Patient Centered

Kiara Bartlett

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Project Introduction

Subject

A doctors office that supports the patients throughout their visit.

Thesis Statement

There is a profound disconnection between employee efficiency and patient well-being within medical offices. This project considers spatial design prioritizing patient experience over provider efficiency resulting in a medical office that supports patient emotional well-being.

Culture Analysis

This research will help understand a variety of methods for obtaining patient experience data prior to, during and after appointments that is equitable in demographics to OB/GYN experiences.

Key Questions

1. What are the greatest contributors to feelings of uneasiness in the design of medical office and appointment spaces?
2. How can barriers and obstacles that exist in the combined physical environment and psychological experience be lessened?

Project Objectives

1. Create a sense of ease for patients by understanding the emotions felt at each step in an office visit process.
2. Examine the role of lighting, color, environmental graphic design, and visual language in the experience of access and way-finding.
3. Explore varying spatial arrangements and patient experience simulations to inform an improved scenario for patient experience during medical appointments.

Hana Bartlett, pg. 1
Abstract

It is inevitable to adapt uneasy feelings leading up to and during a doctor’s appointment. The question is why do humans feel this? Research indicates that many medical offices and appointment spaces are designed for employee efficiency, rather than patient experience. This sheds light on the fact that there is a disconnect between provider needs and patient needs in this important, shared space.

Regardless of the type of offices, from general practice to dermatology, every physician office and appointment space have common spatial and operation needs. All healthcare offices need the same type of circulation that creates ease while moving through the space. Patient experience can be assessed on a global level, the focus of research for these specific obstetrician and gynecology medical spaces and the intricacies, nuances, and sensitivities related to this expertise.

This project explores those three core needs of space planning, circulation and ease of use as it pertains to OB/GYN spaces throughout the U.S, comparing appointment type, demographics and geographical culture. Examining the design priorities while shifting the focus from provider efficiency to patients, and argues that patient-focused design in a medical office will increase efficiency for both patient and provider. More importantly, shifting this focus to patients will decrease uneasy patient feelings before and during appointments.

The Processes

Types of Research

01 Case Studies
I researched four OB/GYN offices from all demographics. I focused on the steps from the patients’ point of view while pointing out obstacles they may come across.

02 Site Visits
I visited two offices that I researched. I examined the space while being able to speak to the users. I walked through the users’ steps to understand the barriers in the space.

03 Survey
One hundred people participated in my survey of questions from the ages 18-79. This let people evaluate personal feelings prior to, during and after the doctor’s office visit.

04 Interviews
I interviewed an OB/GYN provider, midwife and a patient. This allowed my research to understand how active users move and feel throughout the space.

References

1 In this research, 10+ offices were surveyed in the United Kingdom. Following the guidelines set forth by the Office of Standards in Health Care, the Health Care Environment, Office of Patient Safety, Patient Safety Principles. Health IT Standards Board of the Health IT Standards Committee, Office of the National Coordinator for Health Information Technology, National Health IT Standards Committee, Public Health IT Standards Committee. March 2017. www.healthit.gov/publications/strategic-plan2017-2020.
The Processes

Color Theory

Blue, Green and Purple
These three colors reflect calming and security emotions while being in the built environment especially in waiting rooms and wellness rooms.1

Yellow
Yellow conveys lightness and inspires creativity along with joy. Yellow also instigates caution which is shown throughout all built environments.

Red
Red reflects energizing and alertness which gives a positive impact with patients who need brain stimulus such as patients with dementia. Red increases heart rate and intensifies anxiety.3

Key Terminology

Vitals
Measurements that show how well the body functions. This includes pulse, respiration, temperature, blood pressure and weight.

Midwife
A healthcare provider who is a trained obstetrician gynecologist including primary care, obstetric and prenatal care which includes uncomplicated OB/GYN cases.

OB/GYN
A provider that specializes in obstetrician-gynecology and has experience with female health, pregnancy and childbirth.

Annual Patient
A yearly gynecologist exam for a female patient that serves as a preventive and diagnostics appointment to maintain female wellness.

Ultrasound
Painless imaging method that uses high-frequency.

Way-Finding
A design strategy that allows clear directions for the users while moving throughout space. This can elevate stress while using the building.

Color Theory

Blue, Green and Purple

Blue and Green are calming and instigate a feel of security and trust while being in the built environment. Cyan and mint green can offer a tranquil atmosphere which can improve patient experience such as medical centers. Blue and Green can also instigate a more optimistic environment. Cyan and mint green can offer a tranquil atmosphere which can improve patient experience such as medical centers.

