



Project CityZen - Promoting Health in Sao Paulo

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14 Oct 2019

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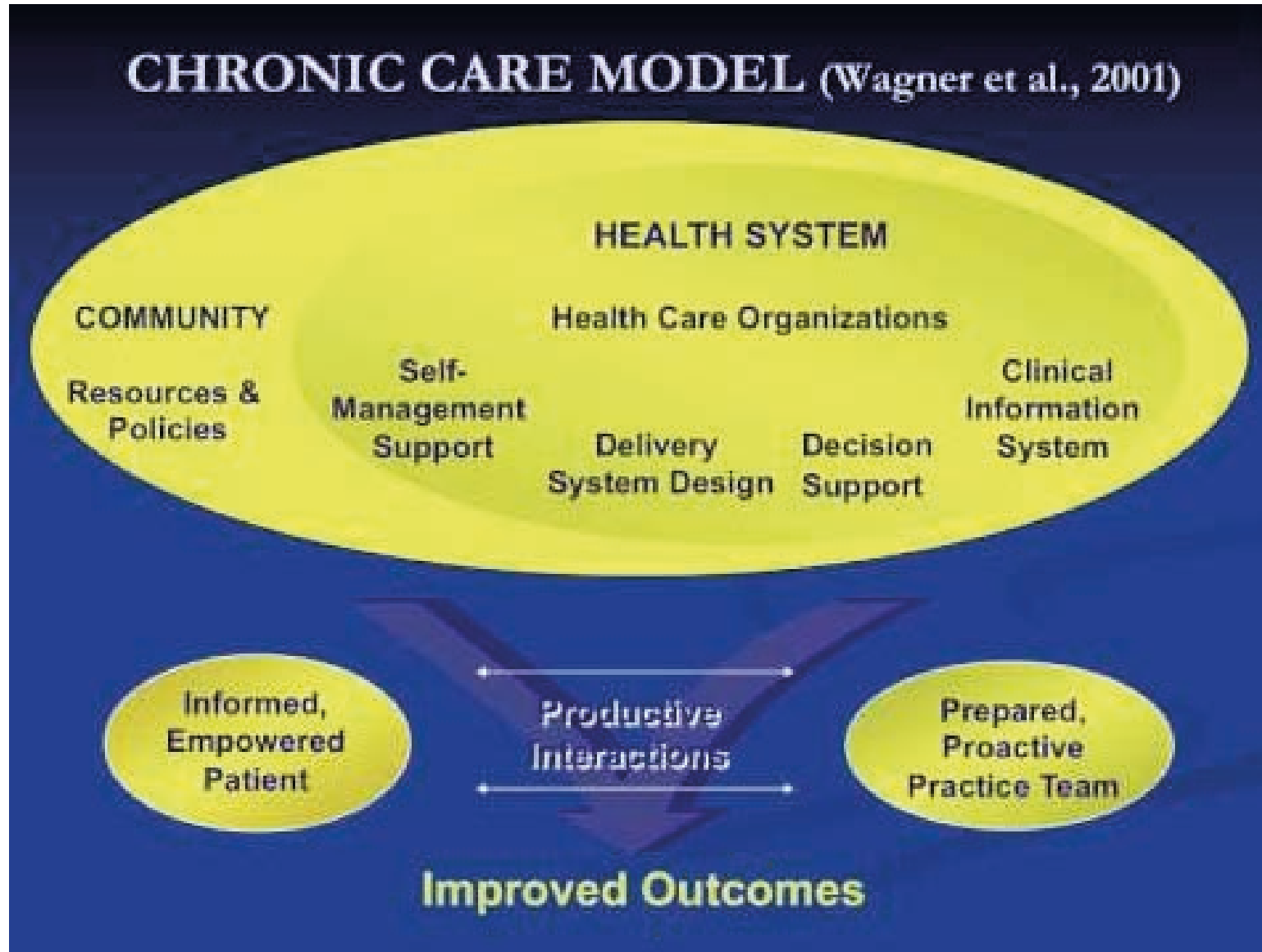
in partnership with



Space Syntax

A Newton Fund Project, in association with InnovateUK

OUR APPROACH: Chronic Care Model



Engaged City



WHAT WE DID BEFORE GOING TO BRAZIL

ICPSR

INTER-UNIVERSITY CONSORTIUM FOR
POLITICAL AND SOCIAL RESEARCH

Desk
Research
&
8 Remote
Interviews

**SABE - Survey on Health,
Well-Being, and Aging in Latin
America and the Caribbean, 2000**

Martha Pelaez

Pan American Health Organization

Alberto Palloni

University of Wisconsin

Cecilia Albala

University of Chile

Juan Carlos Alfonso

Centro de Estudios de Poblacion y Desarrollo (CEPDE)

Roberto Ham-Chande

An elderly woman with short brown hair and glasses is smiling and holding a white mug with a red and blue design. She is wearing a colorful, patterned cardigan over a dark top. The background features a large, vibrant tapestry depicting a sailboat on the water and people on a beach. Below the tapestry, several small framed pictures are visible on a surface. A large, semi-transparent grey circle with a blue horizontal line is overlaid on the left side of the image, containing the text "Citizen End-Users".

