



Home Care management for cardiac patients

Concept presentation: User and Market value

31-03-2022

The Communicaid team



Ilse Faber
Programme manager



Milou Jansen
Consumer Marketing
Manager



Niek van der Berk
Senior UX designer



Luna Snelder
Senior Product designer

The Challenge

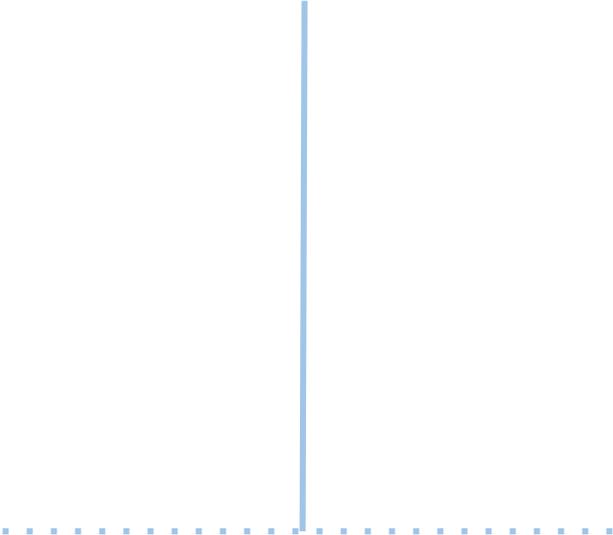
“Improving the Home Care offered to cardiac patients.”

Content

User

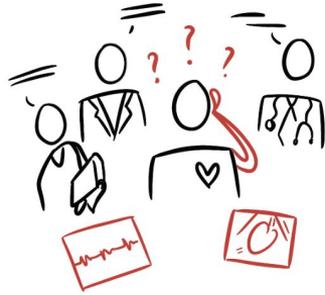
Market

Validation



Current patient journey

Diagnosis/ Incident +
hospitalisation



Recovery + Rehabilitation + Home Care



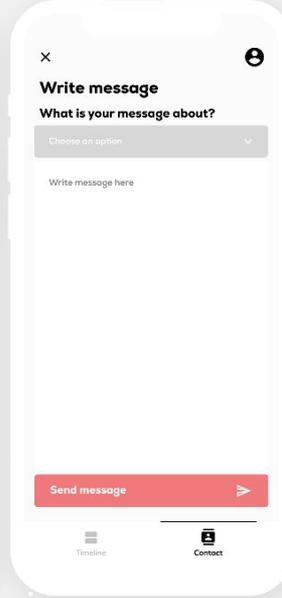
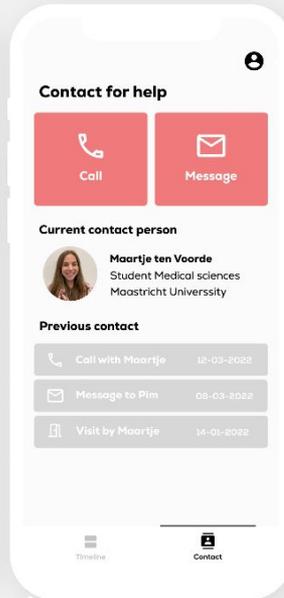
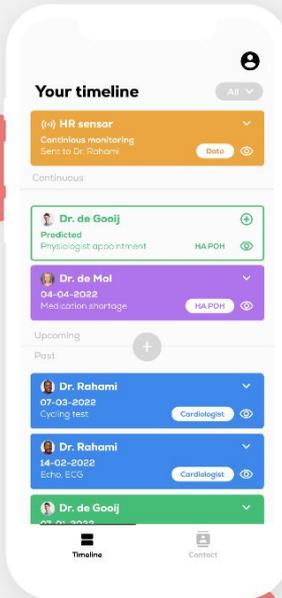


LifeLine

**Who is taking care,
when and where?**

LifeLine

Healthcare service
For cardiac patients





The screenshot shows a mobile application interface with a message list on the left and a patient report on the right.

Message List:

- Favorieten**
- Postvak IN** 37
- Verzonden items
- Verwijderde ... 598
- Toevoegen aan Fa...
- Mappen**
- Postvak IN 37
- Concepten 48
- Verzonden items
- Verwijderde ... 598
- Ongevenste e... 1
- Archief
- Notities
- Gespreksgeschied...
- Gespreksgeschie...
- Nieuwe map
- Groepen**
- Groepen ontdekken
- Groepen beheren

Message Content:

- Vandaag**
- Overige: nieuwe gesprekken
- ID Education: Miro: TU Eindhoven on Yam...
- Faber, Ilse: Meeting Creating Corporate Entrepre... 00:51
- Beste Reyan, Bedankt voor je antwoord! Binn...
- Anton Weichselbraun: ID Connect Review 00:00
- This meeting is to review the experiences an...
- Gisteren**
- Malsen, Annemarie van: Lu, Yuan Di 23:35
- Mentor meeting Niek
- Dear Niek, I will try if you can switch with Yo...
- Lucid: Join the 125th General Members ... Di 22:48
- Take the chance to have a say in the associati...
- Böck, Erina: Invitation for the Honoraire Dinner Di 08:07
- Dear Niek, Excuses for the little mistake we ...
- Amber Baars: Honoraire Diner 21 March Di 06:34
- Dear honoraire, As you have heard, we, as L...

Report by Maartje
13-03-2022

Mark as seen		
<input type="checkbox"/>	Bob de Beer	Missing heartrate data
<input type="checkbox"/>	Sylvia Hakema	Next appointment planned
<input type="checkbox"/>	Hakim Shevan	New data
<input type="checkbox"/>	Dario Dewemer	Medical question

Note by Maartje

Doctor Rahmani said the cycling test was better than expected for my age and weight, yet that rehabilitation could bene me in becoming fitter and avoiding recurrence. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation.

Export to MMC patient portal

Reply

Type message here

LifeLine

Patient overview Timeline overview

Bob de Beer
 Age: 55 years | Condition: Chronic heart disease
 Hospital: Maxima Medisch Centrum | Residence: Eindhoven

Cardiologist: Dr. Rahami | Referring doctor: Dr. de Gooij | PCN: Dr. Maartensma | Physiotherapist: Dr. van de Ven | Physiotherapist: Dr. Haasels

Patient timeline

- (-) HR sensor**
Continuous monitoring
Sent to Dr. Rahami
- Dr. de Gooij**
Predicted
Physiology appointment
- Dr. de Mol**
04-04-2022
Medication shortage
- Dr. Rahami**
07-03-2022
Cycling foot
- Dr. Rahami**
14-02-2022
ECHO ECG

Data timeline

- Weight data** Philips smart scale 15-03-2022
- Weight data** Philips smart scale 10-03-2022
- Weight data** Philips smart scale 05-03-2022
- Heartrate** Fitbit 04-03-2022
- Weight data** Philips smart scale 29-02-2022
- Weight data** Philips smart scale 24-02-2022
- Heartrate** Fitbit 20-02-2022
- Weight data** Philips smart scale 10-02-2022

Contact

Call patient | Message patient

Chat with Bob

I don't understand how the watch works can you help

Yes I can surely help how do you want me to help?

Type message here

Previous contact



Your patients

- Tineke de Jong**
63 years old
Heart rate data 07-03-2022 | Predicted appointment 07-03-2022
- Dario Dewemer**
46 years old
Heart rate data 05-03-2022 | Predicted appointment 05-03-2022
- Mike Hagebouw**
48 years old
Heart rate data 03-03-2022 | Predicted appointment 03-03-2022
- Bob de Beer**
55 years old
Heart rate data 15-03-2022 | Predicted appointment 29-03-2022

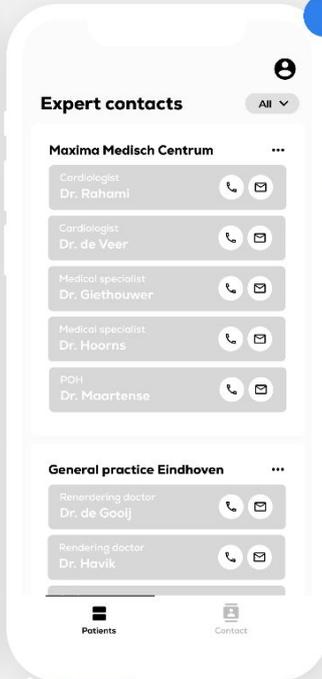
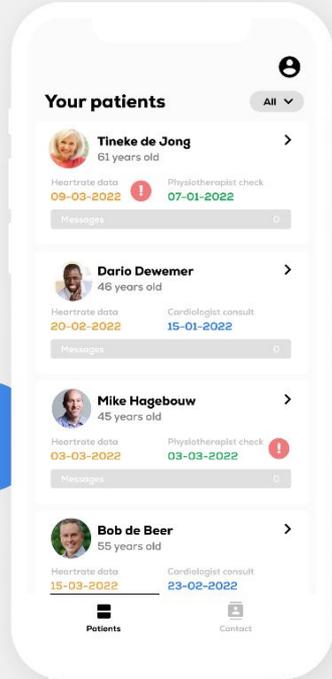
Expert contacts

Maxima Medisch Centrum

- Cardiologist: Dr. Rahami
- Cardiologist: Dr. de Vuur
- Referral specialist: Dr. Gielthouwer
- Referral specialist: Dr. Hoorna
- PCN: Dr. Maartensma

