How to deliver hospital care at home?

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Management summary

Some individual hospitals are preparing to deliver immunotherapy and chemotherapy at home. Others have been doing so already for some time and want to grow and expand the delivery of care at home. But there's still many questions and challenges. And there is a wish to share knowledge and experience with others. In the first part of this White Paper we would like to share our approach and experience so far, with the aim to learn from each other.

Shifting hospital care to the first line (General Practitioner level) or home is an important trend in the Netherlands. One of the disease areas where this happens is in oncology; from patient, societal and hospital perspective, there are several reasons why homecare is (sometimes not) is desirable but there are also other reasons why this shift is really required.

Also, the pharmaceutical industry is looking at new treatment options. Roche wants to be a key player in this transition and a proactively contribute to better and more affordable healthcare. Since 2018 Roche and Vintura are collaborating, together with three Dutch hospitals, to develop a basic concept for delivering (oncology) treatment at home with a leading role for healthcare professionals and patients. The exact care pathway of course differs per hospital. Clear responsibilities and ownership of all involved stakeholders are important to make this new way of working possible.

For the design and implementation of care at home we identify five success factors that are crucial to guarantee quality, safety but also to create mutual trust.

- Structured approach
- Broad engagement of stakeholders
- Quality and safety first
- Concrete and widely endorsed decisions
- Keeping momentum

Besides the new way of working also a business case has been developed consisting of both quantitative and qualitative criteria. The basic question "is care at home cost effective?" seems difficult to answer. The business case reaches beyond only costs, and moreover beyond hospital walls as well.

Mid 2019 the first pilots of this initiative have started. After a time of careful preparation 'on paper' we now need to apply and learn in real life. Also, we will need to further deep dive in the financials. A next white paper will be developed to elaborate on thse learnings and the societal business case.

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Introduction

"We started from passion for patients. But there still lacks an overarching approach and policy."

- Manager day-care unit

There are patients that prefer to be treated at home. The setting feels comfortable, and both mentally and physically impactful trips to the hospital can be avoided. But there are also patients that rather not undergo treatment at home, but in a hospital setting. For them home needs to remain home instead of a hospital. These are important outcomes of patient interviews conducted for the Care@ Home project.

Both the pilots and broader implementation were project managed in such a way to share and leverage learnings between hospitals. Many hospitals today are considering new ways of treating patients. Care at home is one of them, this also includes the administration of medication. Some hospitals are still in the preparation phase. Others are delivering care at home already and are now looking for opportunities to grow and scale up. The common theme is that they all struggle with the appropriate pre-conditions and requirements. Financials (getting the treatments reimbursed) is one of them, just like the availability of skilled and trained professionals that can deliver care at home. Another important requirement is the full support of physicians and medical specialists to treat patients at home. Last but not least of course care at home needs to meet the needs of patients and their family.

There are still many questions and challenges. And there is a need to share experiences and learnings. This became very clear during a meeting April 11th 2019 when 14 hospitals, an healthcare insurer, Roche and Vintura discussed care at home.

To further address the need to share knowledge Roche and Vintura are publishing two white papers. In the first one (this white paper) we will share with you our approach and experiences so far with the ambition as a sector to learn, accelerate and expand the shift of care from a hospital to a home setting in the Netherlands.

Treatment at home is desirable and necessary

NFK (overarching Dutch cancer patients' organizations) research shows cancer patients have different needs when it comes to treatment at home or in a hospital. Therefore, it is important to identify individual patients' needs together with their healthcare professionals. Outcomes of research by the Dutch Tergooi hospital showed that treatment at home was seen as positive: 'at home you feel less being a patient'. But many questions remain. Not everyone embraces the idea of care at home directly. People question for example the safety of administration of medication at home.

"What is the impact on others in the house, or on your pets? Are the nurses equally skilled and capable like in the hospitals? What happens if something goes wrong with an injection or infusion, will there be a back-up?"

Shifting hospital care to first line or home is an important trend in the Netherlands. Research shows that 45% of hospital care today can be moved to a home setting.

Due to an ageing population and the growth of chronically ill patients, the expectation is that the demand for care will increase and hence the pressure on hospital capacity and facilities. In order to prevent waiting lists at hospitals, new facilities need to be added to the system so hospitals will accelerate the shift of care close to home. We need to be aware of potential contradictions: is a hospital offering care at home because they truly want to, or are they meeting real patient needs?

