FACILITY DESIGN & PLANNING

TO IMPROVE NURSES’ EFFECTIVENESS IN ADMINISTERING CARE

TO FULLTIME RESIDENTS OF NURSING HOMES

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CLAUDIA PELTZ

COMMITTEE CHAIRPERSON – PAMELA HARWOOD

BALL STATE UNIVERSITY

MUNCIE, INDIANA

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Abstract

The assumption underlying this study is that a spatially well planned and appropriately furnished nursing home facility will help the nurses to perform their work more effectively and accordingly lead to more satisfaction for the residents. Research in the forms of a literature review, a movie analysis, and a field study of nursing homes in Germany and the USA, including plan annotations and observational mapping, trace study analyses and survey techniques, was conducted and revealed an unexpected urgent need for nursing home design improvement, especially in the U.S.

The research results led to the development of a catalogue of patterns which are useful in the design and planning of a nursing home to improve nurses’ effectiveness in administering care to fulltime residents of nursing homes.

With the help of the developed patterns, suggestions for building renovations of two of the researched nursing homes, one American and one German, were given.
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1 Introduction

I think that the world is God’s present to us. We, as the users of this present should therefore be careful with it and protect it. When talking about the word “world” I do not only mean nature. I see the people living on this earth as a very important part of God’s present as well. As a young architect I believe that I am a social actress who has the responsibility to help sustain the world with its inhabitants by designing well functioning buildings. My main focus is on the world’s inhabitants. As a healthy human being I have the ability to help others in their pursuit of well being. Georg Christoph Lichtenberg (Rossa 1999-2008) once said:

“Ich weiß nicht ob es besser wird – wenn wir es ändern!
Ich weiß aber, dass es nicht besser werden kann – wenn wir es nicht ändern!”

*I don’t know if it will get better – if we change it!

*But I know, that it can’t get better – if we don’t change it!”
I take this as a motivation. Even though I do not know if I will be successful in making the world better, I should still try to help. This world view leads to a lot of questions such as:

- Why are people not helping those who need help?
- Why are minorities such as old, ill people “forgotten?”
- Why are nursing homes seen as undesirable institutions, even if they should be helping the people living in them?

My assumption is that a more effective nursing home design and planning will help the nurses with their work and lead to more satisfaction of the residents.

My goal for this thesis is to formulate a way of planning and designing a nursing home that creates an effective environment for the residents, nurses, staff, and community. I think that in finding answers to the above mentioned questions I can come closer to my goal. My overall wish is to avoid clichés and empower all stakeholders in the process of designing nursing homes. My focus is on the resident’s well being through the effective design of the nursing home as a nurse’s workplace.

The idea of researching nursing homes and finding a solution for a more effective nursing home design originated from my own experiences which I made while working in a German nursing home as a nurses’ aide for the past three years. While working in the nursing home, I experienced a lot of problems as a result of the facility design like inefficiencies in time and energy and paternalism of residents. According to a study conducted by the Rheinische Friedrich – Wilhelms – Universität Bonn (2003) 75 percent of the nurses actually enjoy their work despite the immense pressure of time. In my opinion there is simply not enough time to do a good job because buildings are designed
in a way that causes the nurse to run from one end to the other to get needed equipment. This might be the result of a lack of storage space or a poor location of storage areas. This disturbs the workflow of the nurses. Workflow here refers to a specific series of tasks administered to achieve a specific goal. If the same goal is to be achieved regularly, then the same series of tasks follows a certain routine. It is therefore assumed that the routine leads to a faster reaching of the goal. In a nursing home there are certain tasks to be done every day. An example is the washing of the residents. The nurse develops tactics to get her/his tasks done and uses these regularly. That way the task becomes a workflow. This workflow can be disturbed if there appears a special, urgent task that needs to be solved. This could be a resident who needs to go to the bathroom or loses consciousness. But the workflow can also be disturbed because of architectural hindrances such as a resident who gets “lost” and needs to find their way back to their room. Also, I remember situations in which I really would not want to be the old person. Nurses screamed at residents or laid them into bed before dinner, just because there is too much stress after dinner. I could give a lot more examples here, but the point is that there are opportunities in the design of the facility to reduce stress and time and energy expended by the nursing staff.

Nurses are very well aware of the ineffectiveness of their situation. More than 60% of the German nurses would not want to go into a nursing home themselves when becoming old! (Dymarczyk 2003) They know that sometimes the lack of time and energy and immense stress of the nurse causes injuries like the development of decubita or bed sores. Decubitus is a defect of tissue that results from local exposure to pressure (Rossa 1999-2008). A problem is that nurses do not have the time or are so stressed that they
forget to change the positioning of the bedridden residents every two hours. That is the reason why decubitus normally occurs. Actually, out of 800,000 residents (of nursing homes in Germany) approximately 50% are not treated well (problems are: forced drug misuse, beating, indignity, intimidation, abuse, threat). Most often, this does not happen because of malicious intent. The reason normally is the excessive demand for the nurses (Rossa 1999-2008). But according to Christina Dymarczyk (2003) overwork and excessive demand are part of everyday life in a nursing home and around 90 percent of the nurses experience it at some point. The main reason for overstrain is the situation at the working place. An example is that there are not enough personnel, in particular qualified personnel (Dymarczyk 2003; Rheinische Friedrich – Wilhelms – Universität Bonn 2003). One result is that the fluctuation of the personnel is very high. Only a few nurses stay in their job longer than five years (Rheinische Friedrich – Wilhelms – Universität Bonn 2003). Also, the excessive demand for the nurses can actually lead to burnout, which is a state of physical, mental and emotional exhaustion (Rossa 1999-2008). This in turn affects the residents and their care. In many nursing homes, violence is a popular medium for abuse by the nurse. Forms of violence include angry looks, forced drug use of residents, withdrawal of nutrition and beating of the residents. There are also indignity, intimidation and threatening. The overriding source of violence is frustration. Frustration can cause violence to both, nurses and residents. Nurses who do not have a possibility to relieve the job’s stress, will be less likely to stay calm in front of the residents. They start to use inappropriate words and use drugs to sedate the residents. Sometimes they also start to use physical violence (Rossa 1999-2008).
Another point is that the attention each resident needs is not proportional to the number of nurses. Residents do not get enough attention because tasks like washing are more consuming of nurses’ time and energy. “Leider blieben aufgrund der hohen Arbeitsbelastung gerade der soziale Kontakt und die individuelle Betreuung auf der Strecke; die Pflege verkomme mehr und mehr zur Massenabfertigung.” [Translation: It is a pity that, because of the high pressure of work, the social contact and the individual care fall by the wayside. Care becomes some sort of assembly line work.] (Rheinische Friedrich – Wilhelms – Universität Bonn 2003)
Due to our new gymnastics program for the nurses we could reduce the personnel expenses by 2/3!

These facts reflect my own experiences. They illustrate that an important factor to reduce in the nurses’ job is time expended. Because of a lack of time, the quality of the nurses’ work suffers and the residents don’t feel treated well. Unfortunately, in most nursing homes, there is not enough money to provide an adequate number of qualified nursing staff. This situation is not likely to change in the future. There is proof that the personnel situation has worsened during the last years. The assignment of unqualified
nurses in Germany, for example, has increased from 7% in 1997 to 9.6% in 2000 (Bundesvorstand des deutschen Berufsverbandes für Altenpflege e.V. 2007). These unqualified nurses usually replace licensed nurses instead of being added to the personnel. The reason for that is that an unqualified nurse earns a lot less money than a licensed nurse. Another way of saving costs at the expense of the quality of care is to reduce the number of fulltime positions in nursing homes. From 1997 until 1998 the number of full time positions in Germany was reduced by 13%. At the same time the demand for nursing increased (Bundesvorstand des deutschen Berufsverbandes für Altenpflege e.V. 2007).

Nurses also have significant health problems today, related to their work environment. There is a measurable increase in backache, headache, muscle pain, feeling of heaviness in arms and legs, sleep disorder, weariness and depression (Bundesvorstand des deutschen Berufsverbandes für Altenpflege e.V. 2007). Therefore “[d]esigning a unit to maximize staff efficiency is important. The most significant cost of operating a long-term care facility is staff.” (Kliment 2004, 32)

But why is the financial situation for nursing homes that bad? One reason is that a high percentage of nursing home residents is poor (Schwarz 1996 53). In both countries, Germany and the USA, there are federal programs that help those poor people pay for a stay at a nursing home, but these programs only pay a certain amount of money. If the room in the nursing home is more expensive than that the resident will have to pay the missing amount on their own, which they often cannot afford. Therefore, the majority of nursing homes are built and operated in order not to exceed the limits of the federal programs. “These multiple levels of regulation ensure that the nursing home industry
ranks second only to the nuclear power industry in the amount of regulation it must endure […]}. The Department of Public Health not only sets codes and regulations, they also influence budgetary constraints […]” (Dickinson 2004, 34;37)

In the USA there are two programs which finance a stay in a nursing home, Medicaid and Medicare. Kliment (2004, 274) defines Medicaid as “[a] joint federal and state program that provides medical care to low-income individuals.” Medicare in contrast is a “[f]ederal health insurance program for persons 65 and over and some people who are disabled regardless of age. Medicare pays for skilled care in certified skilled-nursing facilities for up to 100 days following hospitalization in a calendar year. Beneficiaries are required to pay part of the bill for care after the first 20 days. Medicare does not provide benefits for intermediate or custodial care.” (Kliment 2004, 274) That means that it is first of all difficult to fall into the category of Medicare and then the payments are limited to a certain amount of days. That is why “Nursing home care is paid for mainly from the private incomes or assets of the residents or their families and from Medicaid for those whose incomes and assets are low enough to qualify them for such support.” (Institute of Medicine (U.S.) 1986, 17)

The situation in Germany is slightly different, which might be a reason for the better quality of nursing homes (see field study, chapter 2.3). Germany has an obligatory nursing insurance system. If someone becomes in need of care he/she is financed by this insurance. The amount of payments is determined by the degree of need of care. There are three levels of care which qualify someone for payments from the insurance. “Pflegestufe 1” (Paaßen 2003) [care level 1] means that someone needs care approximately 90 Minutes every day. From these 90 minutes at least 45 minutes have to
be used for basic care (bathing, dressing, toileting). Someone qualifies for “Pflegestufe 2” (Paaßen 2003) [care level 2] if a person needs assistance for at least 3 hours a day, 2 hours of these for basic care. Last but not least “Pflegestufe 3” (Paaßen 2003) [care level 3] is reached when a person needs help a minimum of 5 hours every day, including 4 hours of basic care.

The three levels of care lead to the development that nursing homes like to give their rooms to residents in a high level of care because that way the nursing home will make more money. The problem is that mostly the amount of money the insurance pays is either not enough to finance a room in a nursing home completely or the nursing home is in a very bad condition because of the lack of money. An investor states: “The worst constraints are not the regulations, but the budget because everybody builds to minimum standard, and you can’t finance above that standard unless you want to take cash out of your pocket. And who has that kind of cash? So it becomes an impossible solution.” (Schwarz 1997, 355)

Since the financing situation will likely not change, I want to help the nurse save valuable time and energy, which then can be spent on the resident in the nursing home facility. If the nurse could work more effectively there would be less stress and the nurses would be friendlier to the residents. That is why I came to the conclusion that my thesis topic should deal with the relationship between the satisfaction of the residents and the effectiveness of nurses’ work environment.

“Staff members are the second largest group of users of nursing home settings. […] In contrast to their numbers and their needs, nurses’ aides, like residents, have only minimal influence on the design process of an environment that they will use the most.”
This is unfortunate because the nurses want to produce a quality care environment – that is why they chose their job – mostly with high ambitions and engagement (Bullinger 1998, 50). But when nurses are not able to influence the design of their work environment, the design will not work as well for them and they cannot do an effective job which leads to unsatisfied residents. Support for improving the quality of nurses work environment is given by Hans-Jörg Bullinger: “Denn insbesondere im Fall der in Pflegeheimen erbrachten Dienstleistungen kann es den zu begleitenden alten Menschen letztlich nur so gut gehen, wie den die im letzten Lebensabschnitt begleitenden Mitarbeiter/innen der verschiedenen Dienste. Kundenorientierung muss daher immer auch Mitarbeiterorientierung heißen […].Wenn wir in den kommenden Jahren eine weitere Anhebung der Lebensqualität der Bewohner/innen stationärer Altenhilfeeinrichtungen erreichen wollen, dann ist die Verbesserung der Arbeitsplatzqualität des Personals eine notwendige Vorbedingung.” [Translation: Especially concerning the provision of care services in nursing homes, the old people can only feel as well as the nurses who accompany them during their last period of life. Therefore customer focus has to mean employee-orientation as well. If we want to achieve an augmentation of quality of life of nursing home residents during the next years then we need to augment the quality of the nurses work environment first.] (Bullinger 1998, 50) Christina Dymarczyk also recognizes the importance of an effective work environment for the nurses: “[…]die Personalsituation und speziell die Arbeitszufriedenheit nehmen direkten Einfluss auf die Lebenssituation der Bewohner und wirken dadurch auf deren Zufriedenheit rück, weil zufriedene Mitarbeiter eine höhere Arbeitsmotivation aufweisen und größeres Engagement im Beruf zeigen.” [Translation:
The personnel-situation and especially the satisfaction with the work have direct impact on the residents’ life situation and therefore their satisfaction, because satisfied employees have a higher motivation and engagement in their job. (Dymarczyk 2003)

There are also people in the U.S. realizing the need for an effective nursing home design: “Quality of life is intimately related to the quality of resident-staff relationships. Kindness, courtesy, and opportunities to choose activities, food, and mealtimes are involved, as are factors such as privacy for intimate conversations with family and friends.” (Institute of Medicine (U.S.) 1986, 11) Lorraine Hiatt states that one of management’s misconceptions is that “Good staff people can overcome poor design.” She further explains: “A good staff may be able to take the extra steps required to overcome a building’s weaknesses, but why deploy their energies compensating for poor design when they are desperately needed to provide human services?” (Hiatt 1991, 8) But even though this resident-staff relationship has been recognized, not enough is actually done to create a good working environment for the nurses in nursing homes. At least there are some good news from Canada: “Health Minister Philippe Couillard announced yesterday an $80-million a year commitment to improve the working conditions of Quebec’s 70,000 nurses.” (Dougherty 2008)

Since there are different types of nursing homes I want to clarify that my special interest is in nursing homes for those who need medical care. One reason for this is that in such facilities the nurse’s work plays a very important role. Residents would have to stay in bed the whole day if they would not get assistance from the nurse. Another reason is that I had my own experiences in that field. Also, I am focusing on German and U.S. nursing homes because I used to work in a German nursing home and through my studies
at Ball State it was easy to get an insight into American nursing homes as well. A nursing home is defined as follows: “A nursing home is a place of residence for people who require constant nursing care and have significant deficiencies with activities of daily living. Residents include the elderly and younger adults with physical disabilities.” (Wikipedia 2009) In my work I am focusing on nursing homes for the elderly people, since that is where I used to work and got my experience from.

Many studies about nursing homes have been conducted from a resident’s point of view (Barnes 2006; Cutler, et al. 2006; Duffy 1986; Kane, et al. 2003). It has been suggested a lot of times that the nursing home should be phased out and the focus should be on assisted living facilities (Schwarz and Brent 2001; compare literature review, chapter 2.1). I think that the development of assisted living facilities is important, but the actual nursing home cannot be discontinued because there are more and more people who need 24 hour care of a high assistance level which is not provided in assisted living facilities. In a nursing home, residents are cared for 24 hours a day and therefore the nurse becomes an important part of the residents’ life. Kliment (2004, 28) states:

“Longer-term care residents generally have high care needs and complex medical conditions that require routine skilled-nursing services.” This underlines my point of view. The Institute of Medicine (U.S.) (1986, 9) describes the development as follows:

“Nursing home beds are increasingly being filled with long-term, very disabled residents who cannot be cared for anywhere else.”

The general development in the industrialized countries also suggests that there might be more and more people in need of care in the near future. I will give numbers using the example of Germany. Today, in Germany there are more than 2 million people
who are in need of care. Because of the growing expectancy of life, this number will increase during the next years (Rossa 1999-2008). As a comparison, according to Wikipedia (2009) Germany as a total of around 82 million inhabitants. There are around 8,800 nursing homes with 645,000 beds in Germany which employ approximately 268,000 wage earners. This means that 22% of the wage earners of all social professions work in nursing homes (Bundesvorstand des deutschen Berufsverbandes für Altenpflege e.V. 2007). „Aufgrund des wachsenden Anteils älterer und alter Menschen in der Bevölkerung in Deutschland wird für die Zukunft eine erhebliche Zunahme pflegebedürftiger, alter Menschen prognostiziert. Damit ist gleichzeitig eine Steigerung des Bedarfs an Altenheimplätzen verbunden.” [Translation: Because of the growing number of older people in Germany, a large growth of old people in need of care is anticipated. This means that there will be a greater need for places in nursing homes.] (Dymarczyk 2003) In 2030, just over one third of the whole population of Germany will be at retirement-age (Rossa 1999-2008). The chart on the next page shows the rapid growth of the old population in Germany.
Growth alone is not responsible for the need of nursing homes in today’s society. Benyamin Schwarz (1996, 22) states that the main developments which led to the increase in number of nursing homes were due first of all to the increase in life span. The urbanization of society and the resulting changes in the structure of the traditional family also contribute to this increase. Industrialization led people to move to cities where both men and women had to work for a living. This made it impossible for the women to care for their aging parents. A place needed to be created that took care of them. This development of nursing homes continues to grow since now the traditional family is less common. There are many single mothers and fathers who are not able to care for their parents as well.
An overview of the history of the nursing home in Germany shows that a predecessor of today’s nursing homes were accommodations for foreigners. They also took in ill people, elderly and orphans. In the following years, the monastic cloisters took over the responsibility for nursing care. Since the 19th century, communities had the obligation to offer a house where ill and old people could stay. This was already similar to a nursing home. The main difference to today’s nursing homes was that there were no nursing personnel on site. People living there had to help each other. In the middle of the 20th century the first associations with churches became popular. This was also when the Red Cross came into existence. These institutions continue to offer elderly care in today’s world (Rossa 1999-2008).

Until 1965, the profession of nursing the elderly was performed by home makers. In 1965 the first job description of nursing care was published. The first apprenticeship in elderly care started in 1969. By 1979, all federal states of Germany adopted the elderly care as a job that requires training (Rossa 1999-2008).

In America “[t]his physical structure of most […] nursing homes is relatively new, since most nursing homes have been built since 1965. Prior to that time there were different models of care for the elderly.” (Schwarz 1996, 22)

After looking at the range of literature dealing with nursing homes in Germany and the USA I conducted a field study. I compared three American nursing homes with each other and with 5 German nursing homes, including the one I used to work in. The results led me to the development of a catalogue of patterns which are useful to the planning and design of a nursing home as an effective working and living environment.

I want to conclude with a wish of a nurse for the year 2021 (Rossa 1999-2008):
Wish of a nurse for the year 2021

Since I will become 75 years old in the year 2021, I want to introduce myself to you:

*Please do not take away my identity:*

My name is Eva-Maria Hilfreich and that is how I want to be called.

Not grandma or Eva.

Also, I am not a circus member and therefore nobody should make fun of me.

Likely, I will not be able to express my own wishes anymore.

That is why I want to do that now.

Out of financial reasons I can not afford a single room.

*But my request is:*

Please provide me privacy during basic nursing in the morning,

so that I will not be visible to everybody.

I do not like to wash myself.

But I really like to take showers; daily.

Please, allow cold water for the end of my shower.

I have become accustomed to this since my childhood (that is why I seldom got a cold).

Please dry my body thoroughly, so that I will not get sore.

As long as I was working as a nurse for the elderly,

I have always paid attention to clean and short fingernails.

Would you please do that for me (also for your own protection, so I can not scratch you)?

In case I can not dress myself anymore, I would like you to help me with that.

I want to be dressed as nice as possible.

I like to wear skirts and blouses, but they should match each other.
Also, the jacket should harmonize in color (please, do not make a bird of paradise out of me).

Pantyhose without runs look neat.

My money will likely be enough to pay a hairdresser twice a month.

Oh, and foot care please, because my corns really hurt.

If I need to sit in the common area during the day, please can it be quiet sometimes.

The TV and radio do not have to be on for the whole day, do they?

If you give me a good book to read, for example “The Buddenbrocks,” could you please hand me my glasses then?

If I can not eat on my own anymore,

please chop the big pieces bite-sized for me.

But do not strain my meal, that looks pre-chewed.

I really would like to try eating by myself with a spoon, so you do not have to “feed” me.

The plate needs to have a higher edge

so that I do not have to scatter the meal all over the table.

You will be mad at me otherwise and I will not get a new table cloth.

Until now, I always drank a lot.

It is possible that I will not be able to feel thirst anymore.

Would you please be so friendly and give me two liters of tea each day?

My favored tea is herbal tea without sugar.

If I can not control my bladder and intestines anymore,

can you please still treat me as a normal person.

Could you try not to wrinkle your nose when you remove the blanket
and it does not smell good?

And when I call you, please do not let me wait too long

before you bring me to the bathroom.

I really like to go out sometimes, maybe to the opera?

It can also be a trip into nature during spring for instance.

Should I become senile, so that I can not understand your wishes anymore,

please do not shout at me.

That will make me even more aggressive and anxious.

Treat me with calmness and indulgence.

My world gets smaller and smaller by and by.

So, please let me take part in yours.

Tell me about your family,

or how your vacation was.

My wishes do not come to an end,

but they are easily fulfilled.

What I need

is a good meal,

human warmth,

and somebody

who takes care of me with love.

I gave you a lot to think about.

Maybe I can not do that later anymore

and you will need to do that for me.
Would you do that for me?
For all your efforts I already want to thank you today, maybe I am not able to do that later.