Citizen End-Users

WHAT WE DID IN BRAZIL

2

City Partner Meetings

6
**Tours of
Medical & Welfare
Facilities**

1
Innovation
Centre Tour



Robust - retired couple

20
Elderly
(12 home visits)

Family caregiver

12
Caregivers



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Medical specialists

19
**Medical
Professionals**

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Public hospitals

6 Community Agents



Frontline to directors

12
City
Professionals

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WHAT ELSE WE DID IN BRAZIL (IMMERSION)

Poupatempo, São Paulo

Access to City Services



Downtown, São Paulo

Observation



Ibirapuera Park, São Paulo

Observation



Public transport

Metro, São Paulo



Buses, São Paulo

Public transport



Poupatempo, São Paulo

Vox Pops Interviews



Downtown, São Paulo

Vox Pops Interviews



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Campinas City

Council of the Elderly



WHAT WE DID AFTER WE GOT BACK



Personas

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INTERVIEW ELDERLY PARTICIPANT

Name: Maria

Age:

Interviewer: Can you please describe where you live, your home (house or flat)?

Respondent: one suite, two bedrooms... like a palace. It's not really a palace but it is quite big.

Interviewer: Do you like it?

Respondent: Yes, I do.

ere?

ught it.

better?

important?

Personas -
Interview
Transcripts

"I just wish to be able to see again. There are days I can't see. I would like to do things as I used to do before the disease: doing my gym, walking. Now I can't walk too much. I'm afraid of falling. I've been falling a lot."



ANA

Low-dependency Living close to family

Age

77

Marital status: widowed

Number of children: 3 daughters

Numbers of siblings: 1 brother

Living with



Close to family

Occupation

Ana used to be a cook in a private company, but retired for health reasons – heart disease and high blood pressure. Nowadays she does the housekeeping and she makes occasional income from selling ice cream to local children.



Working



Retired

Income



Very low

Low

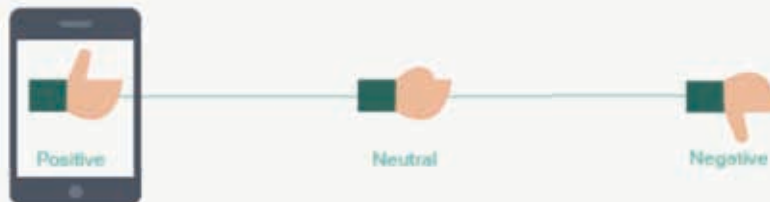
Medium

High

Use of technology



Attitude towards technology



Functional mobility



Very low



Low



Medium



High

Main mode of transport



Car



Bus



Private health insurance



Public health insurance

Caregiver



None



Family caregiver



Family

Healthcare



Public



Private



Physical environment

Neighbourhood

Ana has lived in the neighbourhood for 30 years. She describes the neighbourhood as dirty and the pavement "horrible", so that she has to walk in the middle of the street. In terms of amenities, there are only some small grocery shops nearby, but not enough. "If we had them [shops and facilities] here, we wouldn't have to go out of the neighbourhood." She also complains that the health care centre is far away. On the other hand, there are many buses going directly to the places she normally visits.

Housing

Ana lives on the ground floor of a brick house. At this moment Ana's family is considering changing some things in the bathroom, like putting up some grab bars to prevent falls.

Transport

Ana loves to walk but she is more restricted now that she is losing her sight and falling more regularly, mainly when she goes somewhere she does not know so well. She is afraid to go out because of that. She walks if she is going somewhere nearby, e.g. to go shopping, and she uses the bus if she needs to go further away e.g. to go to the elderly day care centre or to the health care centre.

For her, the bus is a major problem. The step is too high, the drivers do not respect the elderly and do not wait, breaking abruptly. If she goes further away sometimes she does not recognise where she is and she feels uneasy because she can't see who is sitting next to her. Her daughters have a car and sometimes drive her somewhere if she needs.