1. "Kankerbehandeling thuis of in het ziekenhuis: wat kies jij?" (april 2018), NFK: https://nfk.nl/nieuws/kankerbehandeling-thuis-of-in-het-ziekenhuis-is-maatwerk

2. Rapport: "No place like home" (juni 2016), Gupta Strategists

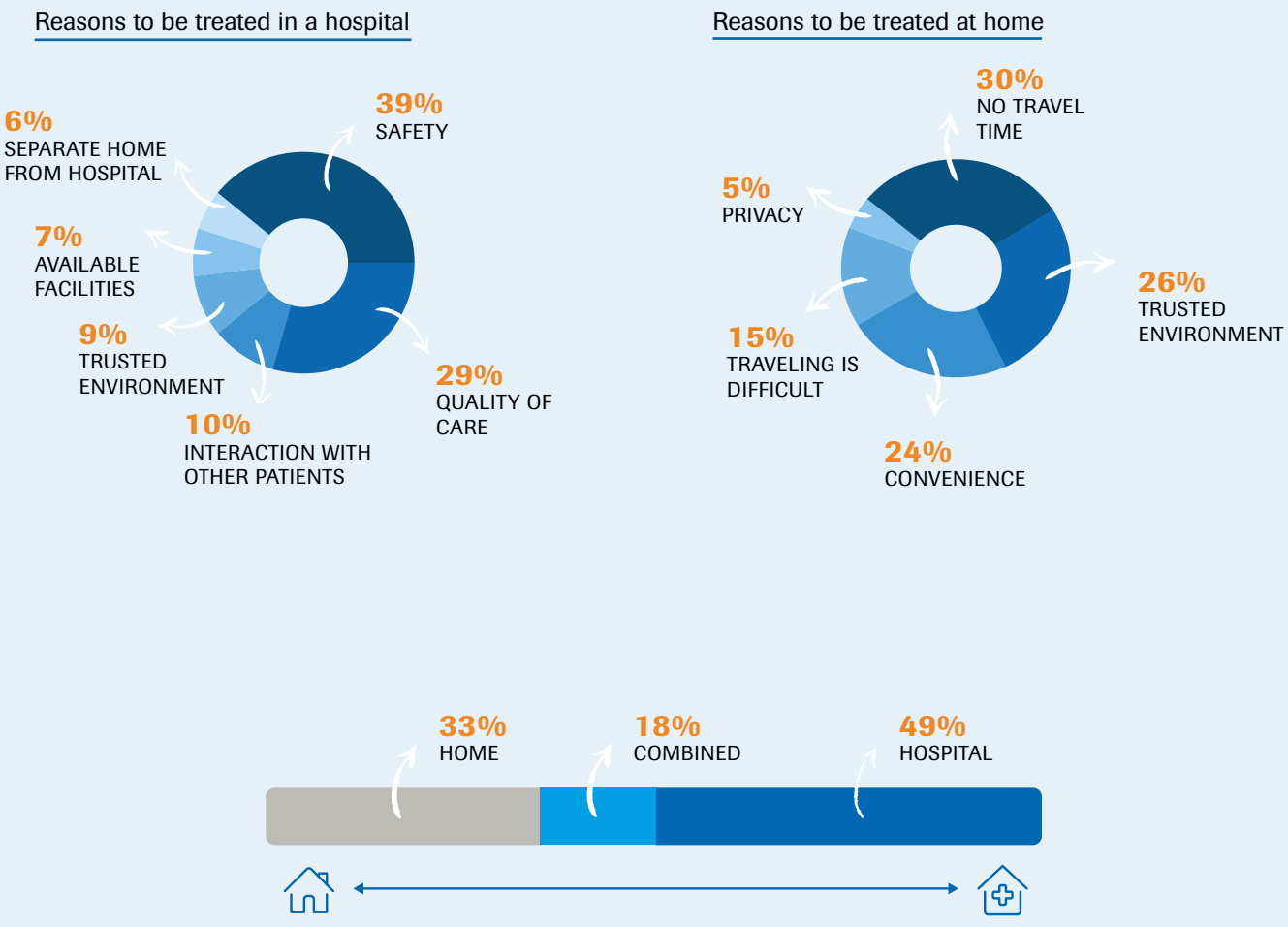

Figure 1 Reasons to be treated home or in a hospital

"It's not just the administration of medication, it's also the way you care for patients"

- Oncology nurse

"Being at home gives me and my family peace of mind. No stressful travel time and space to move around in the house. I feel less being a patient."

