

## INTERNSHIP REPORT

# Patient-Centred Criteria for Selecting and Prioritising Healthcare Processes for the Digizo.nu Transformation Agenda

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## Abstract

**Background** The Dutch healthcare sector is facing increasing pressure due to challenges such as rising costs, a growing demand for care and staff shortages. The Digizo.nu programme, created from the Integral Care Agreement (IZA), aims to support the digital transformation of healthcare processes to improve sustainability, accessibility and quality. Dutch Patient Federation (PFN) is one of the 13 parties who signed the IZA. However, PFN currently lacks criteria and a consistent framework to determine which healthcare processes should be selected and prioritised according to patients. This study aimed to examine patient-centred criteria and to develop a prioritisation framework to support PFN in selecting and prioritising care processes for the Digizo.nu Transformation Agenda.

**Methodology** A qualitative research design was used, consisting of ten semi-structured individual interviews with patient representatives. This methodology was used to explore their views on what criteria are most important when transforming healthcare processes to hybrid or digital. An interview guide was prepared based on the RICE Score Framework, the conceptual framework used to structure this study. The data was analysed using the Framework Method, where the interviews were transcribed in verbatim and coded both inductively and deductively. Finally, the results were formulated using a Thematic Analysis.

**Results** The study revealed several key themes, including inclusiveness, the removal of existing bottlenecks, patient empowerment, and the need for the innovation among end-users. Conditions for successful implementation, such as clear communication, user-friendliness, data privacy and interoperability, were also highlighted. Based on the findings, a prioritisation framework was constructed, built around the highest ranked criteria.

**Discussion** This prioritisation framework enables PFN to provide a reasoned justification when discussing digital transformation of healthcare processes at Digizo.nu. It supports substantiated choices when advising on or proposing care processes for the Digizo.nu Transformation Agenda. Further research is recommended to validate and refine the framework in real-life settings and to test its generalisability.

## List of Abbreviations

AVG: Algemene Verordening Gegevensbescherming [GDPR: General Data Protection Regulation]

DMP: Data Management Plan

FMS: Federatie Medisch Specialisten [Federation of Medical Specialists]

GGZ: Geestelijke Gezondheidszorg [Mental Health Care]

HTA: Health Technology Assessment

IZA: Integraal Zorgakkoord [Integral Care Agreement]

LHV: Landelijke Huisartsenvereniging [National Association of General Practitioners]

NFU: Netherlands Federation of University Medical Centres

NVZ: Nederlandse Vereniging van Ziekenhuizen [Dutch Hospital Association]

PFN: Dutch Patient Federation

RICE: Reach, Impact, Confidence, Effort

V&VN: Verpleegkundigen & Verzorgenden Nederland [Dutch Nurses' Association]

VNG: Association of Netherlands Municipalities

VWS: Volksgezondheid, Welzijn en Sport [Health, Welfare and Sport]

ZKN: Zelfstandige Klinieken Nederland [Private Clinics Netherlands]

ZN: Zorgverzekeraars Nederland [Health Insurers Netherlands]

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# 1 Introduction

Although the Netherlands has a highly developed healthcare system, the healthcare landscape is under great pressure due to several developments (Visser et al., 2021). In 2019, the spending on Dutch healthcare was estimated at 97 billion euros (Volksgezondheid en Zorg, 2022). On average, the healthcare costs will increase by about 2.8 percent per year (Vonk et al., 2020). The demand on the healthcare system is rising due to the ageing population, the increase in chronic diseases, an increasing number of people suffering from multimorbidity and the opportunities of medical technologies (Johansen et al., 2018; Visser et al., 2021). The increasing proportion of elderly people and the subsequent rise in the average age of the population is called “double ageing”. These trends mean that the percentage of the Dutch national income which will be needed for healthcare will rise from 13% in 2021 to 20% in 2040 (Ministry of Health, Welfare and Sport, 2022). Healthcare spending is expected to continue to rise until 2060, even after the peak of ageing around 2040 (Vonk et al., 2020). In addition, it is expected that by 2040, the proportion of the total Dutch working population that is needed to fulfil care tasks will be one in four, compared to one in six in 2021. However, in practice, there is an increasing shortage of healthcare professionals, meaning that more care must be delivered with fewer people (Minderhout et al., 2023). The demand for healthcare may also increase due to longer and more intensive treatments (Vonk et al., 2020). Furthermore, people are seeking care earlier due to new possibilities for early detection of diseases and an increase in medical knowledge (Raad voor Volksgezondheid & Samenleving, 2024). The rising costs associated with healthcare being a highly specialised and fragmented domain also lead to growing pressure for transformational change (Johansen et al., 2018). As a result of these developments, the Dutch healthcare system is increasingly identified to be unsustainable, raising concerns about the affordability and accessibility.

The Netherlands wants to provide accessible, affordable and quality care (Ministry of Health, Welfare and Sport, 2024). Patients trust that timely care will be available when confronted with health problems, and that this will be of good quality and easily accessible (Visser et al., 2021). However, for the Dutch healthcare system to be sustainable, public values of healthcare will have to be safeguarded for all sectors. To achieve this, the Integral Care Agreement (IZA) was signed in September 2022 by the Ministry of Health, Welfare and Sport, and thirteen important stakeholders in the healthcare field among which the Dutch Patient Federation (Ministry of Health, Welfare and Sport, 2023). The IZA aims to keep healthcare good, accessible and affordable for the future. The goals are to achieve added value for the patient or client, to make decisions together with the patient or client, to provide the right care in the right place, to focus on health instead of illness, and to create a good working environment for care professionals.

In the IZA, the intended change is elaborated in eight themes, where “digitalisation and data sharing” is one of them (Ministry of Health, Welfare and Sport, 2023). The transformation of healthcare processes to hybrid or digital has the potential to address the problems in modern healthcare by increasing the quality, accessibility, utilisation, efficiency, and effectiveness of healthcare, with the added advantage of cost reduction (van Dyk, 2014; van Eijck et al., 2022). Appropriate care therefore increasingly means hybrid care: a mix of digitally and physically offered care and health support, personalised and tailored where possible (Ministry of Health, Welfare and Sport, 2023). Hybrid care aims for independence, at home, and digital whenever possible.

The parties who signed the IZA are working together on broad upscaling and implementing hybrid care. Which processes can be effectively transformed are listed on the Digizo.nu Transformation Agenda, an initiative by the IZA parties (Digizo.nu, 2024). Digizo.nu is the programme that focuses on broadly scaling up hybrid and digital healthcare processes that are proven to be effective for healthcare providers, patients, clients and citizens. The first step involves the selection of processes that contribute to the objectives as formulated in the IZA. There is a great amount of innovation, but limited time and money (Frederix et al.,

2024). The question that arises here is in what order will healthcare processes be made hybrid, because not everything can be done at once (Juliette Verwer, personal communication, February 10, 2025). Therefore, a selection process is performed together with experts from the various IZA parties, with the priority of the processes being determined by their members.

Dutch Patient Federation (PFN) is one of the IZA parties and participates in Digizo.nu meetings to represent the interests of patients. Currently, PFN has no criteria available on which to base the input of new healthcare processes on the agenda and the prioritisation of healthcare processes that are already selected by Digizo.nu. The prioritisation sometimes involves making decisions between different patient groups, which are difficult decisions, as PFN wants to represent all its members (Juliette Verwer, personal communication, February 10, 2025). Nevertheless, a decision must be made, as otherwise the decision is made by the other IZA parties, and the patient perspective is then not always taken into consideration. In addition, PFN wants to make this decision based on established criteria, so there can be no personal preference. They also want to be transparent about on which criteria a certain decision is made, so that this can be explained to the different patient groups. Moreover, patient input is needed to add new healthcare processes to the Transformation Agenda, as PFN wants to become more proactive instead of only reactively prioritising selected healthcare processes (Juliette Verwer, personal communication, February 19, 2025).

The objective of this research is to examine criteria among patients that PFN can use for selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda. The aim of this research will be achieved by identifying the different criteria that patients find important when transforming healthcare processes to hybrid or digital. This research objective resulted in the following main research question: *“What are the criteria that patients find important that Dutch Patient Federation can use when selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda?”*

## 2 Contextual Background

### 2.1 Current Developments

#### 2.1.1 Hybrid Care

The IZA describes healthcare technology as an important factor in keeping healthcare accessible, qualitative and affordable for everyone (Daniëls et al., 2024). Therefore, the Ministry of Health, Welfare and Sport (VWS) made agreements within the IZA about the transformation to hybrid care (Ministry of Health, Welfare and Sport, 2023). One spearhead is that care will be offered digitally wherever possible, with the goal that 70 percent of appropriate care will be available hybrid or digital for at least 50 percent of the patient population for whom using hybrid care pathways is feasible.

Hybrid care, also known as blended care, is a mix of digitally and physically offered care and health support that is personalised where possible (Verwey et al., 2024). Hybrid care involves access to remote care as well as personal interaction. In hybrid care pathways, care is offered both digitally and physically to patients with, for example, chronic diseases such as COPD, heart failure or diabetes. An integrated care approach consists of a combination of home monitoring and traditional care methods (consultations with the nurse or physician). Examples of hybrid care include medication dispensers, video calling, telemonitoring, fall detection and alarms.

From the patient's perspective, hybrid care offers several advantages, such as convenience, time savings and the ability to receive care in a familiar environment (Dutch Patient Federation, 2020). PFN emphasises that people should have the right to choose digital care. Disadvantages of hybrid care include the fear of losing personal contact and the lack of trust in digital applications (Dutch Patient Federation, 2020). Therefore, PFN states that a dialogue about digital care can help understand and harmonise the wishes and needs of both patients and care providers. Another major drawback is that hybrid care is currently not available to everyone, as not everyone has the devices or skills to receive and use digital care (Juliette Verwer, personal communication, February 19, 2025). In addition, some patients fear that they cannot work with digital care due to a lack of confidence in their own skills and abilities, rather than a lack of confidence in the application (Ildikó Vajda, personal communication, March 1, 2025). The IZA therefore includes a mandate to provide patients and caregivers with more training in digital skills.

A lot must be done for structural implementation of hybrid care, including organisational and process changes, appropriate IT infrastructure, appropriate financing and a different way of working for care providers (Dutch Patient Federation, 2020). In its recent report after the Corona crisis, the Council of Public Health and Society says the following about hybrid care: "Care at a distance goes beyond digital tools: it is about embedding and thus transforming care processes" (Bussemaker et al., 2020). To gain more insight into proven hybrid care, initiatives such as Digizo.nu were launched (Daniëls et al., 2024).

#### 2.1.2 Digizo.nu

Digizo.nu is an initiative by the IZA parties and is managed by Zorgverzekeraars Nederland (ZN) [Health Insurers Netherlands]<sup>1</sup>, the organisation that manages the grant from the Ministry of VWS. Digizo.nu is committed to achieving IZA's goal that 70% of processes should become hybrid or digitally available, and this should be deployed to at least 50% of the population for whom this is appropriate by the end of 2026. At

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<sup>1</sup> If an official English name is available, the official English name is noted. If no official English name is available, the Dutch name has been noted with an English translation or description behind it in square brackets.

Digizo.nu, they ensure that the solution is both supported and suitable by consulting a steering committee and healthcare technology experts (Juliette Verwer, personal communication, February 17, 2025). The steering committee consists of board members from the various IZA parties so that the interests of each party is represented. The healthcare technology experts provide important information about the application, such as whether it is interoperable, whether data is handled correctly, and what is needed to implement the application.

Digizo.nu works according to the methodology of the Zorgtransformatiemodel [Care Transformation Model], which focuses on transforming to proven hybrid and digital processes (Digizo.nu, 2024; Frederix et al., 2024). The methodology was developed by Kenniscentrum Digitale Zorg [Knowledge Centre for Digital Care], under the leadership of ZN and in collaboration with the various field parties. The model was developed to ensure that hybrid and digital care replaces traditional care, rather than being an addition to it (Juliette Verwer, personal communication, February 10, 2025). It has been identified in the IZA as an important tool for prioritising, testing and evaluating the use of hybrid and digital applications in transformed processes, with the main goal of contributing to the scaling up of these processes (Digizo.nu, 2024; Frederix et al., 2024). The Zorgtransformatiemodel [Care Transformation Model] consists of six steps from innovation to scale-up, as seen in Figure 1 (Frederix et al., 2024).



