

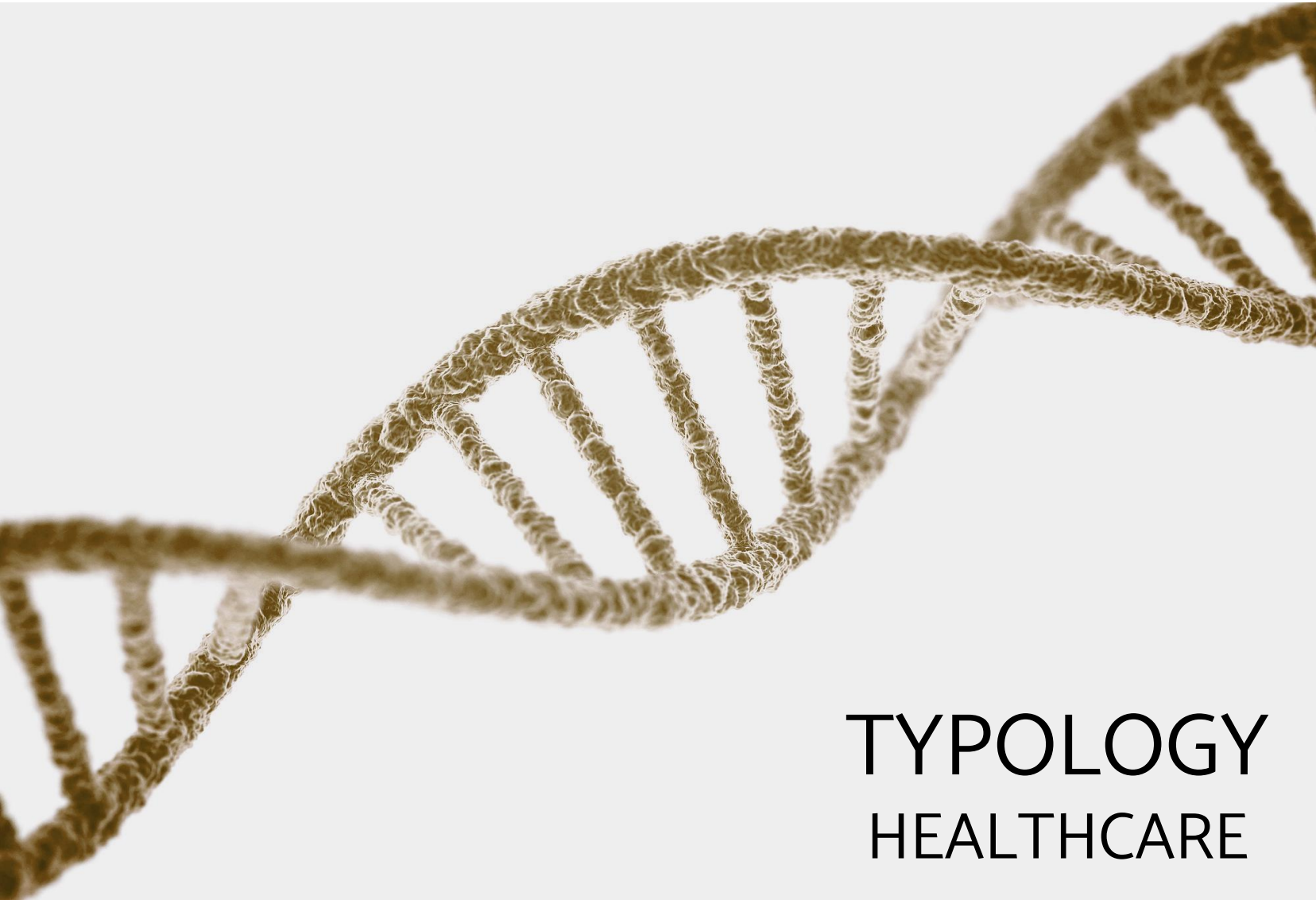
TERMS OF REFERENCE

GROUP TWO: ASHLEY DIVITO, JESSICA GALDAMEZ,
LUIZA MELLO, MARICE GUERRA, MAY SAEEDI



FIG. 1.1

Specialty



TYOLOGY HEALTHCARE

FIG. 1.2

The Impact of Interior Design
Elements on Cancer Patient Recovery

Site

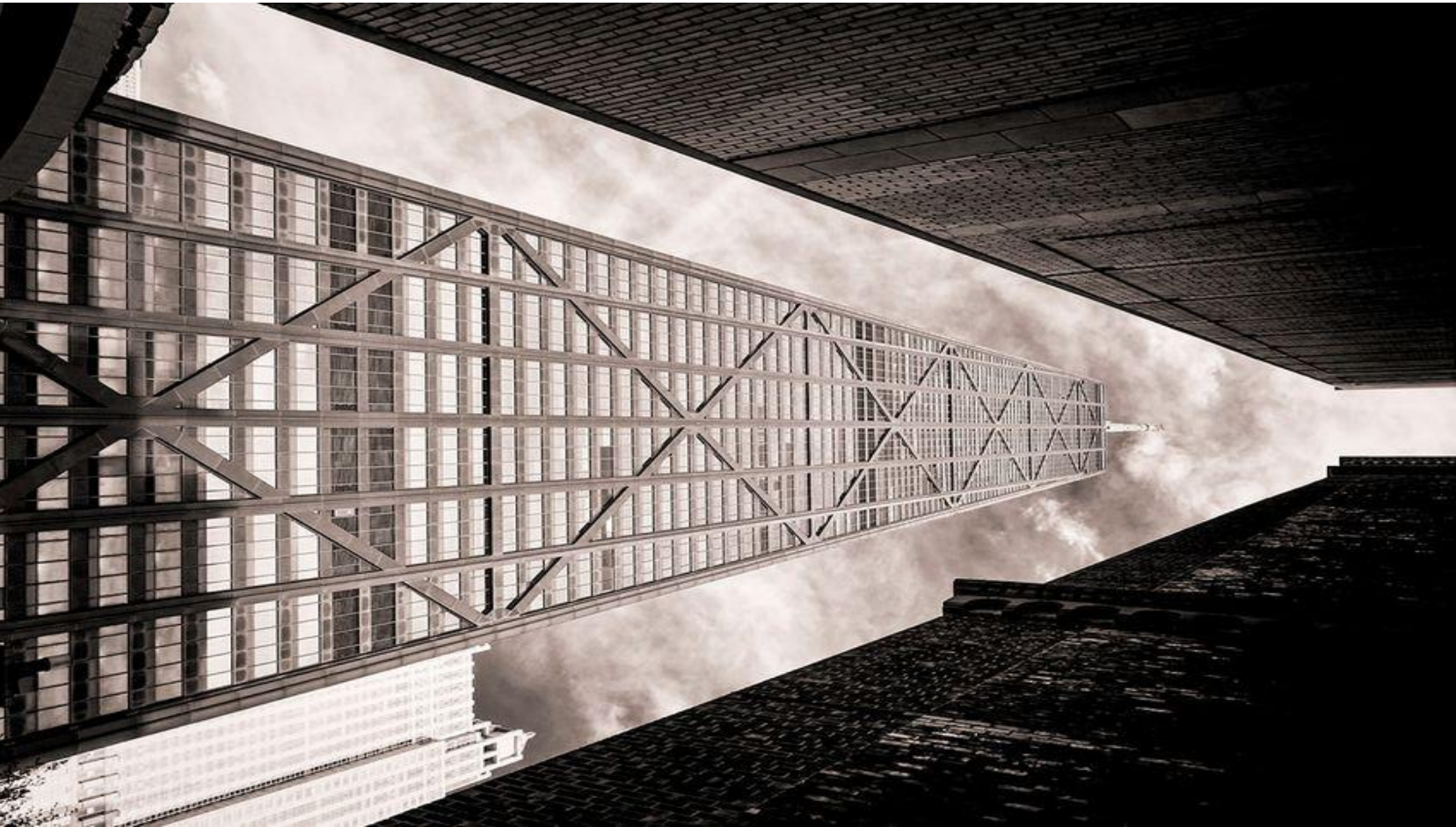


FIG. 1.2

Building Selection

Lennar Foundation Medical Center

5555 Ponce de Leon
Coral Gables, FL 33146

Lennar Foundation Medical Center

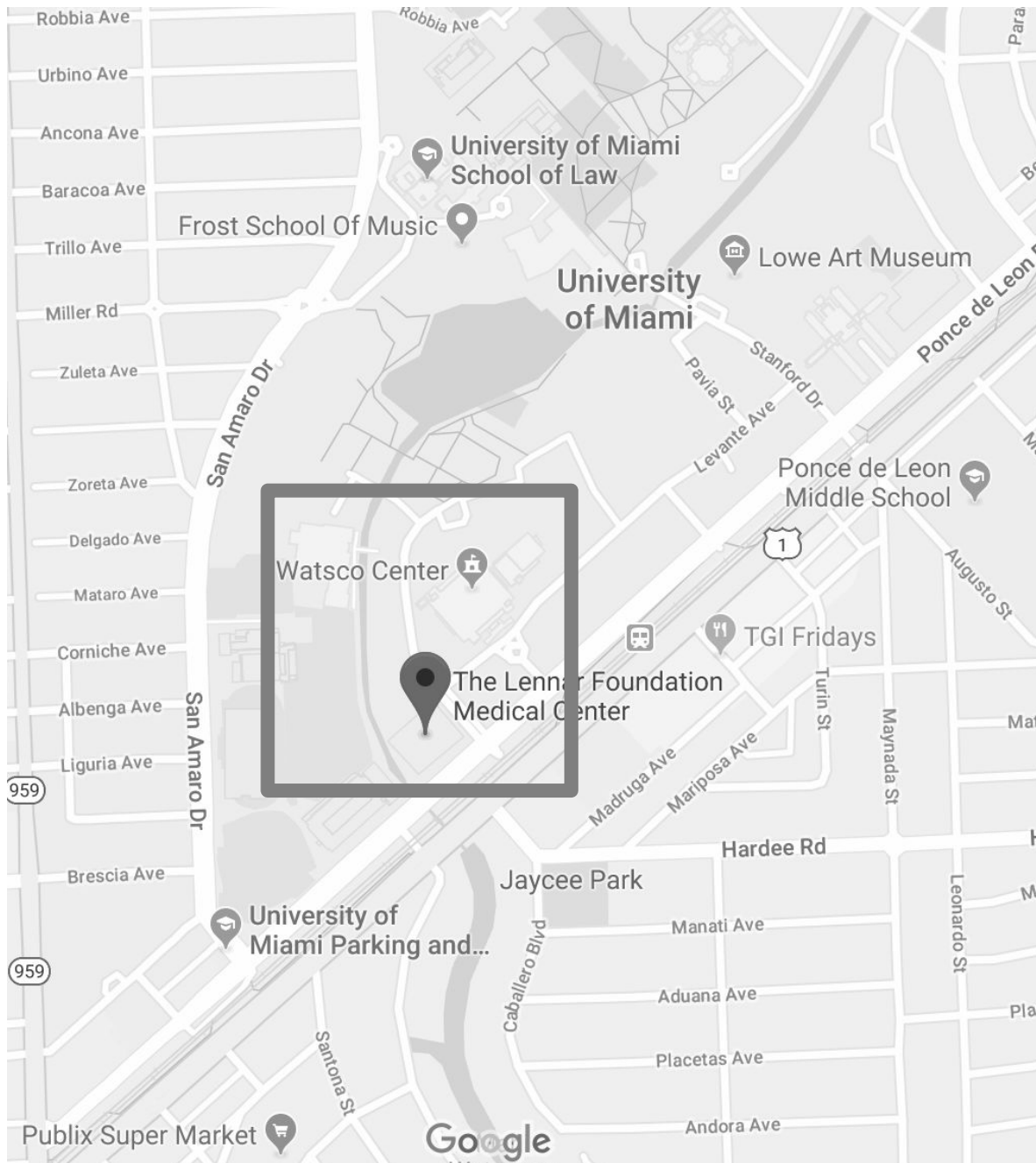


FIG. 1.2

South Florida 200,000-square-foot

The Lennar Cancer Center is an outpatient cancer center which is revolutionizing the healthcare experience. The center was intuitively planned, imaginatively designed, and instinctively positioned to treat, heal, enhance and soothe you, while awakening your senses.

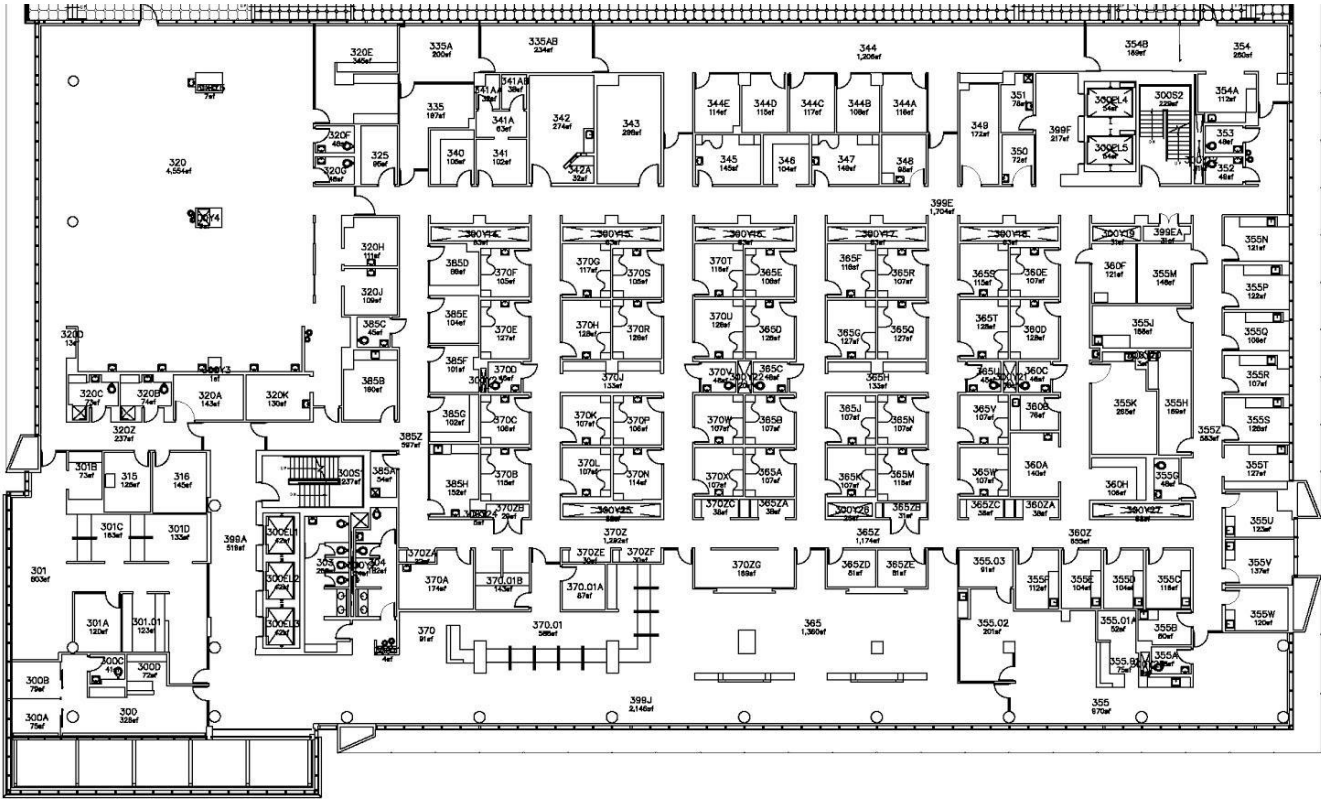
Location



5555 Ponce de Leon Blvd,
Coral Gables, FL 33146



Floor Plans



Third Floor
Floor Plan

Hippocrates Health Institute



Figure 1.2

West Palm Beach - 55 acres

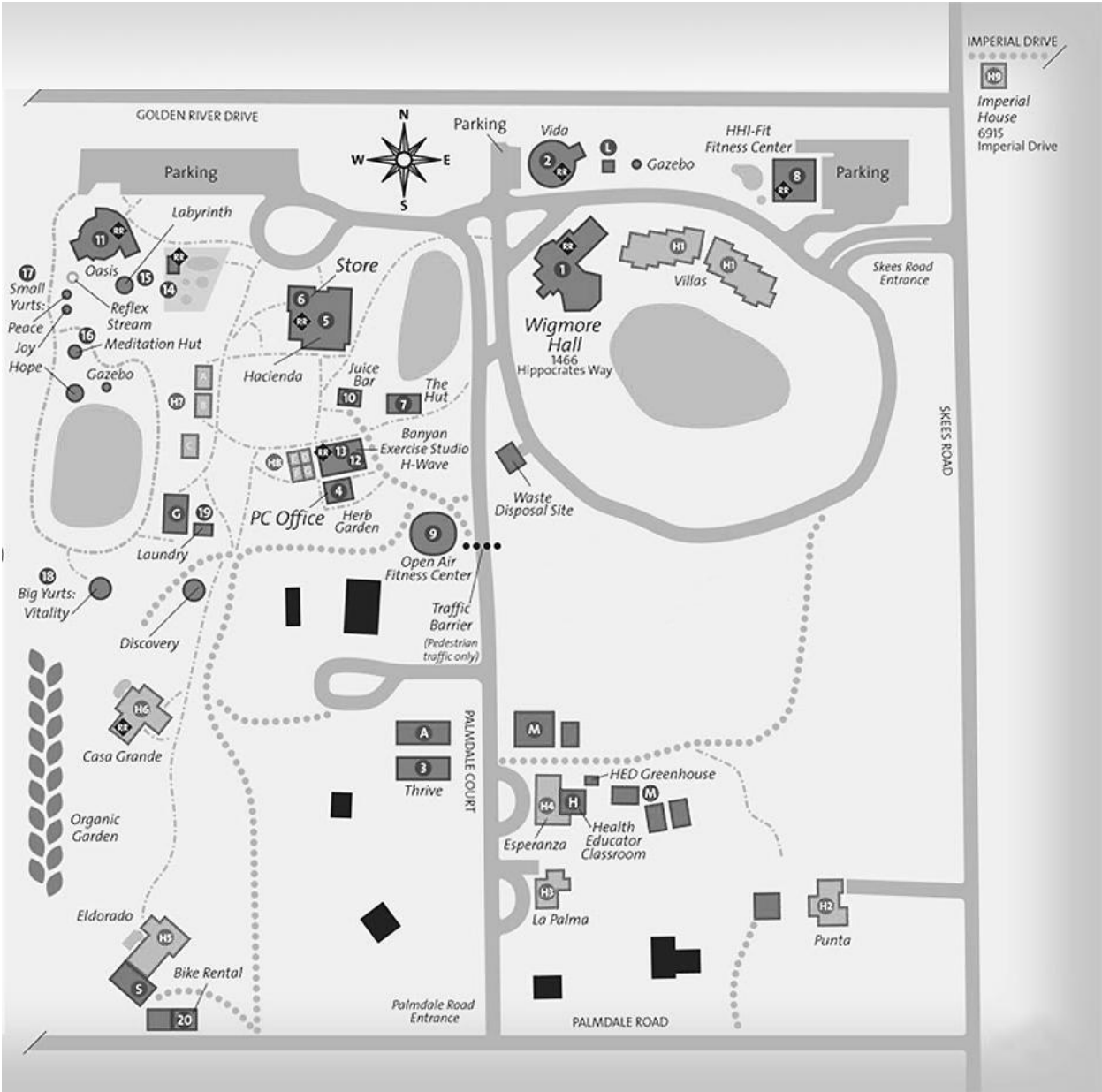
Facility dedicated and designed to help guests understand, reflect and accept their current health challenges. The facility is a raw vegan based diet, they have a greenhouse where they grow their sprouts. They also have a juice bar where patients and guests are encourage to juice their own beverages. The facility hosts seminars, and educational programs in order to provide patients and guests with the tools they need to change their lifestyle. The programs usually last 3 weeks; Life transformation program, Hippocrates weight loss academy, or comprehensive cancer wellness. Through a salutogenic approach, the program is designed to address the individual as a whole, focusing on their psychological, physical and spiritual state,

Location



1466 Hippocrates Way, West Palm
Beach, FL 33411

Campus Plan



Campus plan

CASE STUDY

Hippocrates Health Institute Lennar Medical Center

GROUP TWO: ASHLEY DIVITO, JESSICA GALDAMEZ,
LUIZA MELLO, MARICE GUERRA, MAY SAEEDI



FIGURE 1.1

1. Topic Introduction

TOPIC

Impact of biophilic design on cancer patient's recovery.