Eva-Maria Hilfreich

[German original (Rossa 1999-2008)]

Betreuungswunsch einer Altenpflegerin für das Jahr 2021
Da ich im Jahre 2021 stolze 75 Jahre sein werde, möchte ich mich bei Ihnen vorstellen:
Lassen Sie mir bitte meine Identität:
Ich heiße Eva-Maria Hilfreich und möchte auch so genannt werden.
Nicht Oma oder Eva.
Auch bin ich kein Zirkusmitglied und heiße Floh.
Wahrscheinlich werde ich dann nicht mehr in der Lage sein, meine Wünsche zu äußern.
Darum möchte ich es jetzt tun.
Aus finanziellen Gründen kann ich mir kein Einzelzimmer leisten,
aber meine Bitte:
Bei der morgendlichen Grundpflege stellen Sie doch bitte einen Sichtschutz auf,
damit ich nicht allen Blicken preisgegeben bin.
Ich wasche mich nicht so gern.
Dafür dusche ich aber um so lieber, und dies täglich.
Zum Abschluss bitte einmal ganz kalt.
Das bin ich von Kind auf so gewöhnt (daher selten erkältet).
Trocknen Sie mich bitte gut ab, damit ich nicht wund werde.
Solange ich noch als Altenpflegerin tätig war,
habe ich immer auf kurze und saubere Fingernägel Wert gelegt.
Würden Sie das bitte für mich übernehmen
(auch zu Ihrem eigenen Schutz, damit ich Sie nicht kratzen kann)?
Falls ich mich nicht mehr allein anziehen kann, hätte ich gern,
dass die Pflegerin mir dabei behilflich ist.
Ich möchte so nett wie möglich gekleidet sein.
Am liebsten trage ich Röcke und Blusen, sie sollen aber zueinander passen.
Auch die Jacke soll farblich harmonieren (bitte keinen bunten Paradiesvogel kleiden).
Strümpfe ohne Laufmaschen sehen dazu gepflegt aus.
Mein Bargeld reicht wahrscheinlich dazu, dass ich zweimal im Monat zum Friseur kann.
Ach ja, einmal Fußpflege bitte, denn die Hühneraugen tun so schrecklich weh.
Falls ich tags über im Gemeinschaftsraum sitzen muss, bitte, wäre es möglich,
dass hier zeitweise etwas Ruhe herrscht?
Der Fernseher oder das Radio müssen doch nicht den ganzen Tag laufen?
Wenn man mir ein gutes Buch zum Lesen gibt, z.B. Die Buddenbrocks,
reichen Sie mir dann auch meine Brille, bitte?
Sollte ich nicht mehr allein essen können,
zerkleinern Sie doch die großen Stücke für mich mundgerecht.
Nur nicht passieren, das sieht so vorgekaut aus.
Gern will ich versuchen, mit dem Löffel auch allein zu essen,
damit Sie mich nicht „füttern“ müssen.

Der Teller müsste wohl einen höheren Rand haben,
damit ich das Essen nicht über den ganzen Tisch jagen muss.

Sie sind sonst verärgert mit mir und ich bekomme keine frische Tischdecke.

Bisher habe ich immer viel getrunken.

Es kann sein, dass ich dann keinen Durst mehr empfinde.

Wären Sie dann so freundlich, mir ungefähr 2 Ltr. Tee über den Tag verteilt zu geben?

Am liebsten trinke ich Kräutertees ungezuckert.

Wenn ich Blase und Darm nicht mehr kontrollieren kann,
würden Sie mich dennoch als einen normalen Menschen behandeln?

Könnten Sie versuchen, die Nase nicht zu rümpfen,

wenn Sie die Bettdecke aufschlagen und es nicht so gut riecht?

Und wenn ich rufe, geht es, dass Sie mich nicht so lange warten lassen,

bis Sie mich zur Toilette bringen?

Ich würde gern auch mal ausgeführt werden,

vielleicht in die Oper?

Es darf auch ein Ausflug in den Frühling sein.

Sollte ich einmal senil werden,

Ihre Wünsche nicht verstehen können,

schimpfen Sie nicht mit mir.

Das macht mich nur noch unruhiger und aggressiver.

Behandeln Sie mich bitte mit Ruhe und Nachsicht.

Meine Welt wird zunehmend immer kleiner.
Darum lassen Sie mich doch an Ihrer ein klein wenig teilhaben.
Erzählen Sie mir doch etwas von Ihrer Familie,
oder wie Ihr Urlaub war.
Meine Wünsche nehmen kein Ende,
doch sind sie alle recht einfach zu erfüllen.
Was ich brauche,
ist ein gutes Essen,
menschliche Wärme
und jemand,
der mich liebevoll betreut und versorgt.
Ich habe Ihnen viel zum Nachdenken gegeben.
Vielleicht kann ich auch das später nicht mehr
und Sie müssten es für mich tun.
Würden Sie das für mich übernehmen?
Für alle Ihre Bemühungen möchte ich mich jetzt bei Ihnen bedanken,
vieelleicht kann ich auch das später nicht mehr.

Eva-Maria Hilfreich
References


2 Research

2.1 Literature Review

Introduction

For the following literature review I chose four sources which focus on the problems of today’s nursing homes. Two of the sources are field reports from people who actually worked in nursing homes themselves, like me. Another source conducted a study about the nurses’ work activities in a nursing home and the fourth source focuses on the architectural differences between nursing homes and assisted living facilities. By introducing those four sources I want to emphasize that there needs to be a change in the way we design nursing homes today.

Review

Guy Seaton has worked in the nursing home business (in the USA) for over 30 years as a caregiver, an inspector, a manager and an owner. In his book “The Crisis In America’s Nursing Homes – What Are We Doing Wrong?” he “offer[s his] own experience as the private owner of a nursing home to illustrate how the state is failing both the carers and the cared for.” (Seaton 2002, 13)

He gives a description on how he experienced life and work in nursing homes. For example he states that “most nursing homes have become no more than prisons for old
people. Places to send our sick and dying so that they will be out of the way until their lives come to an end. […] The elderly may be weak, sick and even confused or demented, but they are individual human beings, with feelings, desires and needs. They deserve to be treated as honored members of our society. Instead, many find themselves living in tiny rooms, sharing their space with a roommate and surrounded by alien possessions instead of their own cherished belongings. They are often left in bed for between twelve and 16 hours a day, because there are not enough evening and night shift nurses to care for them in a more active setting, and because it is easier for nursing staff to look after the bedridden. […] Night nurses routinely provide residents with a double layer of underpads and diapers so that they will not have to assist them in the washroom, making it necessary for the elderly people to soil themselves.” (Seaton 2002, 9-10)

For him, the answer to the question why things changed for the worse is money. “We need money to pay nurses, rent, mortgages, equipment, bank-loans and more, and obtaining the proper reimbursement for expenses is an uphill battle.” (Seaton 2002, 10) Seaton states that “the major factor contributing to the scandalous condition of nursing homes today is the level of staffing.” (Seaton 2002, 11) This of course is a result of a lack of financial resources.

After describing the problems in today’s nursing homes and exploring the reasons, Seaton offers some suggestions on how one can make the best out of the existing situation. “As I think I’ve made abundantly clear, nursing home care in American today is far from ideal – but there are ways of making the service you receive as good as it can possibly be.” (Seaton 2002, 173) Further, Seaton gives hint on how to choose the best nursing home for one’s parents. “Many state authorities, and the Medicare program, have
published information on how to choose a nursing home.” (Seaton 2002, 173) He also provides checklists which shall help make a decision in the nursing home choosing process.

For me this book was very important because I wanted to get an image of the situation in nursing homes in countries different from Germany where I made my experiences. Reading this book, I had the feeling of knowing exactly what Guy Seaton is talking about. My conclusion is that in American nursing homes there seem to be similar problems as in the German ones.

Like the author mentioned above, Markus Breitscheidel has worked in a nursing home. In contrast to the first source in his book “Abgezockt und totgepflegt. Alltag in deutschen Pflegeheimen.” [Translation: Ripped Off and Nursed to Death. Daily Life in German Nursing Homes.] Markus Breitscheidel shows us how he experienced the situation in German nursing homes. At the beginning he tells his story (Breitscheidel 2007, 11-14). He used to be a successful manager before he became a nurses’ aide. His motto used to be: Achieve the sales target and reduce the costs! But since that led to the point where he had to fire employees, which he hated, he began thinking about jobs, where the focus was not on financial statements but human beings. He decided to quit his job as manager with a new goal; he wanted to work undercover in different nursing homes and then report about the experiences he had. The final result of this undercover research is the book “Abgezockt und totgepflegt”.
In this work, Breitscheidel shows the immense problems in nursing homes in Germany. To illustrate this point, I have translated two dialogues from Breitscheidel’s work experience in his first nursing home in Munich.

“[During orientation] „Ob ich das wohl jemals so schnell hinbekomme?“, frage ich ihn auf dem Weg ins nächste Zimmer. „Wenn du weiter nur Fragen stellst, wahrscheinlich nie. Ich rate dir, so schnell wie möglich zu arbeiten, sonst bist du garantiert nicht lange bei uns! Wir werden hier fürs Arbeiten bezahlt und nicht fürs Reden!“ […] Nachmittags verlasse ich völlig ausgelaugt die Station. Ich habe nicht eine einzige Bewohnerin mit Namen kennengelernt. Eigentlich erinnere ich mich nur an die Zimmernummern.“ [Translation: “Will I ever be able to work as fast as you?” That is what I ask him on our way to the next resident room. “If you keep asking so many questions probably not. I suggest you work as fast as possible; otherwise I can guarantee you that you are not going to work here very long! We are paid for working and not for talking!” […] In the afternoon I leave the ward. I did not get to know a single resident by name. Actually I only remember room numbers.] (Breitscheidel 2007, 25)

eine bestimmte Zeit zur Verfügung, und wenn du sie bei einem überschreitest, fehlt sie beim andern. Sieh zu, dass du alle gewaschen und angezogen kriegst. Ist dann noch Zeit übrig, kannst du auf besondere Wünsche eingehen.“ Ich: „Sie meinen, auf Toilette gehen oder trinken zu wollen ist etwas Besonderes?“ Sie: „Hör auf zu denken. Du musst dein Pensum erfüllen. Wenn du’s nicht schaffst, müssen die Kollegen deine Arbeit machen. Es geht hier um deinen Arbeitsplatz und deine Integration ins Team. Also versuch mitzuhalten, oder du gehst.““ [Translation: Helga asks me for a private conversation. “I observed you. You are loosing too much time. You want to satisfy every resident’s wish. That is not possible and not part of our work tasks. Your task is to wash the resident and get him/her dressed.” I ask: “And if someone wants to go to the bathroom or wants to drink something? What am I supposed to say then?” She says: “That you don’t have time because you have to care for another resident.” I ask: “Isn’t that disrespectful?” She says: “No, you have to care for twelve residents and need to form a habit of seeing the whole thing. You only have a certain amount of time for each resident and if you waste this time with one resident than it is lacking with another resident. Just make sure that you wash and dress the residents. If there is still time left after doing that, then you can accomplish special wishes.” I ask: “You mean, going to the bathroom or drinking something are special wishes?” She says: “Stop thinking. You need to fulfill your workload. If you are unable to do so, your colleagues will have to do your work. It is about your employment and integration in the team. So, try to keep up with us or you will leave.”] (Breitscheidel 2007, 28-29)
Reading this book was very shocking. The situation in most of the nursing homes Markus Breitscheidel was working in were actually a lot worse than the situation at the nursing home where I used to work. This book shows clearly that time is one of the most important things nurses do not have enough of in their job.

In contrast to the above mentioned authors Bernd Schnieder does or did not work in a nursing home himself. In his book entitled “Zur Raum- und Ausstattungsplanung von Altenpflege- und Altenkrankenheimen.” he conducted a study at four different nursing homes concerning the nurses’ work. Bernd Schnieder observed the nurses at work and did time studies. He was interested in the duration of different work tasks and in general, what types of tasks nurses perform in which parts of nursing homes. During his observations, he also made notes about spatial circumstances that make the nurses’ work more difficult. Schnieder found out that the personnel spent most of their work time in residents’ private rooms, namely 42.2%. A lot of time was also spent in the nurses’ station (14.1%) and the tea kitchen (10.2%). Other areas where the nurses spent time were bathrooms (8.0%), circulation areas (7.9%), break rooms (7.2%), residents’ common areas (2.9%) and utility and work rooms with 2.3%. (Schnieder 1980, A 80)

Schnieder noted that in one of the nursing homes, the missing break room for the nurses resulted in the use of residents’ common areas and the nurses’ station for private purposes by the nurses. He also found out that the proximity of restrooms to resident rooms influences the time spent in those areas. Because of the provision of a lot of
resident bathrooms in one of the nursing homes the time spent there by the nurse was ten
times higher than in the other nursing homes (Schnieder 1980, A 86).

Primary problems that hindered the work of the nurses were noted as follows:
long walkways, confusing spatial organization, bad location of storage areas, missing
nurses’ restroom and changing room, missing trash room, slippery floors, no night
lighting, small resident and therapeutic bathrooms, and small and few bathrooms for
residents. (Schnieder 1980, A 102)

Schnieder’s research gives a good background on the nurses’ work and helps
understand where building problems concerning the nurses’ work are. It shows that there
are many problems that can be avoided when designing a new building. This will
hopefully make the nurses work easier and less controlled by time.

The authors Benyamin Schwarz and Ruth Brent contrast nursing homes with
assisted living facilities in the article “The Architectural Metamorphosis of Long-Term
Care Settings”. In the following statement, the authors compare nursing homes to
hospitals: “The interior mirrors that of a patient-care floor in a general hospital. It is
neither charming nor functional. […] The corridors are often crowded with carts of clean
and soiled laundry and medications. […] Shoved in the middle of each unit is a
ubiquitous hospital nursing station with an unfriendly, high desk.” (Schwarz and Brent
2001, 257-258)
Schwarz and Brent are contrasting nursing homes with new models of supportive housing and services, especially assisted living. They believe that an assisted living unit “can be generally distinguished from the ordinary nursing home environment by the following: building scale and overall exterior appearance; clustering of the dwelling units; circulation patterns and spatial hierarchy; features of resident dwelling units; and finishes and surface materials of interiors.” (Schwarz and Brent 2001, 259) In general they state that assisted living units are humanly scaled and homier in feel, which a nursing home is not. Their main point is that even though both nursing homes and assisted living units provide supportive services and assistance to frail elderly there are huge differences in their appearance. For them the only difference between assisted living and nursing homes is the care setting which makes them plead for a substitution of assisted living facilities for nursing homes. This can be seen in the following statement: “The basic approach to care is the same in both circumstances. The difference is revealed in the setting in which the care is provided.” (Schwarz and Brent 2001, 266)

For me the idea of looking at existing assisted living facilities for getting inspiration for a better nursing home design is good, but I do not agree with the statement that the only difference between those two settings is the setting and therefore nursing homes could simply be exchanged with assisted living facilities. A nursing home provides a higher level of care, which some residents need. That is why I think that both types of housing for the elderly are needed. I do, however, believe that the appearance of the nursing homes needs drastic change.
Conclusion

This literature review clearly shows that the problems in nursing homes are not only apparent in one country. They are universal to countries where nursing homes are common. They show that the today’s nursing home is not an environment where people want to spend the last years of their life.

General problems include the building design but also overworked, underpaid staff, which leads to the comparability of care giving in a nursing home to assembly line work. Residents become room numbers instead of human beings. Time seams to be a very important factor in all this. That is why I want to optimize the architectural structure of the nursing home so that the nurses can work more effectively without wasting time and residents become human beings again.

References


2.2 Movie Analysis

Introduction

A second part of my research and analysis was to look at how the nursing home is represented in media, in particular through movies. I have therefore analyzed three different movies where the nursing home plays an important role in the form and context of the film. The three movies are “Assisted Living” (2003), Away From Her” (2006) and “The Notebook” (2004).

Analysis

“Assisted Living” is a movie from 2003 shot by Elliot Greenebaum. The interest in this movie is that the setting is an actual nursing home in Louisville, Kentucky and that most of the residents shown in the movie are actual residents of that nursing home. This, in combination with the fictional story and a documentary style, make the movie very realistic.

The storyline is that a nursing home janitor who doesn’t take his job seriously (figure 2.1) gets to know one of the residents better. When she mistakes him for her son because of her dementia, he actually starts caring for her and sees his job from a different perspective.
Besides the disturbance during the service you can also see that Todd (the janitor) doesn’t take his job seriously due to the fact that he comes late to work all the time, washes his clothes in the nursing home’s washing machine, and plays around with the wheelchairs. The nursing home itself has a very similar outside appearance to the nursing homes I visited in Indiana (figure 2.2). In the interior, the nursing homes dining area is a very large room where all residents of the nursing home gather (figure 2.3). I have also seen this scale dining room in nursing homes like Castleton, Indianapolis. The decoration in that room is nice, but with so many residents dining together, the atmosphere is impersonal and there are acoustic problems.
The film shows a division between assisted living on the first floor and extended care on the second floor which seems to be quite common in American nursing homes. This feature was also noticed in the other movies. In Castleton, Indianapolis, the first floor of the building was for rehabilitation residents and the second floor for extended care. Residents of the assisted living unit were accommodated for, in a different building on the site. I will explain later on the difference between the two floors of assisted living and/or rehabilitation and extended care.

The janitor, who is the main character in the film, smokes pot, even during his work time, and the administrator drinks hard alcohol during work hours. This suggests that both have a problem dealing with the situation in the nursing home. They try to deal with the situation by taking drugs (figure 2.4). The administrator also seems to be very busy all the time. But he is not doing much for the nursing home. He talks to his family on the phone, reads the newspaper, feeds his fish and drinks alcohol. One feels as if he wants to escape the nursing home environment and does so through these activities.
The nurse Nancy (figure 2.5) really tries to be nice to the residents all the time but she doesn’t seem to be able to deal with Mrs. Pearlman’s progressing Alzheimer’s. In one scene she just repeats several times that her phone cannot be used for outside calls, instead of assisting Mrs. Pearlman who wants to contact her son. That is also the reason why Mrs. Pearlman is sent away from the assisted living unit to the extended care upstairs.

Nancy also does not seem to have a lot of fun at her work. She has to force herself to say things that she does not truly mean. For instance, after she invites residents to play Bingo, Nancy remarks: “Bingo in the other room. […] Fun, fun!” It sounds as if she has
to force herself to say that since she doesn’t really think that playing Bingo is fun. Also, Nancy’s child runs around in the nursing home all the time, which is something I have actually experienced myself during a nursing home visit. The interaction with children lets the residents feel less deported. Activities in the assisted living part of the nursing home include bingo, gymnastics in front of a TV, playing with dogs and cats (figure 2.6), billiards, TV, games and puzzles, playing and listening to piano and attending religious services.

Finally, I want to compare the first and second floor of the nursing home illustrated in this film with each other. On the first floor Mrs. Pearlman’s single room looks really nice. It is personally decorated, she brought her own furniture (including a bed) and she even has her own bathroom which includes a private shower (figure 2.7).
Later in the movie, Todd goes upstairs to the extended care unit and is shocked by its appearance. In the movie, the light is used dramatically to highlight the differences. There is a huge contrast between the daylight from the windows and the darkness inside of the rooms due to the lack of windows and closed blinds for instance. Also, on the second floor, Mrs. Pearlman has to share a room the same size as her single room downstairs with another person. The whole room is not decorated as nicely and she is lying in a hospital bed. The statement of the nursing home priest “I am more concerned of the hell before death.” fits quite well into this scene.
As a conclusion I have to say that a lot of things shown in the movie were actually similar to things I have seen especially in the American nursing homes that I visited. This suggests that the movie has a very realistic point of view on the American nursing homes.

The movie “Away From Her” from the year 2006 was shot by Sarah Polley and plays in Canada. It begins with an elderly couple coping with the woman’s diagnosis of Alzheimer’s. Fiona decides she wants to go into a nursing home and her husband of fifty years is distraught with this. In the nursing home, she makes a new friend and since her husband is not allowed to visit her as she adjusts to this new environment, she starts to see that new friend as more important than her husband. This makes her husband jealous but at the end he realizes that this friendship is very important for his wife and that he just wants her to be happy.

During the first visit of the nursing home, the supervisor shows the husband around and puts emphasis on the natural light in the building and the many possibilities for social interaction. The description sounds very positive and reassuring.

Figure 2.11 Hallway with a lot of natural light on the first floor
Even though the hallway is well illuminated by daylight it still looks sterile and institutional. There are no benches to sit on, no flowers along the window sills, or places to stay and enjoy the view to the outdoors (figure 2.11). That is different in the common areas. Here you can see many more decorations like floral curtains and plants (figure 2.12).

![Figure 2.12 The common area](image)

Also the room where Fiona moves in at the beginning of the movie looks very nice. There are a lot of pillows on the bed and the blanket has a flower print on it. The curtains also match this print and there are many pictures and even a sitting area by the window. It looks like a well appointed hotel room (figure 2.13).

![Figure 2.13 Her homey room at the first floor](image)
In contrast to this is the second floor where she is moved later on in the movie. As in the first movie discussed (Assisted Living), the extended care is on the upper floor. It looks very different from the assisted living unit on the first floor. Even the music in the movie underlines this difference.

The hall in the extended care unit is simultaneously used as a lounge, but the furniture does not even fit together and the walls are bare with no windows in it. This makes the hallway very dark. The visibility of the masonry and its grout joints make it look and feel like a basement (figure 2.14). The same can be seen when she enters her new room in the second floor. There is a hospital bed with bare white sheets and only one pillow and no photos or pictures on the walls. The room looks like a hospital room (figure 2.15).
Finally, this nursing home has a policy about visits as was revealed in the film. The first 30 days after the new resident moves into the facility the resident is not allowed to have any contact from outside. No visitors (friends, family) are allowed and no calls can be made or received. The supervisor explains that this makes it easier for the resident to settle in, but the nurse has another opinion: “I think the policy makes it easier for the staff.” I think that both standpoints are true to a certain extend.

On the whole I can say that the first floor of this nursing home looked a lot like the German nursing homes that I visited. Again there is the typical division between assisted living and extended care. Like the first movie I think that this one is quite realistic, except for the fact that the nurses seem to have a lot of time on their hands. One nurse is seen in the movie reading a book to one of the residents. But this movie is still more realistic than the third movie.

The last movie I will discuss is “The Notebook” by Nick Cassavetes, from 2004. This movie takes place in a nursing home in southern USA. It is about a woman who has dementia. She is in a nursing home and her husband reads to her every day the story about how they met with the hope that she will remember that it is her and him in the story and not a fictional couple.

