

# BEHAVIOR MAPPING

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FIG. 1.1



# Introduction








The theory of biophilic design seeks to connect our inherent need to affiliate with nature in the modern built environment (Kellert, 2019). With ninety percent of our time now spent in the built environment, the design intent behind a space may leave some discrepancies with how a space is actually used. The goal of this behavior mapping is to understand how Lennar Foundation Medical Center and Hippocrates Health Institute implemented biophilic design and whether patients are using the spaces as intended. The main goal was to understand how participants move about a space and look for areas of improvement. From our research viewpoint, we are looking at factors such environmental features, natural patterns, light and space, wayfinding, community/entertainment.

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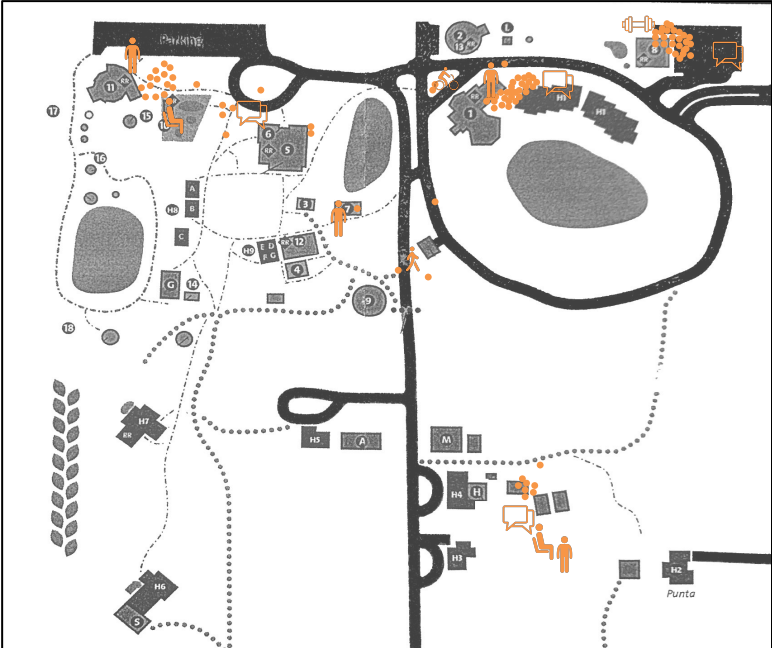
Focusing on "person-centered" behavior mapping, we executed our observations as unobtrusive observers, sitting at a distance in public areas to track behavior but refrained from engaging. Because Lennar Foundation Medical Center and Hippocrates Health Institute have drastically different approaches to treatment and different campuses, we anticipated a few additional activities that would be found at Hippocrates Health Institute only. Exercising and Biking were two activities that we expected to not observe at Lennar Foundation Medical Center.

**Key Activities Observed**

-  Walking
  -  Exercising
  -  Biking
  -  Standing
  -  Talking
  -  Eating
  -  Sitting
-



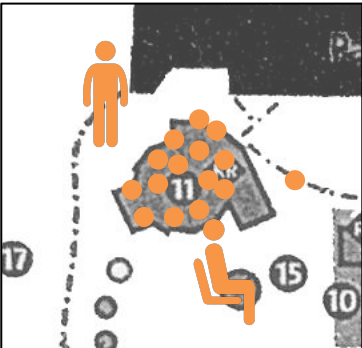
# Hippocrates Health Institute



Whole Campus Mapping



Wigmore Hall

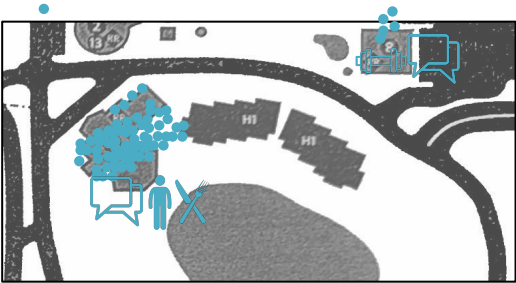


Oasis Spa

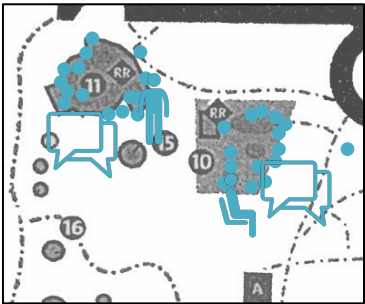
- Walking
- Exercising
- Biking
- Standing
- Talking
- Eating
- Sitting



Whole Campus Mapping



Wigmore Hall

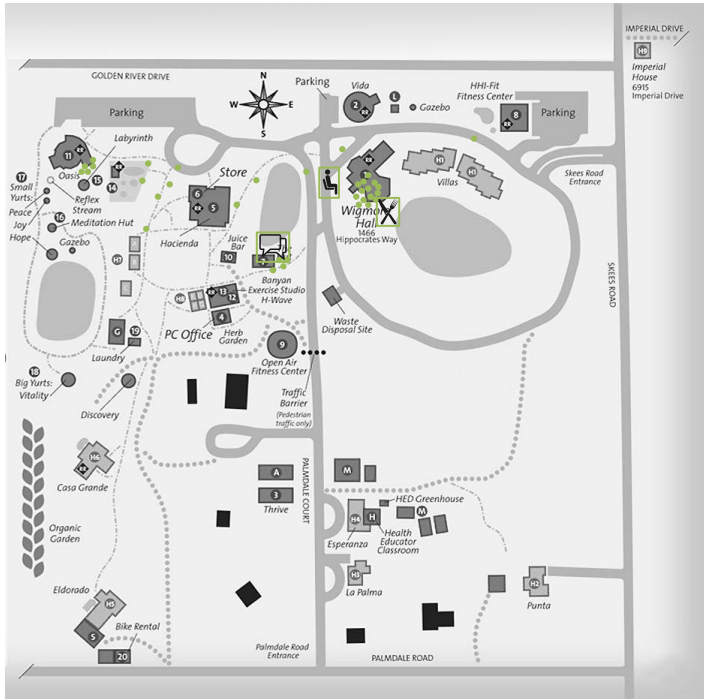


Oasis Spa

- Thursday, September 19, 2019 8 AM - 11 AM
- Thursday, September 19, 2019 12 PM - 3 PM



# Hippocrates Health Institute



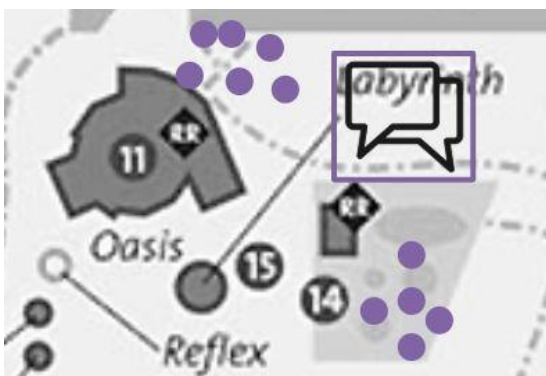
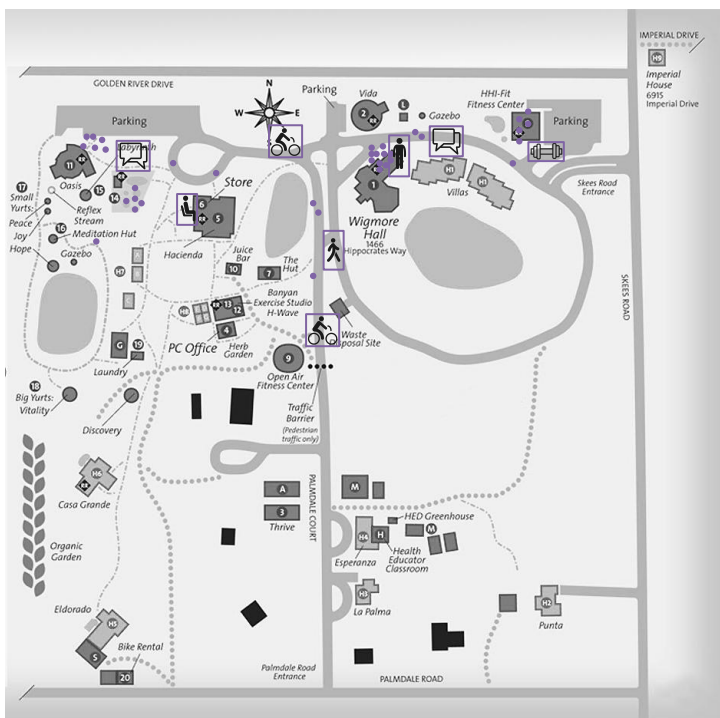
Oasis Spa



Wigmore Hall

● Saturday,  
September 21, 2019  
8 AM - 11 AM

● Saturday,  
September 21, 2019  
12 PM - 3 PM



Oasis Spa



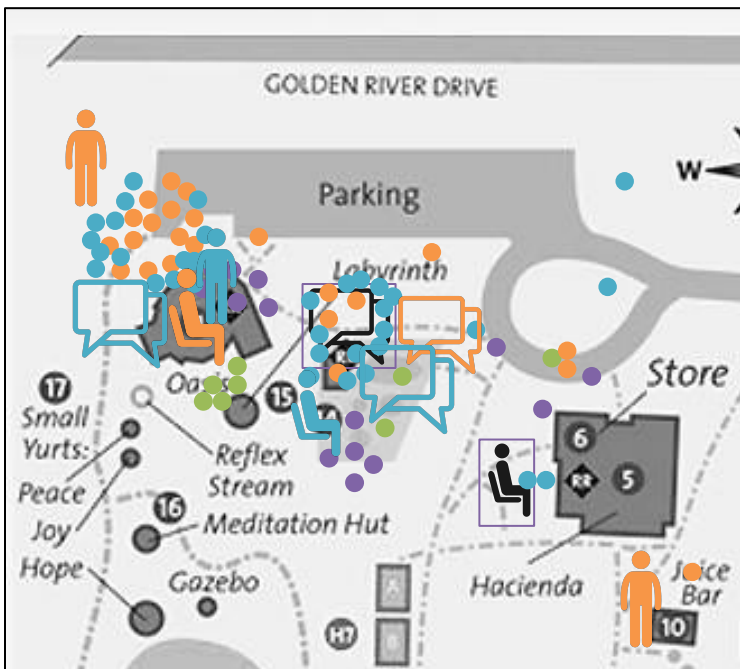
Wigmore Hall

- Walking
- Exercising
- Biking
- Standing
- Talking
- Eating
- Sitting

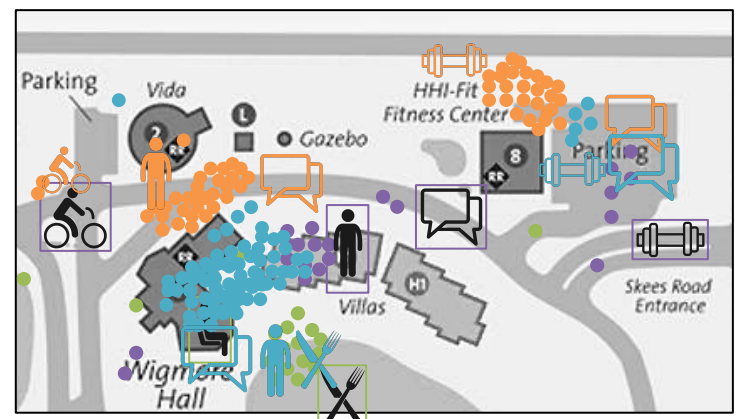
# Aggregated Map



Whole Campus Mapping



Oasis Spa



Wigmore Hall

Thursday,  
September 19, 2019  
8 AM - 11 AM

Thursday,  
September 19, 2019  
12 PM - 3 PM

Saturday,  
September 21, 2019  
8 AM - 11 AM

Saturday,  
September 21, 2019  
12 PM - 3 PM

Walking

Exercising

Biking

Standing

Talking

Eating

Sitting

## OVERVIEW

The site is located in multiple buildings over a 50-acre site. The most stable observation of patients was in Wigmore Hall, the Fitness Center and the Oasis Therapy Center. These areas had the most behavior activity on a consistent basis due to ongoing activities for patients. Because of the large scale of the campus, it was rare to see large groups of people traveling around, with the exception of a 27-person tour group that occurred on the morning of Thursday, September 19, 2019. If a group of patients was observed, it contained between 2-5 people. Other than the few patients sprinkled around the grounds of the space, the user group most consistently seen were the grounds workers doing landscaping and general maintenance around the property.

- The Oasis Therapy Center had a consistent flow of traffic throughout the day. We noticed throughout the day, the majority of people who were at the reception desk were either checking-in, making an appointment or changing an appointment. On the morning of Thursday, September 19, 2019, there was a group of approximately 10 people who were meeting with a nurse from the facility for an educational seminar.
- In the Oasis Therapy Center, there is a center atrium with a water feature and rock garden that patients can sit around on curved wooden benches with throw pillows while waiting to be called for their service. Also placed around the atrium are water stations, which patients help themselves to while waiting as well as receiving from staff after the treatment.