PROBLEM

In 1863, Florence Nightingale published highly influential hospital design guidelines which suggested that germs spread through the air and with careful control of interior/exterior interactions and exposing patients to large amounts of natural light and fresh air, the hospital environment could better foster patient recovery (Nightingale, 1863). Since then, a second school of thought emerged and created The Germ Theory, which explained that germs were spread through contact and not airborne as Nightingale believed. Under this theory, hospitals could be designed with little attention to the placement of interior elements as long as the surfaces could be disinfected. This would prevent the spread of hospital infections and therefore promote patient recovery (Topp, 2018, p.218). Both theories have proven to be extremely effective in promoting patient recovery, but only for communicable diseases. Cancer, however, is a non-communicable disease that generally can not be transferred via person to person (National Cancer Institute, 2019). With the rise of cancer diagnosis each year in the United States, healthcare design needs to change its approach to better reflect the needs of cancer patients.

RESEARCH

Oncology patients are hypersensitive and experience the environment differently than other types of patients (Mazuch, 2017). According to Mazuch (2017), a better design approach for these patients would be salutogenic, which focuses on working towards health and patient wellbeing rather than the pathogenic approach, which focuses on the causes of disease. In order to better assist patients in their healing process, salutogenesis approaches design as if nature, healing and spirituality are inseparable.

The main focus of the research is to understand the nature component of salutogenesis by focusing on biophilia. Biophilia is key in understanding our attraction to elements of nature (Huelat, 2008). Therefore, it is vital for designers and architects to understand how biophilic design within the built environment can assist in their recovery and continued wellbeing (Huelat, 2008). It seeks to explain components of biomimicry, biodiversity, biochemistry, and fractals. In ancient cultures it is stated that nature, spirituality and healing are inseparable. Huelet also found that some elements that attribute to biophilic design are light, spatial permeability, sensory engagement, organic shapes and forms, natural processes and fractal geometry.

Central Question

What role does biophilic design play in fostering recovery and well-being in cancer patients and which interior design elements create the occurrence of nature to further meet the psychological and physical wants and needs of these patients?

SUB-QUESTIONS

1. Light and Space: How does color affect the healing process?
2. Place-Based Relationships: What types of entertainment fosters positive and sustained interactions?
3. Environmental Features: How will implementing environmental features in the built environment affect patients?
4. Senses/Natural Patterns and Process: How do the senses affect the patients?
5. Natural Forms and Materials: How do natural forms and materials contribute to patient well-being?

2. Literature Review Synthesis

Research on biophilic design is showing a possible link between interior elements and cancer patients well-being. We explored five theories of biophilic design to see what types of links are emerging.

How does color affect the healing process?

Color Theory research has shown that there is a link between color and human emotions. In healthcare the use of color is imperative in order to alleviate many negative feelings and evoke feelings of relaxation, warmth and excitement. Dalke, Little, Niemann, Camgoz, Steadmann, Hill & Stott, (2006) explored how the proper colors can play as a strong means for coding, navigation as well as wayfinding which are crucial in the healthcare field. Color has the power of stimulating the patient as well as increasing anxiety, it is all a matter of how it is used.

How will implementing environmental features in the built environment affect patients?

Another element found in the research is biophilic design which promotes a healthy circadian rhythm by bringing nature inside. Something as simple as giving patients a window in their room syncs them with the times of the day and replenishes them with the healthy sunlight which has been linked to lowering blood pressure and enhancing mental health. Spaces with the most use of biophilic elements should be those where patients may go to restore, meditate or even spend some quality time with their loved ones which are some of the most used practices among the alternative and holistic medicine community.'

How do natural forms and materials contribute to patient well-being?

The selection of materials and finishes for the healthcare setting can positively or negatively impact cancer patient well-being. The research reviewed showed a correlation between VOC's and indoor air quality. The studies further described a possible link between poor indoor air quality and reduced well-being, both which further prevented cancer patients from fully healing. Designing professionals should carefully select appropriate materials that are third-party certified for reduced or no VOC's, paying special attention to the paints and/or varnishes that finish furniture and the glues used for material installation. Proper selection paired with natural ventilation can improve indoor air quality and contribute to patient well-being and recovery.

How do the senses, specifically audio and visual affect patients?

Noise and negative visuals can have a detrimental value to an already ill patient. The mind is a powerful tool that can control our physical body. Studies show that when a patient observes another one with an advanced stage of an illness, especially in cancer, the observant may feel the same symptoms and even worsen their condition or hopes for the future. Among all the analyzed elements of the built environment noise is one of the most prevalent in the healthcare world. slows down the healing process of patients, affects mental health as well as the cardiovascular rhythm of the patient, raises blood levels, increases heart rate and cholesterol as well as reduce weight gain. Although noise cannot be eliminated, it can be masked with pleasant sounds and even attenuated with the proper materiality. As far as visual stressors a window or even elements of nature in the interior space may alleviate stress induced illnesses.

How will implementing environmental features in the built environment affect patients?

Entertainment although a simple concept, may be the deciding factor of how much stress is filtered throughout the patient's stay. Creating a distracting and joyful environment specially during lengthy treatments aids the patient to overcome many stages in the journey of healing. An environment that balances a calming reassurance with constructive stimulation can help improve the positive mindset that people need to defeat illnesses such as cancer. Psychosocially supportive design aims to encourage the brain to create and induce a sense of wellbeing. Welcoming spaces for meetings and social exchanges, areas for the patients to spend time distracting themselves during treatments and relaxation of the mind. (Boscherini, Giuseppe, 2017, p.108).

Conclusion

In conclusion, the case study is a comprehensive research of cancer treatment centers, specifically focusing on chemotherapy centers which analyzed the interior environment surrounding biophilic elements and its effects on the healing process. Within these elements we found that color, entertainment, audio/visual and materiality had the biggest effects on the psychological well-being of patients in these facilities. Most of these centers focus in the healing of the body while ignoring the consequences caused by stressors that come from their surroundings. There have been studies which link stress to cause many physical ailments such as insomnia and even high blood pressure which would later contribute to even bigger problems. It is important to note that these centers need to have the best environments by understanding the connection between these individual biophilic elements for optimal healing especially when it comes to life threatening illnesses. Because of this our research will now focus on prevention as the cure rather than cure. Changing toxic lifestyle patterns and rewiring the body through natural and alternative practices will be analyzed in order to ascertain whether alternative methods prove to have a higher healing rate than conventional scientific methods.

3. Thesis Rationale I Motivation

Cancer is among the leading causes of death worldwide. In 2018, an estimated 1,735,350 new cases of cancer will be diagnosed in the United States and 609,640 people will die from the disease. (National Cancer Institute, 2019.) While scientists are continuing to study treatments for cancer following diagnosis, there is an emerging focus on biophilic design and the prevention of cancer. Some areas of focus for cancer prevention research include: changes in diet and lifestyle, Early Detection, Chemoprevention (medicines to treat a precancerous condition or to keep cancer from starting) and Risk-reducing surgery.

While all of these areas show promise in cancer prevention, we have narrowed our research to focus on the potential power of lifestyle changes to prevent cancer. As students in a high-stress program, we have experienced first hand the toll stress and poor diet have on the human body. We also have first hand experience in dealing with a cancer diagnosis and navigating the road to recovery via chemotherapy. Out of these experiences, it was important for us to explore how the recovery process can be improved for those with a diagnosis. But more importantly, we want to explore how the idea of biophilia can be leveraged for a holistic approach to cancer prevention and long-term recovery.

Emerging research indicates that the relationship between indoor air quality and wellbeing is complicated. A range of indoor factors such as thermal, visual, acoustic, and chemical can impact the wellbeing of the occupants. (Apte et al., 2000; Jantunen et al., 1998, WHO, 2002) Preceding studies have proposed that negative beliefs about cancer may harm patients' psychological well-being, but only a scarce amount of these studies focused on detailed psychological symptoms that the environment and factors such as, biophilia, privacy, entertainment and material selections, impacts the overall well-being of patients (Cunha, 201, p. 278). These outcomes of the researches highlight the significance of taking into account the environmental design factors mentioned above to possibly rectify mistaken theories about psychological factors which affect healing and avoid the occurrence and perseverance of psychological harm of the well-being over time.(Cunha, 201, p. 278)

Research has guided us to targeting our thesis towards millennials, a generation already known to embrace a holistic lifestyle, more aware of clean eating and mind-body connections than previous generations. hrough our analysis, we hope to connect the dots between a new generation and the healthcare system, showing that healthcare can play an important role in supporting well-being but in a preventative setting as opposed to a reactive setting.

4. Rationale

Thus far we have learned that the human senses do not work in isolation. A stimulus to one sense-modality may trigger a response in another. The compromised immune system of a patient adds additional factors that vary based on age, sex, and stage of disease. The mental, physical and spiritual state of the patient all need to be accounted for, in order to effectively treat and receive the best results. As a result of our research we encountered two different approaches; salutogenic vs pathogenic. Salutogenic design focuses on working towards health and patient wellbeing. Establishing a balance between mind, body, and spirit (Mazuch, 2017). Where the pathogenic approach is what we know as traditional medicine, focusing solely on the physical aspect.

As a group we have developed new theories, and in order to obtain the most data and be able to compare both: the salutogenic and pathogenic approach we opted to do two case studies. Defining factors that led to the choices for the case studies were: a facility that incorporated elements of biophilia that could potentially expedite the recovery of a patient, the location, and their approach. Lennar Cancer Center facility will be the case study that represents the pathogenic approach. Hippocrates Health Institute is the facility used to represent the salutogenic approach.

Lennar Cancer Center facility was completed roughly three years ago. They state that the facility was designed to invigorate visitors, patients, and employees through their senses.

According to their website sustainability also played a major role in their design guidelines. The location of the facility was chosen so it could be utilized by students and employees of the University of Miami, it's proximity to public transportation, and to restore and adapt to the existing site.

Hippocrates Health institute was moved to West Palm Beach, Florida in 1987. It originally opened in 1956, and their approach has always been non-traditional. The campus is located on a 55-acre, they state it was designed to blend with its surroundings not disturbing the natural environment and inhabitants. Hippocrates Health Institute does not look institutional, it looks like a residential community. It was intended to welcome guests, providing a "home" affect.

We are eager to compare the experience, thoughts and health results patients have in a salutogenic vs a pathogenic facility. We see an opportunity to develop and test our theories even further. And the outcome will give us new perspectives of treatment. The environment in which one finds themselves in is vital to their recovery.

