System Design for Social Intervention
Improving through interior design the client’s experience and staff productivity.

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Dissertação
Mestrado em Design de Equipamento
Especialização em Design de Interiores

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RESUMO

Santa Casa da Misericórdia é uma organização católica portuguesa cujo propósito da sua fundação é tratar e apoiar, sob diversas formas, os cidadãos doentes e/ou deficientes, assim como assistir aos mais desfavorecidos. É fundamentalmente reconhecida pelo seu trabalho de apoio social à população mais necessitada e isso extende-se a áreas como a exclusão social, a solidão, acompanhamento em situação de desemprego, entre tantos outros temas. Por intervenção entende-se qualquer programa, serviço, política ou produto implementado com o intuito de influenciar ou alterar as condições sociais, ambientais e organizacionais de um qualquer grupo populacional, assim como as suas escolhas, crenças e comportamentos. Intervenções de caráter social tendem a ser complexas, programáticas e conjunturais. Elas ocorrem pela investigação e análise e concretizam-se em soluções efetivas. Para alcançar o sucesso da intervenção, impõe-se a necessidade de selecionar, adaptar e avaliar determinada informação e aplicá-la ao ambiente atual. Esta dissertação tem como objectivo a criação de um ambiente físico “psicologicamente favorável” no qual possa dar-se uma relação significativa entre um e uma organização. Diferentes características são estudadas com o intuito de se alcançar uma solução eficaz onde as diretrizes do design de ambientes concorrem para a criação de um tipo específico de espaço físico. Há evidências científicas de que um fraco ou inexistente design de ambientes é contraproducente ao bem estar dos seus utilizadores, quer utentes, quer colaboradores. A segunda parte deste estudo incide nas instalações da Santa Casa da Misericórdia de Lisboa, localizadas na Rua das Janelas Verdes, em Lisboa. O seu estudo funciona como base para um entendimento das relações espaço-relacionais que aí ocorrem. Assim, usámos uma metodologia designada Evidence Based Design, assim como um inquérito por questionário para recolha de dados. O propósito foi o de melhorar a experiência relacional com a instituição, não apenas dos utentes como também dos funcionários, para isso alterando o design de ambientes desta instalação. Melhorar a imagem das instalações da Misericórdia pode não só contribuir para uma optimização dos serviços prestados - quer na óptica do utente, quer, também, na do funcionário, nomeadamente ajudando a lidar com o stress -, como também reflectir-se numa melhoria do serviço prestado e, em última análise, dos objectivos atingidos. O atual design e os desenhos técnicos das instalações foram estudados ao pormenor. A sua observação, análise e investigação proporcionou-nos soluções conclusivas. Factores espaço-
ambientais têm, de facto, influência sobre a forma como o serviço prestado é lido e percepccionado pelos utentes. Em primeiro lugar, o plano de diversas áreas foi alterado e organizado de acordo com o propósito de cada espaço. O maior problema descrito pelos empregados da SCML foi o ruído, tal como o facto da Recepção estar anexada à Sala de Espera. Este problema foi resolvido ao mudar os escritórios para uma outra parte do edifício. Desta forma, foi possível criar uma Sala de Espera maior e uma Recepção Isolada, onde os clientes, ao entrarem no edifício, sabem para onde se dirigir. As divisórias de vidro criam, minimamente, isolamento acústico e privacidade. Barreiras físicas foram removidas com o intuito de minimizar barreiras de comunicação. O mobiliário da Sala de espera sofreu alteração na sua disposição, assim como na tonalidade, onde apotei em cores quentes. Considerei importante concentrar-me em criar um ambiente seguro e confortável aos cliente, nas Salas de Consulta. Neste âmbito, planeiei pequenas alterações que causaram um impacto positivo enorme na óptica do utente, criando assim uma relação de cuidado e confiança entre os atendentes e os seus atendidos. Houve também um plano de intervenção para o Back-office. Os empregados da SCML trabalham em um ambiente de alta pressão, sendo assim essencial a criação de uma área precisa e específica para escritórios. Com o intuito de maximizar o uso do espaço, a quantidade de salas isoladas foi reduzida. Vidros e outros materiais transparentes foram utilizados para favorecer comunicação visual e à entrada de luz do dia nas áreas de trabalho. A maioria do staff apresentou reclamações devido à falta de áreas comuns para os intervalos. A resolução deste problema foi criar uma “kitchenette” no 4º andar. Esta sala possui uma divisória que cria simultaneamente um segundo propósito: Sala de conferências. Estes experimentos e alterações servem como prova que é possível melhorar a satisfação dos clientes e produtividade dos empregados com o Design de Interiores. Aliás, não apenas os utentes mas também os funcionários são parte da estrutura – factores envolventes, tanto interiores como exteriore, têm impacto palpável em qualquer ser humano. Textura, luz, natureza e arte terão sempre uma interpretação pessoal e a maioria dos inquiridos acredita que o ambiente da assistência social teve uma influência direta no bem-estar, produtividade e gestão de stress.

**KEY WORDS:**
Intervenção Social, Evidence Based Design, Design de Interiores, Distrações Positivas
ABSTRACT

Santa Casa de Misericordia is an organization, whose mission is to treat and support the sick and disabled, as well as assist “exposed ones”. Principally, it is recognizable by its social services. Big matters of society are social exclusion, loneliness, managing unemployment, etc. At some point of our lives we will all need some kind of level of care. By intervention is destined any program, service, policy, or product that is intended to eventually influence or change people’s social, environmental, and organizational conditions as well as their choices, attitudes, beliefs, and behaviors. Social care interventions tend to be compound, programmatic and dependent. They occur through investigation and analysis and discovering solutions at the end. To achieve this, there is a need to select, adapt and evaluate given information and apply it to present environment. This dissertation aims to create physical surroundings that are “psychologically supportive”, where a significant relationship exists between a client and organization. Different features are studied, in order to achieve a matching solution and interior design guides to create a specific type of space. There is scientific evidence, that poor design works in contradiction of the well being of clients of social services, also its employees. The second part of this study is based on existing facility located in Rua das Janelas Verdes. It is a base for project, helping to understand the space and relationships occurring there. I have used methods of Evidance Based Design and a questionnaire to collect primary data. By changing the interior design of this facility, it was intended to improve mostly patient’s experience with Santa Casa de Misericordia, but also the employees. Improving facilities image may help clients enjoy better the service and help the employees cope better with workplace stress and to provide a better service, while outcomes will rise. Current design and floor plans were investigated and studied. Its exploration, observation and analysis led me to significant solutions and conclusions. Environmental factors do have an influence, on how service is perceived but its clients. Not only clients, but also employees are always a part of it. Interior and exterior surroundings have impact on all human beings. Textures, lights, nature and art have individual responses and the majority of respondeds believed that the social care environment had a direct influence on well-being, productivity and coping with stress.

KEY WORDS:
Social Intervention, Evidence Based Design, Interior Design, Positive Distractions
A social care facility is usually not the beginning of patient’s road to recovery, but merely a touchpoint in the path from the first meeting to success. Santa Casa de Misericórdia is searching for a new image for their organization. Santa Casa da Misericórdia is a Collective Person holding private rights and responsible for the management of communal facilities. It works towards the development of the well being of people, particularly the unprotected and exposed ones. It's mainly recognized by its Social Services and the exploration over the National Lottery. Its actions also contain the support and creation of activities concerning the innovation, quality and safety during Service Delivery and by endorsing actions concerning to social economy. It can develop activities of service and public interest.

The social intervention will occur through research and analysis, finding solutions and developing a concept at the end. By providing a new interior design for SCML’s departments, we may create a more productive, streamlined spaces that will increase efficiency, perception and reduce mistakes. This will lead to a conception of a brand new service. There are many ways on achieving certain goals, which will be established in further research. At the moment, an intense re-think is needed in the way that care and support is clear and easy to understand to society in Portugal. Focusing on keeping people healthy and independent for as long as possible, and preventing crises before they occur is an essential action in this matter. Santa Casa de Misericórdia needs to incorporate all of the services that add to an individual feeling safe, secure and supported in their local community. Social intervention is a significant driver in creating and developing new ideas – whether for products, services or models. The key to create a successful service and an appropriate interior design for this purpose is to use the ability to design and deliver suitable support around the specific needs of the person requiring the care. At some point of our lives, we are all prospective to have some degree of care needed. Big matters of society are social exclusion, loneliness, managing health disabilities, and unemployment. Having a sense of worth and value, keeping connected to family and friends, and contributing to society are significant respects in addressing social inclusion. According to Roger S. Ulrich1, who is the most cited and influential evidence-based healthcare design researcher in the

1. Dr. Ulrich is Professor of Architecture at the Center for Healthcare Building Research at Chalmers University of
world, it is easier to produce facilities that are functionally effective but psychologically “hard”. These kinds of facilities generally fail because they are stressful or unfitted to the psychological needs of patients, visitors and staff. There is scientific evidence that poor design works in contradiction of the well being of clients of social services. It is important for designers to create physical surroundings that are “psychologically supportive” and by this, promoting wellness (Ulrich, R.S., 1992). In my thesis I will use methods of Evidence Based Design and a Survey, in order to achieve satisfying results that meet client´s needs.

