04 - PEOPLE & PROGRAM

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Abstract

Together with the site and a building concept, the target group, and resulting program are essential for making a successful design. This research document is therefore aimed at finding and understanding a target group that matches the site and its characteristics.

Due to the characteristics of the Dutch peat polders that are prone to change and flooding housing in such an area requires a certain temporality of the building and its target groups. A spot can be inhabited for 5 to 20 years before one has to move to the next dry location. A previous study on case studies of temporary housing has shown that temporary buildings are often placed to end up being permanent after all. The focus is primarily on a quick assembly, without being disassembled. Linking the temporality of the Dutch peat polders, and the temporality of the buildings, a hospice is selected as a target group referring to our temporality as humans on this earth.

To find out the requirements of the target groups, literature research is conducted to create basic knowledge on hospice and palliative care. Additionally, a visit and interview are conducted at Hospice de Liefde in Rotterdam, gaining insight into how the practical environment matches up with theory. Finally, input from previous case study research was used to form the final program.

Resulting from the research are the required spaces together with the net floor area needed for these rooms. Beyond the numbers, insight is gained into what to take into account when designing for such an institution. The integration of nature and sheltered spaces for outside dwelling is important in making the final phase of the lives of the patient as comfortable as possible. All in all hospices in the low-care variant are important elements of giving human contact to one during the final phase of their lives.

Keywords

Project brief, Hospice architecture, Palliative Care, Interview

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Introduction

For the selection of the target group and the program, a closer look at the site in Midden-Delfland is needed. This site is one of many Dutch Peat polders, that are not sustainable in their current forms as we know them today. Complex drainage systems are required to pump out excess water, causing the peat soil to oxidize, releasing CO2 in the process whilst the surface level keeps sinking. Due to climate change and the increase of heavy rainfall, the polder structures have to adapt, which will result in a rise in water level and flooding during the heavy rainfall periods. Additionally, the polders will start to function as water buffers, temporarily storing excess water from the surrounding cities. The change of the landscape will not take place in one day but will take many years from now to roughly 2100, making the polders still available for temporary housing.

To successfully inhabit the temporary character of the peat landscape of the Dutch polders, the target group also must have a temporary nature to work. The polders might have 10 to 20 years of offering as a suitable place for inhabitation before the water takes over, and new ways of agriculture find their way to the site. The temporary character of the site is therefore linked to the temporality we have as humans, combined with the peaceful quietness of the site, a palliative care facility will be realized. The change of landscape and its use will symbolize the humans being born and eventually deceased, closing the human circle, once a new chapter opens for nature.

This research is aimed to generate design input for the development of the hospice or palliative care facility in the polder of Midden-Delfland. It is important to gain knowledge on the important factors considered in designing for palliative care, as well as generating quantitative data on the areas required for such a building. Due to the temporary characteristics of the polders, it is not only important to gather current information on how palliative care facilities are run nowadays, but also how they would work in the future.

In the first chapter, the program will be explained in short, then in the second chapter a literature review will be carried out to gain knowledge on the palliative care facilities. This is followed by a chapter describing the future of palliative care, which will be a combination of literature and information from the actual practice conducted via visits to hospices. Finally, in the last chapter, the actual program will be formulated based on the knowledge gained in the previous chapters.

Program in Short

As already mentioned in the introduction, the overall ambition of the project is to develop architecture based on the soil and water conditions. This is also part of the agenda of the Government Advisors, who have working with these water and soil conditions as their primary layer in a three-stepped system, followed by networks as the second step and the built environment as the final step[1].

Because of the changing peat polder landscapes of the Netherlands, the built environment needs to adapt and be realized temporarily. This means that the buildings need to have a non-permanent GSI (Ground Space Index) and thus be realized in a demountable and movable way. This movability of the structure has to be adaptable to different subsoil systems to work in all areas of the polder.

Just as the temporary nature of the buildings, mentioned in the non-permanent GSI, humans are also non-permanent on earth. The function of a palliative care facility is therefore linked to the function of the temporary structures on the site. The main ambition for the project is thus to create a demountable and movable palliative care facility, that works with the present soil and water systems.

