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Gravitate-Health

WP1 – User needs, Scenarios, KPI

D1.2 Methodology Report

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LIST OF ABBREVIATIONS AND GLOSSARY

Table 1: LIST OF ABBREVIATIONS

Acronym / term	Full name / definition
EHR	Electronic Health Record
ePI	electronic product information
Human-Centered Design	Human-centered design is a creative problem-solving process that begins with understanding human needs and closes with innovative products or solutions that can be quickly prototyped and tested to address the identified needs.
Persona	A Persona is a fictional yet realistic description of a typical or target user of the product. A Persona is an archetype instead of an actual living human, but Personas should be described as real people.
Patient Journey Map	A patient journey map is a blueprint of all the touchpoints a patient goes through in her/his care journey and is a way to visualize and get an overview of the patient experience during their entire care journey. Patient journey mapping gives insights into the patient experiences during their care journey.
Service Design Blueprint	A service blueprint is a diagram that visualizes the relationships between different service components — people, props (physical or digital evidence), and processes directly tied to touchpoints in a specific customer journey.
End-User	In product development, an end-user is a person who ultimately uses or is intended to use a product ultimately. • Primary end-users (patients, citizens, caregivers) • Secondary end-users (HCPs) • Tertiary stakeholders
MVP	A Minimum Viable Product is a version of a product with just enough features to be usable by early customers who can then provide feedback for future product development.
Omnichannel	Connection if multiple channel touchpoints together so that, whatever journey the customer/patient/citizen chooses to take, online or offline, the experience is consistent and unified.
Customer/ Patient/ Citizen Experience (CX)	The holistic feeling and perception that a customer has regarding the sum of all interactions it has with a product or service; CX is where all decisions, activities, actions and solutions are derived from a complete understanding of the customers journey, addressing their emotional and behavioral needs, as well as clinical ones – if applicable.
User Experience/User Interface (UX/UI)	User experience (UX) design is the process design teams use to create products that provide meaningful and relevant experiences to users. This involves the design of the entire process of acquiring

	and integrating the product, including aspects of branding, design, usability and function. User interface (UI) design is the process designers use to build interfaces in software or computerized devices, focusing on looks or style. Designers aim to create interfaces which users find easy to use and pleasurable. UI design refers to graphical user interfaces and other forms—e.g., voice-controlled interfaces.
Touchpoint (touch point, contact point, point of contact)	Any encounter where customers engage to exchange information, provide service, or handle transactions; they are critical interactions within the customer journey that help define key moments in the process which can build or erode trust.

EXECUTIVE SUMMARY

In the Gravitate-Health Grant Agreement, Deliverable 1.2 is described as 'Delivery of a methodology report on the user Personas for information personalization and functionality for the organization of workshops.' This report delivers results from activities performed in Task 1.2, which had the goals of defining G-Lens design methodology, producing a set of Personas based on real-world data and tailored to primary end-users of the G-Lens. The deliverable contains the work from M3 to M8, meaning the time period from January 2021 until June 2021 (6 months).

The ultimate goal is to consolidate a wish-list of G-Lens functionality or features that will serve these end-users as more active participants in their health journey. The sum of these goals has led us to also present a Service Design Blueprint, in this case, more of an initial hypothesis of what the Service Design Blueprint model might need to include, which is the final result of Task 1.2.

Additionally, this Task began exploring how to integrate the Patient Health Engagement Model (PHE) into the G-Lens as a possible benchmark for measuring patient engagement at the point of entry and monitoring for changes in patient's engagement level during their interactions with G-Lens tools. These T1.2 activities were led by the authors of this document - a core team of T1.2 colleagues - and included numerous work sessions by the team.

We have shared the progress of our work in many ways: general assembly meetings for feedback, presentations to the broader Consortium in the Gravitate-Health Monthly Forums and Steering Committee, and a cross-WP Design Thinking workshop where more than 60 members of the Consortium were invited into the design process using breakout groups, Personas and Journey Mapping. The Deliverable is a report on what was done, synthesizing our activities' most valuable and relevant results. In the future, it can be a reference tool, a design handbook to use during the remaining 4.5 years of the project.

Introduction

Task 1.2 is a research and design task at its core. We want to set the stage with two quotes that illustrate the nature of our work and the current context we are living in. Perhaps, such context gets more complex if we layer in the stress and anxiety and the many other emotions that occur naturally in disease and disease management.

"There are three great design themes: making something beautiful, making something easier, and making something possible. Design is the art of the possible. Design isn't just about problem-solving; it's about creating a more humane future."

- Dan Saffer, Author and Interaction Design Thought Leader (link)

"What information consumes is rather obvious; it consumes the attention of its recipients … a wealth of information creates a poverty of attention."

- Herbert A. Simon, Computer scientist and Nobel Prize laureate

Photo credit: Line Linstad, NSE, Norway.

Figure 1: Patient holding a medication list containing the treatment information

Figure 1 exemplifies information that matters to a patient engaged in self-management. Sometimes the best way to handle complexity (of treatment) is simplicity. Less is more?

One of the timeless rules of design says that "*To design a great experience, you need to understand the user's perspective."* As intuitive or reasonable as it may sound, that's not always the understanding of all stakeholders that sit around a table intending to bring a successful product to market. To design commercially successful products, it is fundamental to shift from a technology-centered design (where the focus is on the features the product will provide) to a human-centered design (where the focus is on the needs and wants of primary end-users).

Task 1.2 focused the conversation and creative efforts on the primary end-users, i.e., the people who will interact and use the G-Lens. The work was guided by principles of

human-centered design (HCD) and materialized by applying well-established user experience (UX) methodologies and tools.

The main method to obtain valuable primary end-user data is to conduct user research, namely via interviews with a sample of users who are representative of segment or population of potential users of the technology or solution.

Primary end-user data came from interviews with the Scenario Leads from Norway, Italy, Portugal, Spain and Ireland (as per Table 1; overview of Gravitate-Health proof-of-concept scenarios, G-lens intervention and evaluation measures, DoA, Annex1, Part B, p. 29). They functioned as indirect sources of primary end-user information in self-care situations, periods of active treatment and self-management, which are targeted segments of the end user journeys. In total, there are eight different scenarios, based in various European countries, and one US scenario in the project. These will act as a testbed for the use of G-Lens (as part of WP6). The work of Task 1.2 can be summarized in 3 Phases:

Phase 1: Co-leads and contributors performed an analysis of data sources existing from previous healthcare programs (see Data Sources) in order to gain insights about patients' needs and experience. Definition of end-user groups was proposed based on legal rights to health records and highest level of interest regarding the successful patient experience.

Phase 2: Scenario leads from Ireland, Portugal, Norway, Spain, and Italy who had a closer relationship and knowledge of the patients represented on their scenarios, were invited to provide information in a structured way, in order to characterize the Personas. The exercise consisted in filling the template of the Persona and identifying real-life situations of the Persona related to health management. The goal was to have the most accurate description of real patients and their contexts.

Phase 3: Crowd-sourcing of knowledge to validate the Personas and to characterize the journey maps and identify the G-Lens priority requirements ("must-haves"). This was achieved through the execution of a design-thinking workshop where members of the wider consortium were invited. Overall, the workshop counted with the participation more than 60 contributors and generated insights that helped to identify the patients' needs, map the patients' journeys, identify the G-Lens priority requirements, and create the service blueprint. The service blueprint (see Annex 2) is a very relevant part of this deliverable because it brings together the patient perspective and the technology requirements, acknowledging the roles and contributions of healthcare professionals (doctors, nurses and pharmacists) and support networks, throughout the patient journey.

Deliverable 1.2 is, by no means, a locked-up document; the user research tools provided such as Personas, Journeys and Service Blueprint are a living toolkit that will evolve as more data will become available. The process is continuous and highly iterative in nature. Needs will be prioritized and reprioritized as the work progresses and as primary end-user data becomes available. This is a first instalment that together with deliverables of other tasks will enable the creation of prototypes, to be tested by end-users. It's a highly interconnected work done in an agile and iterative way. The learnings that will come from testing will allow for adjustments and increase the accuracy of the work.

End-user Groups

"*The role of the designer is ultimately about creating order and removing ambiguity. The role of the artist is often the opposite.*" - Dan Saffer, Interaction Designer and Author

As primarily a design task and also as written in the original task description, the first aim of T1.2 was to bring clarity, order and focus to end-user groups relative to the G-Lens. This was needed because the results of T1.2/D1.2 should provide the design framework that will inform end-user prototypes both in D1.3 and D4.1. And since the goals of the G-Lens - access, understanding and adherence – are centered around information needs of the patient, even if the end-user is a formal or informal caregiver, the focus of all interactions with the G-Lens will be on achieving those goals for the patient (i.e. not for the other actors involved).

To make this even less ambiguous, we took it a step further. The core of the G-Lens concept is focused around trusted health information and the electronic health record (EHR) of a patient, their health data and their medication list. We decided, therefore, that the EHR itself was the most accurate, precise and logical factor in which to organize and define the end-user groups. And therefore, as of January 14, 2021, the core members of T1.2, as representative of the contributors to this deliverable document, defined three levels of Gravitate-Health end-user groups based around the defining principle of an **electronic health record,** which for the purposes of this report can be defined as:

An electronic health record (EHR) is the systematized collection of patient and population electronically stored health information in a digital format. These records can be shared across different health care settings. Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. EHRs may include a range of data, including demographics, medical history, medication and allergies, immunization status, laboratory test results, radiology images, vital signs, personal statistics like age and weight, and billing information.

While we considered focusing solely on the medication list element of the EHR, we opted not to eliminate the other elements of the EHR for the primary reason being that if the G-Lens is meant to tailor and focus medicine information to a specific person (i.e. personalization of display of information), the most logical first step would be to eliminate any non-relevant information based on the complete patient data available in the EHR. For example, the EHR would contain gender, pregnancy status and allergies, which therefore could be used to filter out any warnings or information regarding conditions NOT present in that persons EHR (i.e. if patient is male, no information regarding pregnancy or nursing would be displayed to the patient).

The G-Lens end-user groups as proposed by T1.2 are as follows:

Primary End-User: the patient to which an Electronic Health Record (EHR) refers to, most often acting on their own behalf, OR the caregiver acting on behalf of the patient, with legal and consented rights to manage the patient's care (for example if patient's autonomy is impaired in any way, then the designated caregiver can act on behalf of the primary record holder).

Examples = citizens, patients, informal caregivers and formal caregivers in the community directly working for the patient. These are represented in self-care, active treatment and self-management phase.

Secondary End-Users: actors in a direct relationship with the patient to which the Electronic Health Record refers but are not the patient to which the EHR refers, nor acting

on behalf of the patient. Often these actors are primary sources of data on the patient's EHR, they curate the EHR, modify and manage the data/files, and will use the Gravitate-Health system to do so, always having a direct relationship with Primary end-users and direct access to their EHR.

Examples = Health Care Providers (HCPs) in clinic, hospital, surgery in primary and secondary care, pharmacists, HCP Admin staff

Tertiary End-Users: actors with no direct relationship / interaction with Primary End-Users or access to their non-anonymized EHR or health data. In regards to the G-Lens, they are interested in observing how active end-users are, how they use the system, are they reporting symptoms, adherence reports, observing the questions and interactions that primary and secondary end-users have with the G-Lens, Real World Data and Evidence, Reuse of data that is aggregated and anonymized for analysis and insights (via the G-Lens Real World Data RWD dashboard).

Examples = Pharma companies, regulators, researchers, SMEs, and other stakeholders.

While these groupings are both logical and extremely helpful for the design task at hand, it is important to keep in mind a few considerations. They are as follows:

- What matters most for use of digital health information in their health journey for all end-users of the G-Lens is to track the data flow and any changes in data so that any data-related events can be traced back to when, what, who and why. This is relevant to issues of trust (medicine and health information coming from trusted sources), safety (tracking modifications in data will help reduce risk, errors and danger related to inaccuracy of data for various reasons) and liability (implications of errors, responsibility and how to resolve problems at the care level and legal level).
- These groupings are also meaningful to the GDPR and data rights of people. It's only the patient or his / her legal representative that can grant access for the G-Lens to access his / her EHR, and it's the primary end-users that have rights to their health data. That said, all groups play some part in responsibility for the patient's health information which requires it be hosted, maintained, secure, accessible and follow the agreed upon principles for integrity. Take this into a cross-border setting where the patient is mobile, yet local and national HCPs and healthcare systems are not, and the stakes are raised for all in terms of making this feasible for the patient when they are not in their home healthcare setting.

An excerpt from the European Commission digital strategy related to General Data Protection Regulation (GDPR), EHRs and the importance of cross border access to health data, emphasizes that while it is the patient who is mobile, i.e. moving across borders, healthcare stakeholders (HCPs and national healthcare system) need to enable data sharing since they are most often the actors who host, maintain, curate and manage the patient's health data. As follows:

Enabling citizens to securely access and share their health data across borders is one of the priorities of the Communication on enabling the digital transformation of health and care. Moreover, the General Data Protection Regulation (GDPR) underlines that citizen have the right to access their personal data and provides the legal framework for the protection of personal data. GDPR sets out directly applicable rules for the processing of

the personal data of individuals, including health data. Rules for facilitating the access to safe and high-quality cross-border healthcare are provided for by the Directive on patients' rights in cross-border healthcare.[1]

Other considerations that were raised at the time of presenting these groups to the T1.2 partners include the following:

Numerous countries, especially Nordic countries, have implemented a significant legal separation between types of data in the EHR and International Product Summary (IPS). They are divided between sensitive medical and clinical information in support of the patient's health needs and administrative information for the purpose of record keeping, protecting professionals and for collecting payments / reimbursements. While there are various levels of readiness for the EHR to better support patient's health, such as being integrated into patient facing services like the G-Lens, the limiting factor today is often the organizations (hospital, clinic, lab) ability to maintain this information for the patient in a way that is effective, accessible, interoperable and secure over time.

Considering that G-Lens will provide for two-way communication between patient and HCP, it is also important to note that once data is released from the EHR, it can no longer be modified. Also, the patient is unable to modify their own EHR, even in cases where patient reports an error or wants to add a data point that is missing (an over-the-counter medicine or supplement that their doctor did not prescribe, for example, but that they take daily). These considerations were raised during T1.2 partner meetings, however, will not be explored in depth in this report. Instead, they are meant to be reminders and flags for further investigation and decisions that will be made downstream.

Relevance in other Gravitate-Health WPs and Tasks:

These groupings are relevant for us considering the output of our Task which will feed directly into WP3 and WP4. While the G-Lens Platform will serve all 3 end-user groups, the G-Lens end-user services (user interface, mobile and web apps) will be piloted and evaluated in WP6 with Primary end-users. HCPs in each scenario have their own existing systems, software, workflows and practices, to which the G-Lens needs to connect, and we are complimenting that workflow by integrating new tools. Therefore, the G-Lens Service Design Blueprint will include all end-users, primarily focusing on Primary and Secondary end-users as we anticipate that the deliverables of the Gravitate-Health project will be distinctly:

- "Mobile apps" and "web apps" will be made for primary end-users (for demonstration and pilot purposes they will be new, stand-alone Apps, however with APIs for integration into existing Apps beyond the project)
- "Build Guides" (User Experience (UX), but not per se Interface (UI)) with requirements and EHR IT for secondary end-users
- "Real World Data" (RWD) dashboard for tertiary end-users

For this reason, as explained later, we decided to develop 5 Personas for Primary End-users and 1 Persona for a Secondary End-User since Personas will support the design and development of the App user interfaces downstream in WP4 for piloting in the Gravitate-Health testing scenarios.

[1] https://digital-strategy.ec.europa.eu/en/policies/electronic-health-records

Rooting Personas' Design In Psychology: The Patient Health Engagement Model

1. What is Patient Engagement and why does it matter?

In the last decades, Patient Centered Medicine (PCM) has challenged the previously dominant biomedical paradigm and refocused healthcare organizations and procedures from giving a central, leading role to healthcare professionals, to a better consideration of "patients' voices" in the process (Coulter et al., 2013).

This shift re-oriented care criteria and objectives toward a better consideration of the entire burden of illness, and not only of the patient's disease. In other words, PCM advocated for a more holistic understanding of care recipients, not only as carriers of organic dis-functionality, but as persons deeply involved in a sociocultural context with complex backgrounds of life histories, experiences, and expectations of health and care. This epochal turning point laid the groundwork for the renovation of healthcare systems by casting light on the complex, subjective mechanisms that are involved in each process of care planning and delivering. This new representation of healthcare organizations has indubitably contributed to an improvement in the clinical effectiveness and psychological sustainability of care practices. In line with this, healthcare organizations and systems claim to have revised the implicit relational geometries that traditionally have ruled the delivery of services in favor of increased centrality to patients (Coulter, 2012; Graffigna et al., 2014).

In this perspective, patient engagement in health care is gaining increasing attention not only in the scientific literature, but also as a requirement for the everyday practices of health care organizations (Barello et al., 2012). In a situation of resource paucity, despite the greater demand for health services provision, healthcare systems are required to "do more with less": thus, the idea of patient engagement has been advanced as a potential solution to make the healthcare systems more effective and efficient. Patients not only need to be "put at the center" of medical action -in terms of consideration of their needs and expectations of care but should be seen also as one of the actors who contribute to the successful accomplishment of the healthcare organizations' missions and actions.

The proposal of establishing a true partnership between patients, healthcare organizations, and their professionals in the health care journey is magnified by the concept of patient engagement, which defines the individual not only as a passive recipient of care interventions but also as an actor who should orient service design in a co-creative and participative approach.

However, there is the risk to over-simplify the concept of patient engagement, considering engagement only as a behavioral dimension (e.g. adherence to treatment). From the perspective of health psychology, instead, patient engagement is a more complex construct.

Only considering the whole complexity of the patients' emotions, motivations and values that underlie their availability and willingness to engage in their own health management, it is possible to design services and interventions that really take into consideration their points of view. Thus, we felt the necessity for a psychological framework that can describe and profile patients according to their psychological readiness to play an active role in health management, and to provide useful insights in

how to tailor a service according to their specific needs: the Patient Health Engagement (PHE) model.

2. The Patient Health Engagement (PHE) model

The "Patient Health Engagement" (PHE) model was developed by embracing the notions and paradigms of consumer health psychology. It is an experience-based psychological framework, developed from the systematic and in-depth study of patients' illness experiences by means of narrative qualitative research (Barello & Graffigna 2015; Graffigna & Barello, 2018).

The model describes patient engagement as a process involving patients' capacity to plan realistic life projects (i.e., meaningful life aims that the patient might generate unless living with the disease condition) and to be goal oriented – even if living with a disease. The process of patient engagement as described by the PHE model involves four developmental phases, namely, blackout, arousal, adhesion, and eudaimonic project (see Fig.2).

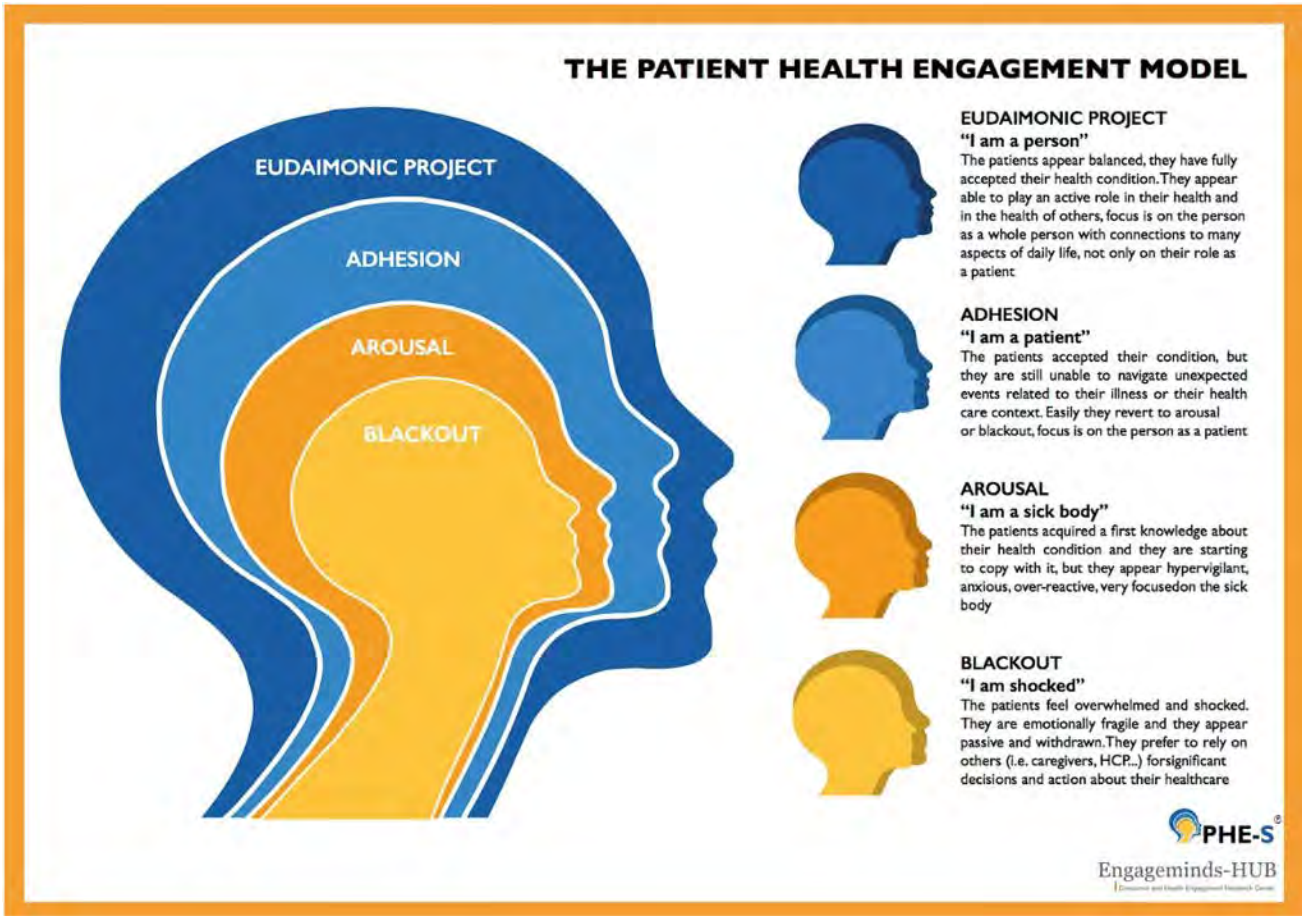

Figure 2: Patient Health Engagement model describes four different levels of health engagement

The model entails the role of the emotional component of engagement as the main driver of patients' ability to adjust and adapt to the changes of self-role identity requested during their journey. Thus, the concept of engagement implies patients' personal choices and intention to change their attitude toward the healthcare system, from a passive actor to a partner and co-pilot with the healthcare provider during the journey. This change in

the personal role identity is a function of patients' evolving adjustment and resilience to their health condition.

The PHE model suggests that a fully engaged patient results from a continuous emotional and motivational reframing of his/her health status and his/her role identity. According to the PHE model, becoming engaged in health and care management means being more resilient at the emotional level and effectively adjusting to the health condition and its medical requirements. The PHE model theorizes possible trajectories of engagement which are not necessarily linear (a patient may move backward and forward according to critical events in his/her life and disease course). This process also features distinctive ways of interacting and engaging in decisional negotiations between the patient and the healthcare system that depend closely on the phase of the process through which the patient is passing through.

2.1 The four phases of Patient Health Engagement

As already mentioned, the Patient Health Engagement model features four different positions with increasing levels of health engagement. These phases are:

Blackout: this phase of the PHE model mainly occurs when patients experience feelings of psychological vulnerability connected to a critical event, such as diagnosis, new symptoms, relapses, and the need to adopt a new lifestyle to manage the health condition. In this phase, patients seem psychologically frozen and feel paralyzed. In this stage of the PHE model, patients perceive the diagnosis and the requirements for managing the disease as distressing and conflicting with their life habits; for this reason, patients in "blackout" frequently experience feelings of deep sadness and anger. Consequently, these patients tend to be passive toward their healthcare providers. Patients in this phase need emotional and psychological support in order to adjust to their new health condition and develop a new sense of agency and control, as well as a sense of effectiveness concerning their health management.

Arousal: patients in "arousal" have acquired an initial awareness of their health condition, but still have superficial knowledge about how to manage it in an effective way. This uncertainty and lack of formal knowledge causes difficulty to adapt to their condition and to consider their new health status as part of their daily lives. Moreover, these patients often report that they are hypervigilant over their body and body signals: every unexpected change in their body status causes emotional alarm and overwhelming emotional responses. In this position, patients need to feel supported by healthcare professionals in managing their illnesses and coping with the disease, thus preventing care dropouts (that are particularly frequent in this phase).

Adhesion: these patients have at least partially succeeded in the process of regulating their emotional response to their condition and are starting to cope in a functional way with it. They have developed a good acceptance of their disease and have overcome the major psychological distress related to the disease onset. Moreover, they report being increasingly aware of their health status and of its impact on their lives and life habits. In this phase, moreover, patients are increasingly knowledgeable about how to effectively manage their disease and treatment. However, patients undergoing the "adhesion" phase are not yet fully autonomous in their disease management in terms of medical prescription (both life habits and therapeutic regimens), and they frequently experience trouble when something in their life context changes (i.e., going on a holiday, working life changes, and so on). This happens because patients in this phase are not totally aware of the reasons behind the medical prescriptions; they appear to be formally compliant with their health providers' requirements, but risk failing when some variables in their life

change. As a consequence, patients in this phase need to be assisted by an expert figure who can help them maintain correct health behaviors even in stressful or atypical situations.

Eudaimonic project: these patients have become almost totally aware of their disease and its implications in terms of requested lifestyle adjustments and behavioral change, they are able to become active agents in reaching a positive and satisfying quality of life, even though they have to live with a disease condition. They have elaborated and accepted their new "patient identity" as one of the many features in their own life. In the "eudaimonic project" phase, patients are able to integrate – in a more synergic manner – their health and disease management into their life goals. Patients experiencing this phase of the PHE model are generally also more effective in health information-seeking processes and understanding the reasons behind medical prescriptions. Finally, in this phase, patients are able to "activate" the health care professionals when needed, in order fully to respond to their needs and well-being expectations. Health care practitioners are thus considered as reliable allies, and patients see themselves as active members of the care team. Finally, patients in the eudaimonic project phase are also able to become advocates of patients' rights and to play the role of peer experts in patient associations and advocacy groups, or in co-producing services at a policy level.

3. Measuring Patient Health Engagement: the PHE-scale

During their journey patients go through the four positions, each one entailing different emotional, cognitive, and behavioral stances (see Fig. 3). Due to the complexities of patient engagement, it is necessary to use dedicated and specific assessment tools that can grasp the multifaceted nature of patients.

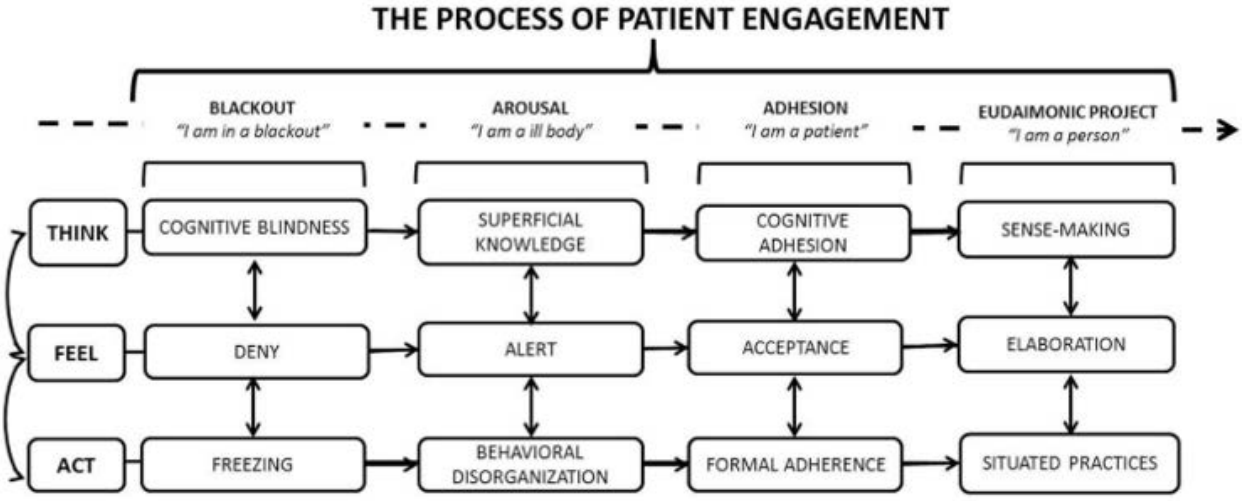

Figure 3: The process of patient engagement as described by the PHE model, picture retrieved from Graffigna et al. 2015

The Patient Health Engagement scale (PHE-s®) is a validated measure developed by Graffigna et al. (2015) which features 5 ordinal items. Each item consists of a row of 4 "points" labeled with different statements which reveal the underlying psychological state of the patient (see Fig. 4). Each patient is prompted to choose, from each line, the statement that best represents how he feels when thinking about his/her disease, or a point in the middle. The scale was developed with the theoretical model in mind, but starting from qualitative interviews and reported patients' experiences; this bottom-up

developmental process has been necessary to make sure that the PHE-s could grasp the complex psychological experience of the patient engagement journey.