- Patient

"Many of our nurses are positive about home administration of medication in combination with treatment at the hospital; they now better enjoy the diversity of their job."

- Manager oncology day-care unit

"Who know what the future will bring, patients or their carers may be able to administer medication at home without us."

- Oncology nurse

Some hospitals already do offer less complex, long-term oncology treatments at home; for example, subcutaneous bortezomib injections (to treat multiple myeloma). Before patients had to visit the hospital twice per week for a 5-minute treatment. Figure 2 shows the main reasons why we should not only want this shift, but also why we *must* do it.

Interviews with patients at the Tergooi hospital show that giving confidence, listening and providing the right information are tremendously important. The role of the nurse is therefore significantly different from a hospital setting. At home you are the patient's guest, in the hospital it's the other way. This requires a different approach and additional skills.

PATIENT	SOCIETY	HOSPITAL
Having the option to decide about own treatment (in the hospital or at home)	In line with the objective to 'have the right treatment at the right place' and overall ambition of the Dutch government	In line with hospital ambition; innovative, delivering care close to home where possible and wanted
Comfort of being at home (less travel time, less trips to the hospital when immobility plays a role, less pressure on informal carers, family life and work)	Patients more and more in 'the lead' of their disease / increased importance of being able to care for yourself	Increased pressure on day-care, due to rapidly increasing availability of new treatments
Improved quality of care (lower risk of infections, less fatigue, increased personal contact and interaction with patient)	Available technology such as 'home monitoring' is ready to be used	Reputation: positive profiling both for patients and nurses

Figure 2 Motives of the patient, society and hospital for home administration

The Care @ Home concept as a basis

The pharmaceutical industry is looking for new treatment options. Roche wants to be a player in that transition and is actively pursuing ways to further improve the heathcare system. Nowadays the home treatment process is an inefficient process where different stakeholders are involved. This care is not yet designed around the needs of patients. In 2018 Roche started an investigation to understand the needs of different stakeholders regarding care at home. In total 21 interviews were conducted. Main conclusion of this research is that there is a need for a concept in which the caregivers and the patient are in control, and that home delivery is not limited to one product. Figure 3 shows a simplified version of the care path.

Hospitals prefer a model in which they are fully I control of the care path to have. Models 3 and 4 provide this possibilities where the impact on the total care path remains limited.