Yellow

Yellow conveys lightness and inspires creativity along with joy. Yellow also instigates caution which is shown throughout all built environments.

Red

Red reflects energizing and alertness which gives a positive impact with patients who need brain stimulus such as patients with dementia. Red increases heart rate and intensifies anxiety.3

Figure 1.3 Color Theory


Figure 1.2 3D Way-Finding

How can circulation and way-finding create a cohesive, accessible patient experience?

Multiple signs indicating floor number that is visible from every point in hallway. Also can include floor plan below current sign.4

Custom railings for users if needed along with additional way-finding.

Directions to offices that can include arrows, icons or color coordinates with type of offices.

What is way-finding and why is this important?

This is a design strategy to orient users while being in an unfamiliar built environment. Way-finding incorporates color-coding, signage, symbols and many more. This design strategy provides simple and clear information to create ease while going from one point to another. Healthcare facilities can be confusing and often stressful and adding impactful cues for directions can reduce these emotions.5

Figure 1.1 Definitions

Kiara Bartlett, pg. 4

Kiara Bartlett, pg. 5


Parsley Health OB/GYN Office

Patient Steps to Receiving Healthcare

Waiting Room
- Comfortable seating
- Natural light
- Beverage bar

Front Desk
- Check in and check out desk
- Office phone

Patient Room
- Comfortable seating
- No hierarchy
- Monitor

Hallway
- Architectural elements
- Natural natural sunlight

Locations: Los Angeles, CA
Services Provided: Women’s care, Holistic Health and Family Care
Design Architect: Axia by Architecture & Design
Square Footage: 2,500 sq. ft.

Parsley Health OB/GYN Office

Patient Steps to Receiving Healthcare

Waiting Room
- Check in with staff
- Use Restroom
- Sit in Waiting Room
- Nurse takes vitals
- Exam room with nurse and physician
- Testing and blood work
- Check out with staff

Key:
- Patient
- Nurse
- Doctor
- High Traffic

Figure 2.0 Parsley Floor Plan & Circulation analysis

Figure 2.7 Parsley Floor Plan - Patient Steps

Figure 2.2 Waiting Room

Figure 2.3 Patient Room

Figure 2.4 Hallway

Not to scale

Figure 2.5 OB/GYN Patient Steps

Figure 2.6 Annual Patient Steps

Space Planning & Ease
This office has a minimalist hallway that is adjacent to non traditional patient rooms. There is one hallway in this office that holds patient rooms which will cause interactions with users. Based on my research the nurses area is in the back of the office which would support the acoustics throughout the office.


Kiara Bartlett, pg. 6

Kiara Bartlett, pg. 7
Pure OB/GYN Office

**Patient Steps to Receiving Healthcare**

**Hallway**
- Lounge seating for guests
- Adjacent to exam rooms

**Waiting Room**
- Natural light
- Comfortable seating
- Bright interior paint
- Open to waiting room
- Logo
- Dividing wall to exam rooms
- Storage for belongings
- Enough room
- Guest in front of exam table

**Front Desk**
- Patient Check in and Check out
- Lounge seating for guest
- Check in with staff
- Use Restroom
- Sit in Waiting Room
- Nurse takes vitals
- Exam room with nurse and physician
- Check out with staff

**Patient Room**
- Private space
- Waiting for staff
- Additional treatment
- High traffic

**Location:** Rego Park, NY

**Services Provided:** Women’s care, infertility and cosmetics

**Providers:** 5 OB/GYNs and Midwives

---

Ocala OB/GYN Private Office

Patient Steps to Receiving Healthcare

1. **Check in with staff**
   - **Location:** Ocala, FL
   - **Services Provided:** Women’s care
   - **Providers:** 2 Doctors and 2 Midwives

2. **Use Restroom**
3. **Sit in Waiting Room**
4. **Nurse takes vitals**
5. **Exam room with nurse and physician**
6. **Testing and blood work**
7. **Sit in Waiting Room**
8. **Ultrasound**
9. **Review testing with physician**
10. **Check out with staff**

Annual Patient

- **Check in with staff**
- **Use Restroom**
- **Sit in Waiting Room**
- **Name takes vitals**
- **Exam room with nurse and physician**
- **Additional Treatment**
- **Private Space**
- **Waiting for staff**

**Key:**
- Patient
- Nurse
- Doctor
- High Traffic

**Obstetrics and Gynecology Patients**

- **Check in with staff**
- **Use Restroom**
- **Sit in Waiting Room**
- **Name takes vitals**
- **Exam room with nurse and physician**
- **Additional Treatment**
- **Private Space**
- **Waiting for staff**

**Space Planning & Easy Access**

The patient takes multiple turns throughout while going from room to room. The corner between exam and private offices can result in interactions prior to the normal steps. The nurses station is open for all to see and hear conversations from patients.