## ANALYSIS

All the programs at Hippocrates Health Institute include weekly services at Oasis Therapy Center. Given the high volume of traffic (in comparison with other spaces on campus), patients are utilizing the services of the spa. Inside the spa, the majority of activity occurred at the reception desk. However, little activity was occurring inside the atrium. There was one patient who was early for service, and so she sat around the atrium, grabbed a glass of water and enjoyed the music playing. When the group arrived for the lecture, they gathered in the atrium space as well and all grabbed a seat on the benches. The atrium was designed to have a direct experience of nature with natural light, water, plants and weather coming into the area. The idea of prospect and refuge was integrated into the space, with lower ceilings around the perimeter of the atrium while the center was open to the natural elements. Observing the behavior between the lone patient waiting treatment and the group awaiting a lecture, all appeared to be relaxed and content. It could be attributed to the natural environmental features introduced into the space.

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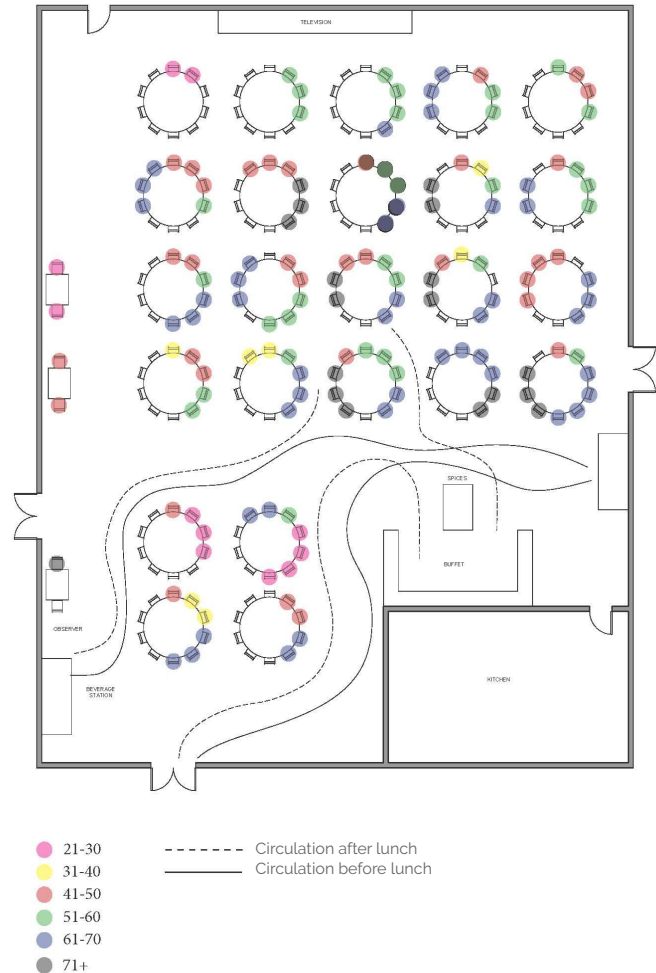


# Wigmore Hall

- Wigmore Hall during lunch (12pm - 2pm) was the best observation time to understand population demographics and social interactions. The buffett consisted of 24 round 5 tables, each seating 5 people and 3 tables that sat only 2 people. Patients tended to group with familiar people and often invited people sitting by themselves to join their table.
- The circulation and seating patterns were the best way to observe the behaviors of the age groups.

## ANALYSIS OF LUNCH BEHAVIOR AT WIGMORE HALL

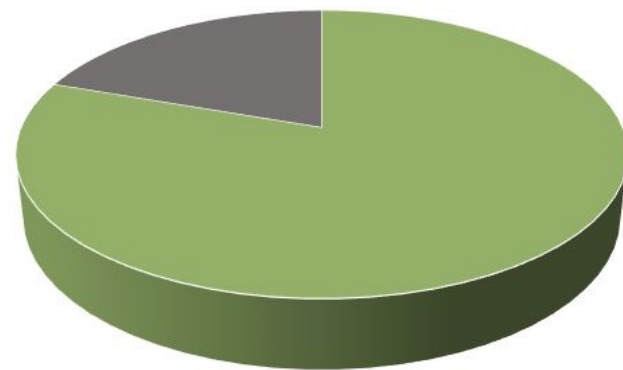
The lunch buffett was an important part of the behavior mapping study. Most of the young adults, aged 21-40 tended to stay in the four tables closest to the door, and separated from the rest of the tables. The oldest age groups (61-70 and 71+) were among the first to come, first to leave and situated themselves in the row directly across from the buffett. As people left and seats became available, the next person would grab a seat, regardless of age group at the table. The middle age groups (41-50 and 51-60) seemed to not mind sitting with younger or older age groups and tended to move further back towards the TV. The round tables foster positive and sustained interaction while helping create the community culture at Hippocrates Health Institute. What was notable was that the tables furthest from the views of nature filled up first. Recent studies would have us believe that the tables with the views to the lake would be the optimal seat, but this was the opposite. Some possible reasons could be the proximity to the food, but also the health of the patient and ability to walk. The tables with the views were the furthest into the space and the social interactions with



other patients seemed to be of higher importance than seeing the lake outside. During our interviews, it will be important to determine whether social interaction or views of nature hold more importance for the patients.

The total number of visitors by day is opposite of what we originally expected. Originally, we expected the weekend to be busier than during the weekdays, but Saturdays are move-out days for patients and Sunday's are move-in for the new groups. So the lunch buffet is much quieter than during the week.

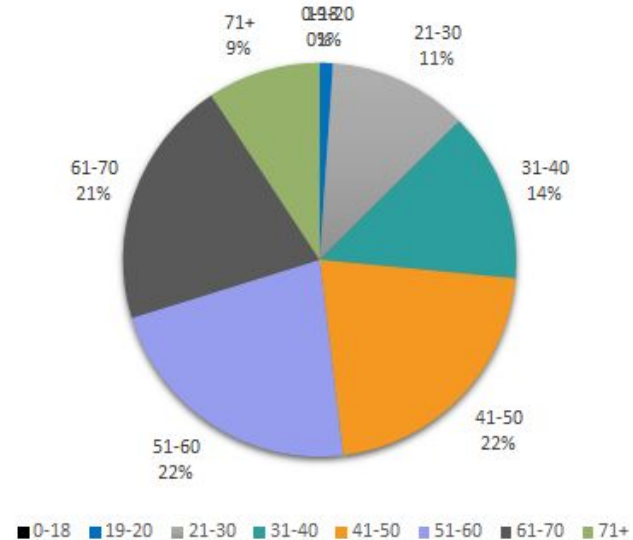
## TOTAL NUMBER OF PATIENTS



Thursday, September 19, 2019 Saturday, September 21, 2019

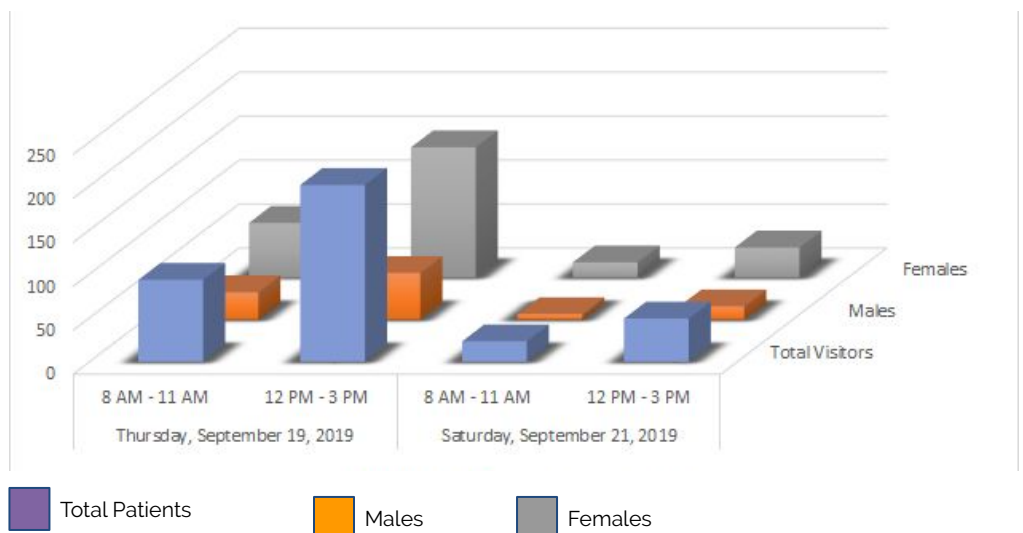
## AGE DEMOGRAPHICS OF PATIENTS

The average age observed was pretty on point with expectations, with more older age groups (41-71+). This could be due to the high cost associated with staying at Hippocrates and younger adults might not be able to afford it yet. The time required (3 weeks) might also be harder for younger age groups that are still working full-time. Another assumption to be explored would be that young adults have less instance of cancer versus older demographics.



0-18 19-20 21-30 31-40 41-50 51-60 61-70 71+

The male to female ratio was quite uneven. There were significantly more females than males at the facility. Several theories will be explored to determine the cause, including whether females tend to not go to the doctor until the situation is desperate, whether females are more emotional and tend to believe in alternative medicine more than males or whether females tend to get cancer at higher rates than males.



Total Patients

Males

Females

# Data Collection

## Hippocrates Health Institute

September 19, 2019 8AM - 11AM

WIGMORE HALL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	3	2	1	3	2	3	4	5	1	2
0	0	0	0	1	1	3	2	1	3	2	3	4	5	1	2

HHI FITNESS CENTER															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	3	4	2	4	3	2	1	5	0	2	0	1
0	0	0	0	3	4	2	4	3	2	1	5	0	2	0	1

HHI STORE															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0

OASIS SPA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	1	2	0	2	0	2	1	3	0	0	0	2
0	0	0	1	1	2	0	2	0	2	1	3	0	0	0	2

WALKING / BIKING PATHS															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	2	3	1	0	1	1	0	1	0	0	1	1
0	0	0	0	2	3	1	0	1	1	0	1	0	0	1	1

MAIN POOL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0
0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0

BECOME SALON															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	4	0	1	0	1	0	1	0	0	0	0
0	0	0	0	0	4	0	1	0	1	0	1	0	0	0	0

September 19, 2019 12PM - 3PM

WIGMORE HALL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	2	5	4	7	8	24	6	30	8	37	4	16
0	0	0	1	2	5	4	7	8	24	6	30	8	37	4	16

HHI FITNESS CENTER															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	1	0	0	3	1	0	0	0
0	0	0	0	0	0	0	0	1	0	0	3	1	0	0	0

HHI STORE															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OASIS SPA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	2	3	0	0	1	1	1	2	2	3	1	0
0	0	0	0	2	3	0	0	1	1	1	2	2	3	1	0

WALKING / BIKING PATHS															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	2	0	4	0	0	0	0	2	1	1	0	2
0	0	0	0	2	0	4	0	0	0	0	2	1	1	0	2

MAIN POOL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	2	1	1	2	1	4	1	2
0	0	0	0	0	0	0	0	2	1	1	2	1	4	1	2

BECOME SALON															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	2	0	3	0	0	0	1	0	1	0	0	0	0
0	0	0	2	0	3	0	0	0	1	0	1	0	0	0	0



WIGMORE HALL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	1	2	1	3	1	1	0	1	0	0
0	0	0	0	0	0	1	2	1	3	1	1	0	1	0	0

HHI FITNESS CENTER															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0

HHI STORE															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0

OASIS SPA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	1	0	2	1	2	0	0	0	0
0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0

WALKING / BIKING PATHS															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0

MAIN POOL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0

[illegible]

WIGMORE HALL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	3	7	2	8	2	4	2	2	0	0
0	0	0	0	0	0	3	7	2	8	2	4	2	2	0	0

HHI FITNESS CENTER															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0

HHI STORE															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0			0		0		2	1		1		0		0	0
0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0

OASIS SPA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	0
0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	0

WALKING / BIKING PATHS															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0

MAIN POOL															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0

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# Lennar Foundation Medical Center