**METHODOLOGY**

The research work is a descriptive research of both primary data and secondary data. The paper presents the analysis of the public areas of attending SCML’s clients and private workplaces interior design at the facility in Rua das Janelas Verdes. The research is done to understand clients satisfaction due to their attendance by SCML’s employees and to understand the performance level of the employees, due to the physical work environment.

**The research paperwork would seek to fulfill the following listed objectives:**

- To understand the relationship between clients of Santa Casa de Misericordia and Santa Casa de Misericordia (employees)
- To understand the relationship between clients of Santa Casa and the environment of it (interior design and its influence of productivity)
- To analyse the factors of interior design that affect clients of SCML
- To analyse the factors of workplace interior design affecting the employee’s performance
- To search for a design solution to improve the relationship between SCML and their clients and to improve clients experience with the service provided, as well the performance of employees

The study has been carried out with 1 facility located in Rua das Janelas Verdes with 2 different floors and work areas as a sample, due to wide spread in the establishment of Santa Casa de Misericordia. An Evidence Based Design and a questionnaire was used to collect primary data and observation was used to collect information about interior design.
2. THEORETICAL PART
2.1 AREAS OF INVESTIGATION

2.1.1 SANTA CASA DE MISERICORDIA

Santa Casa da Misericórdia is a Collective Person holding private rights and responsible for the administration of public facilities. SCML’s Custody is ruled by its own, specific, Government member. It reaches, besides of all its legal credentials, the creation of general management guidelines, the supervision of SCML’s activities and its coordination amongst other organs of the State.

Founded in 1498, the Santa Casa da Misericórdia, works towards the improvement of the well-being of people, specially the unprotected and exposed ones. It’s mostly known by its Social Services and the exploration over the National Lottery. However, SCML’s work plays an important role on the areas of Health, Education, Culture and improvement of the Quality of life.

Its actions also include the support and creation of activities towards the innovation, quality and safety during Service Delivery and by promoting actions regarding to social economy. It can, if requested by the State or other public organs, develop activities of service and public interest.

SCML’s religious foundations commit to follow the 14 Mercy Actions:

7 religion-orientated foundations:

- Teach the simple ones
- Provide good council
- Carefully correct the ones that did wrong
- Comfort the suffering ones
- Forgive the trespassers
- Suffer trespass patiently
- Pray to God for the living and the dead ones.
7 cooperatives or property related foundations:

- Redeem Captives and visit prisoners
- Heal and give company to the ill
- Dress the naked
- Give food to the starving
- Give water to the thirsty
- Accommodated the pilgrims
- Bury the dead

Nowadays, SCML performs its original role towards the underprivileged. However, its actions broaden over the centuries, being now the pioneer on searching social solutions. By its wide and unique services, the Santa Casa da Misericórdia is now a role model institution in the Portuguese society.

The Status of Santa Casa de Misericórdia

The SCML aims to work towards the improvement on the well-being of the people, mainly the unprotected ones, directing the instalment of social actions, health, education, culture, and promotion of the quality of life. Based on the Christian traditions and the work of mercy to act inside of the community. As well as on the promotion, action and direction of activities aiming the innovation, quality and security on the services provided, and yet developing start-ups regarding to social economy.

SCML also develops activities for the services or public interests as requested by the State or other public parts. In order to achieve its goals, SCML is responsible for the full organization of its activities. That includes the creation, management and direction of locations and services, assigned by public, private and social parts. It develops and runs social actions modalities over all valences in the areas of childhood and youth, family, and community, for the elderly, disabled and other unprotected people. Develops and runs activities on the promotion of health, prevention and treatment of diseases as
well as rehabilitation and providing long-term cares.

It promotes, supports and encourages the volunteer work. The SCML establishes and takes part on the education field as well as encouraging and promoting investigations and studies on the social area.

Santa Casa also pays a role by setting up and taking part of other organizations, groups or businesses. Its network reaches a wide variety of associations or other institutions with similar goals. It informs, advises and guides people and whole communities about their rights of access to services and goods. Creating a role model of social interactions, evaluating the efficiency and quality while it also supports the other private social establishments.

Furthermore, SCML’s promotes and update information about the social economy and supports technically the creation of other social projects and associations. It regulates the standards of proper functioning of other public and private social establishments. Ensures the custody and curatorship of the under aged helped by the services of SCML. Including legal obligations regarding to protection of children and youth in danger and in orphanages.

Santa Casa manages its patrimony, heritage, donations or the legacy of its benefactors. It ensures the management of its estate and properties, applying it accordingly to the financial availability and actual needs. It’s completely and exclusively responsible for the management of the National Lottery, being also responsible for the distribution of prizes and exploitation of upcoming Lottery games. Santa Casa also develops cultural platforms such as Museums, Expositions, Visits, Conferences and similar projects. Which fully seizes, promotes and hands to the public its historical and artistic heritage.
2.1.2 RESEARCH FIELD

The main goal of this social intervention is to create a new “global image” of Santa Casa de Misericórdia. By this means, it is aimed to improve their service be re-thinking and re-designing current amenities. By researching and analysing, it will be enabled to create better, client fitted spaces, which will increase existing performances of staff. This all will lead to a whole new, better place for Portuguese communities. The first step will be to provide a Pilot-Project, based on the department in Rua das Janelas Verdes in Lisbon. This will be the beginning of the intervention. The base-project will help to develop further changes in another facilities. By changing the interior design it is intended to improve patient’s experience with Santa Casa.

In order to guide people to Santa Casa we need to challenge ourselves and unearth a deeper comprehension of values and look at wider social issues, which may influence our understanding of what is right, wrong or bad in Social Care. This whole process will be considering the values of ethic, moral dilemmas, challenges and cultural role models. Keeping as guidelines respect, individuality and equality or diversity in social care. We should encourage people that use and work for the Santa Casa services to identify the boundaries of anti-discriminatory practice. Seeking a major vanishment of oppression, while increasing independence and being conscious and wrought towards an end of the discrimination over genre, race, disability and any other form of discrimination. Usually, social care facility aims helping people in which the behaviour seems to be odd with the normal and expected social patterns. The Intervention from the Santa Casa must work on strengthening the ego and will power of the individual to deal with their social and personal situation. The carer should not be fully in charge of making the problems disappear; however, it is his responsibility to encourage the individuals to face their issues on a easy and appropriate intervention. Safety and communication should also be vital fundaments in Santa Casa da Misericórdia. We should create bridges between the users and their families; care staff, managers, volunteers, health professionals, etc. Providing information, in a confortable and safe environment. Following this, we should question ourselves about how the existing models of Santa Casa are now. Should the person in need enter and see the bodyguard first? Shouldn’t this be a more welcoming and comfortable place? It is important that care staff communicate with the service user at all times. Saying hello and goodbye is equally important as asking the service
user for information about their condition, day, feelings, or consent to care and treatment. It may be the difference between the person feeling they have been treated with dignity and respect, and received high quality care and treatment, or not. When caring for someone it is important to communicate as clearly and truthfully as possible. However, there are times when this might not be possible, but understanding some of the barriers that prevent communication from taking place may improve our communication skills. If someone is angry about their condition it may be difficult to talk to them about their proposed care and solutions. Anger is a difficult situation to overcome except by acknowledging that it exists and offering to help when the person is ready to receive it.

Figure 01. Figure presented by Design Council for a design intervention in NHS Hospital. It is a base graphics to The Design Briefs in the next point.
THE DESIGN BRIEFS

Following the ethnographic research at the three partner NHS Trusts, the Reducing violence and aggression in A&E programme issued six design challenge briefs to the UK design community. The six national design challenge briefs were:

1. User-centred process
   Redesign the SCML (Santa Casa de Misericorida) process so that it better meets the needs of patients and other service users from start to finish.

2. Versatile spaces
   Consider how spaces in SCML can be made more versatile and better able to deal with diverse client groups and unpredictable workloads.

3. A good wait
   Improve the waiting experience for patients and other service users to ensure that both clinical and non-clinical needs are better met.

4. Perceptions of SCML
   Identify ways to use communication and design to reinforce positive behaviour and avoid aggression and violence.

5. Making safe
   Consider how design could be used to minimise both perceived and actual vulnerability and risk throughout the A&E environment for staff, patients and other service users.