Figure 1. Overview of Digizo.nu Systematics (Frederix et al., 2024)

Creating the Digizo.nu Transformation Agenda is done in step 2 *Gathering & prioritising*, for which PFN needs the criteria substantiated by patients. In this step (potentially) impactful (care) processes are identified that are expected to improve the accessibility of care and support and reduce staff workload (Digizo.nu, 2025). It is essential that the quality of care and support is never lost sight of. A start is made from the patient's perspective, and this is supplemented with that of professionals. Both the possibilities with existing applications and opportunities for innovation are considered. *Gathering & prioritising* consist of four steps:

1. **Identification:** The Digizo.nu Transformation Agenda team consists of representatives from all IZA parties. The team representatives continuously interact with their members, getting signals about (potentially) impactful hybrid or digital processes that can contribute to the IZA goals: good, accessible and affordable care and support in the future.
2. **Selecting:** Before a process is prioritised by the members of the various IZA parties, the Digizo.nu Transformation Agenda team selects the identified processes. This involves looking at, at least, the following aspects:
  - Which of the IZA goals does this process align with?
  - What is the potential impact of this process: How large is the group of patients, clients or citizens that could be helped by this process? What proportion of this group is already being helped within this process?
  - Why is this potential impact not yet achieved: Are any (system) bottlenecks already known that could cause problems in implementing or scaling up this process?
  - Are there already hybrid or digital applications available that fit this process?
  - Where is this process already being used in practice?
  - Does the process impact different sectors?
3. **Presentation to Steering Committee:** The selected processes will be submitted to the Digizo.nu Steering Committee for approval.
4. **To team Review, Valuation & Evaluation, and Scaling Up:** Once approved, this team will add the processes to the Digizo.nu Transformation Agenda and transfer them to the other teams at Digizo.nu to be taken up further there.

Digizo.nu also uses the Methodiek Waardebepaling in de Praktijk [Methodology Valuation in Practice], these are steps to further shape and scale up valuation and evaluation (Frederix et al., 2024). The four different steps are as follows: (1) current and new care process, (2) measurement plan and accepted evidence, (3) existing evidence, and (4) defining and collecting missing evidence. The first step is to describe the current and new care process, i.e., how it is now and how it should be. This allows insight to be gained into where there are opportunities for different innovations to have an impact on the care process. It also helps to estimate what changes will look like. Innovations must be effective and efficient to bridge the gap between the current and new care process. The second step will be to determine which parameters and outcomes are most essential. All parties must see added value from the innovation, but certain goals may be less relevant to certain decision makers. As a result, prioritisation of outcomes and parameters will have to be done. After clarifying which questions are essential to answer, it is important to focus on what evidence is already present. Finally, it can be determined which evidence gaps still need to be filled. These gaps can be retrieved by prospectively plotted studies, the value assessment in practice. Of great importance is that these steps are completed in consultation with stakeholders and end users are involved early on within each of these steps. Therefore, these steps will also need to be kept in mind when examining the prioritisation criteria for PFN.

## 2.2 Stakeholders

### 2.2.1 Integral Care Agreement

Within the IZA, agreements have been made between the Ministry of VWS and 13 healthcare parties (Ministry of Health, Welfare and Sport, 2023). These parties are ActiZ [Organization of Healthcare Providers for the Elderly], De Nederlandse Geestelijke Gezondheidszorg (GGZ) [Dutch Mental Health Care], Federatie Medisch Specialisten (FMS) [Federation of Medical Specialists], InEen [Association of Primary Care Organizations], Landelijke Huisartsenvereniging (LHV) [National Association of General Practitioners], Nederlandse Vereniging van Ziekenhuizen (NVZ) [Dutch Hospital Association], Netherlands Federation of University Medical Centres (NFU), Dutch Patient Federation, Verpleegkundigen & Verzorgenden Nederland (V&VN) [Dutch Nurses' Association], ZorgthuisNL [Home Care Netherlands], Zelfstandige Klinieken Nederland (ZKN) [Private Clinics Netherlands], Association of Netherlands Municipalities (VNG), Zorgverzekeraars Nederland (ZN) [Health Insurers Netherlands].

### 2.2.2 Dutch Patient Federation

PFN is a national umbrella organisation with 56 member organisations (Dutch Patient Federation, 2025)<sup>2</sup>. Together with these members, it represents 200 patient organisations. PFN employees are divided into different teams: programs, specialty medical care department, digital care department, primary care & long-term care department, products & services department.

For PFN, several reasons make it more difficult to form an opinion supported by their members than for the other IZA parties (Juliette Verwer, personal communication, February 25, 2025). First, the range of their members is broader than the patients represented by the 56 member organisations. These often focus only on one disease, but PFN also represents patients with multiple diseases. In addition, among different patient groups, different issues may be important, whereas among the members of the other IZA parties, the people are more on the same page. Moreover, the other IZA parties have members who speak out from their jobs and thus get paid for it. The 23,000 panellists from PFN give their input voluntarily and talk about their own lives. Nevertheless, PFN must make a choice because there is not always enough money, time or staff to serve multiple patient groups. Fortunately, PFN has a large database of patient representatives.

### 2.2.3 Patient Representatives

INVOLV (n.d.) defines patient participation as follows: "Patient representatives collaborate with scientific researchers, policymakers and healthcare professionals to improve their research, organisational policies or the quality of care." According to Wassersug (2021), the work of a patient representative is likely to be more effective than the work of a patient advocate. He argues that for a patient to be most effective as a patient representative within a health-related organisation, work, different types of background knowledge and commitment is required. It is important to find out whether there are no other interests involved other than representing the interests of patients, as various studies show that patient representatives are increasingly being lured into patient advocacy by major actors (Mallik, 1997; Selley, 2023).

Because patient representatives are or have been patients themselves, they go through a development as patient representatives (Schoemaker et al., 2023). It helps if a researcher understands how someone becomes experienced, what stages there are and what to expect from someone at each stage. This allows patient organisations, as suppliers of participants, to put the right patient in the right place in a study. At every stage, patient representatives can contribute meaningfully to research.

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<sup>2</sup> To view a list of the member organisations from PFN: <https://www.patientenfederatie.nl/leden/over-ons/onze-leden>

## 3 Theoretical Background

### 3.1 Definition of Key Concepts

To uniformly understand the main research question, the following definitions of the key concepts are maintained. Criteria are the values and standards that patients find important in the assessment of healthcare processes. With selecting is meant actively bringing forward healthcare processes that are not set on the Digizo.nu Transformation Agenda yet. Prioritising is ranking selected healthcare processes on the Digizo.nu Transformation Agenda. The Digizo.nu Transformation Agenda is the list with the processes which can be effectively transformed to hybrid or digital.

### 3.2 Existing Frameworks

#### 3.2.1 RICE Score Framework

The RICE Score Framework is a prioritisation framework designed to determine which products, features, and other initiatives to prioritise (ProductPlan, 2024). Using such a scoring model can enable better-informed decisions, minimise personal biases in decision making and help them defend their priorities to stakeholders. The model is often used by product managers to compare different alternatives based on the calculated scores. Although the model is quite general and not healthcare specific, the components can be converted to criteria for the subject of this study. RICE is an acronym for the four factors the model uses for assessing priority (McBride, 2025):

1. **Reach:** the number of people affected by the initiative.
  - a. Reach is measured in number of people/events per time period.
2. **Impact:** the degree of impact on the user or business.
  - a. Impact is difficult to measure precisely. For example, a multiple-choice scale with '5: massive', '4: high', '3: medium', '2: low' and '1: minimal' could be used. Using an impact number avoids the use of gut feeling.
3. **Confidence:** the level of certainty that the initiative will succeed.
  - a. Confidence is presented as a percentage. A multiple-choice scale could be used to avoid decision paralysis, with for example '100%: high', '80%: medium' and '50%: low'.
4. **Effort:** the amount of time and resources required to implement the initiative.
  - a. Effort is estimated as several 'person-months'; the work that one team member can do in a month.

Once the factors mentioned above are estimated, they need to be combined into a single score with the following formula:

$$RICE\ Score = \frac{Reach \times Impact \times Confidence}{Effort}$$

The resulting score measures the total impact per time worked. The RICE Score Framework is illustrated schematically in Figure 2.

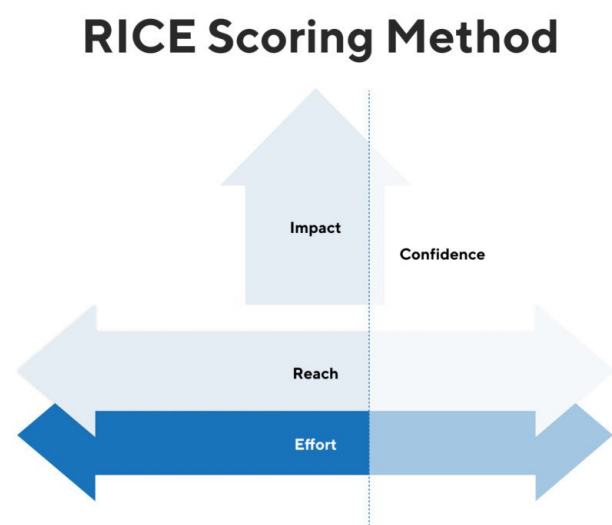


Figure 2. RICE Scoring Method

### 3.2.2 Digizo.nu

As described in the *Contextual Background*, the Digizo.nu Transformation Agenda team selects the identified processes based on the following aspects (Digizo.nu, 2025):

- Which of the IZA goals does this process align with?
- What is the potential impact of this process: How large is the group of patients, clients or citizens that could be helped by this process? What proportion of this group is already being helped within this process?
- Why is this potential impact not yet achieved: Are any (system) bottlenecks already known that could cause problems in implementing or scaling up this process?
- Are there already hybrid or digital applications available that fit this process?
- Where is this process already being used in practice?
- Does the process impact different sectors?

When actively putting a healthcare process on the agenda, PFN must have already considered these criteria, otherwise it will not be selected by the Digizo.nu Transformation Agenda team.

### 3.2.3 Health Technology Assessment

Health Technology Assessment International provides the following definition for the Health Technology Assessment (HTA): “A multidisciplinary process that uses explicit methods to determine the value of a health technology at different points in its lifecycle. The purpose is to inform decision-making in order to promote an equitable, efficient and high-quality health system.” (EUPATI, 2025). The methodology of HTA is widely used to weigh interests (Radboudumc, 2017). This involves weighing whether a new treatment is better than existing treatments. Therefore, this multidisciplinary process seeks to summarise information about the medical, economic, social and ethical issues surrounding the use of health technology (European Commission, 2025; EUPATI, 2016). HTA is a form of policy research that examines the short- and long-term implications of a health technology (EUPATI, 2016). It aims to do this in a systematic, transparent, non-distorted and robust way. The goal of HTA is to aid in decision-making by providing information about the impact of those decisions. A bottleneck of HTA is that decisions are often made based on evidence of safety, effectiveness and cost of a treatment, and ethical values, such as the effect of a treatment on the quality of life of patients and their immediate environment, are not systematically considered (Radboudumc, 2017).

For the quality and staffing of health care, the development of new innovative therapies and diagnostics is important (ZonMw, 2023). On the other hand, the introduction of new (expensive) applications can threaten the sustainability of healthcare. Therefore, attention to aspects such as cost-effectiveness, acceptability and affordability, called early HTA, is needed already in the early phase of therapy and diagnostics development. However, early HTA is not yet always included in the development process of new healthcare innovations. Therefore, consortium of HTA experts commissioned by ZonMw has prepared the report *Early Health Technology Assessment - which methods and at what time and why?* This report provides insight into the lessons learned from previous initiatives in the field of early HTA. It also identified which methods of early HTA can be used when and for what purpose.

By combining and visualising the characteristics of HTA with the three types of questions that (early) HTA can inform, being 1) problem exploration, 2) anticipation and optimisation, and 3) assessment, a framework has been developed that provides structure in how, when and why early HTA can be deployed (ZonMw, 2023). This framework is shown in Figure 3.