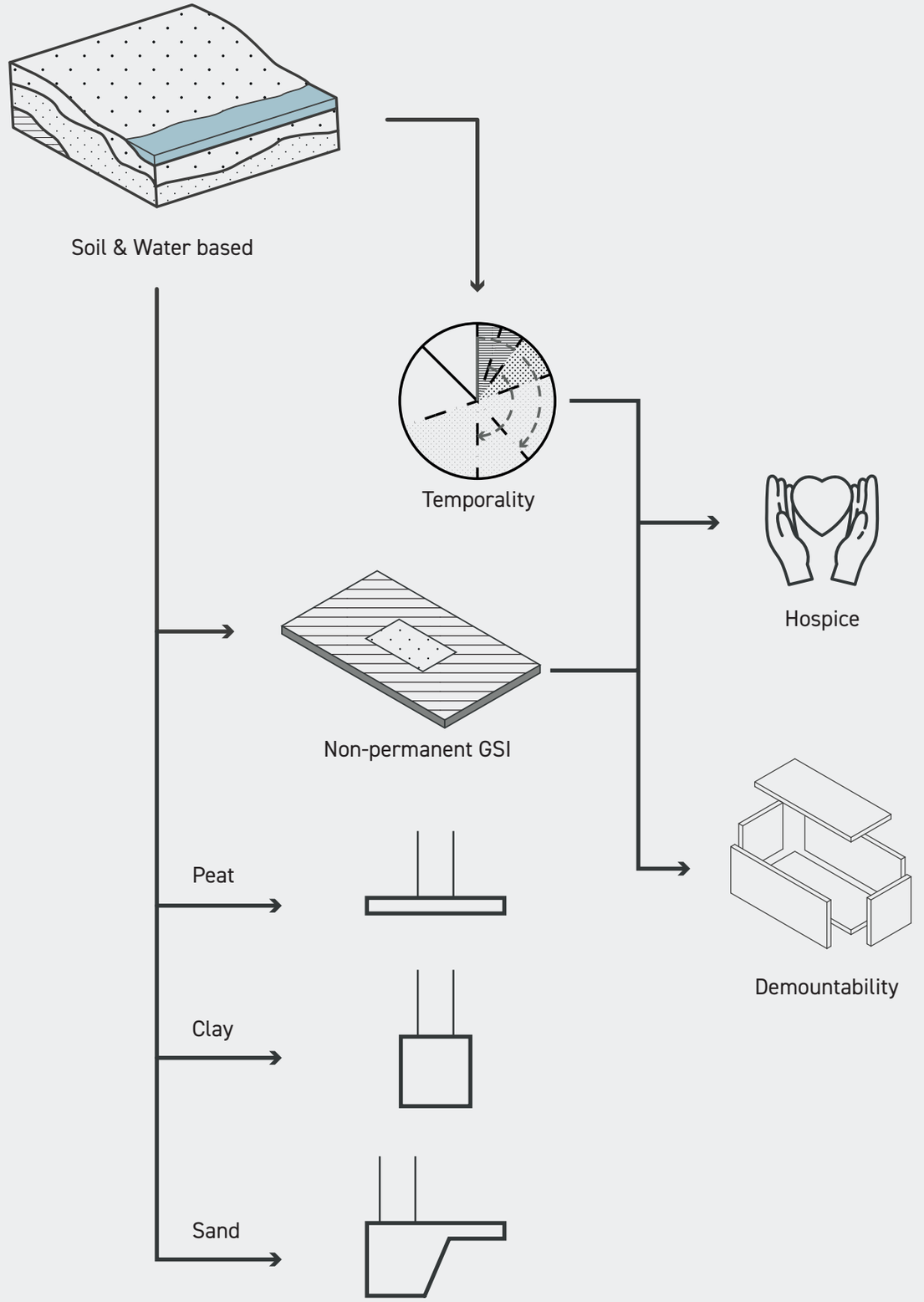


figure 01 - Program in icons

Designing for palliative care

Before formulating a program it is useful to gain knowledge on the designing for palliative care. This is done based on chapter 4 of the book *Innovations in Hospice Architecture*[2]. This chapter describes important elements to acknowledge based on 7 spatial types, naming: site & context, arrival spaces, shared spaces, private spaces, circulation, connection to nature, and administration / total environment. With this book as the main source of inspiration for this research additional literature will be added when applicable to a certain topic.

Site & Context

In many cases, hospices in rural contexts are the most visible, as stand-alone objects. Because the land prices are lower, more money can be invested in a more developed design, outdoor spaces, and the incorporation of nature. Despite choosing for a rural location it is still important to consider access to medical, commercial, recreational, and related resources.

Sound

Despite the access to these resources, one should be mindful that a hospice is a quiet place. Things to consider are sound soak-systems, thickened walls, double insulation, and strategically located sleeping areas. Many elements of the landscape, or to build landscape can be strategically used as a sound-buffer.

Parking

Having correct parking is crucial to the success of the hospice, a lack of parking near the building will result in stress for patients and families. The parking facilities should not be in the patient's view in at least their room, mediative spaces, and living rooms. It is advisable to add buffers such as fences, walls, shrubs, berms, and trees to hide cars from direct views, as well as from the garden and quiet outdoor spaces. The access road should directly connect to the main entrance, separate from the service road. This service road is used to retrieve trash and biohazardous medical supplies and should be located in such a way that it does not disrupt the hospice's neighbors. Furthermore, a walkway, staff-only parking area, and space for a transport mini-van should be taken into account.

Security and well-being

The patients and their families experience emotional and other traumas, which means they are vulnerable, and require safety, security, and refuge. Basic prevention measures, such as lockable doors and windows, safe places for storing personal belongings, and an overall sense of personal safety are essential. Zones between the street, entry, and private areas should be buffered, and ensure visual privacy when needed for the patients. Near the front door, the administration's offices should be located, which will greet all that enter the building and also screen potential intruders. This zone of arrival should be buffered from the private areas.

Involvement of occupants

Just as with any design project, the end-users should be consolidated when designing a specific building that would suit their needs and capacity. Primary users would include physicians, nurses, administrators, nursing staff assistants, dietary specialists, bereavement counselors, social workers, psychologists, volunteers, IT specialists, buildings and grounds staff, and others. It is especially the volunteers that are important for the palliative care sector, in many cases, the volunteers make the organization able to exist in the first place. In a recent news article by the AD about a hospice in the city of Gorinchem the Director of the facility mentioned "*Besides the three professionals the 90 volunteers are working hard to make the lives of the guests as comfortable as possible.*[3]"

Arrival Spaces

Arriving at a hospice does not start when a patient steps inside the building through the entrance. The first impression will already be made during the approach of the building, and the way the exterior is presented. Ideally, the aesthetics of the building should express its ideals, the façade and entry can evoke positive reactions and elevate the self-esteem of staff, volunteers, and patients. The building should convey a sense of safety, and protection, and should strive to capture the feeling of home. The forms can be adventurous, innovative, and evocative. The emerging structural and material technologies can be explored in the hospice as well, whilst still keeping the traditional imagery and materials alive.

Protected arrival

As to be expected the arrival of a new patient at the front door of a hospice is a stressful experience, the first impression a building makes is therefore critical. A covered canopy at the main entrance should be created to prevent the patient from being exposed to the weather or having to walk from a remote parking lot. This canopy can be designed in a way that reaches out into the landscape symbolizing outreach. Another guideline suggests that the canopy should also be on a scale that people can relate to[4].

Serialized entry sequence

The covered canopy over the drive at the front door should lead to a reception foyer and living room, this foyer should be welcoming and not threatening. It could be useful to combine the reception area with the administrative area, which will serve as the heart of operations. Within this foyer, a waiting room or area can be created for guests to gather or wait before they can enter the hospice. Try to avoid confusing overhead hospital signage, although this depends on the scale of the hospice.

Expressions of remembrance

The expression of remembrance is often acknowledged through gifts of families, foundations, and the state and federal governments, providing quality end-of-life care for the terminally ill. During the design phase should be designed with places suited for such gifts in mind. According to another guideline, "Evidence has shown that art, fully integrated with the purpose of the building... leads to an improved sense of well-being for the patients.[5]"

Shared Spaces

Shared spaces can take on many forms of activities taking place. The design guide covers multiple functions that can be placed in the shared realm of a hospice, ranging from living rooms to kitchens to a library.

Living rooms

The population of a hospice is in constant change in terms of age, ethnicity, socioeconomic background, and gender. This is also the case of the number of family members and friends that will visit the patients in the hospice. The room can be a standalone room, or combined with other functions such as the diner or reception area. The living room should be located close to the reception area and have more formal furnishing, such as sofas, side tables with reading lamps, and bookshelves.

