach

Individual visualisation

PHYSICAL ACTIVITY

BEHAVIOURAL MANAGEMENT Patient Reported

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The minimum recommende[...] a week. Children should ai[...] anything that will up your h[...] following: walking, climbing[...] sports, among others.

Diaries, self-report
Related outcomes: weight

ACTIVITY 1
Professional background

| Experience in **Systems Thinking** | ○ YES ○ NO years: _____ | Experience in **Healthcare** | ○ YES ○ NO years: _____ |

T2-P12

Name:

e-mail:

OPTIONAL
In case you would like to receive updates about the research and the tools.

Personal system visualisation idea
Please take a moment to think about how to make sense of the outcomes. Then, share your ideas with the team

TEAM 2

Corresponding author: Cecilia Landa-Avila i.c.landa-avila@lboro.ac.uk

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Each participant received a set of outcome cards.

The "only rule" was to use at least one outcome of each category

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Process

Collaborative visualisation

"Only rule": use at least one outcome for each group

Provoke creating connections

Narrate the visualisation

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RESULTS

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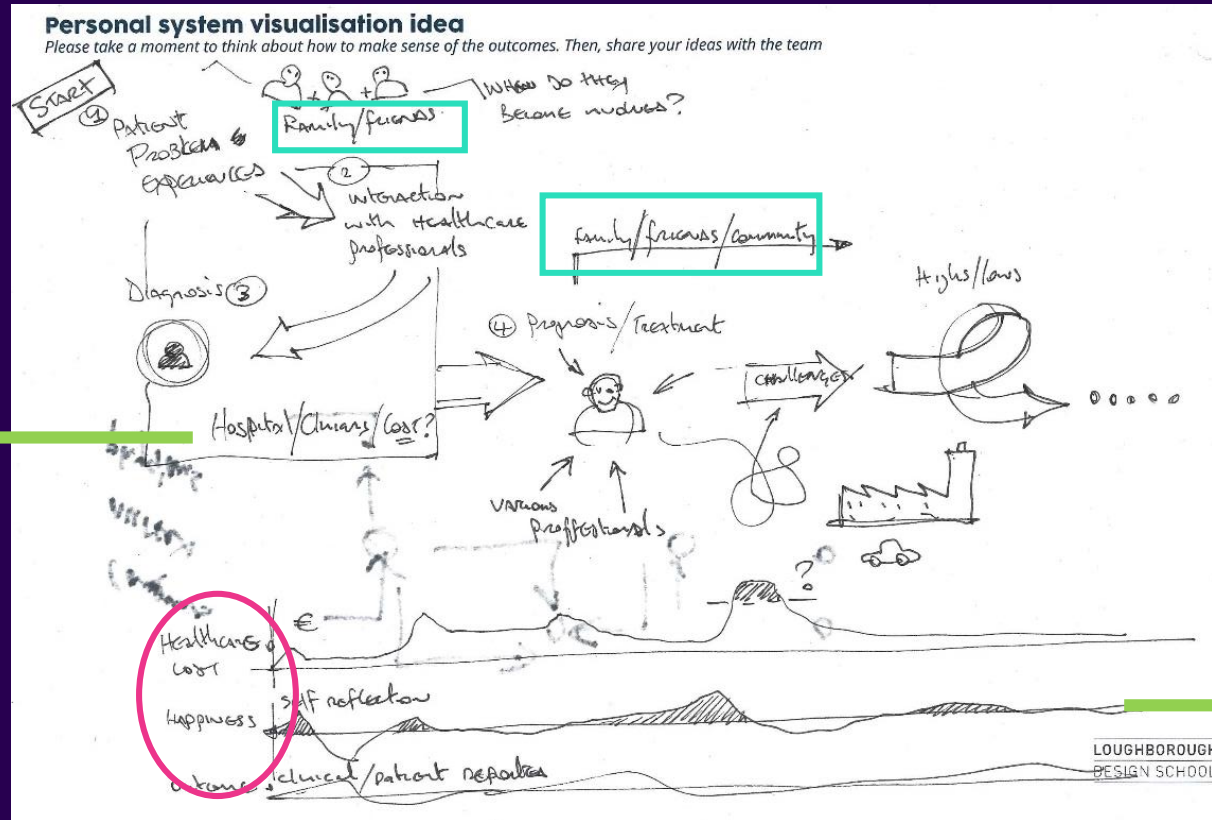
Making sense through outcomes (individual)