The outside of the nursing home looks very quaint and personal, like the old plantations of the South. This suggests that it is a small, private nursing home for those that can afford to pay for such amenities (figure 2.16).
This assumption of being a more costly, private nursing home is supported when the inside of the facility is shown. There are very nice sitting areas with expensive, decorative furniture, and a lot of flowers, tiled floors, fretted window panes and hanging plants (figure 2.17). The common room offers tables with table clothes, pictures along the wall and a piano (figure 2.18).

A big contrast to the welcoming outside and cozy interiors is the appearance of the hallways and nurses’ station inside the building. They look like one is in a hospital, without any decoration, colored in a cool blue, and furnished with simple folding chairs for seating options (figure 2.19 and 2.20).
The fully equipped doctor’s room (figure 2.21) again suggests that this nursing home has a lot of money and therefore might be for residents who can spend a lot of money on their room in the nursing home.

The outside also looks very nice and very decorative furniture is provided to sit outside (figure 2.22). But the lake area with the pier is not at all secured which makes it possible that a resident trips and then falls into the water (figure 2.23). This makes the whole context less believable as a nursing home.
Another event where there is a more fictional account portrayed with a lack of security is when the couple is in Duke’s room and they are having candles burning (figure 2.24). Since there is no nurse around watching them, it suggests that this part of the building is in an assisted living area. There residents live more independently since they only need a small amount of care.

Since rooms in nursing homes are not equipped with kitchens, the kitchen in his room underlines the location of his room in the assisted living unit of the building (figure 2.25).
Again, later in the movie Allie is placed in another area of the building which looks more like a hospital. It does not contain any homey features. It suggests that this is the extended care unit of the building.

The hall in the extended care wing looks very dark and the blinds in front of the window make it even look like a prison. Also, one of the residents in a wheelchair sits in the corner with his view to the wall (figure 2.26). It suggests that the nurse did not pay attention on how she placed him in the room. Her new room itself looks very simple, efficient and unadorned.
Overall I think that this movie does not show the typical nursing home. Most of the nursing homes do not have much money and can therefore not afford such interior furnishings. There are of course nursing homes like this, but it does not represent the majority. Also the huge contrast between the corridors and the rooms in the building makes it look like two different buildings were used for the filming. I got the feeling that the corridors are not in the same building as the nice common areas shown. This is the main factor for me why this movie does not show a very realistic view of a nursing home, but the contrast between the two floors was revealing and an important aspect of facility design and planning to consider.

**Comparison**

After looking at each of the movies separately I want to compare them with each other. In order to do that, I took a guide from the Miller’s Merry Manor homepage which is supposed to help prospective residents of a nursing home decide whether they should chose this nursing home or not (Miller’s Health Systems 2009) and answered the questions which I was able to answer from watching the movie for each of the nursing homes. I put the results in the chart below.

<table>
<thead>
<tr>
<th></th>
<th>Assisted Living</th>
<th>Away From Her</th>
<th>The Notebook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the atmosphere friendly and pleasant?</td>
<td>first floor looks ok; second floor (extended care) is very dark</td>
<td>first floor looks nice, almost hotel-like; second floor is dark, motley furniture</td>
<td>common areas and outdoor areas very nice and homey; halls look institutional</td>
</tr>
<tr>
<td>Are there attractive lounges available?</td>
<td>yes, TV room, activity rooms, bingo room</td>
<td>first floor yes, nice lounges to gather; second floor no, seating in hallway</td>
<td>yes, different lounges available, look very homey and are equipped with expensive, decorative furniture</td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
<td>Details</td>
<td>Comments</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Are there safe, comfortable outside recreation areas for resident use?</td>
<td>outside areas available, but do not seem secured, residents need to be escorted when going outside</td>
<td>not shown in movie</td>
<td>very nice outside area with seating available, doesn’t seem that safety is considered</td>
</tr>
<tr>
<td>Is the staff courteous and respectful to the residents?</td>
<td>yes</td>
<td>yes, nurse reads to resident</td>
<td>nurses try to be courteous, but are not always, sometimes show impatience</td>
</tr>
<tr>
<td>Are the nurses friendly with other staff members and residents?</td>
<td>yes</td>
<td>yes, always smile, low voice, calm</td>
<td>neutral behavior</td>
</tr>
<tr>
<td>Do residents appear to be happy?</td>
<td>first floor yes, take part in activities and seem happy; second floor no</td>
<td>first floor yes, play cards with each other, enjoy watching TV together; second floor no</td>
<td>Yes</td>
</tr>
<tr>
<td>May family and friends visit at any time?</td>
<td>not shown in movie</td>
<td>first 30 days no visits at all allowed, after that yes</td>
<td>family visits, not revealed if possible at any time</td>
</tr>
<tr>
<td>May resident rooms be furnished with personal belongings?</td>
<td>first floor yes, everything seems very personal, own bed; second floor no, institutional feeling, hospital bed</td>
<td>doesn’t seem so, when she moves in room is already completely decorated, like in a hotel</td>
<td>shown with furnishings, but not necessarily of a personal nature</td>
</tr>
<tr>
<td>Are there activities available for residents?</td>
<td>yes, TV, bingo, billiard, games and puzzles, piano, dog</td>
<td>yes, supervisor talks about sports and arts programs</td>
<td>yes, piano, outdoor relaxation</td>
</tr>
<tr>
<td>Is the dining room clean and pleasant in appearance?</td>
<td>clean yes, but very big and impersonal</td>
<td>yes, small tables for privacy, nice decoration</td>
<td>yes, flowers on tables, nice furniture</td>
</tr>
<tr>
<td>Are therapy programs available?</td>
<td>not shown in movie</td>
<td>yes, her new friend has one</td>
<td>not shown in movie</td>
</tr>
<tr>
<td>Will they assist with physicians and other medical needs?</td>
<td>not shown in movie</td>
<td>not shown in movie</td>
<td>yes, doctor in house</td>
</tr>
<tr>
<td>Is there a beautician or barber available in the center?</td>
<td>yes</td>
<td>not shown in movie</td>
<td>not shown in movie</td>
</tr>
</tbody>
</table>

Figure 2.28 Movie comparison

A common factor among the nursing homes in the three different movies was the division between assisted living and extended care. If the dementia of the resident
progresses to a point where extended care is needed, the resident is moved up to the second floor of the building. This area does not look as personalized as the assisted living unit the resident came from before. This seems to be a very realistic aspect within actual American nursing homes since “[q]uite often, residents with severe disabilities are housed on higher floors of multi-story nursing homes. Mental and functional deterioration are marked by moving affected residents upstairs or downstairs. Such relocation can have a severe symbolic, as well as realistic, effect on the resident.” (Schwarz 1996) That same distinction between resident’s care and floor level and furnishings is not as demarcated in German nursing homes.

In general I can conclude that the most accurate portrayal of the facility and its staff and residents is “Assisted Living”. This may be the result of shooting the film in a real nursing home with real residents.

Most commonly these films depict a place where people do not want to live. This is especially true for the extended care units where residents seem to be moved after only a short period of time. These mediated images of nursing homes affect peoples’ perception about nursing homes in today’s world. Nobody wants to go there; people do not even want to talk about them, which is why I could not find that many well known movies about nursing homes or with a nursing home as the main setting. This underscores why it is so important to look at the problems in the nursing homes. Otherwise we will be less likely to make the nursing home a better living environment.
References

Movies:


Polley, Sarah. 2006. *Away From Her*. Canada: The Film Farm.

Other sources:


2.3 Field Study

Methodology

Through the cooperation with the Ball State University nursing department, I have had the opportunity to work with the Miller’s Health System, which operates a chain of nursing homes in Indiana. I chose three nursing homes close to Muncie to compare to each other and help develop design principles or “patterns” in the facility design and planning. I visited each nursing home. I took a building tour, handed out a survey to be returned anonymously by the nurses, and took pictures of “traces” of use within the building. Also, I annotated the floor plans of the nursing homes in Chesterfield and Middletown and analyzed each according to their efficiency for the nurses’ work. I applied the same strategies in Germany. I chose five nursing homes, including the nursing home where I used to work, visited and analyzed them.

When I am talking about the nurses in this study I am referring to the complete care giving staff, which includes registered nurses, nurses’ aides, like me and also nursing students.

The main methods used for my field study where surveys, cognitive mapping, plan annotations, and a picture analysis. I will explain those in order to show why they were important for my research.
First I was doing a plan analysis and annotations of each building that I visited during my research. I did that “to understand places and buildings” (Zeisel 2006, 327) and get an idea of what might disturb the nurses’ workflow. “Annotation simply means writing observations, comments, and hypotheses directly on architectural plans.” (Zeisel 2006, 330)

Another way of finding out advantages and disadvantages of the different visited nursing homes was to take pictures of “physical traces” (Zeisel 2006, 168) during my visit and analyze them later on. This technique helped me answer questions like “How do environments create opportunities for people?, How do people change environments to meet their needs?, and What takes place in particular settings?” (Zeisel 2006, 169)

According to John Zeisel I put the pictures which I took into four main categories. “By products of use reflect what people do in settings”, “adaptations for use are changes that users make”, “displays of self are changes people make to establish some place as their own”, and “public messages” are left “to communicate with a large public audience”. (Zeisel 2006, 170)

Another method used was doing a survey which was completely anonymous. Generally, “standardized questionnaires are used to discover regularities among groups of people by comparing answers to the same set of questions asked of a large number of people.” (Zeisel 2006, 257) I developed a questionnaire (chapter 4.1) and handed it to the administration in each nursing home. They distributed them to the nurses and later sent them back to me.

Cognitive mapping was part of my questionnaire. Zeisel defines cognitive maps as “mental pictures of their surroundings that are used to structure the way they look at,
react to, and act in their environment.” I wanted each nurse to draw a cognitive map of their work environment. These drawings helped me see what was important in the daily routine of the nurses.

Stephanus-Seniorenzentrum Am Weißen See

First I am going to describe and analyze the Stephanus-Seniorenzentrum Am Weißen See, which is the nursing home where I worked for three years. In order to show what a shift in a nursing home is like, I include a report about my work experience. This report is completely fictional and similarities of names and story line are coincidental.

A Normal Day in a Nursing Home (Peltz 2007)

It is 5.00 am. My alarm clock rings. Time to get up. Very slowly I get out of bed and take a shower. There is enough time left to have a quick breakfast. I need to get breakfast because I will most likely not be able to eat something else before 10.00 am. At 6.00 am I leave the house and start walking to the tram station. The tram is never on time. But I planned enough time to be punctual anyway.

At 6.20 am I arrive at the nursing home, go upstairs to my ward and say hello to the nurse who already started her shift at 6.00 am. She had to take over from the night shift. I go to dress myself for work and I am back at the nurses’ station at 6.30. I am always punctual. I hate being late. Two other nurses arrive shortly after me and our team for the morning is complete.

First of all, we sit down in the nurses’ station, drink coffee (I do not like this coffee, it is far too strong) and talk about the plan for the day. Carla (the 6 o’clock nurse)
tells us what happened during the night. Just the normal stuff. Mrs. Müller was ringing the alarm bell every five minutes because she could not sleep and Mr. Meier woke up his neighbor because he took his neighbor’s room as his own. Afterwards we make up teams. Two of us will be working together in one wing of the building and are responsible for 16 residents.

We are lucky because no one is disturbing us. Normally there are residents who are ringing the bell before 7.00 am because they want to get up or need to go to the bathroom. Monique and I choose to work in the west wing, which is where I typically work. There we have to decide who “takes” which rooms. Then we are ready to start. It is around 7.00 am and Mr. Schulz is already ringing. He is the first person I am going to. I help him with washing. He can do the rest by himself. Afterwards, I go to Mrs. Krause and Mrs. Klein. They are waking up very early, so I do not disturb them in their sleep. I help Mrs. Krause first. Everything must be done with her exactly the same way every day. The soap has to lay at the sink in a certain way. This is already straining my nerves. But I need to stay calm. She always notes if someone is stressed. That makes her feel bad. Mrs. Klein is very easy to handle. I have to do everything for her but she is always friendly. I recognize that there is no more toilet tissue. I need to climb over Mrs. Klein’s wheelchair to get out of the bathroom. X!Z!Y, another bruise! It takes me 5 minutes to get the new toilet tissue because the room where this is located is at the other side of the building. I finish dressing Mrs. Klein and her into the kitchen. There, Johanna is preparing the breakfast. She is responsible for the meals and for cleaning. I need to interrupt Mr. Mann who is already eating breakfast because otherwise I am unable to put Mrs. Klein’s wheelchair at her eating place. Afterwards I make my way to the next
resident. During washing her, the bell rings. Nobody is going there and turning the bell off. But I cannot leave Mrs. Fischer alone in the bathroom. The other resident needs to wait.

At 9.45 am I bring the last resident I am responsible for into the kitchen. I go to Monique and ask her if she needs help. She does. Mrs. Gross is not willing to get up and wash herself. I try to convince her. I am not able to get her to go to the bathroom. But it is her choice. The last resident is bed-ridden and needs the help of both of us. That is the last resident to be taken care of before our break. I go around seeing if every room looks good. Is the bed made? Are the trash cans empty? Then I need to bring the residents out of the kitchen into the common area on the corridor or into their room. It is their choice. Some need to go to the bathroom.

But then I am ready for my own breakfast. It is 10.30 am. We are running late today. Since it is Saturday we are staying at our ward for breakfast. We all sit down in one of the kitchens and rest for half an hour. But in between, the bell rings several times. Residents need to go to the bathroom. One of us needs to get up and help them. After the break, we need to hurry up. Lunch will be delivered at 11.30 am. The kitchen has to be prepared and the residents need to get their juice.

The first nurse has quitting time. But the intern will arrive at 12.00 noon and help us. He is doing a shift called in-between-shift. He will stay until 7.00 pm.

Now, the meal is delivered from the big kitchen downstairs and we have to bring the residents back into the kitchen. Johanna is serving the meal and Monique and I need to help some of the residents with their meal. When the first residents are finished with their meal we ask them what they want to eat tomorrow and if they want to take a nap. Most of
the residents want to. So we need to help these residents to go to the bathroom and then to bed. We are lucky. Some days there is no one in the kitchen. Then we also need to do Johanna’s work.

When everyone is in bed we all meet in the nurse’s station. Our shift is not over yet. We all need to make written documentation of the day’s events. These are required. Some of the residents are ringing. They can not sleep or need to go to the bathroom again. Then, Monique leaves us. At around 1.30pm we start to wake up the residents, who are taking a nap, for coffee and cake. Some need to go to the bathroom again. After that, the residents will meet in the common area again or go into their room. I need to clear the table and fill the dishwasher. Johanna’s shift is already over. Then I go back to the nurse’s station. Christine will arrive in a few minutes for the late shift. I need to tell her what has gone on today. Then, at 3.00 pm my shift is over. I feel totally drained. And this was one of the good days. Some days are even more exhausting. I go home and fall on my sofa. I need a break!

Then I start to do my work for university. And tomorrow I will even need to get up earlier than today because my tram is not coming that often on Sundays.

The building I used to work in is the Stephanus-Seniorenzentrum Am Weißen See in Berlin, which belongs to a complex of buildings that accommodate homes for disabled children and adults and elderly people. It is situated in the northern part of Berlin, five walking minutes away from a small lake.
The nursing home has four main floors and one attic floor. On the first floor the following places are located: a restaurant with kitchen, offices, two therapy rooms, a hairdresser, and utility rooms. The fitter and more physically abled residents get their lunch at the restaurant, which also delivers food to the wards. On the second, third and fourth floor, the wards where the residents live are located. The attic floor contains storage space, a small laundry, a doctor’s room, and changing rooms for the nurses.

**Building Plan Analysis**

In the building plan analysis, I focused on the floor of the nursing home where I was working since all floors containing resident rooms look identical. I started with a diagram to indicate different levels of privacy found on the ward (figure 2.31). I divided the floor into rooms used by residents (yellow to red) and rooms only used by staff.
(blue). It is clearly visible that both wings of the floor plan are similar. In each wing all levels of privacy from most public to most private, can be found. Looking at the diagram, it is clear that both wings could function almost separately. But there are some spaces that are shared, like the nurses’ station, the therapeutic bath, the nurses’ restroom and the seating area for residents. In my experience, having a nurses’ restroom and the therapeutic bath in one wing only results in long walkways and a lot of wasted time and energy by the nursing staff.

From my annotations (figure 2.33) it is also clear that there are private and less private residential rooms. For a new resident there is a choice between a double or a single bed room. The most public area on the floor is the entrance area where the nurses’ station is located. The seating area directly next to this entrance is not used very often. This is most likely because of its high degree of publicness and feeling of constant supervision.

The nurses station itself has two different levels of privacy because of the ability to look into parts of the station from the outside. But there is no real private space, like a separate break room, which I would have liked to be able to relax more during the break. Another thing is that it can be seen that the storage areas (light blue) are spread all over the building plan. Each wing has the same amount of storage space and in my opinion this system could really work well if it was used as intended because it would save a lot of time not having to run to the central storage location all the time. But since each storage room is used to store different things, a problem a lot worse than with a traditional central location of all storage areas was created. The results are very long walkways and confusion of new nursing staff.
The second diagram (figure 2.32) shows the nurses’ station in relationship to the hallways. It has a very central location and since it is located at the entrance, it also serves as a reception for visitors. The problem that I see with this location is that first of all, even with the nurses’ station in the middle, the hallways to each side are very long. Secondly, there is no visibility from the nurses’ station into the wings. The only thing that can be seen is the entrance area.

In the third diagram (figure 2.33) I collected pros and cons of the floor plan and the way it is currently used. These pros and cons only reflect my personal opinion according to my experience and are not meant to be easily generalized. I think the floor plan shows some good aspects of facility planning, like the storage room location (if used the way it was intended), the choice between single or double bed room, and the design of the private corridors in front of the single rooms with a full bathroom (including a shower) shared by only two residents. Cons include long hallways and a lack of a break room.

It should be noted that the following building plan diagrams are drawn from my memory and therefore are not to scale, but simply show the relationship of rooms.
Figure 2.31 Different levels of publicness and privateness in Berlin
Figure 2.32 Relationship of nurses’ station to hallways in Berlin
Figure 2.33 (next page) Plan annotations for Berlin
I also visited the nursing home in Berlin (Stephanus-Seniorenzentrum) and took pictures of the building. I was especially looking for trace measures as a way to understand how the building was actually used by residents and staff. The following types of trace measures have been identified by the author as effective aspects of an observational research method to study (Zeisel 2006, 170).

By Products of Use (Erosions, Leftovers and Missing Traces)

Adaptations for Use (Connections, Props and Separations)

Displays of Self (Group Membership, Identification and Personalization)

Public Messages (Illegitimate, Official and Unofficial)

In Berlin it is visible that there are many adaptations for use using connections. Especially I am talking about seating areas which serve as connecting areas for the residents (figure 2.34-2.36). Leftovers, in this case pillows (figure 2.34-2.35), suggest that these seating areas are actually used a lot and are therefore very successful.
I also found a lot of displays of self through personalization, like pictures on walls, name plates at the doors to the resident rooms, and photos of residents at various events (figure 2.37-2.39).
In Berlin there are also a lot of public messages. Some, like plates identifying the wards and special rooms, help in wayfinding and some serve as general information, like plates showing the actual date figure 2.40-2.41).

Survey Results

In order to find out how the other nurses working in the Stephanus-Seniorenzentrum Am Weißen See rate their building and where they think problems occur, I handed out a survey which was returned to me anonymously. The same survey was also used in the American nursing home analysis. I was provided with 6 completed questionnaires.

All of the six nurses completing the survey felt that the nurses’ station was located well within the building because of its central position. Some suggested however, that it could be a little bigger.

The nurses had concerns about the storage areas and their location within the building. 50% criticized that walkways to storage rooms were too long and one nurse
added that it bothers her that the soiled utility room is located right across the dining area. Another problem with the storage areas seems to be the amount of provided space. 83.3% of the nurses thought that more space was needed, especially for unused wheelchairs, diapers, and utility carts. The majority also thought that they have to do a lot of unnecessary walking during their shift. The interior configuration of the bathrooms was also criticized. The nurses were not in complete agreement if another building shape could minimize walkways better than just a relocation of rooms.

Finally the majority of the nurses thought that the building was not designed well concerning the nurses’ work. It was criticized that there are not enough elevators for both residents and nurses. Additionally, there are no opportunities to be outside on the upper floors.

Cognitive Mapping Analysis

Interesting concerning the cognitive maps of their ward drawn by some nurses (figure 2.42-2.43) was that in two maps the emergency exit was labeled as “wheelchair storage room”. I remember myself that the small hall leading to the emergency staircase was used as a storage area for unused wheelchairs. This suggests that there is not enough proper storage area for this type of equipment on each ward. Placing the wheelchairs in the emergency exits cannot be a solution because it can block the exit and therefore be a hazard.
Figure 2.42 Cognitive map – Berlin

Figure 2.43 Cognitive map – Berlin
Miller’s Merry Manor

Miller’s Merry Manor is a corporation that operates thirty nursing homes and several assisted living communities in Indiana. The slogan of Miller’s Merry Manor is “We want our home to be your home.” According to Miller’s Merry Manor (Miller’s Health Systems 2009), each nursing home has a warm, home-like atmosphere with an inviting dining room, recreation center, and cozy lounges. Residents are encouraged to bring in their own furnishings to decorate their new home. Also Miller’s Merry Manor uses the Premier Dining Program which allows residents to move from an industry standard of set menus, assigned seating, and permanent meal times to a restaurant and hospitality model involving freedom and choice. There are also a variety of activities offered for residents like excursions, outdoor activities, and arts and crafts. Miller’s Merry Manor offers long term residency but also rehabilitation programs.

The first nursing home I visited was Miller’s Merry Manor Castleton in Indianapolis. The building is visible from the Interstate (I 69) but I experienced difficulties in finding the right road that finally led to the facility. The outside has a very friendly and homey look in that the scale and materiality of the entrance and well-kept greenery greets you. The same can be said about the entrance lobby with its reception and inviting seating area providing sofas to rest and have a chit-chat.

On the first floor of the building are located rooms for residents in the rehabilitation program. It offers 22 private, carpeted rooms and 10 additional shared rooms. Cable, TV, and phones are provided. There are two nurses’ stations (because of the size of the building) and a courtyard which is used for all residents. The courtyard is also for use by residents in long term care. All doors that lead to the outside are secured
with a door code. The entire floor is decorated with artificial flowers and framed pictures of landscapes, etc.