1

Wednesday, September 18, 2019  
3:00 pm - 4:30pm



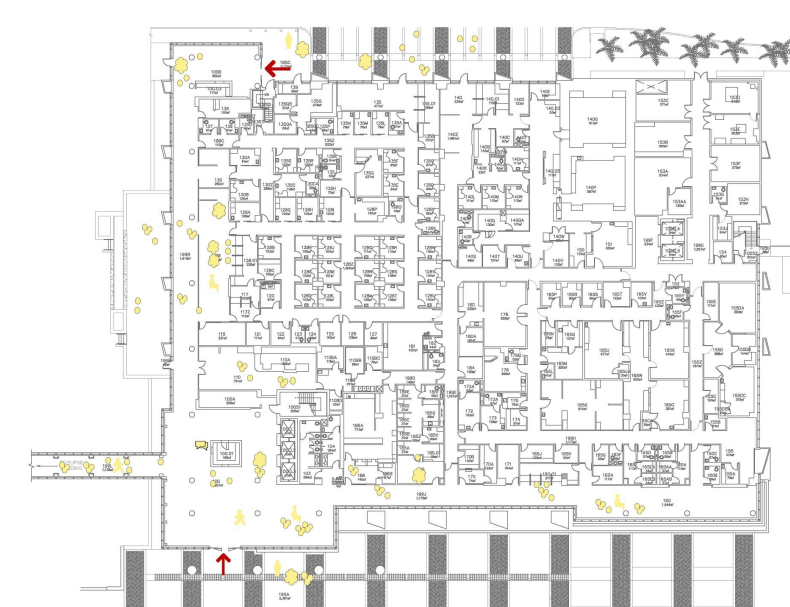
2

Thursday, September 19, 2019  
8:00 am - 9:00 am



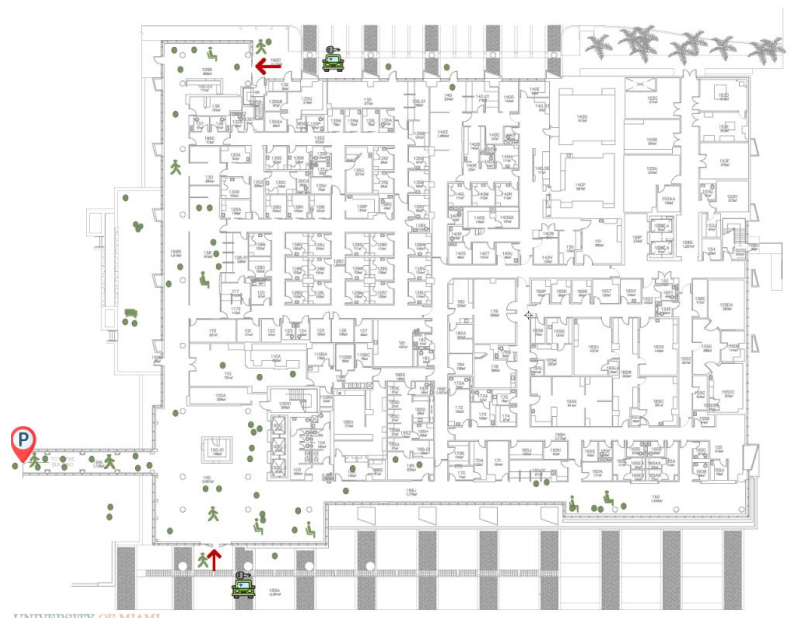
3

Friday, September 19, 2019  
9:30 pm - 11:00 am



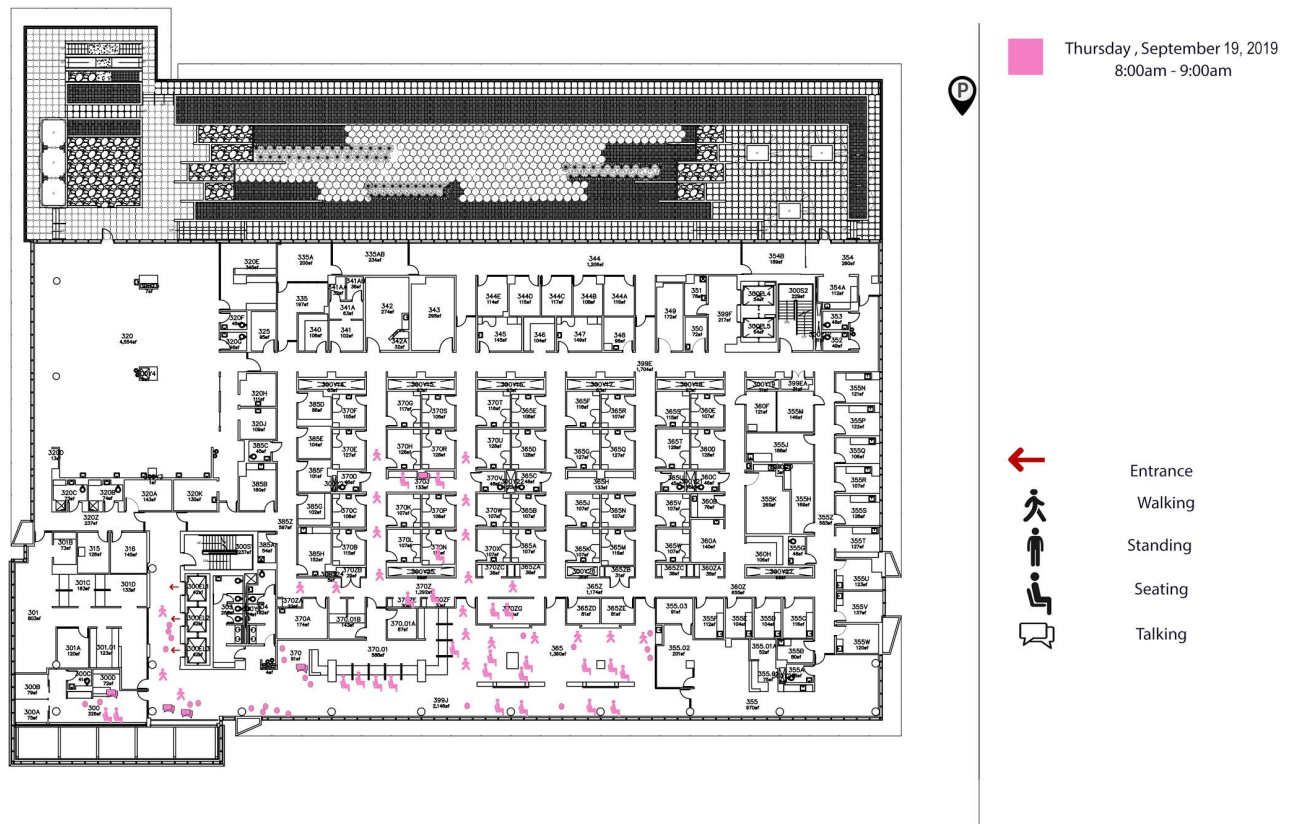
4

Monday, September 23, 2019  
8:00 am - 9:00 am





# Lennar Foundation Medical Center



## OVERVIEW

Thursday September 19th from 8-9am

An extra behaviour mapping was done **Thursday September 19th** in the 3rd floor of the building. The third floor is a typical floor where they have clinics for patient consultations, a reception desk, registration kiosks, checkout booths, seating area, coffee area and TV's. There is a big curtain wall that brings a lot of natural light and there was the area that people were staying the most.

There are 2 TVs for patients entertainment. However, there was a lot of glare. The circulation was very smooth and as soon as you walk in the space from the elevators there is people to help you with any questions and direct you to the right place. The reception desk is placed in a hidden space and it's not really convenient for the patients. Staff mentioned that that was strategically placed there because they are transitioning the check in to be all online at the kiosks.



# Aggregated Map

## Lennar Foundation Medical Center



### OVERVIEW

The Lennar Foundation Medical Center is an outpatient center located on a 200,000 square foot lot in the University of Miami. The facility is made up of 1200 physicians, students and other workers. In the behavior mapping conducted in 4 different times throughout the week, a similar pattern of behaviour in the public areas can be observed. Peak times in the facility vary, but according to the mapping the busiest time for the facility is between 3:00 until closing time which is about 5:30. During the mornings the busiest areas are the Starbucks cafe and the cafeteria as well as the reception desk and the parking entrance. People are just starting their day so it makes sense that this support area tend to be the busiest during the mornings.

The Lennar center visits on **Wednesday, September 18 2019** and **Friday, September 20 2019** show that there is a difference in the amount of people during specific times and the age group of visitors. The total amount of people visiting the site was higher Wednesday afternoon - it was double the amount of people that visited the site Friday morning. However, numbers illustrate that on Wednesday afternoon, regardless of age group, people enjoyed the outdoor areas the most.

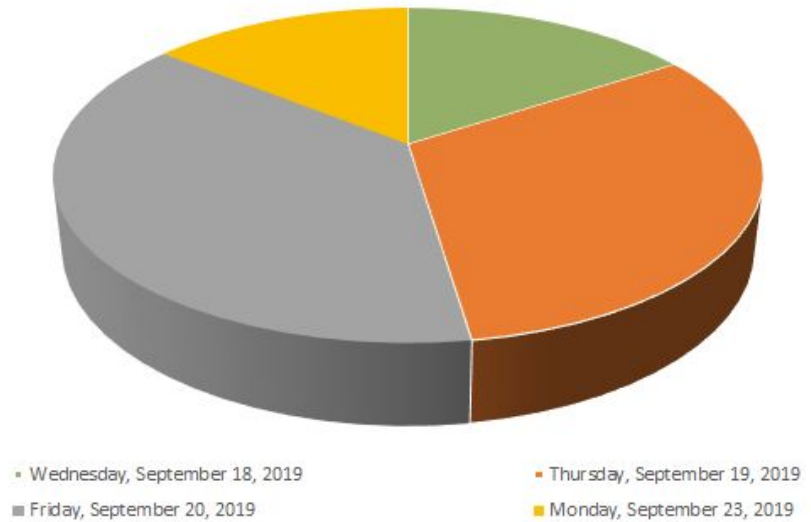
**Thursday September 19th** from 8:00am to 9:00 am. Most of the visitors were arriving from the south west corridor. Immediately after walking in the lobby the staff goes to the elevator and visitors do a quick question at the reception desk and are given instructions where to go. Most visitors also go to the elevators and there was quite a few people waiting on the elevators since they seemed to be slow and not enough for the traffic happening at that time.

There was three people sitting at the waiting area at the main lounge and all of them were facing the window. There is also a pharmacy in the first floor and there was one patient getting prescriptions after his consultation.

**Monday, September 23rd** was very quiet. Because it is a Monday morning the expectation of the group was to find very few people which led to be true. The majority of the occupants wore uniforms meaning they were employees. Every 10 or 15 minutes concentrations of groups of no more than 7-8 people could be seen in no particular grouping. One person, that could have been an employee or a patient, was playing the piano for 10 minutes & then proceeded to go up the elevators.

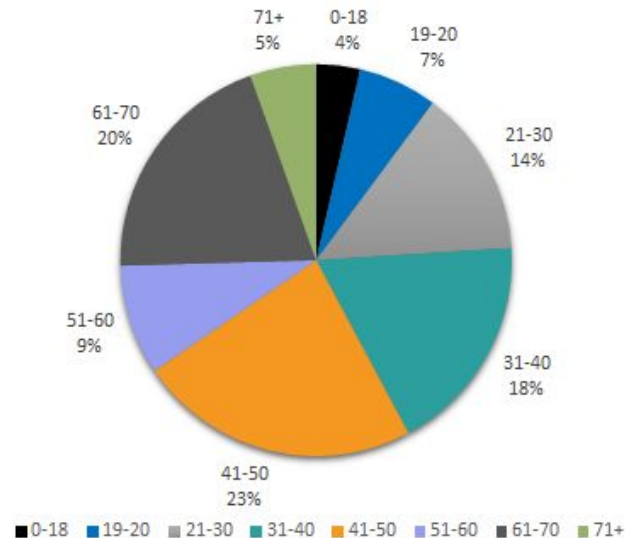
The total number of visitors by day was accurate with our expectations. Higher number of people in the middle of the week, specially Thursday and Friday - higher traffic during the afternoon between 2-4pm.

TOTAL NUMBER OF VISITORS: BY DAY



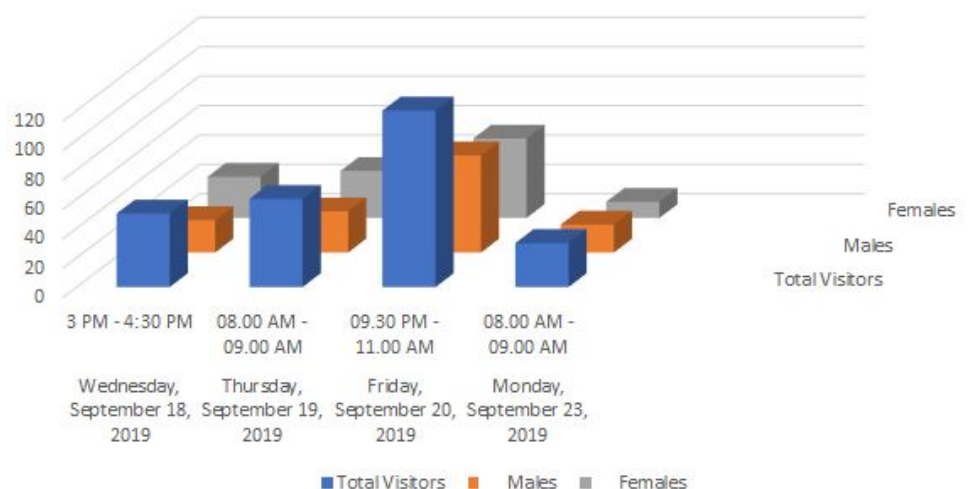
The graphic shows that people from 41-50 years old were the age demographic that visited the facility the most followed by 61-70 years old. On the third floor, the higher age demographic was between 21-30 years old due to the fact they have a big orthopedic department and there were lots of injured athletes waiting to be seen by doctors.