6 Place and process clarity
   Identify ways to make A&E processes and patient pathways more transparent and easier to understand. 2

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1. “NHS hospital staff in the UK experience more than 150 incidents of violence and aggression every day. This problem is particularly prevalent in high pressure areas, with a fifth of all incidents taking place in Acute Trusts, which include Accident and Emergency (A&E) departments.” - Reducing violence and aggression in A&E - Through a better experience. The Design Council of UK, 2011, page 63.

2.2 ENVIRONMENTAL INFLUENCES IN DESIGNING

2.2.1 DESIGNING WITH POSITIVE DISTRACTIONS

The next part of the research includes verifying factors that influence overall environment in social care facilities. As Ulrich claims, patients as well staff benefit from good design. If there is not a minimum comfort provided, the performance of the staff and users decreases without gaining satisfying results. Design is an underestimated value in social service creation and this is a global mistake. Improving facilities image may help the employees cope better with workplace stress and to provide a better service, while outcomes will rise. In order to find the perfect solution it is important to study environmental properties. The level of sophistication in a “care design” can be exuded with a simple and soft color palette, wood wall coverings, or even with throwing pillows and floral arrangements. Refinement and timeless common in a luxury hotel or high-end retail setting but atypical for a social care setting. The ambience must be personalized to the patient, and be taken to a new level. Customers should get a comforting impression.

Positive distractions are one of the approaches that can help in social intervention. These simple arrangements may influence a client’s frame of mind and play a key role in the help-care. Technically, the biggest distraction is architecture and design itself, but there are also other ways to distract, for instance, a fireplace, artwork strategically places, a game table or even access to the outside via a patio or large window. It all has one aim – to inspire and support helping and social care. One of the factors is noise and acoustics. There is extensive indication that noise produces annoyance across different groups, can be distractive and excessive. It is often a source of stress of staff and clients, which can detrimentally affect workplace performance (Evans and Cohen, 1987). Designers must be apprehensive with acoustics. Usually enclosed spaces/offices are a solution and assist in getting some individual space and controlled noise extent. We can try to separate the noise source from the receivers, by applying partial walls, sound absorption tiles, acous-
tic ceilings and use of carpeting. Using noise-proof materials it is significant, not forgetting about implementing them in the space in order to lower upsetting sounds that interrupt the work process.

Pleasant music is one of the distractions, despite what many people may think, it often reduces anxiety or stress and helps to cope with it. Music may enhance a sense of control and help achieve a healthy state of mind. Minimally, music can be a distraction, and if the distraction deflects from focusing on the negative aspects of the social care environment, it should be considered. In the case of noisy intensive care environments, it can additionally serve to provide “white noise” to mask disturbing sounds. The music choice depends from the genre and types of clients (jazz, classical etc). It is important for the potential listener to have a choice in the presence or absence of music, as well being able to select a precise type of music. The sound levels should not disturb other patients or employees. Maybe some kind of special devices could be provided, in order to allow listeners to choose their own music, also providing headphones. Such music can be provided in staffing lounge settings, assuming it does not interfere with alarms and communication.

Regarding Art displays, it may be safer to provide realistic or “gentle” abstract art. Options should be provided for multiple genres. Nature content is critical. It was often discussed and analysed if either abstract art is appropriate for such places. Art should provide positive and simple impact that will be both familiar and inspiring. If abstract art is used in a more personal area like waiting rooms, it may cause wrong feelings and frustration, because no one should have to sit down and try to understand a piece of art, because that can be frustrating. However, abstract art can be very successful in lobbies and transition areas where people connect with the art on a more observatory level. Dr Ulrich claims that abstract art is ambiguous and open to interpretation, if a patient feels poorly, the interpretation is likely to be frightening, which would trigger negative feelings. Moreover, art and positive distractions provide a connection to humanity. Art is a human thing, done by another individual for others to enjoy.

One of the most important factors is nature and greenery. Windows in places and health or social care facilities are very important, where people assign high value to nature views (Verderber, 1986). Continuing with stress, windows and environment significantly reduce it and increase
satisfaction (e.g. Leather et al, 1997). Landscape views also foster gains in patient outcomes. There are three principle ways to provide access to nature. The ideal scenario would be to provide access to gardens, patios, outdoor spaces and atria. Interior and exterior environments should contrast with one another, providing accessibility and possible hypersensitivity to microclimate. Sensory stimulation should allow for an external focus, as well as allowing for both psychological and physical journeys. Essential is providing areas for groups and individuals. Good interactions, with and understanding of nature served to enhance human survival. Dr Ulrich describes access to nature as a primary means of distraction; studying that more positive feelings resulted with these individuals were exposed to nature scenes than when they were exposed to urban scenes. Additionally, Ulrich found that exposure to videos of nature were more restorative than urban scenes, after viewing a stressful movie. The presence of windows in an extension of the concept of access to nature, and also an impact of client’s health outcomes and psychological condition. Humans are hard-wired to appreciate and profit from exposure to nature. A large body of studies shows that humans have a profound need to bond with nature and that even a brief view of a garden or interaction with a water element, for example, can have immediate physiological benefits in terms of reducing stress and anxiety (Ulrich 1999).

It has been investigated multiple times how furniture arrangements influence social interaction. Studies of day rooms, lounges, and waiting areas have shown that social interaction falls markedly when seating is arranged side-by-side along the walls of the room. These findings indicate that levels of social interaction – and presumably social support – can be considerably increased for patients in day rooms and lounges by providing comfortable, movable furniture that can be arranged in small flexible groupings (e.g. Sommer and Ross, 1958). While selecting furniture, the first criteria should be same as with materials, which is maintenance and performance. Furniture scale (the size relationship to the interior space) and design layout are important factors. Thinking about waiting rooms, we must consider developing different areas for different kinds of activities, not forgetting to be able to accommodate a variety of bodies. Different areas may be a space for television viewing, quiet reading, private conversation, etc. Well planned furniture arrangement may contribute to a better life in large waiting spaces (as well the small ones).
The key to achieve a long lasting space and aesthetic is by using durable and pleasing products. It is essential to find the balance between budget and material cost. What we need to pay attention to, is cleaning and how easy is the material to clean. Such places with high intensity of traffic must remain clean and hygienic. The solution is not always self-cleaning materials, as in the end all of them always require some sort of maintenance.

Research has compared the advantages for patients of different types of flooring materials, including carpet and “hard” glossy materials such as vinyl composition and linoleum. Lately, rubber flooring and linoleum flooring has become widespread in places like health care and social care facilities which are durable and sustainable, require minimum maintenance. Moreover, flooring is a very important feature; therefore assigning budget for a high quality product is imperative. What can help in choosing the right flooring material is asking questions like, if the area is used 24 hours a day, what is the planned protection for walls, doors and so on; what is the maintenance program.

We need to keep in mind that material selection and noise control go hand in hand. Soft surfaces (carpet, ceiling tiles, fabric wrapped panels, etc.) have a higher rate of noise absorption, while harder surfaces spread are less soundproof and spread the noise easier. Simplicity, without being too cold, creates a calmer space that’s simple and easy to understand. Distraction is caused by too many textiles, colors and textures. The control of textiles and materials might create a big difference in interior perception from the point of view of staff and clients.

Lighting is crucial in social care scenery. There are two types of lights, natural and artificial, while natural light has no benefits over artificial for the performance of visual tasks (Boyce, Hunter and Howlett, 2003). Nevertheless, it has been proven that natural light brings mental and physical benefits – that concur with a general economic value to the facility. In order to create a connection of the interior with exterior, it is important to make this happen with natural light and windows. Natural light is an indicator in human body, controlling our biological clock by regulating our sleep and waking etc. Although natural lighting is ideal, it is sometimes hard to control and can cause uncomfortable glare and heat. The question we must ask while choosing artificial
lighting it is if it will affect the room/area in a positive manner? While using artificial light, rather highest possible colour rendering index is recommended and an appropriate colour temperature. By selecting an appropriate light colour and heat we direct ourselves in creating calming environments. Indirect light delivers a more relaxed atmosphere, rather the direct lighting. Corridors should be illuminated with a combination of indirect and direct illumination. Workers performance is usually affected and ultimately decreases if the lighting in an office is not comfortable. People in offices without windows very often feel isolated from the larger world. Windows in workplaces bring four general benefits. Which are: access to environmental information, access to sensory change, connection with the outside world, restoration and recovery (Judith H. Heerwagen, 1990)\textsuperscript{1}. The way we use windows and lights it markedly creates a great difference in comfort and well-being. Figure displays a graphic of the features that are acknowledged to influence productivity at work, resulting from the analytic hierarchy procedure developed by Saaty (1972)\textsuperscript{2}. It shows that both the individual and the structure within which he/she works influence productivity. The indoor environment, including lighting settings, is one of the system aspects that influence the productivity of the individual.