The second floor provides rooms for long term residents. It has its own separated nurses’ station and dining room and offers a gathering area and an activity room with TV. There is also a separate building with 51 assisted living apartments, which is connected to the second floor of the main building via a catwalk.

My first impressions were that a lot of thought was given to the decorations to make the residents feel at home, but overall I found the first floor more inviting than the second floor.

I also had an appointment in Middletown, another facility of Miller’s Merry Manor. This building has only one floor and has an inviting entrance which provides outside seating with a view to well-kept flower beds. In this building the residents in the rehabilitation program and the long term residents are mixed and both stay in double bedrooms. In total there are 60 beds provided. At the entrance to the right is the dining area, which is open to the main entry. I was told that this dining area is problematic because it doesn’t fit all the residents at one time. That’s why the lounge in front of the reception was converted to be part of that dining area. This confuses the buildings approach because there is no “real” entrance anymore. One steps right into the heart of the nursing home by being brought through the “spillover” dining space.

I also observed that this building might have a problem with the provided storage areas, because I found a lot of “stuff” in the hallways. What I really liked, however, was the congenial atmosphere between the nurses and residents that I noticed.
The last nursing home by Miller’s Merry Manor that I visited was in Chesterfield. This building also consists of one floor, offers 60 beds in double bedrooms and does not separate rehabilitation from long term residents. I again enjoyed the entrance of this facility with its hotel like reception and waiting area. Also the wood-like flooring was inviting. In this building the residents are accommodated in two building wings, while the service area forms a third wing. In the center are the nurses’ station, the dining area and the lounges. Like the building in Middletown, I really liked the entrance area, which provides outside seating and flowerbeds.

I think that each building I visited has its pros and cons which I will show in the following analysis. I will analyze all three visited buildings according to the pictures that I took. Unfortunately as I was not provided with a building plan and survey results from Castleton, I am only able to analyze the building plans and the survey results of Chesterfield and Middletown.

Building Plan Analysis

I began by looking at the building plan from Chesterfield. Like the analysis of the nursing home in Berlin, I started with a privacy diagram (figure 2.44). After this analysis I noticed that this building has a very clear distinction between private and public. Two wings are very private and contain the residential rooms and one shower room each. In the middle of the building the offices, common areas and the nurses station can be found, which are all more public. Also, the office space (blue) and the commons (yellow) are separated. I think that it is effective that the nurses’ station is grouped with the common areas because that is where most things happen over the day. The nurse is right at the
place of action. The third wing can be called “service wing”. It contains the supply rooms and is therefore mostly used by staff. This makes the hallway into this building wing more private than the others. I think that this building plan is very well organized and logical so that it is easy to find everything (for the nurses and the residents). I especially like the distinction between the residential and the service wing.

In the second diagram (figure 2.45) you can see that the nurses’ station is, like in the building in Berlin located in a very central place in the building. The distance to the last rooms in each residential wing is equal and not too far away from the center. Another positive aspect is that the nurses’ station is not at the entrance, forming the reception at the same time, like in Berlin. In this way, the nurses do not also have to do the job of the receptionist.

The last diagram (figure 2.46) shows further annotated analysis regarding this building. The annotations are divided into pros and cons and refer to the nurses’ and the residents’ perspective.
The privacy diagram of the Miller’s Merry Manor in Middletown (figure 2.47) shows a very public dining area right at the entrance to the building. It is surrounded by private offices and forms an awkward entry atmosphere. Central in the building are the nurses’ station and supply areas (blue). But there are also some areas for the staff (blue), which do not fit into this scheme (like the break room, conference room and an office). There are three more or less residential building wings of the building. One wing does not contain a shower room. It is clearly visible that the west wing is far more private than the other two and that the north wing is still more private than the east wing. The west and east wing are connected to each other through a more public lounge. This plan is less well organized. It would likely be difficult for residents and new staff to find what he or she is looking for.

The second diagram (figure 2.48) shows that, like in two of the other analyzed buildings (Berlin and Chesterfield), the nurses’ station is located in the center of the building between the wings. The east wing, however, is quite long, which might cause wasted time and energy to walk. Also, like in Chesterfield, the nurses’ station is not at the entrance. There is a distinction between the reception area and nurses’ station, which is not found in most German nursing homes.

The third diagram (figure 2.49) explains my interpretation about this building. Also, I prepared a small diagram about the residential rooms which can be found in the left top corner of figure 2.47. It shows that two persons share one room and they have a curtain for privacy. Two rooms then share one bathroom which does not contain a shower.
Miller's Merry Manor
Middletown

80

- Nice outside area, not used for residents anymore. Only by staff for breaks.
- Nurses station = invisible barrier. Central = overview.
- Parking.
- Offices not all together. Unorganized and difficult to find.
- No real "welcome area." Direct entry into dining area; no more lounge.
- Dining area very public. Because at entrance only separated by columns.
- Too small. Lounge also used for dining.
- All double bed rooms. Less private. Filer or roommate: nurses aide keeps eye on roommate.
- "Service area." Central location. Easy to reach. Not many long ways from halls without service?
- Rooms behind service area. No community feeling.
- Long hallway with dead end. Long walkways.
Picture Analysis

During my nursing home visits, I took many pictures because they tell me something about the nursing home and its successes and problems. Like in Berlin, I looked for (Zeisel 2006, 170):

By Products of Use (Erosions, Leftovers and Missing Traces)

Adaptations for Use (Connections, Props and Separations)

Displays of Self (Group Membership, Identification and Personalization)

Public Messages (Illegitimate, Official and Unofficial)

In Castleton I found some products of use as “erosions” which tell me that there are certain areas (like at doors or at the bottom of the walls) which are in danger because of the use of wheelchairs and walkers (figure 2.50-2.51). This is typical for nursing homes. With this topic there always is the controversy of using materials that are very durable like metal, or which look more home-like, like wood. I think that the architect should pay some attention to this part. Maybe a good solution which suits both criteria can be found.

figure 2.50 Scrapes at the doors are a typical erosion in nursing homes.

Figure 2.51 Splintered wood does not look homey and is a result of wheelchair use in the building.
The pictures below (figure 2.52-2.53) show that the seating area close to the entry is actually used, which is a sign for the success of this seating area.

![Figure 2.52 Disordered pillows suggest frequent use of seating area](image1)

![Figure 2.53 A pillow lies upside down, which suggest somebody just used this seat.](image2)

Last but not least I found a lot of displays of self, especially personalization. There are many plants, pictures, and furnishings which makes the whole building a lot homier (figure 2.54-2.55).

![Figure 2.54 A homey looking grandfather’s clock](image3)

![Figure 2.55 Personalization – homey decoration](image4)

Chesterfield has a lot of seating areas which fall into the category of adaptations for use providing connections because they provide space for the residents to meet each other
(figure 2.56-2.57). I also found leftovers in those connection areas, like in the pictures below (figure 2.56-2.57). This shows that these areas are actually used and successful.

Figure 2.56 – 2.57 Blankets as leftovers in seating areas

Figure 2.58 in the category of by products of use providing missing traces shows that things are kept very clean and organized by the nurses.

Figure 2.58 Missing Traces – clean and ordered

In this building I found a lot of displays of self, mostly personalization, like the aquarium, plants, and an old radio (figure 2.59). This gives a very nice and homey impression.
Like Chesterfield, Middletown did many adaptations for use such as the various areas for connection. There are some especially for the residents (figure 2.60) and some for the nurses (figure 2.61).

Also, there is a mirror at the wall (figure 2.62) which connects the nurses’ station visually with the south wing of the building. This suggests that the nurses’ station might have a problem with visibility along the long hallways.
I could find more adaptations for use in the form of props (figure 2.63-2.64). Most of these are typical for a nursing home, like a wheelchair scale.

Another thing is that I found a lot of by products of use, more precisely leftovers (figure 2.65-2.67). Those suggest that this building might not have enough storage spaces.
Finally, like in the other buildings I could find a lot of displays of self, especially personalization. A box next to each resident’s room caught my attention (figure 2.68). It is used to display pictures etc. from the resident which I think is a really good idea!
After comparing the nursing homes I can say that in each nursing home, much attention was given to make the building homey. This was actually successful in all three of the analyzed buildings. But it also seems to me that Middletown has some problems, like storage spaces and visibility from the nurses’ station.

**Survey Results Chesterfield**

During my visit of the three American nursing homes I handed out a survey. I formulated the questions according to my own experiences and hoped to get some feedback on my own building analysis. Is my opinion about those buildings similar to the opinions of the nurses working there? In each nursing home I wanted 5 nurses to fill out my questionnaire (Chapter 4.1). From Chesterfield I got 3 questionnaires back and from Middletown one.

Now I am going to talk about the results for Chesterfield. There were some building specific questions within the questionnaire. The first one was if the nurses think that the nurses’ station is located well within the building. All 3 nurses agreed; they liked
that the nurses’ station was centrally located between the two residential wings. The majority (two nurses) also thought that the storage areas were located well within the building and that there was enough storage area. Also two of the three nurses didn’t feel that they were doing unnecessary walkways and that another building plan type would work better. Also all nurses agreed that the existing building was designed well for the nurses’ work, which conforms to my building plan analysis.

**Cognitive Mapping Analysis Chesterfield**

Another task was that the nurses should draw a cognitive map of their work environment. One nurse in Chesterfield drew a very detailed map (figure 2.70) containing the shower rooms, the 100 and 200 hall (named after the room numbers) in general and all the common rooms. This suggests that these are the areas where a lot of time is spent during her shift and she therefore draws this with more detail and importance. The break room, laundry and supply room also seem to be an important part of her daily routine as is indicated by the named location of these activity spaces on her cognitive map.

Another nurse simplified the building and showed what was most essential to her: the 100 and 200 hall and the nurses’ station (figure 2.71). She did, however, draw three distinct wings of the building which were apparently equally important to her.

These two maps show that the basic building shape, the L (here with a short third wing), is pretty important for the daily work of the nurse and also that the names of the halls (100 and 200) are essential for orientation. The angled wing with the service support areas is shorter and unnamed, but spaces of importance are identified along it.
Figure 2.70 Cognitive map – Chesterfield

Figure 2.71 Cognitive map – Chesterfield
Survey Results Middletown

Since I think that the building plan of Middletown is problematic I was especially curious about the results of that part of their survey.

Indeed, the question if the nurses’ station was located well within the building was answered with no (one out of one respondent). Also it was noted that the nurses’ station is too small and that there is little to no visualization down the hallways. The location of the storage areas was also criticized. It was noted that more storage space was needed for supplies. Accordingly, the question if the building was designed well for the nurses’ work was answered with no. It was, however, also commented that it is good that some things are located in the center of the building. My initial plan annotation and walk through observation of the nursing home in Middletown was confirmed by the nurse’s survey response.

Cognitive Mapping Analysis Middletown

The cognitive map drawn (figure 2.72) confirms the problematic areas of the building as noted in the survey by Middletown nurses. It notes that the bathrooms between the residential rooms are too small, so that it is difficult to maneuver a wheelchair and that the supply room and the dining room are also too small. Interestingly, the break room is not included in the drawing but the conference room is. This may mean that the conference room plays a more central role in the nurses’ activities than the break room. On the whole the survey shows that this building design has many spatial planning problems which actually disturb the nurses in their workflow.
Hoffnungstaler Anstalten Lobetal

After visiting the American nursing homes I went to four nursing homes in Germany. They all belong to the “Hoffnungstaler Anstalten Lobetal” which is a christian company providing services for disabled, elderly and drug addicted people.

The “Seniorenwohnpark Am Kirschberg Lobetal” is a nursing home complex situated in a small village which forms the center of the “Hoffnungstaler Anstalten Lobetal”. The complex consists of three nursing homes with a total of 120 beds. Each resident cluster consists of 15 residents which share one dining-kitchen combination. Single and double rooms are offered. I focused on the newest of these three buildings, which is called “Haus Esther”. (Hoffnungstaler Anstalten Lobetal 2009)
Another nursing home which I visited is located in Werneuchen and is also the newest building of all four nursing homes I went to. It was opened in July 2007 and offers 72 beds in 60 single and 6 double rooms. This nursing home was designed by the same architect as the first nursing home in Lobetal. Each resident cluster consists of 12 residents which share a common dining-kitchen area and a balcony. The uniqueness here is that each resident cluster cooks its own food in the dining-kitchen combination. (Hoffnungstaler Anstalten Lobetal 2009)

The nursing home, “Victoria Luise” in Zehdenick, offers 83 long term care beds and two short term care beds. Also it provides five barrier free apartments for the elderly. The uniqueness about this nursing home is that it is an old building with a new annex. Both parts are still used as nursing home wards and the connecting piece in the middle is a large hall used for the gathering of all residents. (Hoffnungstaler Anstalten Lobetal 2009)

The last nursing home which I visited is “Freudenquell” and is located in Eberswalde. It offers 43 single and 21 double rooms. Unfortunately I was not able to get a building plan from this nursing home, so I can only analyze the photographs which I have taken. (Hoffnungstaler Anstalten Lobetal 2009)

Building Plan Analysis

In order to analyze the building plans of the German nursing homes I drew the same types of diagrams for each nursing home as I did for the American nursing homes, one including the different levels of privacy, one with the relation of halls to the nurses station and one with annotations.
In Lobetal it is visible in the second diagram (figure 2.74) that the halls are relatively long and may be confusing for residents with dementia because of the dead ends and corners. Also, the nurses’ stations do not have a direct connection to the hallways, which makes it difficult to see what is going on, and who is entering and exiting the ward. Walkways also become very long.

The privacy diagram (figure 2.73) in Lobetal shows a clear structure of private resident rooms grouped around a less private common area which includes a kitchen-dining combination and a living room. I think the distinction between the public building entry with a café and the private wards to either side is a good solution. This gives the possibility to interact with residents from other wards and visitors, but also provides enough private space. It is also visible that there are multiple supply rooms for the nurses in each ward, which results in short walkways and therefore saves time. Last but not least, resident rooms are kept private. Two single rooms share a private hall and bath so that an entry zone between corridor and resident room is created.

Figure 2.73 – 2.75 (next three pages) Different levels of publicness and privateness, the nurses station in relation to the halls, and annotated building plan of Lobetal
Since the nursing home in Werneuchen was designed by the same architect as the one in Lobetal, it has a lot of similarities which are clearly visible in the following diagrams. First, the grouping of the private resident rooms around the less private common area is very similar to Lobetal. Also the location of the nurses’ station adjacent to the common area but with no connection to the hallway can be found in both buildings.

In the privacy diagram (figure 2.76) it is also visible that there is one building wing without private resident rooms that contains mostly staff areas (blue). Keeping offices away from the resident areas helps in keeping the resident areas very private. One of the biggest differences between Lobetal and Werneuchen is the shape of the corridors. They are less confusing and shorter in Werneuchen (figure 2.77). Also, similar to Lobetal, there are multiple storage areas in each building wing so that walkways to get needed equipment are short. Last but not least, resident rooms are very private because they are single rooms which share a private hall and bath with one neighbor. In this way, an entry zone between corridor and resident room is created. This again is similar to Lobetal and to Berlin.

Figure 2.76 – 2.78 (next three pages) Different levels of publicness and privateness, the nurses station in relation to the halls, and annotated building plan of Werneuchen
Looking at the hallway diagram of Zehdenick (figure 2.80) it becomes clear that there are very long and confusing hallways in combination with only two wards, one in the old building part and one in the annex. It is visible that the nurses in the annex have very long walkways because there is only one nurses’ station on each floor of the annex. In comparison to the amount of rooms assigned to the nurses station in the old building there are double as many rooms. It would have probably been better to offer two nurses stations on each floor of the annex.

Another problem, which is visible in the privacy diagram (figure 2.79), is the location of the public office space behind very private resident rooms in the old building. In this way a lot of people have to cross the whole ward to get to the offices. In contrast, the entry into the big public hall is done very nicely and helps keep the resident rooms lying behind that hall private. Residents can choose whether they want privacy or social interaction. Overall I think that this building has a lot of problems concerning the workflow of the nurses. This can be seen in the annotated building plan.

Figure 2.79 – 2.81 (next three pages) Different levels of publicness and privateness, the nurses station in relation to the halls, and annotated building plan of Zehdenick
Picture Analysis

As in the other nursing homes that I visited I took pictures in Zehdenick, Lobetal, Werneuchen and Eberswalde. Again I was looking for (Zeisel 2006, 170):

By Products of Use (Erosions, Leftovers and Missing Traces)
Adaptations for Use (Connections, Props and Separations)
Displays of Self (Group Membership, Identification and Personalization)
Public Messages (Illegitimate, Official and Unofficial)

In Zehdenick a nice adaptation for use, namely a connection, which allowed the residents to get together and take part in big events is the big hall which connects the old building with the new annex (figure 2.82).

![Figure 2.82 Connection – big hall in Zehdenick](image)

I could also find by products of use, especially missing traces, in the corridors. This suggests that the corridors are only used as a pure circulation space (figure 2.83).
In contrast to the empty, institutional corridors the dining-living areas and bathrooms show a lot of displays of self as personalization (figure 2.84-2.85).

Like in Zehdenick in Lobetal many displays of self, especially personalization, was visible. On the inside everything was decorated very nicely and gave a homey atmosphere (figure 2.87) and on the outside residents or their friends and relatives took care of the gardens adjacent to the terraces (figure 2.86). For example flowers and bushes were planted.
Werneuchen was another building offering a lot of adaptations for use, namely connections. I found a lot of different seating areas, inside and outside, where residents and/or staff can gather (figure 2.88-2.90).
Another thing which I could observe in Werneuchen was the use of separations (adaptations for use) as a security feature, especially outside to make the garden usable for the residents (figure 2.91).

I also found it very interesting how color on the floor is used to identify resident rooms. This can be seen as a display of self.
As in all the other nursing homes another display of self, namely personalization, plays an important role in the interior of the nursing home. Especially the bathrooms were personalized very carefully (figure 2.93).

In Eberswalde I could find a lot of separations for privacy, which are adaptations for use. Since the building has a lot of glazing curtains and blinds were used to give residents privacy (figure 2.95-2.96).
Last but not least I could find a lot of by products of use, especially leftovers in Eberswalde which suggests that the areas where the leftovers were found are used a lot and work very well. The picture below (figure 2.97) shows a day room where games can be played or residents can do handicrafts. The table is full of used games and handicrafts.

**Survey Results Zehdenick and Werneuchen**

At my visits of the German nursing homes I handed out the same survey I already handed out in Berlin and the U.S. In Zehdenick ten questionnaires were returned to me, in Werneuchen eight and in Eberswalde and Lobetal one from each nursing home.
It turned out that the nurses in Zehdenick did not seem to be very satisfied with their work environment. That corresponds to my building plan analysis. Even though 100% of the nurses were satisfied with the location of the nurses station they criticized that the nurses’ station does not have a window to the outside to get natural light and ventilation into the station. Also, most nurses (70%) were satisfied with the location but not with the amount of storage areas. Storage for wheelchairs and other unused equipment is especially not enough. Most nurses felt that a relocation of rooms could minimize walkways and a complete new building shape was not necessary. This suggests that the problems with this building are the details and room locations, but not the general building shape. In general, the majority of the nurses agreed that the building was not designed well for the nurses’ work. It was criticized that the bathrooms are too small for wheelchairs, that a therapy room is missing and that corridors are confusing for residents.

In contrast to Zehdenick, in Werneuchen the nurses were very satisfied with the building they are working in. Most nurses agreed that the nurses’ stations are positioned well within the building except for one nurse who thought that it would have been better to have only one nurses’ station on each building floor to minimize confusion and long walkways. Also, the vast majority of the nurses liked the location of the storage areas. A general problem in nursing homes seems to be the amount of storage areas provided since even in Werneuchen most nurses criticized the low amount of storage rooms provided on each ward. Again, more space for unused wheelchairs needs to be provided. The nurses in Werneuchen were very satisfied with the overall room layout and thought that they did not have unnecessary walkways. They also do not see a need for a change of the overall building shape or for a relocation of rooms. Also, the majority of the nurses thought that
the building was designed well for the nurses’ work. There were a few critiques though; the elevator is too small and there is no big room for gatherings of all residents.

**Cognitive Mapping Analysis Werneuchen**

The cognitive map below figure 2.98) indicates the high satisfaction with the provision of a balcony adjacent to the big dining-kitchen-living combination on each ward. The balcony is drawn almost as big as the whole common area even though in reality it is a lot smaller.

Figure 2.98 Cognitive map – Werneuchen
Survey Results Lobetal and Eberswalde

The survey results in Lobetal and Eberswalde might not be very representative because I got only one questionnaire back from each nursing home. Nevertheless I will give a quick overview over the results.

The feedback from Lobetal was very positive and comparable to the results of Werneuchen, which makes sense because both buildings are similar and designed by the same architect. It was answered that the nurses station is located well but the location of the supply rooms, in contrast to Werneuchen was criticized. Again it was criticized that the amount of storage rooms is insufficient. But even though the location of the storage areas was criticized it was answered that this does not lead to unnecessary walkways and that there is no need for a change of the building shape or room location. Overall the nurse said that the building was designed well for the nurses work.

The most positive feedback I got was from Eberswalde. There was not a single point of concern; even the amount of storage areas provided in the wards was said to be enough. Actually, this is the only nursing home in which the amount of storage areas was not criticized.

General Survey Results

In the questionnaire, I also asked some general questions which did not relate to the building where the nurses were working in. I want to summerize these findings now. First of all I have to say that I could not find a lot of differences between German and American nurses. The only question where I could see a difference was if residents should be able to bring their own furniture. German and American nurses did not agree
about bringing a wardrobe, table and chairs and a night stand. In Germany almost every nurse answered that the resident should bring his/her own wardrobe and table and chairs whereas in the U.S. nurses wrote down that residents should not bring these furnitures because there is no space in the rooms. This suggests that rooms in existing nursing homes in Germany might be larger than in the USA. In contrast to that German nurses did not want the resident to bring a night stand because they argued that a night stand is important for care giving and a special night stand should therefore be provided by the nursing home for each resident. American nurses in contrast wanted the residents to bring his/her own night stand because of the homey feel. I would assume that the answer of the American nurses might be influenced by the small room size again. Since no other personal furniture can be brought because of the small rooms the only homey furniture could be the night stand.