LENNAR VISITOR AVERAGE: AGE DEMOGRAPHICS



The gender ratio was pretty consistent with a similar number of men and women visiting the space. The number of men was slightly higher, specially on the third floor where they had many injured athletes there.

LENNAR FOUNDATION AVERAGE: BY GENDER



# LENNAR FOUNDATION

# Data Collection

## Lennar Foundation Medical Center

Wednesday, Sept 18  
3pm - 4:30pm

LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	2	0	0	0	0	0	2	0	1	0
0	0	0	0	1	1	2	3	0	0	0	0	2	0	1	0

FRONT DESK															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	1	0	0	3	1	0	0	0
0	0	0	0	0	0	0	0	1	0	0	3	1	0	0	0

WAITING AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	2	0	2	2	0	1	0	0	0	0	0
0	0	0	0	1	2	0	2	2	0	1	0	0	0	0	0

ELEVATOR LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	0	2	0	2	0	2	0	3	1	1	0	0
0	0	0	1	0	2	0	2	0	2	0	3	1	1	0	0

PHARMACY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0

PARKING															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	0	2	1	1	2	1	4	1	0
0	0	0	0	0	0	0	0	2	1	1	2	1	4	1	0

OUTDOOR AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	2	0	1	0	0	0	1	0	1	1	1	0	0
0	0	0	2	0	1	0	0	0	1	0	0	1	1	0	0

Thursday, Sept 19  
8am - 9am

LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	2	1	1	0	1	2	0	1	0	2	0	0	0
0	0	0	2	1	1	0	0	2	0	1	0	2	0	0	0

FRONT DESK															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	2	0	1	0	0	0	1	1	0	3	1	0	0	0
0	0	2	0	1	0	0	0	1	1	0	3	1	0	0	0

WAITING AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	0	1	2	3	1	2	1	1	2	3	1	0
0	0	0	1	0	1	2	3	1	2	1	1	2	3	1	0

ELEVATOR LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	0	0	0	0	0	1	1	1	0	1	1	0
0	0	0	1	0	0	0	0	0	1	1	1	0	1	1	0

PHARMACY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1
0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1

PARKING															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1
0	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1

OUTDOOR AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0



# Data Collection

## Lennar Foundation Medical Center

Friday, September 20th  
9:30 am - 11 am

LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
2	1	0	2	0	0	0	3	0	5	1	0	3	0	0	0
2	1	0	2	0	0	0	3	0	5	1	0	3	0	0	0

FRONT DESK															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	0	1	1	0	0	3	1	0	0	0
0	0	0	0	1	1	0	1	1	0	0	3	1	0	0	0

WAITING AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
2	1	0	0	0	5	3	2	1	2	0	2	1	0	0	1
2	1	0	0	0	5	3	2	1	2	0	2	1	0	0	1

ELEVATOR LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	1	0	0	3	2	1	1	2	1	0	2	1	0	1	0
0	1	0	0	3	2	1	1	2	1	0	2	1	0	1	0

PHARMACY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	2	0	4	0	0	0	0	2	1	1	0	2
0	0	0	0	2	0	4	0	0	0	0	2	1	1	0	2

PARKING															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	0	3	1	1	2	2	2	2	1	4	2	2	4	1	2
1	0	3	1	1	2	2	2	2	1	4	2	2	4	1	2

OUTDOOR AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	0	1	2	0	3	0	2	3	1	2	1	0	1	2	0
1	0	1	2	0	3	0	2	3	1	2	1	0	1	2	0

Monday, September 23rd  
8am - 9am

LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0
0	0	0	0	1	1	1	2	1	1	0	0	0	0	0	0

FRONT DESK															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	1	1	0	1	0	2	1	0	0	0	0	0
0	0	0	0	1	1	0	1	0	2	1	0	0	0	0	0

WAITING AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	1	0	0	0	0	1	0	2	1	0	0	0	0	0	0
0	1	0	0	0	0	1	0	2	1	0	0	0	0	0	0

ELEVATOR LOBBY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0
0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0

PHARMACY															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	1	0	0	2	0	0	2	1	0	1	0	0	0	0	0
1	1	0	0	2	0	0	2	1	0	1	0	0	0	0	0

PARKING															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	0	0	0	0	2	0	0	2	1	0	2	1	0	1	0
0	0	0	0	0	2	0	0	2	1	0	2	1	0	1	0

OUTDOOR AREA															
0-18		19-20		21-30		31-40		41-50		51-60		61-70		71+	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0	1	0	2	0	2	0	0	0	1	0	1	0	0	0	0
0	1	0	2	0	2	0	0	0	1	0	1	0	0	0	0

# COGNITIVE MAPPING


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# Introduction to Cognitive + Activity mapping

Cognitive mapping is the representation in sketch form of how an individual sees the layout of their environment. These sketches allow us to take a look through that individual's perspective. Environmental features, the function of spaces, color, an individual's senses and light are some of the factors that will impact the outcome of these sketches. Through this exercise we will be able to draw some conclusions from both Lennar Foundation Medical Center and Hippocrates Health Institute.

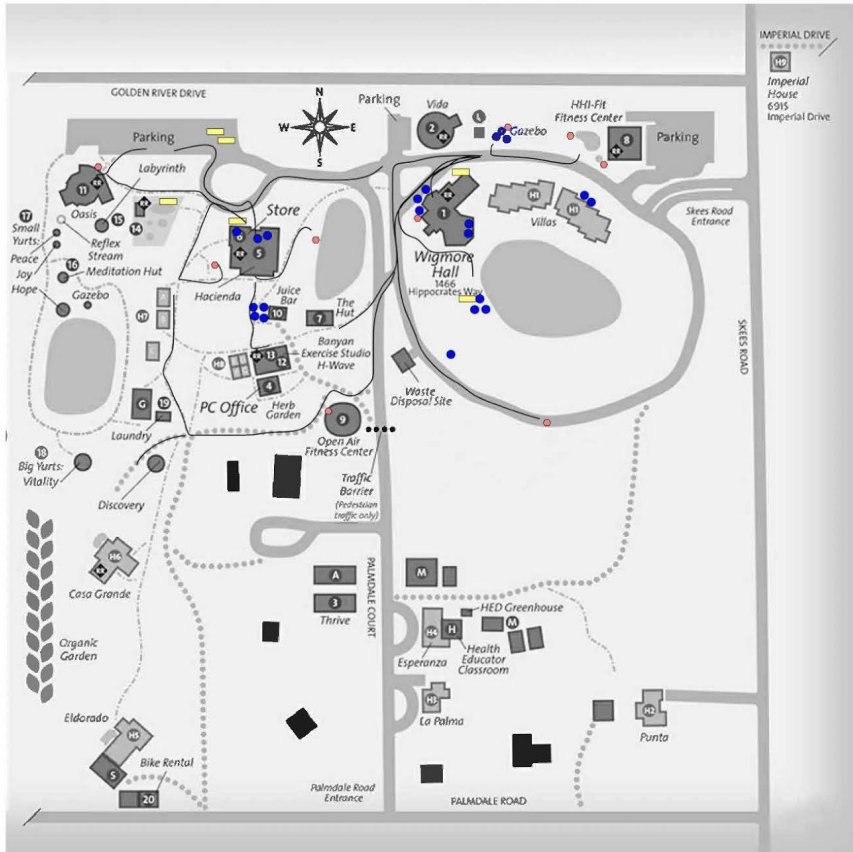
As we perform our research, it is vital to understand the function of a space and how individuals move within. An individual's response will differ based on age, sex, physical and psychological state therefore incorporating an element that benefits one individual does not guarantee a positive response from another. Activity mapping is conducted by observing individuals and taking note of the activities performed within a specific place. Through this exercise some of the factors we hope to see guide our participants are biophilic elements, amenities, colors, and audio.



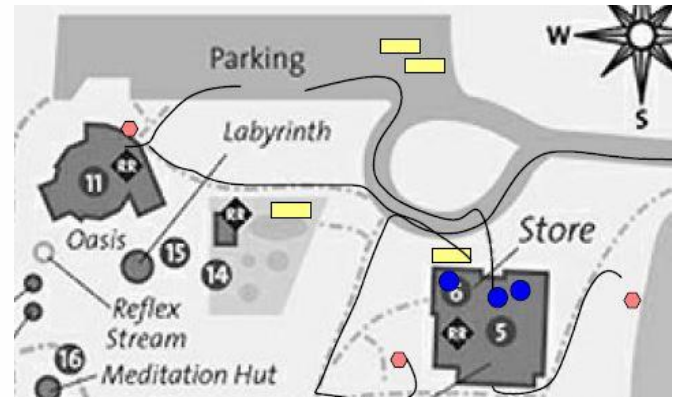


# Activity Mapping

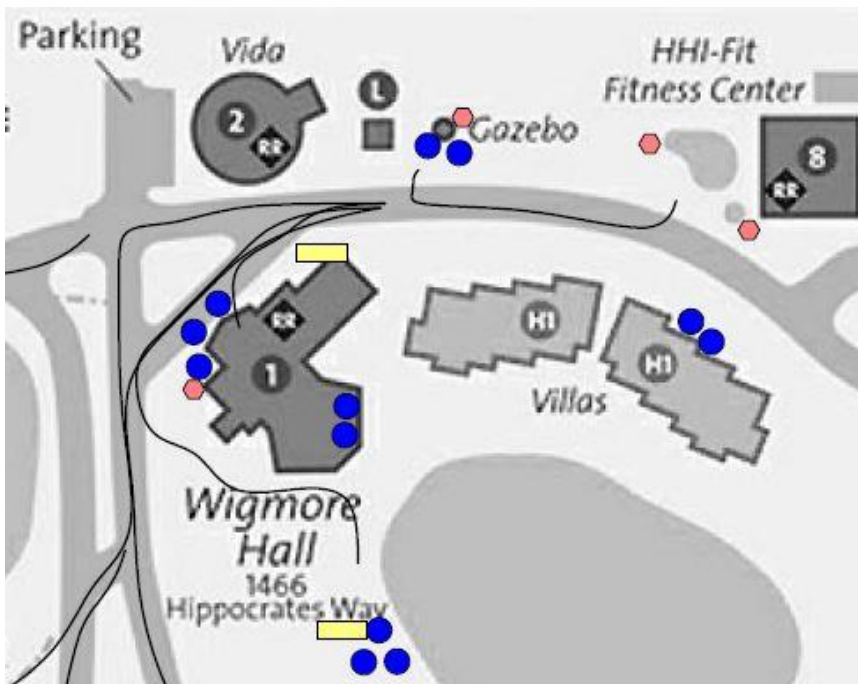
Sunday, September 29, 2019 5PM-7PM



- Standing
- Talking
- Sitting
- Walking



Oasis Spa

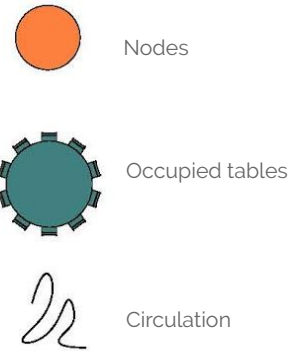
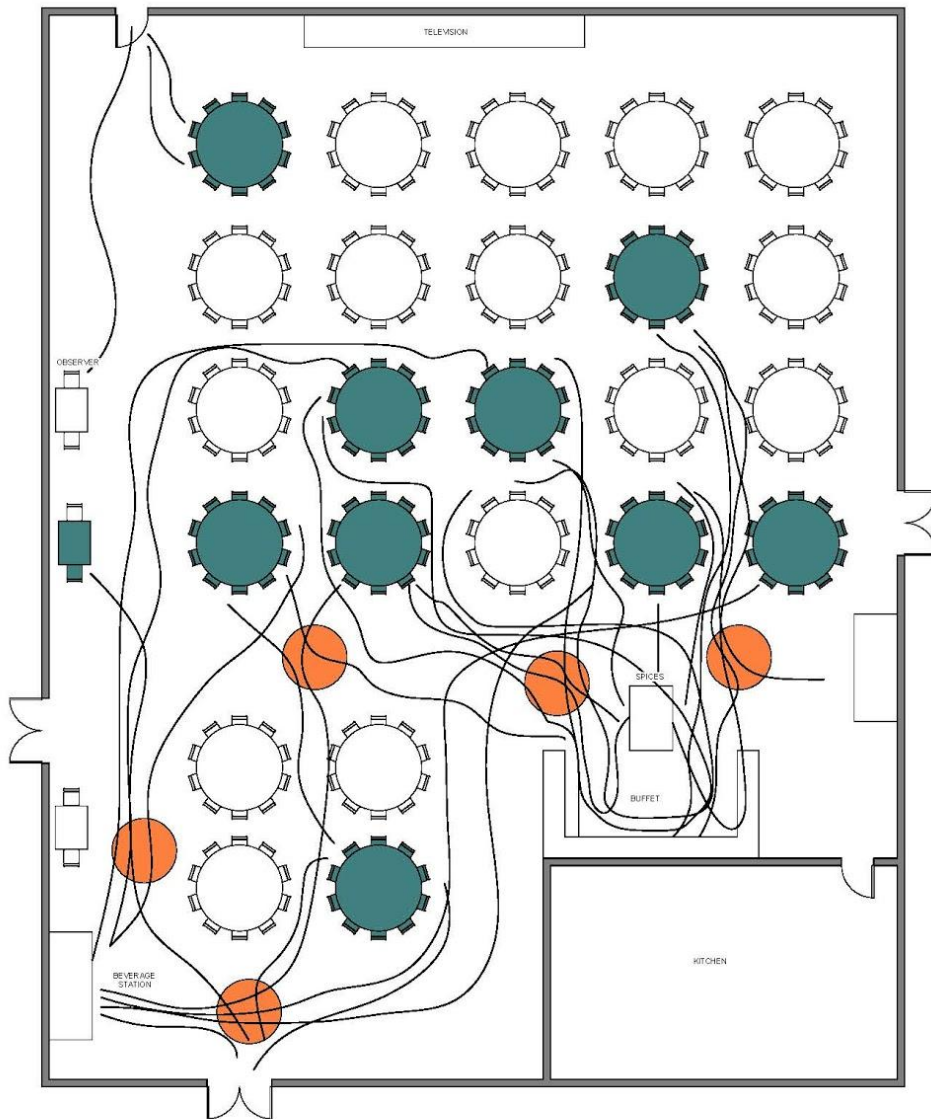