General practice Eindhoven

- Referring doctor: Dr. de Gooij
- Referring doctor: Dr. Haasels



Missing patient data

Scenario 1

Old situation

Starting telemonitoring



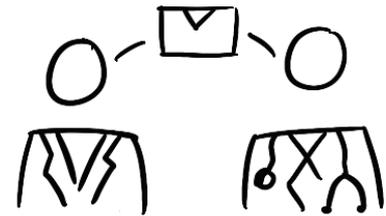
Forgetting to fill in data



Specialist nurse receives notification



Cardiologist notified + action during next appointment



Missing patient data

Scenario 1

New situation

Starting telemonitoring



Forgetting to fill in data



Student contacts patient



Student visits patient for explanation



Old situation

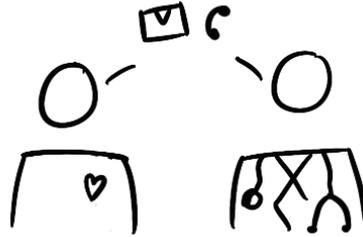
Something is unclear



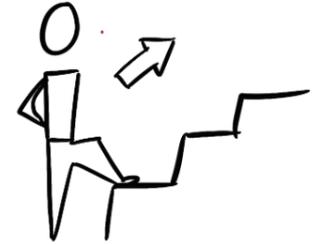
Seeking for contact



Consultation with healthcare worker



Move on with rehabilitation



New situation

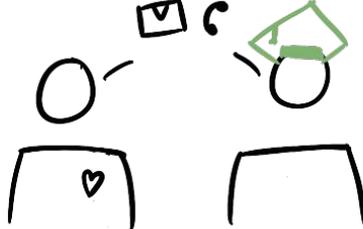
Something is unclear



Seeking for contact



Consultation with student



Personalized explanation + take on advice



No new appointment planned

Scenario 3

Old situation

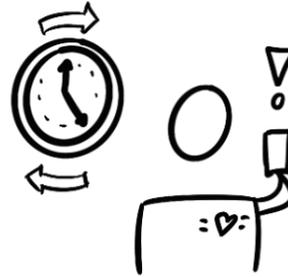
Complication occurs



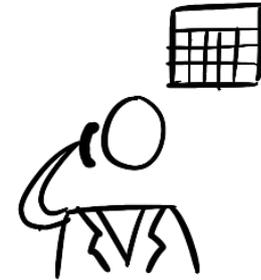
Unclear about who to contact



Time of no action + notification to hospital



Planning new appointment



No new appointment planned

Scenario 3

New situation

Complication occurs



Unclarity about who to contact



Student receives notification + consultation with patient



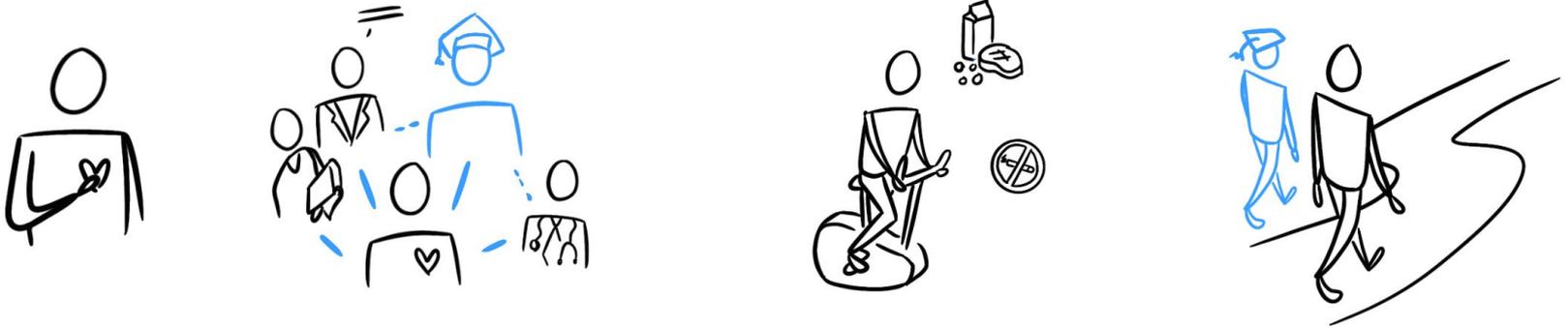
Patient is redirected by student+ appointment added to lifeline