Finally I want to give the results of the other general questions where I could not find differences between Germany and the U.S. First of all, I asked if the nurses think that a good building design can help them with their work. 90% of the nurses answered with yes, which means that I am heading in the right direction with my topic. Also, the majority of nurses (93.3%) agreed that they wanted a private room for breaks and 76.7% agreed that every resident should have a private shower in the bathroom. I was also asking if the residents should bring their own furniture. Again most of the nurses agreed that residents should not bring carpet (incontinence problem, fall risk) and their own bed (has to be electric if assistance is needed, use of special pressure reducing mattresses). On the question if the nurse should have to approve the location of the furniture in the room 80% of the nurses agreed that this would be a good idea with the restriction that they
should only have to approve if it is beneficial for the safety and delivery of care for the resident and the roommate. The preferred flooring is a material which is easy to clean, like linoleum (60%). Other materials mentioned were wood and dense loop carpet for hallways and tiles for the kitchen. I also asked the nurses to rank different building types according to the desire to work in them on a scale from 1 (very low) to 10 (very high). Below (figure 2.99) you will find a diagram with the results of this question.

In general the buildings with the longest hallways were ranked very low in contrast to very compact building shapes.
Figure 2.99 Survey result; green = preferred building shapes, red = unpopular shapes

N = nurses' station
References


2.4 Conclusions

In general I can say that each of the three steps in my research, the literature review, the movie analysis and the field study has shown that there is an urgent need for change in the way nursing homes are designed today.

The literature review and the field study also showed that in both countries, Germany and the USA, there are similar problems in daily life in a nursing home. I could also find differences. One of the bigger differences is the design of the resident rooms. In the German nursing homes that I visited residents had the choice between single and double rooms and resident bathrooms included a shower. On the other hand I had the feeling that the American nursing homes paid more attention to a homey decoration. Overall I can say that the research was very helpful and showed that the building design really has a huge influence on the nurses’ work.

Some of the analyzed buildings with totally different shapes and concepts work better than others and should serve the other buildings as good examples. But it must also be seen that even in an overall not very well working nursing home there might be some good features. The findings of my research then led me to the development of patterns for a better nursing home design.

I think that comparing both German and American nursing homes with each other was very useful and revealed some unexpected findings. Before visiting the American
nursing homes I though the situation in German nursing homes was very bad but after my visits in the American nursing homes I came to the conclusion that the situation in American nursing homes is a lot worse than in German nursing homes. In general I can say that in German nursing homes a lot of attention is paid on spatial planning. Especially the configuration of resident rooms is good. Two large single rooms share one bathroom, including a shower, and a private hall. In contrast to that, in American nursing homes there are mostly small double rooms which share one bathroom, without a shower, with another double room. This was something I did not expect to see. I thought that the standard of room sizes and bathrooms would be similar in both countries. But the American nursing homes in turn paid a lot of attention on interior decoration. That’s why in total I think that both, American and German nursing homes can learn something from each other.
FACILITY DESIGN & PLANNING
TO IMPROVE NURSES’ EFFECTIVENESS IN ADMINISTERING CARE
TO FULLTIME RESIDENTS OF NURSING HOMES

A PATTERN CATALOGUE
3 Results

3.1 Pattern Catalogue

Introduction

With my research as a base I developed a pattern catalogue which contains design principles, illustrative examples, and design recommendations for a user-centered effective nursing home design.

Each pattern includes a description and explanatory text about the usefulness of the pattern for the nurses and the residents. Most patterns are also accompanied by images and/or plans of built examples, mostly nursing homes I visited during my research.

The catalogue includes a total of 66 patterns which I put into 13 main categories. These categories refer to the different parts of a nursing home and are organized in accordance to the way that would lead someone through a nursing home:

1 Building Context

Pattern 1.1 – Nursing Home within a Center of Activity

Pattern 1.2 – “In Sight, In Mind”

2 Building Spatial Planning

Pattern 2.1 – “Small Size, Right Size”

Pattern 2.2 – Build Green
Pattern 2.3 – Maximum Daylight

Pattern 2.4 – Provide For Natural Ventilation and Individual Thermal Comfort

Pattern 2.5 – Participatory Design

Pattern 2.6 – Beyond the Minimums

Pattern 2.7 – Separate Administration Building Wing

Pattern 2.8 – Size Wards According to Amount of Staff

Pattern 2.9 – Service and Served Area Distinction

Pattern 2.10 – Separate Private Area for Residents with Dementia

Pattern 2.11 – Provide Multiple Degrees of Publicness and Privateness

Pattern 2.12 – Create Neighborhood Communities and Resident Clusters

3 Building Spatial Organization 150

Pattern 3.1 – Compact Building Shape

Pattern 3.2 – Wayfinding Made Easy

4 Building Entry 154

Pattern 4.1 – Provide a Distinct Reception Located at the Primary Building Entry

5 Vertical Circulation 156

Pattern 5.1 – Provide Enough Elevators

Pattern 5.2 – Locate Stairs and Elevators Outside of Neighborhood Clusters
6 Horizontal Circulation

Pattern 6.1 – Combine Advantages of Different Corridor Types

Pattern 6.2 – Create Guided Wandering Paths That Incorporate

Common Areas into Their Circuit

Pattern 6.3 – Corridor Becomes Secondary Living Room

Pattern 6.4 – Provide Niches for Walkers

Pattern 6.5 – Provide Various Seating Areas

7 Common Areas

Pattern 7.1 – Provide a Large, Flexible Multiple – Use Room

Pattern 7.2 – Dining – Kitchen – Living Combination

Pattern 7.3 – Size Kitchen for Wheelchair Use

Pattern 7.4 – Cook in Ward

Pattern 7.5 – Provide Outdoor Places for Each Resident Cluster

8 Nurses Station / Work Rooms

Pattern 8.1 – Central Location of Nurses’ Station

Pattern 8.2 – Nurses’ Station and its View

Pattern 8.3 – Provide Both a Quiet Work Space and a Break

Room

Pattern 8.4 – Nurses’ Restroom Close to Resident Rooms

9 Utility / Storage Areas

Pattern 9.1 – System of Centralized and Decentralized Utility

Rooms

Pattern 9.2 – Provide Large Amount of Storage Areas
Pattern 9.3 – Locate Soiled Utility Room Away From Dining Area

10 Residents Rooms

Pattern 10.1 – “Living Pods”
Pattern 10.2 – No Acute Angles
Pattern 10.3 – Resident Room Sized to Accommodate Seating Area
Pattern 10.4 – Windows to Life
Pattern 10.5 – Welcoming Entry Doors
Pattern 10.6 – Attention to Way Doors Open
Pattern 10.7 – Provide Light Doors
Pattern 10.8 – Provide Locks on Doors

11 Bathrooms

Pattern 11.1 – Resident Bathroom Located on Outside Wall
Pattern 11.2 – Bathroom Configuration to Create More Space
Pattern 11.3 – Provide Free Space to the Right of the Sink
Pattern 11.4 – Central Location of Therapeutic Bath
Pattern 11.5 – Visually Pleasing Therapeutic Bathroom
Pattern 11.6 – No Fixed Shower Heads
Pattern 11.7 – Location of “Core” Restrooms Close to Common Areas

12 Interior

Pattern 12.1 – Homey Decoration
Pattern 12.2 – Provide a Memory Wall

Pattern 12.3 – Use of Color and Pattern

Pattern 12.4 – Safety Features with a Homey Look

Pattern 12.5 – Durable and Easy to Maintain Materials

Pattern 12.6 – Hard – Surface Flooring

Pattern 12.7 – Visually and Aurally Stimulating Environment

Pattern 12.8 – Chairs and Benches with Armrests

Pattern 12.9 – Personalization of Resident Room Entries

Pattern 12.10 – Let Residents Bring Own Furniture

Pattern 12.11 – Provide Multiple and Task Appropriate Light Fixtures

13 Outside Areas

Pattern 13.1 – Provide Inner Courtyards, Atriums

Pattern 13.2 – Secure Outside Area

Pattern 13.3 – Provide Useful Task for Residents

Pattern 13.4 – Opportunity to Sit in Shade
1 Building Context

Pattern 1.1 - Nursing Home within a Center of Activity

The best location for a nursing home is in the center of a town, close to services like grocery stores, banks, hairdressers, churches, pharmacies, a bus station, etc. (Schnieder 1980, 10-11). Whenever possible, avoid building a new nursing home in the open country side, unconnected to centers of activity.

If services of daily life are located close to the nursing home more able bodied residents are able to continue to take part in the life outside the nursing home and therefore stay independent. If residents stay independent longer, the nurses can focus on the more dependent residents.

Also, according to Gudrun Kaiser and Hans-Peter Winter (2002, 9) it is very likely that relatives will visit residents more often when they can combine for example, shopping with a visit to their mother. Another important factor is that residents who are bedridden or wheelchair-bound like to observe what is going on outside. On the open country side there is not much happening outside the window whereas in the town, residents can
observe people walking along the street, trucks loading and unloading goods and a lot more. In his book, Bernd Schnieder (1980, B 52) states that areas in wards with an interesting view to the outside - like a main entry, to courtyards, or even better to busy streets outside the nursing home - are very well used and much liked by residents. This also helps the nurses with their work because residents who are busy don’t try to get the nurses’ attention, which results in wasting time while running along the hallways checking what the resident needs who rang, even though they actually don’t need anything from the nurse.

Figure 1.1.2 Stephanus-Seniorenzentrum

The nursing home “Stephanus-Seniorenzentrum Am Weißen See” in Berlin is a good example for a nursing home location. In figure 1.1.2 the building is marked in red and it is visible that there are various amenities close by.

Also the nursing home in Werneuchen is located within a 50m distance of 2 supermarkets, a bank and a pharmacy. A coffee shop, a hairdresser, a flower shop and a weekly market are also within walking distance (Fachbereich Altenhilfe Diakoniezentrum Werneuchen 2007, 2).
Pattern 1.2 – “In Sight, In Mind”

Rather than thinking of nursing homes as being positioned out of sight, out of mind, think of them as providing views and amenities that bring the community to them.

“Outside visitors from the community in which the nursing home is set have an important positive effect on the quality of life of residents and on the quality of performance of staff. It is thus very important to stimulate and facilitate community involvement in nursing homes.” (Institute of Medicine (U.S.) 1986, 20)

This community involvement can be achieved by providing amenities in the nursing home which the larger community could use. Amenities could include a café, a hairdresser, a kiosk, a book store or whatever else is likely to be used by the specific residents of the community.

By providing amenities of daily use in the nursing home, community members become more aware of the existence of the nursing home and its residents. This may also foster more frequent visits by the community and therefore raise the quality of life of the resident.
Figure 1.2.2 Nursing home cafeteria in Lobetal

The nursing home in Lobetal draws the community into their building by providing a café and a small kiosk in the main hall (figure 1.2.2). The café becomes a connecting point between the residents and the community.
2 Building Spatial Planning

*Pattern 2.1 – “Small Size, Right Size”*

Plan the nursing home to accommodate 30 to a maximum of 90 residents in total.

![A small one story nursing home with a gabled roof and wide front porch present a pleasing, home-like image to the community and residents (in Castleton).](image)

According to Gudrun Kaiser and Hans-Peter Winter (2002, 10) there are numerous built examples which disprove that a small nursing home is not cost-effective.

A smaller nursing home is more to the scale of a typical family household and therefore has a homier feel to it. It is easier for the residents to interact with each other. Also, the nurse will get to know residents better which will allow them to better meet the needs of the residents.

*Pattern 2.2 – Build Green*

Consider the region the nursing home is built and use recyclable, renewable and local materials, collect rainwater from the building’s roof for toilet flushing and washing machines, use photovoltaic cells and/or wind power, and optimize passive solar heating to reduce energy costs.
By incorporating the above mentioned strategies the initial building costs might be higher but the life cycle costs / operating costs, which Kliment (2004, 274) defines as “[t]he cost of operating a facility [and] includes staffing, utilities, maintenance, upkeep, and other continuing expenses,” will be lower. The investment will pay off in a very short amount of time and after that money is actually saved, becoming a return on your investment. It might even be possible to give power back to the grid. The saved money can then be used to employ more staff, because employing more nurses means that each nurse has to care for fewer residents. This in turn raises the quality of care and the satisfaction of the residents.

**Pattern 2.3 – Maximum Daylight**

*Design for maximum daylight throughout the building, but especially in all common areas, resident rooms and therapeutic bathrooms. For example, pay attention to the*
building's orientation on the site, the arrangement of rooms within the building, and the size, configuration, placement, and use of windows.

“Place the most important rooms along the south edge of the building, and spread the building out along the east-west axis. Fine tune the arrangement so that the proper rooms are exposed to the south-east and the south-west sun.” (Alexander 1977, 617)

Daylight makes for a good atmosphere within the building which results in more efficient and qualitatively better work. Daylight is a high quality light source which makes for good visibility, which is needed for certain tasks a nurse has to perform, e.g. examination of wounds.

Also, from the resident’s point of view the quality of life rises, first of all because they are better cared for and second because indoor daylight makes for a good living environment.
Figure 2.3.1 and 2.3.2 show the effect of natural lighting in a bathroom. Figure 2.3.2 was taken in the nursing home in Werneuchen and figure 2.3.1 in Middletown. A second example shows living areas in Werneuchen (figure 2.3.3) and Castleton (figure 2.3.4).

**Pattern 2.4 – Provide for Natural Ventilation and Individual Thermal Comfort**

*Design the building for a high amount of natural ventilation, especially in resident rooms. Provide operable windows to make it possible to let fresh air into the rooms. Also, provide an individually controllable ventilation system which is adjustable to the individual thermal comfort zone of residents and nurses.*

Having the possibility to open a window in the resident’s room is very important to maintain a good room climate. In case “accidents” like urine or feces on the floor and bed sheets happen, the nurse might want to open a window in order to neutralize the bad smell in the room fast and effectively. Also, if windows are opened to provide ventilation, the costs for mechanical ventilation drop, which saves money.
The possibility to individually control the climate in each room, especially the resident rooms is also very important since every resident has a different comfort zone and elderly residents are very vulnerable to getting a cold due to a wrong room temperature. Also, being able to individually control their living environment makes residents feel more independent.

**Pattern 2.5 – Participatory Design**

*Use participatory design in order to gather information from all users of the nursing home which is going to be designed. This includes potential residents and their family and friends, nurses, cleaning staff, emergency personnel and the community in which the nursing home resides.*

Participatory design is an excellent method to find out what needs to be done to make the building work for residents and nurses because those two groups are the two largest and most important groups of users. The nurses are able to influence the design of their work environment and the residents can affect the way their living environment is designed. Participatory planning is not easy. “It involves carefully integrating information and opinions to craft a better building.” (Hiatt 1991, 24) The opinion of different user groups...
might differ from each other, so a good way in the middle needs to be found. Often a facility planner is used as an outside consultant in this process. Also, a lot of times architects don’t want to “give away” the task of designing but it is important to “[m]ake sure that participatory planning precedes full floor plan drawing or at least takes place when options are still open. Participation is frustrating when plans are so well developed that one group feels that its participation serves only to validate the work […]” (Hiatt 1991, 25) Actually, performance programming is a critical component of design and participatory planning can help to clearly articulate not just the size and organization of spaces, but their specific uses, and attributes and qualitative elements that identify this place as special.

Pattern 2.6 – Beyond the Minimums

Get informed about the minimum standards and codes, that have to be incorporated into the design of a new nursing home. Each country and in some countries also each state has different codes and regulations for door sizes, corridor width, sizes of rooms and more. But make sure to not just apply the rules. Question them. In a lot of cases the regulations are only minimum requirements and you need to expand them.

Figure 2.6.1 Expand regulations
Rules and regulations normally cover minimum sizes of rooms but not ranges in size or the actual quality of rooms. For the designer this means applying rules and regulations will not necessarily result in a good building design. The designer needs to go further. Questioning rules and regulations will result in a good knowledge of the actual needed spaces and their qualities in a nursing home, which are mostly beyond the given minimums. Therefore nurses will be given enough and qualitatively good space to do their work when solutions are incorporated into the design.

Figure 2.6.2 HeimMindBauV

Figure 2.6.2 is an example for a German regulation. It has rules about minimum room sizes and more and is called HeimMindBauV.
Pattern 2.7 – Separate Administration Building Wing

Separate the administrative rooms and wards from each other. Try to either place the administration in the first floor and the wards in the upper floors or design different building wings for each use type.

Figure 2.7.1 Separate administration wing

Not mixing administrative rooms and resident areas with each other helps keeping the wards small and the private service and support areas of each separated. Only residents’ rooms and rooms, nurses need in the daily routine such as storage areas for diapers, should be placed in the ward. This will help the ward stay organized and manageable. That way, walkways stay short and the nurse can work more effectively. The residents will in turn have more privacy and can find places easier.

Figure 2.7.2 Separate administration wing in Werneuchen
In Werneuchen (figure 2.7.2) the designers created a separate building wing (marked in red) which includes mainly administrative spaces and storage areas for material which is not needed on a daily basis.

**Pattern 2.8 – Size Wards According to Amount of Staff**

While designing (especially the locations, number and sizes of the nurses’ stations) keep in mind how many nurses will actually work in the nursing home in each shift. Don’t design for an unrealistic high amount of nurses in each shift because that will result in long walkways from ward to ward.

Avoid providing so many nurses stations that one nurse has to work in more than one nurses’ station simultaneously.

If a ward was thought to be coordinated by two nurses in a shift but in reality there is only the budget to hire 3 nurses for two wards, one of the nurses (normally the registered nurse) will have to be in charge of two wards at the same time. Therefore she/he has long distances to cover and has to work in two nurses’ stations simultaneously which may result in confusion of resident charts and less clear resident care.
However, if the size, location and number of the nurses’ stations are well considered, the work of the nurse will be made more effective. This saves a lot of time and lessens stress and the resident will feel that the nurse is more relaxed.

In Germany there is a code which talks about the minimum number of registered nurses per resident count, but there is no law stating how many nurses’ aides have to be employed. That way there is a different amount of nurses employed in each nursing home.

“(1) Betreuende Tätigkeiten dürfen nur durch Fachkräfte oder unter angemessener Beteiligung von Fachkräften wahrgenommen werden. Hierbei muss mindestens einer, bei mehr als 20 nicht pflegebedürftigen Bewohnern oder mehr als vier pflegebedürftigen Bewohnern mindestens jeder zweite weitere Beschäftigte eine Fachkraft sein. In Heimen mit pflegebedürftigen Bewohnern muss auch bei Nachtwachen mindestens eine Fachkraft ständig anwesend sein.” [Translation: At least one registered nurse should be provided; if more than 20 residents are ‘not in need of care’ or four residents are in need of care, every second further employee needs to be a registered nurse. In nursing homes with residents in need of care one registered nurse needs to be present also at night.]

(Bundesministerium der Justiz 2009)
Figure 2.8.3 One nurse has to work in both wings at the same time – this should not happen

My survey showed that in Werneuchen (figure 2.8.3) the location of the nurses’ stations is not at all ideal. Each cluster has its own nurses’ station but since there are only 3 nurses for both clusters, one nurse has to work in two different nurses stations (Fachbereich Altenhilfe Diakoniezentrum Werneuchen 2007). One nurse suggested in the survey to have one nurses station in the middle between the two building wings instead for all three nurses together.

*Pattern 2.9 – Service and Served Area Distinction*

*The building should have a clear distinction between service and served areas. This makes for a well-defined building structure.*
A clear building order helps the nurse to be more effective and time saving because it is easier to find places in a well organized building, especially for new nurses and temporary personnel but also for the regular staff.

Having a clear distinction between service and served areas also helps the residents. For them, finding places easily means being independent. This in turn means that the nurses don’t have to accompany the residents to places like dining and therapy room or back to their room. This saves a lot of time.

Another point is that in a well ordered building, the private, served areas are quieter because only people who want to go to the resident rooms have to enter the private, served building wing. In other buildings it often happens that staff has to cross the whole resident room wing in order to get to a break room, for example. If everyone enters the resident’s most private area, the resident has the feeling of lost dignity.
The above building plan (figure 2.9.2) shows the Chesterfield nursing home. The survey showed that the clear distinction between the two private halls and the public areas in the center works very well and that nurses and residents were very satisfied with this solution.

**Pattern 2.10 – Separate Private Area for Residents with Dementia**

*Keep the resident rooms of residents with dementia separated from the rooms of residents which “only” have physical impairments. Provide a connecting zone where both resident groups can meet. The connecting zone should include the common areas like therapy rooms and lounges.*
The term dementia comes from the Latin language. It is defined as a loss of mental ability severe enough to interfere with normal activities of daily living, lasting more than six months, not present since birth, and not associated with a loss or alteration of consciousness.

Dementia is a group of symptoms caused by gradual death of brain cells. The loss of cognitive abilities that occurs with dementia leads to impairments in memory, reasoning, planning, and personality (Rossa 1999-2008; Answers Corporation 2009).

If the residents with dementia live in one neighborhood together, the nurses who work there can focus on the clinical picture of dementia and specialize in this field. That way they can give better assistance to the residents. But on the other hand it might be psychologically stressful to be surrounded by residents with dementia all day. This might result in bad treatment of residents. In order to avoid this, it can be helpful to let those nurses take shifts in other wards too.

The person showing me around in the nursing home in Lobetal explained why it is better for residents with dementia to be separated from those who do not. He stated that a lot of times residents without dementia don’t have an understanding of the residents with dementia. They call them stupid and make them feel unwanted. Also residents with dementia often wander into other resident’s rooms, mistaking it for their own. Other
residents with dementia won’t mind someone else using his/her room and just go into another room whereas residents without dementia feel that another person enters their most private area which results in disputes. Settling those disputes takes a lot of time – time the nurse doesn’t have. “In einer “reinen” Verwirrten-Gruppe kann eher ungewöhnliches Verhalten toleriert werden als in einer gemischt belegten Station, in der das Pflegepersonal Störungen durch Verwirrte oder Konflikte zwischen geistig gesunden und verwirrten Bewohnern vermeiden muss und häufiger vor der Notwendigkeit steht, einen unruhigen Bewohner zu fixieren oder zu sedieren (Beruhigungsmittel!).”