Social environment

Community

Ana has many friends in the neighbourhood, everyone knows each other. When she goes out she keeps stopping to talk to people.

Family & Friends

Ana is widowed and lives alone in her house. Her daughter and son-in-law live in the flat above hers. She has one daughter that lives in the same region that visits her very frequently, and another one who lives further away. Ana has a very close and positive relationship with her family. She says "They find me everywhere. Wherever I am, they can find me." She sees her daughters frequently – the one who lives upstairs and the one who lives nearby. The daughter who lives far away, they talk on the phone almost every day. She can count on the three of them for anything. She also has friends in the neighbourhood and says that when they can, they help each other, it's a good

community. She knows the people in the elderly day care centre that she visits every week – if she is seeing well.

Hobbies

Ana loves to travel and to go to new places. Her dream is to visit Jerusalem. She walks and talks with the neighbours, and she goes to the elderly day care centre 2 times a week, where she does gymnastics (including water aerobics). On the weekends she goes to the church, and sometimes to the cinema with her family. She listens to the radio and watches TV. She used to travel by herself, to go on long trips organised by elderly centre or other groups. She stopped cross stitch/crochet and she watches TV less regularly as it is forbidden because of the vision loss. Also, she misses some activities when she cannot see and does not feel confident enough to leave the house alone.



Wellness & care

HEALTH PROFILE

Medical issues

- Ana has heart problems (high blood pressure): "This week I was in such pain, I thought I would die. It was my heart."
- Ana has diabetes.
- She developed a glaucoma and she is losing her eyesight. She has had some surgeries already, and glasses don't work anymore. She will try her last hope - an eye injection. The vision loss is her main problem as she has been falling a lot, especially when she leaves the house. Sometimes she does not know where she is. Some days are worse than others: when she can't see at all she stays at home and does not attend to her activities.
- Also, her knee hurts

Diet/Nutrition

Although Ana has diabetes, she does not worry much about her diet. She loves sweets.

Exercise

Ana exercises regularly. She walks every day and she does gym 2 times a week. She used to go every day but the doctor recommended to cut it down.

CARE PROFILE

Level of independence

Both she and her family worry when she leaves the house alone because of the falls and getting lost. Ana receives some support in terms of transportation and managing medication.

Care needed

Managing medication. Ana takes medication for cholesterol, diabetes, high blood pressure and osteoporosis. Her daughter prepares her medication and leaves it in places where she can find it (e.g., in her bedside table).

Access to healthcare

Ana only uses the services of the SUS.



Technology

Attitude to technology

Ana has a smartphone. She keeps in touch with her family through WhatsApp. She is learning to send voice messages as she cannot see the keyboard very well. She wants to learn how to take and send pictures. "I would love to learn everything." She worries that when she gets lost because she can't see she will not be able to call to her family.

Devices owned/Applications used

Smartphone
WhatsApp



Challenges & needs

Challenges

- Ana finds walking around in the neighbourhood is difficult because the pavement is damaged
- Ana wishes to have more shops and amenities around, so she did not need to leave the neighbourhood so often
- Ana is afraid of travelling by bus because the bus stop is high and drivers are not careful – she would “change the drivers”
- Ana is afraid of travelling further away in the days she cannot see because she might get lost (“Sometimes I am so far from home that I don’t know where I am” “and if my children look for me it’s hard to know where I am.”)
- Ana is afraid of travelling further away in the days she cannot see because she might not be able to see who is around her. (“I am afraid of going out. I take a bus but I don’t know who is next to me, because I can’t see well.”)
- Ana does not attend her regular activities in the days she cannot see
- Ana stopped going on long trips with the elderly day care centre group or to visit her daughter in another state, because she does not feel confident to travel alone
- Ana goes out, even if she is afraid or if their family worries: “I don’t like to be dependent because what I like is going out. (...) I go by myself and I don’t tell anyone.”
- Ana relies on her daughter to organise her medication for her since she cannot see.

- Ana is waiting for her eyes injection, the last resource to have her sight back, but she does not know when that will happen
- Ana can not see the smartphone screen and is learning to use voice messages. She loves technology and wishes to learn all things she can
- It has been challenging for Ana to adapt to losing her independence: “What I like is going out. I don’t like to be dependent. I wish I could be independent as I was before. My age doesn’t help either. But I would like it.”