Future patient journey

Diagnosis/ Incident +
hospitalisation

Recovery + Rehabilitation + Home Care



Patient profiles



The assertive undertaker



The critical activist



The overwhelmed multi-patient

Patient profiles



The assertive
undertaker



The critical
activist



The overwhelmed
multi-patient

Human assistance

Patient profiles



The assertive
undertaker

Ownership



The critical
activist



The overwhelmed
multi-patient

Human assistance

Patient profiles



The assertive
undertaker

Ownership



The critical
activist

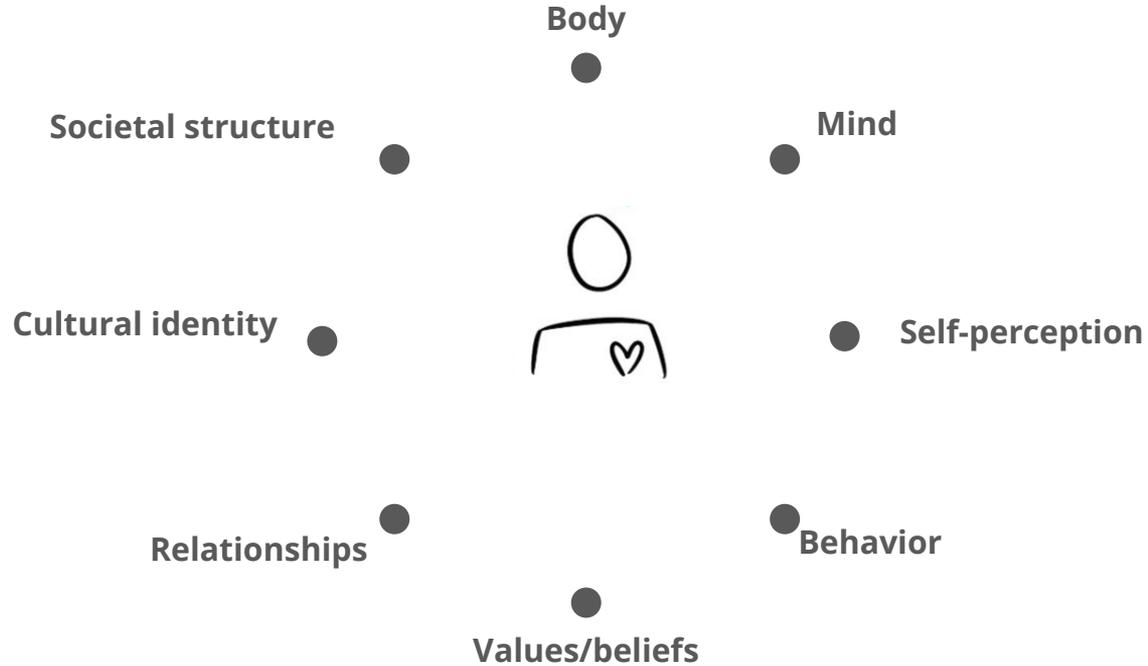
Autonomy



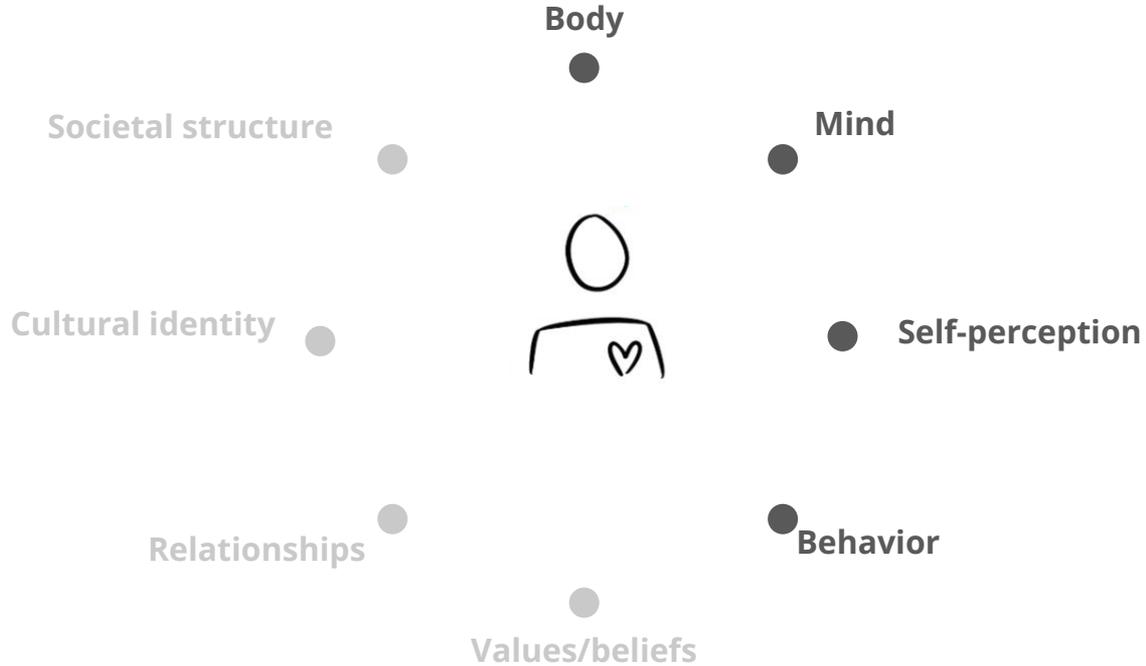
The overwhelmed
multi-patient

Human assistance

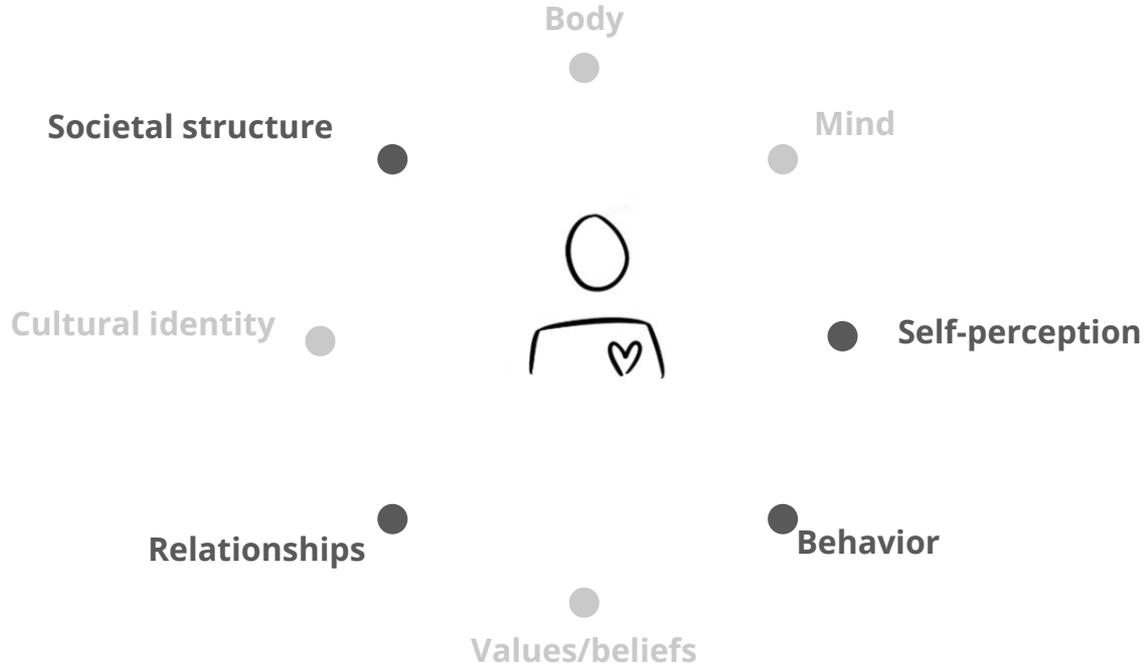
Ethical considerations



Ethical considerations

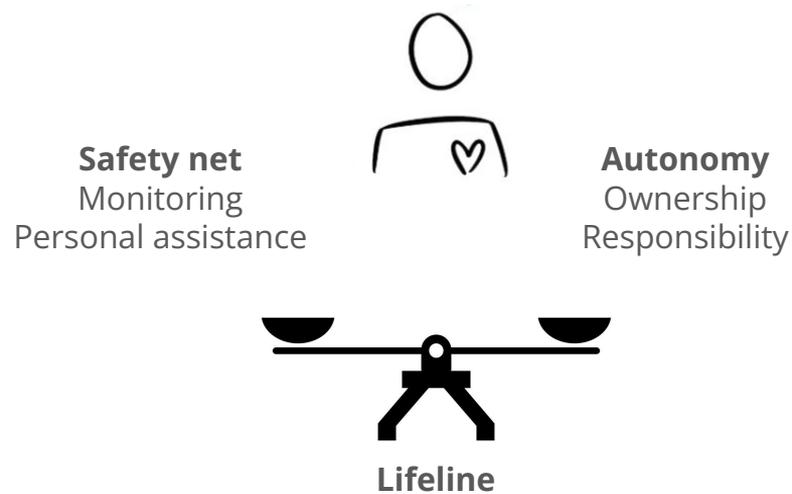


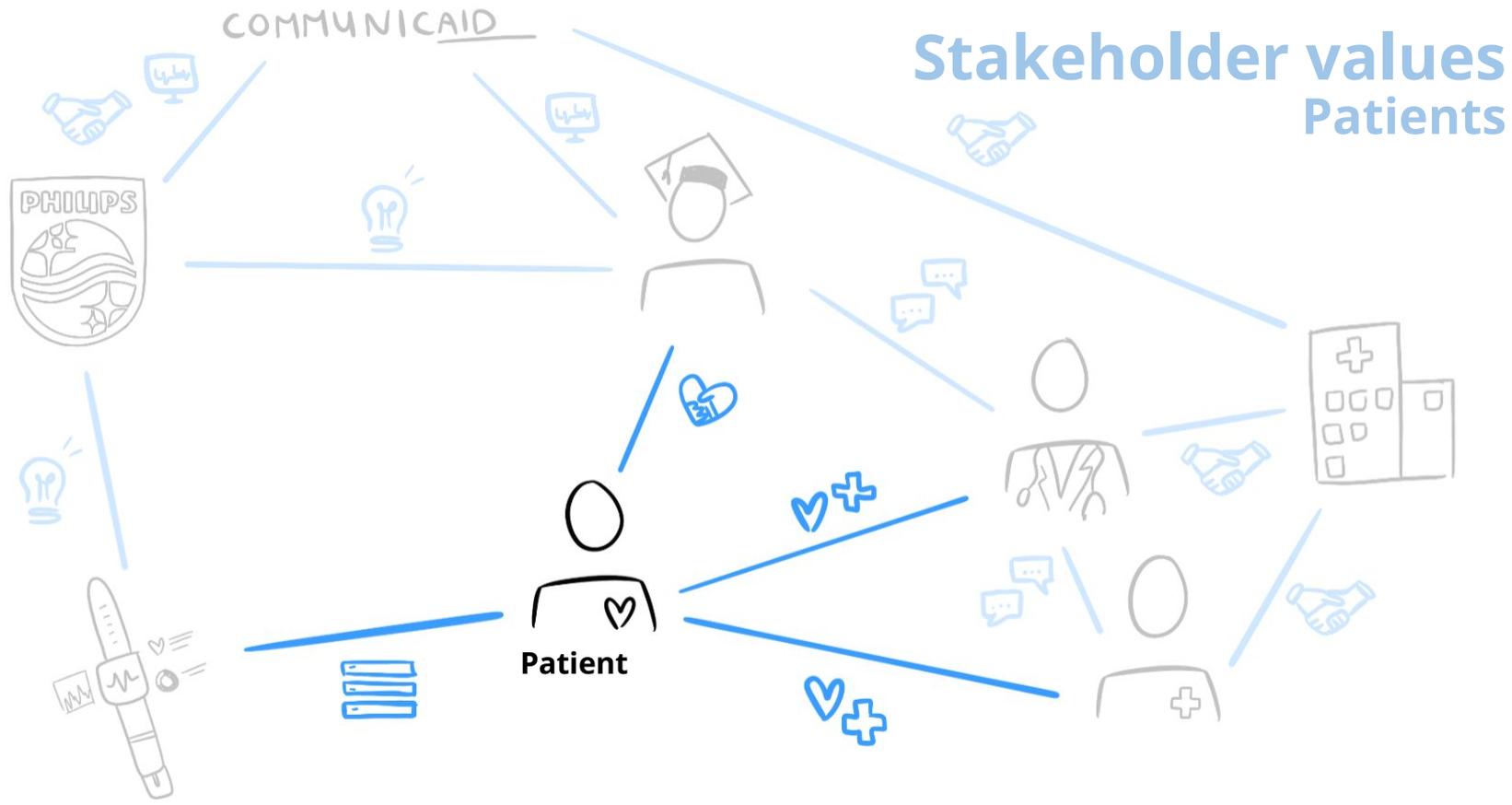
Ethical considerations

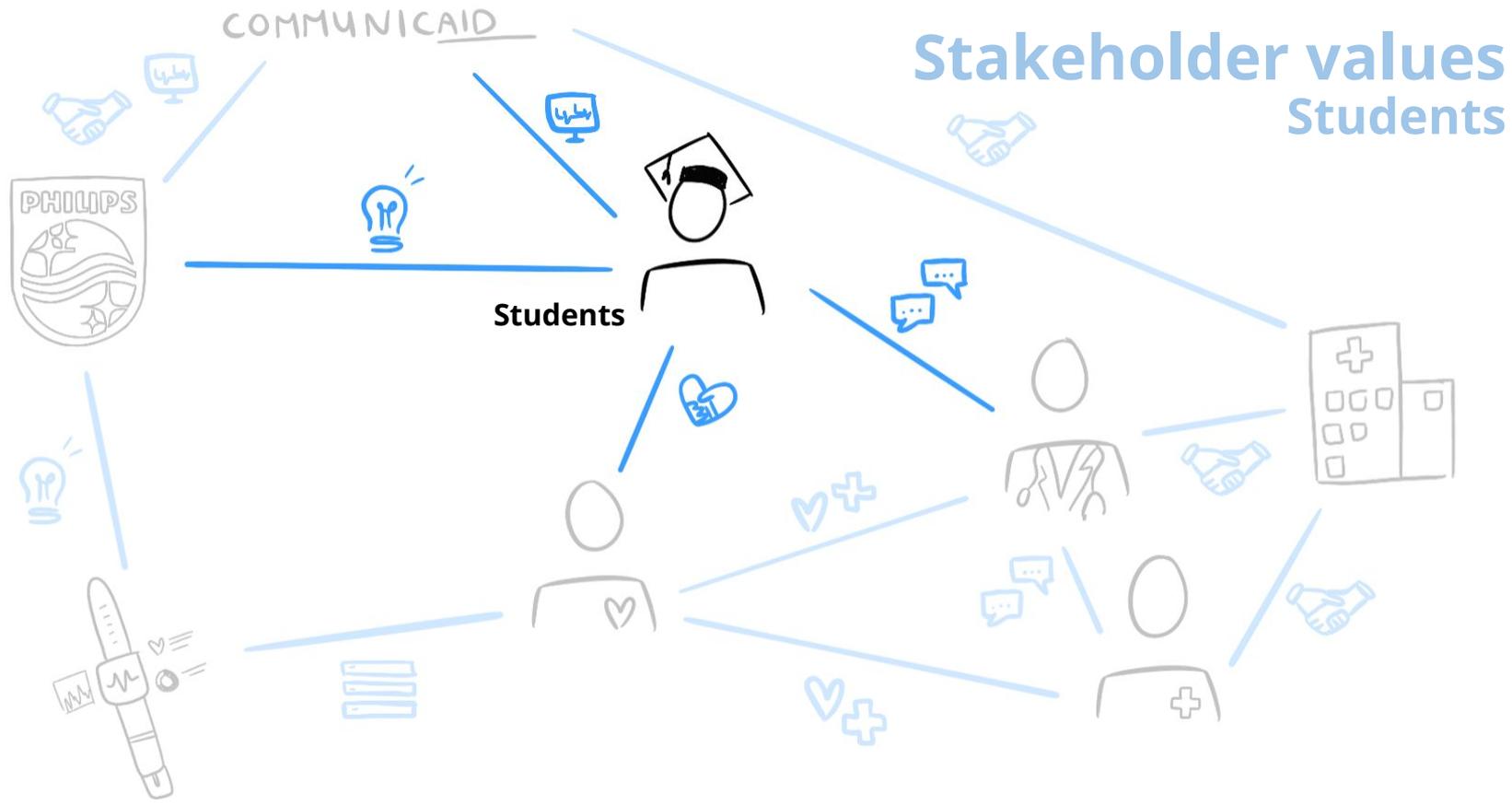


Ethical considerations

“Patient should feel empowered and secure”



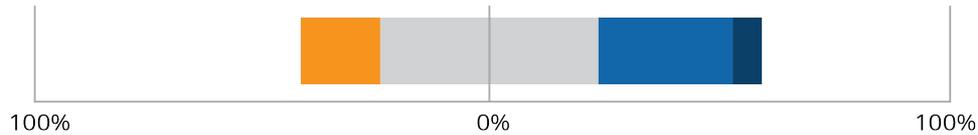




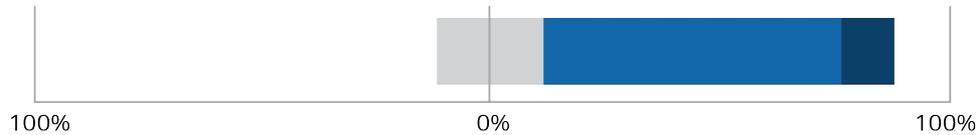
Stakeholder values

Student validation

Amount of attention currently given to innovation:



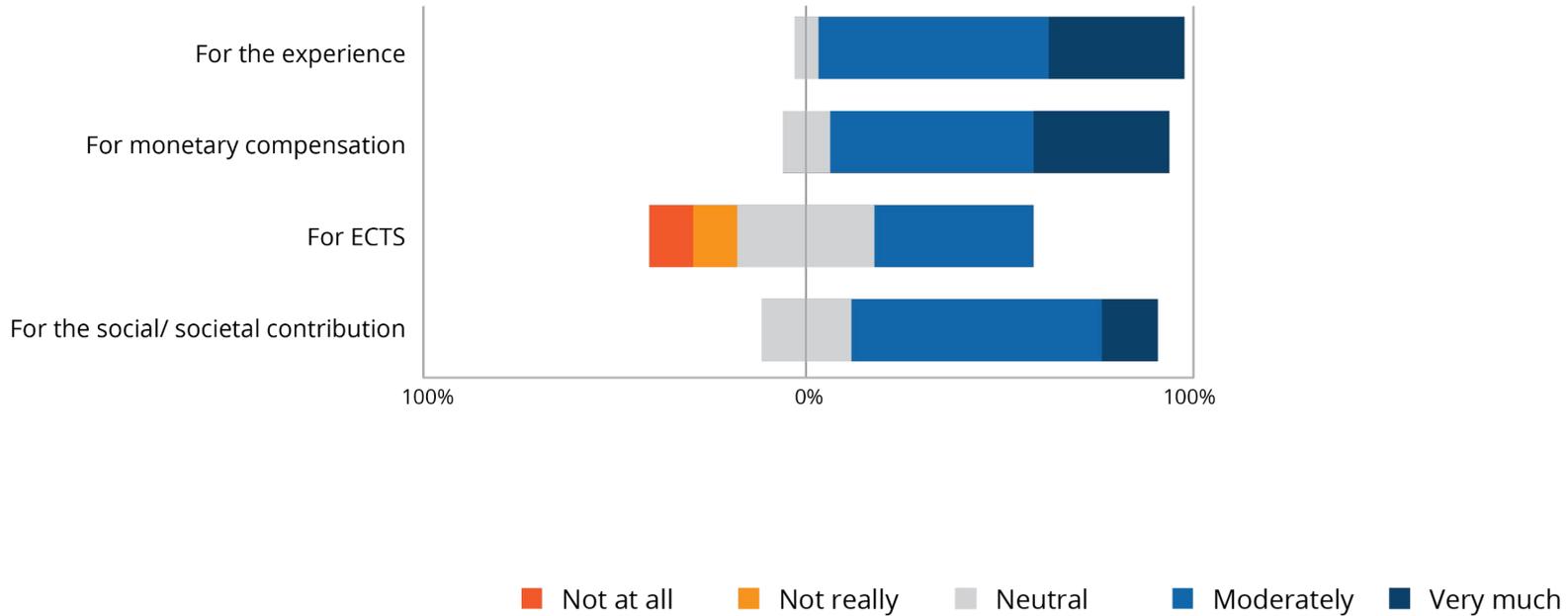
Desire for more attention given to innovation:



