DELSIS (Determine the Extent of Lifestyle Support to Increase Self-management)

We need an efficient way to determine the extent of lifestyle support that a patient needs to stimulate their self-management. Where one might only need a hyperlink to a website, the other might need a full coaching program. With the right extent of support, unnecessary demand for healthcare can be reduced, which is essential to keep healthcare accessible in the future.

Rijnstate is a teaching hospital in the Netherlands and offers inpatient and outpatient services in 28 medical specialties, as well as emergency care, with a special focus on oncology, immunology, vascular care, and vulnerable elderly. Approximately 5,500 employees work at Rijnstate. Together they focus on the 450,000 residents in the service area. This makes them one of the largest healthcare providers in the Netherlands and the largest employer in the region.

Rijnstate wants to be at the forefront of innovation. That is why we are constantly working on ways to noticeably improve ourselves and our services. And if we believe that something can indeed lead to better care, then we really go for it. We want to realize innovations that are tangible, so we focus on evidence development of innovations in daily clinical practice. To make our care increasingly pleasant, flexible, and effective on all fronts. On a very human level. In other words: for you.

Challenge description

Increasing patients' self-management

Because of the growing demand for healthcare and the decreasing number of healthcare professionals, transformation is necessary to guarantee accessible and affordable healthcare in the future. This means, among other things, moving hospital care to the home setting and increasing patients' self-management. In other words, facilitating patients to be able to longer and better take care of themselves at home and only get professional care (physically or at a distance) when it is necessary. An important aspect of self-management is to promote a healthy lifestyle, e.g., healthy nutrition and physical activity.

What is the difficulty?

Rijnstate already started various initiatives to increase patients' self-management, such as education as part of remote patient monitoring and a lifestyle front office ("Gezondheidsplein"), in which lifestyle coaches, nurses and physicians help patients to improve their health and prevent (worsening of) diseases. The most important part is to find the right way of supporting a patient, one that meets the needs of that particular person. One patient might prefer a hyperlink to a website with the right information, while the other might need a full coaching program. There are plenty of information possibilities, but we lack an efficient way to determine *the extent* of lifestyle support that a patient requires.

If patients receive too little guidance, then their self-management will not increase, and patients will need more professional care than strictly necessary. If patients receive too much guidance (e.g., many patients are unnecessarily referred to the lifestyle front office), then there

is also too much demand for professional care than strictly necessary, which is not an efficient use of healthcare staff. To keep healthcare accessible in the future, we need to find a way to support patients in a way that is tailored to the patient's needs.

What solution do we want?

We want a tool or method to determine the extent of lifestyle support that a patient needs. We do not have capacity to manually determine this for each patient in a conversation with a healthcare professional, so we need a digital tool, or a method combined with our existing digital tools that can facilitate this. The extent of support will mostly depend on the level of (digital) health literacy. It has to be a solution that is easy to use for patients of all levels of health literacy and digital skills. The solution does not have to contain the lifestyle support itself, because we already have existing methods. It should only contain the triage to determine the extent of support that is needed.

The goal

The goal is to assess patients' needs for lifestyle support in order to tailor the support to a patient's needs. In this way, we want to increase patients' motivation to improve their lifestyle and self-management. This should contribute to decrease/prevent further increase of the demand for healthcare, which is essential to guarantee accessible and affordable healthcare in the future.

Challenge main objectives

The main objective is to improve patients' self-management by providing the right extent of lifestyle support that fits patients' needs. We need a solution to automatically determine the extent of support that is needed. By increasing self-management, we aim to decrease unnecessary healthcare demand in order to guarantee access to healthcare in the future.

Solution functional requirements

Compulsory functional requirements

- The solution shall determine the extent of lifestyle support that a patient needs. It does not have to include the lifestyle support itself (i.e. an intervention), because that is already in place.
- The solution shall be easy to use for patients of all levels of (digital) health literacy.
- The solution shall include a way to measure the level of (digital) health literacy. Other and more detailed factors to determine the extent of support have to be further determined during the preparation of the pilot.
- The results of the solution (assessment) shall be easy to view and interpret for healthcare professionals (e.g., lifestyle coaches), so that they can then provide the patient with tailored lifestyle support.
- The solution shall be accessible for patients both at home and in the hospital, e.g. via a smartphone or laptop.
- The solution shall be proven effective in healthcare.
- The solution shall be available in Dutch.