Art & Color

As stated before the presence of art can have a positive impact on the patients in the hospice environment. Besides this, a piece of artwork near the entrance of a patient's room can help with wayfinding. Coloring of walls, furnishings, floor surfaces, etc. has to be carefully considered, according to the design guide research for palliative colors has not been specifically carried out. As a basic rule warm colors should be used in public spaces to encourage social interaction, whilst cooler palettes are suggested for the semi-private and private spaces. Yellow and dull, bland hues and red tones should be avoided since they represent a true hospital setting.

Dining & Kitchen

The dining experience is important to create social interaction and exchange between patients. This requires the dining area to be flexible and suitable for many various needs. Space in the dining area should be reserved for shared dining but also if wished by a patient, more private dining, whilst still not eating alone. The incorporation of nature in the view of the diner is an important element of the design. The kitchen should be designed as multiple zones, including a food prep station or island where a sandwich can be prepared outside of regular meal times. A separate main kitchen can be used by staff to cook or prepare the main meals of the day.

Places for pets

It is proven many times again and again that pets can be meaningful companions, not only to the terminally ill. The hospice may provide space for pets to be housed in a manner that is unobtrusive, hygienic, and yet near patients. Also, outdoor places can be provided to enable the patients to be outdoors with pets.

Outdoor Space

Gardens and outdoor spaces should be an integral part of the hospice. Planning outdoor spaces, such as gardens, patios, verandas, and courtyards is key, as they provide the opportunity to get in contact with nature. The places should be able to be reached by patients, as well as the ones that are confined to a bed[6].

Private Spaces

Besides public spaces, a hospice also has many more private spaces, of which the most important is the palliative bedroom. In addition to this bedroom, families can have overnight accommodations, as well as accommodation for the nurses. Then there are specific organizational rooms, such as laundry and storage areas.

The palliative bedroom

This is most probably the most important room in the entire hospice. This is the area where the patient Is brought to when first visiting the hospice and also serves as the place where needed care is given to the patient. The room should look residential and homelike in every aspect, not looking like a hospital room at all. The bedroom should be around 20-25 percent larger than a typical hospital bedroom, and serves as a social space, and later as a grieving space. Care should be taken about the integration of hospital equipment needed close to the bed. Wheelchair accessibility is essential for the room to work.

The bedroom should be able to be personalized, space needs to be allowed for a special chair, rug, photos, and other mementos. This all suits the purpose of familiarization of the patient to the hospice environment. It is furthermore important to not go overboard with the amount of daylight openings in the private bedrooms. When the condition of the patient

diminishes, a darker room is wished for. Windows should be incorporated with treatments, such as curtains, shutters, and horizontal wood blinds, which are readily deployable to fully darken the room if needed.

The palliative bathroom

Good care should be taken in the design of the bathroom, making it look residential instead of cold and hospital-like. It is best to incorporate the bathrooms into the private bedrooms. The bathrooms in hospice settings should reflect a wide range of physical abilities, whilst keeping a residential appearance.

Overnight accommodations for families

Having to travel a long time before a relative reaches the hospice will introduce stress to the patient and family. Facilities can be made with changeable furniture from beds in the room of the patient to a separate organized like a hotel or dormitory.

Nurses' stations

The location of the nurses' station should be at a central point in the building, providing direct access to the patient's rooms. The room is used by all staff taking and bringing supplies that are used or needed for the care of the patient. This station should not look like a dedicated station for nurses at all, deinstitutionalized designs should be explored.

Laundry & Houskeeping

In the hospice environment, fresh linen is required daily, therefore there is a need for laundry in the hospice. Also, family members should be able to wash their clothes, and facilities need to be incorporated for that purpose. The location of the room should be close to the bedrooms, to prevent long trips for fresh laundry.

Circulation

Again just like the previous chapters, the circulation areas should not represent the long corridors often found in hospitals, the feeling of home, a private residence is strived for. Short corridors and paths are aimed for, this can for instance be achieved through clustering of patient bedrooms and support spaces, combined with the use of window seats, alcoves, periodic breaks, transitions, views to the outdoors, and many more factors.

Articulated entries

The entries to the patient's bedroom should offer space for the placement of personal artifacts, artworks, or other personal belongings. It could well be combined with a seat or chair, so the patients can be seated at their doorstep, meeting others in the process. This personalization also marks the rooms and helps with wayfinding. Avoid doors opening onto one another for the increase of privacy.

Window seats

Semi-private spaces should be provided, to allow family and patients to retreat for a short period without having to leave the building, especially during inclement weather. The areas could be located on the circulation paths between rooms or at the end of halls. Besides a place to retreat to, one can also use the seat to consult with staff or spend some quiet time with others.

Meditation and prayer

Everyone in the building needs a space for reflection, this is best done in an area away from circulation. A room for meditation or a chapel could be offered to the patient and relatives to be able to sit in silence. It should be small enough for intimacy and security, and include access to the outside.

Grieving room

A space should be provided for the deceased to be viewed immediately following death. This room should be of sufficient size to suit the family and loved ones for a period of the day. It is advisable to, if possible, have access to an outdoor space.

Connection to Nature

The connection between the outdoors and the building empowers patients and families and can promote privacy and autonomy. A line of trees can certainly hide a part of the hospice that requires privacy, but trees should not cover the whole hospice from public viewing, since it can then be perceived as threatening and uninviting.

During the reading of the document close links are to be found between the advice and biophilic design, this can thus be an important source of inspiration for the design of the building. Design parameters named in the report *14 Patterns of Biophilic Design*[7] by Terrapin Bright Green can be resourceful.

Windows, doors, and views

From the patient's bedroom, a full view of the ground plane, the layer of vegetation, and the sky should be given. This way the patient can grasp the outside conditions, time of day, and valuable orientation. Full-height doors are preferred over windows alone and should overlook nature whilst avoiding nearby walls or other uninteresting content.

Fresh air

Allow for openable windows in the patient´s room, this way the room approaches a homelike situation. This way the patients are also able to smell the outdoor landscape, maybe freshly mowed grass, or feel a morning breeze.

Private outdoor area

Directly connected to the patient rooms a private outdoor area could well suit the positive feeling of a patient. These areas should be designed in such a way that they are wheelchair and bed accessible, whilst still leaving space for nurses or relatives.