Needs and desired benefits

- Ana wishes to have new eyes, so that her social life is not affected
- Ana wants to have confidence to go around by herself (regardless of the vision loss), so that she can keep doing the things she likes (gym, traveling)
- Ana wants bus drivers to be more professional and careful so she is not afraid to get in and get out the buses
- Ana would like to have transportation available door to door, on the days she does not feel confident to get the bus by herself, so she does not miss her activities
- Ana’s family want to be more confident when she goes around by herself so they are less afraid if she falls, or gets lost
- Ana wants some kind of technology that would warn her family in case of accident (falls)
- Ana wants to use her phone through voice, since often she cannot see the screen

couldn’t, the driver just moved without caring about. I was hanging. These kind of things I don’t tell my daughter otherwise she won’t allow me to go out again.”

Afraid of falling

“It is hard. It is not every day that I can’t see. There are days when it is not so hard. I fall down a lot. This week I had a bad fall. I went to a friend’s house and there was a step by the entrance, which I didn’t see. I fell down and hit my head. Then I didn’t see a thing anymore. Now, particularly at night, my head hurts. I’ve told one of my daughters I fell. I have been falling very often lately. It is difficult, but I go out even though, I can’t keep myself in the house. I’m alive. But my daughters are worried about it.”

I just want my eyes back

“The only thing, let me tell you, I would like to have my eyes back. I just wish to be able to see again. There are days I can’t see. (...) The only thing I wanted is this: to be able to see again. I would like to do things as I used to do before the disease: doing my gym, walking. Now I can’t walk too much. I’m afraid of falling. I’ve been falling a lot.”

What else could help?

- “Is there anything we could do to help you keeping doing your things, such as going to the gym and other daily activities? Even without seeing...”
- No, because there is no way. What could it be?
- Someone to take you around, for example? A guide dog?

- No, not that. Not yet.
- What about someone to come here and take you wherever you need?
- Well, this thing of someone to come and take me out... they come, but, at some point, they don’t come anymore.
- What about hiring someone?
- No. I can’t do that.
- Not just for you but for everyone who needs that. Like a car that comes with a driver to take you everywhere
- For example to the gym, I take a bus and go there. But sometimes, when I have a crisis and can’t see, I don’t go. Sometimes, even in the house I fall down.
- If there were a car to drive you there...
- But there is not.
- If there were, would you go?
- Yes, I would go, for sure.
- Would it be a good option?
- I would go.
- Have you ever thought about another kind of support? For example, using technology to help you, once we have devices such as a smart phone that we can hold on our hand and do everything, have you thought about something like that?
- A mobile phone, for example, if I were to use it... But for example, if I need to make a call, I can’t. I can’t see.
- What if it were only to use voice?
- Then yes.
- [daughter]: We have taught her how to do it, but it is hard for her to press, or touch, the right key to record a voice message. She has been learning.”



Stories & quotes

The bus drivers

“We get on the bus and before we are properly there they just go. It is the driver who doesn’t care about the elderly needs. I only would change the drivers because they must be more patient and wait for us to ride on. Once, before I

step on the bus the driver moved on and I was hanging myself by the door. The commuters wanted to lynch that driver. They wanted to lynch that driver because he didn’t wait for us to enter the bus. We were three and I was the last one. The first two people entered the bus but I



Tech recommendations

1. Ana wants a door to door bus that picks her up at home on the days she can not see and does not feel comfortable to go outside by herself.
2. Ana wants that bus drivers have training so that they understand and respect the needs of the elderly.
3. Ana wants a smart phone that is mainly activated by voice so that she does not need to read the screen.
4. Ana wants to have some technology that she can activate when she gets lost, for her children to track her.
5. Ana wants to have some technology that can activate automatically if she has an accident, so that her children are immediately informed and can locate her (“Yes, I would like it. Because I fall very often and sometimes I am far from home, so far that I don’t know where I am.”).

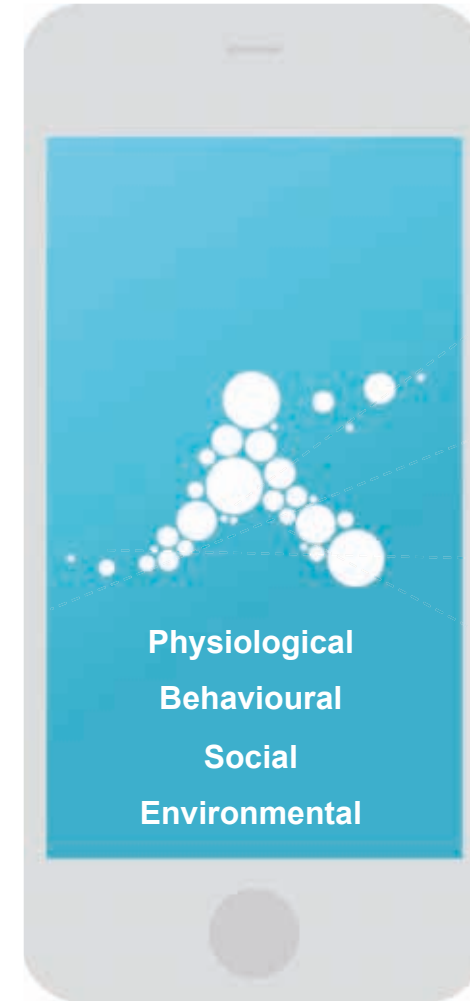
From Personas, we prioritised the most pressing user needs that would benefit from technology innovation