■ Not at all ■ Not really ■ Neutral ■ Moderately ■ Very much

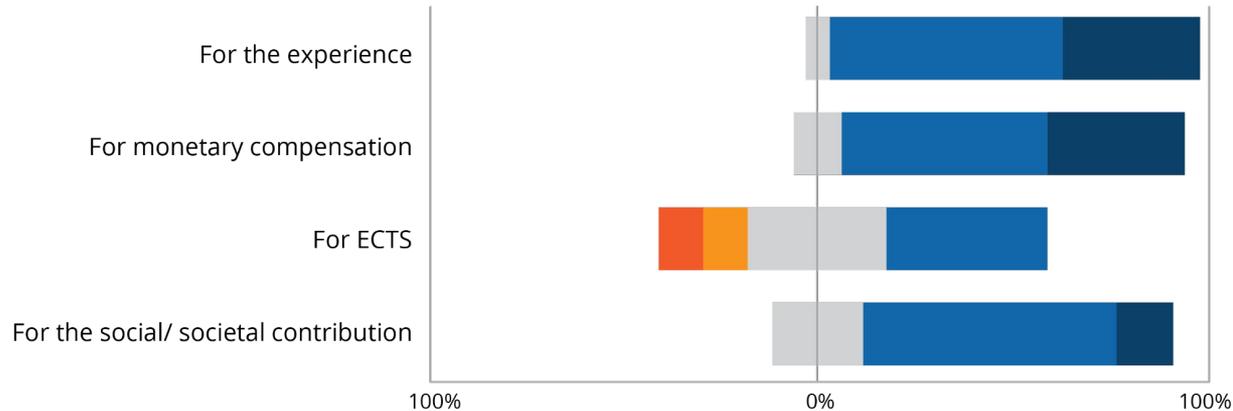
Stakeholder values

Student validation



Stakeholder values

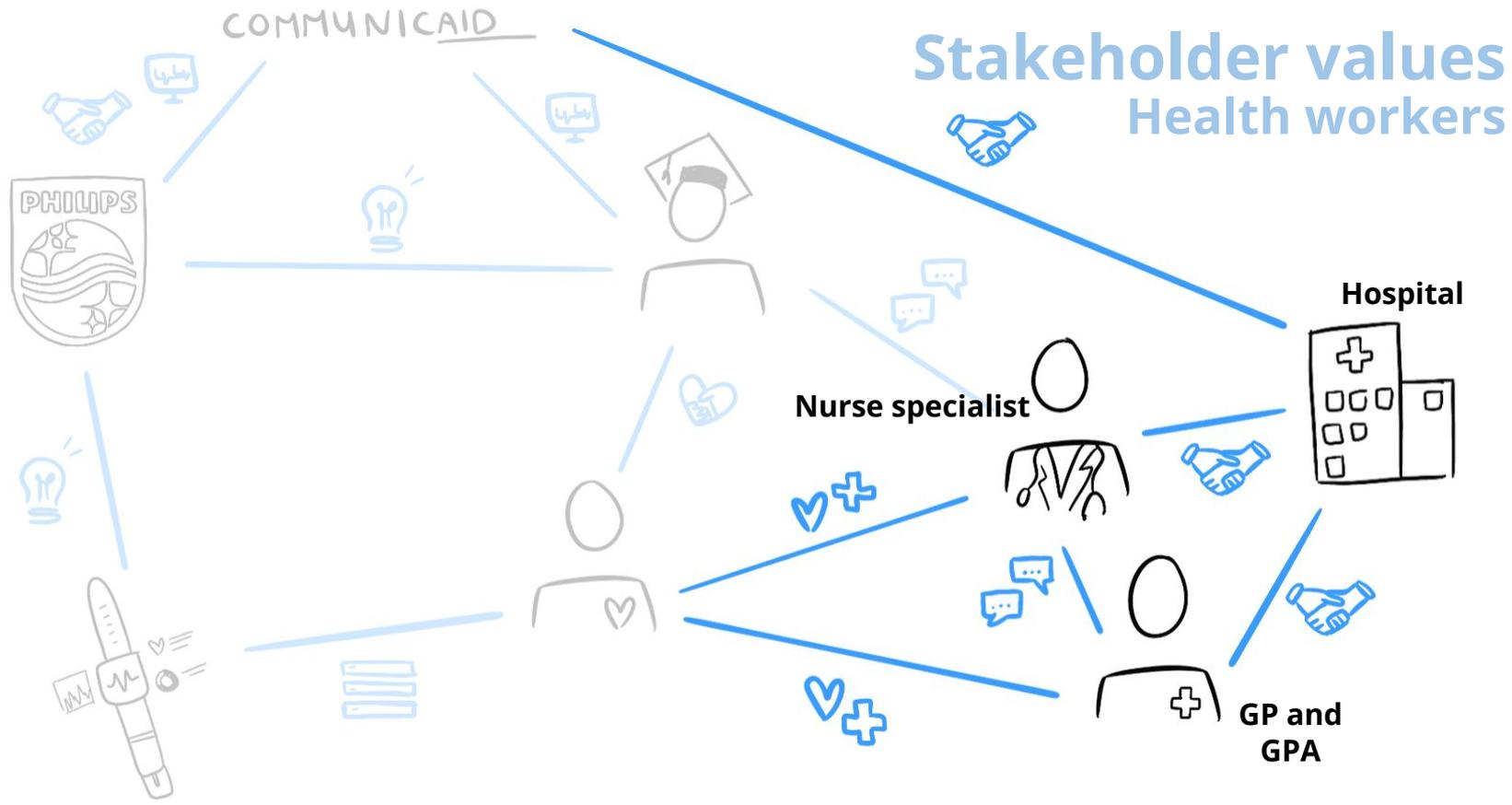
Student validation



"It is an interesting experience, you see healthcare from a different perspective and are involved in innovating healthcare. ECTS and money are secondary motivators."