Lennar Cancer Center

Location	Coral Gables, Florida
Size	215,000 square feet
Architect	Perkins + Will
LEED	Silver Certification



Figure 4.1



Figure 4.2

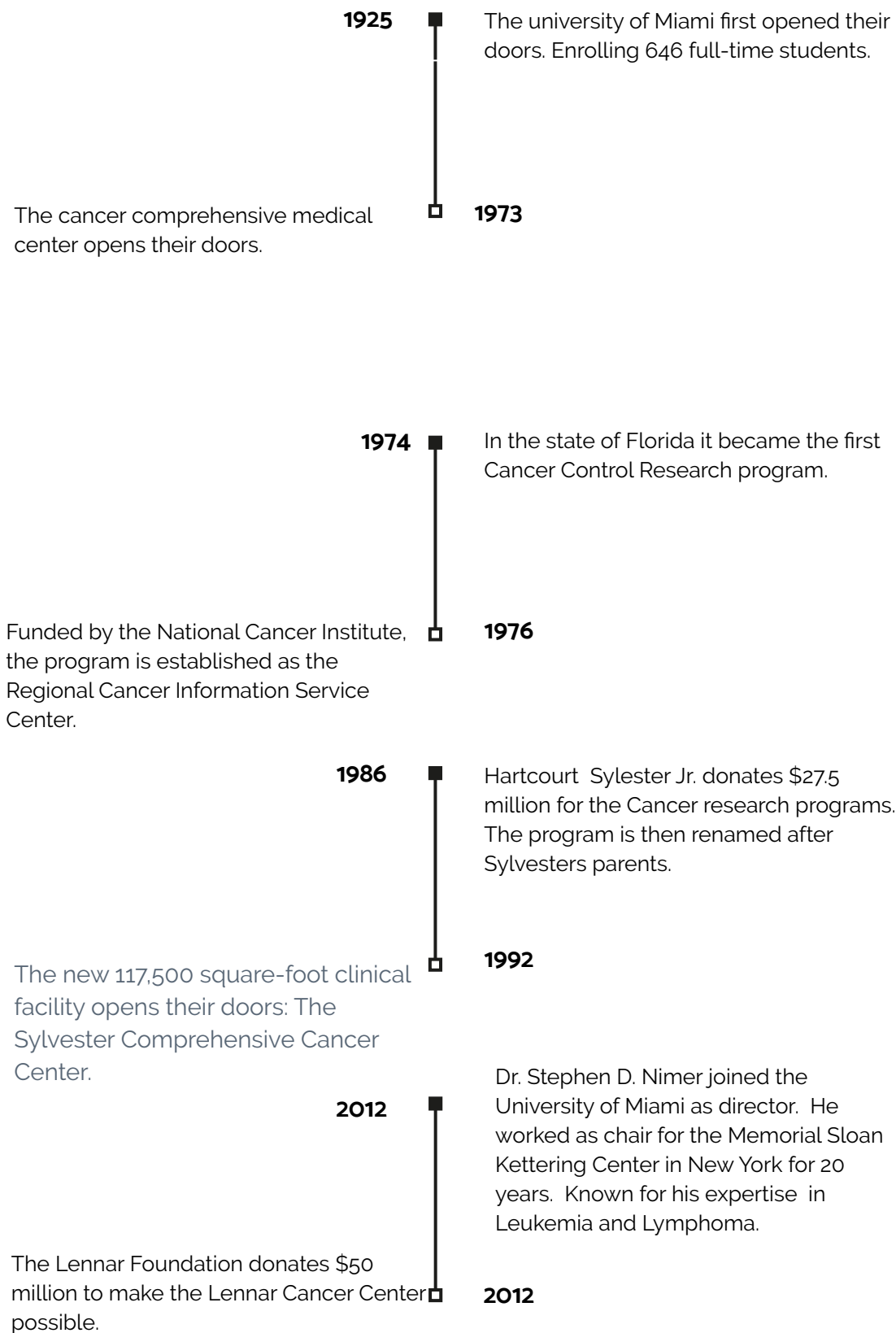


Figure 4.4



Figure 4.3

5. Background



Legacy

Lennar Cancer Center's legacy is to provide a comprehensive human experience for patients, families and employees. They state that they aim to improve and promote wellbeing as a whole. And that as the facility was being designed they focused on an individual's senses; sight, sound, touch, taste and smell, sustainability, biophilic design, alternative transportation methods, site development, public wellness, material selection and resiliency.

Based on our research Lennar Cancer Center is taking the appropriate steps in order to successfully treat patients.

Addressing an individual's senses, focusing on audial and visual; A valet service is ready to assist visitors at both public entrances. This avoids traffic jams and confusion upon arrival. As mentioned in our research individuals respond to their surroundings, if they visually see chaos they will respond with anxiety and stress. This design eliminates conflict between employees and visitors, shortening travel distances for staff and promoting a sense of peace in public spaces. This reduced stress levels for both employees and patients.

Incorporating natural views to emphasize biophilia and highlighting the impact of color within the built environment led to reducing the interior palette. This promotes the adjacent exterior spaces, natural features, builds the connection to nature therefore reducing stress and anxiety. This also allows to showcase and create a focus on local curated art work.

The interior materials and finishes also meet or exceed the criteria for LEED VOC restrictions to improve the indoor air quality.

Regional Uniqueness

The University of Miami is located in Coral Gables, Florida. According to our findings, being located directly in the city can have positive and negative effect. Upon deciding the site for the facility they considered public transportation, and accessibility for the staff and students currently attending the University of Miami. Lennar Cancer Center is the first academic based outpatient facility. It is also the first medical building directly on the University campus.



Figure 5.1

The site is conveniently placed across a Miami Metrorail station. Encouraging the use of public transportation but also reducing emissions affecting the environment. The negative effect is the highly trafficked area that can lead to an overwhelming amount of noise disturbance.

Another factor that favors the facilities location is the sense of community. Placing the building on this site brings medical assistance closer to individuals' homes. As far as entertainment; art therapy showed promising results. It teaches individuals to control and express their anxiety in a healthy manner. Local artists are able to curate and showcase their art within the facility.

Color and biophilia, as part of the project, the region was considered to be vital and taken into account every step of the way. What elements could they emphasize and what needed to be restored were some of the questions they wanted to answer through design.

Each side of the building complements the existing site. On the ground level a terrace adjacent to a canal was restored. Natural vegetation was taken from parts of the campus and lined along the canal. The terrace on the fifth level features a public meditation garden and a view to the Miami Skyline.

Hippocrates Health Institute

Location West Palm Beach,, Florida

Size 55-acres



Figure 5.2



Figure 5.3



Figure 5.4



Figure 5.5

5. Background

1956



Originally founded by Ann Wigmore and later joined by Viktoras Kulvinskas. They believed in treating the body as a whole. Wigmore beat stage 4 colon cancer using wheatgrass juice.

1961



Wigmore and Kulvinskas officially open the doors to the Hippocrates Health Institute on 25 Exeter street in Boston.

1980



Brian and Anna Maria Clement join the Hippocrates Health Institute in Boston.

1987



The Hippocrates Health Institute is moved from Boston, Massachusetts to West Palm Beach, Florida.

Legacy

Wigmore's ideal legacy for the institute was to assist individuals and encourage them to take responsibility for their lifestyle. According to Wigmore's findings by incorporating the raw diet, people could be free from premature aging and diseases. This theory encompasses the essence of the salutogenic approach, having a balance in order to be healthy.

Helping people help themselves. At HHI, it's about giving people the tools they need to help themselves achieve their goals. The campus is designed for individuals to walk outdoors between buildings. As found in our research soothing sounds such as the birds chirping and the water features have positive effects for the psychological, physiological restoration and creative performance. Biophilic design is how we explain our attraction to nature. The connection to nature can be perceived through all of our senses (Mazuch, 2017). HHI reinforces outdoor activities because studies show the higher quality of life.

Regional Uniqueness

Hippocrates Health Institute is located in a tropical setting in order to reinforce their beliefs in a healing environment. The facility is found in a semi-isolated area, avoiding the exposure unnecessary noise such as highly trafficked roads.

The project was developed to coexist with the natural environment not disturbing the current occupants of the space. The facility is composed of one story buildings that are connected via natural paths, and open courtyards. We need the sun. All color is light, light is energy, and energy affects every cell of the body. For centuries, scientists have known that people depend on the sun for physical wellbeing. The sun catalyzes many metabolic processes, and when we lack exposure to sunlight, some metabolic pathways sit dormant, reducing our ability to burn fat and expel toxins. (Huelat, 2008, p.32)



Figure 5.6

West Palm Beach is rich in culture, they have a history preservation program, and a high level of public safety. Wigmore and Clement, the current director, took a trip to Europe to spread the word of Wigmore's findings. When relocating the facility, it was ideal for them to choose a city that met the need to accommodate patients flying in from other parts of the world.

The small town character that West Palm Beach processes is welcoming to individuals that live within the city and those who do not. The pathways and the scale of the buildings in Hippocrates Health Institute encourage individuals to feel welcomed.

Their values for overall well being begins with educating individuals with a program tailored to the patient's needs held in their facility.

A form of entertainment is the open air fitness center, it's designed for individuals to use their own weight to help them become stronger. Several of the machines are designed to be utilized with another individual, encouraging communication and the sense of community.



Figure 5.7

6. Coral Gables Demographics



LOCATION

The founders of Coral Gables designed it to be an international city. Now it is a suburban city, home to more than 20 consulates, foreign government offices. It is near Miami, in Florida. It is home to the 1920s Venetian Pool, which stands out as a planned community that blends color and details. The collections at Lowe Art Museum include Cuban and Caribbean works.

CULTURAL

Coral Gables has always been known for its rich heritage as well as cultural influences. It is also known as the “Capital of Latin America”, due to the high population of Spanish speaking.

These data are very important as they provide an insights into the people using the healthcare facilities.

The design must accommodate the different genders, cultural beliefs, and their traditions in the design elements for creating a better healthcare environment.

PEOPLE

Coral Gables, FL has a population of 50,533
The median age in Coral Gables is 41 years old
In Coral Gables, 56.5% of people are of Hispanic or Latino origin.

CITIZENSHIP

Coral Gables designed it to be an international city, which is precisely what this pie chart illustrates. The percentage of foreigners is the highest in this region. Also, The rate of those born outside the US is the lowest. The cultural background of people affects the way treatment is offered by health facilities such as this center. The Presence of many different nationalities and cultures plays a significant role in the provision and development of recognized treatments, but not radically change.

AGE OF PEOPLE

With that audience the research segment is the millennial generation, but 41 is the most common age in Coral Gables. However, we can notice here the millennium' generating who comprises the majority of the people residing in the area.

MARITAL STATUS

This chart shows us a comparison between two genders male and female in different social situation. However, the highest percentage has achieved by married people for Male, and the lowest was for separated male and female.

INCOME

The average income of a Coral Gables resident is \$56,721 a year. The US average is \$28,555 a year. So here we can see in this table chart the rate of income for people who lives in Coral Gables. Healthcare facilities in this area are targeting all income levels.