Gardens

Gardens could be implemented close to the hospice, gardening helps the patients feel a sense of self-accomplishment and pride. The garden should be raised so that it is wheelchair accessible with and without assistance.

Natural materials

The extensive use of wood is often expressed in the document, this is because the material is perceived as timeless, and has maintained a central, enduring place in human consciousness. This also links back to the studies of biophilic design.

Administration / Total Environment

An effective staff greatly determines the success of the hospice, the work can be exhausting, unpredictable, frustrating, and stressful, good care for the staff is thus also essential. As stated before the staff can exist out of an administrator, medical director and staff physicians, nursing director and staff nurses and their assistants, counselors, volunteers, pediatric specialists, fiscal and fundraising specialists, community education and home care program staff, and outreach staff.

Reception area

The reception area is combined with the administration of the hospice, it should have direct access to the administrative office, storage, and conference room. The area should be close to the entrance, as stated before in the report.

Group session rooms

Many hospices have group sessions and dedicated rooms for that purpose. Privacy must be guaranteed, which translates into good acoustical and visual insulation. It is essential that his room is not too far off the main entrance but must also be out of direct sight of the main living and patient housing area.

Building and ground maintenance

The constant changing of the population will require maintenance in some way quite often. For the regular maintenance housekeeping and janitorial rooms are required. Additionally, a room or small freestanding shed containing the storage of tools, supplies, pipes, ladders, gardening supplies, and other related equipment should be incorporated into the design. Optionally but dependent on the size of the hospice is a small workshop. Furthermore, a small office should be added for the manager and staff. The supplies purchased in bulk should be stored in a centralized storeroom.

Future of Palliative Care

The book *Innovations in Hospice Architecture*[8] closes chapter 4 and describes 4 types of palliative care facilities in the future, the book is aimed at the year 2050. These prognostications are based on universal end-of-life care in a digital world, home - the dwelling – in this landscape, supportive hospice residential care settings in the home milieu and institutional settings, the centrality of nature, sustainable hospice architecture in a resource-depleted world, and interdisciplinary work to advance the state of art in palliative architecture.

Hospice and the machine

In this case, the mainstream healthcare providers will accept that they need to provide supportive architectural environments for persons with terminal illnesses. The hospitals will in this future scenario only be reserved for the sickest of the sick, and other care will be given in specialized so-called microstitial hospitals, also resulting in more developed architectural free-standing hospices.

The palliative dwelling

With the technology ever improving the dwelling will become more intelligent and will anticipate and provide support for the terminally ill. It is envisioned in a way that the rooms, furnishings, walls, ceilings, lighting, appliances, and ambient qualities will be equipped to anticipatorily 'sense' a dwelling's physical state of well-being. These variables will enable the patient to have endless control over the room. A wall can for instance be turned into a forest landscape or sea landscape with just the press of a button. Or in other circumstances can be folded expanding the spaciousness of the room. Assistance can be given through robotics, holography, and nanotechnology, which all reduce the need for palliative care facilities.

Therapeutics of nature

The intelligence of palliative care facilities is now thus far advanced that the patient will live in a biosynthesis of nature and health, technology and humanity, in support of the resident's needs. Open space is scarce in the scenario, resulting in nature becoming virtually indistinguishable from the real natural environment. People will thus live inside a room representing and stimulating nature instead of the real thing.

Palliative architecture in a resource-depleted world

Now in 2050, palliative architecture for the terminally ill and environmental sustainability will be expressed in close harmony. The pollution of hospitals is depleted and the hospitals have become completely green. The new way of building is less expressive than we are used to now due to the lack of resources, buildings will be simple and built or assembled within one week.

Evidence-based design for terminally ill

In the far future the research is far advanced and will result in breakthroughs in aging and disease management, resulting in longer life spans. This will trigger constant architectural research and design in support of death and dying since the conditions change constantly.

Hospice Visit

On the 10th of January 2024, Hospice de Liefde in Rotterdam was visited from 12:00 to 13:30. During the visit, Eric Beezemer was interviewed and organized the tour through the building. Eric is the treasurer of the hospice and makes sure the financial situation of the institute stays healthy. He has a background in social psychology, is the director of a healthcare center, and is connected to the Rotterdam University of Applied Sciences.

In this chapter, the interview is translated and categorized into multiple sub-chapters, all explaining different aspects that have to be dealt with whilst running a hospice institution.

Hospice basics

In general, there are two types of hospices or palliative care facilities. On the one side, there is a low-care hospice, of which the Hospice de Liefde is one, and on the other side, there are high-care hospices.

High-Care

A high-care hospice is part of a bigger healthcare organization or is part of such an organization. In this form of care, most of the work is carried out by professional nurses, and the treatment method is largely based on keeping the patients alive for as long as possible. Volunteers are less present in this form of palliative care and are primarily working on domestic tasks, such as bringing around drinks and food.

Low-care

In facilities based on the low-care principle, there is a general acceptance that the patient will pass away in a relatively short time (maximum 3 months.) Because of this acceptance, there is no extensive medical treatment, only drugs and a breathing device are used, other medical equipment is unused. Low-care hospices are in Dutch called “bijna-thuis-huis” which translates to almost home home. The care one receives can be compared to the informal care one can receive at their own home, with the family caretaker being replaced by volunteers and one professional nurse. The main aim is to make the patient’s last days as comfortable as possible.

Organisational

If someone is eligible for care in a hospice, they will have to apply through the institution Laurens Entree, which distributes the patients across the hospices in and around Rotterdam. This may vary per location but could apply to the site in Vlaardingen. One could express his preference for a certain hospice, but they would of course still need to have spots available to be housed there.

If someone enters a hospice they often take their own GP with them if they are close by. Because of the high pressure on GPs, it sometimes happens that they will not move with the patient if they are too far away. In that case, a replacement close to the hospice is arranged, this is however becoming a bigger problem because of the shortage of GPs at the moment. The GP determines the policy and the medication, which the hospice themselves are not allowed to do.

Professionals are also needed to take care of the patients, which the volunteers are not allowed to do. They are for instance not allowed to wash patients, but are allowed to help the patients get out of bed. The volunteers are there to take on the basic tasks to relieve the pressure on the professional nurse so that they can focus on the specific and medical-related tasks. Because hospice De Liefde has 6 beds, they can just about have a professional nurse stationed permanently for the whole week. This requires the healthcare organization to reserve 10 nurses, which already is a considerable amount of staff with the current pressure on the healthcare system.