Participant 9

■ Not at all ■ Not really ■ Neutral ■ Moderately ■ Very much



COMMUNICAID

Stakeholder values Philips



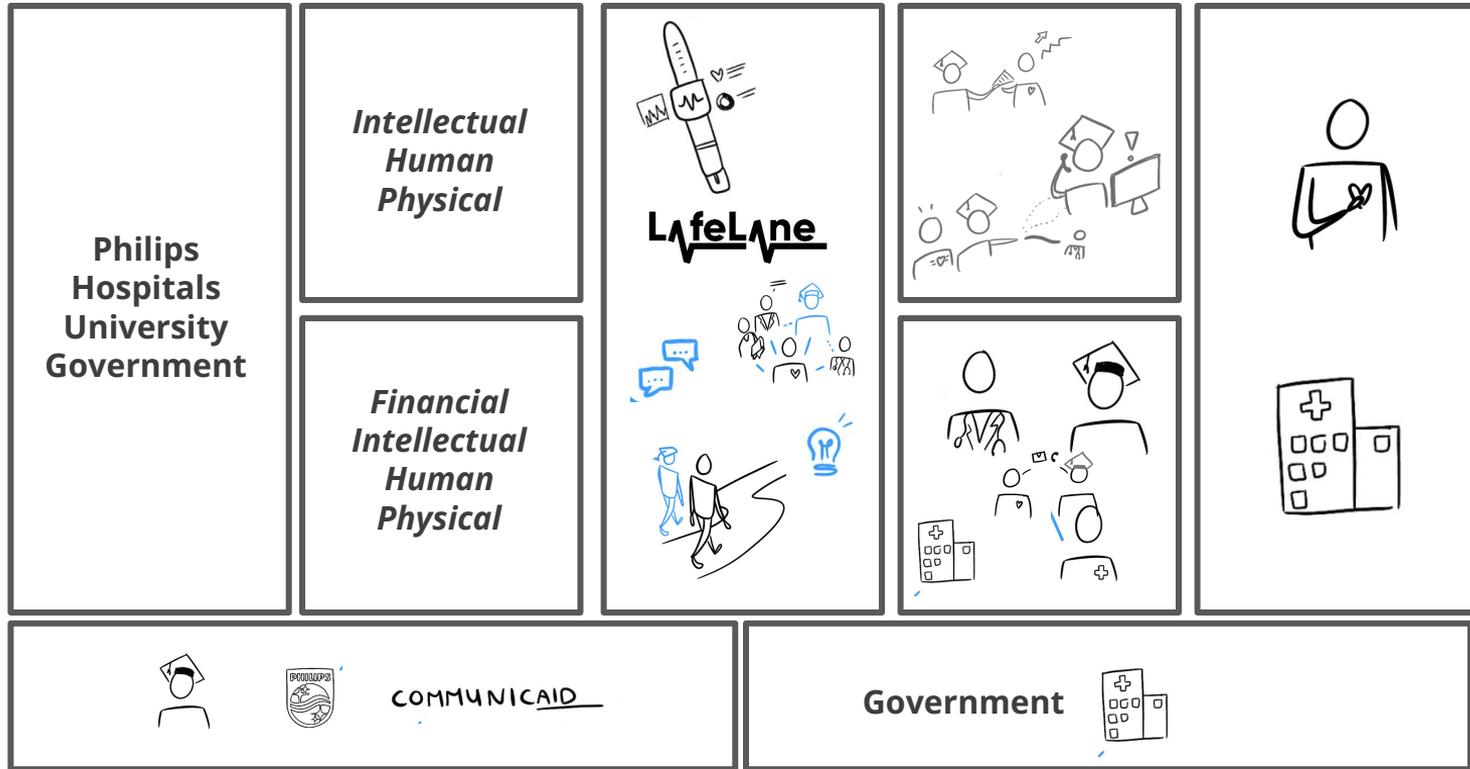
Philips



Health sensor
developers



Business Model Canvas



Competitors

Student aan huis¹

Hulpstudent²

Senior & student³

Thuiszorgstudent⁴

A&D Medical: WellnessConnected Platform⁵

GE Healthcare:
Apex Pro CH Telemetry⁶

BIOTRONIK: Home Monitoring⁷

Ejenta: Intelligent Personal Assistant Platform⁸

Competitors

Student for social contact & support

Student aan huis

Hulpstudent

Senior & student

Thuiszorgstudent

Remote Patient Monitoring

A&D Medical:
WellnessConnected Platform

GE Healthcare:
Apex Pro CH Telemetry

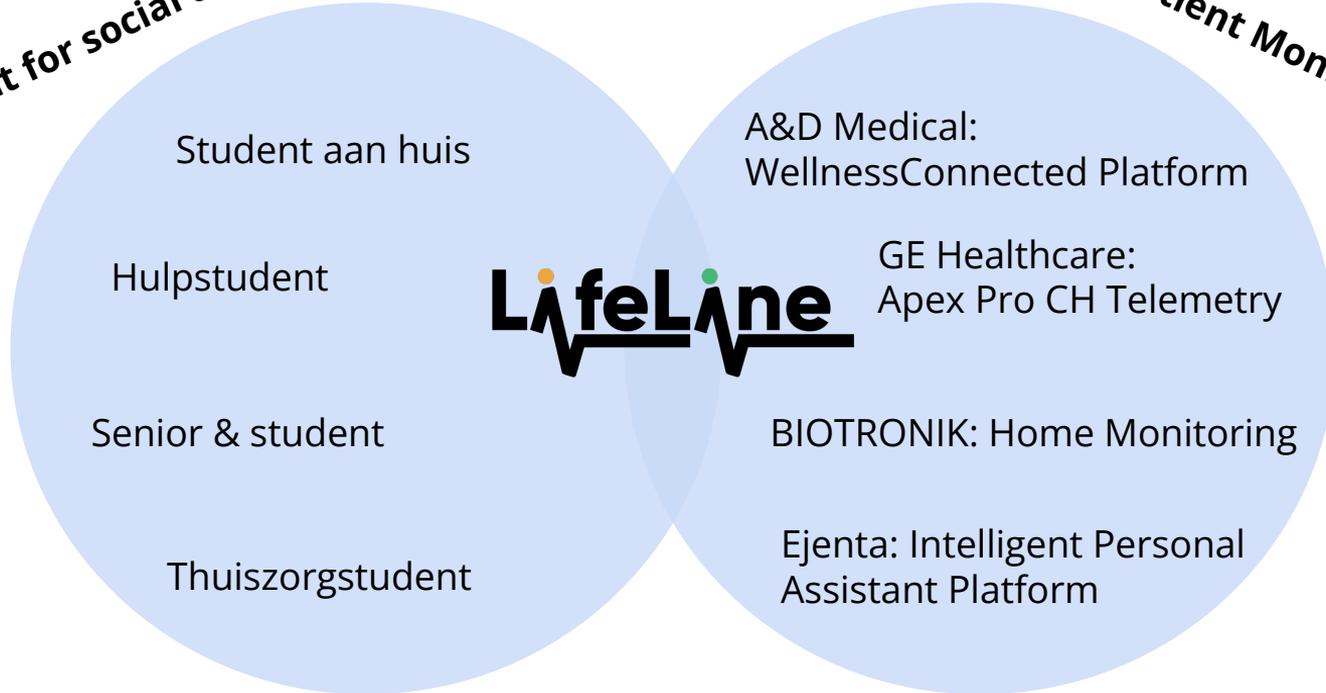
BIOTRONIK: Home Monitoring

Ejenta: Intelligent Personal
Assistant Platform

Competitors

Student for social contact & support

Remote Patient Monitoring





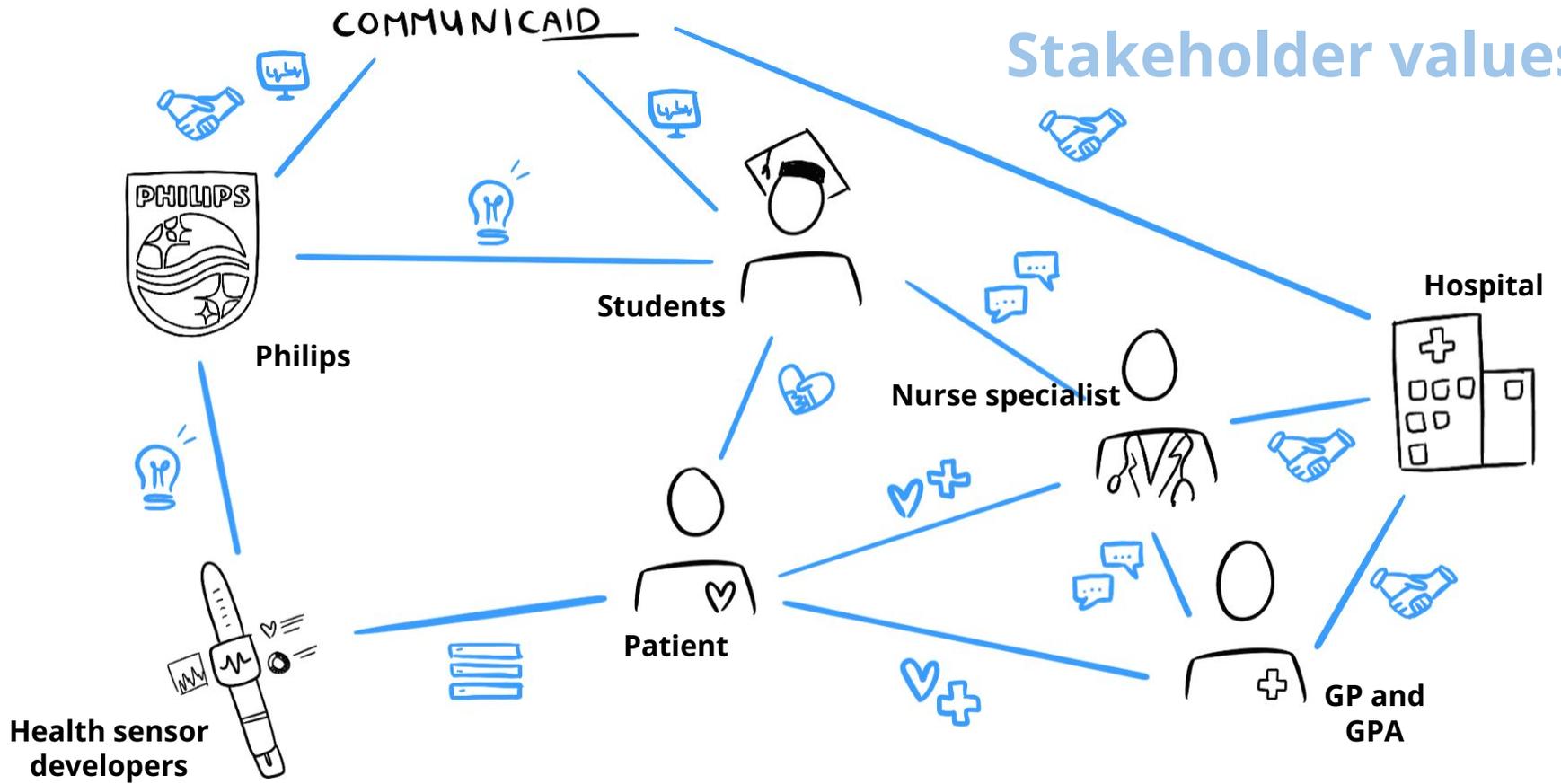
**Thank you for your
attention**

References

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2. Hulpstudent.nl. (2021, December 1). *Hulpstudent.nl, wij maken graag kennis.* <https://www.hulpstudent.nl/>
3. senior&student. (2020, October 20). *Vind uw ideale hulp aan huis.* <https://www.seniorenstudent.nl/>
4. A. (2021, September 28). *Particuliere thuiszorg.* De Thuiszorg Student. <https://www.thuiszorgstudent.nl/>
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<https://medical.andonline.com/about/news-and-events/press-releases/a-and-d-medical-launches-wellnessconnected-platform>
6. *ApexPro CH Telemetry System | Patient Monitoring.* (n.d.). GE Healthcare (United States).
<https://www.gehealthcare.com/products/patient-monitoring/patient-monitors/apexpro-ch-telemetry-system>
7. *Home Monitoring.* (n.d.). homemonitoring. <https://www.biotronik.com/nl-nl/products/services/home-monitoring>
8. *11 Remote Patient Monitoring Companies You Should Know About.* (n.d.). Plug and Play Tech Center.
<https://www.plugandplaytechcenter.com/resources/10-remote-patient-monitoring-companies-you-should-know-about/>

Referral to Cardiac Rehabilitation After Percutaneous Coronary Intervention, Coronary Artery Bypass Surgery, and Valve Surgery | (ahajournals.org)

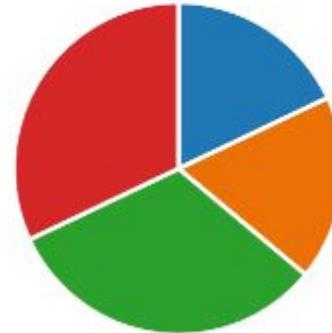
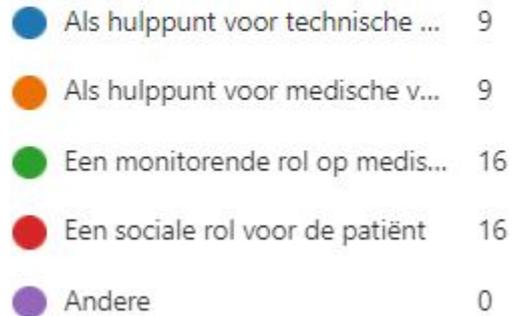
Stakeholder values



Stakeholder values

Student validation

Hoe zou jij de rol van de student in dit systeem voor je zien? (Je kan meerdere opties aanvinken)



Stakeholder values

Student validation

“Ik denk dat je als student goed kunt monitoren en aangeven als er iets mis is, maar de uiteindelijke medische vragen toch naar de arts moeten gaan.”

- Participant 14

“Een student heeft in ieder geval genoeg kennis om de patient te helpen met de technische handelingen van de app. Voor medische kennis is een specialist wel nodig, anders is de verantwoordelijkheid te groot voor de student.”

- Participant 9

“Uitgave van de spullen met uitleg erbij, zoals koppelen van de app en het gebruik van de app”

- Participant 5

Stakeholder values

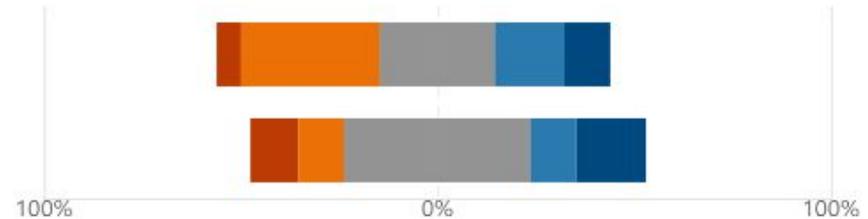
Student validation

Welke vorm van hulp denk je dat de het beste is..

- Telefonisch contact
- Aan huis langs gaan
- Videobellen
- Voorlichtingsavonden over smart devices
- Een inloopuur faciliteren in het ziekenhuis

voor de patiënt?

door jou als student?



Stakeholder values

Student validation

Philips innovatie team

[Uitleg innovatie team] Welke rol zou je interesseren?