[Translation: In a “pure” dementia-group, abnormal behavior can be tolerated, whereas in a mixed group, the care personnel have to avoid interruptions of residents with dementia or disputes between residents without dementia and with dementia and finds itself in need of fixating or sedating an agitated resident (sedatives!).] (Heeg 1992, 22)

But it is still very important to provide a connecting zone for both types of residents because residents with dementia might feel imprisoned if they can not get out of their ward and connect with others. Another reason for provision of a connecting zone is that often there are couples where one has dementia and the other one “only” has physical impairments. In this case both residents will live in a different area of the building, but with the common areas being in a connecting zone both will still see each other in their daily routine.
Pattern 2.11 – Provide Multiple Degrees of Publicness and Privateness

Create zones with different degrees of publicness and privateness within the nursing home. Even a single room can be divided into different levels of privacy by providing visual barriers, semi fixed features, and other boundary mechanisms.

“Lay out the spaces of a building so that they create a sequence which begins with the entrance and the most public parts of the building, then leads into the slightly more private areas, and finally to the most private domains.” (Alexander 1977, 613)

According to Sarah Barnes (2006), providing multiple degrees of publicness results in a higher quality of life for the residents and they will actually engage in more active behavior when the building layout includes numerous public, semi-public and private spaces.

When the residents actually take part in activities more often that means that the nurse does not have to spend that much time in looking after bored residents who want to get the nurses attention with ringing the bell, screaming through the corridors and so on and so forth.
The building plan of Chesterfield (figure 2.11.2) illustrates pretty well the different degrees of publicness. It offers private resident rooms but also more public lounges to communicate with other residents.

The nursing home in Werneuchen describes the positive affects of offering many degrees of publicness in its brochure: “Die vorhandene Wohnform bietet jedem Bewohner die Wahlmöglichkeit zwischen der Individualität (Rückzug in das eigene Zimmer), der Möglichkeit zu sozialen Kontakten und gemeinsamen Aktivitäten. Er kann sich hierbei frei für oder gegen die Teilnahme am “Familienleben” entscheiden.” [Translation: The existing housing type offers every resident the choice between individuality (return to own room), the possibility to socialize and participation in group activities. The resident can at this decide freely for or against participation in “family life”.”] (Fachbereich Altenhilfe Diakoniezentrum Werneuchen 2007, 21)
As a designer the first step towards this pattern is to lay out the different rooms needed in a nursing home in terms of most public to most private. This step should be discussed with the users of the building and then result in a building layout where public rooms are located close to the building entry and private rooms away from it.

**Pattern 2.12 – Create Neighborhood Communities and Resident Clusters**

*Divide the nursing home into different neighborhoods (“Wohnbereiche”) of approximately 30 residents, and divide those neighborhoods into clusters (“Bewohnergruppen”) of approximately 15 residents (Kaiser and Winter 2002). Consider providing separate small dining areas within each cluster. Common areas like bigger lounges and therapy rooms should be provided for each neighborhood, shared by two clusters.*

“Create a single common area for every social group [neighborhood]. Locate it at the center of gravity of all spaces the group occupies, and in such a way that the paths which go in and out of the building lay tangent to it.” (Alexander 1977, 621)

![Figure 2.12.1 A neighborhood divided into resident clusters](image)
By creating small clusters as living areas for the residents, the nurses working in each cluster get to know the residents better and can therefore give better care. They know what each resident is still able to do and where the resident needs help.

In such a small cluster of 15 residents, each resident gets to know the other residents of the same cluster better and therefore the atmosphere is more family-like.

“[Günstig ist eine] kleine Wohngruppe innerhalb von Pflegegruppe oder Station, um dem Bewohner einen überschaubaren Lebensbereich anzubieten und die Zuwendungs- und Aufsichtsmöglichkeiten für das Pflegepersonal zu erleichtern.” [Translation: It is good to provide a small cluster within the neighborhood or ward to offer the resident a manageable area of life and to simplify the possibilities of care and supervision for the care personnel.] (Heeg 1992, 14)

An important part of this division into clusters is, to “[b]reak up large-scale dining rooms into smaller environments for better acoustic control, visual privacy, and a more intimate dining experience.” (Kliment 2004, 34)
This picture from the movie “Assisted Living” (figure 2.12.2) shows the anonymity of a large scale dining room. It is even more shocking because this is not only a typical movie exaggeration but reality since the movie was shot in a real nursing home with most of the actors being residents of that nursing home.
3 Building Spatial Organization

Pattern 3.1 – Compact Building Shape

The building should have a clear center and short corridors, as preferred by nurses in Germany and the USA (compare survey results). This form typology is very important to discuss early on in the participatory planning process. Basic variations on a selected organizational type can then be developed. Considerations must also be taken for the surrounding context and its form typology. Make certain that the urban pattern is respected.

In a building with a compact shape and a centralized nurses' station, the nurse can have a better eye on the residents and also save time and physical energy because walkways are shorter.

Short walkways are also good for the residents because even if they are not able to walk long distances, they will be able to get to differing places within the building. That again
helps the nurse because she/he doesn’t have to accompany everyone to differing places i.e. dining, therapy, or his/her own room.

Another important consideration in form typology is security. With short walkways a nurse can get to the place where she is needed quickly. Sibylle Heeg (1992, 14) states another advantage. She said that such a clear building structure keeps residents from losing their way in the building. This again helps the nurses with their work because they don’t have to look for lost residents all the time.

![Figure 3.1.2 L-shaped building in Chesterfield: very compact](image)

The nursing home in Chesterfield (figure 3.1.2) is shaped like an L with a nurses’ station at the elbow and short walkways on each leg. If you compare that with the results of the survey shown above (high numbers/green = very good) you can see that the L is among the best building shapes for a nursing home.
Pattern 3.2 – Wayfinding Made Easy

Use methods such as signage, colors, clear circulation and very distinctive interior furnishings in order to provide easy wayfinding throughout the entire nursing home complex.

Wayfinding can be described as: “What people see, think about, and do to find their way from one place to another.” (Kliment 2004, 276) For some residents of nursing homes it is easy to find their way just by reading signs (figure 3.2.1, Castleton) and following the directions, but others might not be able to read and need other clues in order to find places. This may include hand rails which automatically lead you to places when you hold on to them while you are walking. Another possibility is working with colors (compare Pattern 12.3) or using interior furnishings as landmarks or clear distinction areas (compare Pattern 12.1).

An easy wayfinding helps the resident get to places and back to their room without the help of the nurse, which makes them feel independent. They can go to places whenever they want and do not have to wait until the nurse has time.
From the nurses' perspective, easy wayfinding may help reduce the time spent on helping residents get to places and on searching for lost residents.

Wayfinding also includes providing good signage to the nursing home (figure 3.2.2, Middletown) which makes it easy for relatives to find the building.
4 Building Entry

**Pattern 4.1 – Provide a Distinct Reception Located at the Primary Building Entry**

Prior and in addition to arriving at nurses’ stations provide a reception point at the primary public entry to the nursing home. Locate the reception at a place where it is easy to see and access for anyone unfamiliar with the building.

![Figure 4.1.1 Distinct reception at building entry](image)

A big advantage of having a reception in addition to the nurses’ stations is that the nurse does not have to perform the task of the receptionist. That gives the nurses more time to provide care to the residents. The reception also gives residents and visitors a contact person who can give directions. Also, having a reception creates an invisible barrier for visitors, allowing resident areas to stay more private.
These receptions are very common in American Nursing homes. Figure 4.1.2 is an example of the entry situation in the nursing home in Chesterfield.
5 Vertical Circulation

Pattern 5.1 – Provide Enough Elevators

In buildings with more than one floor provide at least two passenger elevators, each large enough to fit a wheelchair. These can be placed next to each other or, in spread out buildings, in different parts of the building. Additionally, provide a folding seat in each elevator with seating in the elevator “waiting area”. A service elevator should be provided separate from the other passenger elevators.

![Not sufficient: only one passenger elevator in Berlin](image)

Having more than one elevator will save a lot of time. For example if there is an event on the first floor the nurse has to help residents with wheelchairs to get downstairs. With two elevators all residents are at the event a lot faster. Also, if one elevator is out of order the residents are not tied to their ward.

An elevator also means more independence for residents, because many residents are normally not able to walk the stairs anymore. They rely on the elevator. It is also important to provide adequate seating while waiting for the elevator to come and while the elevator is in motion. This allows residents the opportunity to socially interact while
waiting. If designed effectively, the elevator waiting area becomes a pleasant small scale meeting place.

**Pattern 5.2 – Locate Stairs and Elevators Outside of Neighborhood Clusters**

*Elevators and staircases should be placed outside of the neighborhood clusters or at least not in direct view of the common areas on the ward and away from the private resident rooms, especially for areas with residents experiencing dementia.*

Residents with dementia often take elevators whenever they see them. They then get into different parts of the building or even outside the building and will have difficulties finding their way back home. Placing the elevator out of their immediate view, keeps them from losing their way. That supports the nurse because she doesn’t need to look for lost residents that often or has to accompany residents back to their ward which have come to another ward or area of the building unintentionally.

Traffic is also kept outside the ward with the elevator in its own area, which keeps the ward itself more private.
Figure 5.2.2 Lobetal: elevator adjacent to main hall

Figure 5.2.3 Werneuchen: elevator outside of ward

The diagrams (figure 5.2.2-5.2.3) show two built examples for this pattern. On the left (figure 5.2.2) is the first floor of the nursing home in Berlin where the elevator is placed in the big hall close to the main entry and on the right (figure 5.2.3) is the nursing home in Werneuchen where the elevator and staircase are located in the building center, separated from the ward by a corridor.
6 Horizontal Circulation

Pattern 6.1 – Combine Advantages of Different Corridor Types

Look at the attributes (surveillance and socialization) of different types of corridors and then mix them in the design in ways that the advantages of each type are used and the disadvantages eliminated.

Gudrun Kaiser and Hans-Peter Winter (2002) identified different types of corridors:

Figure 6.1.1 – 6.1.2 Single loaded corridor

"Einbund" [single loaded corridor]
Advantages are good lighting and ventilation and nice views outside. This makes for a high living quality for the residents but long ways and high amount of circulation area make it less attractive for the nurses.

Figure 6.1.3 – 6.1.4 Double loaded corridor

“Zweibund” [double loaded corridor]
This type has shorter walkways and therefore saves time for the nurse but it is likely not a nice area to be for the residents because there is no natural light except in a single story building where skylights could be used.
Figure 6.1.5 Resident room cluster

“Cluster”

This type does not have a real circulation area because the corridor is also used as a secondary living area.

Figure 6.1.6 – 6.1.7 Best: combination of advantages of different corridor types

"Kammstruktur" [comb type] and “Flügelstruktur” [wing type]

These types combine different types of corridors to a new type. These work very well because they eliminate disadvantages of the used types.
The nursing home in Werneuchen (figure 6.1.8) uses a combination of the double loaded corridor, the cluster and the single loaded corridor and combines them to the wing type.

*Pattern 6.2 – Create Guided Wandering Paths That Incorporate Common Areas into Their Circuit*

*For residents with dementia provide purposeful wandering areas inside and outside the building. Weave rooms of daily activity into a created wandering path.*

“In cutting through a space, the path creates patterns of rest and movement within it.”

*(Ching 1979, 282)*

Figure 6.2.1 Avoid corners and dead ends when designing hallways.
6.2.2 Provide wandering paths through activity rooms and to the outside.

Since there are more and more residents with dementia it is important to incorporate special design features in every nursing home to accommodate the needs of this clientele.

“Wandering – that is, movement without apparent purpose – is a common behavior among people with Alzheimer’s disease […]” (Kliment 2004, 68)

Wandering can be a problem for the nurse because wandering leads residents to places they should not go, like resident rooms. This can cause disputes between residents which the nurse has to settle. Wandering can also lead to residents getting lost in the building, not finding their way back to their room. Then the nurse has to start a search. For that reason nurses tend to fixate wandering residents in chairs, which keeps the residents in control over the staff. Since this is not a good solution for the resident it is a lot better to let the resident wander but guide the wandering with the creation of a loop. To get the residents to also take part in daily activities more, the loop should pass by or even cross through rooms where activities take place. That way the resident wanders, sees an activity going on, and joins in for a while before moving on. This way the resident stays independent and the nurse doesn’t have the difficulty of trying to find the wandering
resident. One of the first architects and project developers, who tried to apply theoretical knowledge about the building of nursing homes, especially for residents with dementia, was Axel Gutzeit. He also implemented wandering paths into his designs, which he called “Rundlauf”. (Immobilien Tutor 2005-2007)

**Pattern 6.3 – Corridor Becomes Secondary Living Room**

*Pay attention on the design of the corridors within the nursing home, especially for use as “living areas”. “Es sollte die Möglichkeit der Nutzung dieser Zonen als “sekundäre Wohnbereiche” angestrebt warden.” [Translation: The possibility to use these zones as “secondary living areas” should be intended.]* (Kaiser and Winter 2002, 57)

*Create opportunities to pause and linger and stay and watch while not interrupting movement along the corridor.*

Figure 6.3.1 Avoid monotonous corridors.  
Figure 6.3.2 Create pockets of activity in order to transform the corridor into a secondary living room.  
Figure 6.3.3 Example for a “pocket of activity” in Berlin
“Most patients in nursing homes, once they are no longer mobile, spend most of their
days in wheelchairs, lined up along a corridor wall, staring at the opposite wall. […]The
reason they are moved from their private rooms out into the public corridor is so that they
may be watched more constantly, in case of sudden need. […]How do you design a
corridor as a wonderful place to be? It must become something MORE than a corridor
[…] The tactic here is to transform an unintentional and consequently ugly figural space
into a non-figural or residual space. (Malo 2001)
The pictures above (figure 6.3.4-6.3.5) show the huge difference of a simple circulating
space, an “unintentional and ugly figural space” to the left and a circulating space used as
a “residential space” to the right. Both pictures were taken in the studied nursing homes,
the left one in Zehdenick (figure 6.3.4) and the right one in Berlin (figure 6.3.5).
Residents like to be out in the corridor if the corridor is designed as a place for pause and
social interaction and not simply as a movement array. That way the resident doesn’t
need to be forced by the nurse to sit in the corridor anymore, which happens a lot, because the residents will use the corridor as their living room of their own accord. This prevents discussions and fights between residents and nurses about the nurses’ wish that the resident should sit in the corridor and still makes it possible for the nurse to have an eye on the residents.

**Pattern 6.4 – Provide Niches for Walkers**

*Build niches along interior walkways, especially close to dining, therapy and other common areas, to keep the corridors free of walkers. These areas might be planned opposite to the room entries or next to them. A nice way of emphasizing the entry to important common rooms like dining is to place the niche opposite the door and design the door in a niche, too. The depth of the niche should be around 80cm to fully accommodate the depth of a single walker.*

![Figure 6.4.1 Walkers block the corridor](image1)

![Figure 6.4.2 – 6.4.4 Examples for niches to accommodate walkers](image2)

Providing niches for walkers is very important because without appropriate location and order, they present a high danger in their disarray. It is very easy to stumble over the back
wheels as can be seen on the pictures below (figure 6.4.5, “Away from her”; figure 6.4.6, Berlin). For one, the resident can fall which can be very severe because old peoples bones are not as stable anymore as young peoples are. Also the nurses spend a lot of time helping fallen residents.

On the other hand the nurse can easily fall herself.

Last but not least hallways cluttered with walkers look very institutional and not homey.

Pattern 6.5 – Provide Various Seating Areas

Provide various seating areas for the residents to rest and socialize in the hallways.

There should be several areas with different degrees of publicness and privateness. These seating areas can be provided as benches, chairs or built-in-seats.
If there are a lot of possibilities to sit and socialize in the halls, residents will get out of their rooms and use them and therefore be in better view of the nurses. That saves the nurse a lot of time checking in on the residents.

It also fosters interaction between residents. Residents can chose whether they want to keep to themselves or go out and talk to others. They don’t have the feeling of being alone.

Also, residents who are not able to walk long distances can take breaks in between and sit down for a while. That way they can still get to places and stay independent. This in turn saves the nurses’ time because she doesn’t need to take residents to places.
There are several ways these seating areas can be provided. The pictures above (figure 6.5.3-6.5.4) show seating areas in the hall of the nursing home in Berlin and are actually used a lot. But built-in-seats are an option, too. “Built-in seats are great. Everybody loves them. They make a building feel comfortable and luxurious.” (Alexander 1977, 925)
7 Common Areas

Pattern 7.1 – Provide a Large, Flexible Multiple - Use Room

Design one big room in the building where all residents (around 90), can gather and take part in events like holyday celebrations, community open houses and performance events. The room should be flexible and multifunctional. It should be easily changeable into smaller rooms so it can be used for more personal events like resident’s birthdays and staff meetings, too.

![Figure 7.1.1 Flexible multi-purpose room](image)

Having one big room for all residents to gather was mentioned by several nurses in the survey. This saves a lot of time because big events don’t have to be organized at each ward separately. They are just held once in the large room. It is also nice for the residents to be able to take part in big events and get out of the cluster and into the larger “neighborhood” for a while.

The nursing home in Zehdenick provides a large, light flooded, two-story gathering area right off of the entry, which is also used as a café on normal days (figure 7.1.2-7.1.3).
**Pattern 7.2 – Dining – Kitchen - Living Combination**

Combine the dining room and kitchen into one big open room to fit all residents of one cluster (around 15). Make the room also usable for daily activities by residents (living room). Place the dining – kitchen - living combination in a central location in the cluster (see pattern 2.8), close to the nurses station, but not directly at the entry to the ward.

Making kitchen, dining and living room one single room saves space within the building which then saves costs. The saved money should be spent on more personnel. This helps the already existing personnel relax more and actually enjoy their work and that is something the residents will feel.
A dining - living - kitchen combination also gives the nurse a better overview over the residents while preparing food.

For the residents a combined room in a central location is easily accessible from each resident room and will therefore be used over the day to socialize and take part in common activities. In order to function as a center of activities for the residents the room should have a home-like feeling to it. Residents will then accept this room as their living room and use it on a regular basis.

Figure 7.2.2 Dinging – Kitchen example in Zehdenick with homey furnishings and decoration

**Pattern 7.3 – Size Kitchen for Wheelchair Use**

*Size and shape the dining area for the scenario that every resident who is eating in that dining room is using a wheelchair.*
“Nursing home planners of the past did not anticipate the number of people who would use wheelchairs or walking aids today […] Consequently, the design of many older facilities hinders some residents.” (Hiatt 1991, 2)

If the dining area is big enough, it is easier for each resident to get to their seat without relying on the other residents who are already seated to get up again.

Also the nurse can save time by not having to help residents get seated, because with enough space they can do that on their own and stay independent.

Another point is that nurses can injure themselves easily on wheelchairs (e.g. fingers between the wheels) when the space is very narrow.

Also providing more space makes it easier to help residents eat, because the nurse has enough space to stand or sit next to the resident who needs help.

Furthermore, the nurse might need to get out of the dining room or into one corner of the dining room fast because of an emergency. If there is very little space that is difficult and takes a lot of time.

Also “[w]hen space is not adequate to accommodate everyone properly, residents sit too far from the table, along walls eating on a tray by themselves, or in hallways or other non-dining areas.” (Hiatt 1991, 6) This excludes those residents who have to eat outside
the dining area from the group and therefore makes socialization more difficult. These residents will then feel alone and unwanted. To prevent this, the dining room needs to be sized accordingly.

Pattern 7.4 – Cook in Ward

Provide a fully equipped kitchen in each dining – kitchen – living combination that allows residents to see and smell food being prepared, instead of designing one big kitchen in the basement with meals then brought to the wards.

If the food is cooked right in front of the eyes of the residents they can smell the food which increases their appetite. This can help the nurse because she/he doesn’t need to spend so much time convincing the residents to eat.

Also some residents like to help in the kitchen for example with cutting, peeling, etc. If the meals are prepared in a central kitchen, they are not able to do this. If the food is cooked in the ward, then helping to prepare food or serve the meal gives the residents
something meaningful to do. This can also save the nurses’ time because they don’t have to keep the residents occupied.

Figure 7.4.3 Food storage in Werneuchen

The picture to the left (figure 7.4.3) shows the food storage in Werneuchen, which exists on every ward close to the kitchen area (figure 7.4.4). The other picture (figure 7.4.5) shows a resident helping to cook in Lobetal.

Figure 7.4.4 Location of Food storage in Werneuchen

Figure 7.4.5 Resident and chef in kitchen in Lobetal
Pattern 7.5 – Provide Outdoor Places for Each Resident Cluster

Each ward should provide a safe access to the outside, for example a balcony or a terrace. Place these areas adjacent to the common areas of the ward. Provide those areas with sunny and shaded areas.

“Balkone werden dann intensiv genutzt, wenn sie für Bettlägerige zentral, d.h. mit der Gewissheit der Beobachtung und Hilfe im Bedarfsfall angeboten werden. Relativ rüstigen, auch schwer bewegungsbehinderten Bewohnern bietet oft der Balkon oder die Loggia die einzige Möglichkeit, ins Freie zu kommen.” [Translation: Balconies will be used intensely when they are offered at a central location with surveillance and help for bedridden residents. For relatively fit and also heavily disabled residents the balcony often is the only possibility to get outside.] (Schnieder 1980, B 52)

Figure 7.5.1 Provide outdoor places adjacent to common areas in each cluster

Having the possibility to use a balcony is very good for residents because that way they can get fresh air without having to ask the nurses for help. This means more independence. Also, residents are more flexible because the nurse does not always have time when the resident wants to go outside and last but not least it is healthy to get fresh air once in a while.
The same balcony may also be good for the nurses. They can get some fresh air during work which gives them energy. Also residents stay in view while they are outside because of its proximity to the common areas and since residents can use the balcony alone the nurse saves time accompanying residents outside.

Figure 7.5.2 medium size balcony with view to the center of the town in Werneuchen

Figure 7.5.3 Balconies with planters and terrace in Werneuchen
8 Nurses Station / Work Rooms

Pattern 8.1 – Central Location of Nurses’ Station

Locate the nurses’ station in a central location for each ward. In buildings with several wards more than one nurses’ station might be needed (see pattern 2.8). Its optimal location shall be across from the ward’s entry. It should be sized to accommodate the maximum amount of nurses who will work on the ward at the same time. Use a generous ratio of one nurse to four residents when considering the size of the nurses’ station.

It is also important that the nurses’ station has visibility and direct access to the primary circulation hallway.