Desirable functional requirements

- Preferably, the solution will be embedded in an existing system, so that patients will not have to log in to another system for this purpose (this might be in the long term, after a successful pilot).
- If applicable, the solution shall be tailored to the Rijnstate corporate identity.

Pilot scope

In the pilot we can start with the solution at one department.

End-user type	Role	Number
Patients	They will use the solution.	50
Healthcare professionals (nurses, physicians)	They will provide requirements, validate the solution, and prescribe the solution to patients.	*Depending on the department*
Lifestyle coaches	They will provide requirements and validate the solution.	2

Table 1. Targeted users

Language

- The solution and the pilot have to be in Dutch.

Pilot set-up conditions

Ethical, legal, or regulatory

- The solution has to be fully GDPR compliant.
- The solution has to comply with ISO27001, NEN 7510, NEN 7512 and NEN 7513.
- Servers used for data storing have to physically be located within Europe.
- The privacy and security of the solution has to be approved by the Compliance & Risk department of the hospital.
- The suppliers and Rijnstate shall agree on a service level agreement before the pilot starts.

Technological

- The solution has to be compliant with the existing hospital architecture, for if an integration within an existing system is required/desirable after the pilot. In the pilot, the solution can be stand-alone.
- The solution has to be approved by the IT-department.
- More detailed technological requirements will follow when the solution and its place in the hospital infrastructure is further defined.

Data access

- The solution shall only use data provided by the patient. It shall not need data from e.g. the electronic medical record.

Other

- The solution has to be in line with the Rijnstate corporate identity and approved by the Communication department.
- It shall be clear from the start what it will cost to scale up the solution after the pilot.

Expected impact and KPIs.

For the pilot, the expected impact is mostly measured by the user satisfaction. It will not be possible to measure a difference in self-management, because self-management includes more aspects than only (the extend of) lifestyle support.

A difference in healthcare demand is also hard to measure because this is also dependent on various factors outside the solution. E.g. the solution might take away some demand, but at the same time there might be an increase because of the season (e.g. for COPD, infection diseases, etc.).

So, the KPIs for the pilot will include:

- Patients' satisfaction of the use of the solution: on average at minimum 7/10.
- Patients' satisfaction of the extent of lifestyle support received: on average at minimum 7/10.
- Healthcare professionals' satisfaction of the solution: on average at minimum 7/10.
- Lifestyle coaches' satisfaction of the triage that the solution provides: on average at minimum 8/10.

The expected impact and KPIs can be further detailed before the start of the pilot, depending on the solution.

Business opportunity

Market size

Internally at Rijnstate, the solution could after a successful pilot be expanded to be used by all departments for which patients' self-management should be increased. This is intended to be a hospital-wide solution since all patients can benefit from a healthy lifestyle and preventing (worsening of) diseases.

In addition, the solution could also be expanded to the region (e.g. primary care, social domain, or municipalities), other hospitals (e.g. start within the mProve network of 7 hospitals or regional hospitals) and other countries. The topic of healthy lifestyle and prevention is getting more and more attention and priority in society, so a tool to determine the extent of support that people need for this is broadly applicable.

Adoption plans

If the solution is successful, we plan to scale up the solution to be used at more departments and eventually for all patients for whom it is relevant (hospital-wide). A possible side effect or further development might also be that the result of the solution could be used in consults as advice to what should be discussed by the healthcare professional with the patient and on which level this should be.

Resources

inDemand. (2020). inDemand stories.

inDemand (2018). EPICO Challenge - inDemand Call for Companies Murcia Region.

inDemand (2019). GRAVIDITY Challenge. inDemand Call for Companies Murcia Region.

InnoBuyer. (2023). InnoBuyer Webinar: How to master innovation needs identification.