**References**

Vital’s

- No way-finding
- Poor acoustics
- Open nurses workspace
- High traffic

Location: Marshall, MI
Services Provided: Women’s care, family care and radiology
Providers: 8 providers total

Key:
- Patient
- Nurse
- Doctor
- High Traffic

space planning & ease

There are four identical hallways that all lead to the common area around the nurses station. The patient rooms are in a separate hallway to the testing. The nurses station is central to the entire building which causes poor acoustics that can lead to employees sharing patient information while users are around.

Bronson Marshall OB/GYN Office

Patient Steps to Receiving Healthcare


Kiara Bartlett, pg. 13
Provider Interviews

Karissa Hawley, CNM
OB/GYN
Bronson Medical Group
Marshall, Michigan

Dr. Neysa L. Bartlett
Gynecologist and Obesity Medicine Certified
Private Medical Group
Ocala, Florida

Patient Interview

Karolina Traver
Patient Experience
Marshall, Michigan

Interviews

Providers Experience

Waiting Room:
- Natural Light, ADA complaint and uncomfortable seating
- Patient Experience: Poor acoustics, no way-finding, open nurses station adjacent to front desk
  - Karissa Hawley: identical hallways
  - Neysa Bartlett: informational interactions with patients
  - Patient Rooms: Not efficient lighting or space in front patient table, no counter space facing patient, unused computers
- Karissa Hawley: window sun directly hits her face

Space Planning:
- wasted space, open nurses station, inefficient space planning for daily tasks, private offices are far from coworkers

Providers Experience

Waiting Room:
- Calming with waterfall feature, natural light and comfortable seating
- Patient Experience and COVID 19 thoughts: Relaxed in office with added safety precautions, confusing way-finding with identical hallways.

Patient Rooms:
- Vibrant colors along with windows located high on walls, no storage for personal belongings

Space Planning (Nurses Station):
- Confusion with front desk adjacent, uneasy privacy concerns, concern of noise level while being able to see body language of employees

Similarities between Providers and Patients

Paperwork:
- Online prior to visit or in-person on Ipad or paper

Waiting Room:
- Natural Lighting

Patient Experience:
- No way-finding throughout hallways
- Concerns of noise level and privacy of employees space

Space Planning:
- Confusion with front desk adjacent, uneasy privacy concerns, concerns of noise level while being able to see body language of employees

Figure 6.0 Karissa Hawley
Figure 6.1 Neysa Bartlett
Figure 6.2 Karolina Traver
What emotions would you feel in these waiting rooms?

- Calm
- Anxious
- Intimated
- Weird
- Scared
- Annoyed
- Excited
- Exposed
- Socially

68 people selected

68% Calm
32% Not comfortable

Where do patients prefer to take their vitals?

- Patient Room: 74%
- Around corner from check in: 23%
- In office on iPad/computer: 4%

How do patients prefer to answer general questions?

- Patient Room: 40%
- In office on iPad/computer: 24%
- Do prior to visit: 23%
- Teams to office: 16%

What seating arrangement is more appealing?

- Cool muted hues: 4%
- Soothing and helps lower heart rate: 36%
- Calming: 23%
- Comfortable seating: 15%
- Natural light: 18%

Survey Results

What are patient room preferences?

- Option 1: 40%
- Option 2: 36%
- Option 3: 44.6%
- Option 4: 35.6%
- Option 5: 11.9%
- Option 6: 3%

Where do patients prefer nurses to take their vitals?

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Comparing Case Studies Floor Plans

 Integral relationship between spatial arrangement and circulation for patients

 Key:
 - Patient
 - Nurse
 - Doctor

 High Traffic

 How to improve circulation:
 - Incorporate Way-Finding
 - Appropriate lighting for each room needs
 - Create ease

 Efficient Lighting

 How to improve way-finding:
 - Symbols to drive path
 - Efficient storage and way-finding signs

 Patient preferences in exam rooms are split between generations. Ages 41 - 79 prefer the typical patient rooms that have the typical layout. However, ages 18 - 40 prefer a separate conversation table that eliminates the hierarchy between staff and employee.