■ Helemaal niet ■ Niet ■ Neutraal ■ Redelijk ■ Heel erg



Stakeholder values

Student validation

“Hoewel het erg belangrijk is dat innovatie aan bod komt binnen de studie, weet ik niet of een dergelijke functie gekoppeld kan worden aan verplichte studiepunten. Dit zou mij eerder aantrekken in de vorm van een betaalde/vrijwillige baan waarbij je ervaring opdoet binnen deze sector.”

- Participant 17

“De verantwoording zorgt ervoor dat het een goede ervaring en toevoeging is tijdens je opleiding en een betaalde functie in het ziekenhuis staat weer goed op je cv en is altijd fijn naast een drukke studie.”

- Participant 5

“Studiepunten of geld weegt niet op tegen helpen bij verdere innovatie in de zorg. Zou erg leerzaam zijn om hier in bij te kunnen dragen”

- Participant 14

“Ik denk dat elke student wel geïnteresseerd zou zijn, maar een duwtje in de rug in de vorm van betaling of studiepunten zal wonderen doen. Als je daarbovenop nog de mogelijkheid biedt om met medisch specialisten contact te hebben zullen veel studenten aan dit project willen meewerken.”

- Participant 15

Patient profiles

Overwhelmed



Human assistance

The overwhelmed
multi-patient

Patient profiles

Loss of control



**Ownership over
Lifeline**

The assertive
undertaker

Patient profiles

Distrust



Autonomy

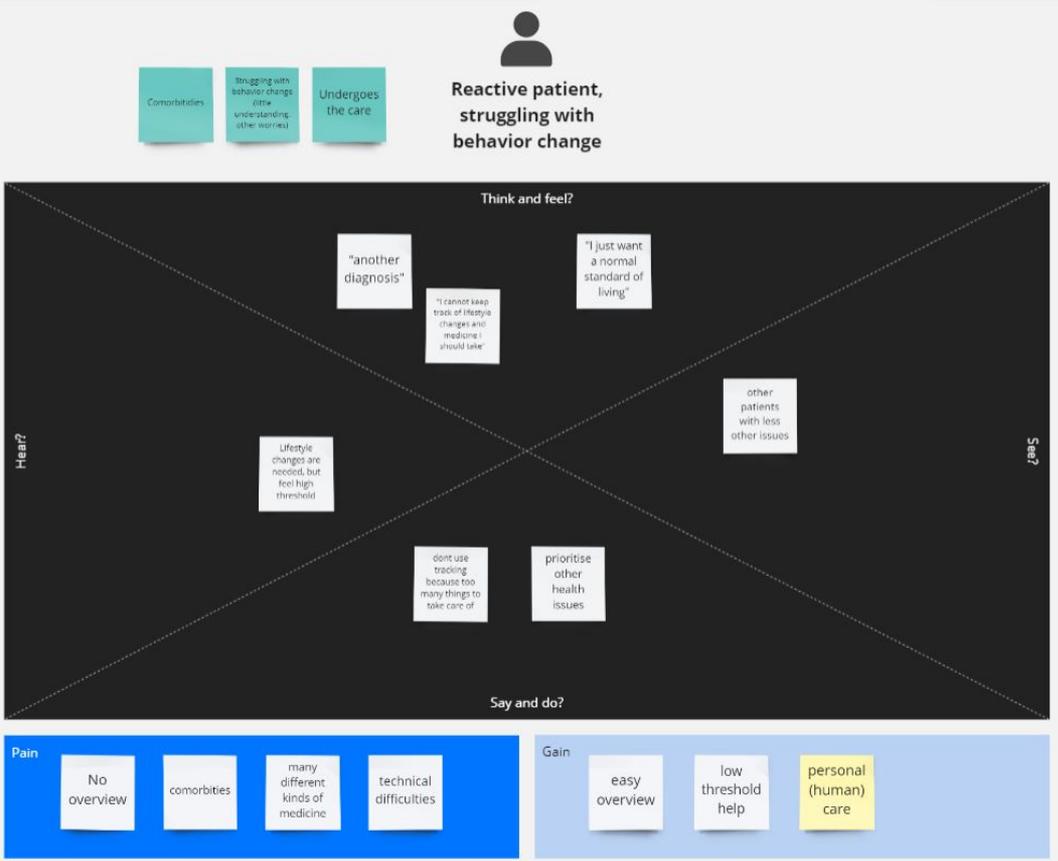
The critical
activist

Conclusion - Pains and Needs Targeted

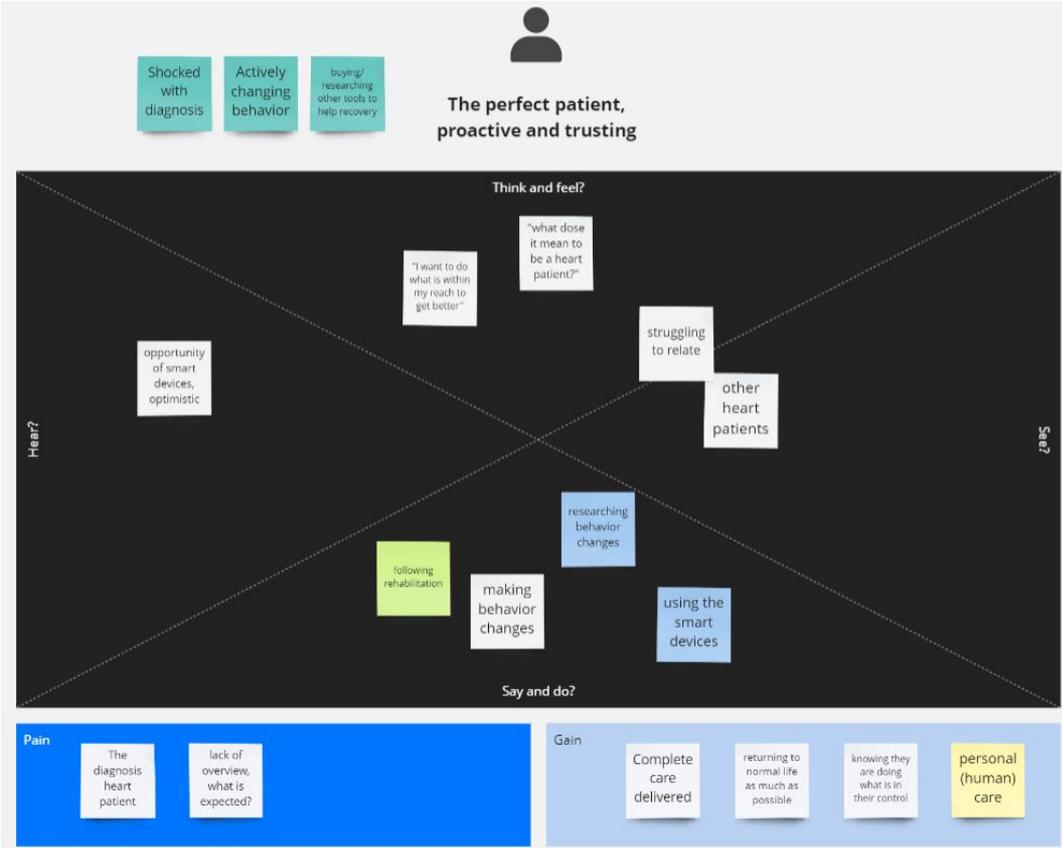
- Patient
 - Autonomy and Low-threshold help
- Clinicians
 - Focus on patient contact
- Student
 - Experience in health innovation
- Philips
 - Innovation input from practice



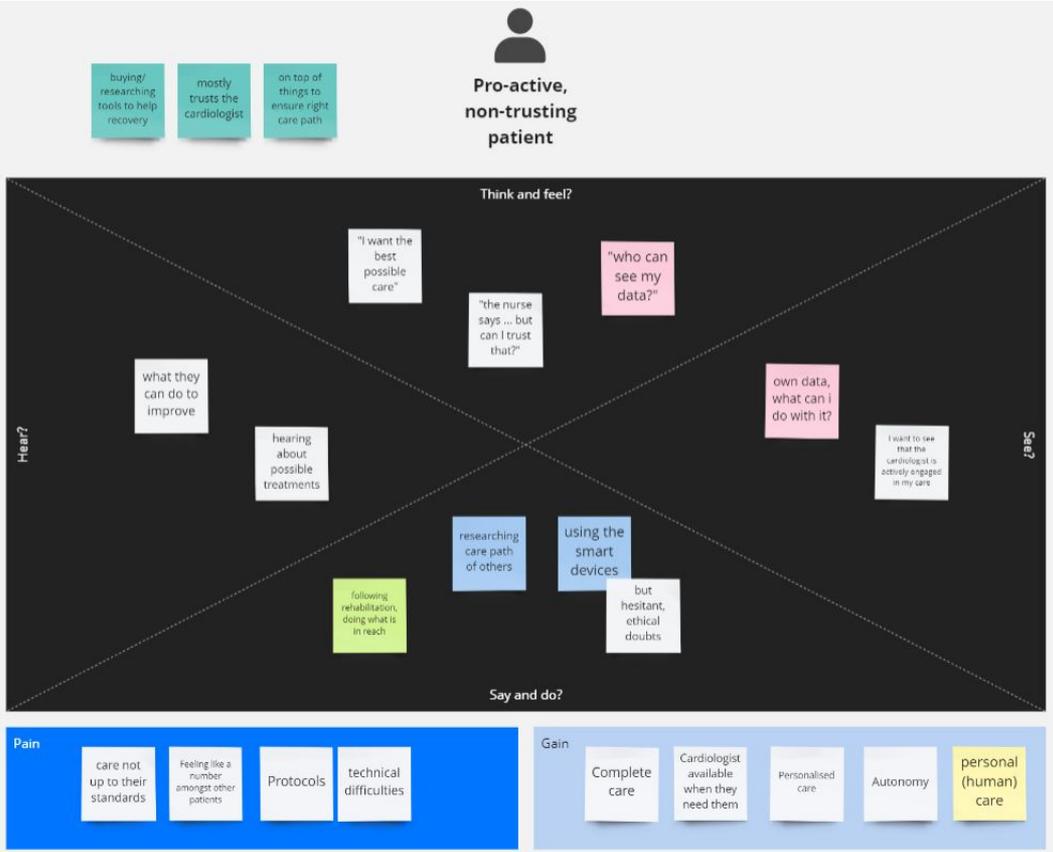
Patient profiles



Patient profiles



Patient profiles



Interview Reyan Abdalrahim & Lukas Dekker

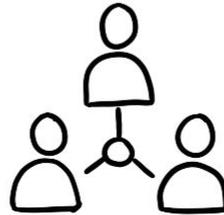
- There is a need for one system connecting all different medical instances
- The system can work for multiple conditions, based on used trackers
- Medical students, but also design students are of great importance in system development
- Student cannot fulfill medical advisory role
 - However, can work with general scripts and referrals
 - Further research needed on patient trust in student