Wigmore Hall

Hippocrates Health Institute provides their patients and guests with outdoor spaces designed to be utilized throughout the day. Individuals were drawn to seating areas that were near bodies of water or on the other hand were isolated from crowding. While walking through the spaces the individuals who were the farthest from crowds were completed unbothered by anyone passing by. It was clear they were focusing on the natural audial surrounding. The individuals who were near bodies of water were directly looking at the how the water was traveling. The presence of water must indicate its clean. Its to use fluctuating water over predictable stagnant water (Wang, Puksza, 2017)

# Activity Mapping

Sunday, September 29, 2019 5PM-7PM



Upon entering the space, we noticed that patients and guests waited for family members or loved ones before entering the dining hall. Small groups were formed between patients and guests walking from their respective residences. We noticed that individuals who were accompanied by family or friends preferred to sit in tables alone with them. Those who shared the table with other residents chose to sit near the front closer to the buffet. One concern was the noise level

within the space. The dining hall was designed as an open area with no place for visual privacy and very little audial privacy. The chatter levels grew as individuals finished their meals. High levels of noise can cause stress when perceived negative, however for the majority of this observation it this was not the case. There was laughter throughout the space. Another factor that concerned us was the proximity of the tables. The nodes did not have a high impact on the choice of seating. Individuals did walk around some tables however for the most part there was a sense of community and individuals smiled at each other as they walked by. The form of entertainment here was encouraged to be direct contact with one another, given the shape of the tables it was successful. Towards the end the two individuals who sat near the back did seem to be bothered by the noise level. Given that the facility will have very ill patients the built interior space should provide a sense of prospect and refuge.

# Activity Mapping

Saturday, October 5, 2019 12pm-1pm



Biophilic elements are; light, spatial permeability, sensory engagement, organic shapes and forms, natural processes and fractal geometry (Mazuch, 2017). The main pool area in Hippocrates Health Institute is a welcoming space encompassing organic shapes, the connection to nature, and privacy from passing individuals. Individuals within this space utilized the different temperature pools, washing off and then laying in the sun. The audial surrounding was that of birds singing, and leaves swaying causing a sense of tranquility.



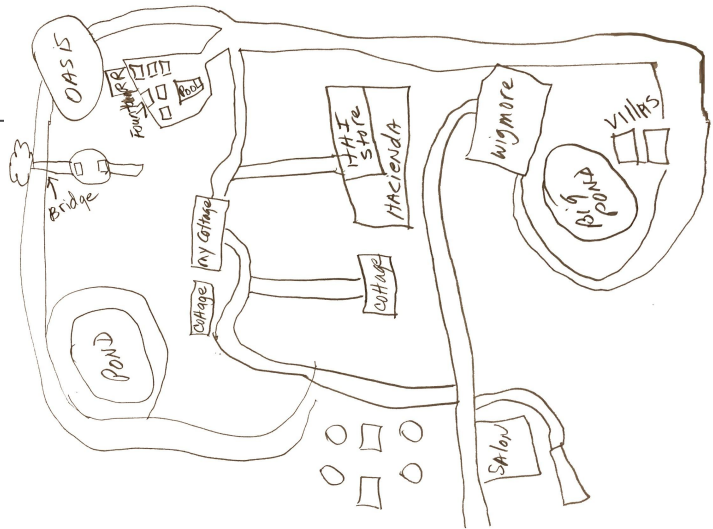
As we perform our research, it is vital to understand the function of a space and how individuals move within. An individual's response will differ based on age, sex, physical and psychological state therefore incorporating an element that benefits one individual does not guarantee a positive response from another. Activity mapping is conducted by observing individuals and taking note of the activities performed within a specific place. Through this exercise some of the factors we hope to see guide our participants are biophilic elements, amenities, colors, and audio.

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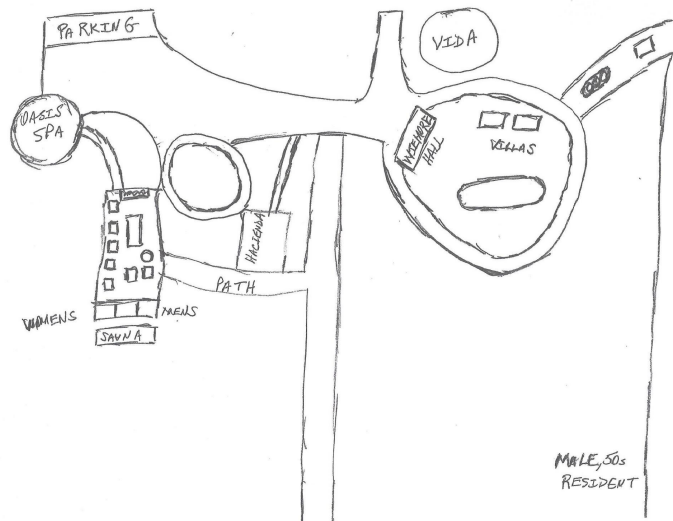
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**A**WHITE FEMALE, AGED 61-70  
RESIDENT

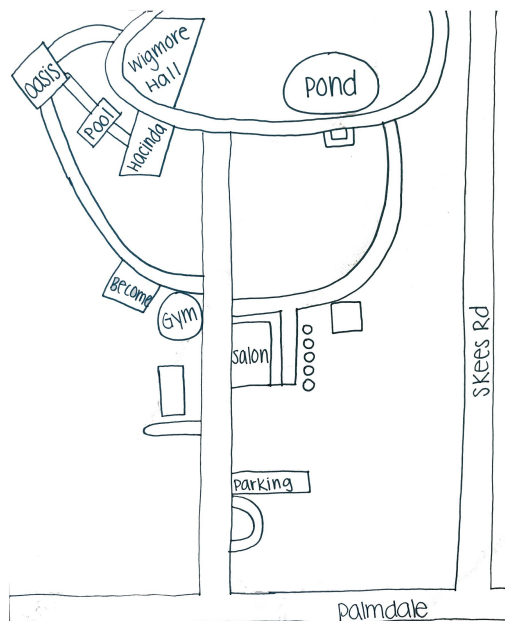
Participant A lives in Cottage A in the middle of campus. She has been at Hippocrates almost the full three weeks and was preparing to check out. During her time, she liked to use the outdoor gym and Salon in addition to the Oasis Spa. On a few occasions, she would stop at the pool for a bit.

**B**WHITE MALE, AGED 51-60  
RESIDENT

Participant B lives in the Villas next to Wigmore Hall. He too had been on campus for 3 weeks and was checking out Saturday, September 28th. He tended to use the pool and the spa the most often and many of his classes were in the Hacienda.

**C**LATIN FEMALE, AGED 21-30  
SALON EMPLOYEE

Participant C works at Become Salon, which is currently in a temporary location off of Palmdale Court due to renovations. She has worked at Hippocrates for 2 years. For lunch, she typically walks to the lunch buffet located in Wigmore Hall via a walking path that directly links the Salon and the driving circle around Wigmore.



# COGNITIVE ANALYSIS

Before beginning, the standard Hippocrates Health Institute map was shown as reference to help participants get a sense of how to begin drawing. All three participants were already familiar with the map, as they had used the same one to get acquainted with the campus when they first arrived. It can be assumed that the campus map influenced the way participants then drew their maps. Also of importance to note is that the Participants were sitting next to each other at a round table in Wigmore Hall when the maps were completed. Another possible area of influence in the cognitive mapping. Despite some similar qualities in the map drawing, there are several differences with how they drew and what they included on the map.

## START

All three participants started their drawing with the area they were most familiar with, trying to gauge where on campus that building or area was situated and then tried to place that area as the start point on the paper. Participants A and B began where their housing was located. Participant C began where she typically enters the campus to come to work. From there, they tracked their most familiar paths.

## SCALE

All three participants drew the most familiar areas out of scale compared to other areas. For instance, Participant A drew Cottage A (her housing) much larger than the villas by Wigmore Hall even though the Villas are more than double the size of the cottage. They also ran out of room on the paper to draw some areas, as these areas were least familiar to them. Another notable difference was the orientation of the campus: the two residents (Participants A and B) drew their maps landscape while the employee (Participant C) drew hers portrait. The possible meaning behind this is that beyond the roadblock is typically where employees tend to come and go off the campus as well as back-of-house buildings such as shipping and receiving. Therefore, residents typically don't go into these areas which could explain a linear versus horizontal view of the campus.

## INCLUSION

The participants drew only the areas that were most familiar to them, leaving out paths and buildings they typically don't use or ran out of room to draw them. The level of detail was also higher in the areas of most consistent use. Participant A uses the outdoor gym so she included some of the equipment. Participant B tends to use the pool more often than the other participants so more detail was included to show the three different pools, sauna, chairs and restrooms. Participant C walks to lunch everyday using a walking path that connects the temporary Salon to the back of the Wigmore Hall pond. It leaves the question whether or not Participant C would have included that path if Become Salon was in its typical location. Participant A also included more walking paths in the middle of campus, which shows how she gets around. Participant B's housing is located on the paved road next to Wigmore so he tends to walk on the pavement as opposed to the paths, possibly explaining why he didn't include the meditation pond in his drawing.

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# ACTIVITY MAPPING LENNAR CENTER

## FIRST FLOOR



## ACTIVITY MAPPING ANALYSIS

This Activity Mapping shows 3 different experiences for visitors and workers in Lennar Center on Wednesday **1:00 PM to 2:30 PM** September 25, 2019.

### Male Nurse:

1:15 PM UNTIL 1:28 AM 13 MINUTES

1:43 PM UNTIL 2:00 PM 17 MINUTES

**1-** Male nurse gets off the elevator A and heads to wheelchair storage. After taking a wheelchair, he then proceeds to pick up an elderly woman who needs assistance getting into valet, outside.

**2-** 5 minutes later he comes back and places the wheelchair back into the storage which is conveniently next to the elevators since he repeated the same process a few times during the course of the 2 hours.

### Male Visitor/Pianist :

1:30 PM UNTIL 1:55 PM 25 MINUTES

**1-** The men proceeds to come in a serenade with the piano for about 20 minutes.

**2-** He then meets with an acquaintance who gets off the elevator and they both leave.

### Female Patient :

2:13 PM UNTIL 2:30 PM 18 MINUTES

**1-** The women gets off the elevator and goes to the seating area. After a few minutes of reviewing papers, she gets up and speaks to the lady in reception before finally leaving.

# ACTIVITY MAPPING LENNAR CENTER

## FIRST FLOOR



## ACTIVITY MAPPING ANALYSIS

This Behavior Mapping is showing a different experience for visitor and worker in Lennar Center at Thursday 9:30 AM - 11:00 AM September 26, 2019.

### Female patient: 9:30 AM UNTIL 10:15 AM 45 minutes

- 1- She arrived to the hospital and parked her car with the Valet.
- 2- The patient went to the reception and asked the receptionist about the Imaging center.
- 3- She entered the Imaging center then spoke with the radiology nurse in order to be checked in.
- 4- The patient was called from a nurse and entered the radiology room and there was about 20 minutes.

### Security Guards : 10:15 AM UNTIL 11:00 AM 45 minutes

- 1- The security guard was doing rotation that took approximately 10 minutes.
- 2- He would start the shift either from the emergency gate or the back of the building.
- 3- The security guard passed the emergency reception desk uhealth student clinic at the cafeteria
- 4- He stopped at the reception desk and talked with the receptionist about 2 minutes and after that he went to the pharmacy located at the main corridor..

# ACTIVITY MAPPING LENNAR CENTER

## THIRD FLOOR



Busy Points

Female patient

Male Staff



## ACTIVITY MAPPING ANALYSIS

This Activity Mapping shows two different experiences for a patient and a nurse at Lennar Center on Tuesday 9 AM - 11:00 AM September 27, 2019.