 Comparing Survey Results

 Patient preferences in the waiting room are divided between generations which could represent what type of offices they go to. Ages 41 - 79 prefer the typical chairs rather than the 18 - 40 age group that prefer a different type of seating arrangements.

 Figure 9.0 Comparing Office Floor Plans and Spatial Relationships

 Figure 9.1 Improving Circulations

 Figure 9.2 Waiting Room 7

 Patient preferences in exam rooms are split between generations. Ages 41 - 79 prefer the typical patient rooms that have the typical layout. However, ages 18 - 40 prefer to have a separate conversation table that eliminates the hierarchy between staff and employee.

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 Figure 8.1

 Figure 7.5 Waiting Room 5

 Figure 8.6 Patient Room 6

 Figure 8.2 Patient Room 1

 Figure 9.3 Patient Room 2

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 Comparing Case Studies Floor Plans

 Integral relationship between spatial arrangement and circulation for patients

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 Figure 8.2 Patient Room 1

 Figure 9.3 Patient Room 2

 Patient preferences in exam rooms are split between generations. Ages 41 - 79 prefer the typical patient rooms that have the typical layout. However, ages 18 - 40 prefer to have a separate conversation table that eliminates the hierarchy between staff and employee.
Programming Phase
Patient Day in the Life

This represents one OB/GYN appointment for a patient that correlates with nurses and provider schedule. All offices vary in structure however, during all patient appointments providers and nurse are seeing multiple patients while also completing other steps prior to the actual exam.

If office has procedure room, most procedures consist of multiple staff members being present during patient’s appointment.

Nurses and providers spend multiple hours charting the patients appointments along with ordering prescriptions.

Survey Results
- Way finding
- Lighting
- Furniture

Identify client attitudes toward the social and psychological environment to be provided.

Evaluate the space adequacy for the number of people and their activities to be housed.

Identify the goal concerning effective continuity of progression (flow) of people and things.

Evaluate the space adequacy for the number of people and their activities to be housed.

Identify client attitudes toward the social and psychological environment to be provided.

Evaluate the space adequacy for the number of people and their activities to be housed.

Identify the goal concerning effective continuity of progression (flow) of people and things.

Programming Procedures

- Survey Results
- Way finding
- Lighting
- Furniture

- Evaluate the space adequacy for the number of people and their activities to be housed.
- Identify client attitudes toward the social and psychological environment to be provided.
- Identify the goal concerning effective continuity of progression (flow) of people and things.
### Project Location

The location of the selected office is in a small historic town based in Marshall, Michigan which was founded in 1830 by two brothers. This town was the original selection to be the capital of Michigan in 1847 due to being a major stop through the Michigan Central Railroad system. Marshall holds eight museums that represent the town’s history. The town holds multiple events throughout the year and these events bring the people together to support all milestones and the community together. Every resident of Marshall enjoys the small unique and historical culture that is represented. The doctor’s office location is less than a mile off the highway and the hub of downtown Marshall. This area of the town is where the grocery store and fast food restaurants are located. This is a high traffic area; however, this building is set back from the main road where other surrounding small offices are located such as an orthodontist and dentist.

![Figure 9.7 Building Plan](image)

### Programming of Employees

<table>
<thead>
<tr>
<th>Employee Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>OB/GYN Doctors</td>
<td>Four</td>
</tr>
<tr>
<td>Nurses</td>
<td>Eight</td>
</tr>
<tr>
<td>Nurses per Provider</td>
<td>Two</td>
</tr>
<tr>
<td>Administration employees</td>
<td>Seven</td>
</tr>
<tr>
<td>Private Provider Offices</td>
<td>Four</td>
</tr>
<tr>
<td>Patient Rooms</td>
<td>8</td>
</tr>
<tr>
<td>Waiting Room</td>
<td>Large windows, multiple types of seating, Toy area for kids, 30 square feet per guest</td>
</tr>
<tr>
<td>Office Building Location</td>
<td>212 Winston Dr, Marshall MI 49068</td>
</tr>
</tbody>
</table>

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The program phase started with dividing each space by user which is shown on figure 10.2. Then taking those spaces and creating the diagram figure 10.3 represents the privacy in each space which will accommodate for both user groups, patient and employee. The bubble diagrams create a hierarchy of square footage along with flow from each space.

Figure 10.4 is showing spaces by users while figure 10.5 represents the privacy level. Keeping the patients rooms near one another will create a sense of ease for the users along with separating the special testing rooms. These diagrams, research and survey will assist the next program phase.