Identify:
- visual patterns and main structures
- Main outcomes
- Key stakeholders

Geographic references

Time line Intensity

Making sense through outcomes (individual)

Personal system visualisation idea
Please take a moment to think about how to make sense of the outcomes. Then, share your ideas with the team

Physical

OUT
HOSPITAL

IN
Hospital

o

short

Time?

long

Geographic references

Time line
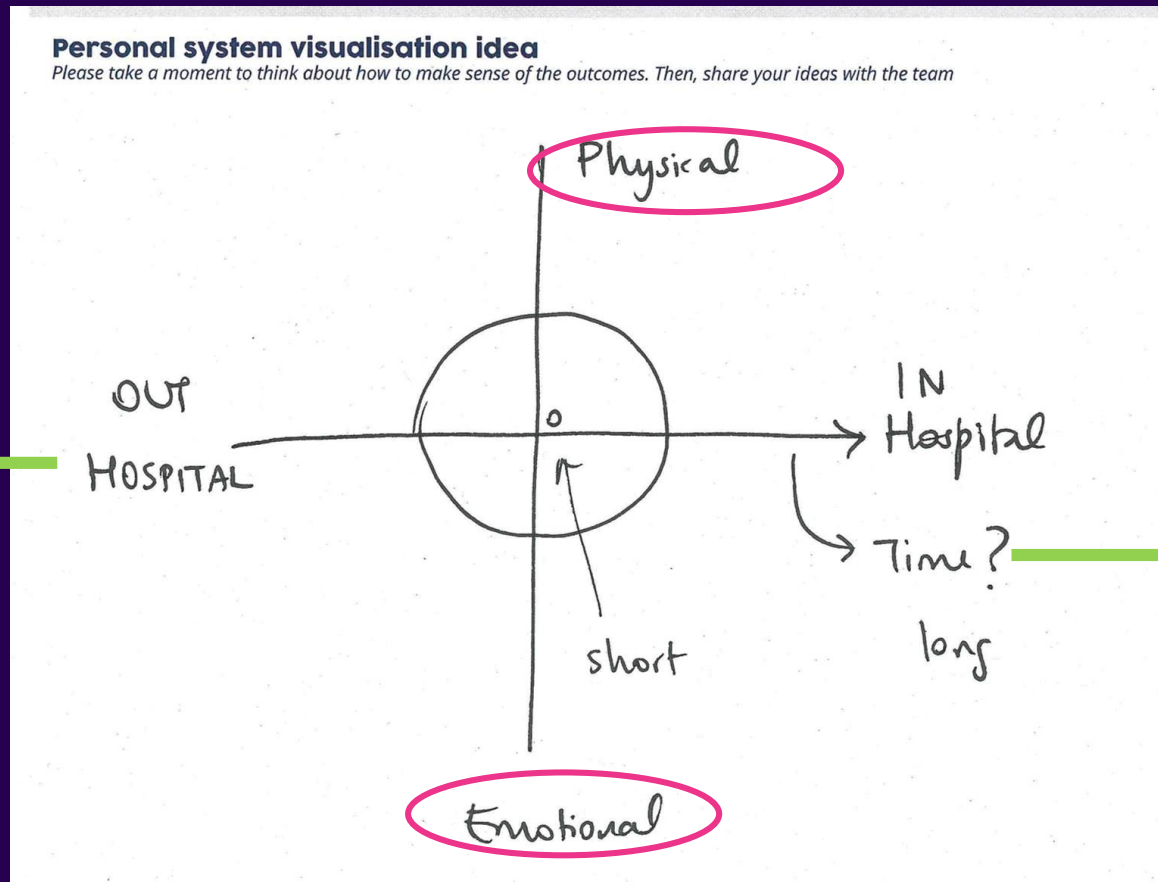
- No stakeholders
- New "categories" for outcomes.