Thinking about my health status…							
1	I feel pyschologically frozen and blocked	O	O	I feel alert	O	I am aware	O	I feel positive	O
2	I feel dazed	O	O	I feel worried	O	I am conscious	O	I feel peaceful	O
3	When I think about my illness, I feel overwhelmed by emotions	O	O	I feel anxious every time a new symptom arises	O	I am used to my illness	O	I find my life meaningful despite my illness	O
4	I feel very discouraged due to my illness	O	O	I feel anxious when I try to manage my illness	O	I have adjusted to my illness	O	I feel optimistic about my future	O
5	I feel totally oppressed by my illness	O	O	I feel upset when a new symptom arises	O	I have accepted my illness	O	I have a sense of purpose despite my illness	O

Figure 4: PHE-s®, picture retrieved from Graffigna & Barello, 2018

Thanks to its shortness and psychometric robustness, the PHE-s can be easily used not only in clinical settings and encounters, but also in digital implementations.

Personas

After anchoring the theoretical framework, we started with the development of Personas, and this chapter describes in detail the steps taken to arrive to 6 Gravitate-Health Personas: Maria, Filippo, Amalia, Pedro, Peter and Antonio.

4. What Are Personas

Personas are among the many tools available in the designers' toolbox when designing a service or experience.

The Nielsen Norman Group definition adopted in the Gravitate-Health project is:

A persona is a fictional, yet realistic, description of a typical or target user of the product. A persona is an archetype instead of an actual living human, but personas should be described as if they were real people.

While Personas are fictional, they are based on research performed on the end-users of a service or product. Ideally, field studies, like surveys or interviews, should be conducted before the design phase starts. Through raw data it is possible to define key characteristics of typical end-users. After data collection, analyzing the data is useful in order to recognize and cluster recurring attributes.

In this process it is reasonable to merge similar clusters, while eliminating the ones that are irrelevant for the product or service on design. Therefore, instead of creating a Persona for each individual end-user of a product or service, real world end-users are grouped together in segments that represent the largest number of people and include the entire range of diversity represented in the original research and raw data. In the consumer industry, these are often referred to as customer segments and used to deliver the most meaningful value to the largest number of people.

5. Benefits for Using Personas

Personas are archetypes that teams, not only designers, build to establish a common ground and connection with the target end-user. They can be used to assess the design, so you may answer questions related to the Persona's unmet needs or how she would act in a certain situation.

Using Personas helps the team to be on the same page. When speaking of a specific Persona each team member will be clear on the expectations, characteristics and behaviors that are related to it. In the opposite case, when thinking of generic users each member will have their own picture of the user. It is unsurprising that in the latter case discussion can be confrontational between members, rather than focusing on the team work to serve target's needs.

Personas are useful to prioritize and address the features that the team will implement. Once the Persona is the reference for everyone involved in a digital product or service, it will be much easier to decide what the team has to develop.

Personas are vital to the success of a service or product because they drive design decisions by taking common user needs and bringing them to the forefront of planning before the design actually starts. They also provide the team with a shared understanding of the end-users in terms of goals, capabilities, and context.

In Gravitate-Health Personas are a key instrument that would help the project members to have a common understanding of the end-users of the G-Lens. Having this model of the end-user was essential to achieve the project goals, being the Consortium a large and multidisciplinary team with very diverse mental models and points of view. The definition of Personas within Gravitate-Health has been also a valuable instrument to gather the user needs, to derive the requirements and specifications for the G-Lens design, and to prioritize the different developments according to the end-user priorities.

Although the definition of Personas has been performed and delivered in T1.2, the activity had a strong connection with the rest of the activities included in WP1. In this sense, task

T1.1, was the main source of information for identifying needs, motivation and context of the end-users. On the other hand, the Personas developed in Task T1.2 were mainly used by task T1.3 and T1.4 as an input for defining the data model and the KPIs to be used in the validation stage. Thus, if needed, Personas can be revisited and further elaborated in WP6 (in particular T6.2). As we go in depth on the priorities in the testing scenarios and learn from the iterative design cycles, we can further refine the Personas to match the priorities we do in the testing scenarios. In any case, and following the co-creation and user centered design principles, the interaction between these four tasks has been continuous during the whole process and has also followed several iteration cycles.

6. (Creative) Approach to Personas in Gravitate-Health

Usually, for a digital web or mobile-based service, one primary end-user Persona is enough. In some cases, a secondary Persona, less detailed may be added. As G-Lens will interest a broad range of actors, use cases and important episodes in the healthcare landscape distributed all over Europe the first idea was to develop 6 Personas in the primary end-user group (as described in Part 1 of this Deliverable).

Regarding the number 6, this decision was based on standard best practices in the field. Since T1.2 is a design task, meaning that Personas are being developed as design tools, to support in 1) the Service Design and 2) eventually the design of UX/UI of Apps.

As a core team, from our collective past experiences working with Personas (and 'customer segmentation'), 6 is standard for the maximum number recommended Personas to capture diversity but not lose meaning in a project. In design disciplines (industrial, product and digital design), the commonly accepted theory is that if you can design a product that serves 6 unique and diverse people (i.e. it helps serve their needs, it's easy to use and they love it so much they adopt it) then you have a product that will be widely adopted by large populations. This is supported by our direct experience in projects at Roche, Pfizer, Datawizard, Pearson, IDEO, Wolters Kluwer and other large organizations.

The decision of the Task 1.2 team to proceed on developing a Persona methodology with Maria as the first example, was the best solution to adapt the approach to deliver the best possible Personas in the absence of raw data/end-user research.

Maria is a real person used as a testimonial in the project. There is a video of her that explains her relationship with health. We had also indirectly accessed her in different iterations and collect her opinion through an interview as described in chapter Iterations on real data. We have used all this information to test our template and build up our first Persona as well.

Core members of T1.2 also supported T1.1 in the interview question preparation and actively participated in the Task 1.1 interviews to have early access raw data to gain insights.

From there, the Gravitate-Health Personas has been built

6.1 Collecting resources

The first step has been to collect similar patient-centric projects. Being in such a big consortium has given us the chance to have access or receive suggestions on many

different Personas to analyze. Personas from different projects with varying demographics, health statuses, and emotions and behaviors has been collected. Our sources have included:

- Blueprint from the WE4AHA Project - https://ec.europa.eu/eip/ageing/blueprint_en.html
- Project Capable Personas led by UiO empower citizens to active use of their health information - https://www.med.uio.no/helsam/english/research/projects/capable/
- eHealth Ireland EHR Personas - https://www.ehealthireland.ie/strategic-programmes/electronic-health-record-ehr-/final-persona-scenario-files/list-of-final-personas-scenarios-.html
- Gravitate-Health WP1 Tasks and Testing Scenarios

This phase has been helpful to understand how to address the task. In general, our focus has been on the primary end-user group (citizens, patients, and caregivers), specifically the self-care and self-management phases. More work will be necessary related to the phase during active treatment, something that testing scenarios in WP6, T6.2 may point out later in the project. As we were determined to develop a tool that would be helpful to other partners throughout the project, easy to consult on paper and on-screen. Our aim was that anyone could have a touch on the lives of the patients with an eye's glimpse.

Therefore, we decided that Gravitate-Health's Personas would be based on a landscape ratio that fits in screens and easy to read. As you will soon see, we have iterated many times until we have reached consistency and self-explanation in the structure. It has been quite natural to have all the information on one page with short sentence text, avoiding a wall of text where readers can't take pieces of information.

The next chapter shows how we have squeezed issues like autonomy or research on patient engagement in one piece of information in the Personas.

6.2 Foundation

When you build, strong foundations are necessary. It does not matter if it is not explicit in the final work or just a detail, but you need it. This is the case of preliminary work executed on autonomy and engagement.

6.2.1 Daily activities

On autonomy, two instruments were useful to understand what are the difficulties that persons with comorbid conditions have to deal with:

- Basic Activities of Daily Living (BADL)
- Instrumental Activities of Daily Living (IADL).

Figure 5: Basic and Instrumental Activities for Daily Living - Source Kindly Care

Basic and instrumental activities are widely used by HCPs to quickly screen the patient's autonomy. Understanding the complexities behind independence has been crucial in our work. At the same time, while we have decided to synthesize it in self-management and self-care in the Personas, we were aware of how critical these aspects are in people's lives.

6.2.2 Patient Health Engagement Model

Regarding engagement, we take advantage of the previously described PHE model developed by the team from Università Cattolica del Sacro Cuore, a Gravitate-Health partner. Their Patient Health Engagement model helps to systemize the different emotional stages that a patient may live while copes with changes in his health status.

Profiling patients through the application of the PHE model not only allows for an assessment of patients' psychological state but is also useful for the development and implementation of diverse communication and educational strategies: indeed, patients in different positions generally also have different needs or expectations, and thus require different approaches to communication (Menichetti & Graffigna, 2016). In particular, each engagement position described by the PHE model suggests specific needs of psychological support and counselling to help the patient improve along his/her journey:

- Patients in the "blackout" phase need to acknowledge their own condition and have to learn to cope with the requests that their diagnosis imposes. Thus, communication with these patients should be aimed at promoting acceptance and awareness, while also providing basic skills for the organization of health-

related information and the acknowledgment of the correct health-related behaviors;

- Communication aimed at patients in "arousal" should help them assume a more positive mindset: this can be accomplished by helping them become more aware of how to organize their daily lives and of their self-efficacy. Promoting their self-awareness, health literacy, and ability to interact with their healthcare providers is the key to help them improve in their journey.
- Patients in "adhesion" have already started to cope with their condition on an emotional level, but need support to sustain their acquired self-efficacy and guidance to correctly implement their knowledge and skills to, ultimately, become more autonomous in health management.
- Finally, patients in "eudaimonic project" need to be sustained in their autonomy and helped in maintaining their life project. Communication tailored for eudaimonic patients should then be aimed at further developing their personal set of self-management skills, and making them more aware of other available, external sources of information and support (e.g. peers or patients' associations).

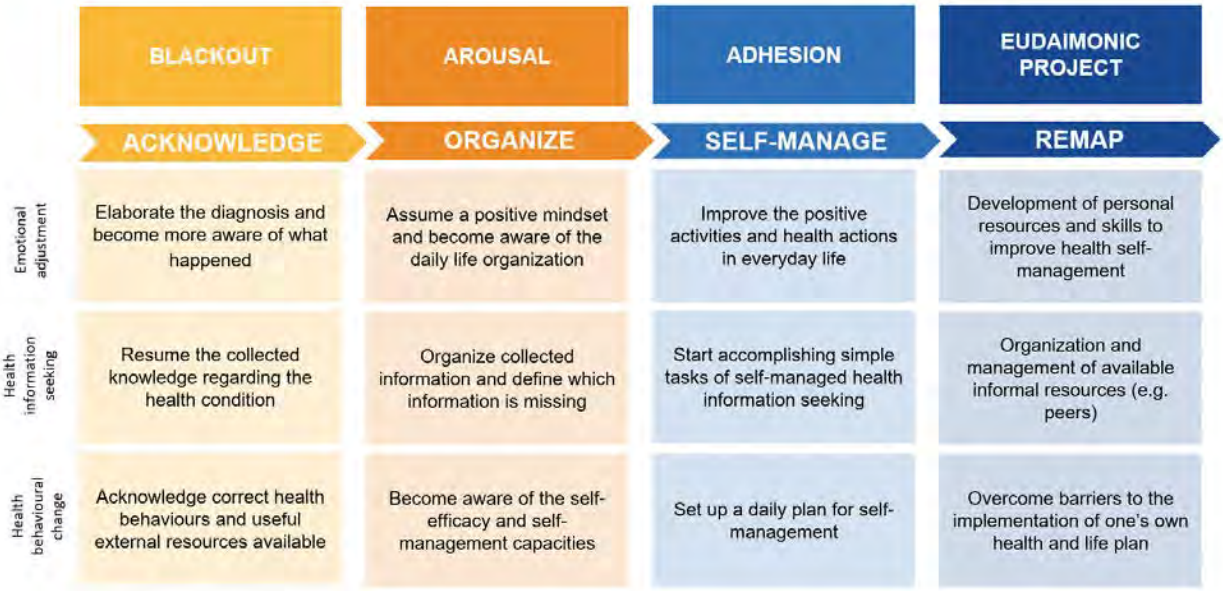

Figure 6: Objectives for each Patient Health Engagement position

Generally speaking, the PHE model is of interest for clinicians and policy-makers, as it can work as a "compass" capable of orienting and guiding personalized clinical actions and policy making initiatives based on the patient or population level of patient engagement (and, on the contrary, risks of disengagement). The PHE model has the strength of offering a processual explanation of the psychosocial dynamics occurring when a patient becomes engaged in his/her own health care and recognizes that being fully engaged strongly depends on individuals' choices and disposition to play an active role in the care team. For these reasons, the model – according to the current literature – does not necessarily imply that higher levels of engagement are better. On the contrary, effective patient engagement occurs when the health care system recognizes and addresses the patients' unique needs that are specific to each patient engagement phase.

This perspective makes this framework particularly suitable for implementation in patients' Personas and in the G-Lens: profiling patients according to Personas which entail the dimension of health engagement will allow the deployment of the most

suitable communication strategies (which will be developed in Task 4.2), thus increasing the effectiveness of the message and its potential to answer each patients' specific preferences and needs.

6.3 Iterations on Miro

The online collaborative whiteboard platform, Miro, has also been our choice to have a place where, as a distributed team, we could contribute and work on the Personas template.

All the images related to Personas are in Annex #3 if needed.

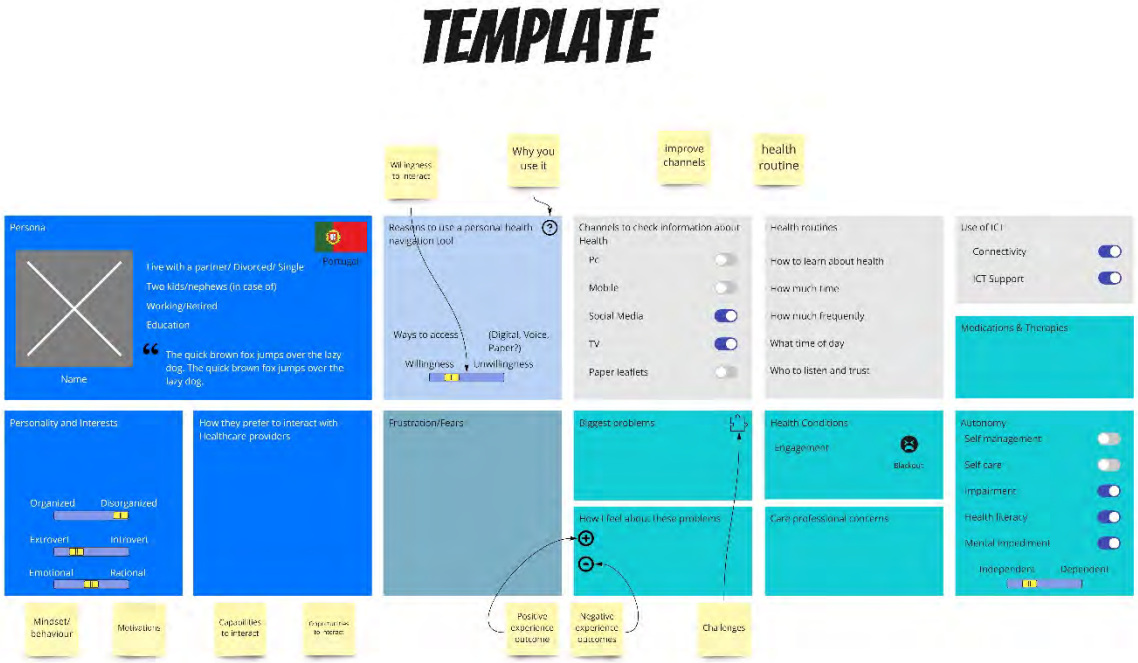

Figure 7: Persona's Template - First draft

We later tested with anonymized data of a real patient to ensure that we were in the right direction.

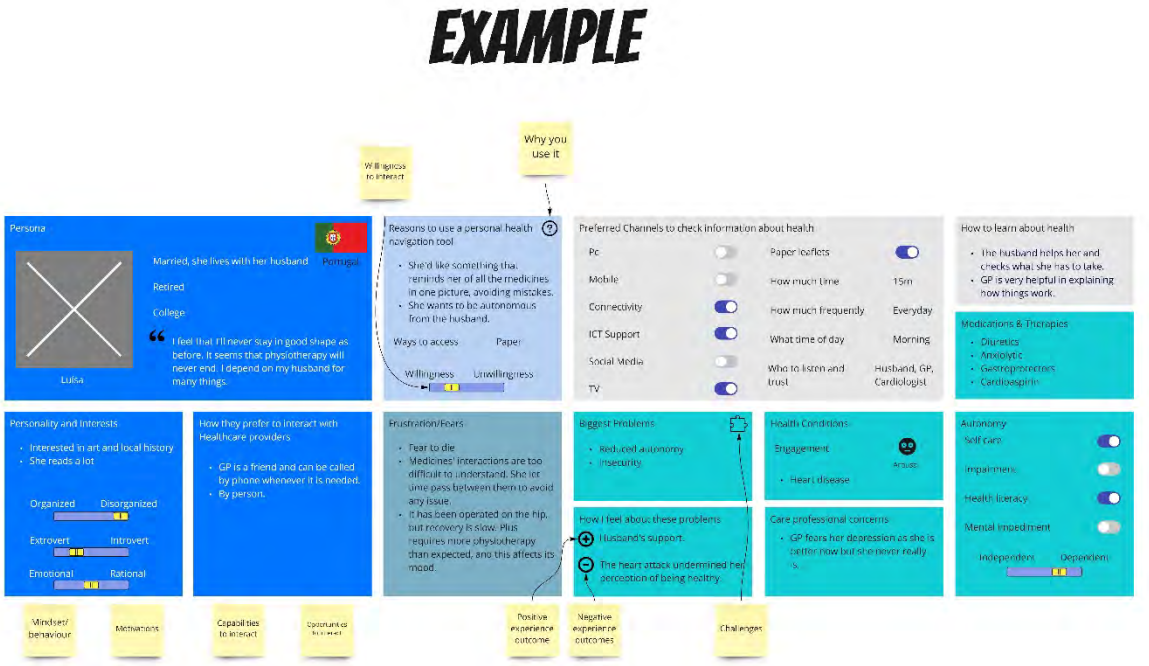

Figure 8: Persona's Template - First draft with anonymized data

6.4 From Template to Spreadsheet to Visual

The intention of the T1.2 was to have an easy way to share the template with everyone in the Gravitate-Health Project.

The next step in the process was to level up the template and test its contents with actual and accessible data immediately available within the project.

Firstly, we have decided to put the contents in a spreadsheet to have something easier to navigate and accessible to everyone.

Then the first draft has been transformed into a more appealing visual. We've also added an illustration of the Persona to establish a visual contact: a fundamental aspect to build empathy.

Figure 9: Persona's Template - Second draft

6.5 Iteration on real data

While working on the template, it has come naturally to work on data closer to reality. So we have focused on Maria, the patient presented in the Norwegian scenario, taking advantage of every bit of source data available.

Thanks to the collaboration with the University of Oslo, we had the opportunity to collect information and assessing the template with the only real data accessible to us:

- first interviewing Anne Moen, the coordinator of the Gravitate-Health project, and gaining insight from her scenario's knowledge;
- then reviewing our work conclusions thanks to the interview with the patient that Anne Moen has conducted for us.

6.6 Cleaning and Organizing

Iterating on the template was beneficial to improve the template's content and discuss the structure itself.

So we have decided to reorganize the template into four sections: Person, Patient, Behavior, and Environment to have a more solid and self-explained structure.

The Persona's structure must be as transparent as possible, to avoid any guess. In the end, its purpose is to sustain and organize content.

And if people don't wonder at all about it, it means that it works well, focusing on what matters most: content.

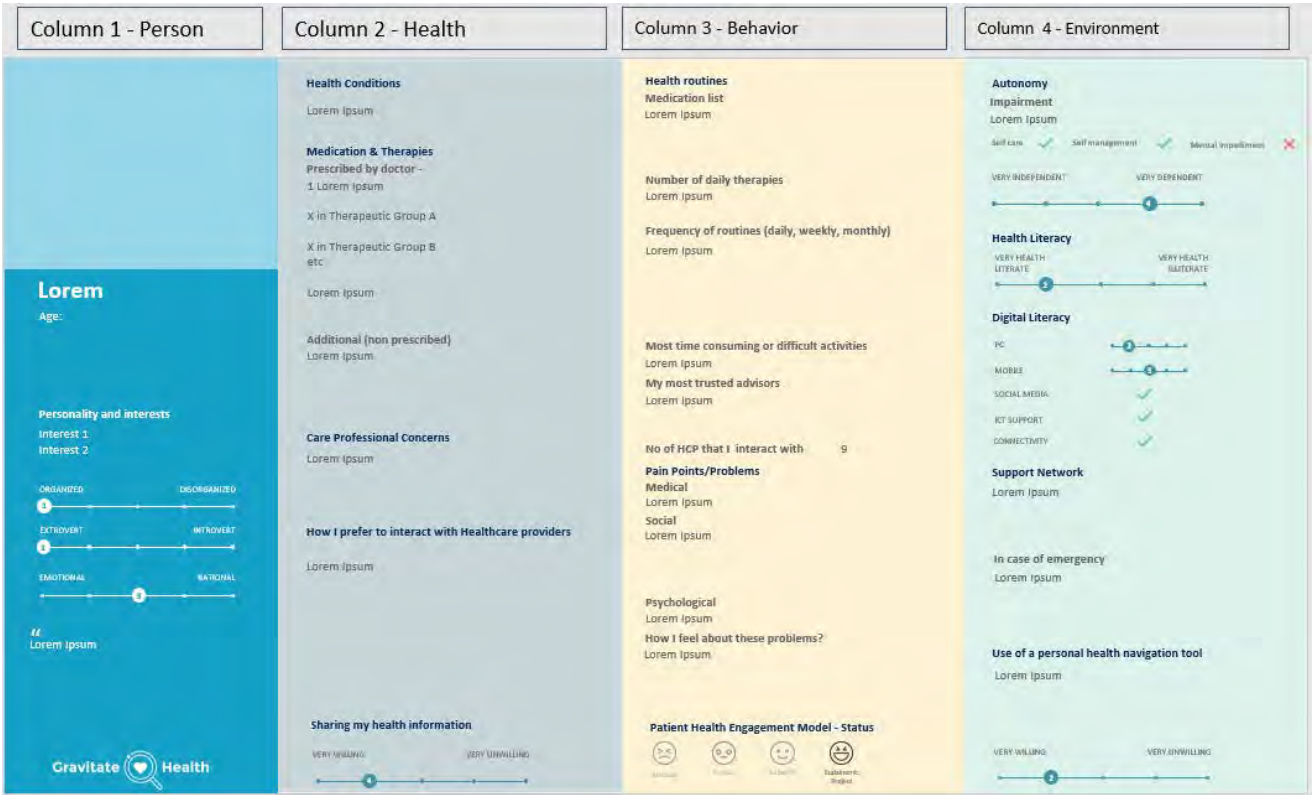

Figure 10: Persona's Template -Third draft

6.7 Feedbacks from the Forum

Through the Gravitate-Health Forum, we've received feedback that gave us the chance to sharpen the template.

So we've been able to:

- Check the consistency in Maria's Persona and improve it where necessary.
- Add more questions to T1.1 interviews with patients that could be useful to verify our work on Personas.

Figure 11: Persona's Template -Third draft with notes to impact on T1.1 interviews

6.8 Caregiver Personas

We understand the need of caregiver Persona potentially arising when testing the G-Lens minimum viable product (MVP). Therefore, we have included an informal caregiver Persona in Annex #3, as an example for the future. Nevertheless, as the primary end users are patients, we focused on those for the following reasons:

1. The patient Personas are solid, focused, and serve their goals in the project - to build empathy, help personalize information, and identify the most critical features of the G-lens. Therefore, shifting efforts to doing multiple caregiver Personas would have detracted from this focus.
2. We don't have comprehensive data on caregivers, and the risk of not doing as thorough of a process as the patients will lead to weak caregiver Personas.
3. The only real gap in the patient Personas is around Autonomy. If a patient is not autonomous (in any regard) and a caregiver is acting on the patient's behalf, the focus of the G-Lens is still on the patient, their data, and their goals. Therefore, it should not impact the G-Lens if the patient is using it or the caregiver acting when a patient is unable.
4. Adding any more variables into the Persona templates to capture caregivers would bring the Task 1.2 team over the tipping point of preserving intended meaning. The risk is to lose the focus on the patient and create complexity which is not helpful in the project.

In conclusion, and for the reasons listed above, we did not proceed with developing other caregiver Personas in T1.2. Nor did we develop Personas for healthcare professionals, since they belong to the Secondary End-User group. As described in 'End-User Groups' chapter in this Deliverable, T1.2 is a design activity bringing focus to the patient, their health information and their therapy/goals. The G-lens needs to be first designed to support the Primary End Users in their everyday life, and then adapted to other end-users who will support the patients in their needs. In the case of HCP's the G-Lens will need to be

adapted to integrate into their existing hospital and medical software systems, therefore it will be done after the G-Lens is validated with the Primary End Users. That said, Partners in the Gravitate-Health project can follow the methodology in this report at any time to develop Personas for other end-users whenever needed and at any point in the future.

7. Personas delivered

In this chapter, we have collected the Personas developed in the T1.2. The Personas are also available in Annex #3, together with a template, if the need to create new Personas arises.

For each Persona, we have added a brief description plus the testing scenario reference.

7.1 Persona 1: Maria

Maria is a well-educated, autonomous and organized person. She represents a chronic case.

Testing scenario: self-care situations and self-management.

Figure 12: First Persona developed – Maria

7.2 Persona 2: Filippo

Filippo is a tennis player and a very active person. Out of the blue, he has been diagnosed with cancer. After 50 days in the hospital, he is back at home with a fatal diagnosis. He represents a palliative care case.

Testing scenario: self-care situations and periods of active treatment.

Figure 13: Second Persona developed – Filippo

7.3 Persona 3: Amalia

Amalia is a family-oriented person with a special bond with her daughter. She manages a chronic condition (diabetes) and does not always understand why things go out of control. Her eyesight and hearing issues are making it more difficult to enjoy her hobbies and to connect socially.

Testing scenario: self-care situations.

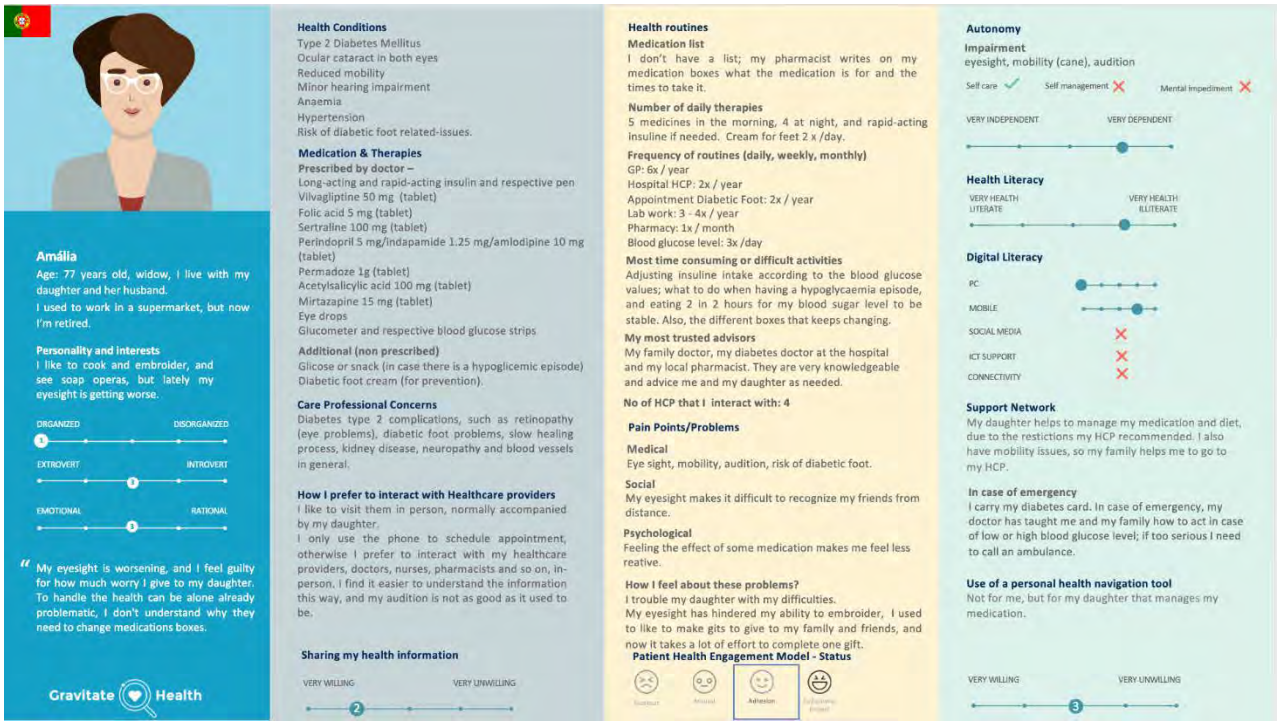

Figure 14: Third Persona developed - Amalia

7.4 Persona 4: Pedro

Pedro is a chronic patient with multimorbidity (HIV, depression, IBS) with a complex poly-medication regime. He needs to regularly (monthly) visit the hospital to pick up his medication and have consultation with his doctors. He is worried about potential side effects and interactions between his prescribed treatment and non-prescribed medication he is also having (e.g. vitamin and protein supplements). He would like to have a trusted source of information for managing his condition and taking preventive actions against the spread of his disease.