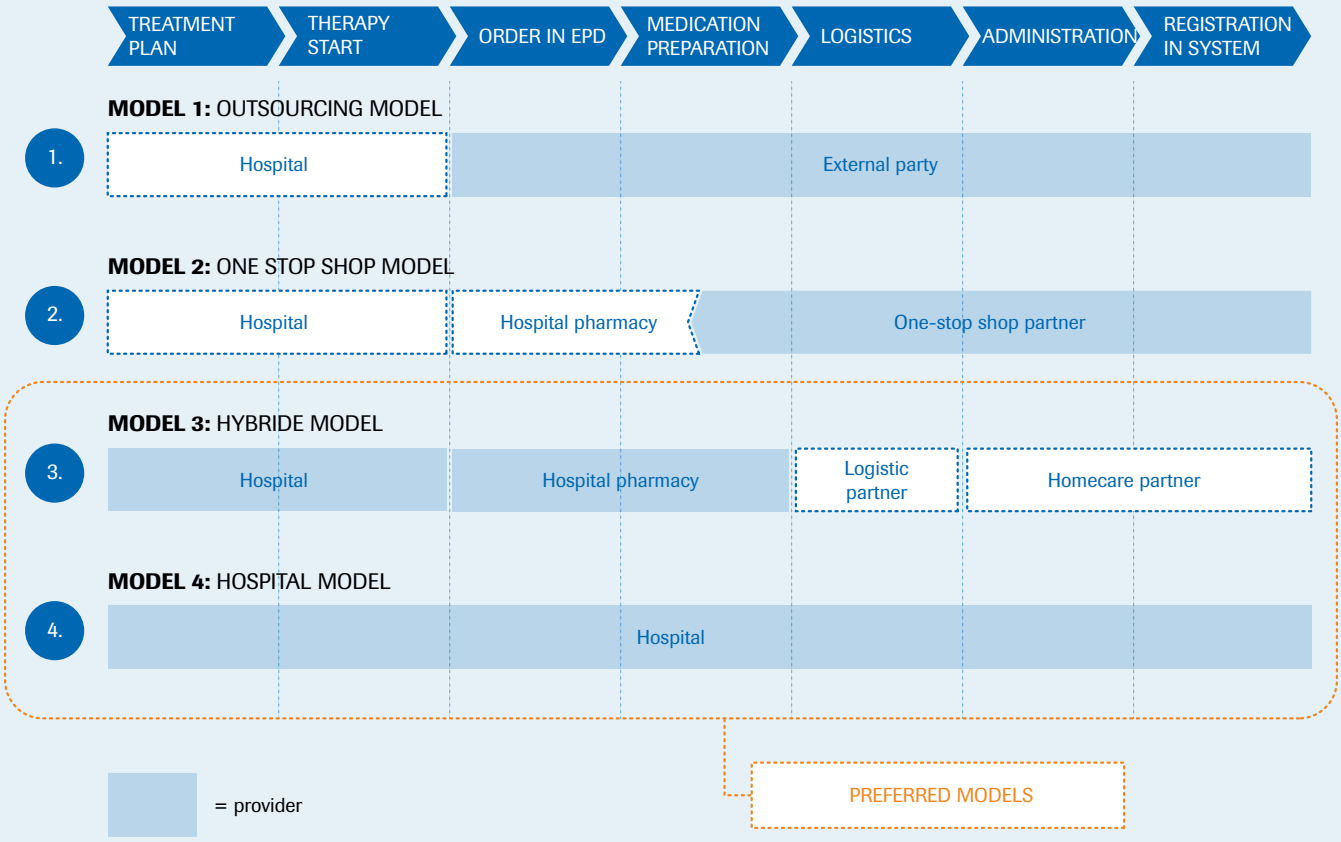

Figure 3 Models distribution of responsibilities in the care path

Although the exact changes of the care delivery differs for each hospital depending on the current processes and own preferences, a basic concept Care @ Home is developed in a blueprint. The biggest change off course is for the patient, because they don't need to travel. However to make this possible also changes are required in the hospital; see in figure 4 a representation of these changes. Clear rules, timeliness and ownership are the most important elements! For the quality and safety, and confidence in the new process, in the pilot hospitals a prospective risk inventory (PRI) is performed. This exercise was guided by the quality department; all potential risks in the care path and underlying logistics process are mapped. In case of a risk there are measures defined and translated into concrete actions for the implementation preparations.

1. PATIENT

- Get blood punctured in time and weigh for the (pre) preparation of the cure
- From “guest” to “host”
- Being on day (part) of plannehomed home administration

2. ONCOLOGY NURSE

- Working in a home setting instead of the hospital requires extensive experience, self-confidence and flexibility
- Checks the day before carry out: planning, recipes, call arrangements and route
- Checks on the day yourself: medication, materials, registration and follow-up appointments

3. MEDICAL SPECIALIST

- Discussing possibility to home administration with the patient
- Timely issuing of prescription
- Be easily accessible as backup

4. HOSPITAL AND POLICY PHARMACIST

- Proactively check whether recipes are in
- Timely preparation of the resources
- Deliver to the day treatment in (cooled) transport boxes

5. DAY TREATMENT MANAGER

- Training and guiding nurses and schedule
- Scheduling staff
- Track impact on day treatment capacity

Figure 4 Changes per study subject

Key success factors for a successful implementation

"You need a Project Lead to move forward and progress."

- Manager oncology day-care unit

To assess the feasibility of Care@ Home, Roche has the ambition to pilot the concept at three Dutch hospitals Martini Hospital (Groningen), Tergooi (Hilversum) and St. Antonius Hospital (Utrecht).

Getting started in a structured way

The project approach was structured around four main steps, with the focus being on the care pathway and potential impact for hospitals. In order to keep momentum, several working sessions were organized. During these well-prepared sessions, relevant content was discussed, and decision were made.