Types of Innovation and Business Model Shifts

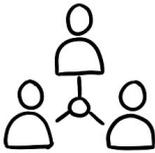
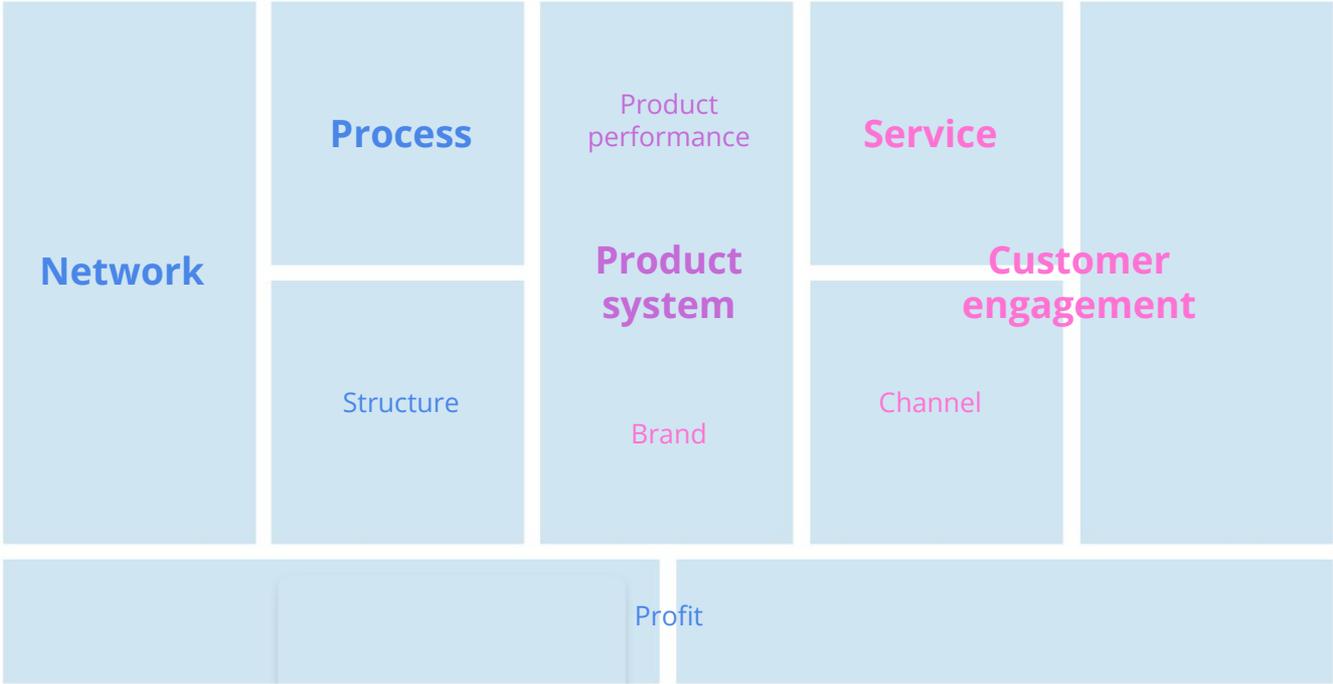
Product to **service platform**

Shareholder to **stakeholder**

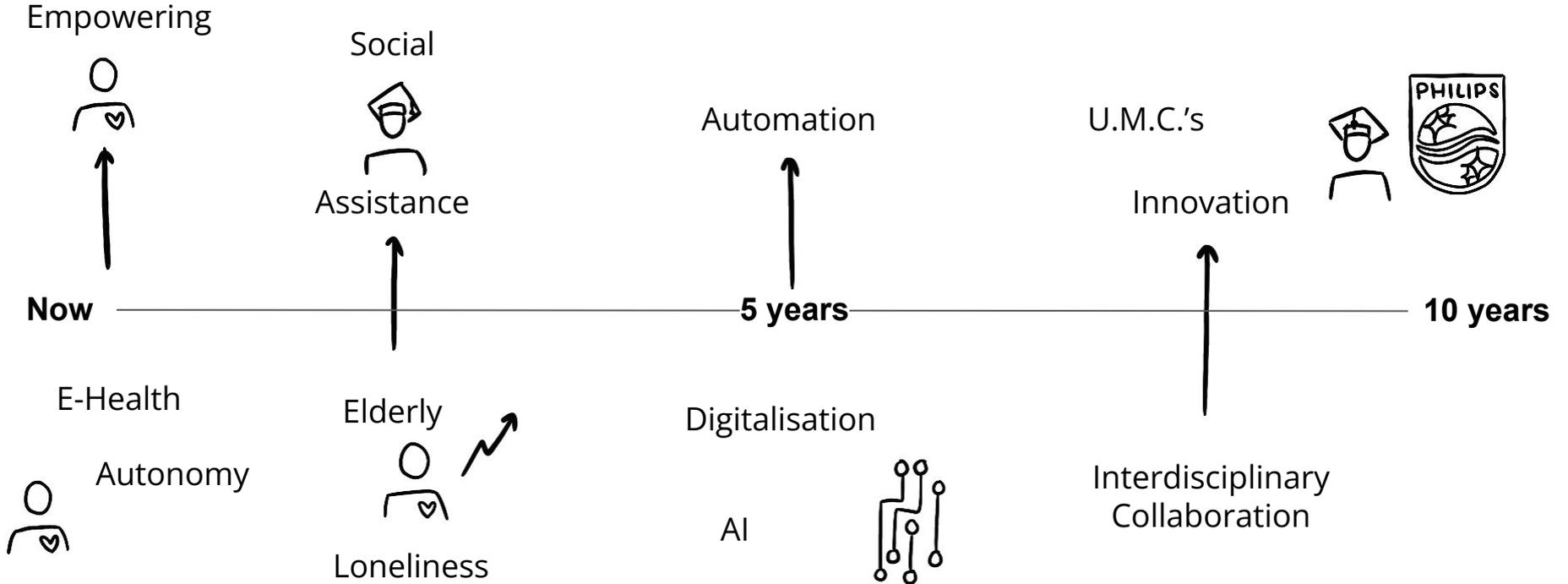
Physical to **digital**



Types of Innovation and Business Model Shifts



Trends and Lifeline's Future



MARKET

User to Market

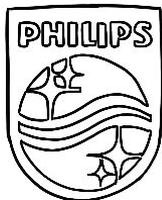


Conclusion - Pains and Needs Targeted

- Patient
 - Autonomy and Low-threshold help
- Clinicians
 - Focus on patient contact
- Student
 - Experience in health innovation
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 - Innovation input from practice