Toolsets

Citizens/Patients

Physicians

AVATR creates augmented intelligence



Medical Wearables



Geo-location



Chatbot

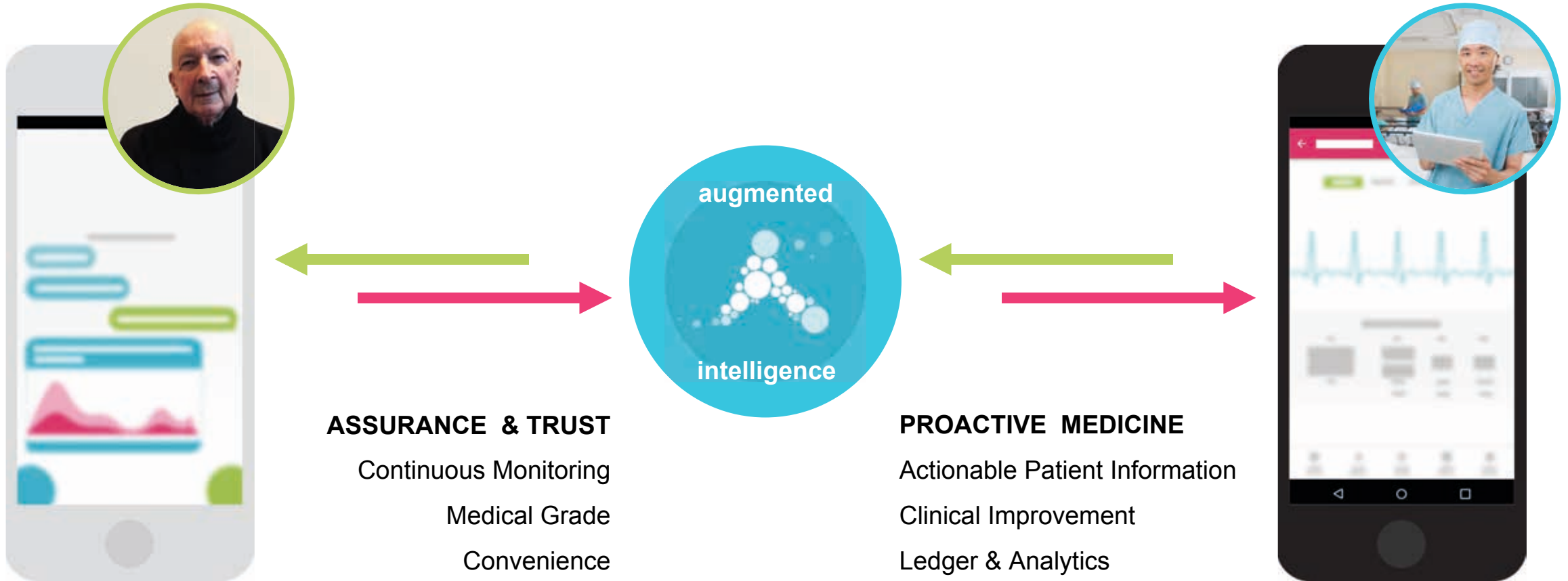


Environmental

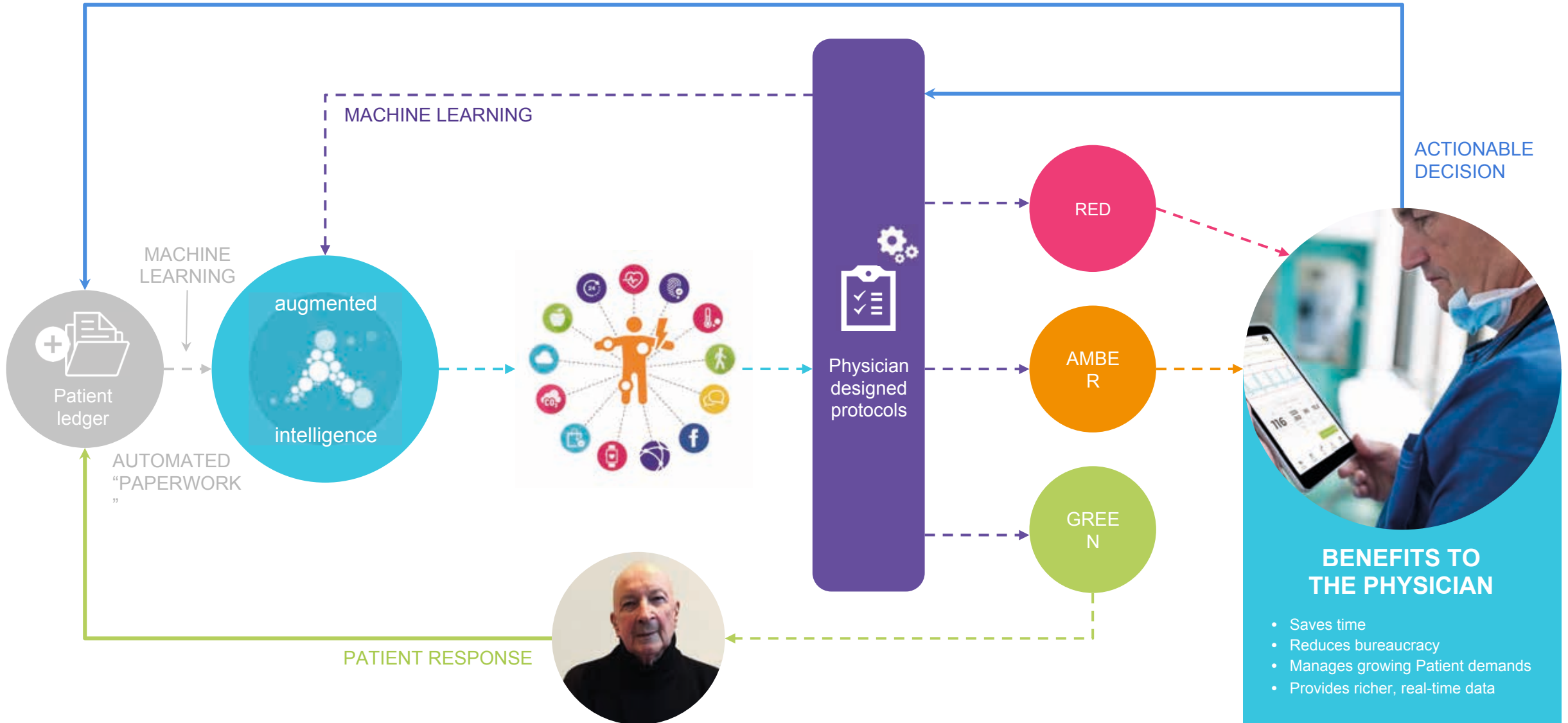


Social Media

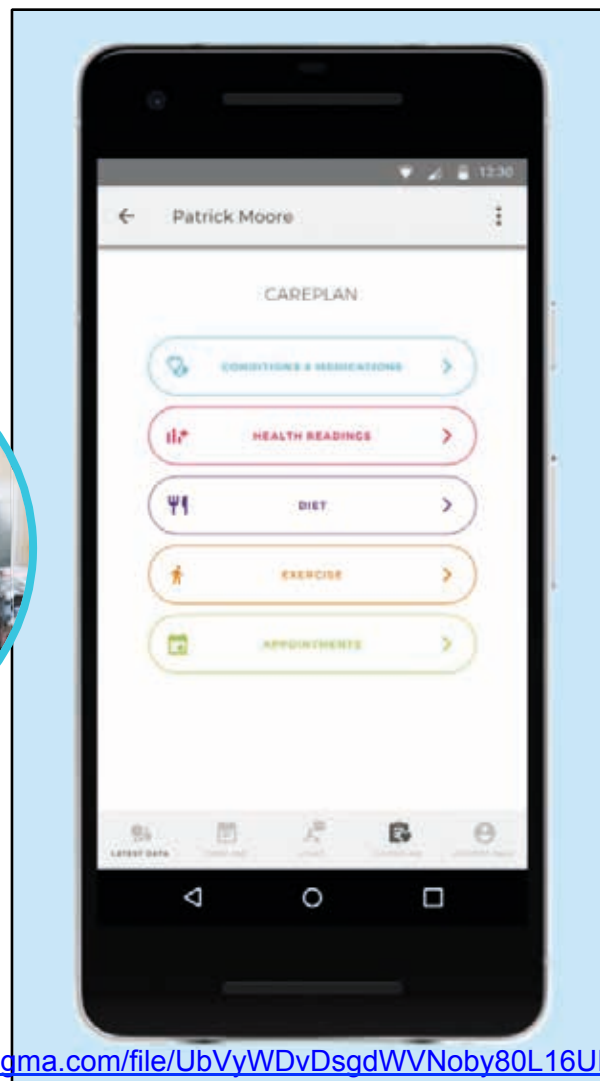