# Samen naar waardevolle innovatie

## Raamwerk voor vroege Health Technology Assessment

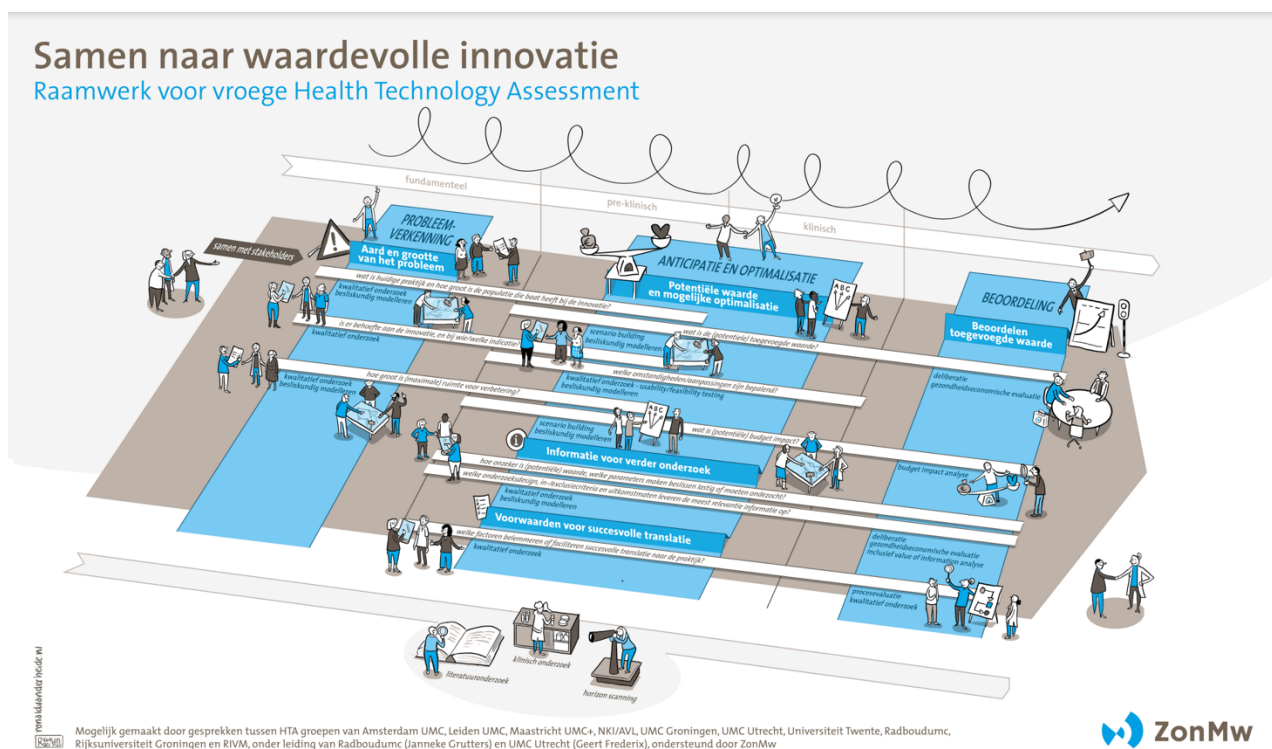


Figure 3. Framework for (early) HTA

The following criteria emerged from this framework (ZonMw, 2023):

- What is the current practice and how large is the population benefiting from the innovation?
- Is there a need for the innovation, and with whom/what indication?
- How large is the (maximum) room for improvement?
- What is the (potential) added value?
- What circumstances/adjustments are decisive?
- What is the (potential) budget impact?
- How uncertain is (potential) value, what parameters make decision difficult or need to be investigated?
- What study design, inclusion/exclusion criteria and outcome measures provide the most relevant information?
- What factors hinder or facilitate successful translation to practice?

### 3.2.4 Dutch Patient Federation

During brainstorming sessions with PFN staff, the following criteria emerged:

- How many patients will the proposed healthcare technology affect?
- To what extent will the proposed healthcare technology improve the patient care?
- To what extent will the proposed healthcare technology improve the quality of life of the patient?
- To what extent will the proposed healthcare technology improve the health of the patient?
- What is the balance between revenue and costs?
- How diverse is the patient population affected in terms of disease categories?
- Is there any evidence yet that the proposed healthcare technology is effective?
- Will the proposed healthcare technology eliminate existing patient bottlenecks?

### 3.3 Theory

This research is designed using the RICE Score Framework. As a result of this research, a new framework is created based on the existing criteria from literature supplemented by the results of this research.

First, the Digizo.nu criteria are categorised according to the four components of the RICE Score Framework, which is shown in Table 1. These criteria should be ranked by patient representatives to advise PFN in selecting and actively putting healthcare processes on the Digizo.nu Transformation Agenda.

*Table 1. The Digizo.nu Criteria*

<b>RICE Score Framework</b>	<b>Digizo.nu</b>
Reach	What is the potential impact of this process: How large is the group of patients, clients or citizens that could be helped by this process? What proportion of this group is already being helped within this process?  Does the process impact different sectors?
Impact	Which of the IZA goals does this process align with?
Confidence	Why is this potential impact not yet achieved: Are any (system) bottlenecks already known that could cause problems in implementing or scaling up this process?  Are there already hybrid or digital applications available that fit this process?  Where is this process already being used in practice?
Effort	-

In addition, the criteria from the HTA and PFN are categorised under the components of the RICE Score Framework as well, which is shown in Table 2. These criteria should be supplemented with additional criteria and then be ranked by patient representatives to advise PFN in prioritising selected healthcare processes for the Digizo.nu Transformation Agenda.

*Table 2. The (early) HTA & PFN Criteria*

<b>RICE Score Framework</b>	<b>(early) Health Technology Assessment</b>	<b>Dutch Patient Federation</b>
Reach	What is the current practice and how large is the population benefiting from the innovation?	How many patients will the proposed healthcare technology affect?  How diverse is the patient population affected in terms of disease categories?
Impact	Is there a need for the innovation, and with whom/what indication?  How large is the (maximum) room for improvement?  What is the (potential) added value?	To what extent will the proposed healthcare technology improve patient care?  To what extent will the proposed healthcare technology improve the quality of life of the patient?  To what extent will the proposed healthcare technology improve the health of the patient?  Will the proposed healthcare technology eliminate existing patient-experienced bottlenecks?

Confidence	<p>What circumstances/ adjustments are decisive?</p> <p>How uncertain is (potential) value, what parameters make decision difficult or need to be investigated?</p> <p>What factors hinder or facilitate successful translation to practice?</p>	Is there any evidence yet that the proposed healthcare technology is effective?
Effort	What is the (potential) budget impact?	What is the balance between revenue and costs?

### 3.4 Sub-Questions

Sub-question 1: *“According to the patient representatives, what are other important criteria, besides the Digizo.nu criteria, that PFN should use when prioritising selected healthcare processes for the Digizo.nu Transformation Agenda?”* When healthcare processes are presented to the experts of the various IZA parties, they have already been selected by the Digizo.nu Transformation Agenda team and thus already meet the Digizo.nu criteria. The experts from the different IZA parties must now prioritise the healthcare processes with the help of their members. For this, it is important to know what criteria, besides those of Digizo.nu, patients consider important, so that PFN can take this into account. This sub-question was answered by asking patient representatives for criteria during the interviews. The criteria from Digizo.nu, from the (early) HTA and the ones found during the brainstorming sessions within PFN are not mentioned here yet, to allow as much as possible to come from the patient representatives themselves. Once this sub-question has been answered, insight has been gained into what additional criteria are important from a patient perspective.

Sub-question 2: *“According to the patient representatives, what is the relevance of the Digizo.nu and additional collected criteria when selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda?”* This sub-question is important because when actively putting a healthcare process on the Digizo.nu Transformation Agenda, PFN must consider the existing criteria used by Digizo.nu which they maintain to meet the IZA guidelines. Nonetheless, it is important for PFN to know how patients rank these criteria when they need to choose between different healthcare processes that all meet the Digizo.nu criteria. Furthermore, this sub-question is important because prioritisation must be based on the members and PFN does not yet have input for making this decision. This sub-question was answered by having patient representatives rank the various Digizo.nu and additional collected criteria during the interviews, for example using cards. Once this sub-question has been answered, an understanding of the relevance of the criteria from a patient perspective has been gained.

Sub-question 3: *“How do the Digizo.nu and the additional collected criteria relate to each other?”* This sub-question is important to synthesise the information collected. Do the criteria complement each other? Are the criteria an extension of each other? Do the criteria conflict with each other? This sub-question was answered by analysing the results obtained from the interviews. Once this sub-question has been answered, it will be clear how the criteria mentioned by patient representatives relate to the criteria of Digizo.nu. With this, there could be a recommendation from PFN to Digizo.nu on the current criteria that are used.

## 4 Methodology

### 4.1 Study Design

This research was conducted on behalf of PFN and took place from the 3<sup>rd</sup> of February to the 27<sup>th</sup> of June 2025. All steps of this study were carried out by a master student from the study Management, Policy Analysis and Entrepreneurship in the Health & Life Sciences at the Vrije Universiteit Amsterdam. The study employed a qualitative design, utilising interviews as the primary method of data collection. The interviews were semi-structured, allowing for a structured exploration of the predetermined open-ended questions while leaving space for other questions emerging from the answers given by the participants (DiCicco-Bloom & Crabtree, 2006). This enabled a comprehensive data gathering process. The number of interviews was determined based on achieving data saturation (Hennink et al., 2019; Saunders et al., 2018).

### 4.2 Case Selection

All participants in this study were patient representatives. Participant recruitment was done online via email. The patient representatives who had participated in the focus group about the Digizo.nu Transformation Agenda last year and had indicated they may be approached again were contacted. The vast majority of these were willing to participate in this study. The advantage of this was that the participants were already slightly familiar with the topic. One of the participants recommended an acquaintance, but this participant also had previous experience in care transformation and digitalisation. Efforts were made to select patient representatives from different age categories, residential provinces and with different represented patient groups. The advantage of this was that different backgrounds and diseases were re-presented in the conversations. The participant recruitment provided ten participants, which proved to be enough throughout the study to achieve data saturation. A table of the participants is shown in the results section.

### 4.3 Data Collection

In-person interviews were preferred, but if participants wanted to conduct the interview online, they were invited for a Microsoft Teams meeting. Seven interviews were conducted online via Microsoft Teams and three in-person at the office of PFN. For the participants to come to the interview well prepared, they were provided with a Dutch summary of the research proposal and asked to think about the criteria they considered important prior to the interview. A financial compensation was provided in return for participation. In addition, travel expenses incurred were reimbursed and a lunch was organised when the interview was conducted at the office of PFN.

The interviews were individually and lasted about an hour. During the interviews, two researchers were present. This ensured that as little relevant information as possible was lost and that there was room for one of the two researchers to take notes in the meantime. It was also possible that the interviewee might not be comfortable to answer a question honestly but give a socially desirable answer, so-called interviewer bias. To avoid this as much as possible, rapport was built up through a short introduction of the people present before the start of the interview.

An interview guide was established for conducting the interviews, which can be found in Annex 8.1. Using the conceptual model ensured that all criteria around prioritisation were included in the interview guide. The interviews consisted of two parts. In the first part the participants were asked to mention criteria that they find important. With this first part of the interview, sub-question 1 was answered. During the second part of the interview, the criteria found in the literature were shown and explained to the participants and the criteria together ranked. With this second part of the interview, sub-question 2 was answered. The interviews

used cards to allow participants to easily rank the criteria; post-its for the in-person interviews and a Miro board for the online interviews. The in-person interviews were recorded using recording equipment and the online interviews were recorded via the Microsoft Teams recording function. In addition, detailed notes were taken during the interviews to capture and document the nuances and details of the perspectives from the participants.

#### 4.4 Data Analysis

The analysis was performed according to the Framework Method (Gale et al., 2013):

1. **Transcription:** First, the audio recordings of the interviews were transcribed in verbatim using Microsoft Word Online.
2. **Familiarisation with the interview:** Due to numerous errors in automatic transcription, all transcripts were manually checked and corrected using the InqScribe software.
3. **Coding:** The transcripts were coded inductively using the Atlas.ti software (version 23.1.0). For this part of the coding, an initial code tree was created prior to coding based on the conceptual framework, which can be found in Annex 8.2.1. To ensure reliability, the VU supervisor and two fellow students joined the coding of a piece of a transcript during an intervision meeting. During the inductive coding, the code tree was modified based on insights that emerged during the coding of the transcripts. This led to the development of the final code tree, which can be found in Annex 8.2.2.
4. **Developing a working analytical framework:** After all the transcripts were coded inductively, they were coded deductively with the same coding software. This iterative approach ensured that the contextual framework remained responsive to the evolving data and the research main- and sub questions.
5. **Applying the analytical framework:** To correctly interpret the codes of the final code tree, notes were taken during the coding process.
6. **Charting data into the framework matrix:** To be able to manage, summarise and interpret the data, interesting and illustrative quotations were charted into a spreadsheet in Excel (version 16.94).
7. **Interpreting the data:** While interpreting the data, impressions, ideas and early interpretations of the data were also included.