Volunteers are present in the building from 07:00 to 11:00, and are there to support the professional nurses. It is preferred to have 2 volunteers working at the same time to spread the workload, but this is not always achievable. Volunteers are only allowed to work in shifts of 4 hours with a maximum of 8 hours per week. In total 120 volunteers are supporting the nurses and are managed by the only two staff of the hospice, the coordinators. Of the 120 volunteers, 60 persons are care-related, and the other 60 staff are helping with domestic tasks, such as cooking, gardening, building maintenance, and many more tasks. Eric stresses that 60 volunteers for the care part are just enough, 80 volunteers would be far more desirable.

It is hard to start a hospice, in the case of De Liefde it took them 8 years to realize the building and organization. The building was bought and refitted by a fund owned by the biggest companies of the Rotterdam harbor. The hospice had to pay for its interior finishing and pay rent for the building. It is hard to start up a hospice because they have to finance their first two years of existence without the support of the government. The three hardest elements of starting a hospice are thus finding a location/building, financing the first two years, and finding volunteers.

If desired family members can sleep with their loved ones, this can be realized in the same room as the patient, with sliding walls, or in a separate building or room. Patients can also take their specific furniture if they want to, except the bed, since this is required for the nurse to work properly. Sometimes hospices offer respite care services, in which they take the informal care from the family members to give them a week or so of rest or maybe time to go on a holiday.

Financials

As mentioned in the previous chapter a hospice must finance their first two years themselves without the support of the government. This is primarily realized with the help of fundings, which are well known with these regulations and are often more generous during this period.

After two years, the government is paying a fixed amount of money per patient, which roughly represents ½ of the total cost. Another ¼ of the costs is covered by the patient and represents a contribution of €40,- per day. This is often covered by an expanded insurance policy and can vary per hospice. The final ¼ of the costs is realized by talking to different funds. In total the running costs of the hospice are roughly €400.000,-.

Building Surroundings

It is wise to inform the surrounding neighborhood of the plans to build a hospice close to their houses. In the case of Hospice de Liefde this will first create some resistance, but after visiting some other hospices the surrounding households understand the value and need for such a building.

It is preferable to have public transport close by since many volunteers and also relatives of patients go to the hospice by public transport. A walking distance of 10 minutes is achievable and acceptable. Having plenty of parking spaces close by is essential, the 14 parking spots of the hospice are often all occupied, as well as the bicycle storage.

The Building

Integral accessibility is logically one of the most important elements of making the hospice work, doors should be wide enough so beds can fit through easily, which has gone wrong in the hospice during the build. Spaces should be used efficiently because this reduces the overall cost and size of the building. In Hospice de Liefde many spaces are monofunctional and often empty, or used once a week. It is not recommended to have other users in the building since they can produce disturbing sounds that can have a negative impact on the patients.

A positive element of the hospice is the placement of the plot, and the plot itself. Because the building is surrounded by a ditch, this offers a quiet place. The patio and garden are also often used, especially during warm summer days, patients that are bound to their beds will be moved towards the patio to enjoy outside air. Eric stressed that a lot of attention is going to the gardens in front of the patient's rooms so that they have a great view over the garden into the natural environment. He mentioned that this helped relax the patients, expressing that nature is a good way to give them mental rest.

One negative Eric mentioned was the climate of the building, during summer the rooms and the corridor consisting of glass are heating up a lot. This resulted in sunscreens being placed in the patients' rooms obscuring the view over the garden. The corridor is now being adjusted to have integrated sunscreens. Good sunscreens are thus essential for the building to work correctly.

The Future

A concern of Eric is that the hospices are being institutionalized more and more, with those extra rules the house-like hospice environment will gradually start to look like a hospital, which goes against the concept of low-care hospices. Of course, there are hygienic measurements taken in the kitchen for instance, but Eric thinks that we are exaggerating with the rules.

Another concern is the availability of the GPs, the pressure is already high on them, and with the aging, this would only increase, his concern is primarily about who is going to take care of our elderly in the future. Maybe there would be a flexible GP that covers multiple hospices instead of taking your GP.

Eric thinks that the hospice environment and concept will stay largely the same. He doesn't expect (and also doesn't hope) that the hospice will be automized for a large part. One of the basic fundamental needs of humans is human contact, so why should you take that away? A hospice is not supposed to look like a hospital, people without family are staying in a room, alone, and do not see anyone except the nurse who brings food three times a day. Keeping this human contact will be a challenge with the low amount of care personnel available, and this is why the low-care concept will help relieve the stress of the professional healthcare personnel with the extensive use of volunteers.

figure 02 - New and old parts of Hospice de Liefde

figure 03 - Interior of Hospice de Liefde

Grieving and Rituals

Every culture has its rituals in relation to death and the grieving process accompanied by the loss of relatives or loved ones. When designing a hospice multiple cultures have to be considered, because of all these varying rituals. In this chapter, the most common culture and their rituals as it comes to deceased ones and grieving will be explored. Generally speaking, if someone has deceased they person will be moved from their room to the aula or a funeral home, where the rituals will be conducted.

The Dutch Perspective

For a long time, the Dutch were conservative on the subject of death and grieving, this resulted in the mortician making most of the decisions. Since death is less of a taboo and generally more accepted the relatives and family of the deceased have a bigger role in the rituals concerning the funeral. The focus of the funeral is mostly on reflecting the personality of the deceased. The group of Dutch inhabitants that do not follow a specific religion is getting larger and larger, which is also reflected in the funeral ceremonies, often certain traditions are lent from other religions.

Christian Funerals

For Christians death is a mystery, most Christians believe in some way of eternal life after death. Some Christians believe that God will judge their lives and are afraid of death, whilst others believe in a more forgiving God and are less afraid of death. The two most common forms of Christian belief are Catholic and Protestant.

Before one dies the catholic celebrates the Sacrament of the Sick, containing contemplation, anointing with oil, the blessing, and receiving of the holy host. On the day of the funeral, relatives can say their goodbye, after which a somber service is held by the family. This service can take place in the church, at home, at the hospice, and many more locations.

Protestants do not have specific rituals around death, in most cases praying, and being with the sick ones. is common Also, the presence of a priest is not needed, being with family is seen as way more important. There is no fixed ritual around the funeral, although most protestants are buried instead of being cremated. The focus is more on the spoken word, reading from the bible, the coffin is quite simple but flowers and candles are allowed.