Emotional

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Making sense through outcomes (individual)

Most used structures (individual)

MOST USED

INTENSITY
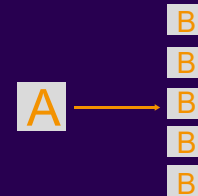Display outcomes as fluctuating measurement
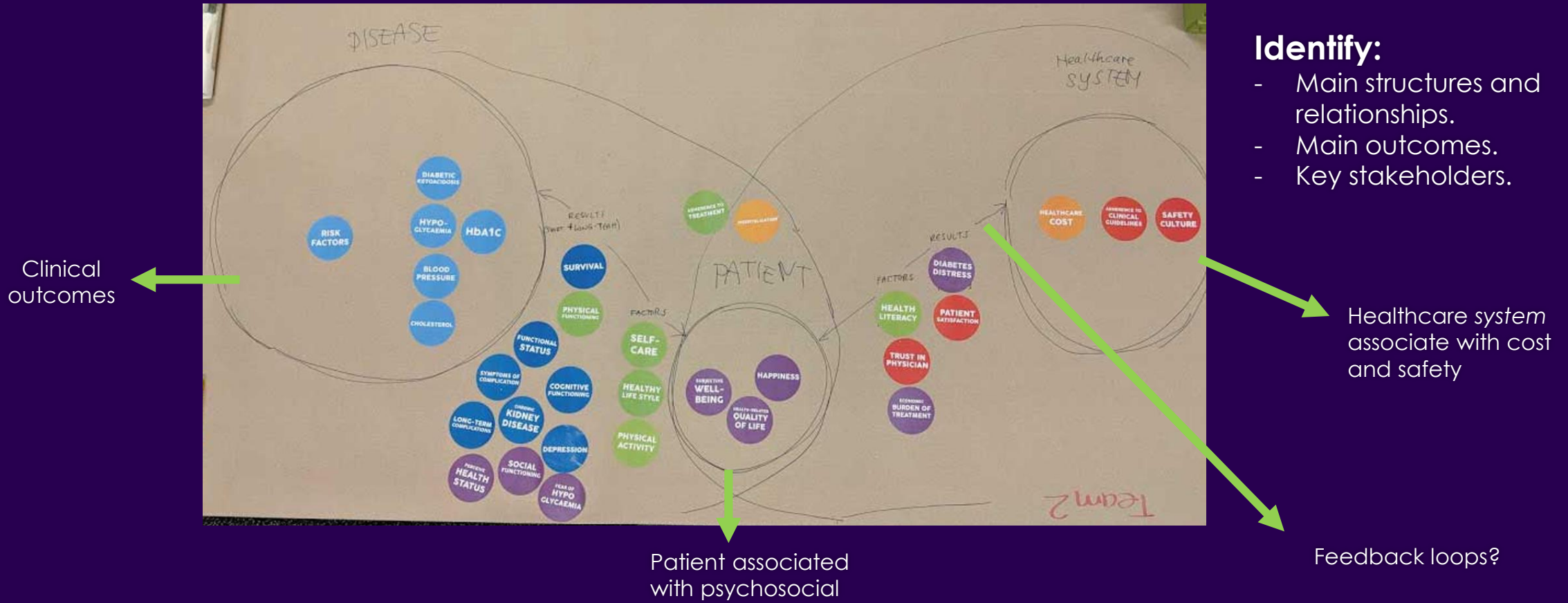
SECOND MOST USED
(draw)