The type of analysis used in this study was Thematic Analysis (TA), which is a method for identifying, analysing and interpreting patterns of meaning, so called “themes”, within qualitative data (Clarke & Braun, 2016). These themes provide a framework for organising and reporting the analytic observations. For the creation of the themes, the categories of the theoretical framework were used as a basis, which were extended with new themes and subthemes that arose during the coding process.

To ensure rigour, data saturation was used to determine the number of interviews needed (Hennink et al., 2019; Saunders et al., 2018). This means that no additional information emerges from the data collection and is monitored through interim analysis given the scope of the sub-questions. Credibility of the data collected was enhanced by selecting participants representatives from different age categories, residential provinces and with different represented patient groups. To ensure validity, the interview guide was validated by an expert check. The expert is a patient advocacy adviser within PFN's digital care team. She is the expert within Digizo.nu on behalf of PFN and led the Digizo.nu focus group last year. She completed the university master's degree in policy and management in healthcare and has been working within the healthcare sector for more than 15 years. Furthermore, the interviews held first helped optimise the interview guide for subsequent interviews.

The results of this study were shared with PFN, contributing valuable insights to the Digizo.nu selecting and prioritising process. The final report was also shared with the interview participants, as many of them indicated an interest in receiving the results.

## 4.5 Ethical Considerations

Since this study did not have patients as participants, no ethical approval was required. Nevertheless, a few ethical considerations were taken. First, a Data Management Plan (DMP) was established, which describes what data was collected, how the data was stored and managed throughout the project, and how the data was shared and archived after the project was complete. The DMP of this research can be found in Annex 8.3. In addition, a form was prepared to ask informed consent from the participants. This stated the content of the research, the rights of the participants and what the participant was giving permission for. This needed to be signed in duplicate before participating in an interview. The informed consent forms of this research can be found in Annex 8.4. Filed in informed consent forms were kept separate from other study materials.

## 5 Results

In this section the results are presented through different themes, which are based on the names of the code tree categories used, and therefore also on the theoretical framework used. For readability, the names of the subcode categories are slightly modified. The distribution of the codes within the interviews are schematically presented in Annex 8.5. Although this does not exactly reflect which codes are most important, it does give some indication of what was mainly discussed with the participants. The themes on which many and important comments were made have been explained in more detail in this section. It was also mainly these themes with which the sub-questions were answered.

### 5.1 Demographics of Participants

This study included ten participants, all of whom were patient representatives. Although age can be an interesting factor when interpreting statements about digitalisation, it is not relevant to answering the main question or sub-questions of this study. Consequently, age was not displayed per participant due to privacy concerns. This privacy consideration also applies to the residential province. Table 3 shows the age group distribution and Table 4 shows the distribution of residential provinces. The participants had diverse academic backgrounds, which comprised social sciences, medical biology, medicine, mathematics, Dutch language and literature, editing, physiotherapy, law and psychology.

*Table 3. Distribution of Age Groups*

Age group	Participants (n)
21-30	1
31-40	0
41-50	3
51-60	0
61-70	3
71-80	3

*Table 4. Distribution of Residential Provinces*

Residential Province	Participants (n)
Gelderland	2
Groningen	1
Limburg	1
North Brabant	1
North Holland	2
Utrecht	3

Table 5 presents the (voluntary) work participants have undertaken or are currently engaged in, as well as the patient group(s) they may represent. Additionally, seven of the ten participants reported serving as a referent within PFN. This table also shows the top three important criteria mentioned by the participants. These will be used later when drafting the framework.

*Table 5. Remaining Information about the Participants*

Participant	(Voluntary) work	Represented patient group(s)	Top 3 criteria
1	Welfare district, police, Diabetes Vereniging Nederland, METC	Primarily people with type 2 diabetes, but also expert by experience for multiple other diseases	<ol style="list-style-type: none"> <li>1. Inclusiveness</li> <li>2. Field experience/evidence of effectiveness</li> <li>3. Degree of improving quality of life</li> </ol>

2	Medical research within the pharmaceutical industry, ReumaZorg Nederland, Julius Centre (UMCU)	Rheumatology, mental health, GP care in general (including lab, practice assistant etc.), hospital care in general and dietician	<ol style="list-style-type: none"> <li>1. Degree of improving patient care, quality of life and health</li> <li>2. Inclusiveness</li> <li>3. Removal of existing bottlenecks</li> </ol>
3	Basic physician, paediatric rehabilitation, organisation that deals with young adults with type 1 diabetes	People with type 1 diabetes, young adults with a chronic disease and more disease-transcending patients	<ol style="list-style-type: none"> <li>1. Need for the innovation</li> <li>2. Interoperable and integral</li> <li>3. Inclusiveness</li> </ol>
4	Consultant in the maritime field	Cardiac patients	<ol style="list-style-type: none"> <li>1. Size of potential target group</li> <li>2. Degree of improving health</li> <li>3. Barriers to implementation and/or scale-up</li> </ol>
5	Stichting voor Afweerstoornissen, Vereniging Hoofdpijnnet, panel on remote care for multimorbid patients (EMC)	People with congenital immune disorders, multimorbidity and headaches	<ol style="list-style-type: none"> <li>1. Degree of improving quality of life</li> <li>2. Privacy and security</li> <li>3. Inclusiveness</li> </ol>
6	Angio Oedeem Vereniging, informal care in MS, home INR monitoring for the anticoagulation service	People with (hereditary) angioedema, urticaria and rare diseases	<ol style="list-style-type: none"> <li>1. Degree of improving patient care, quality of life and health</li> <li>2. Costs society</li> <li>3. Inclusiveness</li> </ol>
7	Film editor, municipal councillor, extra language support for primary children	The patient in general, but also expert by experience in the field of gynaecological cancer and, as relative, in the field of noncongenitally brain injury and dementia	<ol style="list-style-type: none"> <li>1. Degree of improving quality of life and health</li> <li>2. Barriers to implementation and/or scale-up</li> <li>3. Size of potential target group</li> </ol>
8	Physiotherapist, lawyer, ReumaZorg Nederland, Lung Foundation Netherlands, Hersenstichting en SGF (collaborating health funds such as Harteraad, Nierstichting, KWF, Diabetes Fonds, Oogfonds)	Patients represented by the associations listed to the left of this	<ol style="list-style-type: none"> <li>1. Degree of improving quality of life and health and Removal of existing bottlenecks</li> <li>2. Inclusiveness</li> <li>3. Costs patient</li> </ol>
9	District nurse, informal care giver, health education for prevention, MS Vereniging Nederland	Ordinary people who are difficult to get hold of for research and MS-patients	<ol style="list-style-type: none"> <li>1. Inclusiveness</li> <li>2. Patient empowerment</li> <li>3. Costs society</li> </ol>
10	Industry within the medical sector	Thrombotic patients	<ol style="list-style-type: none"> <li>1. Barriers to implementation and/or scale-up</li> <li>2. Removal of existing bottlenecks</li> <li>3. Need for the innovation</li> </ol>

METC, Medical Research Ethics Committee; UMCU, University Medical Centre Utrecht; GP, General Practitioner; EMC, Erasmus Medical Centre; MS, Multiple Sclerosis; INR, International Normalised Ratio; SGF, Association of Collaborating Health Foundations; KWF, Dutch Cancer Society

## 5.2 Reach

### 5.2.1 Balancing Reach and Impact: Ethical Considerations in Target Group Size

During the Digizo.nu meetings, the expert from PFN often must make the difficult decision of whether to focus on a large potential target group with a common disease or a small potential target group with a rare disease. Therefore, this dilemma was presented to the participants during the interviews. Many participants expressed that they felt it was “*a very ethical dilemma*” and that it was “*impossible to choose*”. Participant 3 indicated that she needs more details regarding the dilemma to decide as it varies depending on the circumstances. Participant 2 came up with a solution to decide without personal preference:

*“Then you would really have to start calculating QALYs. That is the only way to quantify it a little bit, I think. Otherwise, it remains a little subjective anyway.”*

Only participant 4 indicated that the size of the potential target group was the most important:

*“The size of the potential target group is a very important one. I do not see one that I think is more important.”*

Most participants emphasised the importance of prioritising smaller target groups of people with rare diseases, as they are often overlooked and thus have very little developed for them. In fact, according to participant 9, they are often forgotten which should not be happening. Participant 6 noted that these patients often look forward to digital applications and are therefore very willing to participate. This participant also noted that the organisation of care and support for rare diseases in the Netherlands is not as well-structured or coordinated as it should be, which is confirmed by participant 5:

*“The rare disorders combined affect more than a million people in the Netherlands. So, you are talking about a large group of people, but all fragmented. And that just makes it difficult. So, I also think it should be deployed for patients with rare disorders.”*

Many participants emphasised the importance of considering the potential impact to be achieved rather than the potential target group to be reached. Participant 10 even named this on his own, without having been presented with the dilemma:

*“It may be a digital application for a not very common disease that does save a lot of time and money. The choice often made now is that it must be for many indications. But you can use digital help for a certain very complex disease that saves a lot of time in care, allowing that time to be spent for others. It does not always have to be high volume. That perception is very popular. But that spread is not always important.”*

However, when presented with a specific dilemma, most participants opted for reach over impact. They were asked to choose between an application that would not provide health benefits, but would reduce waiting lists, and vice versa. All participants provided a reason matching with that of participant 10:

*“Then I go for reducing waiting lists. Because then you can help more people. Then I think very socially.”*

### 5.2.2 Low Priority for Multidisciplinarity

The criterion Digizo.nu uses in terms of reach is cross-sectoral. This involves receiving care from healthcare providers working together in a network. Healthcare providers work in various sectors but combine their knowledge and skills in a network around the patient. The interviews revealed that the participants do not consider it important whether the digitalisation of a healthcare process impacts multiple sectors. However, participant 2 added that it may be valuable if the target group increases as a result:

*“Cross-sector does not tell me much, in the sense of importance. I do not see what the interest is for a patient if, for example, digitalisation takes place in two sectors. I think that it is already in the size of the target group. If those are two target groups, you add them together. But for now, it is at the bottom for me anyway.”*

The criterion of diversity in diseases is not considered important by the participants either.

*“Diversity in diseases does not matter, if I reason from myself. I am a patient, I have a certain disease, if I fall under it.”* (Participant 1)

Only participant 3 indicated that she would opt for cross-disease if it meant that an application was as generic as possible and had the widest possible reach. However, this participant did note that it is important to consider the groups for whom little has been developed so far, as digital applications tend to be created earlier for larger target groups than for those with less prominent or less well-recognized conditions.

### 5.2.3 Inclusiveness as a Top Priority: Usability, Complementarity, and Affordability

Nine out of ten participants mentioned inclusiveness by themselves. This criterion was also prioritised highly by the participants when the top three most important criteria was drawn up. Examples given included people with lower education, lower digital proficiency, low health literacy, mental or physical disabilities, non-native speaker status and elderly people. Participant 3 also indicated that these target groups are often overlooked by policymakers, which is supported by the following comment from participant 5:

*“So, we really need to also keep an eye out for that target group that you do not see in patient organisations, and you do not see in board positions, and you do not see behind their desks, but they are really there as patients.”*

This criterion can be divided into three segments. Firstly, the participants emphasised the importance that the hybrid or digital application is accessible to everyone in terms of use. According to the participants, the application should be simple and easy to understand for everyone, and adaptable for each target group.

*“Simple in the sense that it is very easy to understand for everyone.”* (Participant 2)

According to the participants, the hybrid or digital application should be simple to use for both patients and healthcare providers.

*“There are also quite a lot of doctors who are not incredibly digitally competent, I notice more and more. So, both for all healthcare professionals and for all patients it must be doable.”* (Participant 6)

Secondly, the participants emphasised that it should not be mandatory for those who cannot use it. The hybrid or digital application should be complementary rather than the only possible option. Careful screening of which patients are and are not ready for the hybrid or digital version of the care process should continue.