Jewish Funerals

The Jewish funerals are sober, this is because all people are seen as equal, there will be no difference between the wealthy and the poor. After one has passed away members of the Jewish community will conduct a ritual washing of the body of the deceased one, after which the one will be dressed in a simple white cotton robe. They are put into an untreated wooden coffin and some earth out of Israel is poured into the coffin. No flowers are put onto or near the coffin, because of equality reasons. Jewish are buried most of the time, after the service the family surrounds the coffin and lowers it into the ground, after which they all throw soil onto the coffin until it is completely covered. After the funeral, the family will have a grieving period of 7 days after which they can go on with their everyday lives.

Islamic Funerals

It is recommended by Islam that deceased ones be buried at the place where they have deceased. Many choose for an Islamic funeral in the Netherlands because more relatives can say their goodbye in that way. A grave that is preserved eternally is a must. Before the funeral a ritual washing takes place, this is done by family and other relatives from their community under the supervision of a professional washer. The body is washed three times in a funeral home or musk, first with semi-warm water, the second time with water and leaves of the lotus flower, and the third time with camphor in the water. After the washing, the body is wrapped in the kafan, which is white unbleached cloth and brought to the musk. In the musk, there is a service after which the body is buried as soon as possible.

Other cultures

Many cultures have similar rituals concerning the deceased ones, Hindustanis for instance also wash the body before being cremated. This is also the case for Chinese funerals, whilst they also consume the favorite food of the deceased the day before the funeral. In Suriname a special orchestra is present during the funeral, dancing the coffin to the grave.

Source: DELA, "Elke Uitvaart Zijn Eigen Rituelen.[9]"

The Program

The program will be defined based on the literature research in the previous chapter combined with the comparison of two case studies, researched in document 03 – Case Studies. This combination will combine theoretical and practical experience into the forming of a program for the design.

Case Studies

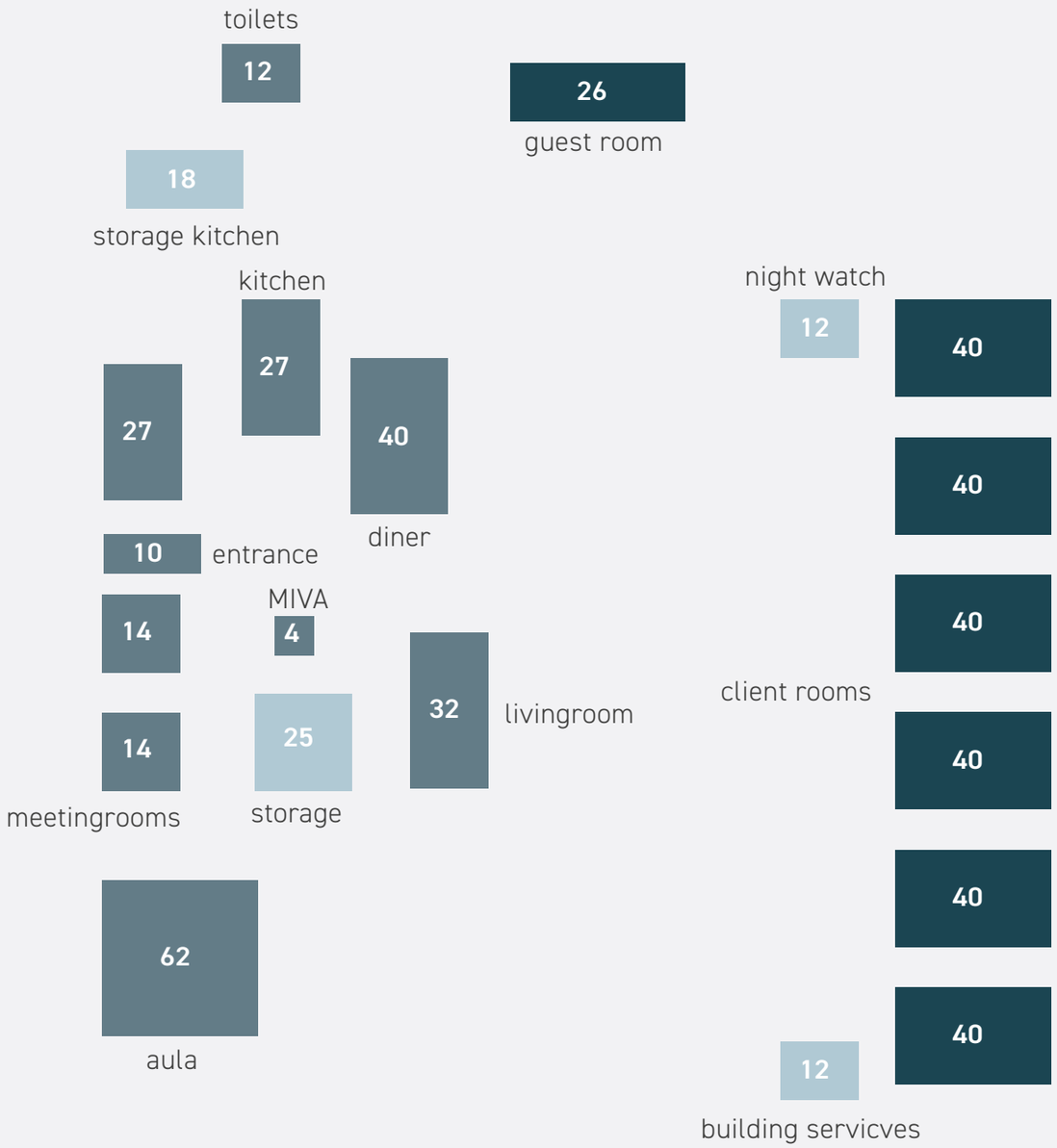
During the research for case studies for the design project, two hospices were analyzed. The first case study was Hospice de Liefde, which was also visited, and the second one was relatively similar in scale hospice het tweede thuis. Both the case studies, as seen on the right, are placed on the edge of a city in a green environment, consequently having just 6 patient rooms. The cases were selected based on their small scale, which will be comparable to the design brief.

On the following page, both case studies are analyzed on their rooms and accompanying areas, this will give input into the areas needed in the final design.