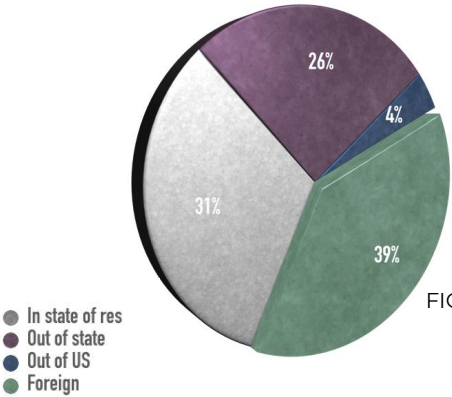


FIGURE 6.2

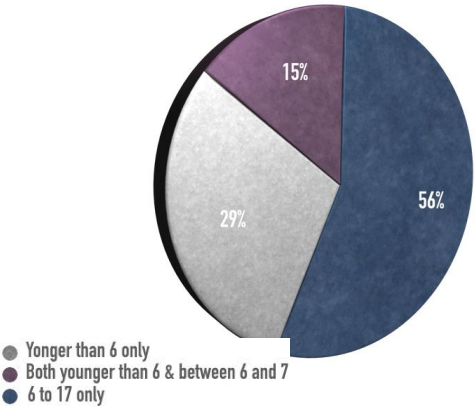


FIGURE 6.3

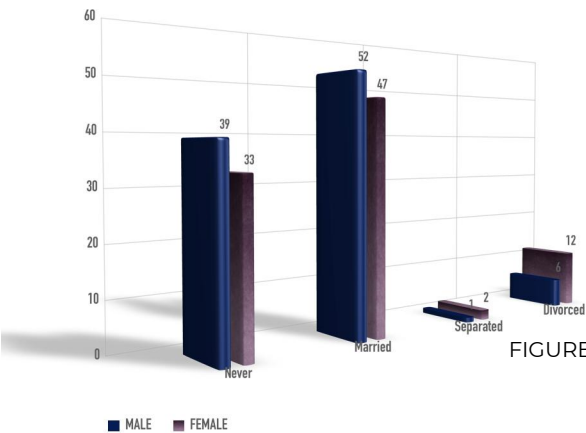


FIGURE 6.4

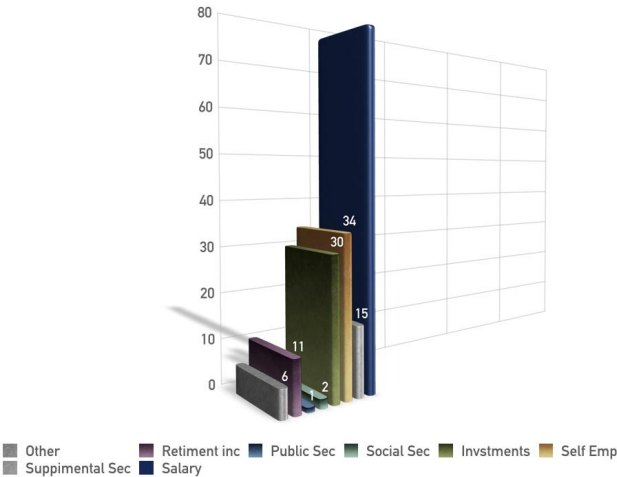
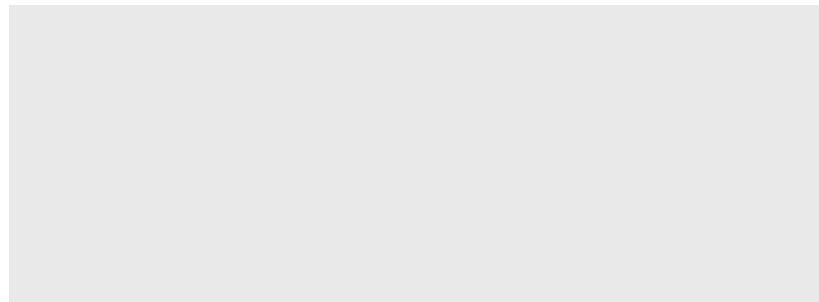


FIGURE 6.5

Users

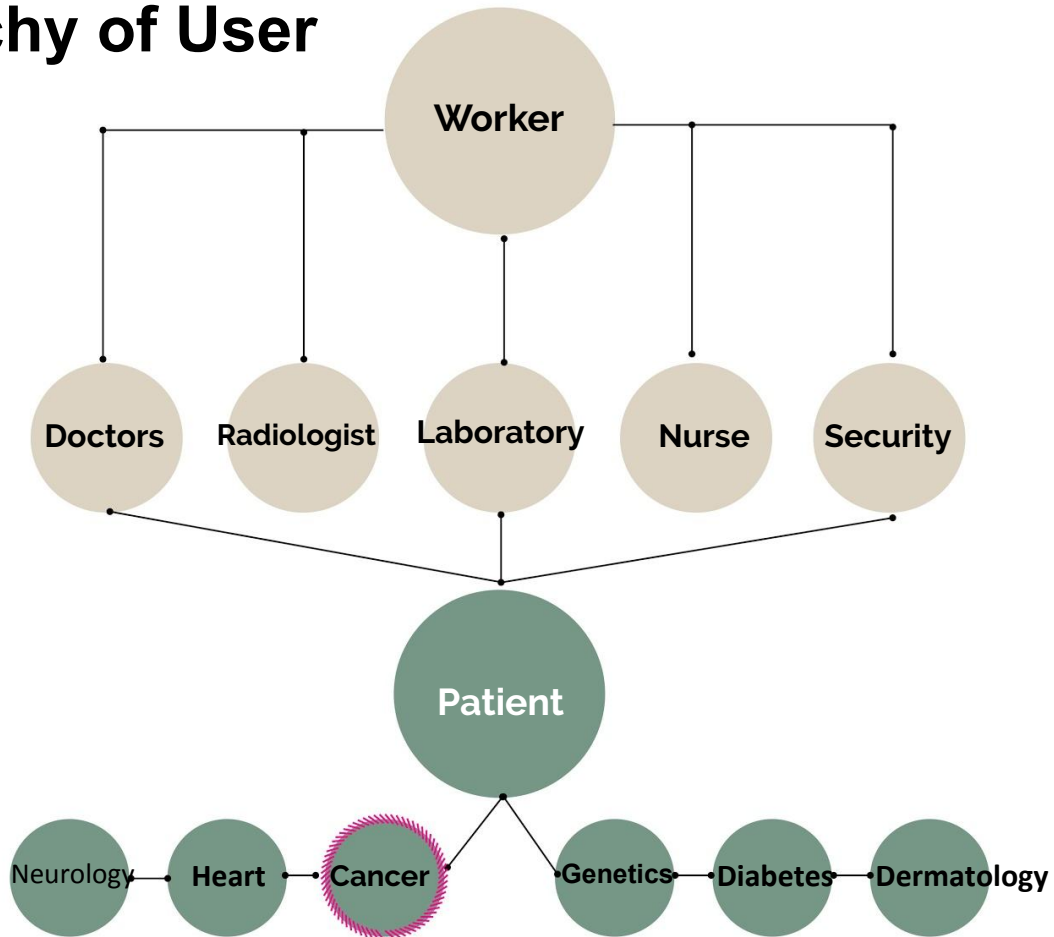
Lennar Foundation Medical Center

People's cultural background affects the way treatment is offered at health facilities including The Lennar Foundation Medical Center. Coral Gables is a middle-high class section, therefore, people with that kind of income are the ones being targeted. However, those who do not meet the financial criteria of the area, they are still welcome into the facility as long as they are able to cover their costs. Lennar is a medical facility so the users healing will be based on traditional medicine practices which will solely focus on the physical well-being.



Hierarchy of User

Audience



West Palm Beach Demographics

Hippocrates Institute Location



LOCATION

Located along Florida's Atlantic Ocean coast, West Palm Beach offers visitors excitement within easy reach of smooth-sand beaches and some of the nation's most enticing waterways. area carries a long history of developments in the region with the preservation and renovation which has led to the surge of the entertainment and shopping hubs. The location is in a natural peaceful environment which aids in the holistic treatment of the peoples

CULTURAL

The census of 2019 shows that the population of West Palm Beach comprises of 57% White, 34 % Black, 2.8 % Asian and 6.2 % other races. The ratio of male to female population is 0.9:1. The religion of the people ranges from Christianity, Judaism, Jewish, Islam and others..

PEOPLE

Compared to FL Counties the population density of West palm Beach is 106,805 per sq.

The median age of 39.6 and a median household income of \$49,054.

FIGURE 6.6

CITIZENSHIP

This pie chart illustrates. The percentage of the in state of res is the highest in this region. Also, The rate of those born outside the US is the lowest. However, the proportion of foreigners coming for treatment and tourism is reasonably well because the area enjoys the essential elements of Biophilic, such as natural landscapes and, water which in turn may help to recover quickly and relax.

AGE OF PEOPLE

39 - 42 years old is the average of the age in West Palm Beach.. However, the target users which is millennial generation also children between 6 years old and 17 years old only has achieved the highest rate of the city population.

MARITAL STATUS

West palm Beach has the highest rate was for Never male and female. But lowest average was for the separated male and female .