*“It should not be mandatory for everyone. I think above all you must accept that there are a lot of people who cannot use it. You should not want to impose something on people that they cannot do, which will just make them very confused. You must keep in mind that digital solutions just do not work for some people. You should not try to make your solution so that it does work, because it just cannot.”* (Participant 3)

In addition, two participants mentioned another form of inclusiveness: financial accessibility. This includes, for example, ensuring that everyone has access to a device capable of running the hybrid or digital application.

*“It should be accessible to everyone; you should also be able to include people below modal income.”* (Participant 8)

## 5.3 Impact

### 5.3.1 Contribution to IZA Objective as Contested

Digizo.nu’ criterion for impact is whether it contributes to the IZA objective. Participant 10 currently finds the IZA objective dubious, a view also shared by participant 1:

*“I sometimes see at the Medical Ethics Committee that a proposal is written in such a way that it meets the IZA objective, purely to get budget for it. I have the impression that money is sought for a particular study under false pretences.”*

Participant 8 indicated that patients would not rank this criterion as very important:

*“It matters less whether it meets the IZA objective. It will not matter for a patient.”*

On the other hand, participant 5 noted that the Digizo.nu programme was developed based on the IZA objective:

*“Contributing to the IZA objective, that is just what really needs to be done. That is also why we are having this conversation right now.”*

### 5.3.2 Significance of Maximum Room for Improvement

Nine out of ten participants considered the size of the maximum room for improvement to be very important. As mentioned earlier under 5.2 *Reach*, most participants indicated that the potential impact, or the size of the maximum room for improvement, weighed more heavily than the size of the potential target group. Participant 4 mentioned this criterion unprompted:

*“I do have a new criterion. The difference in impact between physical or digital help.”*

In what way this room for improvement can be filled for patients is explained in the next section.

### 5.3.3 Potential Added Value: Patient Benefit, Practical Convenience, and Patient Empowerment

During the interviews, the pre-found criteria degree of improving patient care, quality of life and health, and removing existing bottlenecks could be categorised under potential added value. The participants often conflated these criteria when giving their opinions on them.

According to the participants, the extent to which patient care, quality of life and health are improved is evident and important. The patient must benefit significantly from it. Participant 3 mentioned that the new care process should always be designed to improve patient care and quality of life. Although these criteria were not often mentioned by the participants in the first part of the interview, they were often highly prioritised while drawing up the top three. One example of how patient care could be improved is by reducing the amount of typing doctors must do during consultations, enabling them to spend more time and attention on their patients in the consulting room.

The potential added value that was often discussed and mentioned unprompted by participants during the interviews, is the removal of existing bottlenecks. This means that certain components of the care burden are reduced, which the participants also referred to as practical ease. Examples include time (e.g. travel time), money (e.g. parking and travel costs), own choice of location (at home). This will save patients a lot of energy and worry, which could improve their mental health. If the patient is aware of this, the need for the innovation will also increase. It is not only of added value to the patient themselves, but also to any relatives and informal carers.

Despite the abovementioned criteria being considered important by the participants, participant 3 does indicate that it is essential to consider how these criteria should be measured and who should determine whether they add value.

As data saturation had already been reached in the previous interviews, additional dilemmas were presented to the participants in the last three interviews. When participants 8, 9 and 10 were asked to choose between improving health and removing existing bottlenecks, participants 8 and 9 opted for health improvement. According to these participants, this is what matters most to patients because it has the greatest impact on their lives. Participant 10 opted to remove bottlenecks, as this would lead to an improved quality of life.

Patient empowerment was a new form of potential added value mentioned by more than half of the participants. This criterion means that patients are in control of their own care process, which is also referred to as autonomy. Participant 6 indicates that monitoring your own disease gives a much better understanding of how to use your medicines as effectively as possible. This is an interesting finding, as this criterion had not yet been identified in the literature.

*“From the point of view of the patient, I would say that it is super important that it gives the patient more control. Those opportunities for the patient to put their own direction down. So not being stuck with someone coming by, that is just nice. Freedom of movement is very nice and important for people. I think self-management, self-direction and having your own influence on your life is very important.”* (Participant representative 9)

## 5.4 Confidence

### 5.4.1 Preconditional Criteria

During the interviews, it was noticeable that the participants mentioned few criteria belonging under confidence by themselves and later did not prioritise them as important. When this was checked with the participants, it was found to be because they assumed that these had already been considered earlier in the process. These criteria were therefore called preconditional, but not as criteria to select or prioritise with.

Participant 1 mentioned the obviousness about the availability of the hybrid or digital application, especially when it is in such a programme as Digizo.nu, as well as participant 7:

*“Availability, we just assume that.”*

Participant 10 mentioned that the availability and barriers to implementation could be used to determine what is easy to digitalise:

*“You start with low-hanging fruit, where you can easily digitise. So, what are already existing digital applications for? And what is easy to implement?”*

Participant 1 mentioned that it is important to consider real-world experience and evidence of effectiveness, as it will promote user acceptance. Participant 10 confirmed the importance of this but also expressed his opinion on the current practice of proving effectiveness:

*“What I find a clincher is those experiences and evidence of effectiveness. It is important, but you must add the way in which it is proved. Because in the Netherlands, proof of effectiveness is still attempted, even with digitalisation, by means of a randomised control trial. But of course, that does not work, it costs a lot of money and a lot of time, so another standard will have to be set for the proof of effectiveness.”*

#### 5.4.2 User-Perceived Need and Readiness for Innovation

Prior to the interviews, the criterion on need for the innovation was categorised under impact, but the interviews showed that it says much more about the confidence in digitalisation. This criterion mainly implies that the end user, often the patient, is open to the innovation. This also requires a mental aspect, so that the patient is not afraid to use the hybrid or digital application.

*“If the need is not there, the target group will not be convinced to use it.”* (Participant 1)

In this case, it is important to measure the need among the end users. All too often, something is developed by a supplier without first measuring the need among end users.

*“That the right people say something about how necessary what you want to do is. Whether it is a need from the person who has been appointed to this and is keen to push this through or whether it is a need from the actual people it is about. So, I think it is important that also in the design of something you want to transform there is a good justification of where the need comes from.”* (Participant 3)

The participant added to this that it should also be innovative because a lot already exists, so there is no longer a need for it. One solution is to renew or improve existing applications.

*“A lot of money is pumped into something that actually already exists or is not necessarily needed.”*

According to the participants, there is a stronger need for innovation when it is connected to patient's lives. In addition, demand will increase when patients are informed about the importance of innovation and its potential benefits. Patients are unaware that digitalisation can be an improvement and often assume that it is being done as a cost-cutting measure.

*“Communicating why something is important is also very crucial. Patients are naturally very quick to feel that digital care is a cost-cutting measure. I think if patients understand that it is not necessarily a cost-cutting measure, but also something that is going to help them, they are more easily onboarded.”* (Participant 6)

Furthermore, participant 10 indicated that an innovation is more likely to succeed if it requires as little behavioural change as possible:

*“Any change requires behavioural adaptation, but it should require as little behavioural adjustment as possible. Because if it requires a huge behavioural adjustment, it is going to be very problematic. The behaviour should be easily adaptable. In English, they say ‘you can bring a horse to the water, but you cannot force him to drink’. That is exactly what it is very often about in the Netherlands. You can make people try to change it, but if they do not want to, they will not do it. So, if that behavioural change component is not considered, you are missing the point.”*

## 5.5 Effort

### 5.5.1 Affordability for Patients

Many participants indicated that the costs of the innovation required for the hybrid or digital care processes should not be the responsibility of the patient.

*“If they had to pay for it themselves, that would be a major barrier.”* (Participant 1)

According to the participants, the transition to hybrid or digital care should not lead to an increase in overall healthcare costs.

*“And a cost aspect, it should not cost more. That sounds very strange, because it is often said about digitalisation in healthcare that it costs a lot of money. But it does not have to cost a lot of money, it can sometimes be done in a very simple way.”* (Participant 10)

### 5.5.2 Cost-Effectiveness for Society

Since PFN wants criteria from a patient perspective, the focus of the impact described in theme 2 is the impact on the patient. However, this section focuses on the impact on society. When the participants expressed their views on this, they clearly indicated that they were reasoning from a different perspective than the patient perspective.

*“If I were to look at the whole healthcare system, then of course I would say choose for whom application that with the least cost yields the most. If it costs more than it brings in, I do not think it is useful nowadays.”* (Participant 2)

Regarding the costs to society, the participants said that the hybrid or digital care process should ultimately reduce healthcare costs. However, it is therefore important to measure the impact against the cost of care. According to the participants, money can be saved in the healthcare sector by switching to a hybrid or digital healthcare process, which can then be spent elsewhere. Participant 3 indicated that it does not necessarily have to be cost-effective, as many aspects of healthcare are not yet cost-effective. Nonetheless, it remains important to critically assess how public healthcare funds are allocated.

*“A lot of money is being pumped in from subsidies. I know of an app where millions were invested and only 950 people have used it so far. So that is just a waste. Someone came up with that and there was money for it. Subsidies keep being poured into it, while nobody uses it effectively. With that money, you could also have given a lot of people cognitive behavioural therapy, for example. So, I think a lot of money should only be pumped into it if it really does not exist yet and there is a lot of need for it.”*

## 5.6 Application

During the first part of the interview, many participants mentioned criteria relating to the use of the application or the application itself. These are not necessarily criteria to use when choosing between several hybrid or digital care processes, but rather criteria that the application must meet before it can be implemented and scaled up. It is therefore crucial to test innovations against these criteria.

### 5.6.1 Patient Communication and Support

According to the participants, communication about the application is crucial. The types of communication mentioned are an explanation prior to use, guidance and feedback during use, and attention to possible concerns raised while using the application.

Half of the participants stressed the importance of providing an explanation. Participant 1 indicated that, prior to use, it should not only be explained how to use the application, but also an understanding of how it works behind the scenes and what everything means. Participant 6 mentioned that such support is lacking now. Participants 6 and 9 both explained that patients drop out if they encounter problems at the beginning or if they do not understand what is expected of them to do due to a lack of proper explanation. This was confirmed by the following statement from participant 8:

*“Do you also take the time for that patient to make it clear, to explain it, to make it understandable what needs to be done? And I think that is where everything falls or stands with. If it does not reach that patient or that patient does not know how to deal with it, it becomes difficult.”*

In addition to pre-use explanations, three participants also stressed the importance of ongoing guidance and support.

*“What is also important is ongoing guidance and support from the healthcare provider. So that the patient is continuously included in how things are going. So not just in the beginning when starting, but also monitoring it, that feedback keeps coming.”* (Participant 2)

The participants indicated that the system cannot function in a stand-alone manner and therefore feedback is needed. Participant 6 interpreted feedback as comments on how the tool works for the patient and suggestions for improvements, whereas participant 8 interpreted feedback as information or alarming notifications from the system on what the patient should do. Both participants emphasise the importance of people being able to trust that someone is watching over them, knowing that they can rely on something and feeling that they are being taken seriously.

Finally, the participants mentioned the need to address concerns that could potentially arise from the use of the hybrid or digital application. According to participant 3, all the data involved in monitoring yourself can be stressful and worrying. Being able to see values before speaking to the doctor can also scare and confuse patients. This participant indicated that addressing the concerns raised by the lack of human interaction is very important. Participants 5 and 8 also indicated that non-verbal communication in real life is of great value to a conversation, as it reveals a lot about how the patient feels. Participant 7 mentioned that people can sometimes panic when something changes, so sufficient attention should also be paid to explaining an update.

*“There is a lot of information, also on your leaflet. Still, people panic. It is quite difficult. You quickly overestimate what you achieve with written information with people.”* (Participant 7)

### 5.6.2 Functional and Ethical Preconditions for Use

The participants also mentioned the many conditions that the application must meet. More than half of the participants mentioned user-friendliness. Participants 2 and 8 emphasised that it should be simple to use and to understand. Participants 6 and 10 said that this applies not only to the patient, but also to the caregiver who must work with it. Participant 8 also added informal carers to the list of users. Participant 5 stressed the importance of patients being able to use the application independently; otherwise, confidentiality of information could be compromised.

Another frequently mentioned requirement that corresponds to confidentiality is privacy and security. By this, the participants meant that the system should be well secured at the back end, so that data does not leak and that it cannot be hacked. Participant 5 even called it a requirement. According to participant 6, privacy and security also includes communication regarding what happens to the patients' data.