Clients always want to find the facility in the quickest way possible, when very often it is not so easy. People aim to get the quality service without having confusions or wasting their times on way finding. Way finding design can easily improve the service performance and make the experience more pleasant and positive. It is a tool that articles an experience free from frustration and stress. A solution may be making a “big picture” in the entrance of the facility, so the first experience will be successful. Using a logical layering of cues creates the best opportunity for visitors to orient themselves to the facility. Spatial organization is considered the most important piece of way finding design by making it easier to understand. Identifying zones and areas is one of the most important steps in organizing amenities. To solve way finding problems, there are used different strategies, which are: route, or linear, strategy and orientation strategy.

Route or Orientation Strategy

It is based on point-to-point information. For instance, a Santa Casa’s client would receive directions from point A to point B, and further directions would obtain from point B to point C, continuing the linear manner.

Orientation Strategy

It is aiming in using sources of information so individuals can orient themselves. A map is an appropriate example of this type of orienting. As an example we can use a large and unique fountain that is a main point in a set of points in giving directions.

Moreover, what we should not forget about colors. Colour impact is believed to be a essential element of design, mainly in social/health care spaces as it is linked to psychological, physiological, and social responses of humans beings. More than 85% or 90% of all information that arrives to our brain from the exterior comes from the sense of sight. Therefore, light and color are together, as core bases for our communication in the world. The choice of color should be responding to functional issues and aesthetic, as well providing and stimulating comfort of patients and adequate professional care.

Sensibly regulating the intensity to softer colors of the same types helps avoid monotony, and in addition preserves the eyes from being unfocussed, causing them to work overtime and produce exhaustion (Brawley, 1997). Nonetheless, despite extensive belief, there is still no clear scientific evidence that colour affects mood, emotions or psychological well-being in any methodical manner. As an example, there is an evidence of colors being used and having a meaning in history. At the temple of Heliopolis in ancient Egypt, patients used to be treated in rooms specifically designed to break up the sun’s rays into the colors of the spectrum. Another sample is ancient Greece, where the physical nature of color was dominant. Color was fundamental to healing, which involved restoring balance and colored minerals, stones, crystals, salves and dyes as remedies. There are various ways different colors are believed to influence mental health. Yellow, for instance promotes uplifting, self-confidence, mental stimulation, while helping to treating depression, negativity and lack of confidence. To assist in treating stress, anxiety, low self-esteem and severe depression, violet color is used. It endorses inspiration, empathy, sense of belonging, helping others and dignity. Whilst blue color is calming in a high-stress settings. The importance
of color choice goes beyond aesthetics. These are only 2 examples of colors, which may have an influence on the way clients and employees feel and reacted to the atmosphere. Is it possible to enhance the patient’s experience and potentially impact clinical outcomes by understanding how to apply color in health care / social care settings?

2.2.2 DESIGNING WAITING AREAS AND WAITING EXPERIENCE

While waiting, clients and their escorts usually experience various emotions such as stress, pressure frustration and anxiety due to diverse aspects such as unidentified health problem, unknown treatment procedure and anticipation of a response from social help staff, long waiting time, and the environment of a waiting room. Through research and design analysis we may understand which explicit features create physical and emotional discomfort.

Very often people have a fear of “being forgotten” by the employees while they are waiting and at the same time they wish they were in some way “invisible” to other people awaiting around them. Clients search for places where they can maintain private and secure, but visible to staff. People are usually more anxious while waiting, rather than during the service. These feelings can be increased and further amplified when the waiting environment itself (for example furniture, lighting, signage, etc.) does not satisfactorily support a sense of comfort and wellbeing. As a result, patients are often displeased and have negative insights toward the quality of the health care / social care institute, which sometimes leads to an early departure from the treatment of help or a switch of social care provider. On the other side, clients with positive emotion habitually have a promising effect after treatment and are more likely to return to the same facility. Furthermore, proceedings such as a long waiting time, a delay of an appointment, a poorly designed interior, an unfair or unclear waiting system, or incompetent staff, may intensify those negative emotions. However, they vary among individuals. The important insight is to achieve personal comfort (people try to achieve some level of physical and emotional comfort, which is not easy in a public
space) and feeling looked after (people seek compassion in case services, yet staff cannot always provide attention when it’s needed, thus reducing the overall service value).

Overall, waiting is caused by uneven source, and demand, which is caused by a poorly structured system, characterized by a lack of flow in the system and long service time. If there is no visible order to the waiting line, people start to get anxious about their priority in the line. It is said that a fair wait feels shorter than an unfair wait. Moreover, people feel physically tied to one spot if there are queue management displays. It is about optimistic communications that trigger our interest. This can be for example a display surface with visual impact and some kind of healthy information.

David H. Maister has identified in his book “The psychology of waiting lines” three types of waiting: pre-process, in-process and post-process.

3 phases of waiting
a. Pre-process: occurs before a service starts (waiting to check in with security or reception. It is considered longer than in-process waiting.

b. In-process: occurs during the service and those waits are more tolerable.

c. Post-process: occurs after the service finishes (queuing to pay or complete paper work). Those waits are less tolerable.¹

In order to improve waiting experience, we must study how the customer feels about a given length of waiting time. For one individual a two minute wait can feel like ‘forever’, for another can feel like nothing at all. It is a common experience. This means that occupied time feels shorter than unoccupied one. Clients should get a feeling that the service has already started with a hidden message “we know that you are here”. This proves why in-process is more tolerable than pre-process. Many facilities use a FIFO (“first in, first out”) rule for queuing discipline. It may work nicely to distinguish clients that already have an appointment and those that do not. This

will help with a feeling of a “fair wait” and a structure of waiting line. It is important to keep in mind, that very often the queue management is provided by the helping person who is also liable not only for dealing with customers present at the facility, but also answering the telephone. Once a client is being attended, the bitter taste of how long it took to get attention pollutes the general conclusions that we make about the quality of service.

### Ideal patient experience

By breaking down the different key stages of the typical patient journey through SCML, we were able to create an ideal patient experience, which would help to inform their eventual solutions.

<table>
<thead>
<tr>
<th>Pre-arrival</th>
<th>Arrival</th>
<th>Check-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know how busy SCML is (and it’s a good time to go).</td>
<td>I’ve been greeted, acknowledged and reassured.</td>
<td>I understand the service and what happens next.</td>
</tr>
<tr>
<td>I know what my options are (alternative services).</td>
<td>I’ve been guided on where to go and what to do.</td>
<td>I feel in the process.</td>
</tr>
<tr>
<td>I know how to get to SCML.</td>
<td>I have a basic understanding of the service and what happens next.</td>
<td>I feel like someone cares about what happens to me.</td>
</tr>
<tr>
<td>I can find the SCML department easily.</td>
<td></td>
<td>I feel reassured and confident about what will happen to me.</td>
</tr>
<tr>
<td></td>
<td>I know how busy SCML is (and it’s a good time).</td>
<td>I feel safe.</td>
</tr>
<tr>
<td></td>
<td>I feel safe.</td>
<td>I know who I am talking to.</td>
</tr>
<tr>
<td></td>
<td>I know who I am talking to.</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2 Environmental Influences in Designing

#### 2.2.2 Designing Waiting Areas and Waiting Experience

<table>
<thead>
<tr>
<th>Wait</th>
<th>Assessment</th>
<th>Consult/Treat</th>
<th>Depart</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know why I am waiting.</td>
<td>I know how long I will wait until my consult.</td>
<td>I know why I’m waiting.</td>
<td>I understand my ongoing treatment help and what I do next.</td>
</tr>
<tr>
<td>I know what I am waiting for.</td>
<td>I feel I’m being cared for and someone cares about what happens to me.</td>
<td>I know what I’m waiting for.</td>
<td>I know where I need to go and how to get there.</td>
</tr>
<tr>
<td>I know how long will I wait.</td>
<td>I feel safe.</td>
<td>I know how long I’ll wait.</td>
<td>I feel safe.</td>
</tr>
<tr>
<td>I am free to wait in a manner that suits me.</td>
<td>I know who I am talking to.</td>
<td>I feel comfortable.</td>
<td>I know who I am talking to.</td>
</tr>
<tr>
<td>I know I haven’t been forgotten.</td>
<td></td>
<td>I feel reassured and confident about what will happen to me.</td>
<td></td>
</tr>
<tr>
<td>I can find out more if I’m not sure.</td>
<td></td>
<td>I feel safe.</td>
<td></td>
</tr>
<tr>
<td>I’m comfortable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel reassured and confident about what will happen to me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel safe.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 02.** Presented table is a part of Design Council research for NHS Hospital in London. Reducing violence and agression in A&E - Through a better experience. The Design Council of UK, 2011, page 78-79.
While designing a new space for clients of Santa Casa de Misericordia, we cannot forget about designing the space where employees work. These two different areas are linked with each other, and if problems in the first one are being fixed, the second area must be considered as well. For years, designers struggled if visual access among employees, that need to share knowledge and interact, should be provided. Many studies advocate, that collaborative work environments are associated with efficiency. The layout of the physical environment can impact social- and task- based relations in the work experience and that both of these relations have an impact on accomplishment, worker productivity and morale. Today, most of the workplaces and offices are arranged and influenced by a desire to reduce costs and increase density. Further published studies have proven that appropriate lighting conditions are important to human health and well being. Mostly people choose rooms with windows, rather than the one without natural light. There is a large quantity of consistent data associating enlarged daylight to employee contentment. It reduces distractions from negative effects, for example thermal heat gain and glare are controlled by sun shading or position of work setting. Widely known measure is the presence of natural vegetation or plants in the workplace or their presence in the office, that reduces stress. What is valued in workplace design is flexibility in layout and configuration, timeless solution (not a trendy design), improvement of opportunities for collaboration, emphasizing functions and sustainability.