Testing scenario: Periods of active treatment and self-management.

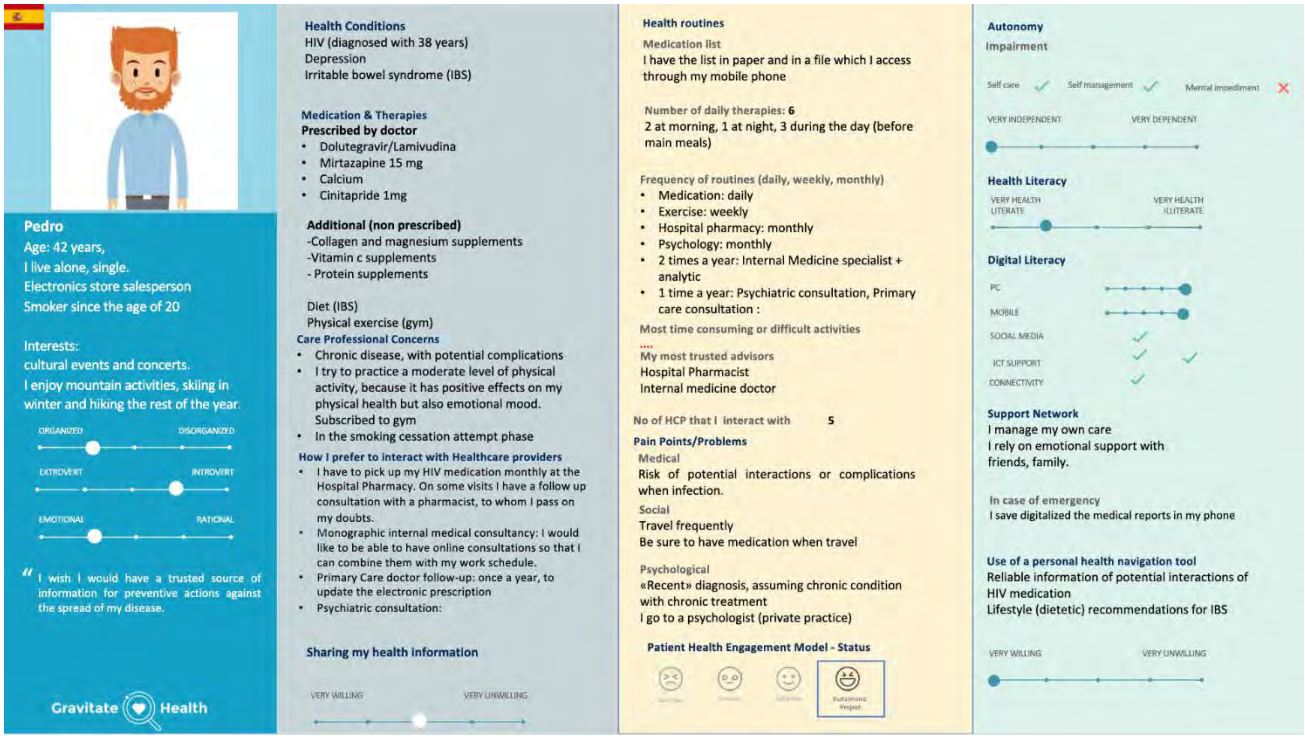

Figure 15: Fourth Persona developed - Pedro

7.5 Persona 5: Peter

Peter is a child with very complex care needs due to a spinal cord injury in his youth. To breath, eat and do other daily basic activities, Peter is dependent on caregivers and medical devices. His mobility is limited, and his medical devices must move with him. He takes many medications and his parents are his primary caregivers due to his lack of autonomy. They are all dependent on many healthcare professionals with regular interactions.

Testing scenario: Periods of active treatment and self-management.

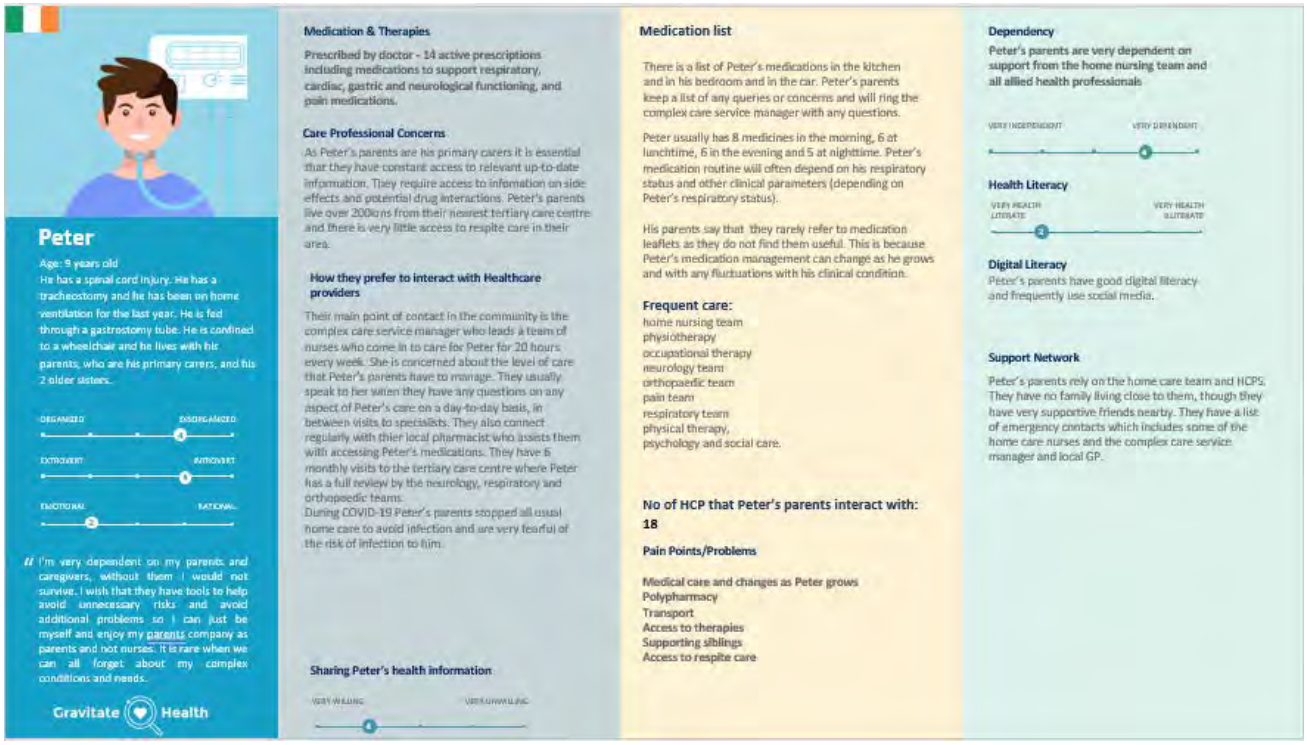

Figure 16: Fifth Persona developed - Peter

7.6 Persona 6: Antonio (Caregiver)

Antonio has a sister, Elena, with Down syndrome. He is her legal caregiver and has to take care of her for every aspect during the day. Antonio represents a caregiver case.

Figure 17: Sixth Persona developed - Antonio

8. Use of Persona Template in Gravitate-Health

8.1 Impact on the project

At the time of completion of we have finished this document (May 2021), Personas have already been helpful in the project. Specifically:

- As you will read further in the next chapter, Personas have been the basis of the design workshop and later development of the service design blueprint.
- Task 1.3, which focuses on the information model, has analyzed dimensions defined in the Personas to make an abstract model and personalize the ePI.

8.2 Future use

Task 1.2 team has been careful to have an approach open to further improvements.

The main reasons are:

- Personas are alive and should evolve in time. So in the future, it has to be possible to work on them.
- Based on the Personas developed and using the template available in Annex #3, we want to be sure that everyone can add more Personas if needed.

The template is an editable file available as Annex #3. Some suggestions are:

- Coherence and consistency are essential to have a credible and impactful person.
- Choose wisely details to include. The Persona should consist of everything useful to have a complete picture, but too many details or overly long descriptions discourage people from reading.
- Aim to build empathy. Images that illustrate personas and writing in the first Persona go in this direction.
- As a direct consequence of the previous point, personas contain speech-language, so they should be easy to understand.

Service Design Blueprint Model and Journey mapping

While designing the intended experience for Gravitate-Health (G-Lens) we aim to develop an end-to-end process for how G-lens experience would be delivered to patients. To bolster our understanding of the patient perspective across this experience, we have drawn upon new and existing patient research to develop a scenario-based patient journey maps of the G-Lens solution. The patient journey mapping described in this section was related to the testing scenarios and phases of self-care, active treatment and self-management, as our personas were developed together with testing scenario leads. Although we took the starting point of all the phases, the current mapping applies for some aspects, but not all segments and testing scenarios, This work is meant to provide the starting point for creating and implementing G-Lens service that deliver a truly differentiated experience for the citizens.

Service blueprints are process diagrams for services that connect the customer experience with the people and activities that deliver it. They are used to deeply understand an existing service and identify challenges and opportunities for improvement to. We used design thinking to understand people's needs, look holistically at patient interactions, and iterated our way forward.

9. Data sources

As described in the previous chapter on Personas, we surfaced a collection of diverse Personas with varying demographics, health statuses, and emotions and behaviors.

Specifically for the G-Lens Service Design Blueprint, we identified common patterns across the Personas to infer interactions with the G-Lens solution. We examined:

- Patient daily life and activities
- Existing touchpoints and interactions with HCPs and health resources
- Unmet needs, pain points, and key moments in their care journey

We began to consolidate the data from the Persona sources to draft a patient journey as the starting point allowing us to further evaluate and iterate on and test our assumptions with other stakeholders across Gravitate-Health to get feedback and seek further input. In future iterations of this journey, we recommend gathering input from User Advisory Group (UAG).

10. Initial investigations

10.1 Patient Journey Mapping

A patient journey map is a blueprint of important touchpoints a patient goes through in her/his care journey and is a way to visualize and get an overview of patient experience during their entire care journey. Patient journey mapping gives insights into the patient experiences during their care journey. Our approach was based on a unique health episode in a day of the life journey for each Persona. The knowledge gained from a patient journey will help WP4 to design the G-lens that will optimize the experience and generate value for both the user and the organization providing the service.

Figure 18 shows the Persona snapshot from our initial investigations and evaluation of journey from previous work (see 6.1 Collecting resources), which has been used as a model for Design Thinking workshop described below. We used this model for structuring the initial draft of the Service Design Blueprint. On it, we evaluated each Gravitate-Health patient Persona and examined how their pain points and behavioral preferences would surface across key outcomes: access, understanding of information and adherence to treatment.

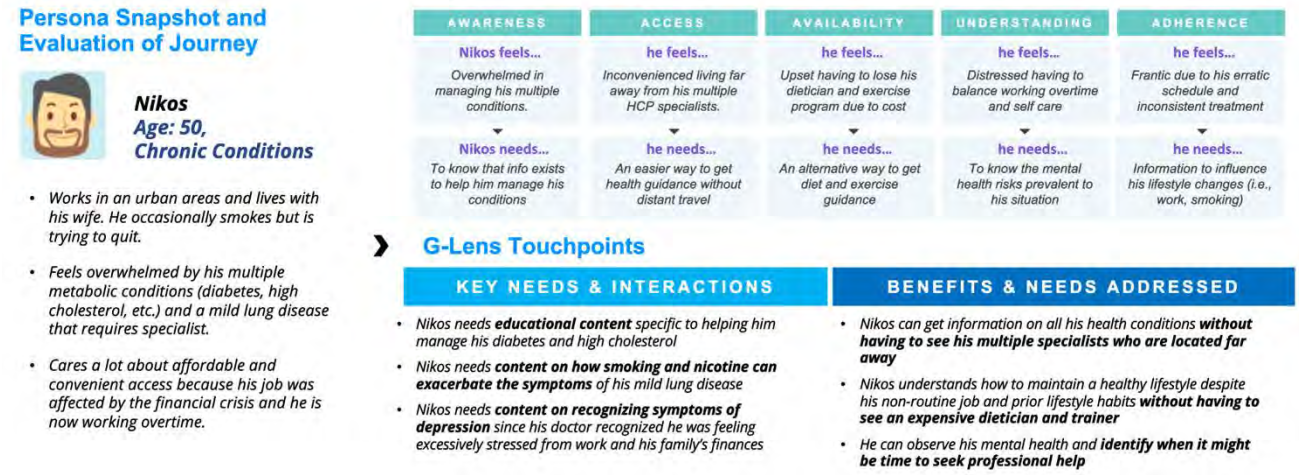

Figure 18: Persona Snapshot and Evaluation of Journey

After analyzing and evaluating the initial model, we identified that the key touchpoints that matter for patients using the G-lens converge around **access, understanding of information and adherence.** This led us to construct a guiding challenge statement for our workshop activity:
How might we create a trusted and highly valuable digital tool to transform the way citizens access and understand health information, and apply this in their personal health for improved adherence to treatment, better health outcomes and quality of life?

As part of the Journey Mapping task, the core members of T1.2 organized a design thinking workshop where all partners were invited to join.

The workshop was carried out on April 22nd, 2021 on an **Interactive Miro Board** https://miro.com/app/board/o9J_lICTOss=/

FOCUS AREAS:
In the workshop we wanted to:

- Become more acquainted with G-Lens end-users in order to empathize with their experience of access/understanding of information from trusted sources, and adherence in their healthcare journey today, focusing on the gaps and difficulties they face to understand their values and needs.
- Explore how the G-Lens can respond to their pain points/needs and add value, using Personas and mapping their journey in specific real-life scenarios.

Desired outcomes:

- Identify key pain points that the G-Lens can address
- Describing a wish-list of G-Lens functionalities and identifying the 'must-haves' that would relieve critical pain points or close critical gaps in the patient journey, and/or greatly improve their experience.

In the section below, we present some snippets of the patient journey map and the thought process driving to the features wish-list for each of the Personas addressed in the workshop. Each Persona was given a specific real-life scenario, where the workshop participants first empathized with the Persona, identified pain points and feelings, which lead to the identification of requirements for the digital solution in supporting self-care, active treatment or the self-management (depending on the Persona). The detailed description of the journey mapping workshop and the results for every single Persona can be found in Annexes 1a and 1b.

Maria's Map and Wish-list

In the scenario/episode we followed in the workshop, Maria got prescribed a new medication.

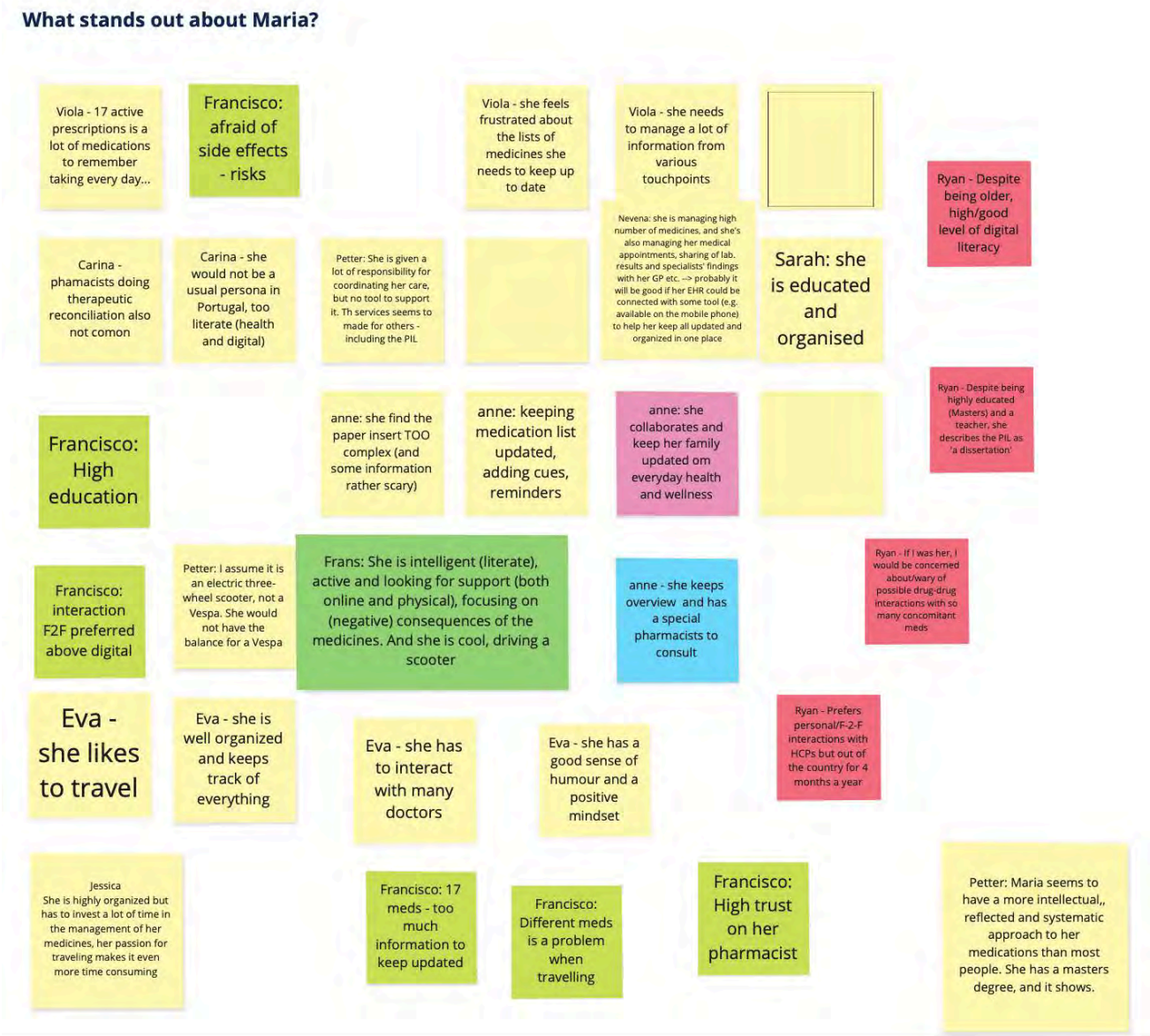

Figure 19: Empathizing phase Maria

Feelings: She feels sad that she will have to take yet another pill, she trusts her doctor and pharmacist, Frustrated (keeping up with medication and doctors) and worried about side effects of the new medication and the impact of the new medication, she is uncertain how to go about new medicine.

In the scenario/episode we followed in the workshop, Maria got prescribed a new medication, so the following G-Lens features could be useful:

- Access to information about new medication and its understandability
- Focused content (human readable- in a language that one can understand, in a way that is adapted to the understanding and knowledge of the Persona)
- Manage my health – functional things (In case of new symptom, G-lens could suggest if the symptom might be due to a medication; Connecting the medicine with the specialists, List of meds and when the refill is due; alert function
- Sharing my patient journey (Sharing information with family members, caregivers and support circle, Connect to 'patient like me' - a network of patients with similar diagnosis as a support network)

- Travel health wallet (International Patient Summary, and subset of focused information; Standards, regulated sources, risk minimization, list of her mediation, evidence of prescriptions)

What will G-Lens bring for Maria? Feature 'wish list' based on access and understanding of information, adherence to treatment.

- Access to the information about the medication.
- Helping her navigate: focus on elements important for everyday management, like if the medicine is new or if it is a new brand name same substance, if it is obvious combinations in her set up.
- Have a summary of key information available on hand (e.g. medicine dose/time/way of taking medicines, what to do in case of some adverse reaction); that could be connected with her EHR and adjustable or send some notifications that HCP consultation is needed based on her current condition status (e.g. if her lab test results show change outside of normal values)
- If medication has been changed, make sure that Maria demonstrates she understands why and how

Immersive and interactive options, videos, podcasts, audio learning and education materials

The one 'must-have' feature that would be incredibly valuable for Maria would be to get the product content information in a language she understands when she is travelling.

Filippo's Map and Wish-list

In the scenario/episode we followed in the workshop, Filippo's health status has suddenly changed without any significant warning.

For a sporty and very active person, the change in his health status has been very tough to deal with. Filippo's willingness to control what happens to him (battleship game).

He doesn't want to speak about his health condition (phone turned off).

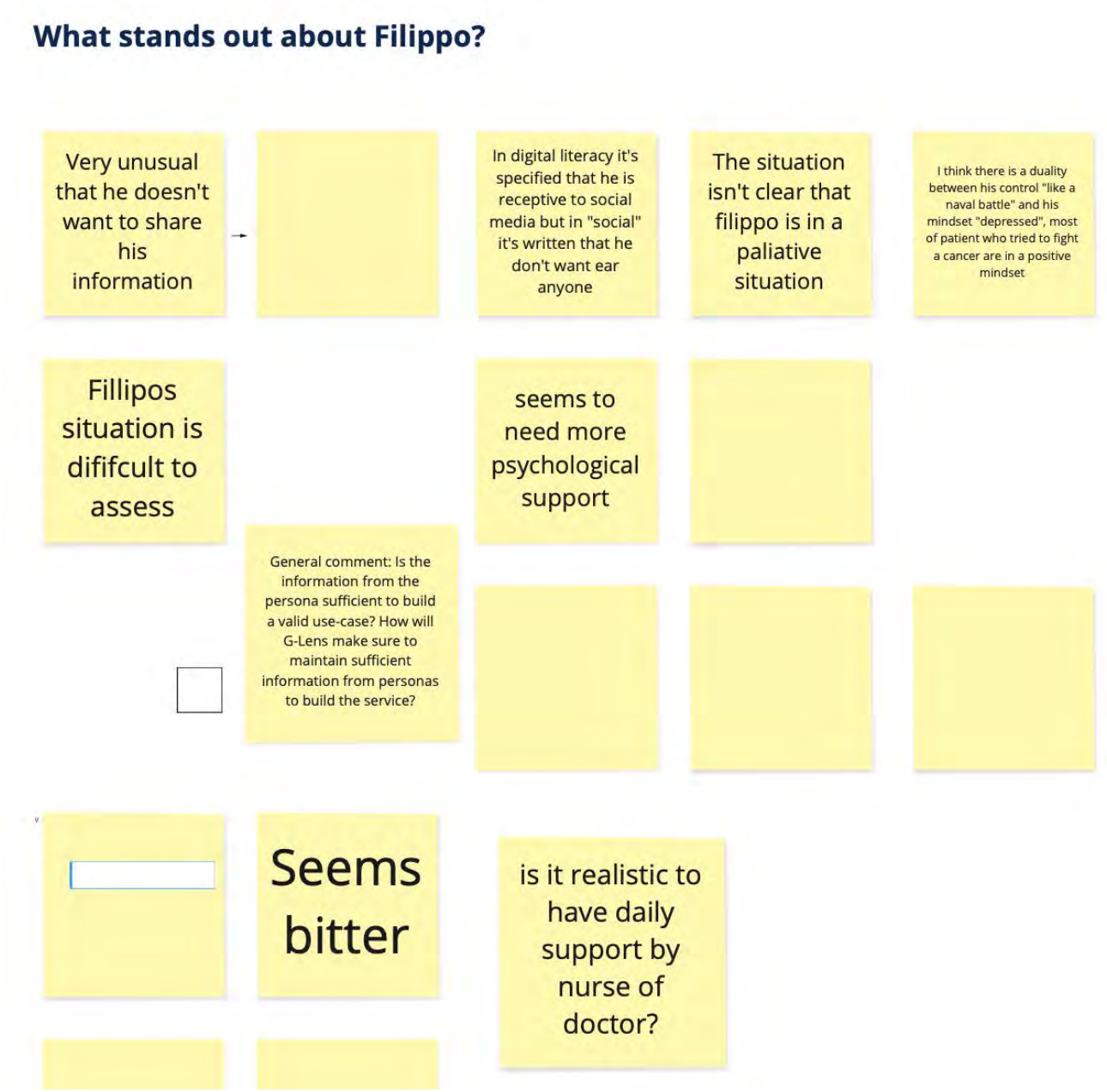

Figure 20: Empathizing phase Filippo

Feelings: Despite everything he does, he doubts his condition and feels powerless, tired, and depressed as he realizes reality. He is grateful to his family for the support that he receives.

Because of the characteristics of the disease, following G-Lens features discussed at the workshop could be useful. However, some of the features listed below might NOT be applicable to G-Lens as they may classify as medical devices and would need to comply with the MDR legislation.

- Personalize dosage plan and keeping things under control.
- Understand the impact of treatment to his social life and manage side effects.
- Increase the feeling to have the control on what's happening.

- Making room for decision making about his medication in collaboration with health team.
- Empowerment to decide about his therapy.
- Pain medication interactions with treatment.
- Allow to search for additional information and support options.
- How to organize his death and family support after.
- Reduce communication barrier through a communication tool.
- Get real time feedback and feel connected with care givers.

The values that we've identified in the workshop session are control, relief, impact, and autonomy. We think that empowerment may sufficiently synthesis everything in one word.

What will G-Lens bring for Filippo? Feature 'wish list' based on access and understanding of information, adherence to treatment.

While at home, some doubts arise about how to do a specific medication, give a therapy, react to a symptom, what Filippo and his family can do alone, and when it is better to ask for help from healthcare providers.
Currently, they have a phone number to call to ask for support 24/7. They need generic information as well as personalized to Filippo's case through data accessible in EHR.

The one 'must-have' feature for Filippo and his family: content (audio, video, or text) or a solution like a chatbot to clarify their doubts.

Amalia's Map and Wish-list

In the scenario/episode we followed in the workshop, it was a typically occurring episode in the life of a chronic patient that regularly needs to check a biomarker or metric in the outpatient setting (in this case, at home) in order to assess if disease is under control. This Persona also represents groups of patients that rely on a family caregiver to maximize the successful management of the condition.

Figure 21: Empathizing phase Amalia

Because of the characteristics of the disease and the context where monitoring occurs, following G-Lens features could be useful:

- Accessibility needs that allow her to have access to information adapted to her limitations and level of digital health literacy (eyesight issues; dependency on caregiver, this would allow her to be empowered to better manage her chronic disease – she takes a lot of medications, need to adjust medication to blood glucose levels, diet restriction)
- Help to understand and manage her blood glucose levels and possible needs for action -> this was the issue that was analyze: what to do in case of high-level blood glucose?
- She is dependent on her caregiver, which manages her needs. The app would need to allow the caregiver to access her health data.
- Caregiver needs: access to Amalia's information; alerts could also be useful in case blood glucose levels were too high or low that could endanger Amalia.

It is important to note that some of her most pressing needs may not be directly related to better information on how to use medication nor the characteristics of the literatures made available as package inserts. This finding highlights the challenges of designing a patient centered solution where the needs of patients are of a nature that may be out of the scope of the initial remit of this project.

The one 'must-have' feature for Amalia: Having a user-adapted list of medication and reminders of when to take each medication.
A digital solution may open possibilities to a new way of managing her condition, allowing her to choose an audio option or a visual representation with good contrasts to access the information.

Pedro's Map and Wish-list

Pedro is at the stage of the patient journey where treatment is applied but therapy and/or medication doses changes on maybe in every visit. His treatment is restricted, and highly costly for the healthcare system. Although his medication is only dispensed at the hospital pharmacy, he needs to manage it at home and, thus needs to be empowered.

He goes for monthly visit and asks for explanations on the medicines, drug interactions, adverse effects. He feels that is very difficult to prioritize between personal needs and medical needs on the short time framework of visit.

Although Pedro is the main Persona for the scenario, he has a strong link with another stakeholder: his doctor or pharmacists (healthcare professional). These interact with him regularly (typically on a monthly basis either in medical consultations or when Pedro goes to the hospital to pick up his medication.

Figure 22: Empathizing phase Pedro

Feelings: Before the consultation, Pedro is rushed, insecure, stressed, worried and unsure, he feels that is very difficult to prioritize between personal needs and medical needs on the short time framework of visits and he is uncertain/doubtful of correct actions. While at the doctor, he is embarrassed about asking too much, and feels a lot of uncertainty, insufficiency, and lack of knowledge, is looking for cooperation and dialogue about the side effects, interaction of new medication.

Because of the characteristics of the disease, our divergent ideation in the workshop led us to identify the following G-Lens features, however they will need to pass the viability, feasibility, and compliance criteria for the G-Lens as a final solution.

- Relevant information accessible at appointment.
- Time restraints for f2f meeting so a follow up service i.e., chat function.
- Possibility for 'digital' agenda/notebook included
- Accessibility not just to data source but to information tailored to suit the individual.

- Consolidate information on his 6 medications in one user friendly view.
- ePI available - single source
- Auto registers of doubts/questions.
- One data source to access.
- Visibility of full medication list, opportunity to record details of questions to discuss with HCP, also reminders (or similar) could help him manage his various appointments and medicines.

The one' must-have' feature for Pedro: Focused (personalized) and trusted information on his medication and potential interactions (also with non-prescribed medication), risks, side effects, etc. for managing his condition.

Peter's Map and Wish-list

Peter (age 9) feels fear discomfort and anxiety, but the primary actors in this scenario are his parents as his full-time caregivers.

Feelings: His parents feel distress, urgency, sleep deprivation, adrenaline, dedication to resolving the issue.