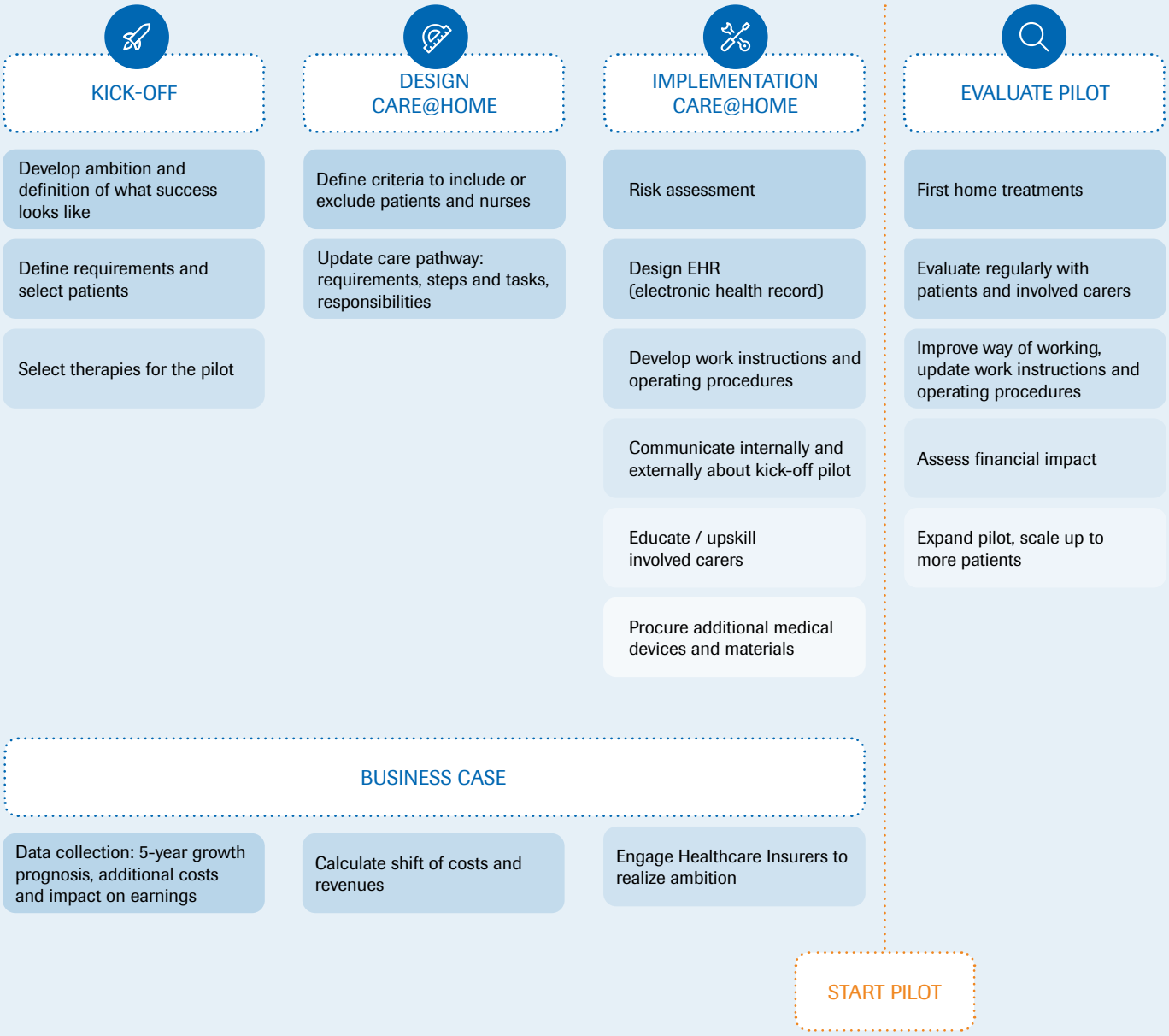

Figure 5 Project approach

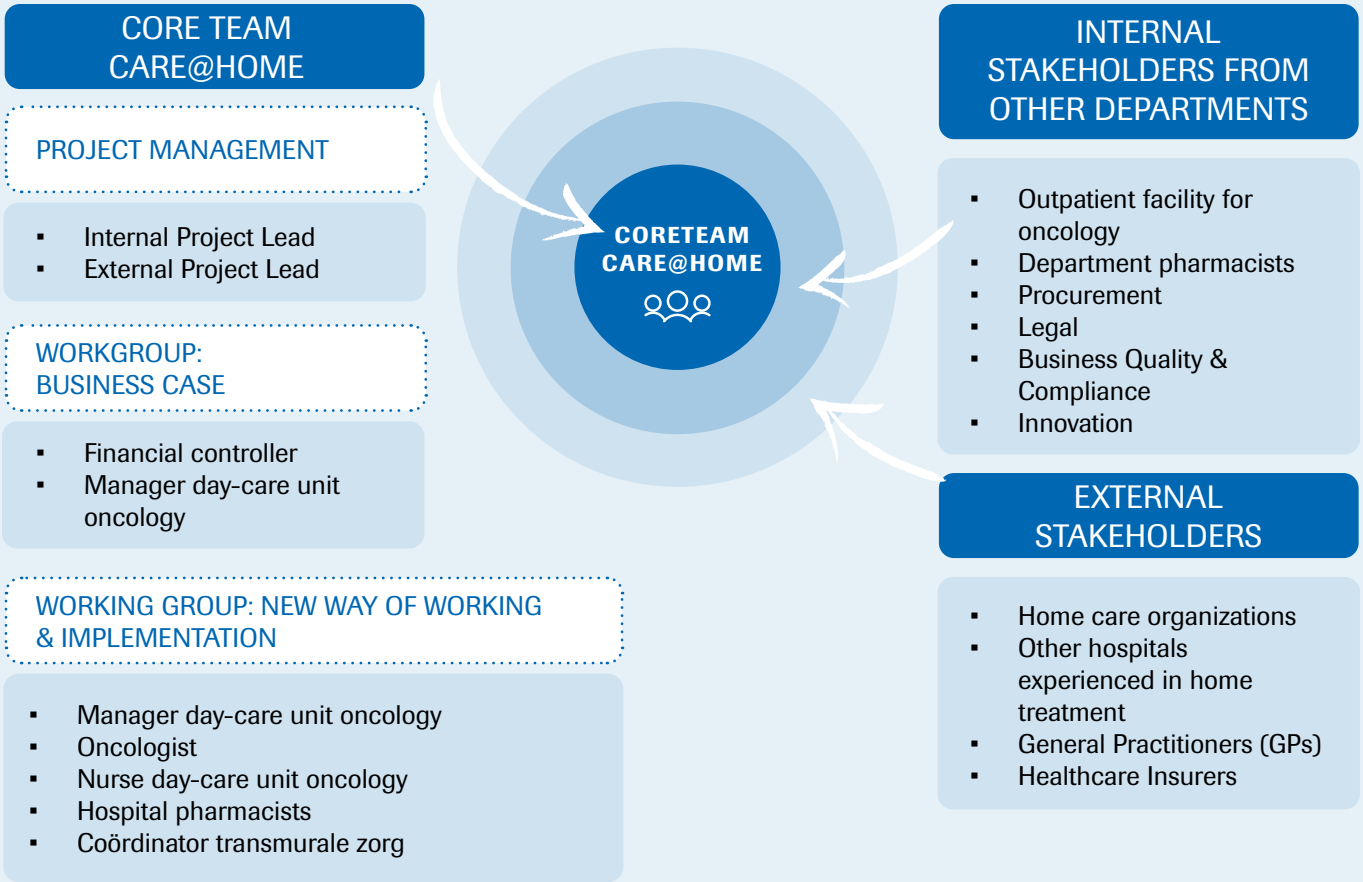

Figure 6 Project organization

Broad engagement

In every pilot hospital a project was started led by an internal project lead. Two working groups were installed; one for the new way of working & implementation, and one for the business case. A Steering Committee was informed regularly about progress and once they approved the plans hospital's Executive Board was formally asked to endorse starting the pilot. All projects were supported by external consultant Vintura and the internal project leads of each pilot hospital.

Apart from Vintura and the internal project lead, also other departments and external parties were involved to prepare and implement Care@Home. Engagement from the start of physicians and nurses was key to obtain and maintain their full support and input throughout the project.