An application of Evidence Based Design for workplace environments is rather rare. Although, there are some publications that advertise EDB approach to office design. Many studies prove that communication behaviour increases, as an enclosed office was changed to open plan, although it always varies from the type of work and need of teamwork. Office environments are always influenced by organisational structures, hierarchies, atmospheres, and an organisational identity and culture. In spaces with higher general levels of visibility, staff interacts more with each other. On the other hand, in different organisations it was said that open space offices have lack of individuality, feel impersonal and like a call centre. This leads to a major conclusion, not all the organisations are the same. Neither do they use and appropriate spaces in the same ways.
Each one of them reacts differently to different spatial configurations and that some influences are consistent across cases. Hence, spatial configuration and design clearly influence people’s behaviours within an organisational context. Workplace interior design is a key feature in job satisfaction; it impacts the way each employee’s work. It is shown in Statistics of Data Management Association that a lack of acoustical privacy in open-plan offices can reduce productivity by as much as 40 % and increase errors by as much as 27 % (McLaughlin, 2000). Temperature and humidity have an important influence of how exhausted and tired someone may feel. Widely it is recommended for maximum working temperature to be 24°C (Kathy F. Montgomery, 2004). Most employees say their ideal environment should include easy access to spaces that accommodate the tasks they need to accomplish, access to office equipment and to people. A large percent of them indicate that privacy is a very important factor in offices, as much as ability to work productively.

Comfortable and ergonomic office design encourages the personnel and surges their performance significantly. Most people spend fifty percent of their lives indoors, which greatly have an impact on their mental status, actions, capabilities and performance (Sundstrom, 1994). Better outcomes and increased output is anticipated to be the consequence of better office environment.

“Generic function refers not to the different activities that people carry out in buildings or the different functional programmes that buildings of different kinds accommodate, but to aspects of human occupancy of buildings that are prior to any of these: that to occupy space means to be aware of the relationships of space to others, that to occupy a building means to move about in it, and to move about in a building depends on being able to retain an intelligible picture of it. Intelligibility and functionality defined as formal properties of spatial complexes are the key ‘generic functions’, and as such the key structures which restrict the field of combinatorial possibility and give rise to the architecturally real.”

(Hillier, 2007, p. 223)  

3. PRACTICAL PART
3.1 METHODS OF INVESTIGATION

3.1.1 EVIDENCE BASED DESIGN

Evidence Based Design is the exploration of the relationship between physical and virtual/representational environments and psychological, behavioural, physiological and mechanical responses. It is a practice that has arisen only rather lately. It was inspired by their approaches in professions such as medicine. Evidence Based Design (EBD) is an approach built on its conceptual precursor, evidence based medicine (EBM). EBD focuses on issues with respect to the specifics of design as a discipline:

“An evidence-based designer makes decisions – with an informed client – based on the best available information from credible research and evaluations of projects. Critical thinking is required to draw rational inferences about design from information that seldom fits a unique situation precisely. The process works especially well in the health-care field.”

(Hamilton, 2006, p. 1)

During this research we raise a question of how environmental design affects organisational outcomes like behaviours, workplace performance, staff satisfaction etc. In 1984 Dr. Ulrich published his revolutionary study on the effects of a natural view on patient recovery, in the same year the first Planetree Hospital was built (The Center of Health Design, 2008). These actions placed the groundwork for what has become the discipline now known as evidence-based design. The importance of design decisions on the quality of human practises was always instinctively acknowledged by designers. Nowadays it is being extensively embraced in interior design and architecture field. Ulrich in 2008, in one of his studies says, that the designer translates the evidence as it linked to his or her design problem and makes a verdict as to the best design for that precise condition. Every designer must apprehend the research, convert and analyse its results, in the end

connecting the design decision to a measurable evidence-based outcomes.

A growing multidisciplinary area of evidence-based design is applying rigorous quantitative and qualitative research methods to understanding these relationships, training and applying results to design in order to solve important social problems. It aims to endorse health and corporal activity, to healthcare settings that are higher quality, safer, more efficient, and more patient-centered. Now Evidence Based Design approach is developing and can be a dominant tool used to inform designers’ and architects’ decisions. It is traditionally associated with healthcare architecture; evidence-based design (EBD) is making inroads into being part of the process for designing schools, office spaces, hotels, restaurants, museums, etc. In short, EBD is when decisions about physical space are based on research data. The amount of well-researched building and user information keeps growing. Studies have been done in prison cell size, color and texture, and the connection of those qualities to inmate depression and violent behaviour – useful data to have when designing or modernizing a corrections facility. In museums, observations have shown that 70 percent to 80 percent of visitors turn to the right when entering gallery. Surveys of white-collar “knowledge workers” indicate that open plan workplaces contribute to effective productivity. And the data goes on, supplying plenty of usable evidence for designers.

Another sub-category of EDB is Supportive Design. Ulrich refers the term “supportive” to environmental characteristics that support or facilitate coping and renovation with respect to the stress that accompanies illness and hospitalization. It promotes wellness by designing to foster coping with stress.

“By focusing on the concept of stress, a theory of supportive design can be developed that conceptualizes human impacts of design in ways that are related directly to scientifically credible indicators or interpretations of wellness”. It is suggested that facilities should follow 3 important guidelines, which will help in dealing with stress. Those are:

1. Foster control, including privacy
2. Promote social support
3. Provide access to nature and other positive distractions
These components, especially control ad social support, have been found to affect stress and wellness across a wide range of groups of people and situations. The first point refers to client’s having some control over their circumstances, which helps people to deal with stress. It is undetermined by poor design of social care environments. The most important ones are: noise, no visual privacy, way-finding difficulties or no clear information. Additional chosen design approach is a survey, conducted between SCML’s employees. This kind of way of designing helps better to define problems and understand well people that are in this environment almost everyday. In further part of the thesis, detailed results will be provided.

3.1.2 SURVEY

A survey was conducted to collect the data of interior design impact on staff performance and client’s perception in the month of May 2015. The instrument questioned responders about their opinions relating to the definition of clients and staff needs; the design of the workplace, and the impact of that design on wellness. The questionnaire was distributed personally to employees of Santa Casa de Misericordia in Janelas Verdes. The interior built environment might be an important factor for wellness of employees and customers. The persistence of the study was to obtain the opinions of people that face problems in that facility everyday. Their observations are essential to create a new concept and to comprehend what is needed there the most. It is important to work in the area of corporate office planning, to determine the relationship between design and wellness also the relationship between service, clients and interior environment. They survey was made between 14 employees, resulting in 14 usable responses. This study was limited to one professional organization, technicians and administrators of Santa Casa de Misericordia located in Rua das Janelas Verdes. It is noted that the respondents provided answers to these inquiries founded on their own experiences, or their intuitive considerate of human response to interior surroundings and provided social service. The statistical techniques were used to analyse the employees’ response towards the workplace interior design and its impact on performance and client’s of SCML. The survey was divided into three parts. The first one is focused on Custom-
er’s Observations and the second part is concentrated on Staff and their working environment. The third part is focused on plan analysis by staff. 85% of responders were female and 15% were male. Age rage was between 60 and under 30, where 57% form responders that are between 30-50 years old.

Through first part of the study, the questioned employees have written that UDP client’s are usually uncomfortable with the lack of intimacy in the waiting room. As well majority of them claim that a good idea would be separating the waiting room from the reception. This would improve customer’s comfort and make their experience more pleasant. A big number of clients are families and adults; therefore it would be appropriate to create a more personalized and customer-friendly waiting area, also consultation rooms. UDPS stuff did not notice any discomfort due to security in the entrance area.