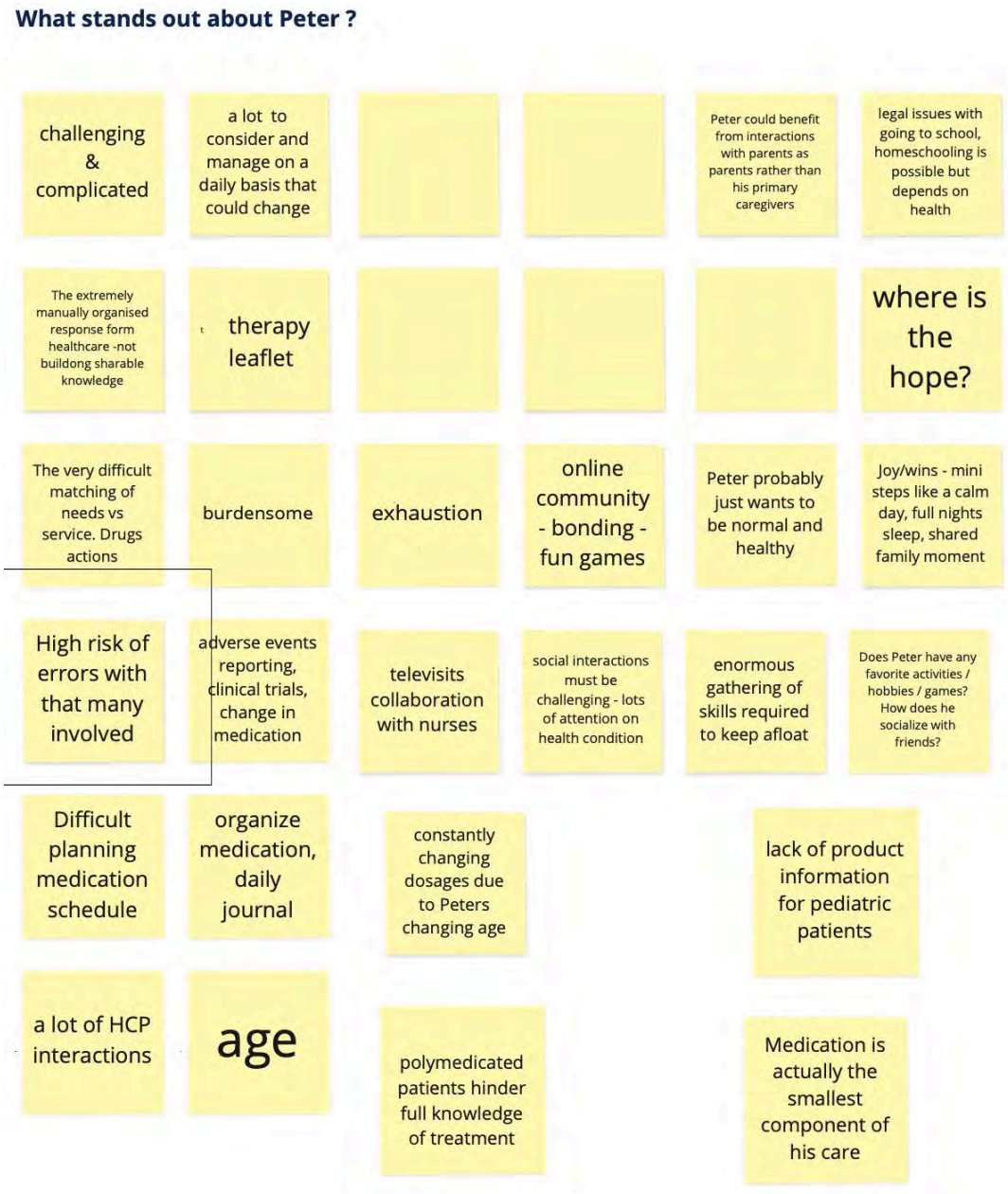

Figure 23: Empathizing phase Peter

In the scenario/episode we followed in the workshop, it was an emergency, so the following G-Lens features could be useful, however they will need to pass the desirability, viability, feasibility and compliance criteria for the G-Lens as a final solution.:

- Crisis management support
- Decision aids related to medicine dosage and frequency
- Reference to checklists to double check all possible problems (mechanical, drug-related, medical, psychological, etc) ß

The one 'must-have' feature for Peter that would be incredibly valuable to his caregivers: An interactive, easy to navigate, extremely personalized / customizable and dynamic GUIDE to administering Peter's medicines. This guide would be a template in the G-lens connected to his medication list (official EHR) but then flexible enough to

program precisely to Peter's unique case. It should include medicine preparation, sequencing, schedule (not only daily but weekly/monthly), and links for 'how-to' guides on administration, as well as general trusted related health information. The design should be so good that a care giver can navigate this tool on a mobile device, zooming in and out (clicking in or out) for the exact view they need in terms of detail at any moment.

11. Patient Considerations

Across all Personas, we uncovered key themes and considerations to inform the design of the G-Lens experience. These considerations provide valuable context to understand how patients perceive their care experience.

11.1 Discovery of Health Conditions at Different Times

Patients recognize a health issue and learn about their diagnosis at different points in time and are prescribed a new medication. Seemingly healthy patients, for instance, may discover an underlying concern once they visit a doctor, while patients with more complex issues might not get a diagnosis until after several tests and referral visits.

KEY CONSIDERATIONS: How might G-Lens provide patients with access to information about their medicines at varying stages of diagnosis that is easy to understand?

11.2 Significant Reliance on Caregivers and Patient Proxies

Patients who are children, seniors, or who have chronic and/or complex conditions are most likely to have a caregiver or a proxy who helps manage their health. These individuals often handle communications with HCPs, help manage treatment adherence, and observe the patient's overall health.

KEY CONSIDERATIONS: How might G-Lens provide content that is also suitable to caregivers and patient proxies? How might G-Lens focused content be easily accessible and understandable for patients and their caregivers?

11.3 Fragmented Care Experiences and Sources of Information

In some cases, patients rely on multiple HCPs and stakeholders to manage their care. Navigating between different HCP sites and occasionally different systems to visit the right specialists, patients communicate with different doctors who may not always be coordinating care amongst one another.

KEY CONSIDERATIONS: How might G-lens bridge information between the patient's multiple HCPs and help them reconcile the various info they are receiving?

11.4 Varying Circumstances Inhibit Accessibility to Health Resources

Many patients already face challenges accessing existing health resources due to a variety of issues such as health literacy, cost, proximity, etc. However, patients with chronic and complex conditions fair worse due to vision, auditory, mobility, and cognitive impairments that make access and engagement with health resources more difficult.

KEY CONSIDERATIONS: What existing capabilities or types of content (e.g., video, audio, infographic, accessibility options) can G-Lens leverage to help bring equitable access and engagement with health information to patients?

Occasionally, patients are reluctant to accept and consume health information. For some, additional health content may feel daunting because of the length or current complexity for existing literature. For others, a poor experience in the past may lead a patient to lose trust in HCPs and/or biopharma.

KEY CONSIDERATIONS: How might we create focusing mechanisms via G-Lens to improve patient confidence and receptivity to educational health information?

Varying Life Contexts Complicate Health Needs

Because many patients manage their health outside of the HCP setting, there are many life circumstances and behaviors that HCPs never have visibility into. In this case, HCPs are unable to advise on lifestyle adjustments or screen for underlying risks (e.g., financial struggles, mental health issues, poor hygiene, etc.)

KEY CONSIDERATIONS: How might G-Lens eventually provide life circumstance relevant information and content to patients to help them adhere to treatment?

12. Patient Journey Blueprint

Based on our analysis of end user Personas, we developed a future-state patient journey highlighting patient touchpoints with G-Lens, aligned to the desired outcomes around access to trusted sources, understanding of information, and adherence to treatment.

We started with mapping individual journeys for each of the Personas. We then analyzed the journeys (with exception of Peter) and have proven that all the journeys are unique, however some patterns in behaviors and interactions are in common. We have identified key requirements for each Persona journey, and afterwards consolidated the journeys and requirements.

In the section below, we demonstrate the feel of the development of the patient journeys. The detailed, high resolution pdf formatted patient journeys can be found in the Annex 2. Figures 24-27 show the individual patient journey for Maria, Amelia, Filippo, and Pedro. The patient journey of Peter is not demonstrated, as throughout the process, we realized that he is very dependable, and the discussions let to caregiver's needs rather than his own.

Each of the patient journeys' key elements are organized into horizontal swim lanes with vertical lines that separate the patient journey phases,

1. **Discovery of Health Condition,**
2. **Consultation with HCP,**
3. **Learning about the Health Condition & Adopting Treatment,**
4. **Care between care**.

The swim lines include the following:

- Phases of the patient journey

- Subphases of the patient journey
- Key Activities (What actions are the patients taking? And more additional details on key activities)
- Touchpoint Interactions (What are the various channels patients use throughout their experience?),
- Supporting Actors (Who else interacts with the patient and what is their role?),
- Thoughts, Motivations, & Behaviors (What are patients thinking?),
- Patient Emotional Journey (How do patients feel across the journey?)
- G-Lens Opportunity Areas

These swim lines are described in Figures 29- 33 under the subtitle *Stages of the journey, substages and actions* and can be found for a zoom in view in Annex 2 (note: open in pdf).

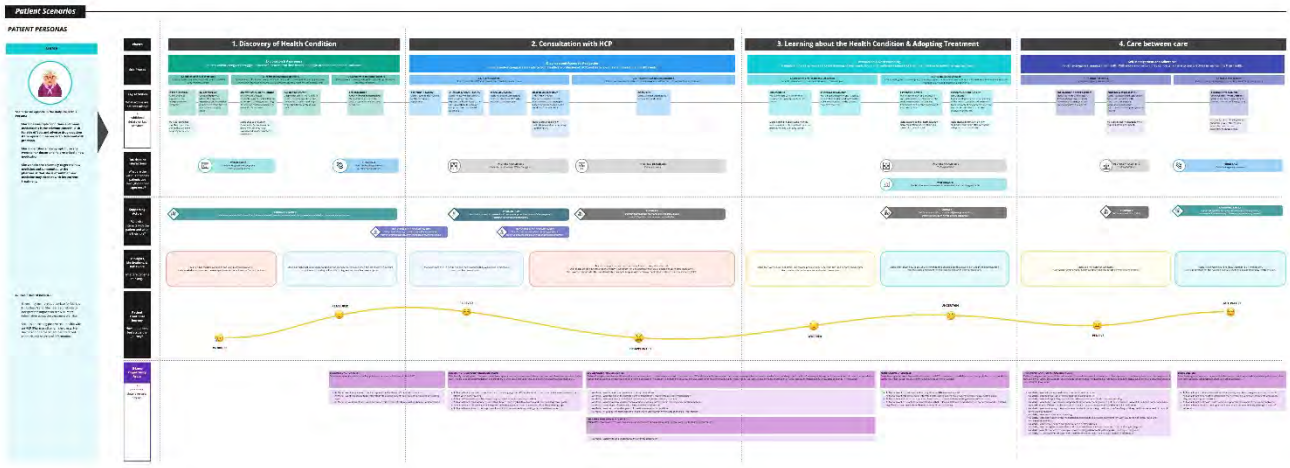

Figure 24: Consolidated journey Maria

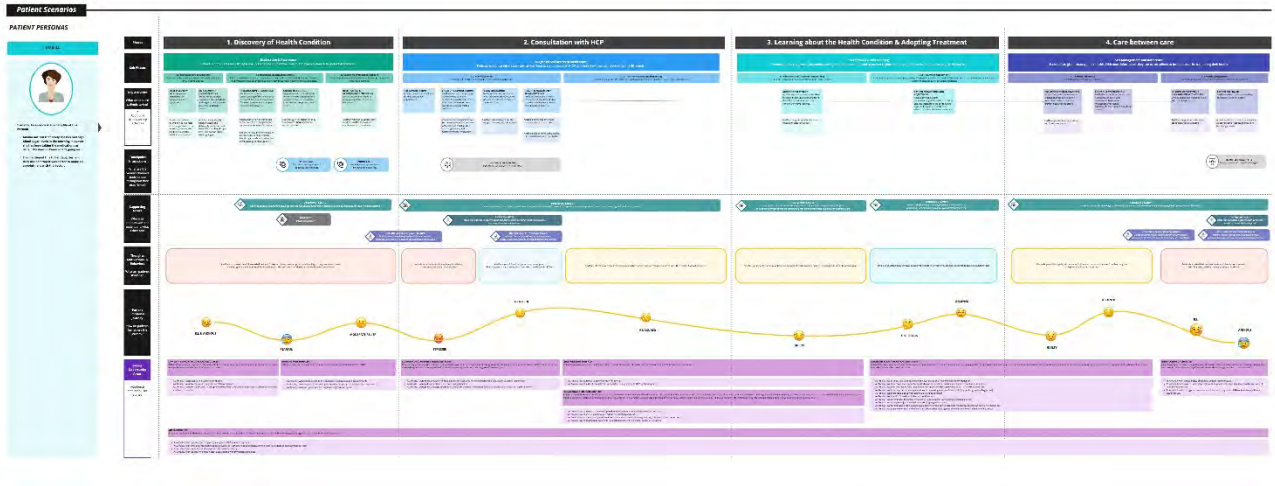

Figure 25: Consolidated journey Amalia

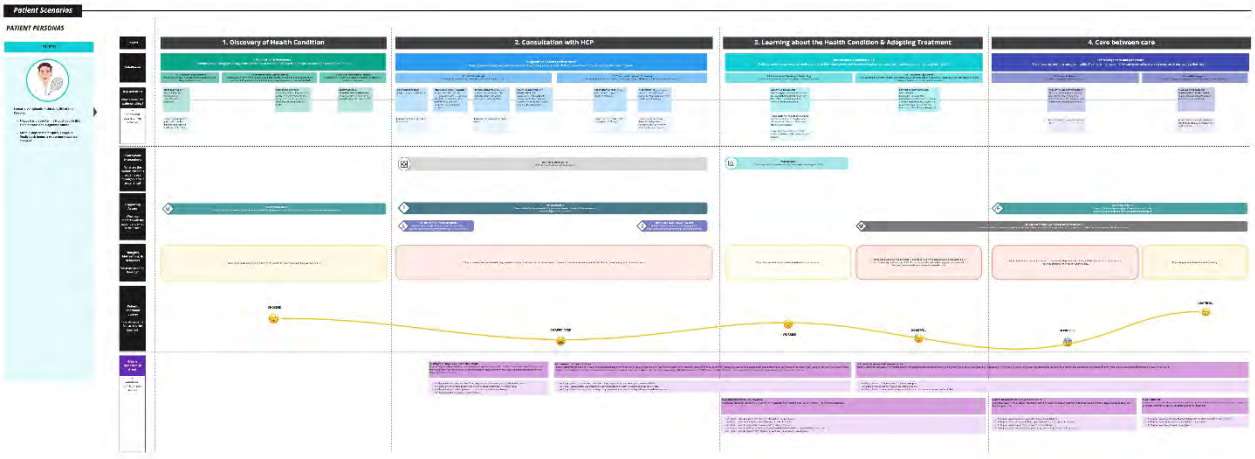

Figure 26: Consolidated journey Filippo

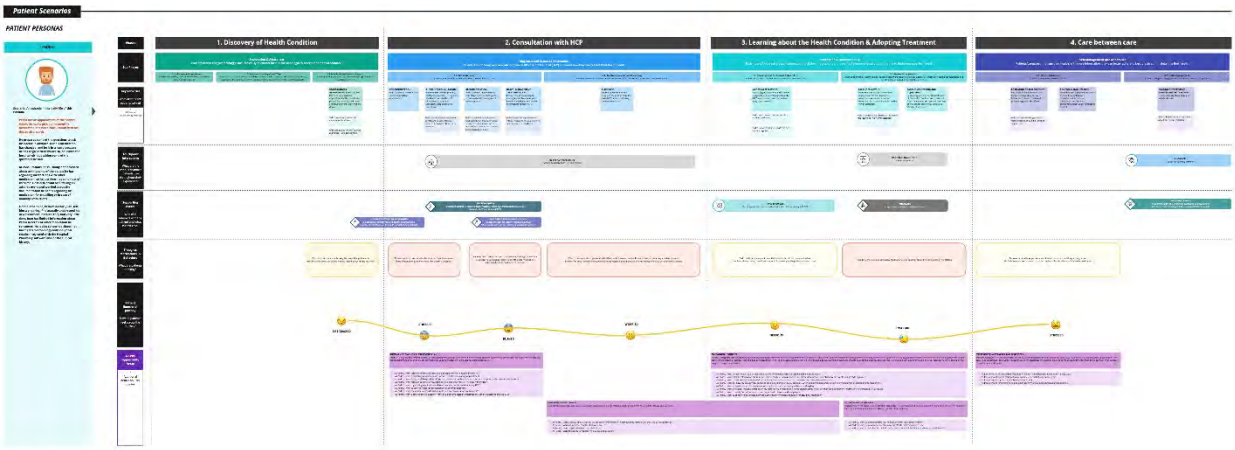

Figure 27: Consolidated journey Pedro

In the Task 1.2, we focused on building a more detailed frontend patient agnostic journey (Figure 28). Based on the front-end data points we identified the backend requirements that will inform the features for the G-Lens. The remaining backend requirements will be iterated as we obtain more information from other work packages. The technical aspects will be tackled in WP4.

As Service Blueprints can take different visual forms, we have opted for a framework that derived from our scenarios, the Persona data and the patient-journey map. For a more in-depth view, all of the blueprint journeys are accessible in high resolution pdf format in Annex 2.

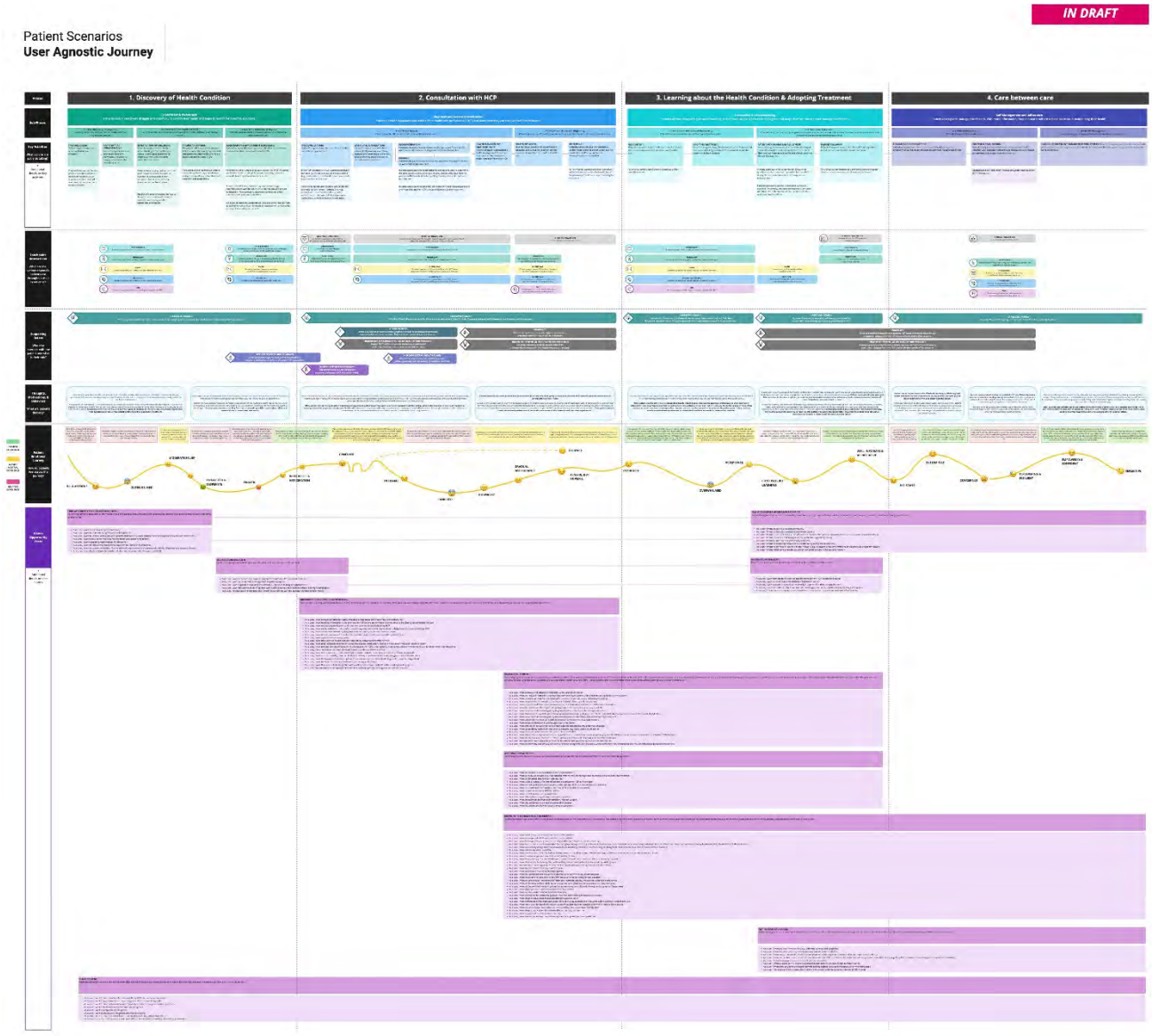

Figure 28: User Agnostic Journey

12.1 Stages of the journey, substages and actions

Our proposed blueprint includes the front-end steps, activities, and interactions that patients perform and the examples of interactions with a G-Lens service to reach a particular goal, which is improved access to information, understanding of the information and relation to adherence to treatment.

Frontstage actions

Actions that occur directly in view of the patient. These actions can be human-to-human or human-to-service actions carried out when the patient interacts with a service.

Backstage actions

Steps and activities that occur behind the scenes to support onstage events. These actions could be performed for example by a backstage functionality not visible to the patient.

Blueprint horizontal swim lanes- stages in the patient journey and relevant touchpoints

Internal processes, features, and interactions that support the G-Lens in delivering the service to the patient. This element includes anything that should occur for all of the G-Lens service to take place and offer an exceptional customer experience.

We have organized the key elements into horizontal swim lanes with vertical lines that separate the patient journey stages. There are three primary lines:

- The line of action depicts the stages in the patient journey

Figure 29: Line of action

- The line of interaction describes the various channels and digital ecosystems that Patients interact with and we must consider when we think of the holistic omnichannel experience

Figure 30: Line of interaction

- The line of support lists who else interacts with the patient at a given moment in the journey

Figure 31: Line of support

- The line of empathy informs about Patients' motivations, thoughts and behaviors

Figure 32: Line of empathy

- The line of emotion draws a curve of an emotional journey

Figure 33: Line of emotion

The line of visibility separates all service activities that are visible to the patient from those that are not visible. Everything frontstage (visible) appears above this line, while everything backstage (not visible) appears below this line. For this section we focused on showcasing the G-Lens functional and user requirements.

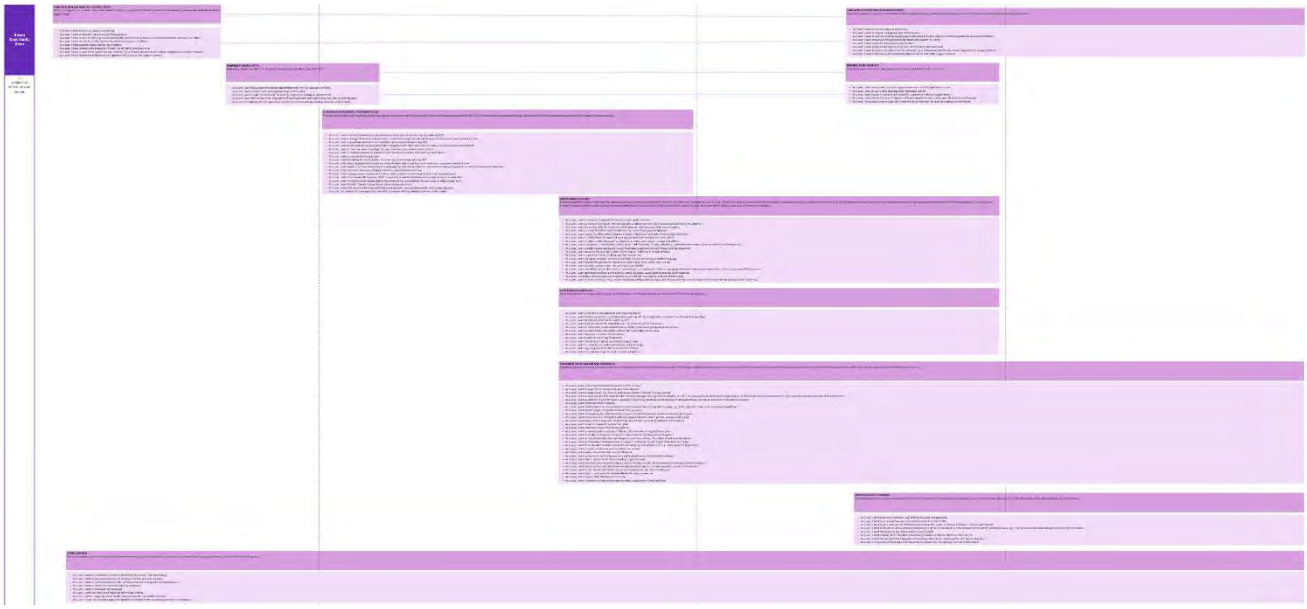

Figure 34: Line of visibility

When consolidating insights and data we examined individual journeys we have identified there is not always a parallel frontstage for every patient and the G-Lens interaction points (moments of truth) must support the core principles and heuristics of access, understanding and adherence.

Conclusions

The G-Lens end-user groups have been well defined at the start of the Task, with a focus to provide the design framework that informs prototypes both in D1.3 and D4.1 while remaining predominantly centered on the G-Lens design efforts downstream where it really counts – the patients, their needs and those who are assisting them when their autonomy is impaired. In addition, we have specifically tailored the end-user categories based on the electronic health record of a patient, because we believe this will truly enable the G-Lens to fully tailor and personalize the information on the medicines, by using the complete patient data available in the EHR. To avoid distracting the focus on the most critical feature around patient data, their goals relevant to their information, we have also refrained from providing multiple caregiver Personas. In this way Task 1.2 has preserved a truly patient-centric approach which is one of the primary ambitions of this project, and at the same time, not exclude other actors on the patient's care journey.

The G-Lens design methodology involved collaborating with the Gravitate-Health testing scenarios leads from Norway, Italy, Portugal, Spain and Ireland to develop the 5 patient Personas – Maria, Filippo, Amalia, Pedro and Peter – and 1 caregiver Persona – Antonio - additional information on the scenarios are captured in Task 1.1. We used the mixed-approach which incorporates the G-Lens Service Design Blueprint, to map the patient journeys of the Personas in a co-creation workshop with members of the Gravitate-Health consortium; this resulted in the identification of unique features for each Persona as well

as common patterns across the Personas to infer interactions with the G-Lens solution. The converged blueprint of these 5 patient Personas and the caregiver Persona are not 100% comprehensive for all the possible end-users of the G-Lens and the testing scenarios in subsequent tasks, however they are underpinned by the diversity of their patient journeys, and they were extremely helpful in humanizing the design process in the initial stages of the project. They allowed for meaningful deep dives into 5 unique patient cases, based on real world examples in self-care, active treatment and self-management phases, and therefore the wish-list of G-Lens features that resulted can be traced back to specific pain points along one of these Personas in their health journey and behavioral preferences across the key outcomes: access, understanding of information, and adherence to treatment. The Patient Health Engagement Model (PHE), as previously described in chapter 3, was developed by the Gravitate-Health partner's team from Università Cattolica del Sacro Cuore to systemize the different emotional stages that a patient may live while copes with changes in his health status and is the framework on which we suggest evaluating the impact of the G-Lens in terms of supporting patients to move up the scale for better understanding, adherence, health outcomes and overall well-being / quality of life. The PHE model further suggests that a fully engaged patient results from a continuous emotional and motivational reframing of his/her health status and his/her role identity. According to the PHE model, becoming engaged in health and care management means being more resilient at the emotional level and effectively adjusting to the health condition and its medical requirements. The PHE model theorizes possible trajectories of engagement which are not necessarily linear (a patient may move backward and forward according to critical events in his/her life and disease course).

This process also features distinctive ways of interacting and engaging in decisional negotiations between the patient and the healthcare system that depend closely on the phase of the process through which the patient is passing through. The Personas reflect this continuous journey patients embark on in interaction with their healthcare and they are valuable input for the G-Lens Data Model in tasks T1.3 and T1.4 for defining the data model and the KPIs to be use in the validation stage and where they will be useful to analyze against the Delphi results coming out of T1.1. The Service Design Blueprint Model as presented in this document, will be the suggested starting point for task 4.1 for G-Lens end-user mock-ups.

Limitations

While our methodology is robust and inclusive, there are some limitations which we wish to highlight:

- We focused our work on the target group of primary end-users of the G-Lens, while broader target population or segment that this technology (G-Lens) will serve, has not been addressed. The main reason being that if target population is poorly characterized, too broad, or too undifferentiated it may be difficult to focus end-user research efforts which may bring challenges to developers later.
- Limited primary end-user data on time for the creation of D1.2. Primary end-user data is important for the creation of robust and reliable Personas and journey maps. Utilizing indirect end-user data may unintentionally introduce personal

understanding, beliefs, preconceptions and stereotypes into the Personas. Further validation with primary end-user data (“real” end-users) are important for further development, update and validation of D1.2. content.