AVATR: Remote Personalised Healthcare



AVATR: System



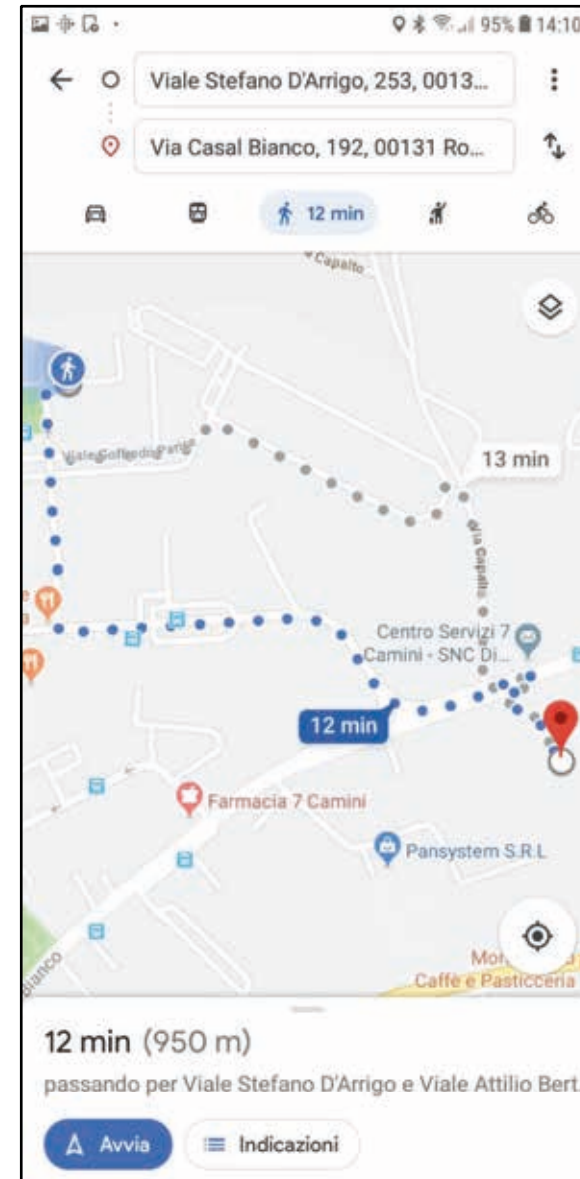
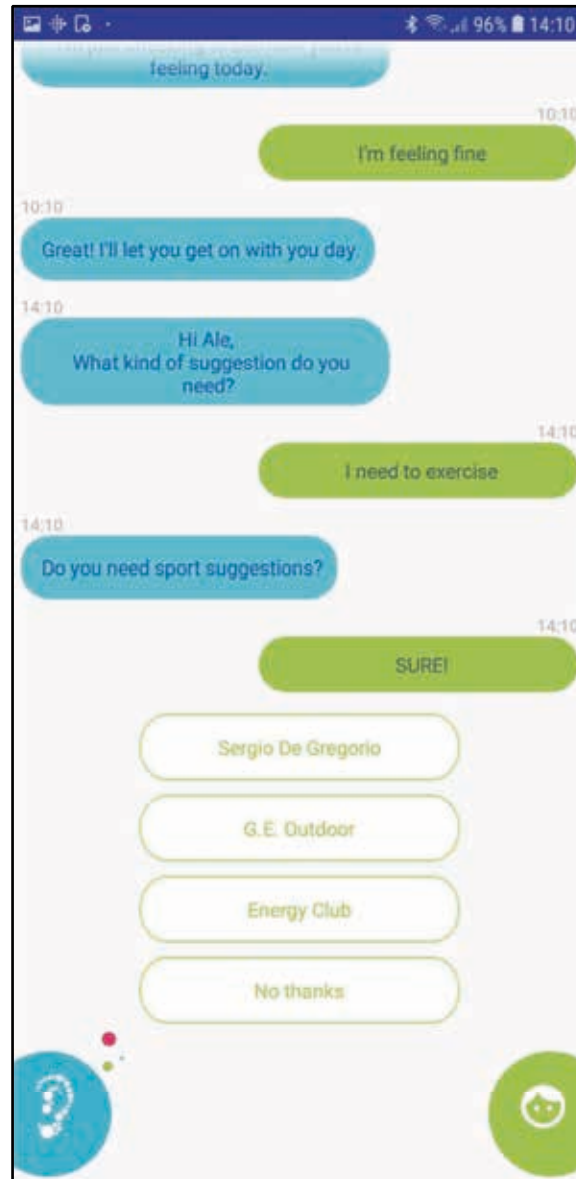
AVATR: Care Plan