The participants also found interoperability and integration very important. Interoperability refers to the application's ability to work together with other systems. Integration means embedding it within a caring environment and connecting it to the current care process.

Finally, two participants emphasised the importance of the application fitting into patients' daily lives. They meant that patients should not have to adjust or rearrange their lives because of the application. Participant 5 confirmed that hybrid or digital care is easier for patients to fit into their daily lives than physical care, as it, for example, allows patients to choose the time and location.

### 5.6.3 Negative Side Effects: Unintended Consequences and Risks of Hybrid and Digital Care

Moreover, the participants mentioned potential negative side effects that should be considered when implementing the application. The first issue mentioned was the lack of social interaction. Three participants indicated that many people enjoy receiving physical care and require this level of human attention. This is particularly common among older people, people living alone, and people who have been in care for some time.

*"We think that going to the hospital often is annoying, but there are also people who make that a day filling. And who love it. People who just have social contact through all the care workers coming in all day. You really should not underestimate what that means to those people."* (Participant 9)

Participant 3 mentioned that social monitoring during physical consultations with healthcare providers can also detect other problems. This is particularly important in deprived areas, for example. This participant, as well as participant 7, also mentioned that online options often reduce adherence.

## 6 Discussion

### 6.1 Key Findings

The first sub-question of this study was: *“According to the patient representatives, what are other important criteria, besides the Digizo.nu criteria, that PFN should use when prioritising selected healthcare processes for the Digizo.nu Transformation Agenda?”* This sub-question was answered by asking the participants for criteria during the interviews, without showing them the existing criteria found in literature.

A new criterion that emerged from the results in terms of reach was inclusiveness. The participants emphasized that hybrid or digital healthcare solutions must be accessible to everyone. The application is expected to be simple and easy to understand, for both patients and healthcare professionals. Furthermore, the participants stressed the importance of non-mandatory use. Digital solutions should be complementary to traditional care rather than a replacement. There should be careful consideration of whether patients are ready and able to use such tools. Previous research evaluating the reach of digital health technologies also demonstrated that some interventions do not equally benefit all and in fact seem to reinforce a digital health divide, showing the importance of this criterion mentioned by the participants (Krukowski et al., 2024).

In terms of impact, the criterion of removing existing bottlenecks, that is already used within PFN, was frequently highlighted by the participants. This criterion was described as increased practical convenience. A new criterion regarding impact mentioned by the participants is the emphasis on patient empowerment, giving patients control over their own care process. This includes the ability to self-monitor and make informed decisions, such as managing medication more effectively. The study by Colombo et al. (2012) describes that interventions have shown that patient empowerment make people feel more comfortable with their treatment choice and more closely involved in their health care. In addition, benefits of cost savings are also reported, as patient empowerment reduces unnecessary requests. This confirms the potential impact of this criterion conceived by the participants.

The participants revealed that the level of confidence is reflected with the need for the innovation. The perceived need is closely linked to whether patients are mentally prepared and motivated to engage with a hybrid or digital application. The participants emphasized that assessing need must be done from the patient's perspective, not solely from developers or policymakers. Innovations often fail when they are introduced without first establishing whether a genuine demand exists among the target group. Finally, minimizing required behavioural change was seen as essential. These comments from the participants are confirmed by Choun and Petre (2022) who state that one of the key reasons for a slow uptake of new digital solutions in the healthcare industry is that patients are often left out of the innovation process; solutions designed for them are developed without their input and healthcare professionals refuse their expertise. This statement further demonstrates the importance of having this considered by Digizo.nu.

A new theme that emerged from the interviews relates to the application itself. The participants emphasized that effective communication surrounding the application is crucial, including clear explanations before use, ongoing guidance during use, and addressing concerns that may arise. In terms of conditions that an application must meet, user-friendliness was a frequently mentioned criterion. Independence in using the tool was considered crucial to protect patient confidentiality. Furthermore, privacy and security were viewed as essential, both in terms of technical protection and in terms of transparency about how patient data is handled. Another important condition was interoperability and integration: the application should be able to work seamlessly with existing systems and be embedded within current care processes. Many of these conditions are also mentioned by Zillner et al. (2014) in their analysis on user needs and requirements for big data healthcare applications, confirming how important it is for applications to be tested on these by PFN.

The second sub-question read as follows: “According to the patient representatives, what is the relevance of the Digizo.nu and additional collected criteria when selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda?” This sub-question was answered by having the participants rank the various Digizo.nu and additional collected criteria during the interviews.

From the participants' individual prioritisation shown in Table 5, the six most important criteria were extracted using a scoring system. These criteria are presented in the prioritisation framework shown in Table 6, whose design is already being used within PFN (Lucie Peijnenburg, personal communication, February 25, 2025). The more important the criterion, the heavier the weighting. In this way, a total score can be calculated by multiplying the score (high: 3, medium: 2 or low: 1) with the weighting and finally summing up everything together. The care process with the highest total score should be prioritised first according to the participants. This structured framework contributes to transparent and consistent decision-making.

Table 6. Prioritisation Framework

Criteria	Degree of improving quality of life	Inclusive-ness	Degree of improving health	Degree of improving patient care	Removal of existing bottlenecks	Barriers to implementation and/or scale-up	Total score
<b>Weighting</b>	Patient's interest: 5	Patient's interest: 4	Patient's interest: 3	Patient's interest: 2	Patient's interest: 1	Patient's interest: 1	
Hybrid or digital care process 1	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	...
Hybrid or digital care process 2	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	Score: High (3), Medium (2) or Low (1)	...

The RICE Score Framework which was used as theoretical framework in this study provided a lot of structure during the interviews and was very suitable for categorising the results. However, it was a too general prioritisation framework and therefore not suitable for application in healthcare settings. The four categories were very broad, while the interviews showed that all these categories contain multiple criteria. In addition, the balance of the formula did not match the results of this study. This is therefore the reason why a new patient-centred prioritisation framework was drawn up.

The third sub-question was as follows: “How do the Digizo.nu and the additional collected criteria relate to each other?” This sub-question was answered by comparing the results with the current Digizo.nu criteria.

Currently, when it comes to reach, only the size of the potential target group and the cross-sectoral aspect are considered by Digizo.nu. The results of this study show that, according to patients, volume and multidisciplinary are less important than the inclusiveness and impact the innovation has. The only criterion Digizo.nu uses in terms of impact is the question with which of the IZA goals the process aligns. Achieving the IZA objective will ultimately contribute to the desired impact mentioned by the participants, but the specific patient benefits mentioned by the participants are not fully considered with this criterion, making them a valuable addition to the currently used criteria. The criteria currently used by Digizo.nu in terms of confidence were barely mentioned by the participants and not ranked high. As this was because the participants assumed this was already taken care of, it is very important that these Digizo.nu criteria are maintained. To optimise the current Digizo.nu criteria and test the application for the conditions it should meet according to the patient representatives, a recommendation was written to PFN in 6.3 Recommendations.

## 6.2 Strengths and Limitations

The main strength is that the research is embedded in practice as the research was commissioned by PFN and focused specifically on the Digizo.nu programme. Through interviews with patient representatives, strong involvement of stakeholders from practice has been achieved. This ensures that the results are well aligned with current policies and are supported by the field, resulting in a final product that is concrete and usable. The established prioritisation framework with a point system and weights per criterion is directly applicable by PFN in selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda.

The other strengths concern the methodology of this study. The chosen qualitative method with semi-structured interviews provided depth with contextual information. Besides allowing the participants to rank their priorities in a structured way, there was also room for them to contribute their own criteria, which led to new thematic insights such as inclusiveness, patient empowerment and preconditions of the application. Moreover, the interviews had a diverse sample of participants, representing different ages, places of residence, backgrounds and patient groups. Additionally, the sample was not chosen randomly, but participants had previously participated in a Digizo.nu focus group or had other experiences with participating in digitalisation projects.

The major limitations concern the participant group. The first limitation concerns the limited sample size ( $n = 10$ ), which means that the findings cannot be generalised plainly to all patients or patient representatives in the Netherlands. However, data saturation was achieved within the ten interviews. After seven interviews, no new insights emerged, and the last three interviews were used to confirm the data saturation. In addition, the participants are active, empowered and well-educated people. As a result, vulnerable groups such as people with low health literacy or language barriers are underrepresented in the study. Although, the patient representatives were able to rise above themselves and think from their point of view, which is reflected in the fact that nine out of ten participants mentioned inclusiveness.

## 6.3 Recommendations

Based on the findings of this study, it is recommended that PFN uses the new established patient-centred framework with the criteria that emerged from this research when selecting and prioritising care processes for the Digizo.nu Transformation Agenda. Furthermore, PFN should ensure that hybrid and digital innovations meet certain prerequisites before implementation, such as user-friendliness, privacy, and clear communication. Additionally, PFN should make sure that innovations are not forced on patients who are not digitally capable or ready, as digital care should remain a complementary option to physical care. Finally, PFN could actively challenge Digizo.nu on the list of criteria that the programme is currently using for selecting healthcare processes, as they are mainly focused on reaching large numbers and therefore do not sufficiently include the patient's perspective.

Future research should assess how the prioritisation framework performs when applied in practice by PFN, i.e. the fit for purpose. It is currently based only on theoretical input from patient representatives and not yet on a real prioritisation of healthcare processes from the Digizo.nu Transformation Agenda. In addition, it would be valuable to assess whether the use of the prioritisation framework leads to different prioritisation outcomes than so far. Moreover, in a quantitative follow-up study, the criteria and their weighting could be validated among a broader and more diverse group of patients for more generalisability.

## 6.4 Conclusion

This research aimed to identify patient-centred criteria that PFN can use to select and prioritise healthcare processes for the Digizo.nu Transformation Agenda. In response to the need for more supported and transparent patient input in this healthcare digitalisation programme, ten semi-structured interviews were conducted with patient representatives.

The interviews revealed several key themes. Inclusiveness emerged as the most frequently mentioned theme, with the participants highlighting the importance of ensuring access for vulnerable groups. Digital solutions should be easy to use for both patients and healthcare professionals. Additionally, they must remain optional rather than mandatory, functioning as a complement to traditional care. Another frequently emphasised criterion was the removal of existing bottlenecks in the care process. The participants valued improvements in practical convenience, such as reduced travel time and costs, and greater flexibility in care delivery. Closely related was the criterion of patient empowerment, which refers to giving patients more control over their own care. Concerning the need for innovation, the participants stressed that innovations should be based on clearly identified needs from the patient perspective and should require minimal behavioural change to encourage uptake. Finally, several application-level conditions were identified. Participants underlined the need for clear communication, ongoing guidance, and user feedback mechanisms. They also stressed user-friendliness, data privacy and security, and interoperability with existing systems as essential requirements.

A patient-centred prioritisation framework was developed based on the top-ranked criteria, allowing PFN to apply patient values in future decisions. This framework supports substantiated choices when advising on or proposing care processes for digital transformation. The results support PFN's ambition to act proactively in representing patients' interests in the further implementation and scale-up of hybrid and digital care.

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## 8 Annexes

### 8.1 Interview Guide

#### 8.1.1 Interview Guide – Dutch Version

##### Kennismaking

- Kunt u wat over uzelf vertellen?
  - o Leeftijd
  - o Woonplaats
  - o Studie-achtergrond
  - o (Vrijwilligers-)werk
  - o Aandoening (als aanwezig)
- Juliette, wil jij ook even kort iets over jezelf vertellen?
  - ➔ Ik iets over mijzelf vertellen

##### Introductie onderzoek

De Digizo.nu Transformatieagenda speelt een centrale rol in het proces van digitalisering door zorgprocessen te selecteren en prioriteren. Patiëntenfederatie Nederland (PFN) neemt als één van de IZA-partijen deel aan de vergaderingen van Digizo.nu. Echter heeft het momenteel geen criteria beschikbaar waarop de input van nieuwe zorgprocessen op de agenda en de prioritering van zorgprocessen die al door Digizo.nu zijn geselecteerd, kunnen worden gebaseerd. Het doel van dit onderzoek is het opstellen van een raamwerk met patiëntgerichte criteria die PFN kan gebruiken voor het selecteren en prioriteren van zorgprocessen voor de Digizo.nu Transformatieagenda.