- Usability and reading experience could have been optimized. Although the graphs and maps presented on this deliverable have high quality and high resolution, it may be challenging to have an integrated and comfortable digital experience. These materials work best when printed on A0 canvasses that allow end-to-end visualization. We provide recommendations are provided next to each map on how to improve the readability and usability of the Personas, journeys, and blueprint, on electronic devices.

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Annex #1 - Design Workshop,

Annex #2 - Service design blueprints

Annex #3 - Persona Template + Example

Reimagining the G-Lens Experience

Cross-WP Workshop

We are delighted you could join us!

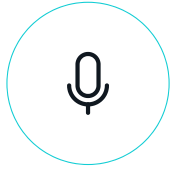
Gravitate Health

Before we start...

Rules of the road...

1 It's okay not to connect your camera if you are having connectivity issues

We would love to see everyone's faces, but unfortunately **Zoom can cause delays**. If you are experiencing a lag, please feel free to turn off your camera.

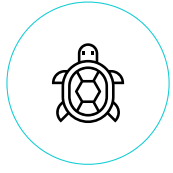


2 This session will be recorded

The audio and video will be recorded. **By participating in this meeting you consent to your voice and video being recorded.** This recording will be used by the workshop team for post session evaluation of outputs and content.

3 Questions are welcome

We want to hear from you. **Your questions are super-valuable**.

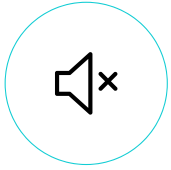


4 Zoom may lag a bit

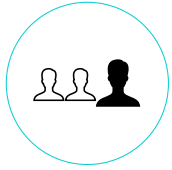
Please be patient. If you experience some lagging, **use the comments box** to let the facilitators know if you have missed anything.

Digital etiquette

Some little dos and don'ts to make sure that we have the best experience and everyone gets a chance to participate.



If you have background noise, please set computers and phones to **mute until you are ready to speak**



1 person speaks at a time. If your facilitator asks a question and no one is talking at the moment, go ahead!

Raise your hand if you'd like to speak **when someone else is already talking.**
Let's test this functionality now.

Use the chat function if you have questions or need support, please **send us a message in the comment box**. We will be monitoring the conversation and will respond to your questions.
Let's test this functionality now.

Gravitate Health

Rules of the road

Let's get the necessary out of the way....

Be honest and candid

Relax, you are in a safe space
We are here to learn from you! Please share your true opinions and feelings so that we can learn from you. There are no wrong answers to our questions.

Be fully here

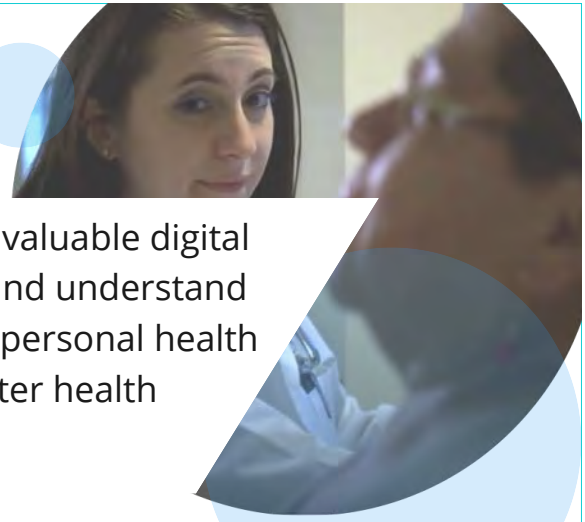
Today is about sharing all of our thoughts "on the board" and actively collaborating
Share with us anything that comes to your mind. There are no silly or impossible ideas – any idea can help us move the conversation forward.

Yes, and...

Be positive minded
Build on each other's ideas, don't refute them. Don't judge yourself and don't judge others. Look for innovative ideas. Don't feel constrained and think big!

Challenge (HMW) statement

Why are we here?



HMW

How might we create a trusted and highly valuable digital tool to transform the way citizens access and understand health information, and apply this in their personal health for improved adherence to treatment, better health outcomes and quality of life?

FOCUS AREAS

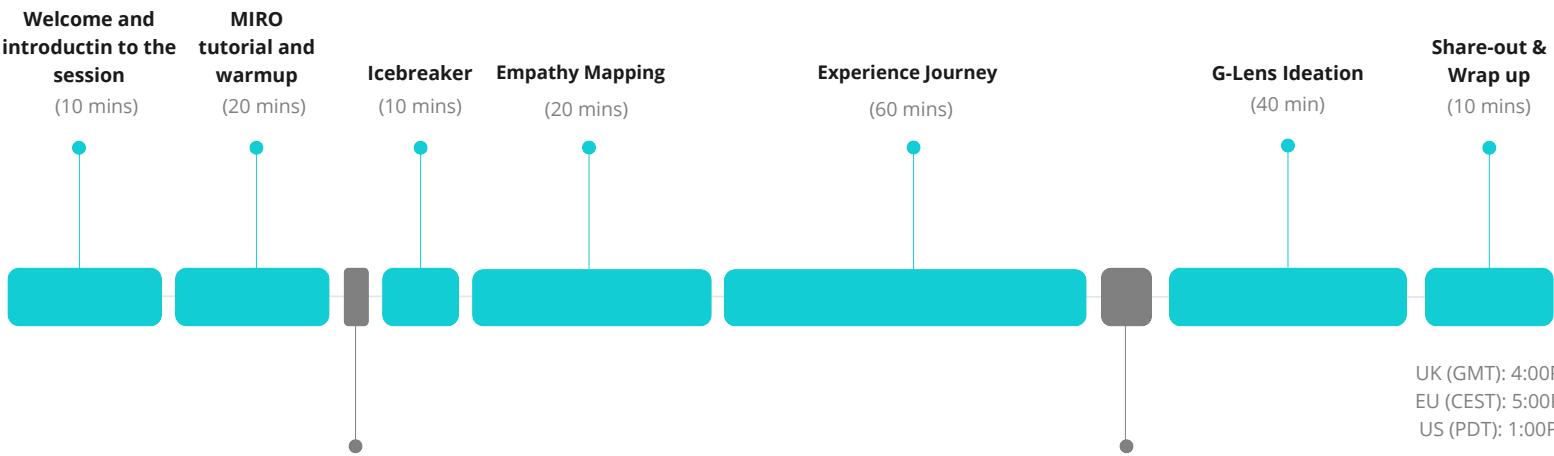
Today we want to:

- ***Become more acquainted with G-Lens end users in order to empathise with their experience of access/understanding/ adherence in their healthcare journey today, focusing on the gaps and difficulties they face to understand their values and needs.***
- ***Explore how the G-Lens can respond to their pain points/needs and add value, using Personas and mapping their journey in specific real-life scenarios.***

Desired outcomes:

- ***Identify key painpoints that the G-Lens can address***
- ***Describing a wish-list of G-Lens functionalities and identifying the 'must-haves' that would relieve critical pain points or close critical gaps in the patient journey, and/or greatly improve their experience.***

Agenda



Gravitate Health

Opportunity Areas: User scenarioes

We are validating this opportunity through the value it presents to our personas.

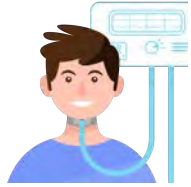
We are looking at our opportunity through the following lenses:

Maria
Norway Scenario

Filippo
Italy Scenario

Amalia
Portugal Scenario

Pedro
Spain Scenario



Peter
Ireland Scenario

*We ask you to think holistically and not on what can be done today, but **imagine what the future might look like**, and to **think from the perspective of those we serve, our patients**.*

Interactive Workshop

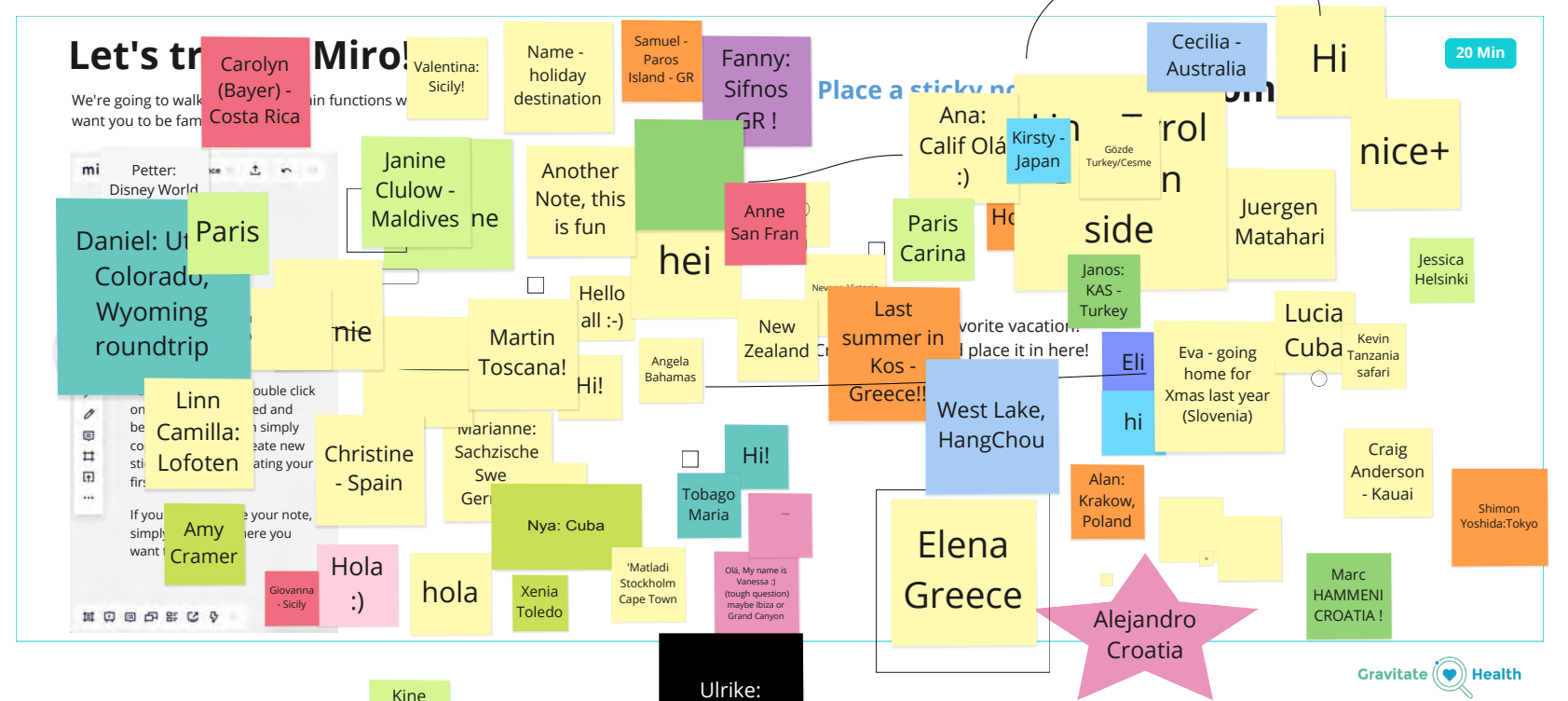
Let's get started!

Let's all log into Miro now!

miro

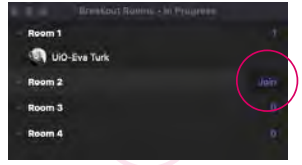
(Please log in with Chrome)

Join us on Miro:
https://miro.com/app/board/o9J_lWGODsw=/


Let's tr Miro!
20 Min
Carolyn (Bayer) - Costa Rica
Valentina: Sicily!
Name - holiday destination
Samuel - Paros Island - GR
Fanny: Sifnos GR !
Cecilia - Australia
Hi
nice+
Ana: Calif Olá :)
Kirsty - Japan
Gözde Turkey/Cesme
Petter: Disney World
Janine Clulow - Maldives
Another Note, this is fun
Anne San Fran
Juergen Matahari
Paris Carina
side
Jessica Helsinki
Daniel: Ut Colorado, Wyoming roundtrip
Paris
Janos: KAS - Turkey
Hello all :-)
hei
Martin Toscana!
New Zealand
Last summer in Kos - Greece!!
Lucia Cuba
Kevin Tanzania safari
Angela Bahamas
Hi!
Eli
Eva - going home for Xmas last year (Slovenia)
Linn Camilla: Lofoten
West Lake, HangChou
hi
Christine - Spain
Hi!
Craig Anderson - Kauai
Tobago Maria
Alan: Krakow, Poland
Shimon Yoshida:Tokyo
Amy Cramer
Nya: Cuba
Elena Greece
Hola :)
hola
Xenia Toledo
'Matladi Stockholm Cape Town
Olá, My name is Vanessa :) (tough question) maybe Ibiza or Grand Canyon
Alejandro Croatia
Marc HAMMENI CROATIA !
Ulrike:
Gravitate Health

Let's break out into teams

1. Find your group
2. Click on the Breakout Room icon and select your Room
3. Hover over the number on the right next to the Room and click **Join** to enter!



Zoom room

Plenary

Maria
Norway Scenario

Eva Turk
Viola Wontor

Eleni Germanopoulou
Nevena Milisavljevic
Anne Moen
Charles Flint
Frans Folkvord
Sarah Frise
Kevin Airey
Elena Arredondo Lillo
Francisco Hernandez
Carina Dantes
Jessica Paul
Anne Gerd Granås
Casper Winsnes

Zoom room 1

Group 1

Filippo
Italy Scenario

Roberto Sorrentino
Matladi Ndlovu

Arielle Weir
Arif Govani
Maria Carolina Saavedra
Kine Toure
Ronnie Mundair
Nya Feldthus
Peter Elleby
Yuri Quintana
Martin Ingvar
Catherine Mc Cabe
Eline Aerts
Godbold, Karen
Laurent Coste

Zoom room 2

Group 2

Amalia
Portugal Scenario

Natercia Rodrigues

Samuel Jacinto
Isabella Sanderfelt
Linn C. Svenningsen
Vanessa Mendes
Kirsty Johnston
Shimon Yoshida
Julian De Gabriele
Janos Karovits
Janine Clulow
Amy Cramer
Dennis Gentges

Margo Raja
Maximiliane Rauch

Zoom room 3

Group 3

Pedro
Spain Scenario

Cecilia Vera

Craig Anderson
Macarena Torrego
Bentz Jürgen
Carolyn Sperl
Xenia Beltran
Giovanna Maria Ferrari
Christine E. Hallgreen
Devric Dodds
Dipak Kalra
Elena Balestra
Marianne Groeneveld
Daniel Tortora
Ulrike Michaux

Zoom room 4

Group 4

Peter
Ireland Scenario

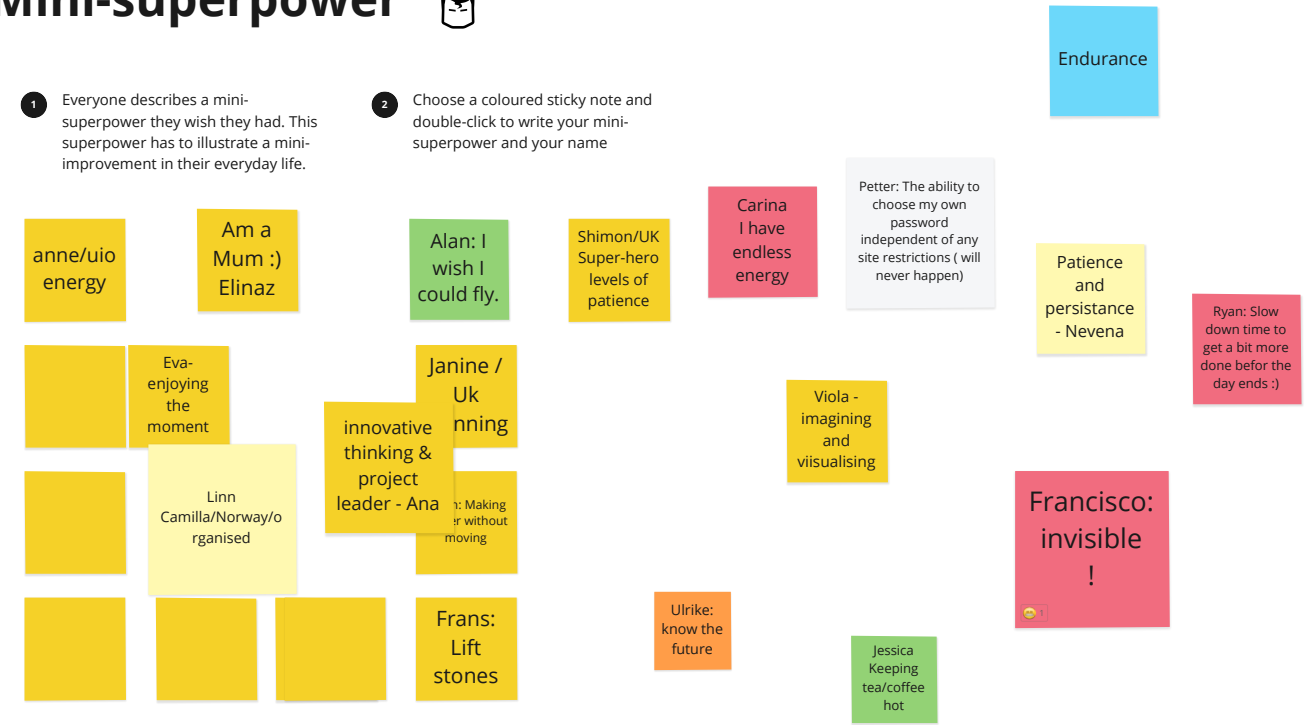
Lucia Comnes
Maria Brenner

Joris Vugt
Koen Nauwelaerts
Georg Lang
Line Løw
Núria Febrer Camprubi
Michele Calabro
E.S. Hofmans
Jurgen Hauck
Tanja Jäntges
Joakim Fagerli
Fanny Mavroeidi
Allan Kirui
Jens Kristian Villadsen

10 Min

Mini-superpower

1. Everyone describes a mini-superpower they wish they had. This superpower has to illustrate a mini-improvement in their everyday life.
2. Choose a coloured sticky note and double-click to write your mini-superpower and your name



Gravitate Health

20 min

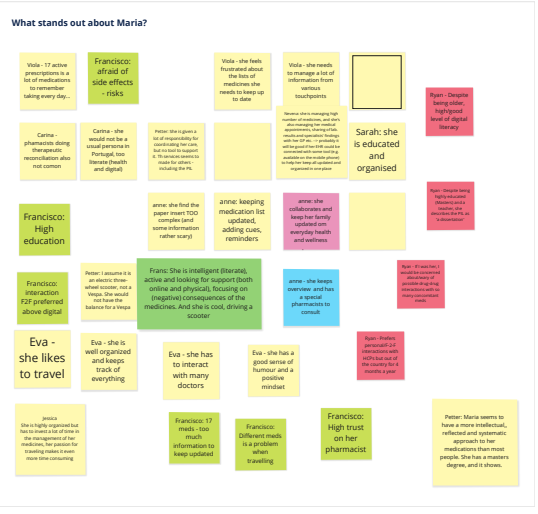
Maria's spotlight

Take a moment to read and reflect. What stands out to you about Maria?

10 min

10 min

Your reflections and observations



60 min

Maria's scenario

10 min

30 min

Take a moment to read and reflect. What stands out to you about Maria?

Identify key activities, emotions along the journey and the key pain points / gaps / decision making points. Work individually with post-its, then collectively to agree on the key milestones.

Scenario

MARIA

Petter: Dry mouth may be a side-effect, and the action should probably be to consider reducing the current medication rather than a new pill. Coughing might be an effect of chronic obstructive lung disease, and increase of current medication would be a probable action.

Scenario: An episode in the daily life of this Persona

- **Maria went to her doctor and he prescribed a new medication.**
- **She went to the pharmacy to get the new medicine and commented to the pharmacist that she is afraid that new medicine may interact with her current treatment.**

Resources

Petter: WIth 17 active prescriptions, no-one knows about interactions - neither the doctor nor the pharmacist. The doctor should tell her to observe effects and side-effects. A particular problem is that "a doctor" isn't a doctor - none is omnipotent. The prescribing doctor most likely do not have the knowledge of all the other specialists. A major problem is that Marias is given the task to coordinate the various doctors, not the health care system

What does Maria DO ?

RELEVANT ACTIVITIES RELATING TO MARIA'S JOURNEY

1. Maria is feeling her mouth much dryer during the day and coughs more
2. Becomes aware she needs to see a doctor and books an appointment.
3. Maria seeks council from health care practitioners and is open for discussion
3A Maria is aware that there are other specialists who may be able to provide some answers
4. He decided to prescribe a new antihistamine
5. After leaving the doctor she reflects on the new prescription and how it will affect her
6. Knowing she got a new medicine she anticipated possible drug-drug interactions
7. Maria is proactive
8. She tries to understand how does the new prescription fit with all the other medications she is already taking
9. She does not rely on the package leaflets to try to understand how this new medication is going to affect her
10. Petter: She does the best she can under the circumstanses.
11. She needs reassurance from the Pharmacist and asks for an opinion on the new prescription
12. She explains to the Pharmacist how many medications she is taking and shows him the entire list
13. Checks information on new medicine online again after consulting with pharmacist and doctor
14 But she only thinks of this when telling her son (7) about the appointment, on the phone
Only Maria fully knows her entire health condition and needs to decide what actions to take

What does Maria FEEL ?

What motivates Maria during these activities?

Afraid for drug-drug interactions

Trusting (pharmacist)

anne: she trust in her doctor and pharmacist

worried about impact of new medication

she feels sad that she will have to take yet another pill

worried about the side effects

Petter: She feels worried, but not afraid. Luckly, she is not aware of the limitations in the doctors and pharmacists knowledge - this should indeed frighten her. Her main focus is on the symptoms she wants to remove - not the interactions

Frustrated (keeping up with medication and doctors)

recall a previous experience with OTC and her prescribed regime

uncertain how to go about new medicine

noone has mentioned the product leaflet

What are the BRIGHT SPOTS for Maria?

she has a trusted relationship with pharmacist already

anne: she will ask and get back to the pharmacist / doctor / NP when needed

Petter: She survived the first 80 years or so.

they should understand / appreciate what I do

Interacting with Healthcare Professionals face to face

What are the PAIN POINTS for Maria?

anne: she has to keep overview and have little access to the info kept form encounters about her

anne: multiple copies of the same info in multiple places

Petter: Healthcare is unfortunately organised to solvie simple separate time-limited problems, not complex chronic multi-diagnosis multi-pharmacy care. Unfortunately.

Petter: The problem is that of lack of knowledge and lack of coordination - not lack of information or health illiteracy

Viola - Uncertainty about the treatment and concerns lingering after the consultations

Viola - Managing her health condition is a burden

OTC

Generic substitution

Needs to handle a lot of information and needs help filtering all this information with the help of HCPs

As a group vote on the key painpoints you would most important for Maria that G-Lens can solve?

RESOURCES

10 Min

Break time

Refuel and refresh

We are having a short break!

See you in 10 mins

(please keep Teams open)

See you back at
(10 mins)
UK (GMT): 3:10PM
EU (CEST): 4:10PM
US (PDT): 12:10PM

Gravitate Health

Maria's journey with G-Lens

20 min

How might G-Lens help Maria on her journey? Brainstorming key features of the G-lens tool that could best improve patient experience and outcomes. What might they look like?

Based on the pain points, What is the greatest value that the G-Lens can offer to Maria and why?

RELEVANT FEATURES AND SERVICES G-LENS CAN PROVIDE TO HELP MARIA ON HE

Petter: Healthcare is unfortunately organised to solve simple separate time-limited problems, not complex chronic multi-diagnosis multi-pharmacy care. Unfortunately.

Petter: The problem is that of lack of knowledge and lack of coordination - not lack of information or health illiteracy

Needs to handle a lot of information and needs help filtering all this information with the help of HCPs

Viola - Uncertainty about the treatment and concerns lingering after the consultations

OTC

she has to keep overview and have little access to the info kept form encounters about her

Viola - Managing her health condition is a burden

Generic substitution

anne: multiple copies of the same info in multiple places

Access to information

access to information about the medications

list of meds and when refills are due

Focused content

Accessibility options to switch to voice, translations in preferred language

simple functionality

simplify complexity to improve understanding

translation

Manage my health

keep track of all her medications and updates

everyday use -

keeping a diary e.g. voice recordings and simple checklists for easy tracking

Easy access to book an appointment with HCP, specialist, nurse

G-lens may be more appropriaite for her HCPs then Maria. she needs somebody to interpret the impacts on her as I read the story NOT more information. She has a relationship with an HCP (pharmacist) she trusts.

Familiar technology

Tracking her condition (different lab tests, specialists, jow can this be connected?)

Integration with existing patient tools, patient portals and existing apps

I'm cautious of more apps. We need to connect in with her already existing sources of information

Sharing my heath journey

Sharing information with family. members, caregivers and support circle

Connect to 'patient like me' - a network of patients with similar diagnosis as a support network

Petter: Maria frequently stays abroad. When she receives a drug in Spain, she would want information in a language she master (Norwegian or English). She might want to compare the content (if it is just a re-fil) with the content of what she receives at home.

Petter: If Maria consults a Spanish doctor, she may want to present information about her medication in a language the doctor understands. If it is a Scandinavian rather than a European product, she would at least want to be able to present the substances and strengths to the doctor - possibly also a link to a corresponding / similar product in the Spanish market.

Maria's target outcomes

20 min

What value will G-Lens bring for Maria? Categorise this feature 'wish list' into the G-Lens core goals of Access, Understanding and Adherence.

Access

anne: focus on elements important for everyday mgt, like if the med is new., or reit or if it is a new brand name same substance, if it is obvious combinations in her set up (e.g., blood thinner + RA med) .

I'm cautious of more apps. We need to connect in with her already existing sources of information

Have a summary of key information available on hand (e.g. medicine dose/time/way of taking medicines, what to do in case of some adverse reaction); that could be connected with her EHR and adjustable or send some notifications that HCP consultation is needed based on her current condition status (e.g. if her lab test results show change outside of normal values)

Practical and easy interface and features tailored to the abilities

Understanding

Petter: Get information in a language you understand.

Translate the information into eg. "English"

Ask a question / chat feature

Immersive and interactive options, videos, podcasts, audio learning and education materials

Petter: Get product content information in a language the doctor understands (when travelling)

If medication has been changed, make sure that Maria demonstrates she understands why and how

Focused and targeted information to Maria's condition

Adherence

Reminders also when travelling and if the medication at hand needs to be taken in any different way,

take at the right time, route, combinations with food

Simple Nudging/gamification of healthy choices

healthcare professionals and patient transparency to understand how to reach health outcomes and (short and long term) goals

Let's wait a moment for the other groups to return to this session

10 Min

Reflecting and looking forward

What have you discovered? What surprised you?

Miro is great! :-)

how can technology help?

how can we make content understandable ?

think of all the complexities behind the individual journey

lack of empowerment

How the Personas journey might be different now that the G-Lens has been applied?

Gravitate Health

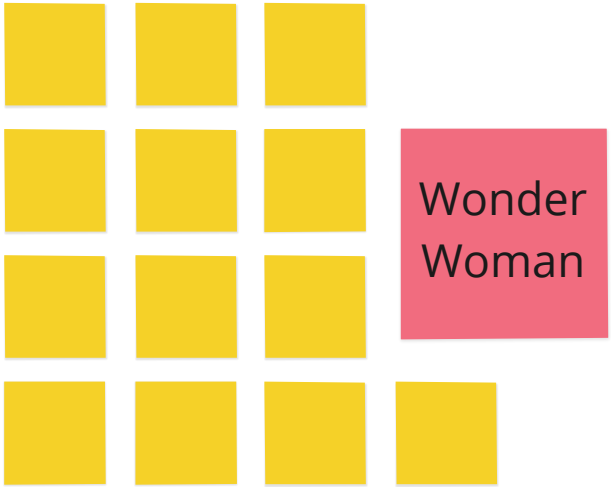
Thank you!

Stay safe. Stay well.

10 Min

Mini-superpower

1. Everyone describes a mini-superpower they wish they had. This superpower has to illustrate a mini-improvement in their everyday life.
2. Choose a coloured sticky note and double-click to write your mini-superpower and your name



Enthusiasm

Endurance

Falling in sleep in less than 5 min

curiosity

Empathy

focused in balance

Listening to others

Thunder Force

Mr. passion-driven by passion and purpose

Gravitate Health

20 min

About Filippo

Get to know your patient

Discuss as a group

Discuss and complete the Empathy Map

- Study and read your persona individually or as a group
- Put yourself in the persona shoes and write as the persona, your thoughts, feelings, and worries in the individual and then using post-it notes
- Discuss and share findings as a group

Filippo's spotlight

Take a moment to read and reflect. What stands out to you about Filippo?

10 min

Your reflections and observations

10 min

What stands out about Filippo?

Very unusual that he doesn't want to share his information

In digital literacy it's specified that he is receptive to social media but in "social" it's written that he don't want ear anyone

The situation isn't clear that filippo is in a palliative situation

I think there is a duality between the fact that he is a naval battle" and his mindset "depressed", most of patient who tried to fight in cancer are in a positive mindset

Fillipos situation is difficult to assess

seems to need more psychological support

General comment: is the information from the persona sufficient to build a valid use-case? How will we know when we have maintain sufficient information from personas to build the service?

Seems bitter

is it realistic to have daily support by nurse of doctor?

40 min

Filippo's scenario

10 min

30 min

Filippo's Journey

Get to know our persona

Take a moment to read and reflect. What stands out to you about Filippo?

Identify key activities, emotions along the journey and the key pain points / gaps / decision making points. Work individually with post-its, then collectively to agree on the key milestones.