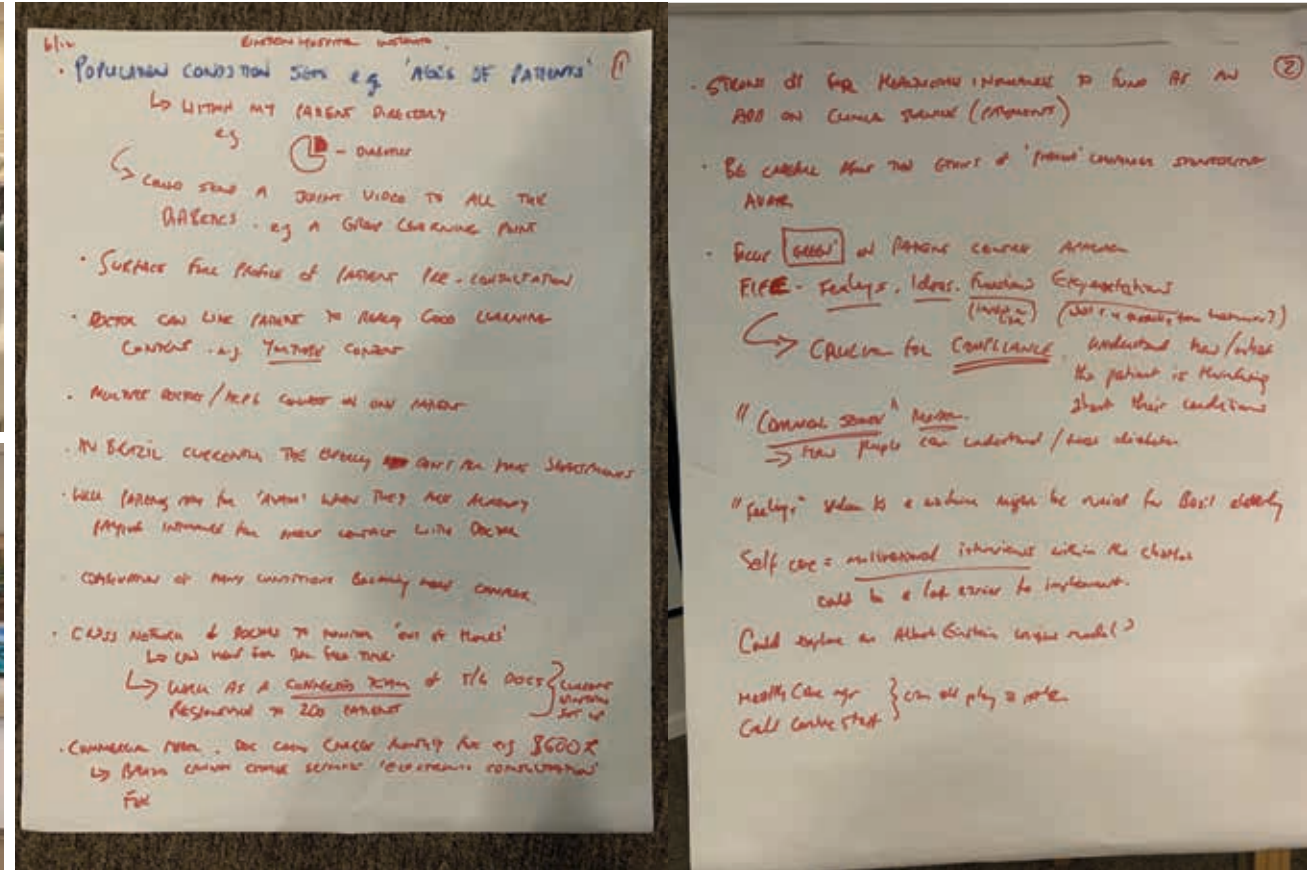
<https://www.figma.com/file/UbVyWDvDsgdWVNoby80L16UI/INA18009-CityZen-Doctor-Dashboard?node-id=25%3A88>



AVATR: Matchmaking in the City



AVATR: Validation with Einstein Doctors



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Thank you



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