Deze onderzoeksdoelstelling resulteerde in de volgende hoofdonderzoeksvraag: *'Wat zijn de criteria die patiënten belangrijk vinden die de Patiëntenfederatie Nederland kan gebruiken bij het selecteren en prioriteren van zorgprocessen voor de Digizo.nu Transformatieagenda?'*. Deze hoofdonderzoeksvraag zal worden beantwoord met behulp van de volgende sub-onderzoeksvragen:

1. *'Wat zijn volgens de patiëntvertegenwoordigers belangrijke criteria die PFN zou moeten gebruiken bij het prioriteren van al geselecteerde zorgprocessen voor de Digizo.nu Transformatieagenda?'*
2. *'Wat is volgens de patiëntvertegenwoordigers de relevantie van de Digizo.nu en aanvullend verzamelde criteria bij het selecteren van zorgprocessen om actief op de Digizo.nu Transformatieagenda te zetten?'*
3. *'Hoe verhouden de Digizo.nu en de aanvullend verzamelde criteria zich tot elkaar?'*

##### Uitleg interview

Eerst zullen we bespreken welke criteria u belangrijk vindt als het gaat om het selecteren en prioriteren van zorgprocessen voor op de Digizo.nu Transformatieagenda. Als u het lastig vindt om criteria te noemen, kunt u in het algemeen vertellen wat u belangrijk vindt, dan zullen wij het omzetten naar criteria. Daarna zullen we naar de criteria kijken die ik al gevonden heb binnen PFN, Digizo.nu en het Health Technology Assessment. Deze zal ik eerst aan u toelichten, waarna we ze kunnen koppelen aan de door u genoemde criteria. Vervolgens willen we bespreken welke criteria u belangrijk en minder belangrijk vindt van alle verzamelde criteria. En tot slot willen we u vragen om een top drie te maken van de belangrijkste criteria.

##### Criteria patiëntvertegenwoordiger

- Wat vindt u belangrijke criteria als het gaat om het selecteren en prioriteren van zorgprocessen voor op de Digizo.nu Transformatieagenda?
  - ➔ Op groene post-its schrijven/typen
- Kunt u per genoemd criterium toelichten waarom u dat belangrijk vindt?

### Bestaande criteria

- ➔ Bestaande criteria op tafel plakken/ op Miro board laten zien
- ➔ Bestaande criteria toelichten
- ➔ Overlappende criteria patiëntvertegenwoordiger plakken op/ naast bestaande criteria

### Rangschikken

- Kunt u aangeven welke criteria u belangrijk en welke u minder belangrijk vindt?
- Kunt u per criterium toelichten waarom u dat wel of minder belangrijk vindt?
- Kunt u een top drie maken van de belangrijkste criteria?

## 8.1.2 Interview Guide – English Version

### Introductory

- Could you tell us a little about yourself?
  - o Age
  - o Place of residence
  - o Study-background
  - o (Voluntary) work
  - o Disease (if present)
- Juliette, would you also like to tell something briefly about yourself?
  - ➔ Tell something about myself

### Introduction research

The Digizo.nu Transformation Agenda plays a central role in the process of digitalisation by selecting and prioritising healthcare processes. Dutch Patient Federation (PFN) participates in Digizo.nu meetings as one of the IZA parties. However, it currently has no criteria available on which to base the input of new healthcare processes on the agenda and the prioritisation of healthcare processes already selected by Digizo.nu. The aim of this study is to establish a framework of patient-centric criteria that PFN can use to select and prioritise care processes for the Digizo.nu Transformation Agenda.

This research objective resulted in the following main research question: *‘What are the criteria that patients consider important that Dutch Patient Federation can use when selecting and prioritising care processes for the Digizo.nu Transformation Agenda?’* This main research question will be answered using the following sub-research questions:

1. *‘What do patient representatives think are important criteria PFN should use when prioritising already selected care processes for the Digizo.nu Transformation Agenda?’*
2. *‘What do patient representatives feel is the relevance of the Digizo.nu and additionally collected criteria in selecting care processes to actively include on the Digizo.nu Transformation Agenda?’*
3. *‘How do the Digizo.nu and the additionally collected criteria compare?’*

### Explanation interview

First, we will discuss what criteria you find important when it comes to selecting and prioritising care processes for on the Digizo.nu Transformation Agenda. If you find it difficult to name criteria, you can tell us in general what you think is important, and we will convert it into criteria. Then we will look at the criteria I have already found within PFN, Digizo.nu and the Health Technology Assessment. I will first explain these to you, and then we can link them to the criteria you mentioned. Next, we want to discuss which criteria you consider important and less important out of all the criteria collected. And finally, we would like to ask you to make a top 3 of the most important criteria.

### Criteria patient representative

- What do you think are important criteria when it comes to selecting and prioritising healthcare processes for on the Digizo.nu Transformation Agenda?
  - ➔ Write/type on green post-its
- For each criterion mentioned, could you explain why you consider it important?

### Existing criteria

- ➔ Sticking existing criteria on table/ showing on Miro board
- ➔ Explain existing criteria
- ➔ Overlapping criteria patient representative paste on/ alongside existing criteria

### Ranking

- Can you indicate which criteria you consider important and which you consider less important?
- For each criterion, could you explain why you consider it important or less important?
- Can you make a top three of the most important criteria?

## 8.2 Code Tree

### 8.2.1 Initial Code Tree

1. Reach
  - 1.1. Size of potential target group
  - 1.2. Cross-sectoral
  - 1.3. Diversity in diseases
  
2. Impact
  - 2.1. Contribution to IZA objective
  - 2.2. Need for the innovation
  - 2.3. Size maximum room for improvement
  - 2.4. Potential added value
  - 2.5. Degree of improving patient care
  - 2.6. Degree of improving quality of life
  - 2.7. Degree of improving health
  - 2.8. Removal of existing bottlenecks
  
3. Confidence
  - 3.1. Barriers to implementation and/or scale-up
  - 3.2. Availability of hybrid or digital solution/application
  - 3.3. Field experience/evidence of effectiveness
  - 3.4. Success and failure factors that are situation-dependent
  - 3.5. Uncertainty about added value due to unclear parameters
  
4. Effort
  - 4.1. (Potential) impact on budget
  - 4.2. Balance between revenue and costs

## 8.2.2 Final Code Tree

1. Reach
  - 1.1. Size of potential target group
  - 1.2. Cross-sectoral
  - 1.3. Diversity in diseases
  - 1.4. Inclusiveness
2. Impact
  - 2.1. Contribution to IZA objective
  - 2.2. Size maximum room for improvement
  - 2.3. Potential added value
    - 2.3.1. Degree of improvement in patient care
    - 2.3.2. Degree of improving quality of life
    - 2.3.3. Degree of improving health
    - 2.3.4. Removal of existing bottlenecks
    - 2.3.5. Patient empowerment
3. Confidence
  - 3.1. Barriers to implementation and/or scale-up
  - 3.2. Availability of hybrid or digital solution/application
  - 3.3. Field experience/evidence of effectiveness
  - 3.4. Need for the innovation
4. Effort
  - 4.1. Costs patient
  - 4.2. Costs society
5. Application
  - 5.1. Communication
    - 5.1.1. Explanation
    - 5.1.2. Feedback
    - 5.1.3. Attention to concerns
  - 5.2. Requirements
    - 5.2.1. Interoperable and integral
    - 5.2.2. User-friendliness
    - 5.2.3. Embedding in everyday life
    - 5.2.4. Privacy and security
    - 5.2.5. Confidentiality
  - 5.3. Side effects
    - 5.3.1. Lack of social aspect
    - 5.3.2. Reduced compliance
6. Demographic data
  - 6.1. Age
  - 6.2. Residence
  - 6.3. Study
  - 6.4. Work
  - 6.5. Disease(s)
  - 6.6. Patient group represented

## 8.3 Data Management Plan

### PLAN OVERVIEW

*A Data Management Plan created using DMPonline*

**Title:** Patient-Centred Criteria for Selecting and Prioritising Healthcare Processes for the Digizo.nu Transformation Agenda

**Creator:** Noa Stegeman

**Principal Investigator:** Noa Stegeman

**Data Manager:** Noa Stegeman

**Project Administrator:** Noa Stegeman

**Contributor:** Juliette Verwer, Marcel Heldoorn, Renate Baumgartner

**Affiliation:** Vrije Universiteit Amsterdam

**Template:** 1 - VU DMP template 2021 (NWO & ZonMW certified) v1.4

**Project abstract:** The objective of this research is to establish a framework with criteria which Dutch Patient Federation can use for selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda based on patients input. The aim of this research will be achieved by first identifying the different criteria for selecting and prioritising healthcare processes. After that, there will be examined how patients rank these criteria when transforming healthcare processes to hybrid or digital. This research objective resulted in the following main research question: *‘What are the criteria that patients find important that Dutch Patient Federation can use when selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda?’*

**ID:** 171481

**Start date:** 03-02-2025

**End date:** 27-06-2025

**Last modified:** 13-03-2025

# Patient-Centred Criteria for Selecting and Prioritising Healthcare Processes for the Digizo.nu Transformation Agenda

## 0. GENERAL INFORMATION

### 0.1 Document version & date

Version 1.0  
Date: 24/02/2025

Version 2.0  
Date: 13/03/2025

### 0.2 Project title

Patient-Centred Criteria for Selecting and Prioritising Healthcare Processes for the Digizo.nu Transformation Agenda

### 0.3 Project summary

The objective of this research is to establish a framework with criteria which Dutch Patient Federation can use for selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda based on patients input. The aim of this research will be achieved by first identifying the different criteria for selecting and prioritising healthcare processes. After that, there will be examined how patients rank these criteria when transforming healthcare processes to hybrid or digital. This research objective resulted in the following main research question: *'What are the criteria that patients find important that Dutch Patient Federation can use when selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda?'*

### 0.4 At which VU Faculty is this project situated?

Faculty of Science (BETA)

### 0.5 Your contact details

Full name: Noa Stegeman  
Role in the project: Primary researcher  
Telephone number: +31 (0)6 18986396  
Email: [n.stegeman@student.vu.nl](mailto:n.stegeman@student.vu.nl)  
University: Vrije Universiteit Amsterdam  
Faculty/Institute: Faculty of Science (BETA) / Athena Institute  
Study: Management, Policy Analysis & Entrepreneurship in the Health & Life Sciences

### 0.6 List other people involved, including those at partner organisations in the project (if applicable)

Partner organisation: Patiëntenfederatie Nederland  
Supervisors:

- Juliette Verwer, daily supervisor, +31 (0)6 55494362, [j.verwer@patientenfederatie.nl](mailto:j.verwer@patientenfederatie.nl), Patiëntenfederatie Nederland
- Marcel Heldoorn, on-site supervisor, +31 (0)6 27002735, [m.heldoorn@patientenfederatie.nl](mailto:m.heldoorn@patientenfederatie.nl), Patiëntenfederatie Nederland
- Renate Baumgartner, VU supervisor, [r.baumgartner@vu.nl](mailto:r.baumgartner@vu.nl), Athena Institute, Vrije Universiteit Amsterdam

### 0.7 Funding organisation & grant number (if applicable)

Not applicable

### 0.8 Project code (if applicable)

Not applicable

### 0.9 Consulted data management expert(s)

Not applicable

## 1. DATA DESCRIPTION

### 1.1 Will you collect and/or process personal data in this project?

Yes

### 1.2 Will you use existing data? If yes, what is their source?

No

### 1.3 Will you collect or produce new data? If yes, please describe how.

**Topic:** Patient-Centred Criteria for Selecting and Prioritising Healthcare Processes for the Digizo.nu Transformation Agenda

**Description of data collection 1:** Interviews will be conducted to collect the opinion of patient representatives from patient organisations about criteria for selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda. The participants will discuss and rank the criteria. The data will be collected using a notebook to make notes by the researcher. Furthermore, the interviews will be recorded using recording equipment or via Microsoft Teams. The recordings will be transcribed and anonymised.

### 1.4 Describe the population/participants/subjects that will be studied

Patient representatives and employees from Dutch Patient Federation.

### 1.5 Do you process any of the following (personal) data?

- Name
- Contact details
- Financial information
- Gender
- Age

### 1.6 Do you process the personal data based on informed consent?

Yes, through a physical form.

### 1.7 On what legal ground will the data processing take place if it is not based on informed consent?

Not applicable, I use informed consent.

### 1.8 Does the data collection include any of the following types of personal data?

The data collection does not include any of the stated types of personal data.