Scenario

FILIPPO

Scenario: An episode in the daily life of this Persona

Filippo has played tennis thoughout his life. Then he has been diagnosed cancer

After 50 days in the hospital, Filippo is finally back home. It was a much-awaited moment.

Resources

What does Filippo DO ?

RELEVANT ACTIVITIES RELATING TO FILLIPO'S JOURNEY

- starts medications planning & new routines
- preparing his weekly medications
- demotivation that creates apati
- sleeps more
- manage his journey to decrease the pain
- search on internet to understand what can he do against the disease
- fall in a depression as he realizes the realityy
- try to organize his new life

What does Filippo FEEL ?

What motivates Maria during these activities?

- powerless
- he has doubts about his condition
- feels like loosing the battle
- tiered
- depressed and alone
- He is determined to win over the cancer
- he is considering healthier way of life - focus more on the mental than physical exercise/health
- sometime grateful with family

What are the BRIGHT SPOTS for Filippo?

- help from his wife
- keeping control
- bucket list
- being at home

What are the PAI… for Filippo?

- Very active before, facing a new reality
- Can you get the treatment you deserve? Understand more your diagnose
- very active before now not anymore. letting him to take control of his own life. Very dependent from others
- afraid of death
- uncertaintey
- feeling less valued as a man and human being
- helpless against the disease
- no psychological help
- how to organize his death and family support after
- biggest concerns. difficulty to express emotions. Pyt want to take care for their family. Try to reduce the impact of their death
- Filippo needs psychological support. how can bridge that?
- Similar to uncertainty how is going to progress. Doesn't have the full pic. Not having control on his life.
- Side effects. what can i still do, what not
- how much pain is acceptable. How much social life I want to leave

As a group vote on the …nt… …ons most important for Fil… …ens can solve?

RESOURCES

10 Min

Break time

Refuel and refresh

Similar to uncertainty how is going to progress. Doesn't have the full pic. Not having control on his life.

how to organize his death and family support after

We are having a short break!

See you in 10 mins

(please keep Teams open)

See you back at
(10 mins)
UK (GMT): 3:10PM
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US (PDT): 12:10PM

Gravitate Health

Filippo's journey with G-Lens

20 min

How might G-Lens help Fi… rney? Brainstorming … f the G-le… ld best improve patient experience and outcomes … ey look like?

Impact on my personal life,still able to do things.

feeling of more control. clear overview

inform decisions, feeling the control

age, illness, most effective treatment

Ba… e pa… What is the g… alue that the G-Lens can offer to Filippo and why?

RE… ES AND SERVICES G-LENS CAN PROVIDE TO HELP FILIPPO ON HER JOURNEY?

personalized dosage plan with G-lens

understand the impact of treatment to his social life

managed side effects with a better understanding

increase feeling to have control

making room for decision making about his medication in collaboration with health team

empowerment to decide about his therapy

pain medication interactions with treatment

allow to share health information wiht HCP and others easier

easier to keep things under control with the G-lens tool designed to ensure medical and treatment adherence

link to support groups

reduce communication barrier through communication via tool

get real time feedback and feel connected with care givers

connect to others in a similar situation

allow to search for additional information and support options

Filippo's target outcomes

20 min

What value will G-Lens bring for Filippo? Categorise this feature 'wish list' into the G-Lens core goals of Access, Understanding and Adherence.

Access

reduce communication barrier through communication via tool

allow to share health information wiht HCP and others easier

allow to search for additional information and support options

connect to others in a similar situation

link to support groups

Understanding

Impact on my personal life,still able to do things.

pain medication interactions with treatment

inform decisions, feeling the control

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increase feeling to have control

Adherence

age, illness, most effective treatment

personalized dosage plan with G-lens

easier to keep things under control with the G-lens tool designed to ensure medical and treatment adherence

Great work!

Let'd return to our main session

We look forward to hearing from everyone!

UK (GMT): 3:50PM
EU (CEST): 4:50PM
US (PDT): 12:50PM

Gravitate Health

10 Min

Mini-superpower

1. Everyone describes a mini-superpower they wish they had. This superpower has to illustrate a mini-improvement in their everyday life.
2. Choose a coloured sticky note and double-click to write your mini-superpower and your name

Kirsty - Switzerland determination

Janine UK, Planning and empathy

Janos - Switzerland - Systems thinking, visual communications,

Samuel (Portugal) - Problem solver

Shimon/UK - superhuman patience

Natercia - Switzerland Creativity, System Thinking

Margo - Estonia - finding bugs & solutions

Gözde - Belgium - Multitask

Multitaskers McCreativers

innovative thinking & project leading - Ana

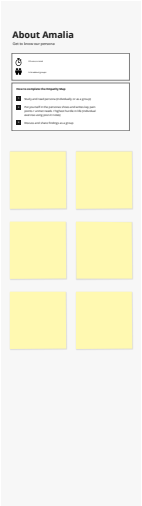
Isabella sanderfelt - Sweden never give up

Vanessa Portugal Creativity [:)]

Gravitate Health

20 min

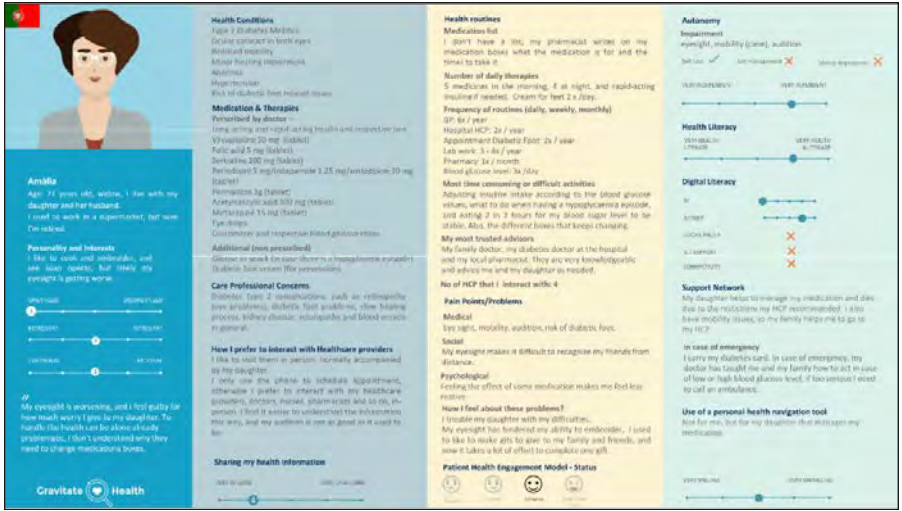
About Amalia



Amalia's spotlight

Take a moment to read and reflect. What stands out to you about Amalia?

10 min



10 min

Your reflections and observations

What stands out about Amalia?

Complex disease that needs different meds, frequent measures and diet restrictions

Eyesight issues

She feels like a burden

Low digital literacy (only mobile phone)

Highly reliant on a trusted support

High level of trust in regular HCPs

More than average literacy on mobile usage

Organized

Feeling that she burdens her family

No longer able to enjoy hobbies

She is organized and open to use some technology support (mobile)

Compliant

Sensitive to change

Two people to consider (her daughter)

Eyesight and hearing loss along with low health literacy

Complex medication schedule

Relies on human contact

Must be difficult for her to navigate and prioritize the multiple conditions and medications

Sight issues mean access to pertinent info only is important

reliance on HCP / caregiver to get medication information

Multiple meds are too difficult to manage without help

insulin administration in accurate dosing and potential for negative health outcomes

Dependence on caregiver

Would appreciate support but does not want to burden

Impact on social life and independence

severe eye sight and audition limitations

Reliance on F2F and infrequent contact with HCP cause difficulty if there are Qs or concerns between appointments

especially with eyesight issues and insuling needles potentially difficult to read

higher-educ-digital literacy but still needs competence in other forms of communication and support/reassurance in communication, as this is need or preference for human interaction

limitations affect her hobbies and relationships

Prefers in person interaction with HCPs

"Old School Patient"

low literacy in general; relying on others

good awareness of her health situation despite all her limitations

thought-since she was a cook could her medication regime be represented as a "recipe"

antidepressant and sleeping medication makes her less reactive

difficulty in keeping up with changes in brand/generic

Will become dependent on her family

Confident but leaning towards insecurity

40 min

Amalia's scenario

10 min

Take a moment to read and reflect. What stands out to you about Amalia?

Scenario

AMALIA

Scenario: An episode in the daily life of this Persona

Amália noticed that lately she has had high blood sugar levels in the morning, however she has been taking the medications as usual. She doesn't know what's going on. She mentioned this to her daughter, and they decided that it was better to make an appointment with the doctor.

Amalia's Journey

Get to know our persona

Goals

How to complete the Empathy Map

1. Read through an episode in the daily life of this Persona
2. Identify the key pain points / gaps / decision-making points along the journey. Work individually with post-its, then collectively to agree on the key milestones.
3. Note on which of the milestones is most painful and worrisome to give them a weight and order of priority. Suggestion: use happy and sad/bad teams in Miro.

Identify key activities, emoti... ou ... ey ... a ... naki ... k individually with post-its, then collectiv... o a ... ey

1. Decides on a selection of actions (review diet, regular measurement to all fins...)
2. Gets second opinion from trusted professionals and daughter whether her actions are correct or anything missing
3. She may have fellow diabetics from where she could ask advice from
4. Adjust practices according to advice given
5. Some advice may be conflicting, so need another round of advice again
6. Sequence of actions lead to measurable positive results, confirmed by prof.feedback

30 min

1. check if missed any medication or changed any type of food, with the help of her daughter
2. Measure again the sugar levels using a different device
3. speak with the pharmacist before having the chnace to make a doctor visit
4. Consider to make blood tests because a subjacent disease maybe present
5. Visit the doctor; understand the situation, what is the root cause
6. Try to understand what was the reason; what she has to do; feel confident on the next steps to take; trust in her doctor and medications
7. Implement measures and reassess the results, if all is solved

What does Amalia DO ?

1. Measure blood glucose
2. Adjust rapid insulin according to value and HCP instructions; if severe -> emergency. Daughter is helping her, as she usually does (fear, overwhelmed)
3. take different measures over the day and register (overwhelmed)
4. takes notes of diet (overwhelmed)
5. HCP appointment scheduled by daughter (dependence)
6. visit her HCP to show the measurements / notes (fear)
7. Follow HCP recommendations Depending on HCP solution may be sad or happy
8. blood glucose levels stable after following recommendations (relief)

1. Contact doctor to arrange an appointment
2. Ask daughter to accompany her to the appointment (dependence) (happy to have the support of her family)
3. Take note of glucose readings to take with her to the appointment
4. Take note of any changes in diet or activity lately to discuss with the doctor
5. Attend the appointment and share this information with the doctor (concern)
6. Amalia and daughter to take notes on advice from doctor
7. Amalia and daughter to work together to organise schedule for any new medications (confusion/frustration if list is long) (relief if solution seems achievable)

1.Measure Blood metrics
2. ask for help understanding (daugther and/or GP) (frustration)
3. organize a colect medica and habits informatio (troublesom
4. go to the GP
5. Listen and register what the GP indicates
6. Get secor opinio
7. Test/adjust (troublesome)

1. Check whether she has changed her diet/eating habits
2. Make an appointment with the doctor
3. Follow up the doctors' advice/ask her daughter for help in doing so (embarrassment)
4. closely monitor the glucose level (feeling like having cont...)
5. contact the doctor again if the situation does not get better (despair)

es Amalia during thes

1. Daugher and Amalia list change in the diet
2. list any new meds taken during this time
3. Call GP
4. Visit GP
5. Change dose of meds
6. Daughter update the doses on the med boxes
7. Daughter monitor the blood sugar at home
8. Go for further tests if the sugar levels don' improve after the dose change

1. Try do identify what she has done differently lately that could have affect her blood sugar level (anxiety/frustation)
2. Also discuss with her daughter to see if she has found something that could have affected the blood glucose levels
3. Make and appointment with her GP
4. In the meantime try to alter what she identified as a change compared to what she did before the high blood glucose level
6.. Visit the GP with her daughter.

Review insulin levels with daughter
Agree there has been a change
Has anything else changed in condition? any signs of emergency? (fear)
Make appointment (irritation)
Record diet, insulin levels, any other change
Arrange day of attending appointment -tests, meals, journey, family commitments etc (many)
Appointment (happy if all well and no concerns)
Any additional immediate testing rewuired? Bloods? Immediate impact on family arrangements or delay?
Adjust and monitor meds or await results of testing (anxiety)
Return visit to HCP required?

1. assess situation to check if there is indeed an issue or not (eg.: needles may be an issue)
2. review documentation (eg.: glucose levels history)
3. Call to make an appointment via telehealth with MD - ease for daughter, less burden, preference for direct connection

Ask her daughter to review her diet , be testing (relate BG and compliance with medications, assess other Health , review documentation that they have been keeping (assuming they have) to determine trends

5. Measure th blood glucose level more frequently to see if there is a change

30 min

0. Daughter checks if missed other medicines or made other lifestyle changes (STRESS)
1. Check device for measuring blood sugar
2. Ask HCP/Nurse for any immediate advice (STRESS)
3. Ask daughter to call HCP for appointment (RELIEF)
4. Keep diary of food, medicine, readings etc (DIFFICULT)
5. Attend appt and ask daughter to take notes (DIFFICULT)
6. Daughter checks effectiveness of new approach advised by HCP (BETTER)

As a group vote on the key painpoints you would consider most important for Amalia that G-Lens can solve?

RESOURCES

10 Min

Break time

Refuel and refresh

We are having a short break!
See you in 10 mins
(please keep Teams open)

See you back at
(10 mins)
UK (GMT): 3:10PM
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US (PDT): 12:10PM

Amalia's journey with G-Lens

How might G-Lens help Amalia on her journey? Brainstorming key features of the G-lens tool that could best improve patient experience and outcomes. What might they look like?

Interesting that there is nothing here concerning the label itself! In this case the label is not so relevant.

Maybe because of the lack of accessibility she learn to live without this info?

20 min

Based on the pain points, What is the greatest value that the G-Lens can offer to Amalia and why?

RELEVANT FEATURES AND SERVICES G-LENS CAN PROVIDE TO HELP AMALIA ON HER JOURNEY?

ess to
pport
munity

Lack of empowerment/ dependency of caregiver

Permission to caregiver / HCP to access her data

Documentation and Note Taking

Knowing how to assess the seriousness of the situation

Ask open questions too

Access to most up to date information on medicines in various formats

Getting overview of relevant information or Documentation

Prioritize and structure the information and constantly update

Controlling Blood sugar

Duration and length of the - in between Journey Steps

Share information with caregiver

Chat with caregivers and fellow patients

Able to keep track of her own status not relying solely on daughter

up-to-date and organized registration option

interactive food label reader since she needs to control diet

Transparent, imediate information on meds (dosage, side efects, interconnections)

Screening / alerts with advice to seek help

adaptability options (video, audio, letter sizing)

Audio option to read the prescription and leaflet

Getting reminders

Document

Seamless and integrated information sharing

tracking information could be provided to HCP before appointment allowing tests to be done at appointment not later

Appointments and assessing severity - urgency

Easier access to healthcare system to make appointments

Prompt about optional actions to consider

Insulin results/diary can be accessed within G-lens and results shared with HCP

Consolidate input from def diagnosis, nutrition, activity, medication compliance and advice

Access to online HCP for advice

Targeted information

HCP-Patient communication tool

Easier to remember historical blood sugar levels from digital data capture

Help her take audio diary notes

Help to adjust insulin dose according to glucose value

Tracker, journaling tool

Reminders to control glucose / eat food (normally they have to eat 2h in 2h). But personalisation allowed

G-lens needs to be easy to use to not increase effort

Be transparent about how actions lead to result. Show the feasibility of the journey, taking one step at a time.

Provide multiple options for accessing consolidated info (audio, graphics, larger text)

Tracker, journaling tool

Provide parallel information to physician and trusted support person too

Audio and visual remainders / notifications.

Accesible tools (audio, video) to learn strategies to be more empowered

List of contacts to immediately use - phone to HCP or Pharmacist

easy to understand information about alret signs to consider; when to visit the doctor

Automatic notice to the GP if issue with insulin results

G-Lens can capture notes from HCP appointment so daughter doesn't forget anything

remainders; which are the expected values; time of the day to make the measures; before during or after meals, etc

Amalia's target outcomes

20 min

Wh -Lens bring for Amalia? Categorise this feature o the G-Lens core goals of Access, Understanding and Adhere

Linking with online health data tracking from patient

know well what needs to be captured

Access

Easier access to healthcare system to make appointments

connect G-Lens with the Television; is a gig screen, easy for Amalia to usean, read and hear well

List of contacts to immediately use - phone to HCP or Pharmacist

Chat with caregivers and fellow patients

access to support communit

Easier access to healthcare system to make appointments

adaptability options (video, audio, letter sizing)

Permission to caregiver / HCP to access her data

Help her take audio diary notes

Understanding

Prompt about optional actions to consider

Share information with caregiver

plain language information about the disease, medication, food and medication measures she needs to respect

Easier to remember historical blood sugar levels from digital data capture

Accesible tools (audio, video) to learn strategies to be more empowered

Chat with caregivers and fellow patients

G-Lens can capture notes from HCP appointment so daughter doesn't forget anything

G-Lens can capture notes from HCP appointment so daughter doesn't forget anything

Help to adjust insulin dose according to glucose value

Targeted information

Ask open questions too

Be transparent about how actions lead to result. Show the feasibility of the journey, taking one step at a time.

Adherence

Getting reminders

Screening / alerts with advice to seek help

Tracker, journaling tool

Journey transparency. Seeing whats the goal to reach

Audio and visual remainders / notification

Reminders to control glucose / eat food (normally they have to eat 2h in 2h). But personalisation allowed

Can the measuring devices be linked to the app to track automatically

G-Lens can capture notes from HCP appointment so daughter doesn't forget anything

Help her take audio diary notes

Can the measuring devices be linked to the app to track automatically

Help her take audio diary notes

Seamless and integrated information sharing

Could G-lens have avoided this situation occurring in the first place? A preventative tool which anticipates issues from previous readings or Amalia's actions?

adaptability options (video, audio, letter sizing)

Very well done this workshop!

Great work!

Let'd return to our main session

We look forward to hearing from everyone!

Congrats on the great workshop!

UK (GMT): 3:50PM
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Gravitate Health

10 Min

Mini-superpower

1. Everyone describes a mini-superpower they wish they had. This superpower has to illustrate a mini-improvement in their everyday life.
2. Choose a coloured sticky note and double-click to write your mini-superpower and your name

Cecilia - Love to put everything in an Excel spreadsheet

Cristina: I wish I could travel with the mind

Valentina block time to think in my calendar

Craig - fly

Christine - stopping time

Macarena. teleportation

Devric: Finally here ;-)

teletrasport- Elena

Ulrike: flying

Marianne: keep track of my working hours (stop in time)

Xenia puzzle maker

Kevin photographic memory

Daniel - programming

Giovanna - Multi-tasking

Gravitate Health

20 min

10 min

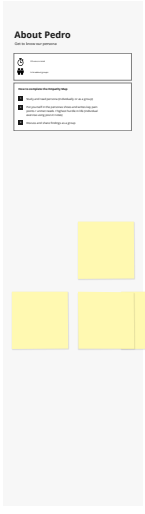
10 min

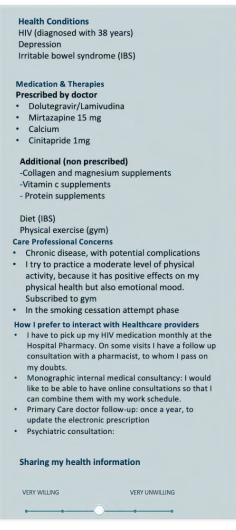
Pedro's spotlight

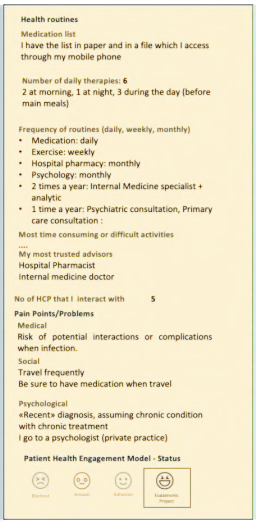
Take a moment to read and reflect. What stands out to you about Pedro?

Your reflections and observations

What stands out about Pedro?







40 min

Pedro's scenario

10 min

30 min

Take a moment to read and reflect. What stands out to you about Pedro?

Scenario

PEDRO

Scenario: An episode in the daily life of this Persona

- **Pedro has an appointment at the hospital today. He has to pick up his monthly medication and has a consultation with his doctor afterwards.**
- **He prepares some of the questions to ask his doctor in advance. But his medication has changed, and he is in a hurry because he has to go back to works; so, he leaves the hospital without asking some of the questions he had.**
- **At consultations, he is usually embarrassed about asking some of the doubts he has regarding interactions with other medication, so he just does not do it most of the time. He is also afraid of suffering an adverse event and worried about the documentation he needs regarding his medication for travelling or in case of mobility restrictions.**
- **On the other side, Pedro's doctor, Juan, left him wondering if he actually understood his new treatment, because they had very little time. Juan has limited information about Pedro in terms of other medication he consumes. He is also concerned about not having his microbiology and analytical results integrated with the Hospital Pharmacy software and/or the clinical history.**

Identify key activities, emotions along the journey and the key pain points / gaps / decision making points. Work individually with post-its, then collectively to agree on the key milestones.

What does Pedro DO ?

RELEVANT ACTIVITIES RELATING TO PEDRO'S JOURNEY

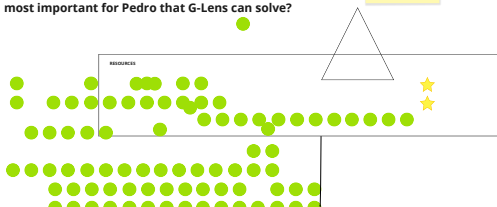
What does Pedro FEEL ?

What motivates Pedro during these activities?

What are the BRIGHT SPOTS for Pedro?

What are the PAIN POINTS for Pedro?

As a group vote on the key painpoints you would consider most important for Pedro that G-Lens can solve?



10 Min

Break time

Refuel and refresh

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Pedro's journey with G-Lens

How might G-Lens help Pedro on his journe… …es of the G-lens tool that could best impr… experience and outcomes. What might the…

WHAT?

WHY?

HOW?

Challenges?

20 min

Based on the pain points, What is the greatest value that the G-Lens can offer to Pedro and why?

RELEVANT FEATURES AND SERVICES G-LENS CAN PROVIDE TO HELP PEDRO ON HIS JOURNEY?

Time constraints, embarrassment, lack of available information limiting both Pedro & Dr Juan.

not 1 source of all information accessible to both Pedro and his HCPs

checks google about new medication

Pedro wants to be more organised and in control of his healthcare.

relevant information accessible at appointment

G-Lens can help provide both Pedro & Dr Juan with the different information they need, to make best use of their consultation

Time restraints for f2f meeting so a follow up service i.e. chat function

possibility for 'digital' agenda/notebook included?

Accessibility not just to data source but to information tailored to suit the individual

1 data source

ePI available - single source

autoregisters of doubts/question

6 medications in one user friendly view

Show trusted information about the medication

reliable information about:
- medicine
- medicine administartion
- Interaction
- Adverse events
- Life style (diet)

G-Lens could show him how this medications interact in terms of DDIs and could help him track potatnail AEs that may concern him

Visibility of full medication list, opportunity to record details of questions to discuss with HCP, also reminders (or similar) could help him manage his varous appointments and medicines

1 data source to access

G Lens will facilate access to relevant information for both Pedro and Dr Juan (eg ePI, NEHR data)

informal chat function with HCP

By keeping his medication lists in the G-Lens he would have quick access to this information

Easy availability of product information, plus integration with other data sources can help focus their discussions. Saves time spent looking in multiple places for totality of information needed by both

Q & A service on medication

ePI regulator approved so authentic

ensure access to relevant information

need to ensure content is accessible, ie understandab…

it easier to formation…ces health…acy and compliance

G-Lens could provide link to EHRs

automatic 'input' from all trusted sources (pre-defined?) into G-Lens

Ideally, G-Lens interacts with Pedro's EHR and knows what medication he is on. That gives it some guidance on what information is needed.

Use of formats/prese…ntations suited to the individual

…ctured ePI, FHIR, in a …ccessible …so G-Lens …ess to …d data

how t… ensur… data privacy…

how will people… less digitally advanced…

w to ensure …hat G-Lens …ll stay up to …e

Ensuring the user interface is intuitive and easy to use

who is responsible for keeping G-Lens up to date and accurate (who is 'owner')?

Getting the le… of informati… right for th… user eg Ped… vs Juan.

Availability of all necessary source data, integration of different types of content to meet the needs of the different users. Need uptake/adoption both by patient and HCP to derive full benefit

Help Pedro differentiate between authentic information and false or misleading information

Pedro wants to have information but he doesn't always have the time to ask and he feels embarrassed.

No ned for Google - one stop shop for trusted information about medicines

Connect to regulaor-approved ePI - trusted source

Scan barcode on the medication, or medication name on packaging. G-Lens recognises the medication and looks up the relevant information in a trusted EMA database

digital Form displayed with check list of potential interactions/ adverse effects

Summary of main information needed by Pedro from all medications

To manage his disease and prevent disease spreat (development)

daily medication prompt to help adherence

Provide "valid" information relevant to Pedro based on his imput (e.g. disease history, treatment history, current meds & lifestyle)

Medication list, reminders, option to capture notes

Requires aallability of ePI - currently still 'work in progress' in some markets

Ensuring G-Lens provides accurate information (e.g., can it recognize the right medication 100% of the time?)

What constitutes reliable sources for g-lens (only regulatory smpc or also treatment guidelines, scientific literature, other health authorities?)

adherence monitoring

Liability (legal)

Data privacy

- information overload contra leaving out information

Doctor acceptance - risk of increase time burden for doctors

20 min

Pedro's target outcomes

What value will G-Lens bring for Pedro? Categorise this feature 'wish list' into the G-Lens core goals of Access, Understanding and Adherence.

Access

up to date information on prevention and applicable medicines in 1 digitally accessible source

links to key information i.e. clinical papers and education materials

also access to other sources of information, besides BoH websites

1 data source - convenient to access ePI and other relvant information

Pedro can choose who he wants to give access to which parts of his health records

access to EHRs and IPS

Understanding

information tailored to Pedro's needs

Will help him organise different aspects of his healthcare in one place (currently separate)

relevant information from G-Lens can be shared with HCPs to discuss

Greater opportunity to gain understanding of medication through enhanced interaction with Dr Juan (eg opportunity to discuss current meds). Better opportunity to focus discussion

semi-structured data to aid search of ePI and provide links to explanatory notes

dictionary of medical terms

Q&A service on disease state and medication i.e. main interactions

Adherence

possible to add alert function on when to take a certain medicine or plan an appointment

Tools to help become more organised can help with adherence on a practical level

Being able to better resolve questions/ concerns about the medication may lead to greater willingness to take the medication as prescribed (either through HCP discussion, or by having the assurance that the information is reliable and correct)

Question: We don't know if Pedro has a problem with adherence?

G-Lens provide a daily prompt to take specific medication

prompt to collect 'repeat' medication from pharmacist before the current supply runs out

Great work!

Let'd return to our main session

We look forward to hearing from everyone!

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10 Min

Mini-superpower

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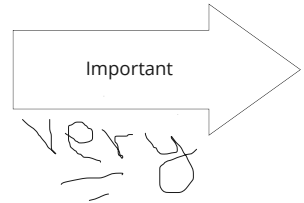
2. Choose a coloured sticky note and double-click to write your mini-superpower and your name



Speaking many languages instantly

To fly Lucia

Ciao

magic lamp

fly

teleporting Catherine

A wand that cleans and tidies up with a bippity bobbity spell

read minds

Martini: Mastering teams

Flying

Coding RubyonRails

Induce creativity bliss, Catherine

Instant Master chef skills

see through walls

Cooking with mind

Learning without study

Teleportation

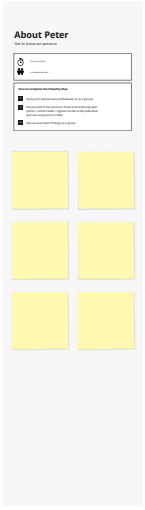
Gravitate Health

20 min

Peter's spotlight

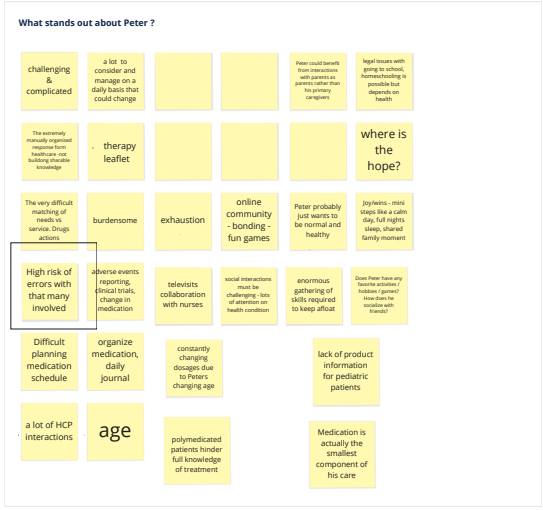
Take a moment to read and reflect. What stands out to you about Peter?

10 min



Your reflections and observations

10 min



40 min

Peter's scenario

10 min

30 min

Take a moment to read and reflect. What stands out to you about Peter?