The offices and staff lounge are private rooms from the public. This will be for the patients and employees safety because there will be discussions regarding patient information. The patient area is the exam rooms, restroom, reception and waiting space. All patients will be using these spaces while only a few will use the the private testing wing. This space is for expecting mothers or needing extra testing while visiting the office. Dividing these spaces will help put the users at ease while also being clear direction of each space within the office.
The waiting room will have multiple different spaces of seating to accommodate for all users. The waiting room will only need to accommodate for 10 - 15 people at a time however, in case the staff is behind the space needs to be able to hold all users comfortably while keeping in mind social distancing if the users choose to.

Two employees will be at this desk and both will need desktop computers. Behind the desk will have a design feature. The desk will be within the waiting room and near staff wing of the office. The design concept will follow the waiting room colors and materials.

patient Focus will have 8 exam rooms that are 12' x 10'. This will support the patients and staff needs while considering efficiency and using color theory. The cabinets and sink will be directly in front of the patient table and next to the patient will be a guest booth. The patient table will have a task light attachment when needed along with 300 illumination for the entire space. The exam rooms will not have windows however, the materials and interior paint will support the patient experience.

The ultrasound room will be a large space to accommodate for guests. There will be warm tones within the material selections. The space will also have a large TV across the patient table and staff. This room requires a sink and adjustable lighting. The room will have a lighting system for the staff to efficiently see the screens.

Kiara Bartlett, pg. 28

Kiara Bartlett, pg. 29
The minor surgery room will accommodate multiple types of surgeries. This room is 190 square feet that also has 5 feet in front of the patient table for multiple employees to work. This room also needs to be temperature controlled due to the type of procedures that will occur. The minor procedures that will be occurring are D&C, hysteroscopies, ablations and LEEPs. The materials in this space need to be sterilized often between each surgery.

The patient bathroom will be adjacent to the waiting room and lab. This bathroom has a shelf that connects to the lab for testing. The bathroom will accommodate all users. There will also be a restroom in the ultrasound room and in the staff wing.

The NST room is for Non-stress tests on pregnant patients during their 32 week appointment. This room will also be used for blood transfusions.

The lab for testing will be adjacent to the private testing rooms. This lab will also accommodate for storage of medical equipment. The patients gowns and towels will be washed in this room along with being stored. The nurses will primarily use this room throughout their day.
The nurses station will accommodate seven nurses with the built-in desks around the perimeter of the room. This space will be centered between the private offices. The built-in storage unit will also be the printing center for the entire staff.

The private physicians office will be adjacent to staff offices. These offices will have a guest seat for private meetings and storage for personal belongings.

The administration billing office will have two employees. The desks will be built-in to accommodate ample amount of storage for the staff. This office will be adjacent to the managers office.

The managers office will be adjacent to the billing office for easy collaboration when needed. The office will be devoted to the staff and will have a guest chair for meetings. This office will have efficient acoustics treatments and storage.
The staff lounge will be adjacent to all employee offices. This lounge will have a large kitchen with island for a place of gathering. There will be a large table that can also be a conference table if needed and a window table nook. These different types of seating arrangements are supporting the wellbeing of the staff during each workday. There will be ample amount of natural light within the 280 sq. ft. room.

Kiara Bartlett, pg. 34
This schematic blocking diagram shows the location of each space that follows all prototypical’s along with the programming diagrams. Each prototypical drawings is scaled with the standard area needed in each room. The schematic floor plans assist the conversation with patients and employees who would use these areas.
The codes listed on figure 10.7 are distributed by each space to accommodate each room function. The function of each space varies between business and assembly without fixed seating which is because of the medical rooms along with employee work spaces. The total square footage is 6,331 along with an unfinished basement used for mechanical spaces. The office currently only has two bathrooms however, Michigan codes require four which will be accommodated with the new floor plan.