TIMELINE

PLACE

CAUSAL LOOP

IMPACT

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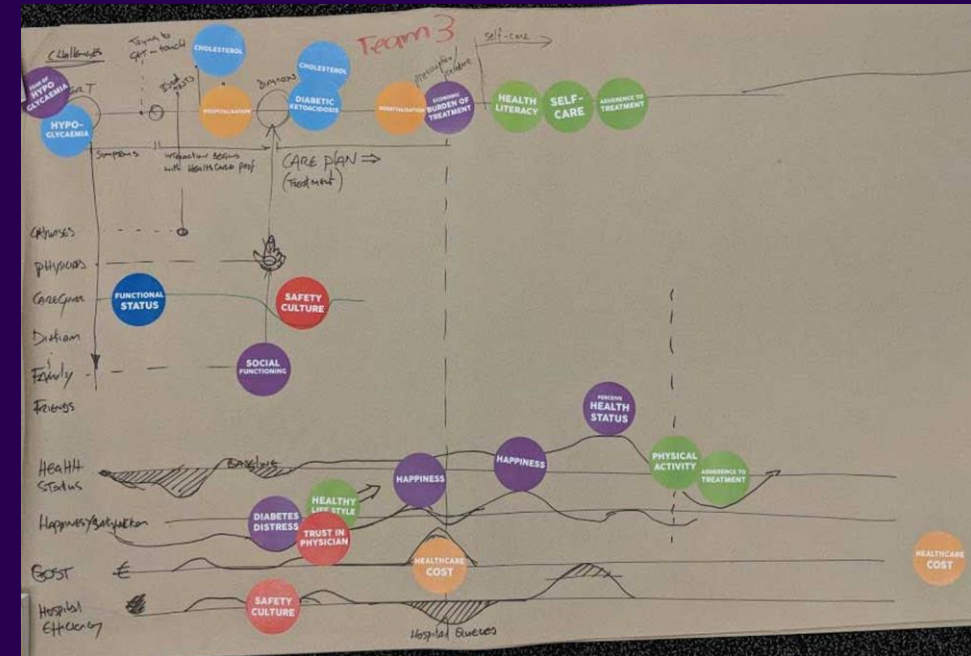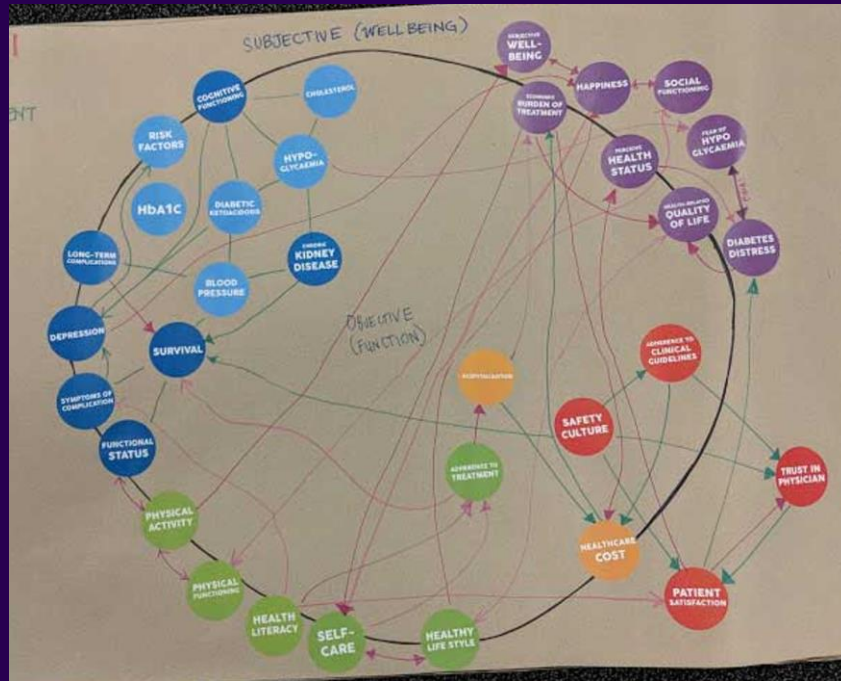
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Making sense through outcomes (teams)

Identify:
- Main structures and relationships.
- Main outcomes.
- Key stakeholders.

Clinical outcomes

Healthcare *system* associate with cost and safety

Patient associated with psychosocial

Feedback loops?

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Making sense through outcomes (teams)

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Making sense through outcomes (teams)
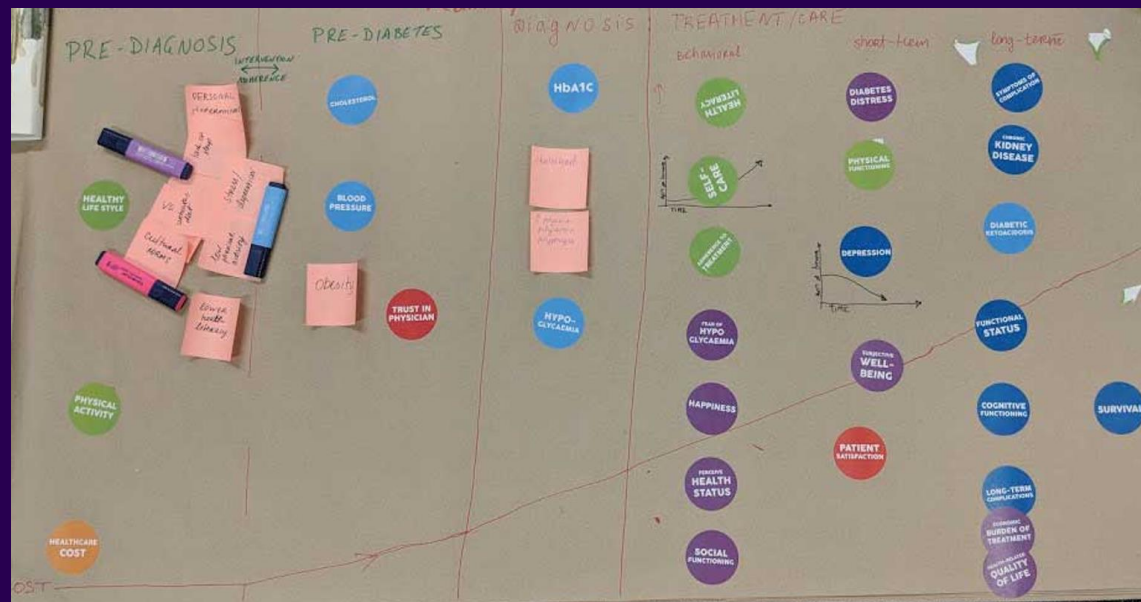
Thematic analysis of narratives (teams)