INCOME

The average income of west palm beach resident is \$49,054 year. The US average is \$28,555 a year. So here we can see in this table chart the rate of income for people who lives there.The Presence of tourists coming for treatment is a significant reason for the high income of this region to distinguish the treatment services provided as it does not rely on familiar services but depends mostly on therapeutic recreation

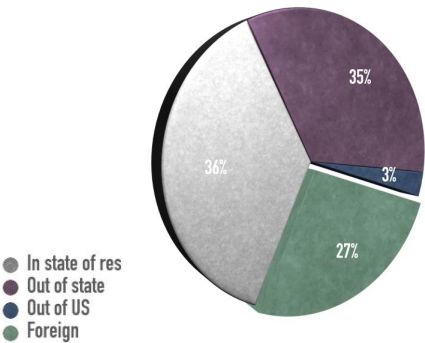


FIGURE 6.7

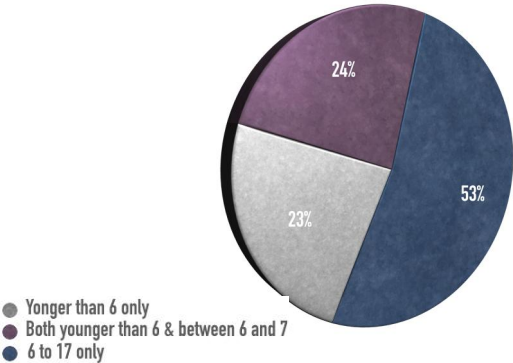


FIGURE 6.8

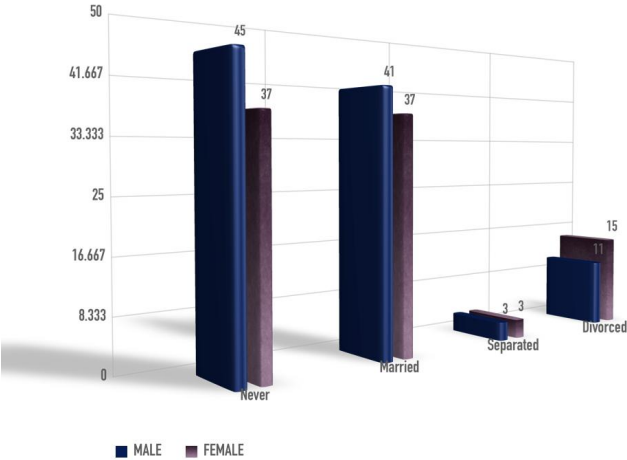


FIGURE 6.9

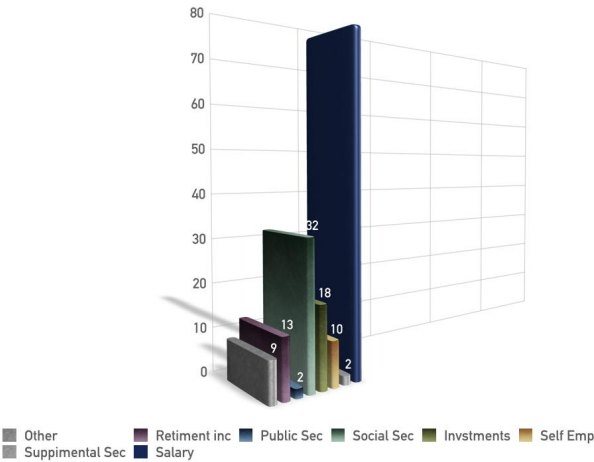
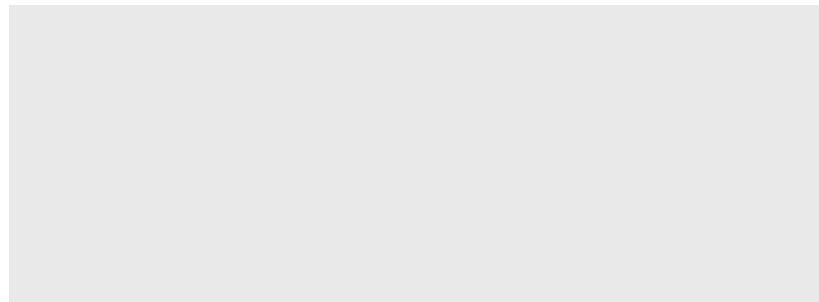


FIGURE 6.10

Users

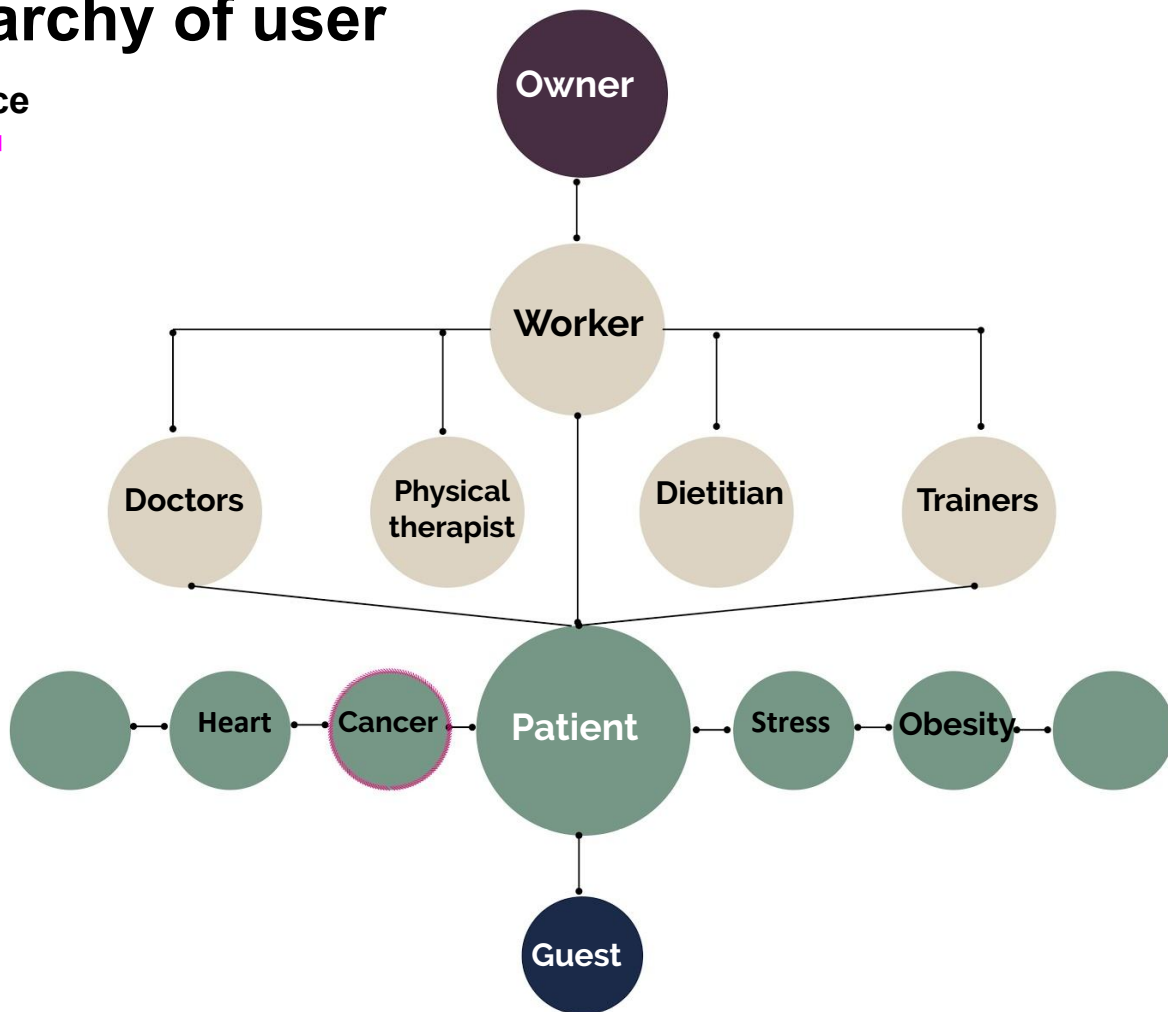
HIPPOCRATES HEALTH INSTITUTE

It is not necessary to be a patient or have health insurance to access the Hippocrates Health Center. It has different users. Which is contains patients with **heart disease, obesity, cancer, and People suffering from stress**. Worker and users Center believe in "natural habitat," which is created suitable habitat for people by being surrounded by nature, which helps remain instrumental to people's physical and mental health, fitness, and wellbeing.



Hierarchy of user

Audience



7. Organizational Structure | Stakeholders

Salutogenesis versus Pathogenesis Cancer Care

Biophilic design should encompass more than just the architecture of a space. It requires reinforcing emotional attachments to settings and places (Kellert, 2019). One of the ways in which an organization can foster emotional attachments is through its organizational structure by designing it to afford users easy access to the executive teams. Additionally, the key executives in an organization must have the necessary experience and credentials to build trust with the patients.

In comparing the organizational structures, Lennar Medical Center has a traditional hierarchy structure, in which a CEO is at the top and the entire organization branches out underneath. Hippocrates Health Institute consists of Brian Clement and his wife Anna-Maria Clement, with very little organizational structure branching out underneath them. From a culture standpoint, Hippocrates Health Institute's structure creates more of an open culture by affording access to the directors of the program.



Figure 7.1

Edward Abraham, M.D.

CEO of UHealth System

Dr. Abraham received undergraduate and medical degrees from Stanford University and trained in internal and critical care medicine at the University of California, Los Angeles. Dr. Abraham is a Fellow of the American College of Physicians and the American College of Critical Care Medicine, as well as a Diplomate of the American Board of Internal Medicine and Critical Care Medicine and a member of the American Society for Clinical Investigation, Association of American Physicians, American Thoracic Society and the Society of Critical Care Medicine (University of Miami, 2019).



Figure 7.2

Brian Clement, PHD, LN

CO-Director Hippocrates Health Institute

Brian Clement has an undergraduate degree in biochemistry and a research PHD in Nutrition from the University of Sciences, Arts, Technology in Montserrat (a small Caribbean island). Brian is licensed in the state of Florida as a nutritional counselor and can not perform or order medical services (Florida Department of Health, 2019).

Analysis

The educational approach to understanding cancer treatment is extremely different between Lennar Medical Center and Hippocrates Health Institute.

The Lennar Center aims to employ those who come from prestigious medical schools in the United States and who are properly certified in pathogenesis medicine. Hippocrates, on the other hand, takes a different approach. The directors of this institute have spent their education focusing on nutrition, stress reduction and holistic medicine to treat cancer.

Depending on the school of thought believed by the patient, both Dr. Abrahams and the Clements have credibility in their field of study.

Anna Maria Clement, PHD, LN.

CO-Director Hippocrates Health Institute

Anna Maria is a naturopathic medical doctor, Ph.D. nutritionist, iridologist, bodywork therapist, Touch for Health facilitator, and nursing health care provider served to enhance the instinctive qualities she possesses. She founded the first living food organization in Scandinavia and was a member of the Natural Health Care Coalition, a government supported effort in unifying the field of complementary health care in her native Sweden. Anna Maria is also licensed in the state of Florida as a nutritional counselor and can not perform or order medical services (Florida Department of Health, 2019).

Licensing

Structure

Hippocrates Health Institute operates in the state of Florida under a Massage Treatment license. The facility operates the medical procedures under a loophole in the Florida Agency for Health Care Administration (AHCA). In an email dated January 28, 2015, the AHCA explains the lack of proper medical licensing for Hippocrates Health Institute:

"After some additional Agency research, unfortunately this "Health Center" does not meet the definition of a Health Care Clinic, see [Florida Statutes] Section 400.9905(4), "Clinic" means an entity where health care services are provided to individuals and which tenders charges for reimbursement for such services, including a mobile clinic and a portable equipment provider. Since this institute is a cash-only business, it does not fall under AHCA's regulation. (ScienceBasedMedicine, 2016).