<table>
<thead>
<tr>
<th>Space</th>
<th>Square Footage</th>
<th>Occupancy Function of Space</th>
<th>Occupancy Load Factor</th>
<th>Occupancy</th>
</tr>
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<tr>
<td>Waiting Room/Reception Areas 1</td>
<td>600</td>
<td>Assembly w/o fix seating</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Patient Bathrooms</td>
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<td>N/A</td>
<td>N/A</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Exam Rooms</td>
<td>130</td>
<td>Business</td>
<td>100 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Ultrasound Room</td>
<td>200</td>
<td>Business</td>
<td>100 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Surgery Room</td>
<td>200</td>
<td>Business</td>
<td>100 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Rest and Testing Room</td>
<td>150</td>
<td>Business</td>
<td>100 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Lab and Laundry</td>
<td>100</td>
<td>Business</td>
<td>100 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Nurses Station</td>
<td>250</td>
<td>Assembly w/o fix seating</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Physician Office</td>
<td>100</td>
<td>Business</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Admin Billing Office</td>
<td>100</td>
<td>Business</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Admin Manager Office</td>
<td>100</td>
<td>Business</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Employees Break Room</td>
<td>200</td>
<td>Assembly w/o fix seating</td>
<td>15 Gross</td>
<td>Occupancy</td>
</tr>
<tr>
<td>Employees Bathroom</td>
<td>70</td>
<td>N/A</td>
<td>N/A</td>
<td>Occupancy</td>
</tr>
</tbody>
</table>

**Occupancy Type**
- Group B - Business

**Construction Type**
- Type SB

**Total Square Footage**
- 6,331 sq.

**Allowable Area Based on Occupancy**
- 36,000 sq.

**Plumbing Fixtures**
- Water Closet: 1 per 50
- Drinking Fountain: 1 per 100
- Service Sink: 1

**Fire Resistance Rating**
- Exterior Walls: 0
- Interior Walls: 0
- Spread Index: 26.75

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Kiara Bartlett, pg. 38

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Design Methodology
**Survey Steps**

**STEP 01**
Create survey with curated exam rooms

**STEP 02**
Set up appointments with healthcare providers and nurses to review exam rooms and floor plans

**STEP 03**
Review healthcare employees and community survey results

**STEP 04**
Implement survey results to design strategies and make changes per results

**STEP 05**
Review new design plans with healthcare providers and nurses to review exam rooms and floor plans

**STEP 06**
Start selecting materials and furniture that support the users

**STEP 07**
Start selecting materials and furniture that support the users

---

**Gantt Chart**

This gantt chart reflects the process I will follow for each step within my project. Each area is divided by using the design processes. The phases will reflect within my posters, booklet and due dates while working on this thesis capstone project. This gantt chart will be followed as a guide and could change when I move forward within my project depending on my progress and how the survey responses undergo.
The floor plans support both the employees and patients while being in the office. These are schematic plans until I discuss these concepts to the users to receive feedback on the traffic flow. The purple represents what some employees' paths may look like. Likewise, the blue represents the patient's traffic flow throughout their visit. Both floor plans are similar with the exam rooms located in the center of the building. This lets the staff working areas be separate from the public for privacy reasons while also assisting the efficient work flow. I will be discussing these plans with healthcare workers to fully understand their needs while moving through their day to day job. I will also review these schematic plans with the community to identify any concerns if they were moving throughout the space. Once the employees respond to the survey and I have the meeting to walk through the spaces, I will use the feedback to finalize the floor plan that is appropriate for all users.

Schematic Floor Plans

The exam rooms floor plans and design represent the two highest rated exam room concepts with the initial survey. Comparing two designs that are similar to one another gives an opportunity to compare the differences. The main purpose of comparing both of these floor plans will give all generations the chance to share feedback even though the last survey expressed the different preferences between generations. The two plans will be sent out to both the community and employees that work in an OB/GYN office. The survey will allow the viewers to share their interest with each design and also being able to express items they do not prefer. Once I reach at least 30 replies I will use the feedback to compile a design that reflects on all feedback from the community and staff.

Schematic Exam Rooms

Figure 14.2 Floor Plan Option 1
Figure 14.3 Floor Plan Option 2

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Kiara Bartlett, pg. 45
Exam room option 1 is a standard spatial plan while taking into consideration the needs for the patient and employees. However, this room is larger than standard and has a color theory in mind. There is guest seating and space for personal belongings adjacent to the patient table. The booth seating can double as a privacy wall for the patient if needed. The vitals equipment is located in the room to ensure privacy and comfort of the patient.

Exam room option 2 compiles a standard exam room while also adding a casual sitting area. This will elevate hierarchy during important conversations. This table is mounted to the wall and can be pulled down when necessary. The guest seating will double as a place for personal belongings along with seating when the table is pulled down. The vitals equipment is located in the room to ensure privacy and comfort of the patient.
Survey Results

EXAM ROOM OPTION 1

Vitals
Voters like having vitals in the room for privacy concerns.

Guest Seating
Voters like having the guest seating that is semi-private.

Patient Table
Majority votes don’t like the placement of the table.