The second part of survey was focused on staff’s comfort. Asked questions were cantered on employee’s personal observations due to their wellbeing. 90% of them have indicated that the physical conditions of their work place influence their performance. Noise was one of the factors, although it was declared that not all the kind of noise creates discomposure. One of the biggest problems is the temperature. Due to big number of employees and windows being exposed to south, it becomes very difficult to work in a very stuffy and hot room. During area observation it was noticed that there is not any common area for employees to take a break or have lunch. UDIPS staff would like to benefit this kind of area in the project. It may have a very positive influence on their work. Additional significant problem is the space sacrificed for guarding documents. All the employees are extremely unsatisfied or unsatisfied with those conditions. 55% have asked for smaller office rooms and 45% of them have shown indifferent statement in this matter. Multiple times It was mentioned that the air quality is a comfort issue and it affects the performance. It is cited that they are not able to open windows and there is no proper air conditioning. One of the employees wrote “its so hot, that sometimes I can not breathe”. The ability to control the individual office environment is an important feature in workplace and it may increase stress, discomfort and decrease productivity.
The third part was based on a floor plan of Santa Casa de Misericordia. Employees were asked to indicate their work-station, the area they are the most satisfied with and would like it to be changed and the area with the biggest “traffic”. Commonly known it is that workers need an office environment that works. 80% of surveyed employees from Santa Casa have indicated that their office is not functional enough. There is not enough space to store documents and they are all over their offices and desks. The space should be designed in a way to support well-organized work procedures and has effective consumption of space. People value comfort, communication, access and functional efficiency in the workplace. The overall impact and observation showed that furniture affects the satisfaction of clients and productivity of most employees. It is recommended that we have to consider ergonomic furniture and functional products. Most of them believe that changing interior design may influence a lot their performance and overall wellbeing of users searching for help in those facilities.

Users’ satisfaction feedback and observational survey provide evident that on the overall the facility performs moderately on all interior design criteria. Employees were asked to assess interior design elements in terms of space planning, ergonomics, accessibility, way finding, lighting, temperature and safety. The survey results show that patients and visitors find the overall performance of the facility to be fairly acceptable in meeting their satisfaction needs, although there are many problems to be fixed to meet both employees and visitors needs. There are some aspects, that were suggested the desire of improvement. Plan analysis was used as a guide in the study of space planning and how users experience the whole process. The walk through observational technique provided a closer investigation to reveal micro aspects of interior design that could be further improved to serve the users and employees better. The current research took an indicative approach in studying only one facility, in order to achieve a more comprehensive result to formulate quality interior design guide for other units in Lisbon.
3.2 PHASES OF THE PROJECT

3.2.1 ANALYSIS OF ORIGINAL FLOOR PLANS

3rd FLOOR

- MAIN ENTRANCE
- SECURITY DESK
- WAITING ROOM
- RECEPTION
- CONSULTATION ROOMS
- BACKOFFICE
- COPY ROOM / KITCHENET
- TOILETS
- PRIVATE OFFICES
- CONFERENCE ROOM

4th FLOOR
In this research the focus is on one of the departments of Santa Casa de Misericórdia in Lisbon. It is a building located in the neighbourhood of Santos in Rua das Janelas Verdes. The study field are 2 floors located on the 3rd and 4th floor. The 3rd floor is a customer / employee floor, where is located a security desk, waiting room, reception, meeting rooms and employees offices where customers do not have an access. The 4th floor is aimed only for employees of Santa Casa. The entrance is not easy to find, neither it is welcoming. The stairways seem to be “cold” and the ambience gives a weird, unwelcoming feeling. The light in the elevator was not working while I was there and because of that my anxiety has slightly increased. There were no clear directions and way finding was quite difficult. My first personal contact with Santa Casa was a security desk at the entrance. It is exactly in front of the entrance door at the 3rd floor. It helped in way finding; nevertheless it did not make me feel comfortable. It was rather the opposite. On the left side, there was a big office, filled with social workers, while next to it was a waiting room. In my opinion, clients should not see the ambience of back-office and these areas should be separated. There are many windows, which provide constant contact with nature and daylight. The chairs are placed in a row, facing the TV and being backwards to the reception. There are a few sofas placed along walls and windows. Further in the corridor there are multiple rooms that function as offices and meeting rooms with customers. Meeting rooms are on the right side of the corridor, where the daylight is not very intense; therefore rooms seem to be dark. An important issue seem to be divisions, which are not very soundproof. During our meeting, we could hear loud conversations. One of other characteristics that brought a lot of our attention was a lot of files and catalogues, which gave us a clue that there are not enough places to store documents. Toilets in the 3rd and 4th floor are in an average condition, not very comfortable or pleasant. Walls and the floor have a wooden –like finishing, which gave a warm, domestic feeling. The access to the 4th floor is by stairs or an elevator. To get there, we need to pass by a common employee area, which was very small and un-functional. It is a kind of small “kitchen”, where staff can warm up their food for lunch and also a copy place. In the 4th floor the divisions and offices are very a-look-like like on the other floor. All of them give an impression of over-crowded and un-functional.
3.2 Phases of the Project
3.2.2 Analysis of Original Floor Plans using Photographs

3.2.2 ANALYSIS OF ORIGINAL FLOOR PLANS USING PHOTOGRAPHS

Figure 03. 3rd floor plan of Santa Casa de Misericordia in Rua das Janelas Verdes with photographs.
3.2 Phases of the Project

3.2.2 Analysis of Original Floor Plans using Photographs

Figure 04. 4th floor plan of Santa Casa de Misericordia in Rua das Janelas Verdes with photographs.
3.3 WALKTHROUGH OBSERVATION

Observations and commentaries of the facility are summarized below.

3.3.1 MAIN ENTRANCE

This area is the main entrance to Santa Casa de Misericordia located in Rua das Janelas Verdes. There is no easy access for disabled patients. It is located quite close from the bus stop. There is no apparent signage marking to guide visitors into the facility, which can be troublesome for first timers. This is a semi-open area where a small additional lighting is needed. The green wall finishing is a unique accent.

Figure 05. Main Entrance of SCML in Rua das Janelas Verdes.
3.3.2 STAIRWAYS AND INTERIOR ENTRANCE

There is an elevator available for people with limited mobility. An artificial light must be installed inside the elevator. There is no proper allocated area to keep the wheelchair. Floor pattern could be marked in order to help clients to navigate them. Application of proper colors may enhance this area. The waiting area should be developed more ergonomically and user friendly.

Figure 06. Stairways in SCML in Rua das Janelas Verdes.

Figure 07. Interior entrance in SCML in Rua das Janelas Verdes.
3.3.3 LOBBY - SECURITY WITH SMALL WAITING AREA

Right in front of the entrance there is a security-desk. It is the first contact with a client. There is also a small waiting area with two armchairs, located between the backoffice and waiting area.

![Lobby area with security desk and small waiting area for clients. SCML in Rua das Janelas Verdes.](image)

3.3.4 RECEPTION WITH WAITING AREA

Reception and waiting area are connected spaces, which cause discomfort to some clients. There are only 2 types of seating’s, and no consideration for patients with the physical problem and limited ability. Hard floor finishes contribute to noise in this area. Seating’s should be distributed in a more comfortable way, in order to avoid stress and anxiety.
3.3.5 CONSULTATION ROOMS

There are 4 consultation rooms located on the same floor as the reception and waiting room. The type of seating for this area does not provide comfort for a user. These rooms have warm colours, although the walls should be more sound proof. Signages should be improved. Little effort has been made to play with colors to enhance the space condition. Hard floor finishes contributes to the noise in this area.
3.3.6 OFFICES

Offices are overcrowded. The number of employees per room is too high. Employees complain about the temperature. There should be more spaces for storage of documents. Offices should remain in the same area, not mixing with clients areas (such waiting area or consultation room).

Figure 11. Backoffice with the reception area in SCML in Rua das Janelas Verdes.

3.3.7 CORRIDORS

Figure 12. Corridor of the 3rd floor in SCML in Rua das Janelas Verdes.
3.4 Concept
3.4.1 Floor Plans Concept

3.4.1 FLOOR PLANS CONCEPT

3rd FLOOR

SECURITY DESK
WAITING ROOM
RECEPTION

CONSULTATION ROOMS
BACKOFFICE
KITCHENET

PRIVATE OFFICES
CONFERENCE ROOM

4th FLOOR
3.4.2 FLOOR PLANS SOLUTION

3rd FLOOR

DIVISION CABINETS
SMALL CABINETS
KITCHENETTE

4th FLOOR

CONFERENCE ROOM
CANTÉEN
PRIVATE OFFICES
BACKOFFICE
Presented floor plans in the previous point are the solution of thinking through and analysing given space. The intention was to organize different areas by its destination. On the 3rd floor, the backoffice located close to the entrance was moved to the area, where clients do not have an access. Most importantly, the reception and waiting area were divided into two different spaces. This action was taken, in order to provide customers privacy and comfort. This feature was one of the biggest challenges in this project. The reception is facing the entrance and security. Clients will instantly know where to go. On the side of the reception, there is a waiting room, which layout was changed to create more familiar and home-like environment. Consultation rooms were brought closer and there is a visible division of areas: public access, semi-public access and private access for employees. On the 4th floor, I took advantage of natural lights and have made a switch with corridor to private offices. By creating divisions cabinets and glass we have gained more light and more space, not only for employees but also to archive documents. In the place where was the old conference room, was created a small kitchenette in order to provide employees personal space to take a break or have a lunch. It has a double purpose: inside of the room there is a small division, allowing to use the area either as a canteen or a conference room.