Figure 7.3



Figure 7.4

The University of Miami Healthcare System and Lennar Foundation Medical Center operate under full medical licencing from the state of Florida. The facility is connected with the University of Miami and is seen as a legitimate, reliable source of medical treatments. Because the facility accepts third-party reimbursement from both private and public insurance companies, it is a highly regulated establishment with standardized operating procedures and protocols.

Patients



Figure 7.6

According to testimonials posted on its website, Hippocrates Health Institute tends to be a last resort for Stage 3 and Stage 4 cancer patients after traditional medicine has failed. David Martin Raines first went to Hippocrates with Stage 4 Lymphoma in both kidneys. It was his second time with cancer. Following his three-week stay at Hippocrates, his cancer had gone into remission (Hippocrates Health Institute Testimonials, 2019).

Patients

First Choice versus Last Resort



Figure 7.5

Lennar Foundation Medical Center is a pathogenic research facility that is well-accepted and well-respected by the community. Because of its position as a research facility attached to The University of Miami, this facility is typically the first line of defense for those battling cancer. The age of the patients varies through all age groups as do the ethnicities and social standings of all the patients.

8. Major functions of Hippocrates Health Institute

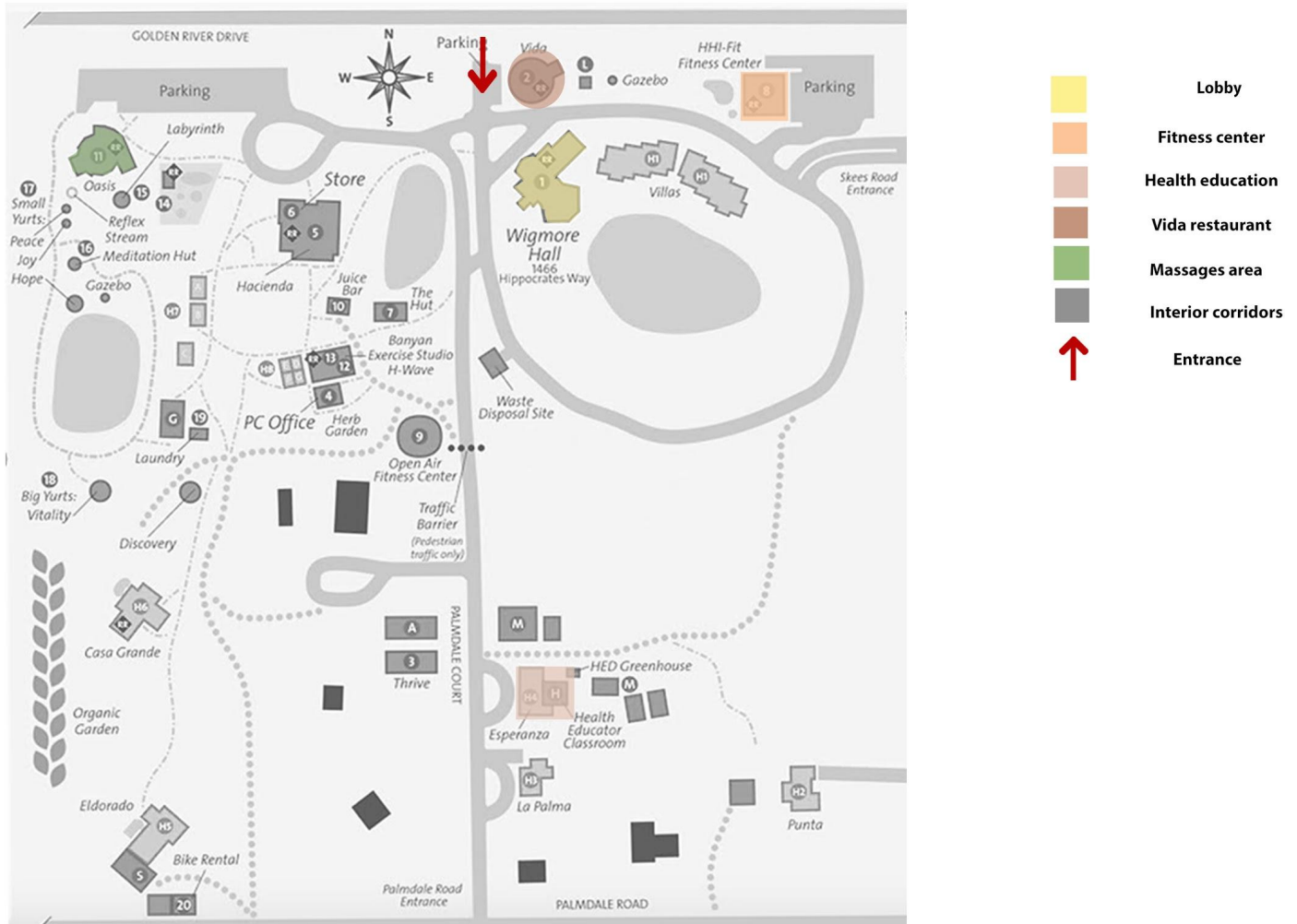


FIGURE 1.8

The primary function of the case studies is to promote healing for the patients. The design space in the healthcare system is created to promote healing and enhance the Creation of a soothing atmosphere. The functionality of Hippocrates Crates Health Institute is the holistic approach of treatment. They emphasis the overall setting or habitat and not a single or isolated occurrence of nature, which is considered one of the main goals in biophilic design. Besides that Creation of simple protocol and supplement plan, which helps the patients achieve health and wellness Comprehensive patient Wellness programs.