**Female Patient:** 9 AM UNTIL 11 AM 2 hours.

- 1- Patient arrived from the elevator, turned to the left and asked the lady at the reception desk about directions.
- 2- The patient had checked in at the Kyosk and had her bracelet on. She then went to get a coffee and sat by the window while waiting for the nurse to come and get her.
- 3- It took 20 minutes for a nurse to come and get her ready for the consultation (the process took 50 minutes until she got back to the public area.
- 4- After the consultation she checked out at the kyosk and left the facility shortly.

**Male Nurse :** 10:00 AM UNTIL 11:00 AM 1 hour.

- 1- The nurse arrived from the elevator and went straight to the staff area - it is a restricted area and patients or visitors cannot get in through there.
- 2- The same nurse comes out looking for a patient - he has a picture of the patient for better recognition and fastest service.
- 3- The nurse comes, get the patient and give the patient directions to the triage followed by the consultation.
- 4- After the triage the nurse brings the patient to the room where the consultation will take place and asks him to wear the hospital gown and wait for the doctor.



# ACTIVITY MAPPING CONCLUSION

The multiple visits to Lennar Foundation Medical Center left a few things to be pointed out. There were a variety of subjects studies and followed for spans of over an hour. These subjects had different purposes in the facility so the variety in perspectives helps analyze the data and reach a few conclusions.

## September 25th, 2019.

On the second day of observation and mappings, three different subjects were studied. One of these subjects was a male nurse which during time the observation took place, he assisted many elder patients to reach the valet area in wheelchair. Once he would get off the elevator, the wheelchair storage was located in a room adjacent. Right next to the room was a comfortable seating area where the patient in need would wait. The ease of the process is thanks to the legibility which can be found in the space. The nurse was able to access everything along his path without the need of a detour. This decreases patient's waiting time and increases user satisfaction.

A great feature of the space is the piano located right next to the entrance. Anyone is encouraged to come and play. This fits two important biophilic concepts: audio/visual as well as entertainment. Around 1:30PM, a man entered the space with his wife, they approached the reception desk but only she proceeded to up the elevator. The man stayed down and upon further analysis of the space, he decided to play the piano. Many people stopped along their way to hear him play, while those who were in the lounge areas simply watched. Once his wife was back, they both left the facility.

This type of entertainment serves as a psychosocially supportive design strategy which enhances feelings of well-being. Also, the melody that could be heard suddenly masked most of the traffic as well as the conversational noise. Noise tends to cause aggravation which naturally impedes proper healing by provoking negative feelings that in consequence affect their physical and emotional well-being.

Finally, during that day a female patient leaves the facility but before she stops by the seating area adjacent to the elevators. These spaces serve as restoration areas where they can catch their breath and organize their thoughts before getting on with their day. The materiality and color scheme of these seating areas is worth mentioning since it was comfortable and pleasing to the eyes. Also, because the entire area is surrounded by curtain wall a vast amount of light comes through the space which is one of the main biophilic elements of this case study. Sunlight promotes well being, happiness, visibility and a healthy circadian rhythm.

## September 26th, 2019.

On this day, two other subjects were closely studied in order to determine their activity mapping. A female patient is seen coming in and having easy access to the areas she needs. This is another example of the autonomy and legibility the space offers. It seems as though the most reachable, public spaces in the first floor are those which require not much engaging time such as the pharmacy and the cafeteria. These spaces are support areas which enhance user experience throughout the space.

The user is more likely to show satisfaction when the wayfinding is clear and the paths are not confusing or a cause to get lost just as shown in the activity map of the female patient. The organizational layout of the space allowed for her visit to be straightforward and speedy.

On the other hand, the areas which require the longest time engagement are located in different floors therefore a more controlled access is found. These spaces do not offer a high level of autonomy, however, they do a good job at offering privacy & solitude situations since the access to these areas is usually more restricted, giving patients the opportunity to encounter some of the above mentioned instances.

Another user whose activity was mapped was a security guard. These people have access to all corners of the facility so they understand the pro and cons of a place like this. Most of the security's path is very simple. Upon further conversation the security guard mentioned the pleasantness of a space with a loop circulation such as the Lennar Center. It allows him to do his job properly by not wasting time getting lost or helping patients find their way around. They do their rounds in turns but this security office in specific is in charge of the reception areas of the facility, including valet which he could be seen frequenting very often during the observational time.

The officer stops along each reception desk at always the same place which could be inferred it is a spot with high visibility. In case of emergencies, it should not be an issue to guide users through evacuation since all the paths lead to an exit hence the efficient wayfinding.

The busiest area during this mapping session were the elevators, the reception desk and finally the lounge/waiting area. This trilogy can be also characterized as a psychosocially supportive design strategy. The space is easily accessible to users and it becomes a central point where the general needs can be met.

# ACTIVITY MAPPING CONCLUSION

September 27th, 2019.

On september 26th, in the activity mapping diagram, a male nurse is seen getting off the elevator and proceeding to take an employee only entrance. He then comes out of a different exit into a public patient area in order to pick up a patient. This effect is a widely used technique in the design field best know as the "Disney" effect. Patients circulation is separate from staff which helps keep corridors clutter free during peak hours. This can be tied to the biophilic element of visual cues. Allowing the patient to only see an uncluttered, controlled environment reduces stress as well as the anxiety of waiting areas. Coffee machines as well as entertainment create comfort opportunities which stimulate patients and make the wait less tedious.

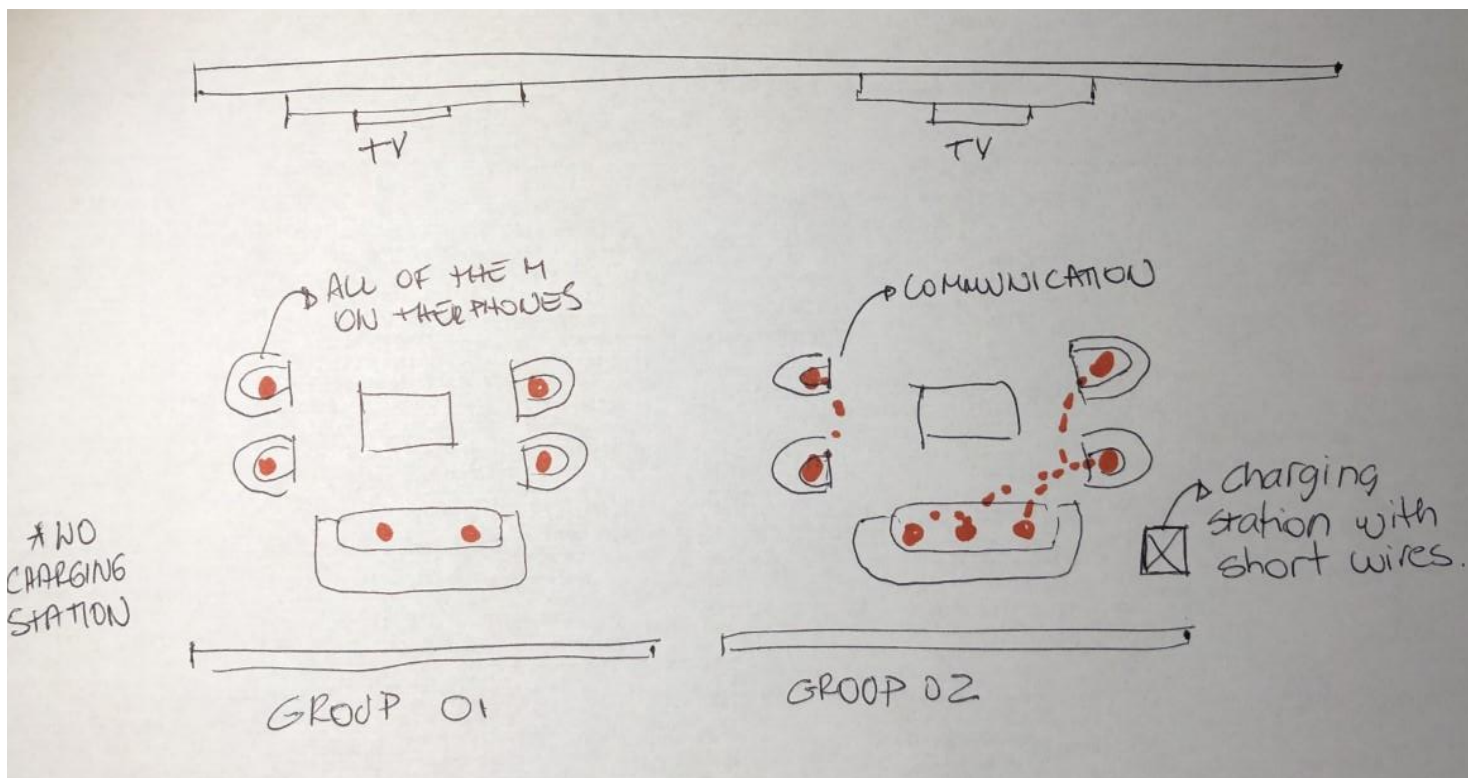
Efficiency can be observed through the strategically positioned self registering and self checkout kiosks located right as the patients get off the elevator. This is a wayfinding strategy which allows registering times to be shorter hence making the patient's appointments speedier allowing them to get on with their normal routine.

The behavior of two groups of patients that were in two different lounge areas was analyzed. These areas on the third floor are supposed to promote eye contact and communication while the patients wait to be seen.

In group 01, there were 6 people sitting next to each other but no communication whatsoever was achieved. All the group members were looking at their phones. The hospital offers access to free wi-fi so people are connected to the internet at all times.

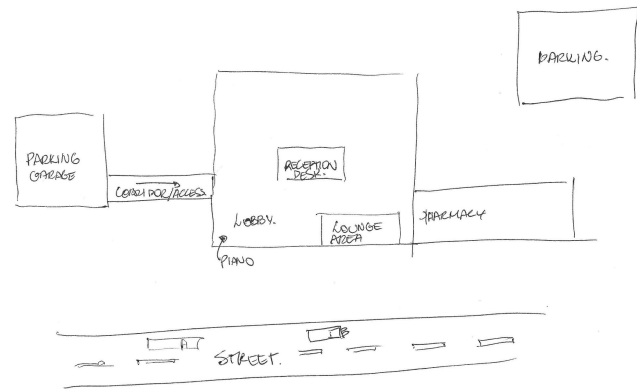
Surprisingly, on group 02, there was a lot of communication happening and that was because there was a charging station for people to charge their phones nearby so people could recharge their phones while waiting. Usually when there are plugs nearby, the users can plug their charges and keep using their phones since the wires are longer. In the charging stations, the users were forced to leave their phones there and that promoted communication in the group.

This is a good example of sociopetal and sociofugal spaces. Sociopetal spaces encourages interaction among its users as seen in group 02. However, Group 01, is best associated with sociofugal spaces, where everyone was so immersed in their phone that no interaction was achieved.

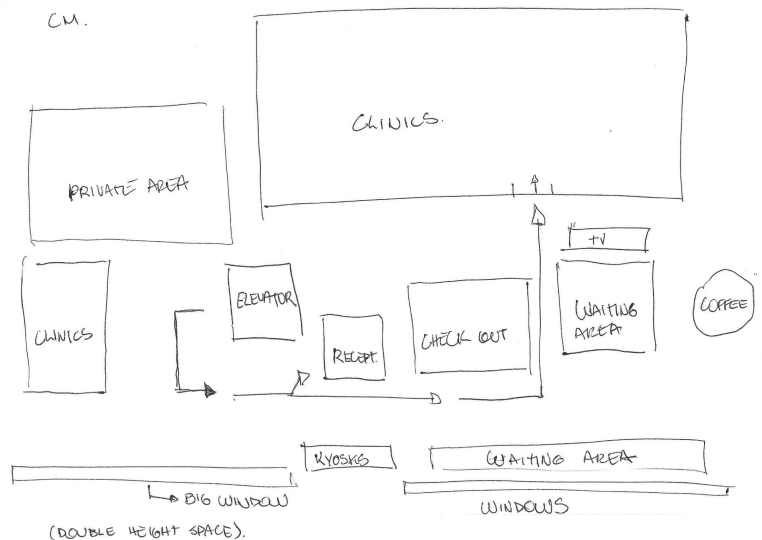


**A**WHITE MALE, AGED 47  
STAFF - NURSE

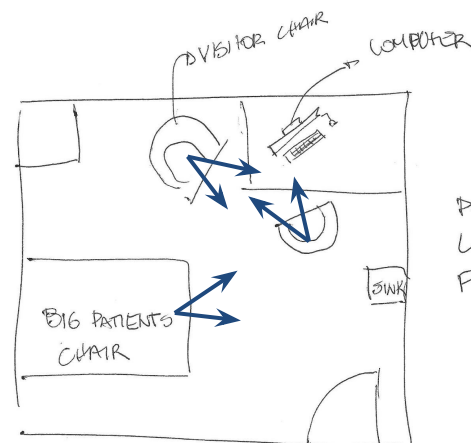
Participant A works at the Lennar Foundation on the third floor. He has been working there for 7 months. Employees can park on the same parking garage as the patients but they have a restricted access through the back for employees only. Participant A was at the lobby because he was talking on the phone - personal reasons.