T- figure 04 - Hospice de Liefde

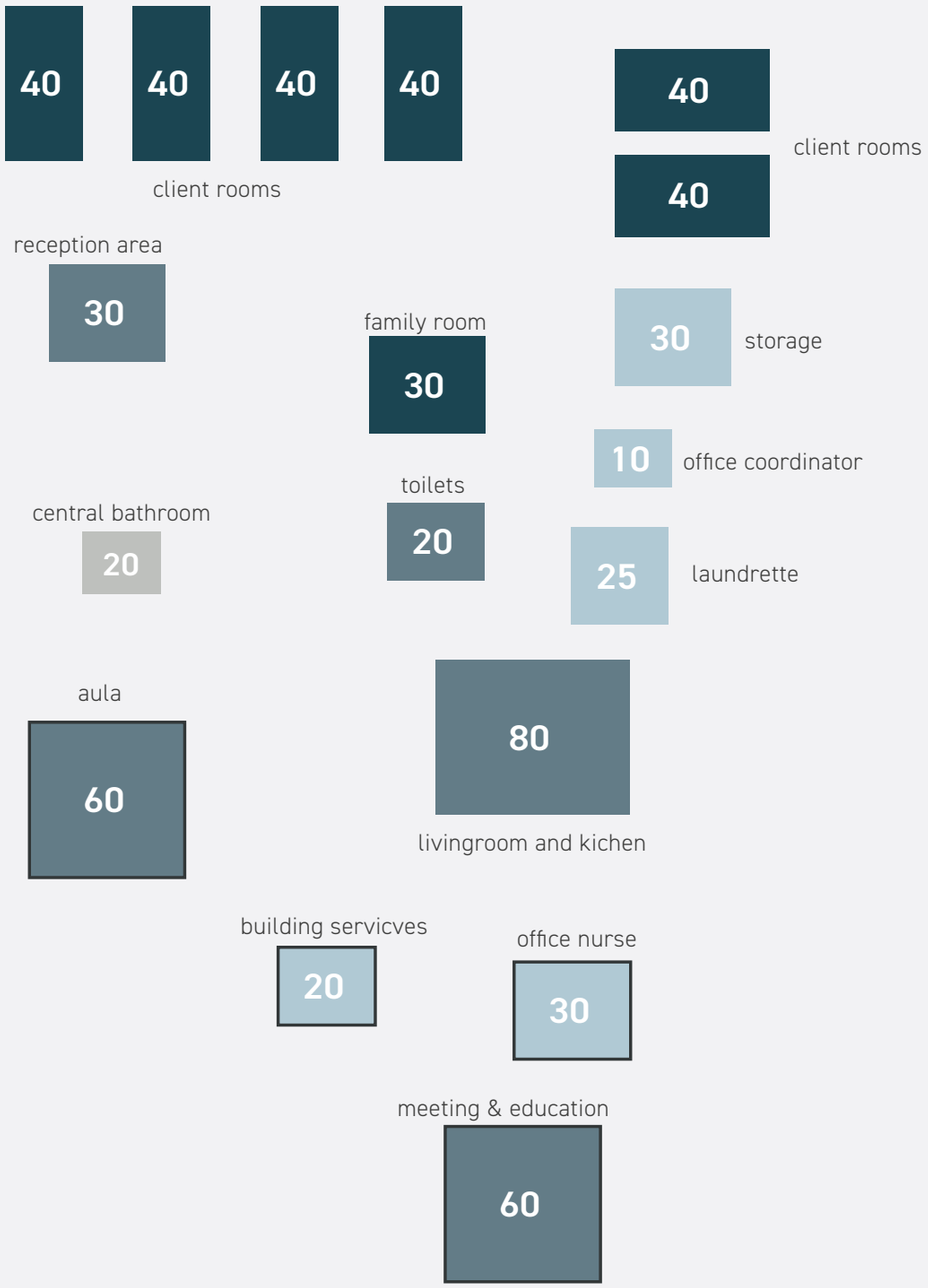
B- figure 05 - Hospice het Tweede Thuis

Hospice de Liefde



575 m²

Hospice het Tweede Thuis



675 m²

Design Program

Based on the case studies, literature, and site visit of one of the case studies the following program has been made, suitable for the design of a palliative care facility in the polder of Midden-Delfland.

In this spread an illustration is given of the spatial requirements of the facility excluding the circulation areas. Due to the changing landscapes and different types of soil in the polder area, the overall composition of the building is changeable by this circulation system, and will thus change every time the building is moved. The same is true for the outdoor spaces, hospice will be in most cases placed in the open landscape, and integrating nature in the design will therefore be site-specific.

In the following pages, a further specification of the requirements for the palliative facility is given. The rooms are named, areas are mentioned as well as the amount of rooms required, then additional information is given together with the bordering spaces.