### 1.9 If your research involves special categories of personal data (previous question) and you will not use explicit informed consent, what is the legal ground for the exemption?

Not applicable

### 1.10 What kinds of outputs will you produce in this project? Please describe these data assets.

#### Raw data

Data asset: interview recordings

Description: semi structured interviews recorded on Microsoft Teams

Format: .mp4

#### Processed data

Data asset: interview transcriptions

Description: automatically transcribed interviews by Microsoft Word online

Format: .docx

Data asset: checked interview transcriptions

Description: manually checked transcriptions

Format: .docx

#### Analysed data

Data asset: document with quotes

Description: document with the important statements from the interviews  
Format: .docx

**Other**

Data asset: interview guide

Description: description of how interviews are carried out

Format: .docx

Data asset: informed consent forms

Description: physical forms signed by participants

Format: .docx

**1.11 How much digital data storage will your project require?**

0 - 50 GB

**1.12 Will you collect physical data? If yes, please describe these.**

No

**1.13 Will you take measures to ensure data quality? Please describe these, if applicable.**

No

**2. LEGAL AND ETHICAL REQUIREMENTS, CODES OF CONDUCT**

**2.1 / 2.2 What legislation applies to your research project? Please tick the relevant boxes for your project.**

General Data Protection Regulation (GDPR) / Algemene Verordening Gegevensbescherming (AVG)

**2.3 Do you require approval of an ethical committee for this project? If yes, please indicate which ethical committee and whether you have obtained approval for this project.**

No

**2.4 Will you work with data for which intellectual property and/ or confidentiality are an issue? If yes, please describe.**

No

**2.5 Do you plan on generating a marketable product from your research project? if yes, please describe**

No

### 3. STORAGE AND BACK-UP DURING THE RESEARCH PROCESS

**3.1 / 3.2 What measures will you take to secure and protect data during the research process? Please describe, for each separate data asset you described for question 1.10, how you will ensure data security, where the data assets are stored & backed up, and who has authorisation to access the asset.**

#### **Raw data**

Data asset: interview recordings  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: deleted after transcribing

#### **Processed data**

Data asset: interview transcriptions  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: anonymisation

Data asset: checked interview transcriptions  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: anonymisation

#### **Analysed data**

Data asset: document with quotes  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: no additional measures

#### **Other**

Data asset: interview guide  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: no additional measures

Data asset: informed consent forms  
Storage: SharePoint  
Backup: automated daily backup  
Access: authorisations  
Security measures: physically filled in are kept in locked cabinet

**3.3 Which tools are used in the collection, processing or storage of data during research?**

- SharePoint
- Microsoft Teams
- Atlas.ti

**3.4 What other tools or software do you intend to use during your research?**

Whisper AI / Microsoft Word online

**3.5 / 3.6 Is it necessary to transfer the (physical or digital) data assets to other locations or research partners? If yes, please describe how you secure the file transfer.**

Yes, interview recordings will be directly transferred from Microsoft Teams to SharePoint (on the same computer).

**3.7 Do you transfer personal data outside of the European Economic Area (EEA)? If Yes, please provide additional information**

No

## 4. DATA ARCHIVING AND PUBLISHING

### 4.1 Which data assets will be archived and which will be published?

#### Raw data

Data asset: interview recordings

Publish/Archive/Neither: Delete

Explanation decision: only needed to check the transcriptions

#### Processed data

Data asset: interview transcriptions

Publish/Archive/Neither: Archive

Explanation decision: available to provide transparency about the research

Data asset: checked interview transcriptions

Publish/Archive/Neither: Archive

Explanation decision: available to provide transparency about the research

#### Analysed data

Data asset: quotes

Publish/Archive/Neither: Publish

Explanation decision: needed to show the results

#### Other

Data asset: interview guide

Publish/Archive/Neither: Archive

Explanation decision: available to provide transparency about the research

Data asset: informed consent forms

Publish/Archive/Neither: Archive

Explanation decision: available to provide transparency about the research

### 4.2 Where will you archive your data assets?

The transcriptions will be archived at SharePoint and the informed consent forms will be archived at the office of Dutch Patient Federation.

### 4.3 What other archive(s) do you intend to use to archive data assets?

Not applicable

### 4.4 / 4.5 For how long will the data be available in the archive?

The data will be available for 10 years after completion of the research.

### 4.6 / 4.7 Where will you publish your data assets?

The interview guide will be published as an annex in the final research report.

### 4.8 How will you ensure your dataset gets a persistent identifier (e.g. a DOI-code)?

Not applicable

### 4.9 Will you register your datasets in an online registry other than PURE? If yes, where?

No

### 4.10 / 4.11 Are there restrictions to data publishing? If yes, please specify the reasons and list the data assets you do not wish to share publicly.

No

### 4.12 When will you share the data? If not immediately after completion of the project, please specify the reasons.

The data will be shared simultaneously with handing in the final research report, because the interview guide is an annex in the final research report.

#### 4.13 Please indicate the license and/ or terms of use under which you share your data.

Not applicable

### 5. DOCUMENTATION

#### 5.1 What documentation will accompany the data?

- Quotes: data asset descriptions
- Interview documents (guide/informed consent)

#### 5.2 What metadata will accompany the data?

- Standard vocabularies
- Keywords that are commonly used and unambiguous in the field

#### 5.3 What methods, software or hardware are needed to access and use your data?

- Word (Microsoft Office 365)

### 6. DATA MANAGEMENT RESPONSIBILITIES AND RESOURCES

#### 6.1 Who will be responsible for management of the data assets during the project? Please specify their name, position, role in the project, and faculty/ institution/ group.

Full name: Noa Stegeman  
Role in the project: Primary researcher  
Telephone number: +31 (0)6 18986396  
Email: n.stegeman@student.vu.nl  
University: Vrije Universiteit Amsterdam  
Faculty/Institute: Faculty of Science (BETA) / Athena Institute  
Study: Management, Policy Analysis & Entrepreneurship in the Health & Life Sciences

#### 6.2 Who will be responsible for management of the data assets after completion of the project (e.g. the project lead/ dedicated data manager/ department head)? Please specify their name, position, role in the project, and faculty/ institution/ group.

Full name: Juliette Verwer  
Role in the project: Daily supervisor  
Telephone number: +31 (0)6 55494362  
Email: j.verwer@patientenfederatie.nl  
Organisation: Patiëntenfederatie Nederland

#### 6.3 For data that are only available upon request, what methods will be used to handle requests for access and how will data be made available to those requesting access?

Not applicable

#### 6.4 What resources (for example financial and time) will be dedicated to research data management? Please estimate their cost.

Only time will be dedicated to research data management, and this will cost approximately one hour per week.

## 8.4 Informed Consent Form

### 8.4.1 Informed Consent Form – Dutch Version

U heeft aangegeven deel te willen nemen aan het onderzoek over criteria voor het selecteren en prioriteren van zorgprocessen voor de Digizo.nu Transformatieagenda. Het onderzoek is in opdracht van Patiëntenfederatie Nederland en wordt uitgevoerd door Juliette Verwer (Adviseur Patiëntbelang Digitale Zorg, Patiëntenfederatie Nederland) en Noa Stegeman (Student Management, Policy Analysis and Entrepreneurship in the Health & Life Sciences, Vrije Universiteit Amsterdam). Deze brief geeft uitleg over wat deelname aan het onderzoek inhoudt.

#### *Waarom is dit onderzoek belangrijk?*

Patiëntenfederatie Nederland is één van de IZA partijen en neemt deel aan Digizo.nu bijeenkomsten om de belangen van patiënten te behartigen. Op dit moment heeft Patiëntenfederatie Nederland geen criteria beschikbaar waarop de inbreng van nieuwe zorgtrajecten op de agenda en de prioritering van reeds door Digizo.nu geselecteerde zorgtrajecten kan worden gebaseerd. Bij de prioritering moeten soms keuzes gemaakt worden tussen verschillende patiëntengroepen en dat zijn lastige keuzes, want Patiëntenfederatie Nederland wil er zijn voor al haar leden. Toch moet er een keuze gemaakt worden, want anders wordt de keuze gemaakt door de andere IZA-partijen en dan wordt het patiënten perspectief niet altijd meegenomen. Daarnaast wil Patiëntenfederatie Nederland deze keuze maken op basis van vastgestelde criteria, zodat er geen sprake kan zijn van persoonlijke voorkeur. Ook willen ze transparant kunnen zijn over op basis van welke criteria een bepaalde keuze wordt gemaakt, zodat dit aan de verschillende patiëntengroepen kan worden uitgelegd.

#### *Wat gaan we met de informatie doen?*

Met uw toestemming zal het gesprek worden opgenomen. De audio-opname is alleen toegankelijk voor de onderzoekers van dit project. Wanneer de audio-opname is uitgewerkt, zal deze worden verwijderd. Daarnaast nemen we maatregelen ter bescherming van uw privacy. De uitgetypte gesprekken worden in een beveiligde omgeving opgeslagen. Ook wordt de informatie anoniem opgeslagen en verwerkt, waardoor dit gedurende het gehele onderzoek niet is te herleiden naar individuele personen.

Wij vragen u dit toestemmingsformulier voorafgaand aan het gesprek in te vullen en aan ons retour te zenden. U kunt op ieder moment ervoor kiezen om te stoppen, hiervoor hoeft u geen reden te geven. Heeft u nog vragen? Neem gerust telefonisch (06-18986396) of via de mail ([n.stegeman@student.vu.nl](mailto:n.stegeman@student.vu.nl)) contact met ons op.

Wanneer u meehelpt aan dit onderzoek, stemt u in met de volgende punten:

- Ik begrijp dat Juliette Verwer en/of Noa Stegeman mij vragen stellen/stelt over criteria voor het selecteren en prioriteren van zorgprocessen voor de Digizo.nu Transformatieagenda;
- Ik weet dat het gesprek alleen wordt gebruikt in het kader van dit onderzoek;
- Ik heb de mogelijkheid gehad om na te denken over of ik mee wil doen met dit onderzoek;
- Ik weet dat ik zonder opgave van reden kan stoppen met dit onderzoek wanneer ik wil;
- Ik vind het goed dat er een audio-opname van het gesprek wordt gemaakt.

Naam: .....

Handtekening: .....

## 8.4.2 Informed Consent Form – English Version

You have indicated your interest in participating in the study on criteria for selecting and prioritising healthcare processes for the Digizo.nu Transformation Agenda. The research is commissioned by Dutch Patient Federation (PFN) and is conducted by Juliette Verwer (Advisor Patient Advocacy Digital Care, PFN) and Noa Stegeman (student Management, Policy Analysis and Entrepreneurship in the Health & Life Sciences, Vrije Universiteit Amsterdam). This letter explains what participation in the study entails.

### *Why is this research important?*

PFN is one of the IZA parties and participates in Digizo.nu meetings to represent the interests of patients. Currently, PFN has no criteria available on which to base the input of new healthcare processes on the agenda and the prioritisation of healthcare processes that are already selected by Digizo.nu. The prioritisation sometimes involves making choices between different patient groups, which are difficult choices, as PFN wants to be there for all its members. However, a choice must be made, because otherwise the choice is made by the other IZA parties, and the patient perspective is then not always considered. In addition, PFN wants to make this choice based on established criteria, so there can be no personal preference. They also want to be transparent about on which criteria a certain decision is made, so that this can be explained to the different patient groups.

### *What will we do with the information?*

With your permission, the conversation will be recorded. The audio recording will be accessible only to the researchers of this project. After the project ends, the recording will be deleted. We take measures to protect your privacy. The typed-out conversations are stored in a secure environment. The information is stored and processed anonymously. Throughout the study, information cannot be traced to individual persons.

We ask you to complete this consent form prior to the interview and return it to us. You can choose to stop at any time, no need to give a reason. Do you have any questions? Feel free to contact us by phone (06-18986396) or email (n.stegeman@student.vu.nl).

If you participate in this research, you agree to the following points:

- I understand that Juliette Verwer and/or Noa Stegeman will ask me about criteria for selecting and prioritising care processes for the Digizo.nu Transformation Agenda;
- I know the conversation is only being used in the context of this study;
- I have had the opportunity to think about whether I want to participate in this study;
- I know that I can stop this research whenever I want;
- I am okay with an audio recording of the conversation.

Name: .....

Signature: .....

## 8.5 Distribution of Codes