LENNAR, GROUND FLOOR  
MALE, 47**B**WHITE MALE, AGED 56  
PATIENT

Participant B was waiting for a relative that was attending the consultation with him at the third floor waiting area. He had been there for 20 minutes and had a coffee with him. Since he had not gotten in the clinics area, he started drawing the map by the elevators where he initially arrived. Moreover participant B drew the path he did going through the reception desk to get information of where he could wait. He got himself a coffee and was sitting by the window.

LENNAR, 3RD FLOOR  
MALE, 56.**C**FEMALE, AGED 31  
PATIENT

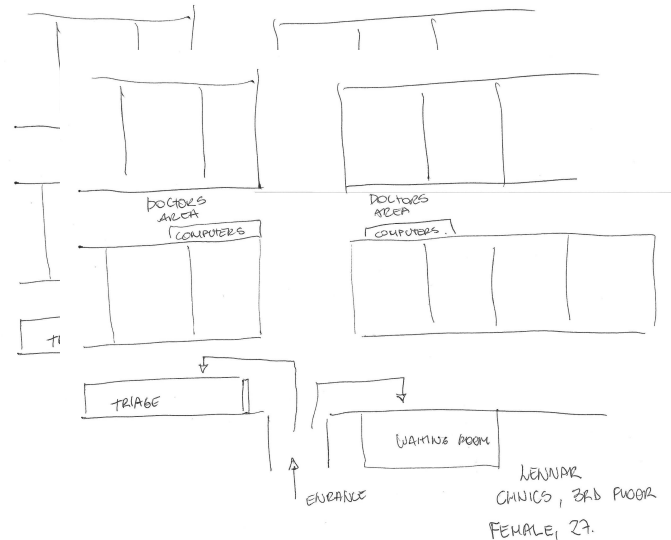
Participant C was a patient going for a follow up consultation, she had a knee surgery and had seen the doctor that day. Participant 3 is an architect and she was asked to draw the room she was seen at. The scale was very accurate and she even indicated where there was a column and furniture layout. Her perception was that the patient chair was too big compared with the size of the room and that her husband was not comfortable seating at the chair - he had a direct eye contact with the doctor most of the time and didn't feel comfortable. The doctor was using the computer to show exams and did not have a strong eye contact with the patient - she felt that it was a little disrespectful.

PATIENT ROOM  
LENNAR, 3RD FLOOR  
FEMALE, 31.

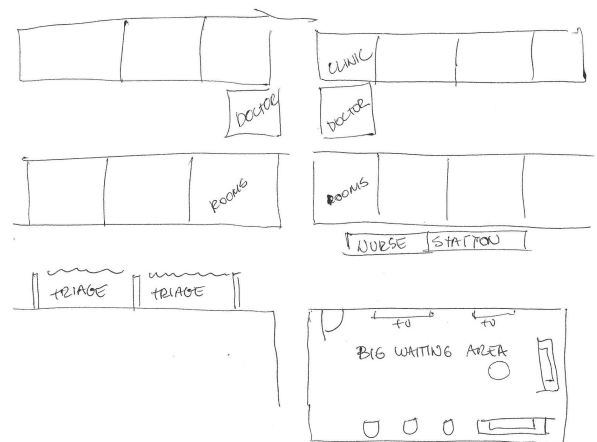


**D**FEMALE, AGED 27  
STAFF

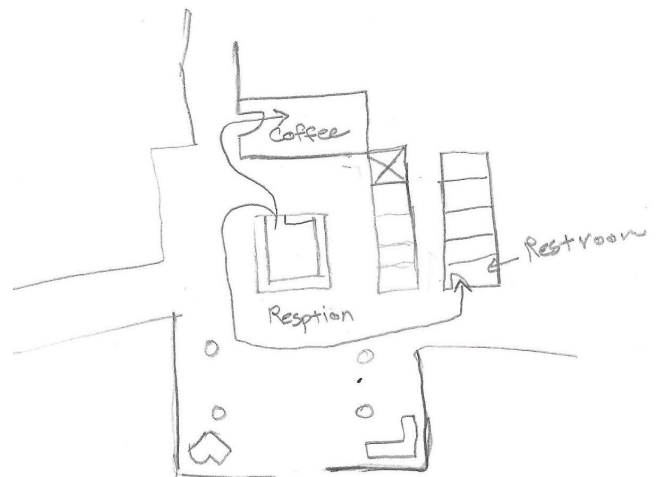
Participant D works at the Lennar Foundation on the third floor. She works at the triage, getting the patients in the main waiting area on the third floor preparing the patient to see the doctor. She starting drawing the map by the entrance followed by the two options such as triage or if the same is full she would put locate the patient in a private waiting area inside the clinics area. After that she drew the areas where doctors and nurses talk and have access to computers to research about the patient's history before getting in the consultation, followed by the patient rooms.

**E**WHITE MALE, AGED 47  
PATIENT

Participant E drew the same map as participant D. However, he put a lot more effort drawing the private waiting area, where he was placed when he first got in the space. After that comes the triage on the left side and he was also more specific with the space, even drawing the curtains. For the area where doctors and nurses discuss before the consultations he was very brief but did notice the space, and the patient rooms, he didn't give much details.

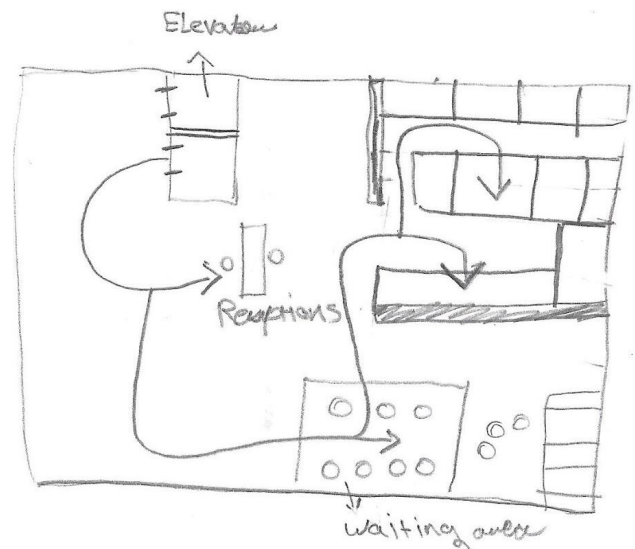
**F**MALE, AGED 28  
STAFF

Participant F works at the Lennar Foundation on the Reception desk in first floor. He has been working there almost one year. He starting drawing the map by the area that he works in it and, areas where he usually travels at the time of his work. Where the employee drew his move from the landfill reception to the cafeteria and Qom return to his place of work was headed to the bathroom staff.



**G**FEMALE, AGED 30  
PATIENT

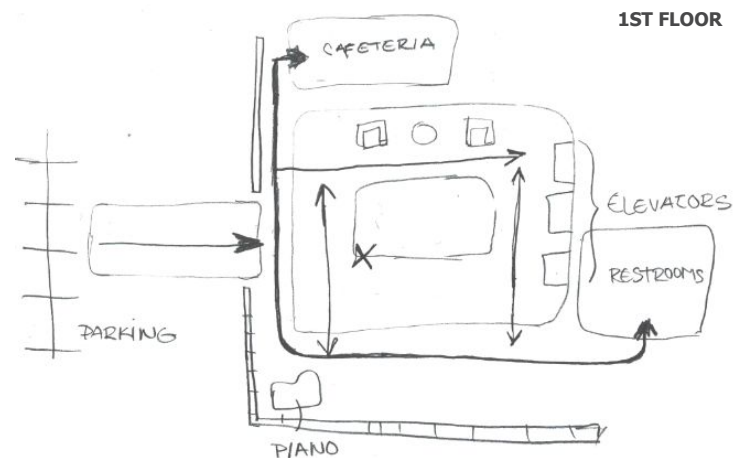
Participant G was waiting for her appointment. She started to draw the space starting with the space where she first arrived. Moreover participant H drew the path she did going through the reception desk to get information to check in to her appointment then she went to the waiting area waiting to be called. She waited about 15 minutes until she was admitted to the area to see the doctor.

**H**MALE, AGED 45  
SECURITY GUARD

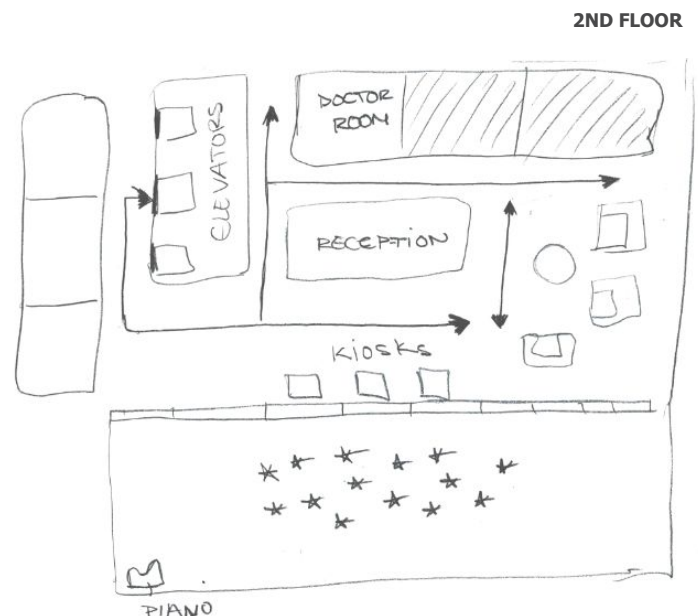
Participant H was one of the security guards. Upon conversation, he revealed that he has been working there since the facility first opened. While drawing, he remained very alert and explained that where he was standing (which he then proceeded to mark with an X) is where he had the most visibility of the space. As someone who spends most of his week in the facility, it was interesting to see his cognitive mapping of the space.

He explained that he supervised the reception areas outside of the elevators in the first and second floor. When asked, the most important thing to him from the space is the loop circulation which he describes as "impossible to get lost in". He also mentioned the great visibility the space allowed through its curtain wall on the first floor and the double height on the second floor.

Wayfinding and visibility seemed to be the most important feature for participant H. However, an unconscious detail showed through his drawing, the paper crane fixture. Although this fixture adds no healing value to the patient, it does add a nice element of surprise to the whole experience, so much that the security guard found it worth drawing.



1ST FLOOR



2ND FLOOR

# COGNITIVE ANALYSIS

At Lennar, the areas where the research are being made are the ground floor where they have the main access to the facility, the lobby, waiting area and the pharmacy and the third floor where there is another lobby, check in areas and the clinics. Staff and patients were interviewed and the staff were a lot more specific with the spaces they had used they seemed to understand more how the space works and flows. The public areas such as lobby and waiting areas seemed to be drawn a lot faster, where inside the clinics they had to think a little bit more - that might be explained because the user had the control on the situation in the public space and upon entering the private are they had to follow instructions and do what the nurses and doctors were asking them to. Despite similarities in the findings, is important to understand how each person feels in the space and perceives it.

## START

All participants had different perceptions of the areas drawn according to their experiences in the space. Participant A (staff) was asked to draw the ground floor, he began drawing where he parked the car, and the path that you have to do to get to the building. Participant B drew the third floor lobby while waiting for a relative, he felt comfortable in the space and got himself a coffee while seating by the window. Participant C is an architect and gave more specific details about her experience such as her husband feeling uncomfortable in the patient room because the way furniture was layd out was not convenient for the patient nor for the visitor. Participants D and F drew the same space but one of them was a nurse and had more understanding of the space and the patient represented his experience.

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## SCALE

All participants drew the most areas in an accurate scale, the bigger the space the harder to draw to scale but it seemed very accurate. For instance, patient C is an Architect and drew a patient's room so it was very accurate and to scale. Participant B was the less accurate, since it was a visitor waiting for a patient and seemed not to pay close attention to the space. He just needed staff to direct him to an area where he could wait.