Identify key activities, emotions along the journey and the key pain points / gaps / decision making points. Work individually with post-its, then collectively to agree on the key milestones.

Peter's journey

Scenario

PETER

Scenario: An episode in the daily life of this Persona

- **Peter's health it's very tough to handle.**
- **Peter's parents would appreciate a solution that helps them with all the medications he has to take.**
- **Suddenly, in the night, he has difficulty breathing. Parents panic and struggle to cope with the emergency.**

Resources

Decision Aids (pain point of insecurity)
Issue of TRUST - that they are doing the right thing
Continuous struggle to regain a sense of control
At what point to call for help
For medication - how much is too much?
Cause of the problem - is it mechanical such as a block in the tube? Or if it is not visibly a problem, when do they call for help? To what extent can they manage medication and resolve with medication
Who is the best person to call?
Depends on where the child is discharged to and what level of support at the community level
Trust issues and background knowledge of Peter's case
Medication management in an emergency situation - a tool that can help caregivers under stress see the limits of what they can do with his meds in terms of dosage and frequency

Further observations at close of breakout session

Scope of this activity is valuable

Illustrates the general complexity for delivering care from multiple providers
Glens has to be sleek and offer value to be useful, rather than adding to cognitive load
reduce, realign, make simple, make predictable,
it becomes painfully clear how important this is

shock on the emotional level
original idea was information provider on drugs
this scenario - something I didn't imagine the glens would do
this requires more knowledge beyond drug info, i.e. crisis management
who would give this training in the G-lens

medication on its own is an isolated part of a dynamic situation

Alan - 2 groups - pain medication and respiratory medications, if issue with those, you find out about it right away. The other things are very chronic, nutritional support, that medication could be too high or too low and months before any meaningful feedback.
Could be med related, but more likely water in a tube somewhere
Mudslides in switzerland
Tricky to think about managing medications or better to divide into groups - short acting meds and the long acting meds that you want to avoid making mistakes, and adjust for changing circumstances, pharmacology review - look at list and look at peter and see if there is something we can remove. What if we try dropping it, increasing this, substituting this. Will G-Lens get into what a good pharmacology review does?
Refinement on the area of managing Peters meds. Not all 15 are in the same group
Does Peter have a medication list? Maria can provide one for further design/testing activities if helpful.

Meaning: a medical crisis can result from a chronic condition that reaches a tipping point

Special case for therapy ePI, how can this be linked to crisis management and actions?
Very contextual information where you could link training materials
Medical crisis comes from 1 of 2 things - something happens suddenly, or because it has been building up for weeks/months and reaches a tipping point
We don't know which of those 2 circumstances we are in - a chronic issue has turned to a breathing crisis or someone forgot his resp med this afternoon. This is where remote assistance can be helpful.

How you can communicate with an HCP in a crisis management model
Guided use of the therapy ePI is important

Also time span to consider in medical crisis - the person who mentored Alan in how physicians think - what do I need to keep the patient alive for next hour, for the next day and then the underlying problem
Where does G-lens come in?
Is it a resource that someone would look at for the next hour case? Or next day? Or longer term

Is G-Lens potentially an emergency resource/tool or not? This needs to be decided.
Or used in chronic care condition

A journal fo the medications - check for counter indications and drug-drug interactions

Therapy ePI - does it change in the morning or evening?

If at the end it is not clear what the product is for or not intended for, then Risk and liability issues in emergency situations will be very hard to address.

10 Min

Break time

Refuel and refresh

We are having a short break!
See you in 10 mins
(please keep Teams open)

See you back at
(10 mins)
UK (GMT): 3:10PM
EU (CEST): 4:10PM
US (PDT): 12:10PM

Peter's journey with G-Lens

20 min

How might G-Lens help Peter on her journey?

Based on the pain points, What is the greatest value that the G-Lens can offer to Peter and why?

RELEVANT FEATURES AND SERVICES G-LENS CAN PROVIDE TO HELP PETER ON HIS JOURNEY?

Crisis Management Support?

Decision aids

A point of reference during triage for answering all medicine related questions

Observations:

Is G-lens a General health seeking tool or an info tool on drug / correct use of meds (drug focused)
But in this scenario, the drug focus is limited
understand how to provide general empowerment tools with chronic care diagnosis
Need to delineate what the g lens can contribute

Wouldn't it be great if his parents record what he's taken, his energy levels, moods, etc and also get push alerts that might be relevant for them, so setting their preferences based on Peter
example medicine X, rash has been added, they can look out for it
A more focused conversation with practitioner when there is an interaction
monitor pro actively how the patient is doing before parents contact, example - 6 days that he hasn't slept
Quality of life aspect - how to improve quality

Close to patient services - from an information point of view
clear line from drug co to regulatory endorsement of information, this is the core G-lens services, and this can be used for 'close to patient services' that can be translated to advice, support,
integrated with all sources, closed information circle
Hook up Glens to that as an information giver, and also force questions about USE of glens in the patient information circle

people not reading medicine leaflet so -Value to bring forward information that is new and from a safety aspect to be aware of but to do this . we need centralised repository, or a common mapped

Peter's target outcomes

20 min

What value will G-Lens bring for Peter?

Access

Updated information in real time to all actors in his case

Protocol question - did Peter take all his meds? Access to the answer of this question

Access to exploring side effects

Understanding

Adherence

Great work!

Let'd return to our main session

We look forward to hearing from everyone!

UK (GMT): 3:50PM
EU (CEST): 4:50PM
US (PDT): 12:50PM

up 3

IN DRAFT

Patient Scenarios & Use Cases

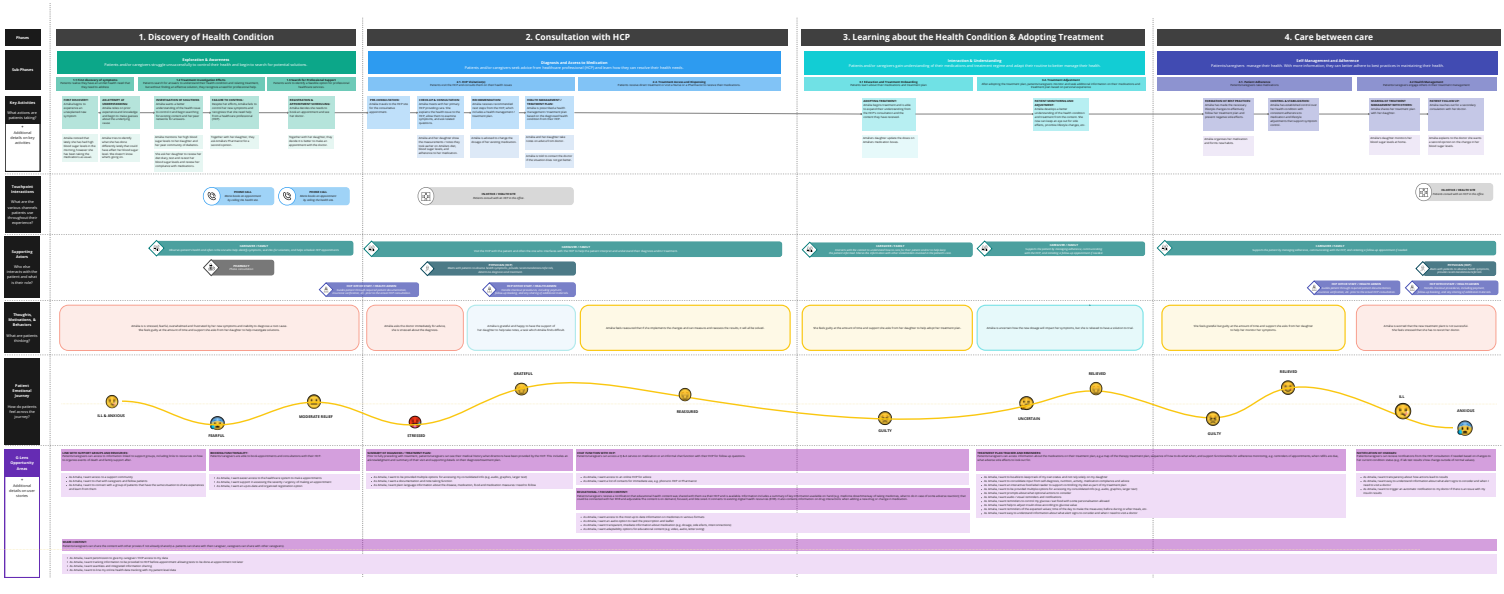
Patient Scenarios

PATIENT PERSONAS

AMALIA

Scenario: An episode in the daily life of this Persona

- Amalia noticed that lately she has had high blood sugar levels in the morning, however she has been taking the medications as usual. She doesn't know what's going on.
- She mentioned this to her daughter, and they decided that it was better to make an appointment with the doctor.



IN DRAFT

Patient Scenarios & Use Cases

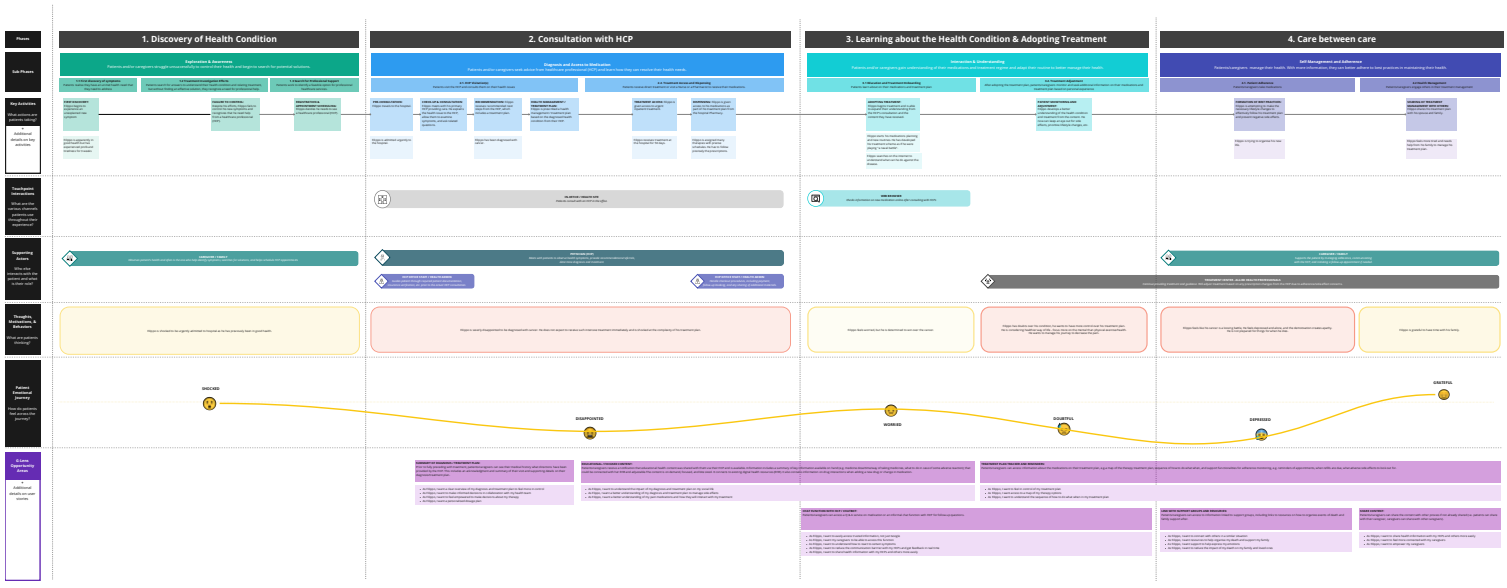
Patient Scenarios

PATIENT PERSONAS

FILIPPO

Scenario: An episode in the daily life of this Persona

- Filippo has played tennis thoughout his life. Then he has been diagnosed cancer
- After 10 days in the hospital, Filippo is finally back home. It was a much awaited moment.



IN DRAFT

Patient Scenarios
& Use Cases

Patient Scenarios

PATIENT PERSONAS

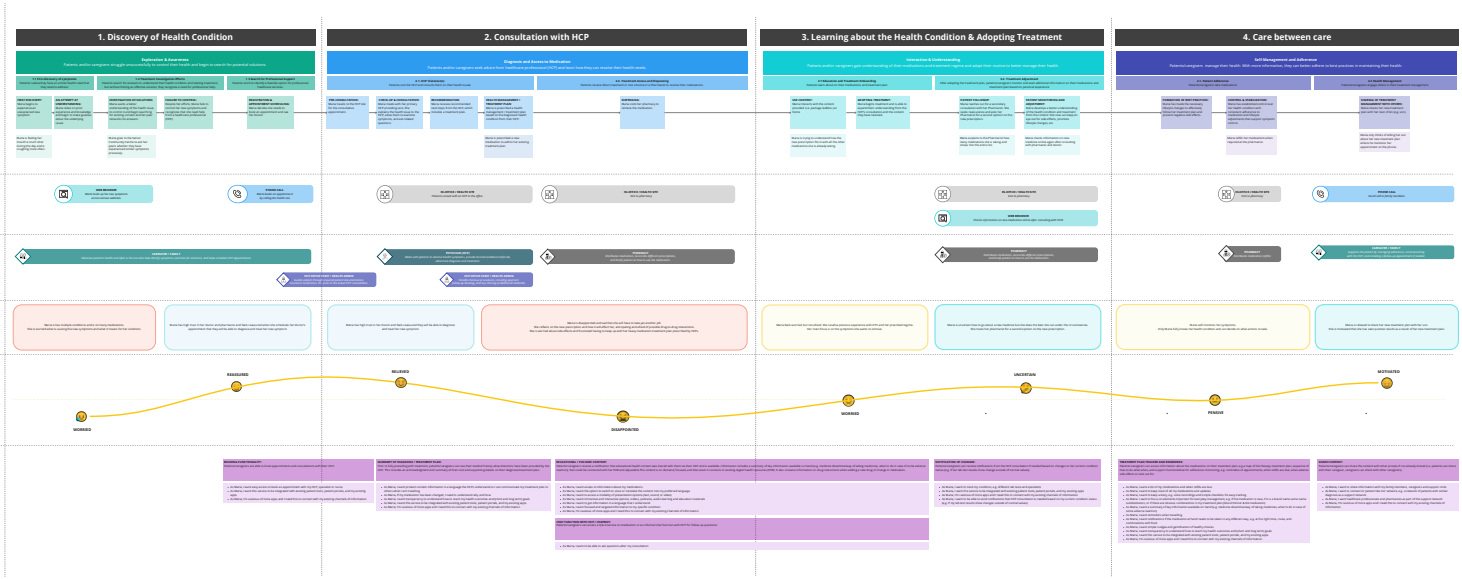
MARIA

Scenario: An episode in the daily life of this Persona

- Maria has multiple conditions and many medications in the relevant sources. Risk for side effects and adverse drug reactions if therapy is not reconciled or followed with precision.
- Maria identifies a new symptom, so she went to her doctor and he prescribed a new medication.
- She went to the pharmacy to get the new medicine and consumed in the pharmacist that she is afraid that new medicine may interact with her current treatment.

G-LENS CONSIDERATIONS

- G-lens may be more appropriate for Maria's HCP's lens. Glens needs ownership to interpret the impacts on her NOT more information about the treatment plan itself.
- She has an existing positive relationship with an HCP (Pharmacist) where she trusts. Her doctor and pharmacist are her preferred channels and sources of information.



IN DRAFT

Patient Scenarios
& Use Cases

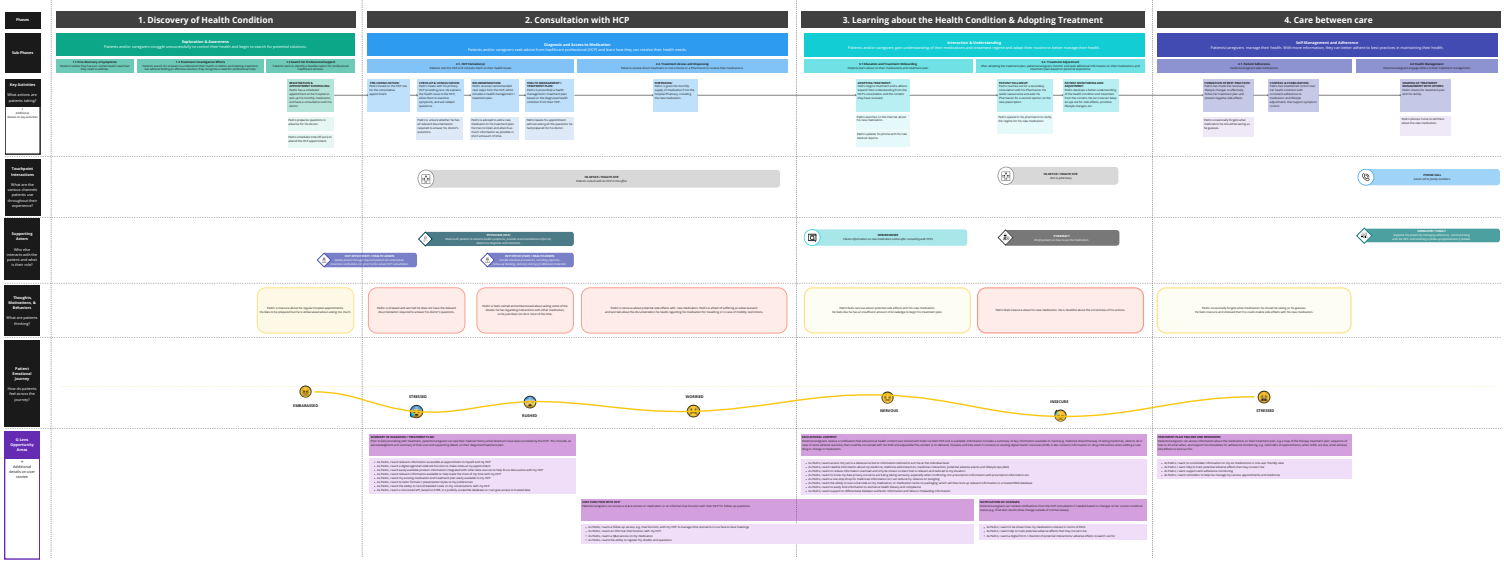
Patient Scenarios

PATIENT PERSONAS

PEDRO

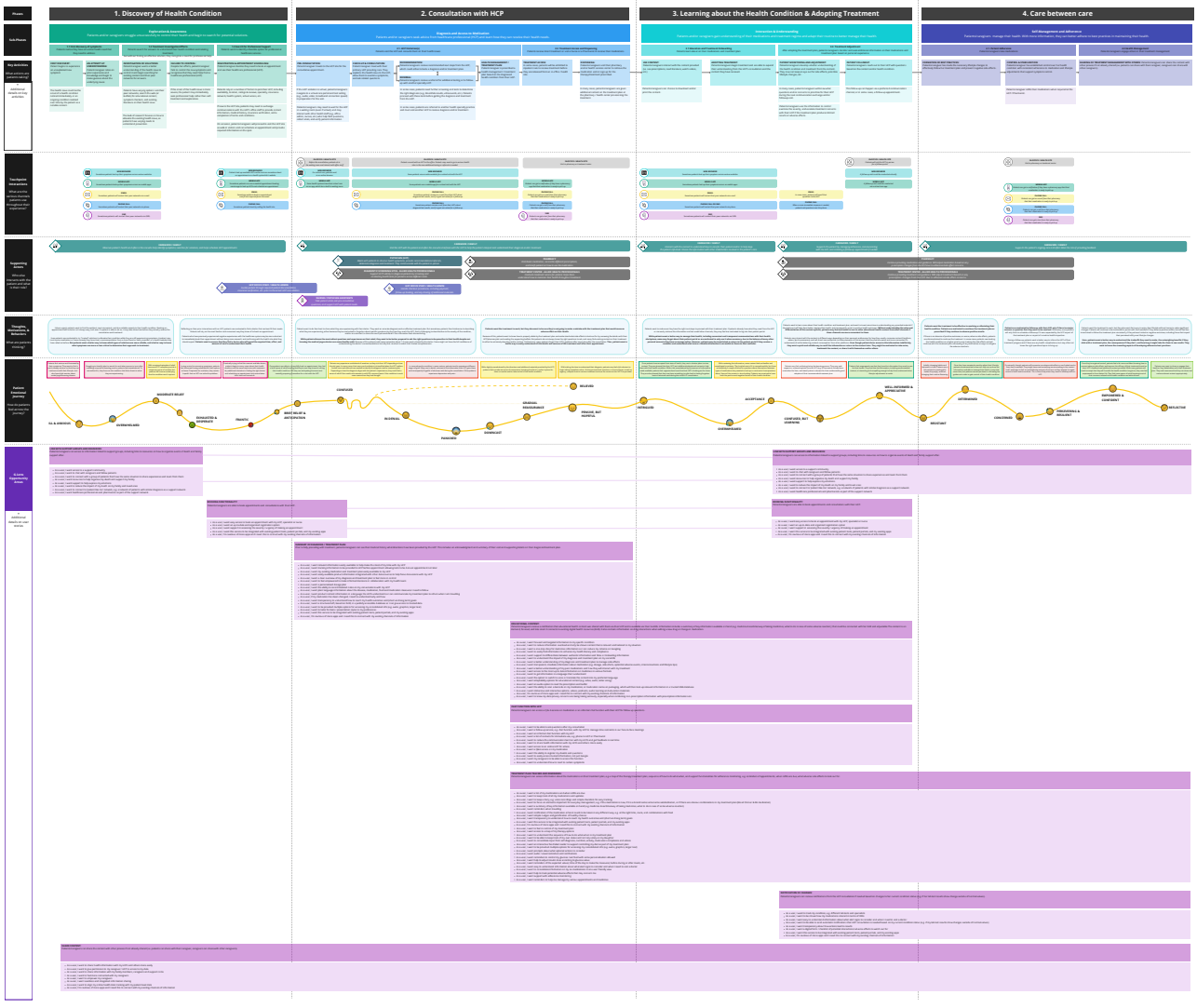
Scenario: An episode in the daily life of this Persona

- Pedro has an appointment at the hospital today. He has to pick up his monthly medication and has a consultation with his doctor afterwards.
- He prepares some of the questions to ask his doctor in advance. But his medication has changed, and he is in a hurry because he has to go back to work, so he leaves the hospital without asking some of the questions he had.
- At consultation, he is usually embarrassed about asking some of the doubts he has regarding interactions with other medication, so he just does not do it most of the time. He is also afraid of suffering an adverse event and wanted about the documentation he needs regarding his medication for travelling or in case of mobility restrictions.
- On the other side, Pedro's doctor, Juan, left him wondering if he actually understood his new treatment, because they had very little time. Juan has limited information about Pedro in terms of other medication he consumes. He is also concerned about not having his nevrobiology and analytical results integrated with the Hospital Pharmacy software and/or the clinical history.



IN DRAFT

Patient Scenarios
User Agnostic Journey



Lorem

Age:

Personality and interests

Interest 1
Interest 2

ORGANIZED — DISORGANIZED
1

EXTROVERT — INTROVERT
1

EMOTIONAL — RATIONAL
3

"
Lorem Ipsum

Gravitate Health

Health Conditions

Lorem Ipsum

Medication & Therapies

Prescribed by doctor -

1 Lorem Ipsum

X in Therapeutic Group A

X in Therapeutic Group B
etc

Lorem Ipsum

Additional (non prescribed)

Lorem Ipsum

Care Professional Concerns

Lorem Ipsum

How I prefer to interact with Healthcare providers

Lorem Ipsum

Sharing my health information

VERY WILLING — VERY UNWILLING
4

Health routines

Medication list

Lorem Ipsum

Number of daily therapies

Lorem Ipsum

Frequency of routines (daily, weekly, monthly)

Lorem Ipsum

Most time consuming or difficult activities

Lorem Ipsum

My most trusted advisors

Lorem Ipsum

No of HCP that I interact with 9

Pain Points/Problems

Medical

Lorem Ipsum

Social

Lorem Ipsum

Psychological

Lorem Ipsum

How I feel about these problems?

Lorem Ipsum

Patient Health Engagement Model - Status

Blackout — Arousal — Adhesion — Eudaimonic Project

Autonomy

Impairment

Lorem Ipsum

Self care ✓ Self management ✓ Mental impediment ✗

VERY INDEPENDENT — VERY DEPENDENT
4

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE
2

Digital Literacy

PC 2
MOBILE 3
SOCIAL MEDIA ✓
ICT SUPPORT ✓
CONNECTIVITY ✓

Support Network

Lorem Ipsum

In case of emergency

Lorem Ipsum

Use of a personal health navigation tool

Lorem Ipsum

VERY WILLING — VERY UNWILLING
2

Maria

Age: 80's Married, I live with my husband
I'm a retired Teacher
I have a Masters Degree
I travel abroad up to 4 months/year

Personality and interests

I'm interested in art and local history
I read a lot

ORGANIZED — DISORGANIZED: 1

EXTROVERT — INTROVERT: 1

EMOTIONAL — RATIONAL: 3

"The leaflet is like a dissertation, not something that I read every day. It explains what the medication is for. I mostly check the side effects. It can pretty scary to read that medications can lead to hair loss, itching, bleeding and so on. Most of the time, luckily, it goes well.

Gravitate Health

Health Conditions

Arthritis, congestive heart failure, slightly overweight, diabetes (?), physical impairments

Medication & Therapies

Prescribed by doctor - 17 active prescriptions

1 Anticoagulant

X in Therapeutic Group A

X in Therapeutic Group B
etc

Pain medicine as needed (up to 3x per day)
CPAP machine therapy

Additional (non prescribed)

Vitamins & Supplements: fish oil for Omega 3
Garlic for immunity boosting
Aerosol nitroglycerine (when needed)
Aerosol & allergy medication (when needed)

Care Professional Concerns

Multiple conditions and many medications is the relevant concern. Risk for side effects and adverse drug reactions if therapy not reconciled or followed with precision.

How I prefer to interact with Healthcare providers

Often in person at my local Pharmacy, they help me reconcile my prescriptions from various specialists. Sometimes over the phone.
Communication, collaboration and oversight between doctors could be better.
For lab work & specialist exam, I must ask results to be sent to my GP, otherwise it won't happen.
I use the phone since private matters cannot be discussed over email and no secure messaging available.

Sharing my health information

VERY WILLING — VERY UNWILLING: 4

Health routines

Medication list

List is versioned and dated, now v.17. Stored and maintained on PC.
I add keywords and scribbles on the list while I speak with HCPs.

Number of daily therapies

11 medicines in the morning, 5 in the evening. Plus 4 supplements daily

Frequency of routines (daily, weekly, monthly)

1x per week organizes daily meds & dosages
As needed updates Medication List (17+ versions)
1x month (?) visits Pharmacy
3-4x year GP visit with lab work
4x year Specialist visits (heart, eye, ear and rheums)
4x year other visits: sleep apnea, physical therapy

Most time consuming or difficult activities

Update the medication list.

My most trusted advisors

Local pharmacists - they are knowledgeable and know me to help manage my many therapies
Google search when learning about a new medicine

No of HCP that I interact with 9

Pain Points/Problems

Medical

Mobility

Social

Travelling with CPAP - take a lot of room
Be sure to have medication when travel
Medication list in different languages
Keep medication and the pack for customs check

Psychological

Keep the medication list and update it, it's frustrating

How I feel about these problems?

Mobility challenges has hindered me from being as active as I like, so I have sought out compensatory tools like the scooter (two one in Norway and one in the south in second home). My mobility has improved.

Patient Health Engagement Model - Status

Blackout — Arousal — Adhesion — Eudaimonic Project

Autonomy

Impairment

Glasses, Hearing aid, Cane/crutches and Scooter

Self care ✓ Self management ✓ Mental impediment ✗

VERY INDEPENDENT — VERY DEPENDENT: 4

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE: 2

Digital Literacy

PC: 2
MOBILE: 3
SOCIAL MEDIA ✓
ICT SUPPORT ✓
CONNECTIVITY ✓

Support Network

I manage my own care, but with the support of my family and HCPs. I rely on support mostly for my physical limitations and when travelling.

In case of emergency

I keep multiple copies of the patient card (available in the anticoagulant pack) with critical information that may help HCPs.

Use of a personal health navigation tool

Keeping the medication list updated, interactions and side effects.
Reading the leaflet headings and searching for what is relevant to her at this point in time.

VERY WILLING — VERY UNWILLING: 2

Filippo

Age: 61

I'm married and live with my wife.
I was an excellent tennis player, and now I'm a coach. Sport has meant something throughout my life.

Personality and interests

I've a healthy lifestyle
I like playing music.

ORGANIZED — DISORGANIZED: 1

EXTROVERT — INTROVERT: 4

EMOTIONAL — RATIONAL: 5

"I am confident that I'll be fine, but my body is giving me signs that things are not right.

Gravitate Health

Health Conditions

Apparently in good health but profound tiredness for 3 weeks

Medication & Therapies

Prescribed by doctor -

Pain relievers
Diuretics
Cortisone
Anxiolytics

Care Professional Concerns

The situation is worrying, and the prognosis may be fatal. The patient want to fight this battle.

How I prefer to interact with Healthcare providers

I've been admitted urgently to the hospital.

Doctors have diagnosed me with cancer. I've been 50 days in hospital after which I've returned home.

They have assigned many therapies with precise schedules. I've to follow precisely the prescriptions.

I've developed my scheme as if it like play a naval battle.

Sharing my health information

VERY WILLING — VERY UNWILLING: 5

Health routines

Medication list

I've orgnized the list like a naval battle.