Survey Results

EXAM ROOM OPTION 2

Guest Seating
Voters like having a universal bench however, concerned with comfort with no cushion.

Patient Table
Voters like having table facing away from door.

Pull Down Table:
All voters like the table and having the option to use this when speaking to employees.
Survey Results

Nurses Station: Healthcare employees prefer the nurses station closer to front desk and providers.

Employee side: Healthcare employees like the private exit door away from patients.

Private Testing: Healthcare employees like the flow of each room.

Employee side: Healthcare employees like the admin offices in back of employees side.

Employee side: Healthcare employees don’t like the exit door adjacent to patient rooms.

Survey Results

Figure 15.2 Floor Plan Option 1 Survey Response

Figure 15.3 Floor Plan Option 2 Survey Response
Design Response
The receptionist desk is centered in the waiting room with a large pathway for incoming and outgoing users. The first focal point the user will see is the wood desk with curvature corners along with a quartz countertop. The office sign is featured behind the desk along with the featured wallcovering. The texture of the materials and warm colors invite the guest in the space while considering healthcare standards.

The waiting room has three seating arrangements that will accompany all needs during their visit. The waiting room has a wet bar with a water dispenser and beverage fridge. These cabinets can also be used for storage for complimentary snacks during patients’ long visits and for medical reasons after special testing. This wet bar is adjacent to the corridor of special testing and the patient restroom.

This corridor is a perspective of the patient and special testing rooms. The entire office incorporates way-finding signs along with a separation between employees and patient areas. The large blue numbers along with the signs extruding in the hall signify patient rooms. The special testing room signs are flat against the walls since patients will be in these rooms with an employee at all times.

At the end of the corridor there is an area for private seating for children or larger families. The space is adjacent to the ultrasound room which is intentional in case a guest needs to step out of the room. This space allows guests to have a place to sit during a visit without being in the waiting room. There is an emergency exit adjacent in case a user needs to leave in a hurry without seeing additional users.
Exam Room 1 is larger than a standard patient room. After participants took the survey I changed the location of the patient table. By doing this adjustment the patients will feel more comfortable by not having the door. The guests have a booth to sit on along with the option to stand next to the patient. The room also has wall hooks for coats and bags. There are baskets for personal belongings along with additional necessities the office provides for the patients. The room style is for annual appointments and closer to the employee office. The entire corridor elevation is shown below, showing that this hall of rooms is the same type of room along with direct access to the waiting room.

Exam Room 2 is for patients who have longer appointments and have additional information that will be discussed during their appointments. The additional testing is adjacent to these rooms for efficiency within the office because patients may be having an ultrasound, NST testing or blood work that would happen either before or after the patient appointment with their physician. Located in the same corridor there is private bench seating along with a kids table, toys and books. This area would be used for an area the nurses can take a baby during a patient’s visit if needed and a space the patients can go for more privacy with kids prior to their appointment. The area is adjacent to the ultrasound room and many patients bring guests during these appointments.
The nurses station has six different stations with a desktop at each spot. There are a total of seven nurses; however, only six will be in the office at a time. (explain) This space is open to the employee offices and adjacent to all private provider offices. There is a large peninsula with a printer and storage. This is useful for a conversation area and a surface files can be placed for another employee.

The nurses hallway is connected to the staff lounge, private administration offices and private provider offices. Having the administration and provider offices near the nurses is effective for private meetings. The hallway has wood panels that will absorb the sound because important patient information is being shared in this area.

This is a private entry off the parking lot that connects to all employee offices. This space has lockers for personal items and a drinking fountain. Incorporating a private entry is useful when the employees and maintenance come into the office not during working hours as well as allowing the employees able to enter the office in privacy.

This staff lounge is the employee full kitchen area. This space also doubles as a meeting space for the staff. There is a large table along with a projector for meetings. This lounge is large for all staff to gather along with serving space when there is catering from visitors.
Conclusion

For this capstone project I wanted to focus my time on understanding the patients’ needs while considering the relationship between spatial arrangement and circulation. I did this by researching the general requirements of a healthcare office and surveying the public of their opinions. After receiving feedback, I was able to create a special arrangement that accommodates their needs while understanding the practicality of the employees. I received feedback from healthcare employees to understand their work day and I was able to bring both sets of needs into one floor plan. My final floor plan creates a space that assists a patient’s feeling of uneasiness which reflects on my chosen color pallet and incorporates key way-finding cues. As I reflect back on this project I wish I would have created two floor plans that represent my key questions along with creating a virtual reality presentation that allows employees and patients to understand the space.
Appendix