Hippocrates Health Institute

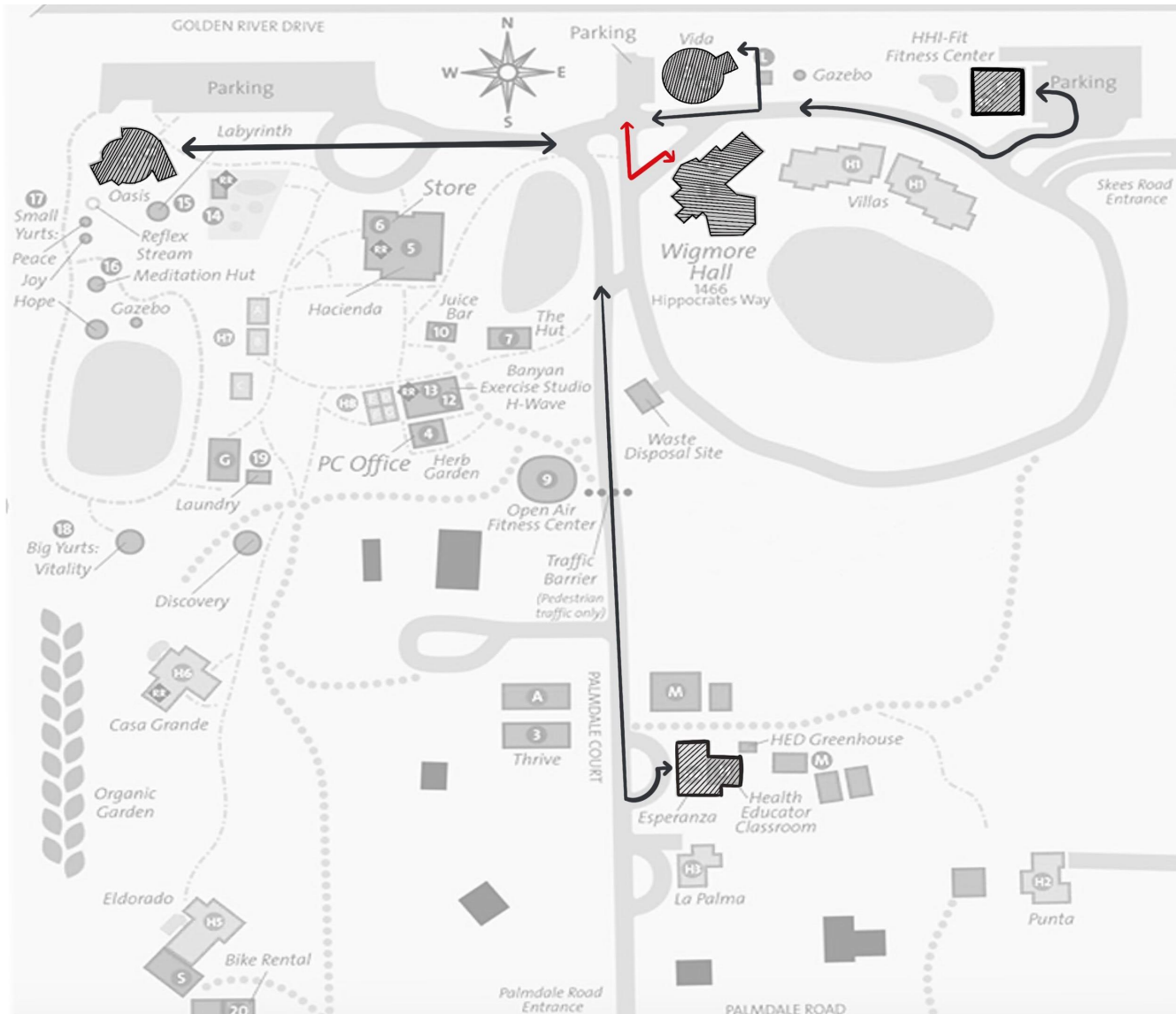
Hippocrates floor plan zoning



Set in a lush, tropical 50-acre setting in West Palm Beach,

Hippocrates Health Institute

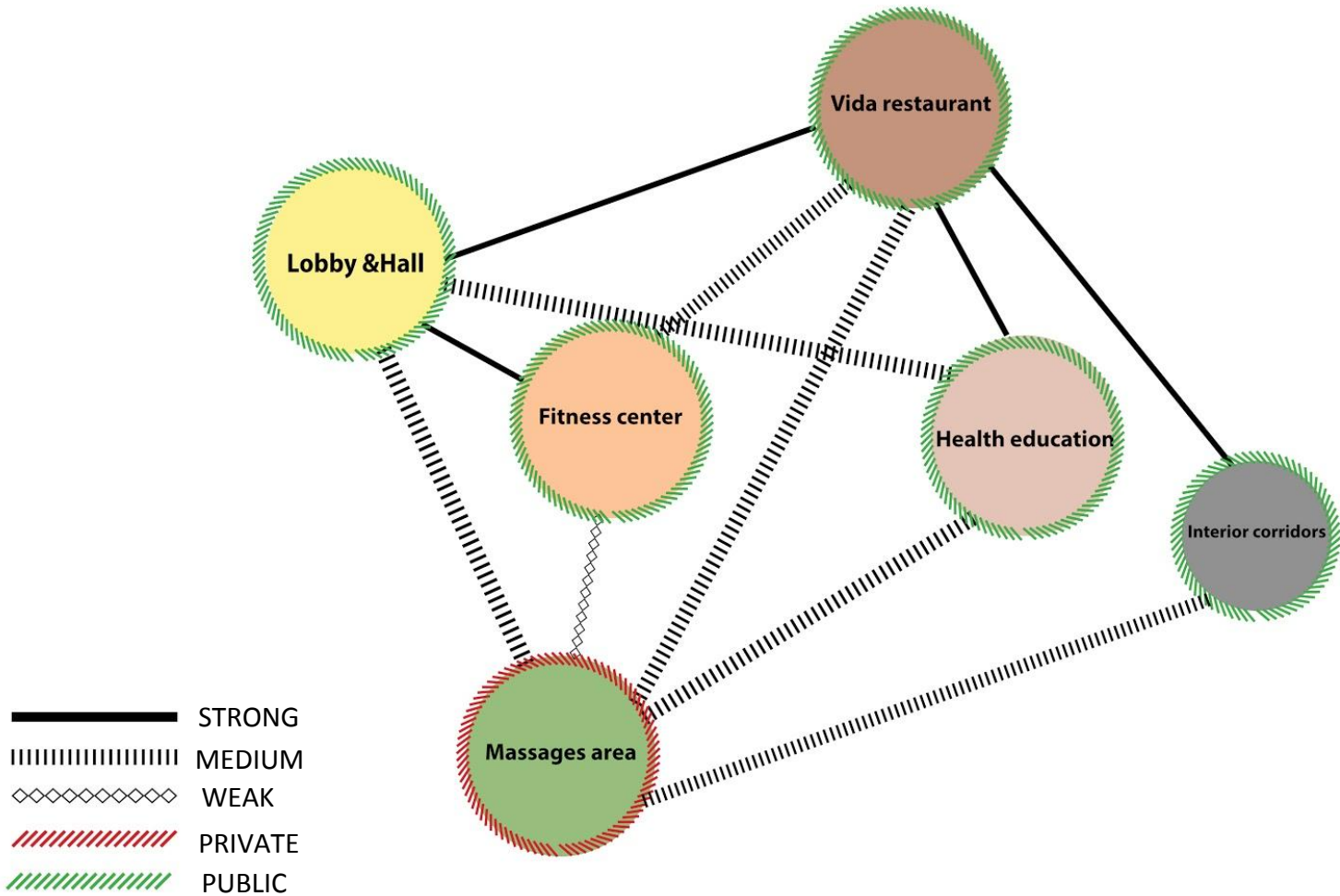
Block Diagrams



These diagrams illustrate the most important places and, clarify the circulation path between them. In Hippocrates, the primary purpose of this center is to reach a treatment plan based on engagement with nature and be surrounded by it. Also, integrating the direct experience of nature, such as light, is water, Planet and, Natural landscape. All these elements give a different result of the design. which is a **mysterious and complex circulation path**, and that what is the map shows very clearly.

Hippocrates Health Institute

Bubble Diagrams



Major Functions of Lennar Foundation Medical Center



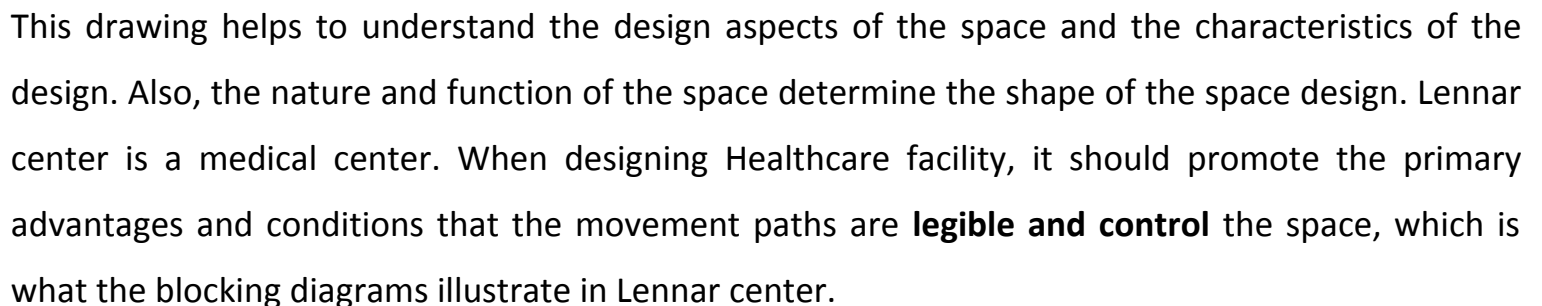
FIGURE 2.8

Lennar center promotes Specialized, individualized care they believe in treating people as human beings. The primary function of the case study is to promote healing for patients and cancer patients. The design space in the healthcare system is created to promote healing and enhance the Creation of a soothing atmosphere. That was done by integrating some of the biophilic design features with modern urbanism. That illustrates by the **INDIRECT EXPERIENCE OF NATURE** such as Images of Nature, Natural Materials and, Natural Colors without engagement with nature.

Lennar Foundation Medical Center

Lennar floor plan zoning





9. Conclusion

This case study focused in comparing and contrasting of the Lennar Foundation Medical Center, a pathogenic facility, with Hippocrates Health Institute, a salutogenic approach. Each facility has a different approach when it comes to Cancer treatments. Lennar Foundation Medical Center focuses on the overall pathology of the disease by treating the illness with techniques that attack the bad cells but also the good ones. On the other hand, Hippocrates Health Institute believes in healing from within. Their aim is to change unhealthy lifestyle patterns and rewiring the body through natural and alternative practices, focusing on prevention as the cure rather than cure.

The case studies the group selected for the research are strategically located. One in West Palm Beach surrounded by nature and native vegetation and the other in Coral Gables. Hippocrates' approach to their location is linked to their use of natural elements to emphasize biophilia and highlight mental and physical well-being.

In order to reinforce their beliefs in a healing environment they are located in a semi-isolated area reducing the exposure to outside elements which might interfere with the healing process.

On the other hand, The Lennar Foundation Medical Center is located in Coral Gables with easy access to public transportation and user accessibility. Another reason for their location is the sense of community they aim to share with the user. Coral Gables is mostly surrounded by small family owned businesses, residences and the University of Miami. To enhance the community feeling, they invite local artists to showcase their art within the facility and their rooftop terrace is open to those who wish to gather among the community as well as having a rooftop terrace open to public.. In conclusion, demographics plays a key factor to the user's healing and experience. In Hippocrates's case, the facility uses nature as the cure, drawing natural elements which help heal from within. In order to achieve this, their location plays an important role in what they do. On the other hand, The Lennar Foundation Medical Center uses a different approach when it comes to healing, using their central location as a tool to encourage community support among its users and easy access to the facility for consultations and treatments.

9. Conclusion

Biophilic design brings healthcare facilities: stress reduction for visitors and staff, reduction of depression especially when connected with physical activity, higher quality of life, reduction of pain, improved wayfinding, reduction of provider costs, less use of medication and shorter lengths of stay, increased patient mobility, and increased staff satisfaction (Huelat, 2008, p.33).

Lennar Foundation facility has incorporated sensory engagement, while addressing design features that aid an individual's physical and mental state. They successfully reduce anxiety and stress by providing the valet service, employees and visitors have their own circulation patterns that leads to the reduction of chaos and sense of peace within the space. The reduced palette does not distract occupants it reinforces what is important within the space leaving room for the natural environment to be highlighted. Unfortunately the city traffic is unavoidable given the location of the facility, sound masking could be incorporated to alleviate this concern. The public transportation access to the site is convenient to have although the majority of the visitors do not utilize it.

Hippocrates Health Institute provides their guests with an overall natural environment. Therefore the connection to nature is restored, however the spaces are not well designed with individuals with disabilities, those who are in later stages of illness would not be able to utilize the amenities. The audial disconnection from the city was beneficial to the guests and visitors allowing them to connect with what is directly in the space.

One of the most important differences we noticed dealt with how the organizational structure was created. The pathogenic facility (Lennar Foundation Medical Center) tended to have a formal design, led by a CEO and trickled down from there. These types of organizations tend to be more formal with more formal lines of communication. The salutogenesis facility (Hippocrates Health Institute) had a less formal organizational structure, which in turn creates a more open and supportive environment.

Another important difference dealt with the formal education and formal licencing between the two facilities. Because pathogenic facilities are considered more traditional treatment centers, they are subjected to higher regulations, which can in turn drive costs up. Often times, these higher costs can dictate a streamlined approach to the design - efficiency in the design means more revenue. Focusing patient recovery on the causes and treatment of just the disease often leaves the emotional, mental and spiritual healing of the patient out of the equation. It's also important to note that because Lennar Foundation Medical Center accepts insurance, it is typically the first preferred method of treatment. On the other hand, Hippocrates tends to be the last resort for treatment because of the high out-of-pocket costs associated with attending. When traditional medicine fails for some patients, a holistic approach is typically the next step. In conclusion, based on organizational structure, Hippocrates Health Institute better embraces a biophilic design versus Lennar Foundation Medical Center.

Next Steps

One of the most important differences we noticed dealt with the formal education and formal licencing between the two facilities. Because pathogenic facilities are considered more traditional treatment centers, they are subjected to higher regulations, which can in turn drive costs up. Often times, these higher costs can dictate a streamlined approach to the design - efficiency in the design means more revenue to pay for the legal representation. Focusing patient recovery on the causes and treatment of just the disease often leaves the emotional, mental and spiritual healing of the patient out of the equation.

Through observational methods and data collection, the study will focus on analyzing the environment of both practices in order to ascertain whether alternative methods prove to have a higher healing rate than the conventional scientific methods when combined with biophilic elements. Comparing and contrasting will make it possible for the group to obtain evidence based, unbiased conclusions which can be later applied to the development of a more sophisticated oncology facility.

While developing the research, special attention will be paid to specific biophilic elements such as color, materiality, audio/visual and entertainment, along with building analysis, past history, unique factors and any additional observations deemed useful to the research. Furthermore, the users of the space will be studied and observed through different mapping methods at different periods of the day for multiple weeks. This user data collection will help determine if their interaction with the biophilic element in the space enhances or diminishes their entire healing experience as well as the link between biophilia and well-being.

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