Number of daily therapies

15 therapies

Frequency of routines (daily, weekly, monthly)

Daily therapies
Every 2 days the doctor and nurse
1 time a week physiotherapist

Most time consuming or difficult activities

Naval battle setup

My most trusted advisors

Wife and daughter

No of HCP that I interact with

5

Pain Points/Problems

Medical

Tiredness and inappetite.

Social

I have turned off my phone, I don't want ear anyone

Psychological

I feel depressed and aptic. I hope to stay better soon.

Patient Health Engagement Model - Status

Blackout — **Arousal** — Adhesion — Eudaimonic project

Autonomy

Impairment wheelchair

Self care ✓ Self management X Mental impediment X

VERY INDEPENDENT — VERY DEPENDENT: 3

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE: 1

Digital Literacy

PC: 5

MOBILE: 5

SOCIAL MEDIA: ✓

ICT SUPPORT: X

CONNECTIVITY: ✓

Support Network

I feel more and more tired and need help from my family.

Use of a personal health navigation tool

I would appreciate a tool that let me have more control on my health.

VERY WILLING — VERY UNWILLING: 1

Amália

Age: 77 years old, widow, I live with my daughter and her husband.

I used to work in a supermarket, but now I'm retired.

Personality and interests

I like to cook and embroider, and see soap operas, but lately my eyesight is getting worse.

ORGANIZED — DISORGANIZED: 1

EXTROVERT — INTROVERT: 3

EMOTIONAL — RATIONAL: 3

"My eyesight is worsening, and I feel guilty for how much worry I give to my daughter. To handle the health can be alone already problematic, I don't understand why they need to change medications boxes.

Gravitate Health

Health Conditions

Type 2 Diabetes Mellitus
Ocular cataract in both eyes
Reduced mobility
Minor hearing impairment
Anaemia
Hypertension
Risk of diabetic foot related-issues.

Medication & Therapies

Prescribed by doctor –

Long-acting and rapid-acting insulin and respective pen
Vilvagliptine 50 mg (tablet)
Folic acid 5 mg (tablet)
Sertraline 100 mg (tablet)
Perindopril 5 mg/indapamide 1.25 mg/amlodipine 10 mg (tablet)
Permadoze 1g (tablet)
Acetylsalicylic acid 100 mg (tablet)
Mirtazapine 15 mg (tablet)
Eye drops
Glucometer and respective blood glucose strips

Additional (non prescribed)

Glicose or snack (in case there is a hypoglicemic episode)
Diabetic foot cream (for prevention).

Care Professional Concerns

Diabetes type 2 complications, such as retinopathy (eye problems), diabetic foot problems, slow healing process, kidney disease, neuropathy and blood vessels in general.

How I prefer to interact with Healthcare providers

I like to visit them in person, normally accompanied by my daughter.

I only use the phone to schedule appointment, otherwise I prefer to interact with my healthcare providers, doctors, nurses, pharmacists and so on, in-person. I find it easier to understand the information this way, and my audition is not as good as it used to be.

Sharing my health information

VERY WILLING — VERY UNWILLING: 2

Health routines

Medication list

I don't have a list; my pharmacist writes on my medication boxes what the medication is for and the times to take it.

Number of daily therapies

5 medicines in the morning, 4 at night, and rapid-acting insuline if needed. Cream for feet 2 x /day.

Frequency of routines (daily, weekly, monthly)

GP: 6x / year
Hospital HCP: 2x / year
Appointment Diabetic Foot: 2x / year
Lab work: 3 - 4x / year
Pharmacy: 1x / month
Blood glucose level: 3x /day

Most time consuming or difficult activities

Adjusting insuline intake according to the blood glucose values; what to do when having a hypoglycaemia episode, and eating 2 in 2 hours for my blood sugar level to be stable. Also, the different boxes that keeps changing.

My most trusted advisors

My family doctor, my diabetes doctor at the hospital and my local pharmacist. They are very knowledgeable and advice me and my daughter as needed.

No of HCP that I interact with: 4

Pain Points/Problems

Medical

Eye sight, mobility, audition, risk of diabetic foot.

Social

My eyesight makes it difficult to recognize my friends from distance.

Psychological

Feeling the effect of some medication makes me feel less reative.

How I feel about these problems?

I trouble my daughter with my difficulties.
My eyesight has hindered my ability to embroider, I used to like to make gits to give to my family and friends, and now it takes a lot of effort to complete one gift.

Patient Health Engagement Model - Status

Blackout | Arousal | Adhesion | Eudaimonic Project

Autonomy

Impairment

eyesight, mobility (cane), audition

Self care ✓ | Self management ✗ | Mental impediment ✗

VERY INDEPENDENT — VERY DEPENDENT

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE

Digital Literacy

PC	
MOBILE	
SOCIAL MEDIA	✗
ICT SUPPORT	✗
CONNECTIVITY	✗

Support Network

My daughter helps to manage my medication and diet, due to the restictions my HCP recommended. I also have mobility issues, so my family helps me to go to my HCP.

In case of emergency

I carry my diabetes card. In case of emergency, my doctor has taught me and my family how to act in case of low or high blood glucose level; if too serious I need to call an ambulance.

Use of a personal health navigation tool

Not for me, but for my daughter that manages my medication.

VERY WILLING — VERY UNWILLING: 3

Pedro

Age: 42 years,
I live alone, single.
Electronics store salesperson
Smoker since the age of 20

Interests:
cultural events and concerts.
I enjoy mountain activities, skiing in winter and hiking the rest of the year.

ORGANIZED — DISORGANIZED

EXTROVERT — INTROVERT

EMOTIONAL — RATIONAL

"I wish I would have a trusted source of information for preventive actions against the spread of my disease.

Gravitate Health

Health Conditions

HIV (diagnosed with 38 years)
Depression
Irritable bowel syndrome (IBS)

Medication & Therapies

Prescribed by doctor

- Dolutegravir/Lamivudina
- Mirtazapine 15 mg
- Calcium
- Cinitapride 1mg

Additional (non prescribed)

-Collagen and magnesium supplements
-Vitamin c supplements
- Protein supplements

Diet (IBS)
Physical exercise (gym)

Care Professional Concerns

- Chronic disease, with potential complications
- I try to practice a moderate level of physical activity, because it has positive effects on my physical health but also emotional mood. Subscribed to gym
- In the smoking cessation attempt phase

How I prefer to interact with Healthcare providers

- I have to pick up my HIV medication monthly at the Hospital Pharmacy. On some visits I have a follow up consultation with a pharmacist, to whom I pass on my doubts.
- Monographic internal medical consultancy: I would like to be able to have online consultations so that I can combine them with my work schedule.
- Primary Care doctor follow-up: once a year, to update the electronic prescription
- Psychiatric consultation:

Sharing my health information

VERY WILLING — VERY UNWILLING

Health routines

Medication list

I have the list in paper and in a file which I access through my mobile phone

Number of daily therapies: 6

2 at morning, 1 at night, 3 during the day (before main meals)

Frequency of routines (daily, weekly, monthly)

- Medication: daily
- Exercise: weekly
- Hospital pharmacy: monthly
- Psychology: monthly
- 2 times a year: Internal Medicine specialist + analytic
- 1 time a year: Psychiatric consultation, Primary care consultation :

Most time consuming or difficult activities

....

My most trusted advisors

Hospital Pharmacist
Internal medicine doctor

No of HCP that I interact with 5

Pain Points/Problems

Medical

Risk of potential interactions or complications when infection.

Social

Travel frequently
Be sure to have medication when travel

Psychological

«Recent» diagnosis, assuming chronic condition with chronic treatment
I go to a psychologist (private practice)

Patient Health Engagement Model - Status

Blackout — Arousal — Adhesion — Eudaimonic Project

Autonomy

Impairment

Self care ✓ Self management ✓ Mental impediment ✗

VERY INDEPENDENT — VERY DEPENDENT

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE

Digital Literacy

PC	2
MOBILE	
SOCIAL MEDIA	✓
ICT SUPPORT	✓ ✓
CONNECTIVITY	✓

Support Network

I manage my own care
I rely on emotional support with friends, family.

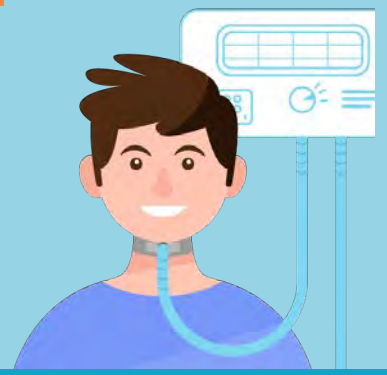
In case of emergency

I save digitalized the medical reports in my phone

Use of a personal health navigation tool

Reliable information of potential interactions of HIV medication
Lifestyle (dietetic) recommendations for IBS

VERY WILLING — VERY UNWILLING



Peter

Age: 9 years old

He has a spinal cord injury. He has a tracheostomy and he has been on home ventilation for the last year. He is fed through a gastrostomy tube. He is confined to a wheelchair and he lives with his parents, who are his primary carers, and his 2 older sisters.

ORGANIZED — DISORGANIZED: 4

EXTROVERT — INTROVERT: 4

EMOTIONAL — RATIONAL: 2

"I'm very dependent on my parents and caregivers, without them I would not survive. I wish that they have tools to help avoid unnecessary risks and avoid additional problems so I can just be myself and enjoy my parents company as parents and not nurses. It is rare when we can all forget about my complex conditions and needs.

Gravitate Health

Medication & Therapies

Prescribed by doctor - 14 active prescriptions including medications to support respiratory, cardiac, gastric and neurological functioning, and pain medications.

Care Professional Concerns

As Peter's parents are his primary carers it is essential that they have constant access to relevant up-to-date information. They require access to infomation on side effects and potential drug interactions. Peter's parents live over 200kms from their nearest tertiary care centre and there is very little access to respite care in their area.

How they prefer to interact with Healthcare providers

Their main point of contact in the community is the complex care service manager who leads a team of nurses who come in to care for Peter for 20 hours every week. She is concerned about the level of care that Peter's parents have to manage. They usually speak to her when they have any questions on any aspect of Peter's care on a day-to-day basis, in between visits to specialists. They also connect regularly with thier local pharmacist who assists them with accessing Peter's medications. They have 6 monthly visits to the tertiary care centre where Peter has a full review by the neurology, respiratory and orthopaedic teams.
During COVID-19 Peter's parents stopped all usual home care to avoid infection and are very fearful of the risk of infection to him.

Sharing Peter's health information

VERY WILLING — VERY UNWILLING: 4

Medication list

There is a list of Peter's medications in the kitchen and in his bedroom and in the car. Peter's parents keep a list of any queries or concerns and will ring the complex care service manager with any questions.

Peter usually has 8 medicines in the morning, 6 at lunchtime, 6 in the evening and 5 at nighttime. Peter's medication routine will often depend on his respiratory status and other clinical parameters (depending on Peter's respiratory status).

His parents say that they rarely refer to medication leaflets as they do not find them useful. This is because Peter's medication management can change as he grows and with any fluctuations with his clinical condition.

Frequent care:

home nursing team
physiotherapy
occupational therapy
neurology team
orthopaedic team
pain team
respiratory team
physical therapy,
psychology and social care.

No of HCP that Peter's parents interact with: 18

Pain Points/Problems

Medical care and changes as Peter grows
Polypharmacy
Transport
Access to therapies
Supporting siblings
Access to respite care

Dependency

Peter's parents are very dependent on support from the home nursing team and all allied health professionals

VERY INDEPENDENT — VERY DEPENDENT: 4

Health Literacy

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE: 2

Digital Literacy

Peter's parents have good digital literacy and frequently use social media.

Support Network

Peter's parents rely on the home care team and HCPS. They have no family living close to them, though they have very supportive friends nearby. They have a list of emergency contacts which includes some of the home care nurses and the complex care service manager and local GP.

Antonio

Age: 80

At home I'm the caregiver of my syster Elena. She has 70 years old and has Down syndrome. She depends completeley on me. I'm her tutor.

Personality and interests

I've a healthy lifestyle
I like playing music.

ORGANIZED — DISORGANIZED: 1

EXTROVERT — INTROVERT: 4

EMOTIONAL — RATIONAL: 5

"After our parents' death, everything related to Elena's health has been up to me. She's my sister, and it was natural to deal with her condition.

As we get older, I demand myself what happens if I can't take care of her anymore.

Gravitate Health

Health Conditions

Elena has frequent aspiration pneumonia.
Hypothyroidism

Medication & Therapies

Prescribed by doctor -

Gastroprotector
Therapy for hypothyroidism
Psychotropic drugs

Additional (non prescribed)

Leg dressings for pressure sores.
Urinary catheter.

Care Professional Concerns

Doctors are concerned about the increasingly frequent inhalation of food and how to get her to eat.

How I prefer to interact with Healthcare providers

I have known the GP for 40 years, and I trust him completely.

He helps me manage Elena at home; usually, I hear him by phone.

Sharing my health information

VERY WILLING — VERY UNWILLING: 1

Health routines

Medication list

It's very easy, medications are unchanged from a long time.

Number of daily therapies

4 therapies. I have to mince the tablets.

Frequency of routines (daily, weekly, monthly)

Daily therapies
Each month GP visits her.

Most time consuming or difficult activities Leg dressing and eating without drowning.

My most trusted advisors

GP, nurses, and physiotherapist.

No of HCP that I interact with 4

Pain Points/Problems

Medical

She's not able to walk.

Social

Since her birth, Elena has depended on a family member, first our parents, then me.

Psychological

Elena is a fragile person.

Autonomy

Impairment Elena is on a wheelchair

Self care X — Self management X — Mental impediment ✓

VERY INDEPENDENT — VERY DEPENDENT: 3

Health Literacy (Antonio)

VERY HEALTH LITERATE — VERY HEALTH ILLITERATE: 1

Digital Literacy (Antonio)

PC	5
MOBILE	5
SOCIAL MEDIA	✓
ICT SUPPORT	X
CONNECTIVITY	✓

Support Network (Antonio)

My family: my wife and my sons help me a lot.

In case of emergency

In case of need, I have to use the vacuum to prevent Elena from drowning.

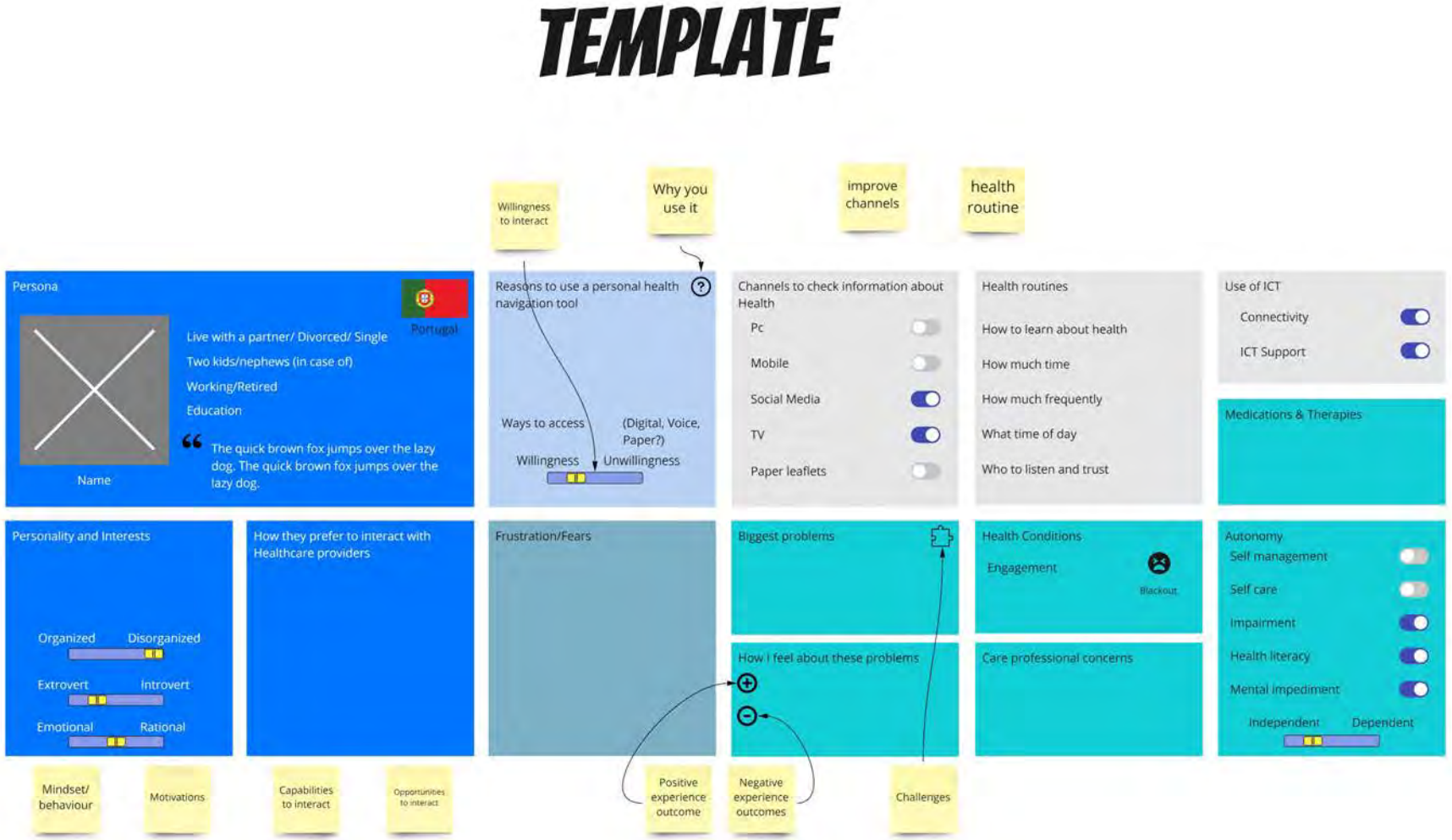
Use of a personal health navigation tool

I would appreciate a tool that lets others help Elena in case I'm not able anymore.

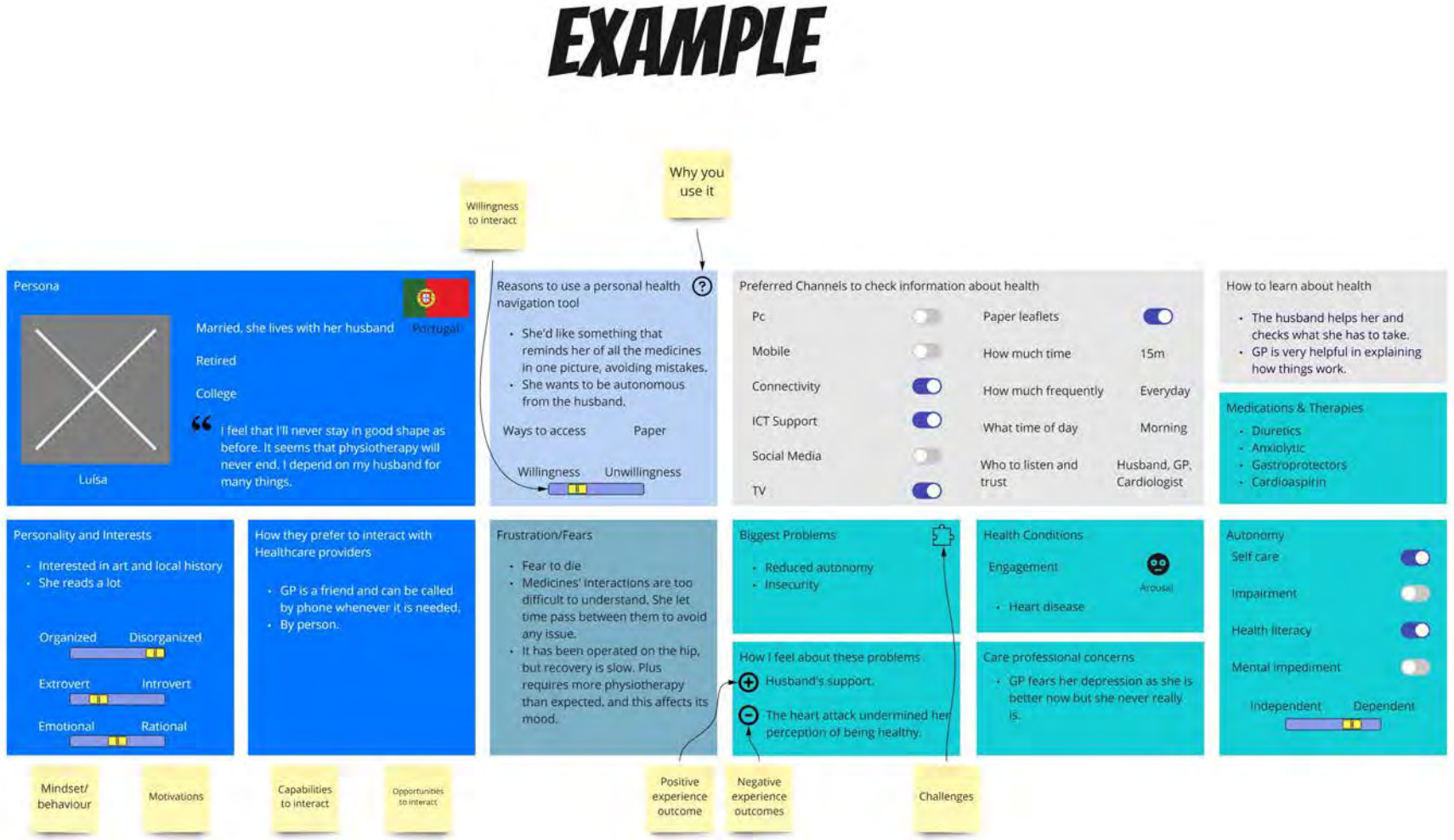
VERY WILLING — VERY UNWILLING: 1

Structuring personas

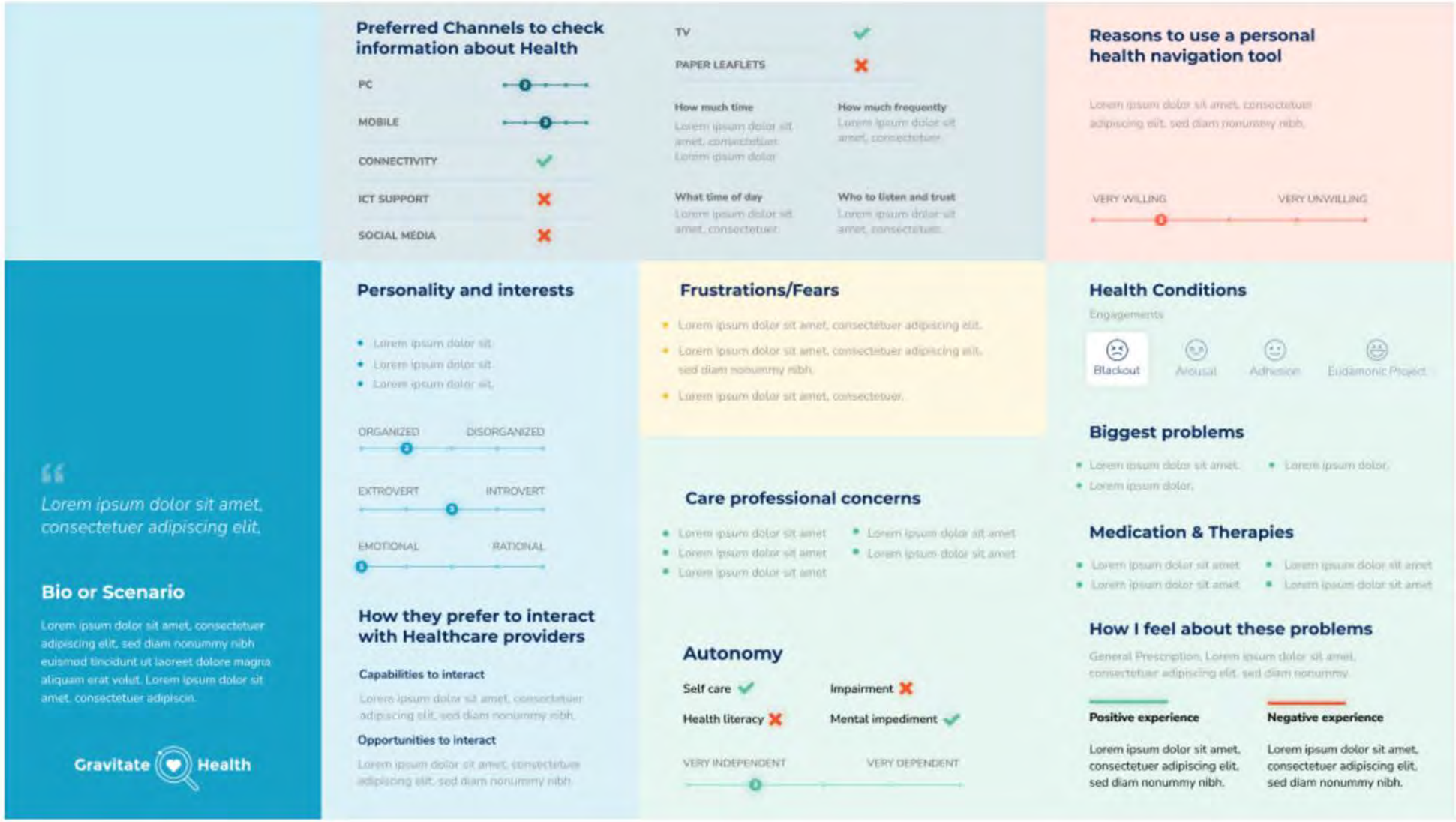
Persona's template – First draft



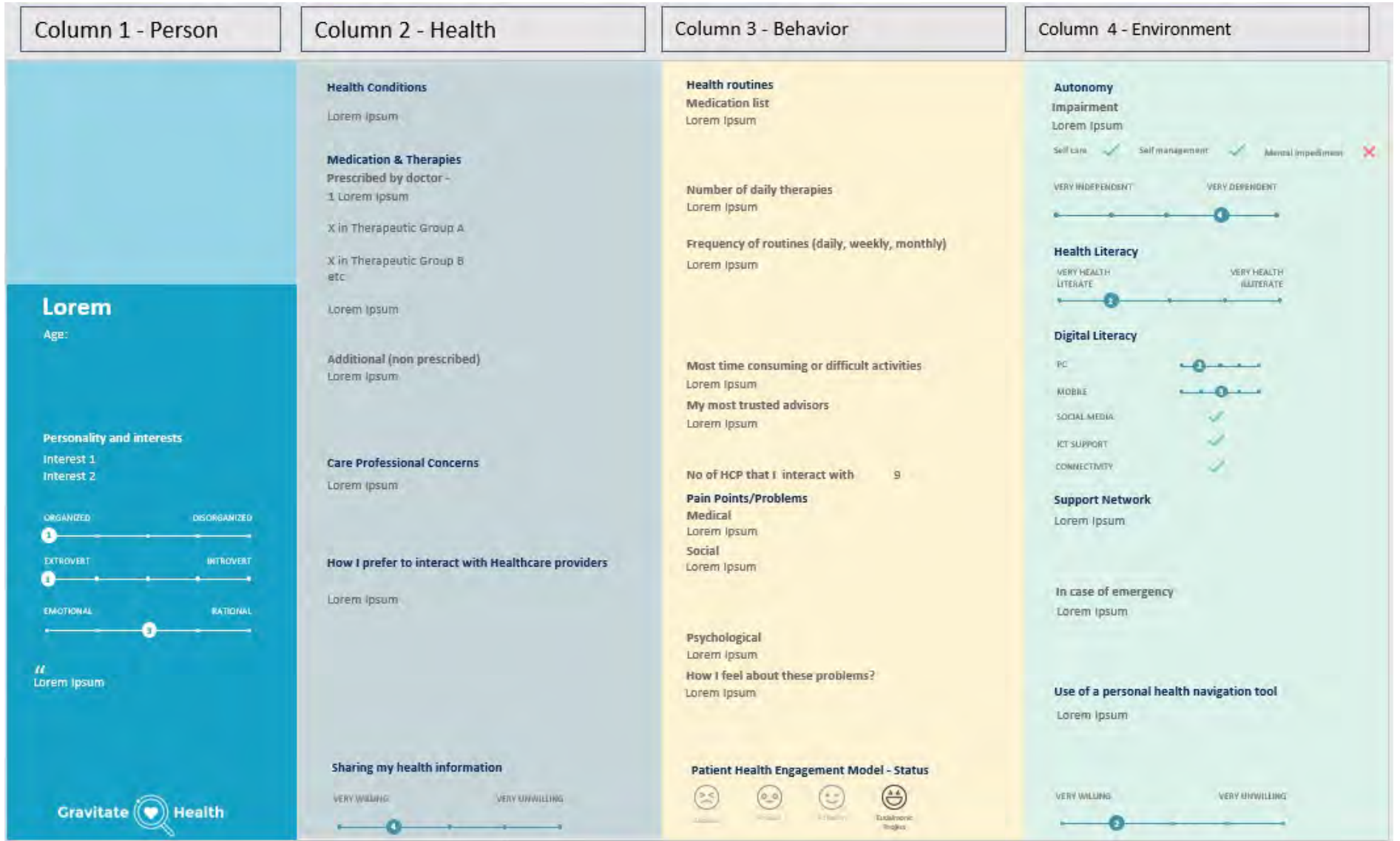
Template tested with real data



Persona’s template – Second draft



Persona’s template – Third draft



Persona's Template -Third draft with notes related to T1.1 interviews