A central location of the nurses’ station gives the nurses a good view of the residents and allows hallways to be shorter. The nurses’ station should be big enough so the personnel can meet for personnel change and discuss what happened during the shift. In order to be a productive work environment the nurses’ station should have a window for natural light and ventilation and views (see patterns 2.3 and 2.4).
For residents it is good to have a short walk to the nurses’ station if they have problems and want to talk to a nurse.

Another issue is safety. With the nurses’ station being located right across the entry, the nurses are able to see who enters and leaves the ward.

**Pattern 8.2 – Nurses’ Station and its View**

*Design the nurses’ station as an enclosed space with a “clear view” door and windows to the corridor. The door and windows should be placed so that part of the nurses’ station stays private and free of views.*

“Auf Beobachtungskanzeln zur Blickkontrolle des Flurs sollte verzichtet werden; eine großzügige Verglasung zum Flur hin erlaubt Bewohnern im Vorübergehen Tätigkeiten des Personals zu beobachten.” [Translation: Counter-like nurses’ stations should not be used. A generous glazing to the corridor allows residents to watch what the personnel do while passing by.] (Schnieder 1980, B 134)
An enclosed nurses’ station gives nurses a more quiet space to work. With glazing the nurses are still able to easily observe the corridor. Also the residents don’t feel the nurses’ view intrusive, and therefore will use the corridors more often.

The picture to the left (figure 8.2.3) shows a typical counter-type nurses’ station. It is very open and approachable, but affords little privacy for nurses and residents. This picture is from the movie “Assisted Living”. The picture to the right (figure 8.2.4) shows a more enclosed nurses’ station of the nursing home in Berlin. This allows for private conversations about residents’ conditions and makes residents on corridors feel less observed.

Pattern 8.3 – Provide Both a Quiet Work Space and a Break Room

Design a private room for the nurses to do paper and medicine work and a break room with the possibility to brew tea and coffee and warm meals. Locate these rooms in close proximity to the nurses’ station.
By using these private rooms, the nurse has a quiet place and can really concentrate on the paperwork without being disturbed by the other nurses, visitors or residents. This leads to fewer mistakes, which is especially important when dealing with medicine. The work will also be done quicker. It is important that the break becomes a real break where the nurse can relax and then return to work with fresh energy.

The residents in turn will notice that the nurse is more energetic and relaxed and benefit from this too.

It is really important that these rooms are located close to the nurses’ station. In Zehdenick, for example, the break room is located in the basement. It is so far away from the wards, nobody actually uses it.

**Pattern 8.4 – Nurses’ Restroom Close to Resident Rooms**

*Provide one restroom for the nurses in each cluster. Locate it halfway between the nurses’ station and the end of the hall.*
Figure 8.4.1 Nurses’ restrooms close to resident rooms

Having the nurses restroom located within a short distance saves a lot of time walking along the halls. The time saved can then be spent with the residents.

Figure 8.4.2 Long walkways to the restroom (red) in Werneuchen
9 Utility / Storage Areas

Pattern 9.1 – System of Centralized and Decentralized Utility Rooms

Within the building create a system of centralized and decentralized utility rooms. The central utility rooms will be used for the longtime storage of a high amount of material and therefore need to be large. The “satellite” utility rooms will be used for the storage of daily use equipment and will be refilled from the central utility rooms when needed. Therefore the “satellites” don’t need to be as large. It is more important that they are conveniently located close to the residents’ rooms.

Figure 9.1.1 System of central and decentral utility rooms

With a system of centralized and decentralized utility rooms, the walkways for the nurse will become shorter because “satellites” are located right where the material is needed, next to the resident rooms. This will result in time saved for the nurses and more time for the residents.
Figure 9.1.2 Example for a decentralized utility storage system

The building plan (figure 9.1.2) shows a suggestion for a renovation of the Middletown nursing home, creating a system of central utility rooms (red) at the end of the long hallway and decentral utility rooms (yellow) in each wing next to the resident rooms (marked by numbers).

Pattern 9.2 – Provide Large Amount of Storage Areas

Plan enough storage areas throughout the building. Room for unused wheelchairs and walkers requires a lot of space.
If there is enough storage provided, equipment and utilities don’t need to be stored where they don’t belong like in hallways as is visible in the pictures taken in Middletown (figure 9.2.1-9.2.2). If everything has a proper storage space, things are easier to find. Also cluttered halls don’t look very nice. If there is enough storage space, the corridors will look nicer and therefore the resident will feel a lot more comfortable.

Last but not least, cluttered hallways are a hazard because it is easy to stumble over boxes and get hurt. That is true for residents and nurses as well.

Pattern 9.3 – Locate Soiled Utility Room Away From Dining Area

Carefully plan the location of the soiled utility room. Never locate this room across from the dining room or other common areas.
If the soiled utility room is located across from the dining room, residents will be able to see nurses carrying used diapers to the soiled utility room while dining. It may also smell from that room from time to time. Residents will therefore not have a good appetite. That means, the nurse needs a lot of effort to convince the residents to eat and that is very stressful and takes a lot of time.

The partial building plan (figure 9.3.1) shows the nursing home in Berlin. In the survey, the nurses critiqued the location of the soiled utility room which is right across the dining room.
10 Resident Rooms

Pattern 10.1 — “Living Pods”

Combine two single resident rooms with a private corridor and a bathroom containing a shower together to one “living pod”.

10.1.1 A “Living Pod”

This type of room layout has already been built a lot in German nursing homes, for example in all of the nursing homes visited during the research. The survey indicated that these “living pods” work very well.

First of all this room layout gives every resident a single room which is “[…] among the most desired changes of nursing home residents.” (Calkins 2007) According to Sibylle Heeg (1992, 14) single rooms help maintain intimacy and territoriality.

Another issue is that single bed rooms might cost more at the beginning because more space is needed in order to accommodate the same amount of residents but “[o]ccupancy of multibed rooms generally reaches a maximum of 80 to 85 percent, whereas single-bed rooms can reach 100 percent occupancy.” (Kliment 2000, 147) This means that during the life-cycle of the building more money is earned by offering single rooms than by
offering double rooms or even bigger rooms. Another problem with double rooms is the conflicts which often arise between roommates. These need to be settled by nurses, which takes a lot of time that could be used in other ways.

Besides offering single rooms for each resident, this room layout offers a private entry area for the residents more comparable to an entry into a single family home or an apartment. It also forms a "Pufferzone zwischen Individual- und Gemeinschaftsbereich" [Translation: buffer zone between private room and common areas] (Kaiser and Winter 2002, 53).

In this layout two residents share a fully equipped bathroom which gives the residents more privacy while taking a shower and shorter walkways than in shared shower facilities on the corridors. This may even lead to residents taking showers more often. The shorter walkways from resident rooms to the shower also help the nurse save time.

These two partial building plans (figure 10.1.2-10.1.3) show a typical “living pod” as built. The left diagram belongs to the nursing home in Werneuchen and the right one to the nursing home in Lobetal.
Pattern 10.2 – No Acute Angles

Avoid creating acute angles in resident rooms.

Designing resident rooms which have acute angles leads to several problems. First of all resident rooms are already kept pretty small in order to keep the building costs low. If an already small room then contains acute angles it will be very difficult for the resident and the relatives to accommodate furniture in the room.

Also, it will be a lot easier for the nurse to handle wheelchairs or help residents with walkers if the room is shaped so that valuable space is not wasted as empty corners behind furniture. Last but not least the room will be a lot easier to clean without having “dust corners” everywhere.

Figure 10.2.3 Acute angle in resident room in Zehdenick, better: the rectangular rooms adjacent to the marked room
The above diagram (figure 10.2.3) shows rooms as built in the nursing home in Zehdenick and shows rooms that work very well, especially with the nice bays at the windows. But it also shows a room with an acute angle, which makes it difficult to use as a resident room.

**Pattern 10.3 – Resident Room Sized to Accommodate Seating Area**

*Size the resident rooms so that the resident can bring their own furniture into the space, especially a table, chairs, a sofa and a wardrobe.*

Having enough space in the room to bring one’s own furniture is essential for the resident because that way he/she can keep objects and artifacts which remind them of their old home. This in turn makes them feel more comfortable in their new surroundings. Also relatives might visit more often knowing that there is a nice place to sit and chat in “grandma’s” room.

If the resident is happy that will also influence the nurses’ work because an even-tempered resident is a lot easier to work with.
The left picture (figure 10.3.1) shows a double room in Middletown with barely enough space to fit one armchair in addition to the beds and night stands. On the right (figure 10.3.2) you can see a single room (15m²) in a nursing home of the Hoffnungstaler Anstalten Lobetal which easily fits a nice seating area.

Pattern 10.4 – Windows to Life

In resident rooms use windows which go all the way to the floor. These can also be doors to balconies or terraces with glazing. Provide a view out of these windows too.

“[…]lace [the windows] in positions which give the best possible views out over life: activities in streets, quiet gardens, anything different from the indoor scene.” (Alexander 1977, 892)

Figure 10.4.1 – 10.4.2 Outside views according to different window openings

Windows are important features in a resident room because they allow the resident to take part in life even though the resident might not be able to leave the room anymore.

“Rooms without view are prisons for the people who have to stay in them.” (Alexander 1977, 890) But if there are windows leading the views out to an interesting scene the resident has something to look at, and observe. This is especially important for bedridden residents. Regular windows with a high sill height (80-90cm) do not enable the resident who lies in bed to see what is going on outside (figure 10.4.1-10.4.2). That person will
only see a part of an adjacent building or the sky depending on the floor the resident lives on and on the surroundings of the nursing home. The person who showed me around in the nursing home in Berlin explained that if the windows go all the way to the floor, it will be a lot easier for the resident lying in bed to observe what is going on outside. Especially bedridden residents will enjoy observing the actions outside the window and therefore be calmer and less likely to ring or scream for the nurses when not actually needing their help. This in turn saves the nurse a lot of time which is wasted by running to the residents’ room checking on what the resident needs. An example for these large windows can be seen on the picture below (figure 10.4.3) taken in the nursing home in Lobetal.

![Figure 10.4.3 Example for use of large windows](image)

**Pattern 10.5 – Welcoming Entry Doors**

*Doors which lead from the main corridor into the private resident “living pods” (pattern 10.1) should be thought of as welcoming but private entry doors to the residents’ apartment. Therefore chose doors you would also find in a single family house. Consider*
ways the resident’s door can be personalized. These doors should have some glazing in it in order to make the corridor look more homey and to create a visual connection from the resident room (if resident room door is open) to the main corridor.

![Image of a homey entry door](image)

Figure 10.5.1 Homey entry door for use as door into the “Living Pod”

Another feature to give the resident in the room the possibility to connect to the outside (compare pattern 10.4) is to use doors with glazing as entry doors to the small private hall in front of the resident’s room. The resident can then chose to keep his/her room door open and then be able to see all the way to the main corridor and watch what is going on. The door should be chosen carefully to create a homey feeling.

**Pattern 10.6 – Attention to Way Doors Open**

*Pay attention on how doors open. Doors should not block entries to other rooms. In small spaces it might be reasonable to use pocket doors.*
For the resident a well thought out door positioning means more independence because the resident will be able to go places alone instead of having to ask the nurse for help opening and closing doors.

Another issue is that a bad door layout might even be dangerous and create a risk of getting hurt. One resident could open a door while the other resident is coming out of a room behind that door, getting the door right into the face.

**Pattern 10.7 – Provide Light Doors**

*In places where not required by code, doors should be as light and therefore easy to open as possible, especially doors which are used frequently by residents such as bathroom and resident room doors.*

Light doors will help the resident to stay independent. Often times the nurse will need to accompany the resident to the bathroom only because the resident is not able to open the door alone. By providing light bathroom doors, the residents will be able to use the bathroom alone again which gives them dignity and helps the nurse save time.
A woman complains: “[…] Die Türen sind überhaupt zu schwer, ob Zimmertüren oder Schranktüren, die Schiebetüren besonders.” Dies wird vor allem von Rollstuhlfahrern beklagt. Sie können nicht alleine aus ihren Zimmern.” [Translation: “The doors are too heavy in general; it doesn’t matter if resident room doors or closet doors, especially the sliding doors are too heavy.” Wheelchair users especially complain about the heaviness of doors. They cannot leave their rooms without help.] (Schnieder 1980, A 22)

Pattern 10.8 – Provide Locks on Doors

Provide resident doors and bathroom doors with locks. Keep in mind that locks on bathroom doors should be unlockable from the outside. In resident rooms provide regular locks. One key can be given to the resident and a general key which opens every resident room should be placed with the nurses.

Figure 10.8.1 Doorlock for bathroom doors front (left) and back (right)

The picture above (figure 10.8.1) shows a typical bathroom door lock. On the inside the person turns the bolt and the door will not open from the outside (figure 10.8.1, left). But in case of an emergency inside the bathroom the nurse will be able to get inside using a coin to turn the bolt back (figure 10.8.1, right). That way the residents have privacy in the
bathroom and are not going to be disturbed by their neighbor, but it is still possible to enter the bathroom very quickly in case of an emergency.

For resident room doors, regular locks which are opened and closed with a key are reasonable. Unlocking the door with a key reminds the residents of the way they used to enter their own apartment or house. It also gives the residents the feeling of privacy. But one key (the best would be a general key which opens all resident doors) should always stay with the nurse in order to be able to help in emergency situations.
11 Bathrooms

Pattern 11.1 – Resident Bathroom Located on Outside Wall

Create each “living pod” (pattern 10.1) so that the bathroom is located on the outside wall of the building. Provide the bathroom with a window to allow for natural light and ventilation (patterns 2.3 and 2.4).

The diagrams (figure 11.1.1-11.1.2) show how a “living pod” can be laid out in order to place the bathroom along the building shell (figure 11.1.1) instead of placing it inside the building, as is done a lot today (11.1.2), to provide natural light and ventilation.

Natural light lets the bathroom look homier and makes taking a shower a pleasure for residents. That way the resident is less combative which makes it easier for the nurse to assist the resident while taking a shower.

Another point is that with a natural light the nurse can easily see if the resident is cleaned everywhere and if the resident has wounds and sores.

Also, being able to open a window in the bathroom helps prevent the bathroom to smell bad and therefore contributes to the resident being willing to wash himself/herself more often.
Pattern 11.2 – Bathroom Configuration to Create More Space

While designing the bathroom keep in mind that the norms for a barrier free bathroom have been developed for disabled people who are using the bathroom with a wheelchair, but without having a second person as a helper. Almost every old person in a wheelchair will need assistance in the bathroom. Design this space therefore with enough room to accommodate a wheelchair user and his/her caregiver at the same time. Consider differing locations of the primary elements lavatory, water closet, and shower to ensure ease of use and access for two people.

If there is enough space in the bathroom the nurse will be able to help the resident a lot better and more effectively. Also “[b]athroom configuration, hardware, and door design might be improved to enable more people to use the toilet rooms independently and spend less time in negotiating space. Better design, hardware, lifts, and training also might reduce the number of staff members required to assist one individual.” (Hiatt 1991, 4) That means that nurses will not spent that much time on assisting residents in the bathroom anymore.
The above picture (figure 11.2.1) shows a model of a resident bathroom as built in the nursing home in Berlin. For most residents the wheelchair needs to be placed in front of the toilet in order for the resident to stand up, get undressed and switch from the wheelchair to the toilet. The bathroom is built according to the norms, but as soon as the wheelchair is placed in front of the toilet, the nurse will not be able to either enter or exit the bathroom. This can be a hassle when equipment is needed or in case of an emergency outside of the bathroom.
By just switching the sink and the toilet within the same room the nurse will get free access into or out of the bathroom at all times.

**Pattern 11.3 – Provide Free Space to the Right of the Sink**

Whenever possible, provide free space on both sides of the sink, when not possible

“Bewohnerwaschbecken in Sanitär-, Wohn- /Schlafräumen und Stationsbädern sind zweckmäßig so zwischen seitlichen Begrenzungen angeordnet, dass die erforderlichen seitlichen Bewegungsflächen rechts neben dem Waschbecken liegen. Diese Arbeitsposition ist für die Mehrzahl rechtshänder Pflegekräfte die günstigste dann, wenn doppelseitige Bewegungsflächen nicht vorgesehen warden.” [Translation: resident sinks in bathrooms, rooms and therapeutic baths have to be located in a way that the required movement area is positioned to the right of the sink. This working position is the best for the majority of right handed nurses if movement areas can not be provided on both sides of the sink.] (Schnieder 1980, B 169)
The pictures above (figure 11.3.1-11.3.2) show a model of the bathrooms of the nursing home in Berlin. The left picture shows the movement area left to the sink. This is the bathroom configuration as actually built. After switching sink and toilet (compare pattern 11.2) the movement area will automatically be to the right of the sink which makes helping the resident a lot easier for the nurse (figure 11.3.2).

**Pattern 11.4 – Central Location of Therapeutic Bath**

*Each ward should offer one therapeutic bath in a central location on the building floor.*
Since most residents prefer showers over taking a bath in a bathtub, one therapeutic bath will be sufficient for one ward. But the central location of that bath is important to keep walkways for the nurses short. For the residents the proximity of the therapeutic bath to their resident room should be considered so that they do not start freezing and get a cold after taking a bath.

In Werneuchen (figure 11.4.2) the therapeutic bath (blue) is located off of the connecting corridor between two resident clusters (red) and can be easily reached from residents of both clusters.

**Pattern 11.5 – Visually Pleasing Therapeutic Bathroom**

*Margaret Calkins (2005)* suggests that therapeutic bath should be located at the periphery of the building shell and made visually pleasing by decorating with posters and knickknacks. She also suggests providing lighting which does not shine directly down from the ceiling. Instead provide lights at the bathroom walls which indirectly light the room by reflecting light from the ceiling. Important features to include are also grab
bars, storage space for shampoo, soap and towels which can be reached by a person in a wheelchair and an additional heat source. These features should not look institutional but give the appearance of a day spa.

*Gudrun Kaiser and Hans-Peter Winter (2002, 55) emphasize the importance of natural light in the bathroom and the homey feeling even though a therapeutic bath has a lot of technical equipment.*

“Many caregivers find giving baths or showers one of the most difficult aspects of caregiving. It’s a time when residents with dementia are often most combative.” (Calkins 2005) But if the bathroom is designed well residents will have a lot more pleasure taking a bath or a shower and be less combative. This makes the work of the nurse a lot easier.

The nursing home in Eberswalde (figure 11.5.1) placed a poster on the ceiling which the resident will be able to look at while laying in the bathtub and in Werneuchen (figure 11.5.2) there is a lot of knickknacks making the bathroom look homey.
**Pattern 11.6 – No Fixed Shower Heads**

*Provide flexible showerheads with the opportunity to be “handheld” in the residents’ showers. Avoid the use of fixed showerheads (figure 11.6.1).*

![](image1)

Flexible showerheads as shown in figure 11.6.2 are easier to handle for the nurse while the resident is taking a shower. This will prevent the nurse from getting wet herself and it will be a lot easier for her to reach every part of the resident’s body. Also the nurse can adjust and test the water temperature before the resident gets into contact with the water. This saves residents from getting burned by hot water.

**Pattern 11.7 – Location of “Core” Restrooms Close to Common Areas**

*In addition to private restrooms associated with resident rooms, place “core” restrooms for resident use conveniently located close to common areas such as dining room, therapy room and lounges. These restrooms should also feature a storage area for diapers for easy access by the nurse in case a resident needs new material after using the bathroom.*

*Figure 11.6.1 Unpractical: fixed shower head  Figure 11.6.2 Better: loose shower head*
By having a restroom close to activity areas, residents will feel a lot more comfortable taking part in activities without having to worry that they won’t reach a bathroom if needed.

It is also helpful for the nurse because if a resident needs assistance going to the bathroom, the nurse has a very short walkway, especially when fresh diapers are needed as well.

When there are no restrooms close by, sometimes “accidents” happen while residents are on their way to the bathroom but can not reach it on time. Urine will be on the clothes and floor which means the resident feels uncomfortable and the nurse has a lot of work to do by redressing the resident and cleaning up. All this can be prevented by providing sufficient restrooms as in Zehdenick where restrooms are located adjacent to the big hall and cafeteria (figure 11.7.2).
Pattern 12.1 – Homey Decoration

Common areas should be decorated nicely with pictures, flowers, curtains, and decorative artifacts. Incorporate the residents in the process of decorating these areas and let each resident decorate their room on their own.

A homey decoration will let the residents feel at home and also provide a memorable destination for help in wayfinding. A big clock for example is an object a resident might remember. When the resident sees that clock he/she knows where he/she is. Home-like elements also provide a nicer work atmosphere and nurses are more likely to enjoy going to work.

These pictures (figure 12.1.1-12.1.2) show homey accessories photographed in American nursing homes. The grandfather’s clock may also help in wayfinding.
The nursing home should provide shelves and cabinets in common areas for these decorative purposes. In some cases, as seen in Werneuchen, residents donate furniture from their old apartment, when they move into a nursing home, for use in common areas.

*Pattern 12.2 – Provide a Memory Wall*

A *memory wall which offers place to hold precious artifacts of the residents should be provided in the common areas, for residents to share personal memories.*

A memory wall enables residents to share something of their life with the other residents of the nursing home and with the nurses caring for the residents. It also helps the nurses to understand the resident better and see him/her as a human being which needs care instead of an anonymous room number (see literature review).

It also offers a homey atmosphere and living environment for the residents.

In Werneuchen (figure 12.2.1) a resident used to do a lot of wood carving and brought his own carvings with him to the nursing home. They hung them into the corridor.
**Pattern 12.3 – Use of Color and Pattern**

*Use colors and pattern to differentiate between different neighborhoods and resident clusters and as a tool for easy wayfinding within the building.*

![Colors guide residents to their rooms in Werneuchen](image)

Werneuchen (figure 12.3.1) uses color to mark the entries to the different residential areas. The floor of the common areas and the living rooms is orange, circulation space and storage areas are very light. In order to lead the residents to their rooms entries are marked in the same color as the room itself and are visible from far away. This helps residents find their way back to their room or to common spaces easily. That in turn means more independence for the resident.

**Pattern 12.4 – Safety Features with a Homey Look**

*The design of safety features is an important part of designing a nursing home. Provide features like handrails in the hallways and lamps above the door connected to a bell to ring for alarm when assistance is needed. The design of stairs should be considered and should prevent tripping hazards and provide ease in use.*
Incorporating safety features is not just a requirement it also gives the residents more independence and a feeling of being well cared for.