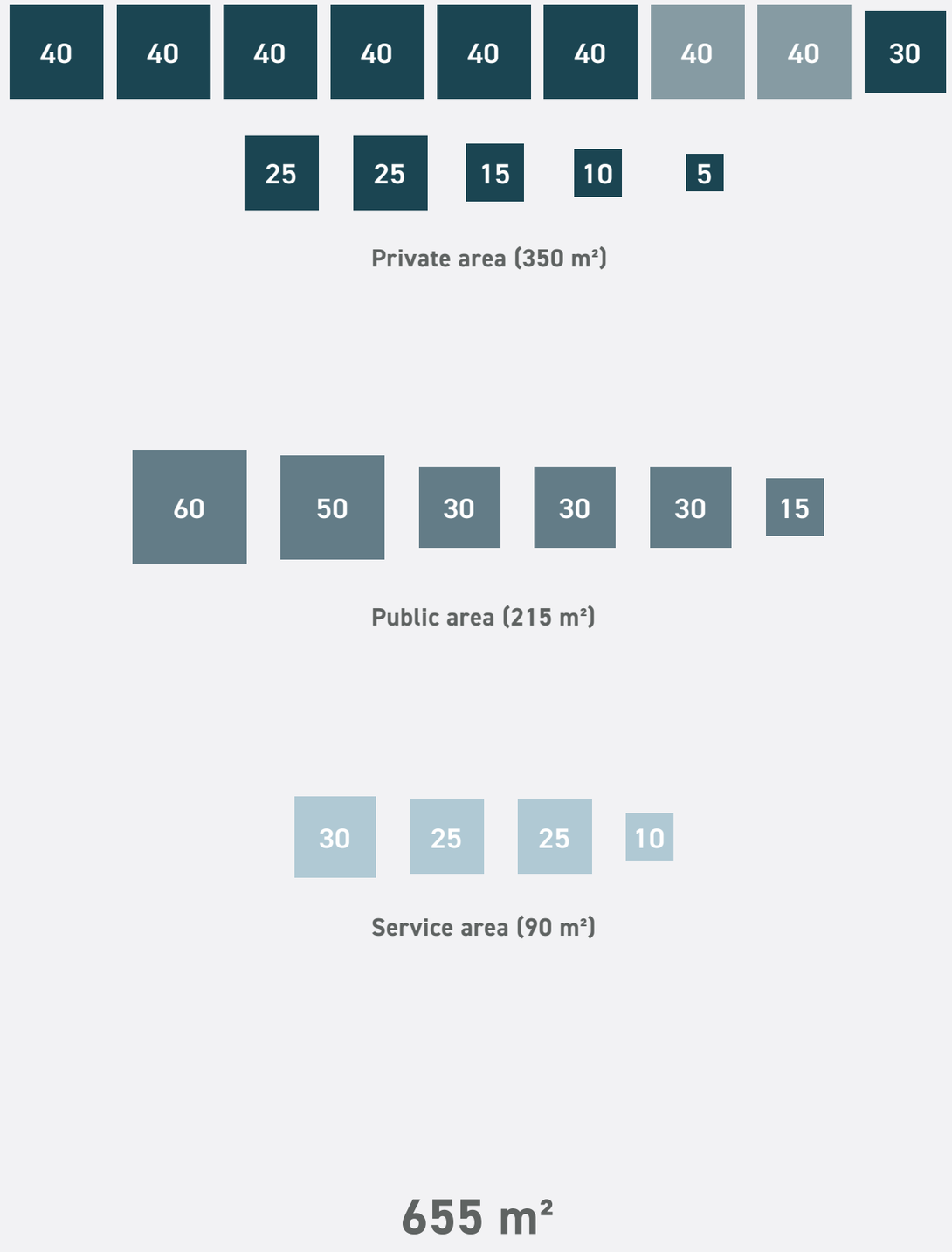


figure 06 - Building programm in abstract form

Design Program - Public spaces / Outdoor

Room Name	Area (m²)	Amount	Aditional Information	Borders Space
Entrance combined with reception	30 m²	1		
Living room	30 m²	1		circulation, dining and kitchen
Dining + kitchen	50 m²	1	main kitchen for general meals & small counter for private use	living room, criculation, supplies
Aula	60 m²	1	used for group meetings and as grieving room for larger groups	circulation, entrance / reception
Family room	30 m²	1	used for meetings and as grieving room for smaller groups	circulation, entrance reception
General toilets	15 m²	1	Including toilet for disabled	living room, kitchen, entrance
Guest parking space		6		
Staff parking		6		
Supplies parking		4	parking suited for a supply van	close to kitchen and storage
Drop off point		1	enables patients to be dropped of under a canopy near the entrance	entrance
Garden or patio dependant on landscape and overall setting	ca 60 m²	1		

table 01 - Program for public and outdoor spaces

Design Program - Private Spaces / services

Room Name	Area (m²)	Amount	Aditional Information	Borders Space
Palliative dwelling	40 m²	6 + 2 optional	includes a private bathroom with toilet	circulation system, has own HVAC system
Nurse office	30 m²	1	includes drugs storage	close to reception and palliative dwelling
Coördinator office	10 m²	1		close to the reception and entrance
Meeting room	15 m²	1	suited for family meetings and staff meetings	close to the administrative cluster
Private outdoor area	5 m²	6 + 2 optional		private dwellings
Supplies	30 m²	1	used for the storage of medical and food supplies	kitchen, dining and living room
Laundrette	25 m²	1	used for linnen and private use by relatives	supplies, circulation, nearby palliative dwellings
Building service systems	25 m²	1	includes heating HVAC etc.	reception area, supplies
Building maintenance storage	10 m²	1	for storing tools, gardening supplies, etc.	outdoor area, building services

table 02 - Program for private and service spaces

Technical Ambitions

Subject	Value	Unit	According to Regulations
Insulation value floor	> 7.0	m²K/W	3.5 m²K/W
Insulation value walls	> 7.0	m²K/W	4.5 m²K/W
Insulation value roof	> 10.0	m²K/W	6.5 m²K/W
Insulation value windows	< 1.3	W/m²K	1.65 W/m²K
Daylight into the rooms	> 10% of the floor area	-	> 10% of floor area
Demountability index	> 0.8	-	-

table 03 - Technical ambitions

Bibliography

1. Francesco Veenstra, Jannemarie de Jonge, and Wouter Veldhuis, "De 22e Eeuw Begint Nu: Agenda College van Rijksadviseurs" (College van Rijksadviseurs, December 23, 2021), https://www.collegevanrijksadviseurs.nl/adviezen-publicaties/ publicatie/2021/12/22/index.

2. Stephen Verderber and Ben J. Refuerzo, *Innovations in Hospice Architecture*, Taylor & Francis eBooks, 1st Edition (London, United Kingdom of Great Britain and Northern Ireland: Taylor & Francis, 2006), 59–92, https://doi.org/10.4324/9780203358597.

3. Marlene Nass, "Een Dag Meelopen in Het Hospice in Gorinchem," *Algemeen Dagblad*, December 23, 2023, Drechtsteden edition.

4. The Irish Hospital Foundation, *Design & Dignity Guidelines: For Physical Environments of Hospitals Supporting End-of-Life Care* (Dublin, Ireland: Hospice friendly Hospitals Programme, 2008), 10, https://www.hospicefriendlyhospitals.net.

5. The Irish Hospital Foundation, *Design & Dignity Guidelines: For Physical Environments of Hospitals Supporting End-of-Life Care*, 25.

6. The Irish Hospital Foundation, *Design & Dignity Guidelines: For Physical Environments of Hospitals Supporting End-of-Life Care*, 24.

7. William D. Browning, Catherine Ryan, and Joseph Clancy, "14 Patterns of Biophilic Design: Improving Health and Well-Being in the Built Environment," *Terrapin Bright Green*, January 1, 2014.

8. Verderber and Refuerzo, *Innovations in Hospice Architecture*, 59-92

9. DELA, "Elke Uitvaart Zijn Eigen Rituelen," Coöperatie DELA, n.d., https://www.dela.nl/uitvaart/voor-de-uitvaart/rituelen-bij-een-uitvaart.

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Hospitable Movement

2024

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