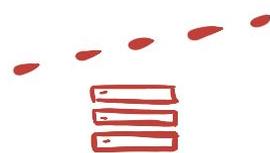
Philips



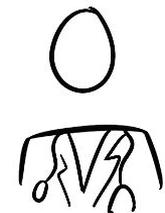
Health sensors



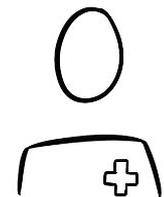
The Stakeholders



Patient



Hospital staff

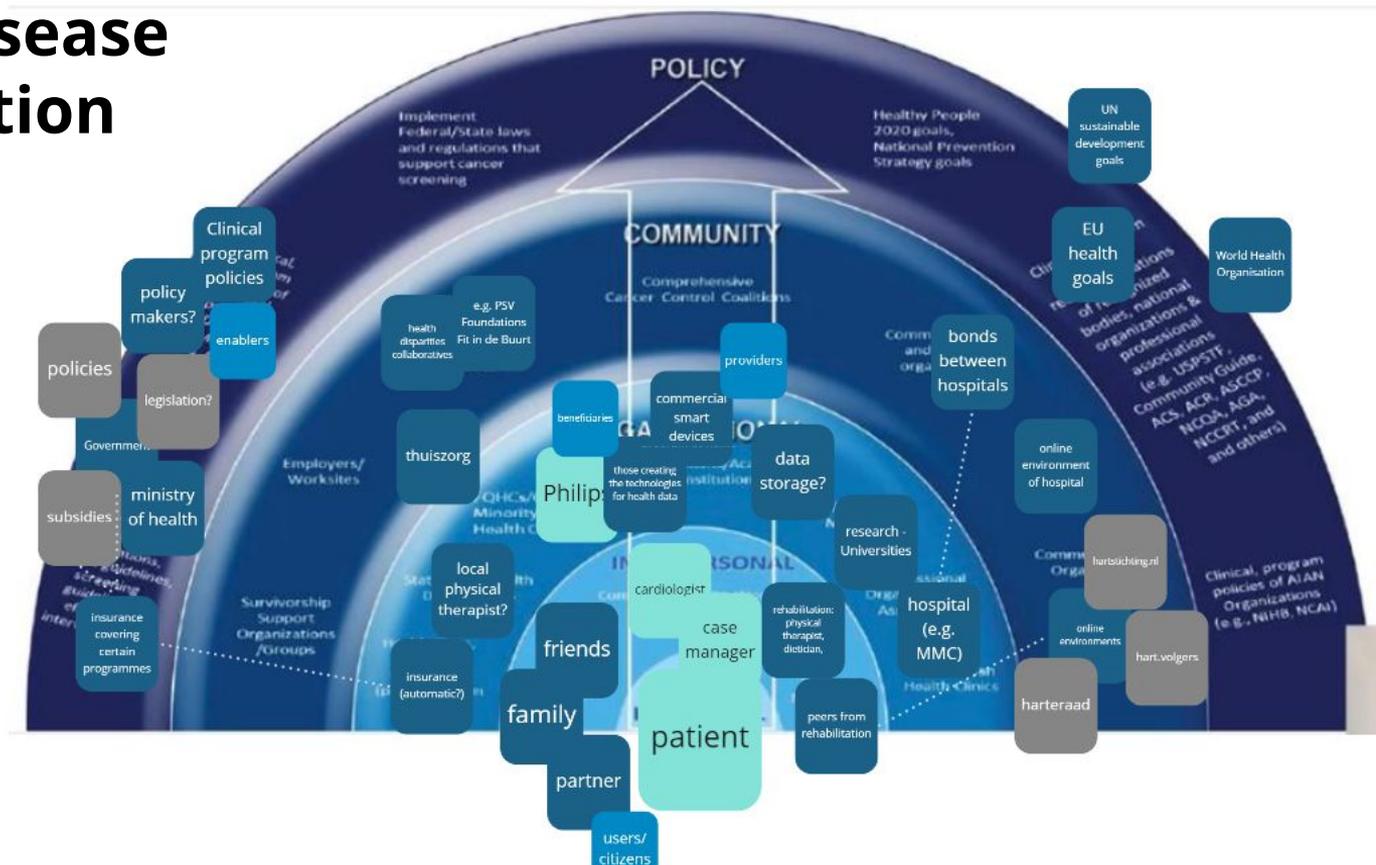


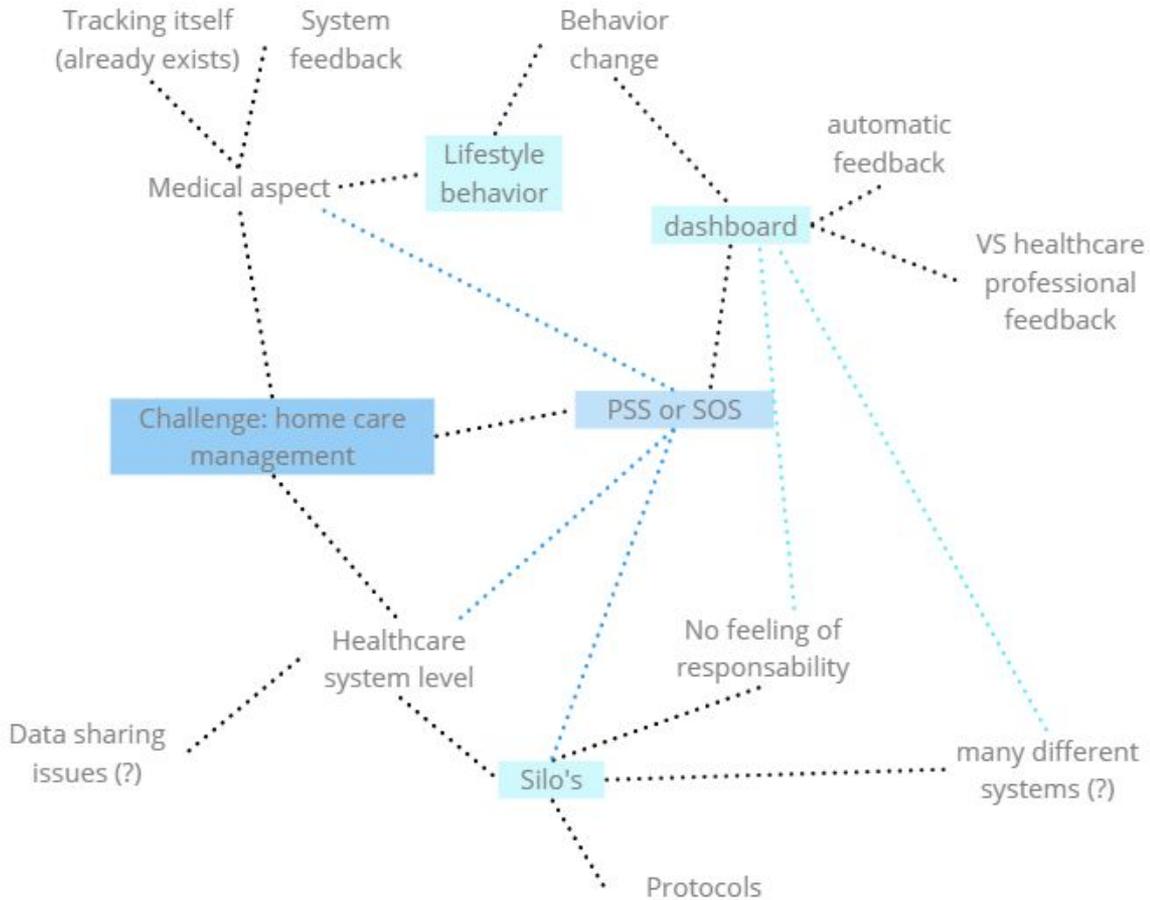
GP and GPA

Used models slides



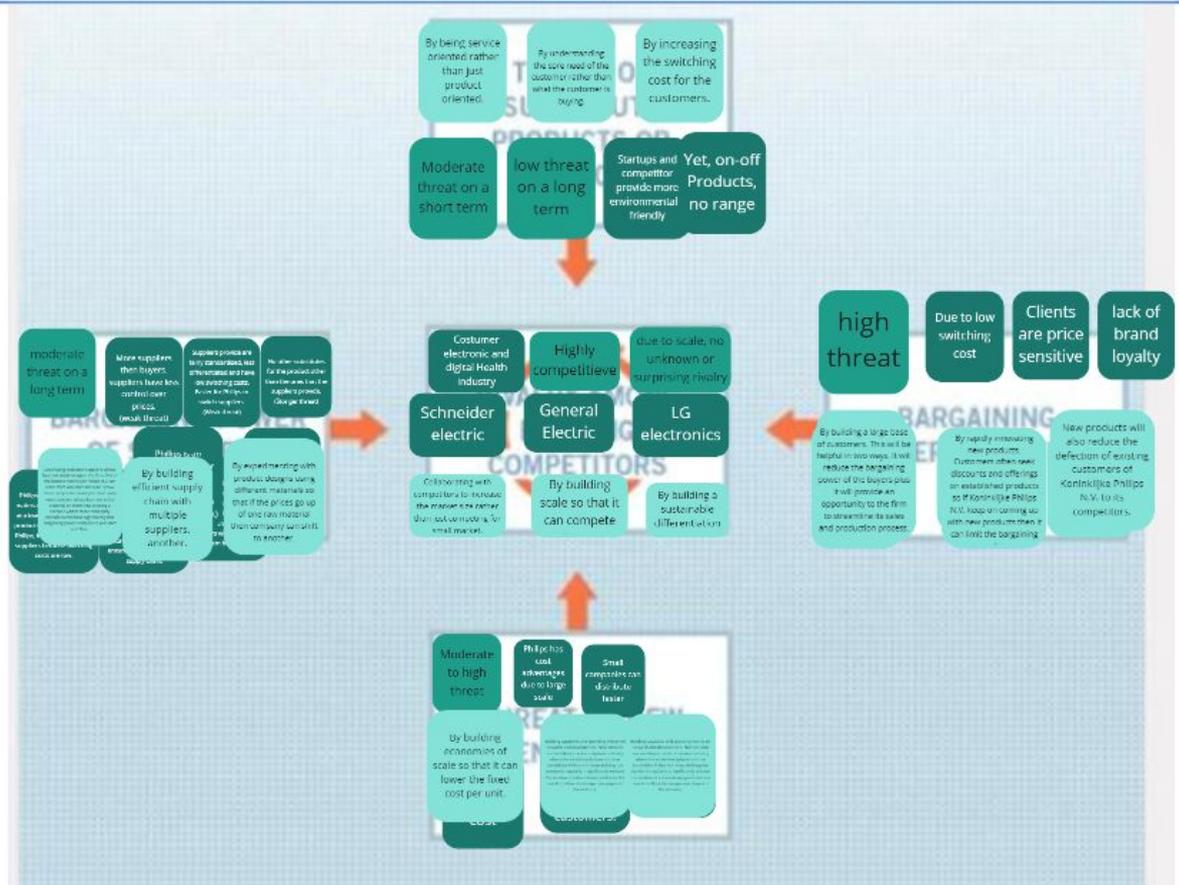
Centre disease & prevention



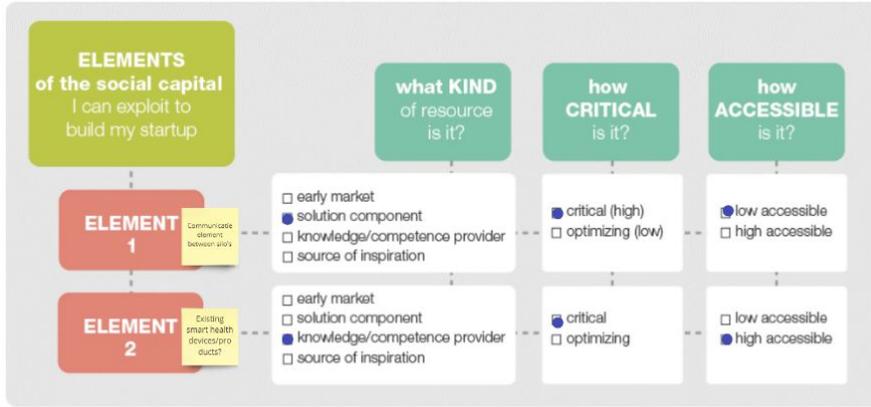


Socio-ecological

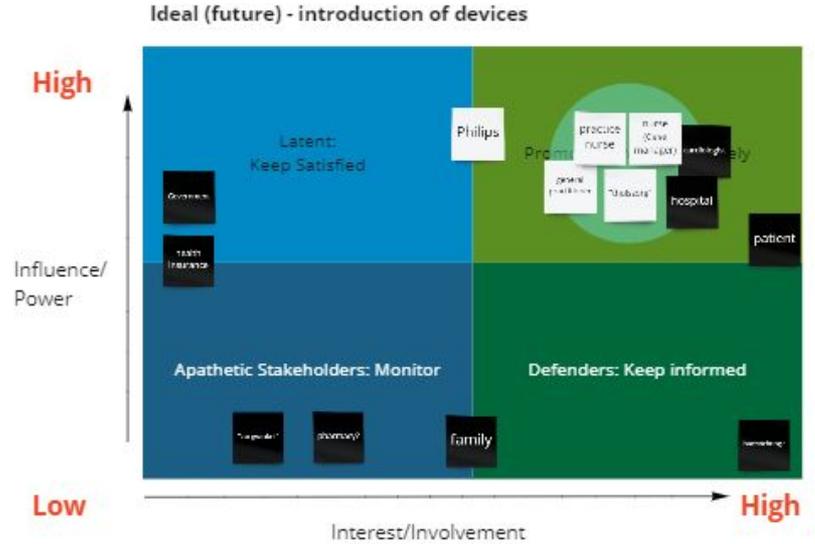
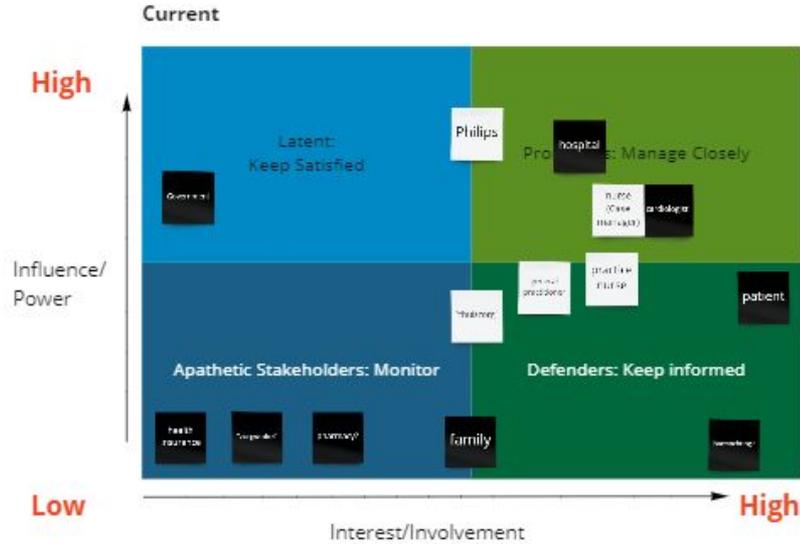




Social capital cruiser



Stakeholder matrix



Motivation matrix

	Government	Data management (processing data and data analysis)	Healthcare product providers	Philips	Hospitals	Home care facilities	Patients	Caregivers (family or paid workers)
Government		Adoption of change is needed	Regulation and standards	Regulation of how to use data	Financial support	Financial support	Financial support	Financial support
Data management (processing data and data analysis)	Safety for the public	Sense of security	Equilibrium to use data	Control over data	Control over data	Control over data	Sense of security?	Sense of security?
Healthcare product providers	Access to data	That family is needed	Ways of collecting data	How to use data	How to use data	How to use data	Products to use	Products to use
Philips	Acceptance of change	Guidance to improve quality of society	Data streams	Money flow	Way to improve efficiency	Way to improve efficiency	Support	Support
Hospitals	A safe society	A safe society	A safe society	A safe society	A safe society	A safe society	A safe society	A safe society
Home care facilities	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care
Patients	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care
Caregivers (family or paid workers)	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care	The actual data	Higher cost for safety	Need for better care