One example is the use of handrails. That way, residents stay mobile and can get to places without the help of the nurse. It is also easier and less dangerous to use the stairs if the treads are shaped correctly (figure 12.4.1-12.4.3).

The left picture (figure 12.4.4) shows a nice wooden handrail in the nursing home in Berlin and the right picture (figure 12.4.5) shows a security lamp in Castleton. These are examples which do not look institutional and therefore provide for a homey building where the resident will like to live.
Pattern 12.5 – Durable and Easy to Maintain Materials

Use resistant materials at parts of the building which are destroyed by wheelchairs and walkers easily, like bottoms of doors and walls and especially corners. Choose materials which are strong but still give a homey appearance. Use guards or edging trim where appropriate protection is needed. Let this become part of the aesthetic of the nursing home.

Figure 12.5.1 Edges secured with metal

When resistant materials are protecting the building, the nurse has to be less careful while maneuvering wheelchairs and helping residents with walkers. Oftentimes it is very difficult not to touch walls, corners or bottoms of doors with this equipment because of insufficient spacing. Also, while assisting residents, the resident may try to move himself/herself which can easily result in touching surfaces too.

Protecting these elements means saving money for the renovation of these areas and less visible wear and tear in the building.
As the corner trim in Eberswalde shows (figure 12.5.1), it is possible to protect edges in ways which still looks nice.

Pattern 12.6 – Hard-Surface Flooring

Flooring types for a nursing home should be easy to clean, but still look homey. Avoid smooth surface materials and level changes.

For baths and kitchens provide tiles with a slip-resistant finish and treat the grout so it doesn’t absorb liquids (Kliment 2004, 207).

In the rest of the common areas and corridors, choose between wood, linoleum and dense loop carpet for best resiliency, durability and maintenance.

In resident rooms, use linoleum with a neutral but homey design, for example a wooden appearance, to make it easy to add a rug into the resident room if desired and approved by the nurses.
Wood, as seen on the picture of the nursing home in Eberswalde (figure 12.6.2), has a familiar, home-like appearance. It can be used in corridors, but it is expensive and needs maintenance (Kliment 2004, 207).

Linoleum is easy to clean, hygienic and offered in a lot of different colors and styles as is visible in the example above with the wooden appearance. Attention needs also to be paid because there should not be glare which can irritate residents.
If carpet is used it should be dense loop carpet because it is not very soft and best to walk on (Kliment 2004, 204). Also the carpet should have a moisture barrier in case urine or other liquids get on the carpet. If there is no moisture barrier the carpet will start to smell after a while.

In general the best choice is hard flooring materials because there the fall risk is very low for the residents. “Stability and balance are improved on hard-surface flooring, thus reducing the risk of falls.” (Redfern et al. 1997)

Also, it is difficult to push walkers on soft carpet which makes residents with walkers depend on nurses to help them. It is also more difficult for nurses to push wheelchairs around on plush surfaces.

In the resident rooms it is best to provide linoleum, for example, with a wooden appearance so that it is easy to clean and does not provide hazards. With a neutral design like a simple wooden pattern the possibility still exists to provide a small carpet for the seating area in the resident’s room. This can be brought by the residents or relatives. If the resident is still very mobile, there should be no problem with that. This way the room
will have a homey atmosphere but can still be adjusted to each individual resident living in the room.

*Pattern 12.7 – Visually and Aurally Stimulating Environment*

“Provide a visually and aurally (related to the sense of hearing) stimulating environment to enrich the elderly person’s experience of the environment thereby decreasing feelings of boredom and sensory deprivation.” (Cohen-Mansfield and Werner 1997).

Create an aurally stimulating environment by supplying common rooms with music players, providing water fountains in courtyards and atriums, placing aviaries in common areas and supplying rooms with operable windows, so that sounds from the outside (rustling leaves, rain, chirping birds) can penetrate into the rooms and fill the voids of space. A visually stimulating environment can be created by providing interesting views to the outside (compare patterns 1.1 and 10.4) and by providing for example a butterfly garden or a hummingbird feeder.

“Verbal agitation is common among nursing home residents and is stressful for other residents and staff.” (Burgio et al. 1996) But a visually and aurally stimulating environment lowers residents’ disruptive behaviors, which makes the whole atmosphere a lot better for all the residents and the nurses.

*Pattern 12.8 – Chairs and Benches with Armrests*

*Chairs and benches should have armrests and should be higher than regular chairs and benches.*
Figure 12.8.1 Provide chairs and benches with arm rests

If chairs have armrests and having a high seat like the ones shown in the picture taken in the nursing home in Berlin (figure 12.8.1) it is easier for residents to get up or seat themselves without needing the help of a nurse. That will help foster resident independence.

*Pattern 12.9 – Personalization of Resident Rooms Entries*

*Provide name plates and memory boxes for pictures and other memorabilia at the entry to each “living pod” (pattern 10.1). “Include design features that facilitate personalization of private spaces to increase attachment and self-esteem.”* (Eshelman and Evans 2002)
By decorating the entry to their rooms with memorabilia, residents will be able to recognize their own room more easily, especially if they have dementia. Also, “[e]stablishing an attachment to their new environments can support their ability to function and increase self-esteem.” (Eshelman and Evans 2002)

For the nurses having name-plates at the door will help them with orientation, especially as new nurses come on staff.

Also, the bond between residents and nurses will grow stronger because residents are not just room numbers anymore but become persons with memories to share and stories to tell.

A better relationship between nurses and residents will result in a better work environment for the nurse and the residents will feel more comfortable and actually start feeling “at home” and less likely to feel “institutionalized”.

![Memory box at residents’ doors in Middletown](image)

**Figure 12.9.1 Memory box at residents’ doors in Middletown**

These memory boxes (figure 12.9.1) are located next to every resident room in the nursing home in Middletown and can be decorated by the residents with pictures and more.
**Pattern 12.10 – Let Residents Bring Own Furniture**

In resident rooms, only a bed and a night stand should be provided. The rest of the furniture should be brought in by the resident.

A lot of residents will need help (washing, bedding) while lying in bed. The nurse will only be able to assist properly if the residents use a hospital bed (figure 12.10.1) which can be adjusted in height and easily moved. The nightstand (figure 12.10.2) should also be provided because residents may need to eat in bed and these special nightstands provide a tray for that occasion. They also allow one to place a bowl with water for washing the resident. Today, there are many different designs of these beds so that they don’t have to look institutional.

A second point is that if the resident is only provided a bed and a nightstand he/she will be able to bring furniture from home which personalizes the room and is a reminder of the former home of that resident.
Pattern 12.11 – Provide Multiple and Task Appropriate Light Fixtures

Provide multiple light sources in resident rooms like a reading light close to the bed and a night light which illuminates the floor (Kliment 2004, 29).

For residents having different types of light sources in their rooms is essential. A night light is important so that the resident can find his/her way to the bathroom at night without falling. That way the resident can go to the bathroom alone and does not need assistance by the nurse.

Also having a light near the bed not only provides the resident the option of reading in bed, but it also helps the nurse inspecting wounds, sores, and conditions of the room and its furnishings.

Figure 12.11.1 Night light          Figure 12.11.2 Reading lamp
13 Outside Areas

*Pattern 13.1 – Provide Inner Courtyards, Atriums*

Whenever possible, create courtyards and atriums within the building and use them to bring natural light into the building. This provides a destination place for aiding wayfinding and gives a pleasing environment for residents to be visually and aurally stimulated.

Pattern 13.1.1 Offer courtyards as secure outside areas

Courtyards within the building provide a safe outside access for residents where they can go without needing the company of a nurse. This keeps the resident independent and the nurse can spend more time on other tasks than accompanying residents to the outside. Also, inner courtyards provide a good view and prospect for the nurse. He/she can easily keep an eye on the residents outside.

Courtyards and atriums also help lowering the life-cycle cost of the building and make a better climate within the building because daylight goes deep into the building and natural ventilation is possible.
The advantage of an atrium over an inner courtyard is that it is usable year-round and
does not depend on warm and sunny weather. Therefore the decision if an atrium or a
courtyard, or both is incorporated into the nursing home design should be made
dependent on the nursing home site’s climate.

Pattern 13.2 – Secure Outside Area

Offer a secure outside area for the residents. Within that area create a wandering path
for residents with dementia. Also incorporate seating along the wandering path.

Having a secured outside area, residents can get fresh air and daylight. With a wandering
path within the secured outside area and walkways that do not get too long, it is easy to
find one’s way back inside the building. Providing seating along that path makes it
possible for residents to rest and watch what is going on outside.

Figure 13.2.1 Secured outside area in
Werneuchen

Werneuchen has a very nice outside area with a well kept lawn and flowerbeds
surrounded by a fence which makes it secure (figure 13.2.1).
Pattern 13.3 – Provide Useful Tasks for Residents

Within the secured garden, flowerbeds should be provided for resident use, especially for residents with dementia.

Flowerbeds are a good possibility to give residents a useful task, especially those with dementia. If the residents are occupied they won’t try to get the nurses attention all the time. In Lobetal residents can help in the garden, as can be seen in the picture below (figure 13.3.1).

![Resident and nurse planting flowers in Lobetal](image)

Figure 13.3.1 Resident and nurse planting flowers in Lobetal

Pattern 13.4 – Opportunity to Sit in Shade

Provide an opportunity to sit in the shade while being outside. This can be a pavilion or an awning or even a balcony covering a terrace.
Residents will use outside areas more frequently when there is sufficient protection from the sun. Also shading devices protect against sunburns which can be very painful. Old people get sunburns very easily.

Examples for good shading devices can be seen on the pictures taken in Werneuchen (figure 13.4.1-13.4.2).
References


Hiatt, Lorraine G. 1991. *Nursing Home Renovation Designed For Reform.* Boston:
Butterworth Architecture.


3.2 Suggestions for Renovations in Berlin and Middletown

After creating the pattern catalogue I reviewed my field study of nursing homes and decided to suggest spatial planning alterations and design renovations for the Stephanus-Seniorenzentrum Am Weißen See in Berlin and for the Miller’s Merry Manor in Middletown using the patterns as a design tool. I chose the nursing home in Berlin, Germany, because I used to work there myself. I also wanted to do a design renovation for an American nursing home. I chose the American nursing home which I thought was least effective in its current configuration, which was Miller’s Merry Manor in Middletown.

First I would like to describe the suggested changes for the Stephanus-Seniorenzentrum Am Weißen See in Berlin. The building plan (figure 3.1) shows the existing conditions. I highlighted the areas by using color which I thought would need a change. The second building plan (figure 3.2) shows the building after the renovation. For comparison I highlighted the changed areas in the same colors than I did in the first diagram.

One important improvement for me was the reconfiguration of the nurses’ station (orange). The location is well considered, but I suggest a movable wall in order to being able to divide the nurses’ station into a more public area to the left and a more private
room for paper work or meetings with doctors to the right. Therefore the existing window to the right of the elevator needs to be changed into a door. This move is in accordance with pattern 8.3 – *Provide Both a Quiet Work Space and a Break Room*.

Also, I relocated the nurses’ restroom (red) which refers to *pattern 8.4 – Nurses’ Restroom Close to Resident Rooms*. Since it was not possible to provide one restroom in each building wing, I tried to make walkways as short as possible while providing only one restroom. Therefore I placed the restroom as central and close to the nurses’ station as possible.

Another move was to apply *pattern 11.2 – Bathroom Configuration to Create More Space* and *11.3 – Provide Free Space to the Right of the Sink* to each resident bathroom. Therefore I switched the position of the sink with that of the toilet.

*Pattern 11.4 – Central Location of Therapeutic Bath* led me to the relocation of the therapeutic bath (brown) as close to the center of the nursing home floor as possible. With this move I was also able to accommodate *pattern 2.3 – Maximum Daylight* and *2.4 – Provide for Natural Ventilation and Individual Thermal Comfort* because before the renovation the bathroom did not have any connection to the building perimeter and therefore had no possibility for natural light and ventilation. At the new therapeutic bath location I suggest to place a window so that the appearance of the bathroom is nicer and homier and natural ventilation is possible.

Another move was to rethink the location of storage areas. In the original building there was one storage area in each building wing but both were used for different types of supplies which resulted in long walk ways. I relocated the storage area in the left building wing (dark green) to the former space of the therapeutic bath since storage areas do not
necessarily need a window. I also suggest to divide both storage areas (one for diapers and one for cleaning supplies) so that both types of supplies are stored in both building wings. This happens in accordance with **pattern 9.1 – System of Centralized and Decentralized Utility Rooms**. I also suggest to switch the location of the storage room door in the storage room of the right building wing so that it is easier accessible from most of the resident rooms. Due to the relocation of different rooms the former nurses’ restroom can be used as an additional storage area (grey) for unused walkers and wheelchairs, which used to be kept on platforms in emergency staircases. This accommodates **pattern 9.2 – Provide Large Amount of Storage Areas**.

**Pattern 9.3 – Locate Soiled Utility Room** (dark yellow) **Away From Dining Area** inspired me to place the soiled utility rooms between the two double rooms at the dead end of each building wing, away from the dining room entrance. At the former places of the soiled utility rooms I created open seating areas (light yellow) which were inspired by **pattern 6.5 – Provide Various Seating Areas**.

The double rooms close to the entry to the ward were also reconfigured. In the left building wing it was possible to relocate this room (dark blue) in order to integrate it more into the resident cluster. That way it was also possible to create a private hall for this room. In the right building wing I changed the location of the door so that the room entry is closer to the dining – kitchen – living area and to make it possible to create a private hall for the two residents of this room (grey). This move follows **pattern 10.1 – “Living Pods”**.

My last move was to reconfigure the dining – kitchen – living area. I used **patterns 7.3 – Size Kitchen for Wheelchair Use, 7.5 – Provide Outdoor Places for Each**
Resident Cluster and 6.4 – Provide Niches for Walkers. In order to create more space I added an alcove to the dining room as a projection from the existing façade. Part of this became a balcony and part was added to the dining area space. Next to the dining room entry, I created a niche for walkers.

The second set of diagrams (figure 3.3 – 3.4) shows the different shades of privacy (Pattern 2.11) before and after the renovation of the Stephanus-Seniorenzentrum Am Weißen See. The whole floor became more structured and there is a greater emphasis on the dining – kitchen – living area in the redesigned nursing home.
Figure 3.1 Berlin before renovation
Figure 3.2 Berlin after renovation

Figure 3.3 Berlin before renovation – shades of privacy (residents: from white = public to red = private; nurses: light blue = public, dark blue = private)

Figure 3.4 Berlin after renovation – shades of privacy (see figure 3.3)
Now I would like to describe the changes I suggest for a renovation of the Miller’s Merry Manor in Middletown (compare figures 3.5 – 3.6).

Since administration offices were scattered over the whole building I used pattern 2.7 – *Separate Administration Building Wing* and relocated all the offices (grey) so that they are collected in one area together close to the building entry. Included in this step was also a relocation of the reception (grey) and lounge (light blue) so that they are right next to the building entry and seen right away. This conforms to *pattern 4.1 – Provide a Distinct Reception Located at the Primary Building Entry*.

After that, I relocated some resident rooms (red) so that each of the two residential wings accommodates a similar number of resident rooms located in close proximity to the nurses’ station. I grouped the resident rooms so that they form very private areas in the building opposite to the public areas which I located in the center where all building wings meet. The public areas at this central location include the therapy room (pink) and beauty shop (green). The third wing contains the main entry to the building and more public spaces. *Pattern 2.11 – Provide Multiple Degrees of Publicness and Privateness* was an inspiration for that move.

In order to accommodate pattern 2.9 – *Service and Served Area Distinction*, I moved the central laundry rooms (dark yellow) close to the nurses’ station to form a central service area. According to *pattern 8.4 – Nurses’ Restroom Close to Resident Rooms* I also moved the nurses’ restroom (dark blue) close to the nurses’ station to be easy within reach from each position in the building.

I also created a system of central and decentral utility rooms according to *pattern 9.1 – System of Centralized and Decentralized Utility Rooms*. I broke apart the existing
utility rooms and arranged smaller utility rooms in a group with each shower. With that move I also created one more shower because before the renovation one building wing did not offer a shower at all. I closed off the area at the end of the longest hallway for residents so that the closed off part could also serve as a service area (Pattern 2.9 – Service and Served Area Distinction). In this area I created two new large storage areas for centralized supplies, which serve the small utility rooms close to the showers and resident rooms. This move also included the use of pattern 9.2 – Provide Large Amount of Storage Areas.

Pattern 7.2 – Dining – Kitchen – Living Combination led me to combine the kitchen with the dining area which used to be separate but adjacent rooms. That way, I also created more space in the dining – kitchen area to fit all residents, because some residents had to eat in the lounge close to the reception. That accommodates pattern 7.3 – Size Kitchen for Wheelchair Use.

My last move was to enlarge the existing patio and create an entrance from the lounge to it and to provide a terrace for the dining room according to pattern 7.5 – Provide Outdoor Places for Each Resident Cluster.

The second set of diagrams (figure 3.7 – 3.8) again shows the different shades of privacy (Pattern 2.11) before and after the renovation of the Miller’s Merry Manor in Middletown. It is clearly visible that there is a better distinction in between the served (warm colors) and the service (blue colors) areas. The whole building seems to be a lot better organized and more spacious than before.
Figure 3.5 Middletown before renovation

Figure 3.6 Middletown after renovation
Figure 3.7 Middletown before renovation – shades of privacy (see figure 3.3)

Figure 3.8 Middletown after renovation – shades of privacy (see figure 3.3)
3.3 Reflection and Outlook

In section 3.2 I have shown how the developed pattern catalogue (section 3.1) can be used as a tool for renovating or designing a new nursing home. I hope that this catalogue will provide assistance to others in the future and help create a better work environment for the nurse which will result in more satisfied residents. Since the old population is drastically growing especially in industrialized countries, there is an urgent need to act and change today’s nursing homes for the better. I hope that I have contributed to this with the creation of my pattern catalogue as a design tool for nursing homes.
4 Addenda

4.1 Questionnaire

- Name of the nursing home: _____________________________________________
- Date: _______________________________________________________________
(When I use the word nurse I mean all the care givers including assistants and interns.)

1. What types of rooms does the nursing home offer for long term care residents?
   (Choose all that apply.)
   Single bed room__  Double bed room__  Shared room (>2 residents)__

2. Are the residents in rehabilitation programs separated from the long term residents?

3. Are the people with dementia separated from or mixed with people who are only physically impaired?

4. One nurse has to care for how many residents at what times of the day?
   - Morning: number of residents per nurse: _____
   - During the day: number of residents per nurse: _____
   - Evening: number of residents per nurse: _____
   - Night: number of residents per nurse: _____

5. Do you think that a good building design can help you with your work?

6. Do you or would you like to have a private lounge for your breaks and paper work?

7. Do you think that the nurse’s station has a good location, why or why not?
8. Do you feel that the storage areas (for laundry, trash, diapers etc.) are located well within the building?

9. Do you think that there is enough storage space overall? If not, for what type of storage material would you need more space? (Like trash, laundry, diapers etc.)

10. Do you have the feeling that you have to do a lot of unnecessary walkways because of the bad location of certain rooms (please explain)?

11. Do you think that another type of building could minimize your loss of time from running along the corridors or would a relocation of storage spaces be enough?

12. Which of the following building shapes would you prefer from your perspective as a nurse, regarding your workflow? (Please rank all buildings according to a scale from 1 to 10 with one being the worst and 10 being the best building shape.)
13. Do you think that every resident should have a private (non shared) bathroom, including a shower?

14. From a nurses’ perspective, would you like the resident to bring own furniture? Please answer separately for each of the following: (Circle yes or no and explain.)

- Carpet: yes no why: ______________________________
  ____________________________________________________

- Bed: yes no why: ______________________________
  ____________________________________________________

- Closets: yes no why: ______________________________
  ____________________________________________________

- Tables and chairs: yes no why: ______________________________
  ____________________________________________________

- Night stand: yes no why: ______________________________
  ____________________________________________________

- Others: _______________________________________
  ____________________________________________________

15. Do you think that the nurse should have to approve how furniture is positioned in the room by the resident/their family?

16. What type of flooring would you prefer in the corridors and in the dining/kitchen area, why? (For example: carpet, linoleum)

- Corridors: __________________________________________
  ____________________________________________________

- Dining/kitchen: _______________________________________
  ____________________________________________________
17. Draw a cognitive map of the area in the building you are responsible for and annotate the things that you like or don’t like about the building. (Please look at the example on the added page first and then draw your own map on the back of that sheet of paper.)

18. Overall, do you think that this building is designed well for the nurses’ work?
4.2 Bibliography


Calkins, Margaret P. Private Bedrooms In Nursing Homes: Benefit, Disadvantages,
and Costs.
http://info.aia.org/nwsltr_dfa.cfm?pagename=dfa_a_0706_feature_article
(accessed March 18, 2009).


Cohen-Mansfield, Jiska, and Perla Werner. Nursing Home Interventions Decrease

Cutler, Lois L., Rosalie A. Kane, Howard B. Degenholtz, Michael J. Miller, and Leslie
(accessed March 18, 2009).

Dickinson, Joan I. Nursing Home Design: A Student Challenge And Call For

Dougherty, Kevin. $80 Million Aimed At Helping Nurses Cope. *The Gazette* June

Duffy, Michael, Su Bailey, Bets Beck, and Donald G. Barker. Preferences In
Nursing Home Design. A Comparison Of Residents, Administrators, And

Dymarczyk, Christina. Das Altenheim aus der Perspektive des Pflegepersonals –
Lebensort für die eigene Zukunft? http://www.uni-
bonn.de/Aktuelles/Presseinformationen/2003/432/bilder/Altenheim-Umfrage.pdf
(accessed March 18, 2009).

Eshelman, Paul E. and Gary W. Evans. Place Attachment Is Influenced By Interior

Fachbereich Altenhilfe Diakoniezentrum Werneuchen “Wohnen und Pflege.”
Einrichtungs- und Pflegekonzept Diakoniezentrum Werneuchen “Wohnen und


Heeg, Sibylle. *Pflegeheimat: Ideen für das Pflegeheim von Morgen*. Stuttgart:
Institut für öffentliche Bauten und Entwerfen, 1992.


Polley, Sarah. *Away From Her*. Canada: The Film Farm, 2006.


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