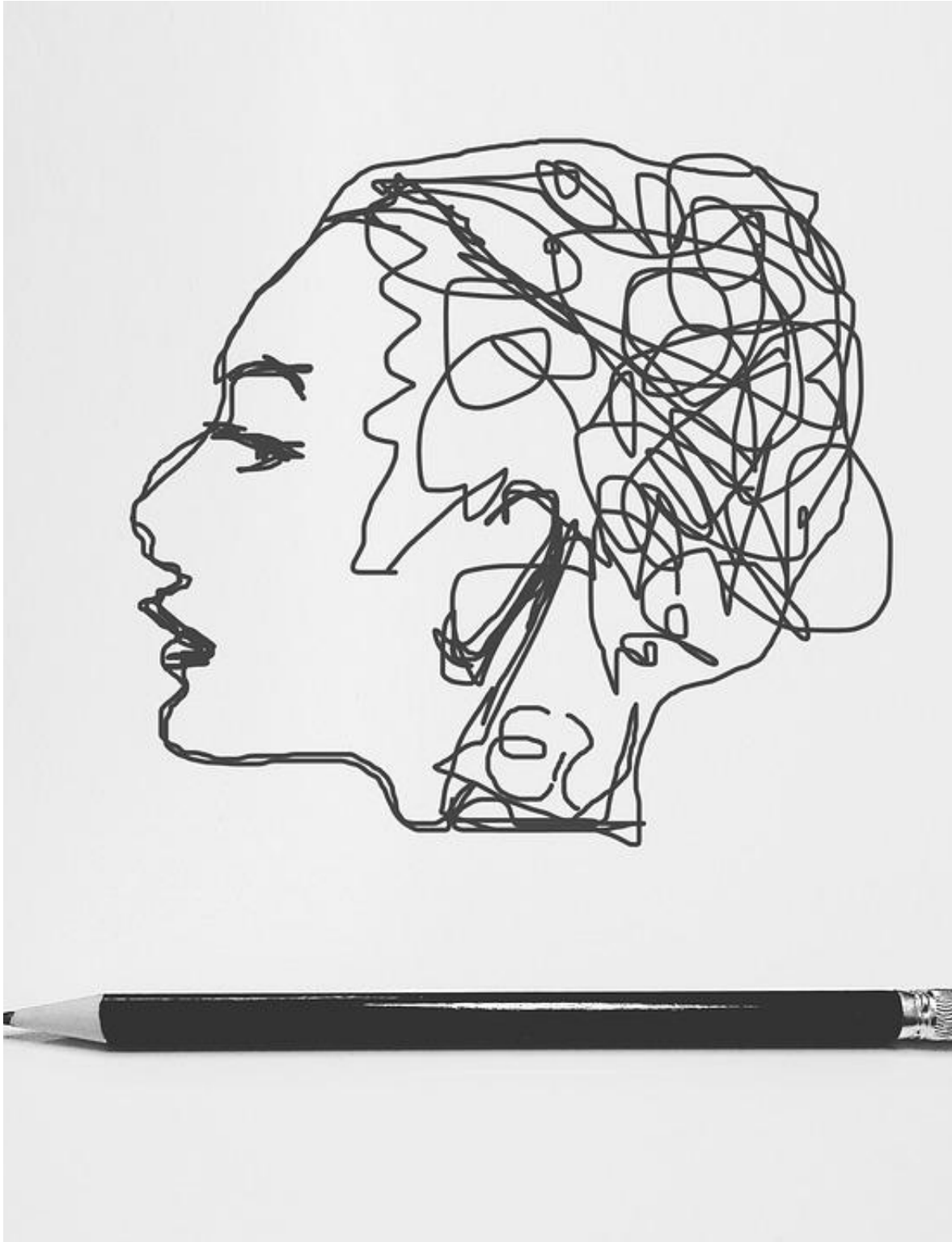
## INCLUSION

All participants drew pretty much the entire floors but they focused on details on the areas they used the most or the ones they were at while drawing. Participant C and E drew furniture and the layout of the rooms while the other ones did only blocking of the spaces and circulation paths - showing their experience throughout the space. In the drawings, the scale of the space was crucial for the analysis of each space. Participant C was very specific with what did not work in the room such as the patient chair being too big for the space and the doctor having a stronger eye contact with the visitor instead of the patient. That made her and her husband feel a little comfortable and they think the doctor was not disrespectful but the layout would not work for the purpose of the room. She also mentioned that the doctor had to see her knee and she had to change. However, there was no private space for her to change so the doctor left the room and had to wait outside and knock on the door to see if she was ready for him to walk in. Also she had to change in front of the husband, if it was someone she didn't feel comfortable she either would have to change in front of the person or the person would wait outside the room with the doctor. She said multiple times how uncomfortable that was.

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# ASSIGNMENT 2C: TRACE BEHAVIOR

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# Introduction to Trace Behavior

Behavior Tracing shows the unique characteristics of an environment and the user's perception of the space.

The perceived relationship between the many elements is what allows the user to form impressions and possible decisions.

The group visited both case studies, The Lennar Foundation Medical Center and Hippocrates Health Institute, in search for a list of environmental attributes and keeping data by photographing these existing factors.

This study will help analyze the space from the user's viewpoint by aiming to understand if these behaviors which were found in both facilities add any value to the user experience on the space. Responses to an interior attribute are individual, however, certain factors tend to cause the same effect on multiple users whether positively or negatively. This study will help determine if those existing factors are needed or irrelevant to the general user experience.



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# Environment Behavior Attribute



## 01 Personal Space

The set-up of the Wigmore Hall buffet allows for personal distance, 18-30". It is a comfortable zone for social interactions between friends. This distance helps create the culture around Hippocrates Health Institute.



## 02 Sociofugal/Sociopetal Space

**Sociopetal** spaces are those which encourage interaction among its users, while on the other hand, **Sociofugal** spaces intend to minimize the interaction between the users. The set-up of chairs around the pool can accommodate both types of interaction. The chairs are far apart enough to allow for sociofugal, but can be moved to accommodate sociopetal arrangement.s



## 03 Privacy

This setting of privacy allows for intimacy with friends as opposed to solitude. However, the entire campus of Hippocrates Health Institute is set up to foster social cognitive freedom, privacy in the sense of of being yourself.



# Environment Behavior Attribute



## 04 Solitude

This bench by the meditation pond allows for solitude and for intimacy. The location affords the opportunity to be alone in the midst of others. Patients can also experience solitude if they opted for accommodations that were private versus a shared room.



## 05 Sociality

The game area allows an area of sociality, where patients can interact with others but in a controlled environment.



## 07 Crowding

The collection of bikes on campus reflects crowding, but the lunch buffet in Wigmore Hall demonstrates a crowd. The difference between the two is that crowds tend to gather like-minded people whereas crowding refers to density.



# Environment Behavior Attribute



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## 08 Focal Point

A focal point is a point of interest. This staircase encompasses the focal point and also adds mystery to the space.

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## 09 Prospect and Refuge

Prospect and refuge ties back to the idea of biophilic design, when humans engaged with the natural environment in a survival mode. This image shows the modern built environment concept of refuge, where patients can look out, but they are hidden enough for safety under the awning.

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## 12 Mystery

Mystery is the promise of future involvement, which is what this winding path creates. Because you can not see where the path ends, it suggests that one can learn or interact with the environment further.

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# Environment Behavior Attribute



## 13 Delight

A positive emotion when interacting with a space. These wall tiles made to look like flowers create delight in the space.



## 16 Restoration

Nature can help us restore ourselves. At Hippocrates Health Institute, restoration begins with wheatgrass juice and this example of the wheatgrass bar helps foster restoration.



## 26 Wayfinding

Around the campus, most paths are curved and follow biomorphic forms. This particular area has linear paths and street signs, which help patients find their way around campus.



# Trace Observation: Annotated Plan

Due to the restrictive privacy nature of a Healthcare Facility, photography is limited.

## Branding

Hospital's logo is placed in a large scale on the wall



## WOW Factor

Light fixture on the ceiling brings the WOW factor to the clean space.

## Personal Space

Each checkout kiosk has a separation creating privacy for the patient and staff

## Territoriality

The triage area was designed to be in a semi private space, the separation is optional and may be implemented with a curtain.



# Environment Behavior Attribute



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## O1 Personal Space

In this entrance seating area the furniture for this section is placed at a distance that prevents users from interacting. This is a way to offer users some personal space. The seats are far enough for everyone to have the option of seeking their own personal space without isolating the user.



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## O2 Sociofugal/Sociopetal Space

**Sociopetal** spaces are those which encourage interaction among its users, while on the other hand, **Sociofugal** spaces intend to minimize the interaction between the users. In this lounge area guests are welcomed to interact according to where they decide to seat. If next to each other they may hold a conversation, however, the user can choose to move his seat or seat back to back with another person. It is important that a space is flexible enough to allow user controllability in certain situations



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## O3 Privacy

In Lennar all the clinic and patient areas have this frosted glass which offers privacy to the users on either side. However, they are not isolated since daylight is allowed to peek through and figures can be seen across the glass when passing by.



# Environment Behavior Attribute



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## 04 Solitude

This term is best described as the need to be alone away from others.



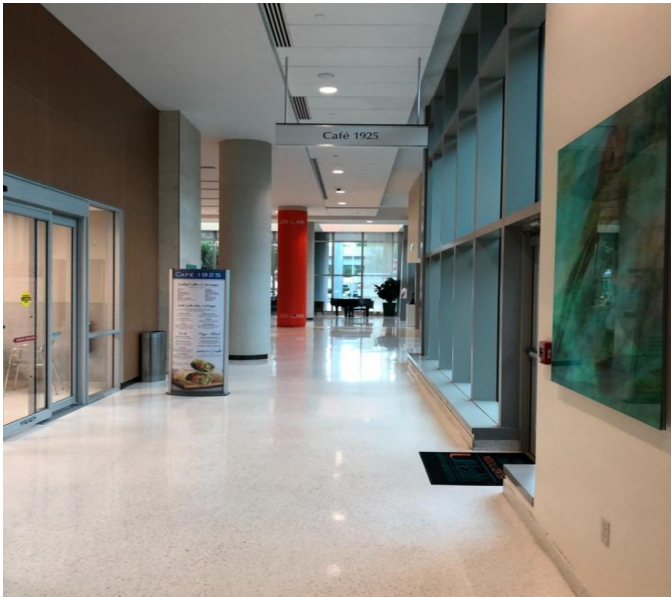
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## 05 Sociality

Throughout the clinic' waiting areas, sections with refreshments can be found. These areas encourage sociality among its users. Small talk is started there and then continued onto the seating areas for continued social interaction.

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# Environment Behavior Attribute



## 07 Legibility, Control And, Safety

Circulation path in building are characterized by linear design as this greatly helps in the process of controlling the place and also where there is a wealth in controlling the place enhances the chances of **Safety** and also Legibility for For both working and Patient users.



## 06 Delight and Adaptability

1-**Delight** : this design of large windows deficit that is help the daylight access to the space successfully which is increase the feeling of wellness ness in the space.

2-**Adaptability**:The Lennar Center design adopts nature elements in both direct and indirect ways jthis helps patients and workers in the place by communicating abroad and not just being in an isolated place



## 08 Focal Point

There are criteria that should be characterized by facilities that provide health services from the clarity of the important points that serve the vacuum and promote the high quality of service and this is what the design achieved here which placed the reception in front of the main entrance gate and in the middle of the place to be the orientation and focus point for the user

# Environment Behavior Attribute



## 12 Mystery

Mystery is the promise of more information through interrupted view. It evokes feelings of curiosity, however, if not carefully done it can create avoidance behaviors. In this case the expectation of where the path of columns will lead may cause some anxiety for the final purpose of the space is not fully legible. However, behind every angled wall there is a different room, so the user can expect to receive more information as they approach each angled wall.

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## 14 WOW Factor

The Wow Factor in the Lennar Foundation Medical Center is seen right upon entering the facility. Guests are greeted by a double height ceiling full of natural sunlight and an artistic paper crane hanging fixture which wows the spectator. This serves as a distraction for the user which can calm the expectation anxiety of the things to come.

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## 16 Restoration

Restorative spaces are those where the user can sit and relax, catch their breaths and even enjoy moments of contemplation. Water proves to be very soothing mentally and spiritually. At lennar, users are welcome to either sit inside or outside with access to a fountain which spouts water all day producing a calming sound.



# Environment Behavior Attribute



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## 25 Branding

The logo of the university of Miami is on the wall as soon as you walk in the space.



## List of Figures

**Figure 1.2** Hippocrates Health Institute- Updated 2019 Hostel Reviews (West Palm Beach, FL). (n.d.). Retrieved from [https://www.tripadvisor.com/Hotel\\_Review-g34731-d223100-Reviews-Hippocrates\\_Health\\_Institute-West\\_Palm\\_Beach\\_Florida.html](https://www.tripadvisor.com/Hotel_Review-g34731-d223100-Reviews-Hippocrates_Health_Institute-West_Palm_Beach_Florida.html).

**FIGURE 4.1 - 4.3** UHealth Gables, The Lennar Foundation Medical Center. (n.d.). Retrieved from <https://www.aiaga.org/design-award/uhealth-gables-lennar-foundation-medical-center/>.

**FIGURE 4.4 - 4.5** Lennar Foundation Medical Center - Newcomb & Boyd. (n.d.). Retrieved from <http://www.newcomb-boyd.com/project/university-of-miami-uhealth-at-coral-gables/>.

**FIGURE 5.1 - 5.3** AntiCancerMom, Janice, Cindy, GreenDrinkDiaries, Clay, Rivas, B., Lindsey. (2016, October 27). My Tour & Review of Hippocrates Health Institute. Retrieved from <https://www.anticancermom.com/the-hippocrates-health-institute/>.

**FIGURE 5.4** Health Educator Program (On-Site). (n.d.). Retrieved from <https://hippocratesinst.org/health-educator-program-2>.

**FIGURE 5.5 - 5.6** Life Transformation Program. (n.d.). Retrieved from <https://hippocratesinst.org/ltp>.

**FIGURE 5.7** The History of Hippocrates. (n.d.). Retrieved from <https://hippocratesinst.org/history>.

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