In order to maximise the full space capacity, the number of enclosed rooms were reduced. Glass and transparent materials, together with low panel partitions, maintain visual connectivity and openness. Nevertheless, the office is far from plain. Wall decals and branding elements are splashed strategically to bring out the identity.

In addressing the low ceiling height, light touches were used on the furnishings and design elements to avoid “heaviness” in the built environment. As a result of the minimal colours used, Santa Casa’s red stands out consistently, achieving unity throughout the floors. The use of glass allows daylight to penetrate to the general work area, which are parked along the windows. Employees workstations are fitted with low partitions so they retain some privacy in the open concept. Overall, the workspace is rich in textures and layers of shapes that understand the internal dynamics.
3.5 FINAL PROJECT

3.5.1 PRESENTATION OF THE FINAL PROJECT USING A FLOOR PLAN AND 3D VISUALISATIONS

Figure 13. New design of SCML in Rua das Janelas Verdes presented on the floor plan with 3D visualisations.
3.5 Final Project

3.5.1 Presentation of the final project using a floor plan and 3D visualisations.

Figure 14. New design of SCML in Rua das Janelas Verdes presented on the floor plan with 3D visualisations.
3.5.2 WALKTHROUGH PRESENTATION

ENTRANCE AND SECURITY

Creating way-finding signage in the entrance will help in procedures of reception. It will deliver a positive impression that SCML facility will convey a quality service and wholesome environment. This can moderate stress and anxiety from the beginning. Providing simplest information or assigning an affiliate of staff to the front door will provide the initial contact between the client and the facility. This will create a strainer that can help reorganize different clients’ needs and relieve the workload on other members of staff. Volunteers may be the perfect employees for this kind of circumstances and to deal with basic tasks. The check-in procedures shall be more efficient with these small changes. The security desk will remain at the same place. It will help to maintain a calm and respectful reception and waiting area. Clients should feel safer. The security staff should not intimidate visitors and present themselves as helpful and pleasant staff, helping them in the welcoming and waiting process. In the same time, to be on hand to intercede before possibly violent or aggressive situations become serious. The entrance area is going to be enhanced with warmer colors, basic information and greenery.

RECEPTION AND WAITING AREA

The second interaction that a visitor to SCML has is with the receptionist. This interaction is key to forming the right tone for their visit. The space needs to be accurate to their needs. Clear natural sightlines have been created upon reception desk, entrance and waiting areas in order to guide clients and help them feel in control. Acoustic privacy has been created in the reception area by using glass partition. This will help to create a friendly, open reception space. The physical barriers in the reception had been removed in order to avoid a barrier to communication. Acoustic privacy is important, but we should not forget about clients. It has been proved that such barriers make visitors frustrated and feel like they are not trusted to behave well. Bright lighting
is provided, in order to guide new visitors to an entrance/ reception area and let them know where to go first. A simple self check-in screen should be also offered. A ticketing system may boost the feeling of the check-in process already beginning.

![Figure 15. Reception with waiting area - 3D visualisation.](image)

Waiting areas were provided with some level of entertainment, such as books, magazines, interactive artwork, TV and a small space for children. Providing free Wi-Fi access will help clienteles to occupy themselves whilst waiting for the service. Likewise, other distractions can be included, for example games and a TV with children channels in their area. The waiting room atmosphere was improved by using different colors, furniture and it’s setting. Sofas and armchairs were arranged in relaxed and inform atmosphere, additionally allowing to create some comfortable groupings. Heavy furniture makes it impossible to use it as a “weapon” - simple chairs may allow that. A calm and welcoming environment was created using art, plants and other positive distractions. In the waiting area should be also provided refreshments, such as water or vending machine. This should be placed slightly further from seating area. In some places mirrors were used. The use of them has been proved that when people can see their reflection they are more likely to correspond to society and its behavioral standards. This act will reduce violence and aggression when others around them are acting tranquilly.
Figure 16. Waiting area - 3D visualisation.

Figure 17. Waiting area - 3D visualisation.
CONSULTATION ROOMS

Consultation rooms were located closer to each other than it was in the original plan. Soundproof materials were used to reduce noise and provide more privacy. During consultations patients give personal details and may feel self-conscious to talk about it. They are located off the main waiting area, also away from vending machines. There are no public areas around, just the passage for employees to their back office. Room provided full auditory and visual privacy for the client. Occasionally staff is exposed when treating patients in a closed room on their own. The desk and seating of the staff in consultation rooms are located close to the door, in any case of emergency. Accurate supplies should be made in terms of light, sound and air quality, to put the patient at comfort, and to design a comfortable place to work and to guarantee they convey the best care. Uncomfortable and rough chairs were replaced with warm, and relaxing armchairs. Touches of greenery and art were applied into the small space. These changes enhance the feeling of being taken care of and being in good hands.

Figure 18. Consultation room model on the 3rd floor- 3D visualisation.
OFFICES

Back offices were located in the same area of the building, providing this way privacy and security to the employees. Clients and visitors can no longer see what is happening in the offices, while they are waiting for their consultation. Staff works in a high-pressure environment, therefore they need opportunities to relive stress and strengthen the sense that they are part of a supportive society. However, staff taking a few minutes to talk to each other in public areas of the facility can be seen as time wasting for clients. For this reason, on the 4th floor was created a kitchenette with a conference room. This act allows staff to have a coffee in a place, where patients do not have an access. The room has been improved with a partition; therefore it has a double purpose. While there will be conferences needed, the staff will be able to close the kitchen and create a formal environment.

Figure 19. Consultation room model on the 3rd floor - 3D visualisation.
3.5 Final Project

3.5.2 Walkthrough Presentation

Figure 20. Kitchenette with conference room on the 4th floor - 3D visualisation.

Figure 21. Kitchenette with conference room on the 4th floor - 3D visualisation.
In order to maximize the full space capacity, the number of enclosed rooms were reduced. Glass and transparent materials, together with low panel partitions, maintain visual connectivity and openness. Light touches were used on the furnishings and design elements to avoid “weightiness” in the built setting. As a result of the minimal colors used, Santa Casa´s red stands out consistently, achieving unity throughout the floors. Daylight penetrates the work area, because of the use of glass partitions and minimizing the use of dark wooden partitions. Workstations are made with low partitions allowing some level of privacy in the open office model.

Figure 22. Backoffice on the 3rd floor - 3D visualisation.

Figure 23. Backoffice on the 3rd floor - 3D visualisation.

Figure 24. Backoffice on the 3rd floor - 3D visualisation.
4. CONCLUSIONS
CONCLUSIONS

The study was set out to explore the concept of social intervention in terms of interior design. It has identified the nature and form of designing social care facilities using differentiation of environmental features and methods of design. It has identified the role and impact of intervention on the relationship between the facility of Santa Casa de Misericordia, its clients and employees and interior design.

The study has also sought to know whether positive distractions and providing new interior design to social care facilities can result in improving client satisfaction and increasing their trust with the organization. The theoretical knowledge was built on research of design methods for this kind of specific facility and different kind of approaches to searching for the balance between interior design and service design. This study analyzed and reviewed elements of space and the environment, studying the physical and psychological factors of the waiting, treating or working space and how a new design solution could develop and improve patient outcomes as well improving staff performance. The searches for a design to improve these relationships were successful and results were positive.

The starting point was to research what SCML is and what they do. It was to understand the organization, service, client and their employees. It was important to analyse and collect data, in order to be able to create guidelines for designers. The theoretical part consists of research and analysis of methods and influences of design in social care / health care facilities. Designers must be gentle and sensitive about their decisions. The client target in this case is vulnerable, stressed and anxious. This area of investigation was dedicated to exploration of environmental influences in designing. Dr. Ulrich states that patients as well staff benefit from good design. Design is an
underestimated value in social service creation. Simple changes can exude the level of sophistication, comfort and perception of social services. The environment should be synthesized with a client, his needs and expectations. The space should be also adjusted to staff needs, because their performance is often the reflection of how clients feel in the area. Positive distractions are very powerful tools in design, and not many designers are aware of it. Music, art, nature, materials and furniture settings change a lot the way clients spend their time waiting. If either, in the end they will be satisfied with provided service or will decide not to come back there, feeling disappointed. These findings can influence future way of designing social services. Creation of services should be, no doubt, focused on inner appearances of such facilities. Further understanding of this topic and application of this knowledge may have a huge impact in future creation.