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More conversation notes were recorded

Interviews:

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- What is your first interaction with a patient?
  - In exam room
- Is the exam room in your office ideal for your needs?
  - Pro: too many drawers to find something  
  - Con: no need for computer
- How do the patients fill out the paperwork prior to the visit?
  - Straight to clinic and sign right at their notes - love it
- How is the patient contacted prior to the visit?
  - Emergencies - call office to get trigger
- Answers - ever app or trigger will take care of - mychart
- How do you feel the patient experience is in your office?
  - Front desk is problem - not welcoming
- Design - fine, consistent - updating hallways and rest to bathrooms
  - MA in center space and open to patients
- Do the patients come in contact with other patients?
  - No
- Does the floor plan make sense or not?
  - Various exam rooms - multiple rooms
  - Waiting space - mobile part - 4 rooms on hallway and wall which they were answered - office was not ideal
  - MA was not utilized - does this office make sense?
- What do you think your office is like?
  - Doctors, seating, colors, furniture, plants, windows, toys for kids
- Do you walk by the nurses station during a visit and do you need that?
  - Don’t mind, if they were happy and doing work, dinner
- How do you think doctors offices are a safe place?
  - Yes, know who is getting answers, help solve issues with
- Do you think the exam rooms are welcoming?
  - No
- Do you visit the nurses station during a visit and do you need that?
  - Don’t mind, if they were happy and doing work, dinner

Interviews:

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- More conversation notes were recorded
- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O
- P
- Q
- R
- S
- T
- U
- V
- W
- X
- Y
- Z

What do you do with your office, etc. in terms of floor plan?
- Does your exam room/office have windows and do you think that would be beneficial if not?
- Window all back rooms and high-up
- Issue - too many needs to be dark
- Sun - certain times of day - views are nice during times
- It is shared office with family practice - in back corner (like it)
- No direct phone line - no systems - love to be more efficient
- Does not bother her to move throughout the office
- MA tell her patient is ready to come to her
Color Theory Class Study

Notes: Bright colors are often used to represent happiness, cheerfulness or enthusiasm. In the commercial world, the use of bright colors can create a lively and dynamic atmosphere. In a retail environment, bright colors can help to stimulate the appetite and encourage shoppers to spend more money. The use of bright colors in advertising campaigns can also be effective in catching people’s attention and creating a memorable impression.

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Ocala Office notes

According to the notes, the use of bright colors in the healthcare setting can be beneficial in creating a positive and comfortable environment for patients. Bright colors can be used in various ways to create a welcoming and pleasant atmosphere, such as:

- Colorful walls and artwork
- Soft lighting and dimmed lights
- Plant life and greenery

These elements can help to create a calming and relaxing environment for patients. In addition, the use of bright colors can help to improve the overall mood and mood of staff members who work in the healthcare setting.

Kiara Bartlett, pg. 75
### Adjacency Bubble Diagram

- **Key**
  - Purple: Staff
  - Blue: Patient

### Codes

<table>
<thead>
<tr>
<th>Room Name</th>
<th>Square Footage</th>
<th>Occupancy function of space</th>
<th>Occupant Load Factor</th>
<th>Whole Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting Rooms/Reception</td>
<td>600 Assembly w/ fix seating</td>
<td>40 occupants (51 gross)</td>
<td>N/A</td>
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<td>Patient Restrooms</td>
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<td>Exam Rooms</td>
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<td>Construction Type</td>
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<td>Ultrasound Room and Bathrooms</td>
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<td>4 occupants (105 gross)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery Room</td>
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<td>Lab and Testing Room</td>
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<tr>
<td>Lab and Laundry</td>
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<td>Nurses Station</td>
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<tr>
<td>Physicians Private Offices</td>
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</tr>
<tr>
<td>Admin Billing Office</td>
<td>600 Assembly w/ fix seating</td>
<td>7 occupants (15 gross)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin Manager Office</td>
<td>500 Assembly w/ fix seating</td>
<td>7 occupants (15 gross)</td>
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<tr>
<td>Employees Break Room</td>
<td>280 Business</td>
<td>10 occupants (25 gross)</td>
<td>Fire Resistance Rating</td>
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<tr>
<td>Employees Bathroom</td>
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<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Key**
  - Staff: Blue
  - Patient: Purple

- **Fire Resistance Rating**
  - Flammability Index: 20–30, untested developed 0–40
  - Service and Exterior Walls: 0