SELECTION CRITERIA PATIENT GROUPS AND MEDICATION	SELECTION CRITERIA TO EXCLUDE PATIENTS	SELECTION CRITERIA TO INCLUDE NURSES
Low risk for allergy and extravasation	Patient does not want to be part of the pilot	Nurse is willing to treat patients at home
Long treatment with high administration frequency	Physicians and nurses find it irresponsible for the patient to participate	Qualified oncology nurse
Physicians and nurses are familiar with medication is known to	Difficult venous access, IV treatment (infusion) may be risky	Drivers licence
Duration of treatment does not exceed 90 minutes	Communication skills patient insufficient	At least 2 years of experience in oncology day-care
Size patient population significant for pilot	Home situation not suitable / remote location	Broad experience with medication used for home treatment

Figure 7 Examples of selection criteria

"There is still little information available. Not sure what other patients think. I feel I am too fragile to be treated at home."

- Patient

Quality and safety first

In order to make the right selection regarding patients and medication for home treatment, it is key to have the full support of physicians and nurses. Throughout the pilot quality and safety of the home setting were crucial. Therefore, it is so important at the start of the pilot to define concrete requirements together. Based on the earlier mentioned outcomes of patient interviews conducted for the Care@ Home project, we think that more patients would be eligible for home treatment when they are provided more information and insights about quality and safety.

Making decisions together

With a structured approach, broad engagement and the appropriate requirements decisions can be made together to 'design' home care.

- Which patient groups and what treatment are suitable for the pilot? And for the broader implementation once the pilot is finished?
- Are we using our own nurses for home treatment or are we engaging a third party? And based on which qualitative and quantitative criteria do we make that decision?
- How many treatments at the hospitals are required before we can safely shift the treatment to a home setting?
- When are we willing and able to start with the pilot? How many days per week and how many treatments per day?

Based on these decisions the new care pathway can be designed in detail, including the supporting logistics process.

Keeping momentum

So the project has full endorsement to kick off, working groups are in place and the first patient groups have been selected…..then how much longer do you still need to start the pilot? Based on our experience, timing and duration depends on the following:

- Decision making process for formal approval to go ahead
- Current capacity (financial and beds) hospital and their vision on home care
- Availability of working groups member (business as usual also continues!)
- Availability data for the financial business case, including expected growth and additional costs of e.g. materials
- Updating electronic health records (EHR), separate planning and registration for home treatment

Business case is more than just cost

The question whether home treatment is cost effective from a hospital perspective is not easy to answer. There are a few elements that are important. In our opinion the business case is more than just comparing costs and benefits for current (hospital) and future (home) treatments. Find an overview of these elements below:

Patient perspective

Do patients have the desire for home treatment, and do they want to participate?

Strategic fit / alignment with hospital vision and ambition

Does the shift to care at home match with the overall hospital vision? Care at home may help hospitals to differentiate within their regional.

Business continuity

By offering care at home, current infrastructure allows for more patients to be treated and hence reduces the need for investments in expanding day care.

Cost benefit analysis

Of course costs and benefits are part of the business case. The impact on additional costs and reimbursement by health care insurers need to be clearly understood.

"We need to invest first to stimulate innovation."

- Innovation Manager

We think that the business case needs to be considered on a broader, society level. Illness not only impacts a patient, but also his or her close environment such as family members requiring to take leave in order to accompany the patient for a hospital visit. We feel it makes sense to look beyond just health care related costs. Labour participation (for patient and informal carers) and the costs related to hospital visits (overhead, hospital staff, travel costs) are part of a societal business case.

We think that over time home care can be delivered cost neutral on a macro economic level, taking into consideration costs and benefit within and outside healthcare. We would like to pioneer in this field and engage with the different stakeholders to develop the business case for care at home.

And.... what is next?

At the different hospitals the pilot are started. We prepared carefully together with the experts in the hospital very step of the new process. Now is it the moment to learn what works well and not so well. Also the experience of both the patients and the health care professional will be evaluated.

The puzzle that is still unsolved is the overall business case. To understand the different drivers additional discussions will be planned with hospital management and payers.

Both the results form the pilots and insights on the business case will be combined in a next white paper, which will be publised around the summer of 2020

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