In order to, apply these methods in practice; I have focused on one of the facilities on Santa Casa de Misericordia, located in Rua das Janelas Verdes. It was a way of understanding of space, its materials and how complex it is in many dimensions. Practical part of this dissertation has shown how social intervention is dependent from interior design and its changes. By conducting survey, I was able to find answers to my questions and to be able to focus on the most important problems. User’s observations and feedback provided evident that on the overall facility performs moderately on all interior design criteria. Experiments with different areas and rooms provided me insights and allowed me to find solutions through analysis and thinking through. These experiments were to prove, that it is possible to improve client’s satisfaction and staff productivity.

In spite what is often reported about the benefits of interior design and using positive distractions while creating valuable service, this thesis offers only some solution to the problems social services are facing. Available research on this specific topic may reveal contradictory findings; this is not an easy process but the stakes are high. This is truly the dawn of a new era in social care architecture and design. Anyone who has been in difficult situation in their lives, that required professional help knows all too well the risks and anguish and what it means to be helpless and vulnerable. There are few callings higher than social care, whether one is a receptionist, a technician, or a design professional working with providers to improve safety and performance.
The methods should be appropriate for the study of “meaning” and “interpretation”. The subject matter of creating social service environment is complex and multifaceted, it requires holistic understanding of the phenomenon, which is better served by the search for the unifying nature of a particular setting.

Environmental factors do have an influence, on how service is perceived but its clients. Not only clients, but also employees are always a part of it. Interior and exterior surroundings have impact on all human beings. Textures, lights, nature and art have individual responses and the majority of respondents believed that the social care environment had a direct influence on well-being, productivity and coping with stress.
ANNEXES

MOODBOARD 01

Waiting areas and reception
ANNEXES

MOODBOARD 02
Office \ Common areas
### ANNEXES

### SURVEY 01

#### USER-CENTRED

1. Do UDIP’s clients complain about difficulties with their way finding or difficulties with contacting you?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>10</td>
</tr>
<tr>
<td>b- To some extent</td>
<td></td>
</tr>
<tr>
<td>c- Did not notice</td>
<td></td>
</tr>
<tr>
<td>d- Mostly</td>
<td>5</td>
</tr>
<tr>
<td>e- Always</td>
<td>1</td>
</tr>
</tbody>
</table>

2. Are your clients confused when they enter Santa Casa in Janelas Verdes (they do not know what to do next)?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>10</td>
</tr>
<tr>
<td>b- To some extent</td>
<td></td>
</tr>
<tr>
<td>c- Did not notice</td>
<td>1</td>
</tr>
<tr>
<td>d- Mostly</td>
<td>3</td>
</tr>
<tr>
<td>e- Always</td>
<td>2</td>
</tr>
</tbody>
</table>

3. Are they anxious or stressed with the process of waiting?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>10</td>
</tr>
<tr>
<td>b- To some extent</td>
<td></td>
</tr>
<tr>
<td>c- Did not notice</td>
<td></td>
</tr>
<tr>
<td>d- Mostly</td>
<td>3</td>
</tr>
<tr>
<td>e- Always</td>
<td>10</td>
</tr>
</tbody>
</table>

4. Are your clients intimidated with no privacy in the waiting room?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td></td>
</tr>
<tr>
<td>b- To some extent</td>
<td>7</td>
</tr>
<tr>
<td>c- Did not notice</td>
<td>5</td>
</tr>
<tr>
<td>d- Mostly</td>
<td>10</td>
</tr>
<tr>
<td>e- Always</td>
<td>10</td>
</tr>
</tbody>
</table>

5. Do you think separating the waiting room and the reception is a good idea (do you think it will improve clients experience and staff performance)?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- I strongly agree</td>
<td>4</td>
</tr>
<tr>
<td>b- I agree</td>
<td></td>
</tr>
<tr>
<td>c- I am neutral</td>
<td>1</td>
</tr>
<tr>
<td>d- I disagree</td>
<td>2</td>
</tr>
<tr>
<td>e- I strongly disagree</td>
<td>10</td>
</tr>
</tbody>
</table>
6. What is the majority clients that come to SCML in Janelas Verdes?

   a- Children  0
   b- Youngsters/young adults  2
   c- Families  8
   d- Adults  9
   e- Elderly  2

7. Do you feel SCMLs clients are happy (satisfied) with the information they receive?

   a- Extremely dissatisfied  10
   b- Dissatisfied  10
   c- Neutral  3
   d- Satisfied  10
   e- Extremely Satisfied  10

8. Do you feel SCMLs clients are satisfied with the provided service?

   a- Extremely dissatisfied  10
   b- Dissatisfied  1
   c- Neutral  2
   d- Satisfied  11
   e- Extremely Satisfied  10

9. Do your clients seem to be intimidated and uncomfortable with the security – first contact?

   a- Not at all  2
   b- To some extent  3
   c- Did not notice  9
   d- Mostly  10
   e- Always  10
## ANNEXES

### SURVEY 03

### STAFF-CENTRED

1. Are you satisfied with the environment of your office? What disturbs you the most? What would you change?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Extremely dissatisfied</td>
<td>10</td>
</tr>
<tr>
<td>b- Dissatisfied</td>
<td>3</td>
</tr>
<tr>
<td>c- Neutral</td>
<td>3</td>
</tr>
<tr>
<td>d- Satisfied</td>
<td>8</td>
</tr>
<tr>
<td>e- Extremely Satisfied</td>
<td>0</td>
</tr>
</tbody>
</table>

2. Does the noise bother you / affect your work?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>10</td>
</tr>
<tr>
<td>b- To some extent</td>
<td>0</td>
</tr>
<tr>
<td>c- Did not notice</td>
<td>1</td>
</tr>
<tr>
<td>d- Mostly</td>
<td>6</td>
</tr>
<tr>
<td>e- Always</td>
<td>7</td>
</tr>
</tbody>
</table>

3. The physical conditions at work influence my productivity?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>1</td>
</tr>
<tr>
<td>b- To some extent</td>
<td>0</td>
</tr>
<tr>
<td>c- Often</td>
<td>0</td>
</tr>
<tr>
<td>d- Mostly</td>
<td>11</td>
</tr>
<tr>
<td>e- Always</td>
<td>2</td>
</tr>
</tbody>
</table>

4. To what extent your room temperature affects your normal level of productivity?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- No effect</td>
<td>1</td>
</tr>
<tr>
<td>b- Normal effect</td>
<td>3</td>
</tr>
<tr>
<td>c- Positive effect</td>
<td>1</td>
</tr>
<tr>
<td>d- Negative Effect</td>
<td>8</td>
</tr>
</tbody>
</table>

5. Ample amount of natural light comes into my office.

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- Not at all</td>
<td>10</td>
</tr>
<tr>
<td>b- To some extent</td>
<td>2</td>
</tr>
<tr>
<td>c- Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>d- Usually</td>
<td>3</td>
</tr>
<tr>
<td>e- Always</td>
<td>5</td>
</tr>
</tbody>
</table>
ANNEXES

SURVEY 04

STAFF-CENTRED

6. Would you like to have a common area to rest and have a meal (for example during your lunch break)?

   a- I strongly disagree  10
   b- I disagree  10
   c- Neutral  2
   d- I agree  3
   e- I strongly agree  9

7. My office/branch is open enough to see my colleagues working.

   a- Not at all  10
   b- To some extent  10
   c- Did not notice  1
   d- Mostly  2
   e- Always  11

8. I am satisfied with the amount of space for storage and displaying important materials.

   a- Extremely dissatisfied  4
   b- Dissatisfied  6
   c- Neutral  2
   d- Satisfied  1
   e- Extremely Satisfied  1

9. By what percentage your overall productivity would increase if the related office environmental problems are solved?

   a- No effect  10
   b- Increase by 20%  2
   c- Increase by 30%  2
   d- Increase by 40%  2
   e- Increase by 50% or more  8

10. Would you rather work in a open space or smaller divided rooms?

    a- Open space  8
    b- Divided Rooms  8
    c- None  10
    d- Individual Office  6
    e- Indifferent  1
PLAN BASED SURVEY

SCML employees in Rua das Janelas Verdes were asked to indicate areas they would like to change and areas that have the biggest traffic during working hours. Numbers are based on the number of indications on the survey.
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ANNEXES

ADDITIONAL 3D VISUALISATIONS
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Fig. 02 (p.32-33) - Presented table is a part of Design Council research for NHS Hospital in London. Reducing violence and agression in A&E - Through a better experience. The Design Council of UK, 2011, page 78-79. - Available at: WWW: <http://static1.squarespace.com/static/50730747e4b00907bc1cdda3/t/5294bad8e4b0d8d9d34c8c17/1385478872529/DESIGN+COUNCIL_FULL+AE+PUBLICATION.pdf>.

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**VIDEOS**