Healthcare system as *external* agent.

Circle to represent "equality"

Disease as objective element of the system (clinical).

Patient as central

Psychosocial outcomes as something to construct on the long-term.

"This map is actually very clean to the real *mess*"

"Maps (visualization)) are great and *simple* to identify correlations and improvement areas."

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IMPLICATIONS

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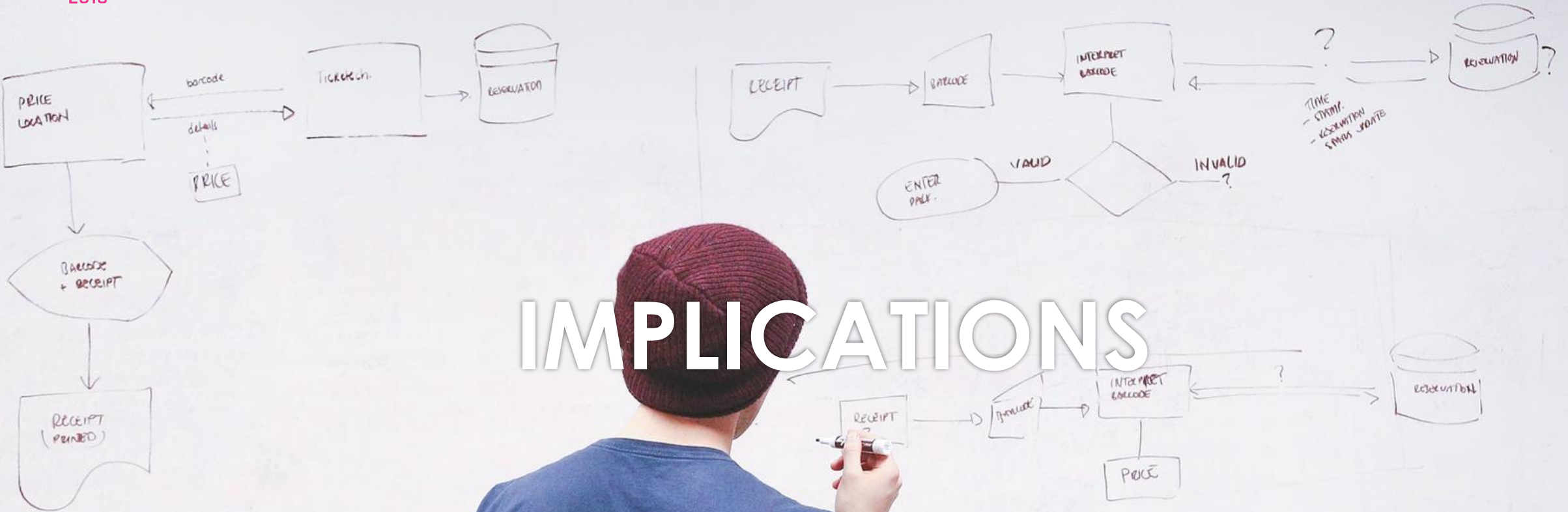
Need for *extra* boundaries

Elements of the system were added to help participants to deal with *smaller* units.

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Outcomes as flexible and well appreciated element

Element to provoke meaningful discussions

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There is not a clear team pattern

Although individually there were dominant structures, teams did not show a dominant pattern across visualisations.

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CONCLUSIONS

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Conclusions

- **Visualising healthcare system through outcomes as promising method**
  - Positive feedback for the design community.
  - Less support needed than expected.
  - Outcomes did not provoke a reductionist effect.

Future work

- **Improve outcomes**
  - Increase the number of outcomes and their information.
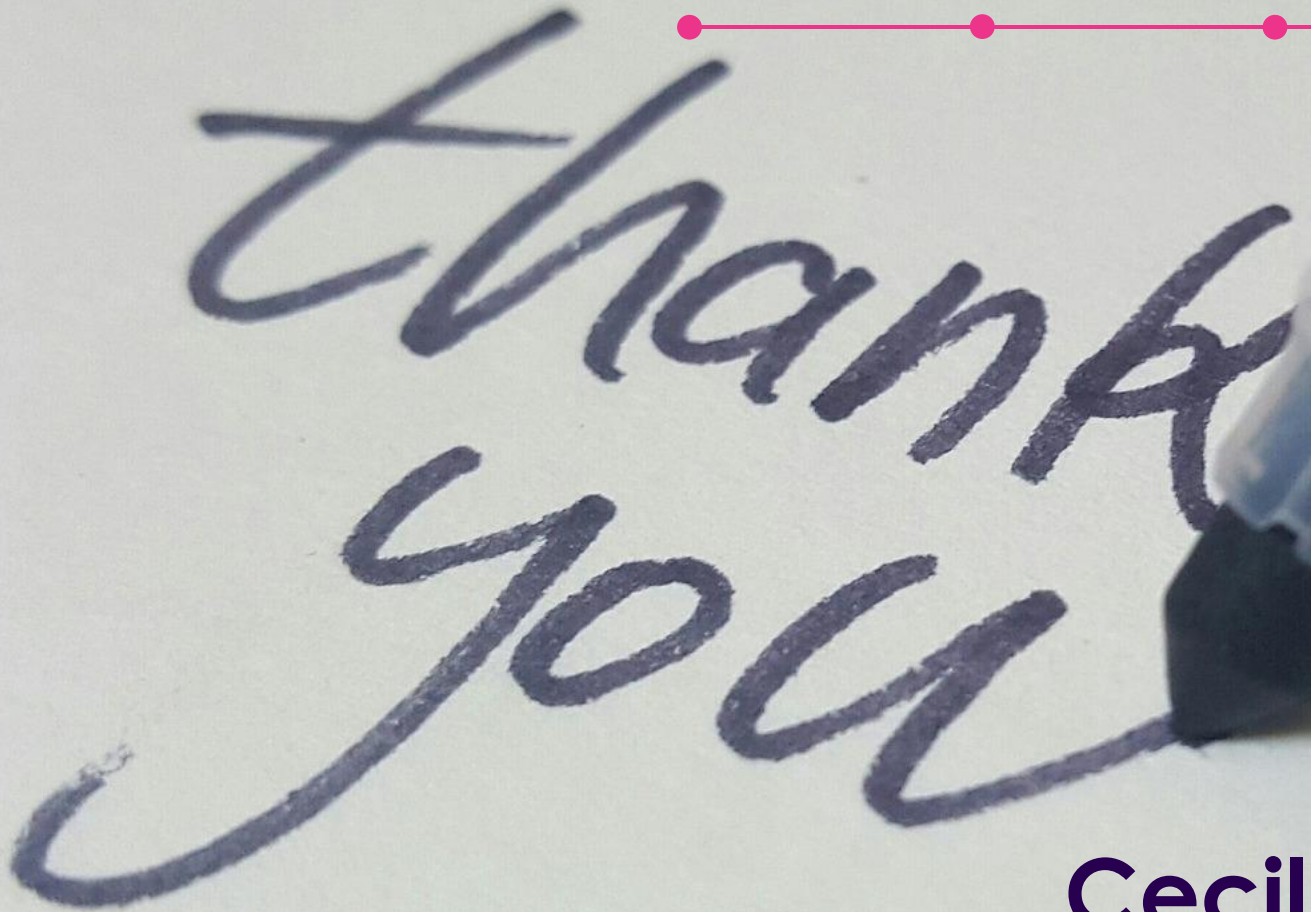 - Explore the technique with other stakeholders.

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