



# Kamuzu Central Psychiatric Hospital

Architectural Solutions for Compassionate Care

Anna Ayik, Raymond Bracy, and Rachel Meier

# HOW CAN DESIGN AND COMPASSIONATE CARE REINFORCE ESTABLISHED CARE MODELS TO POSITIVELY IMPACT PATIENTS IN MALAWI'S PSYCHIATRIC HEALTHCARE SYSTEM?

## CARING FOR MENTAL HEALTH

1. GLOBAL MENTAL HEALTH
2. MENTAL HEALTH IN MALAWI
3. THE SOCIAL CONDITION
4. COMPASSIONATE CARE
5. CARE DELIVERY MODELS

## PSYCHIATRIC HOSPITAL DESIGN

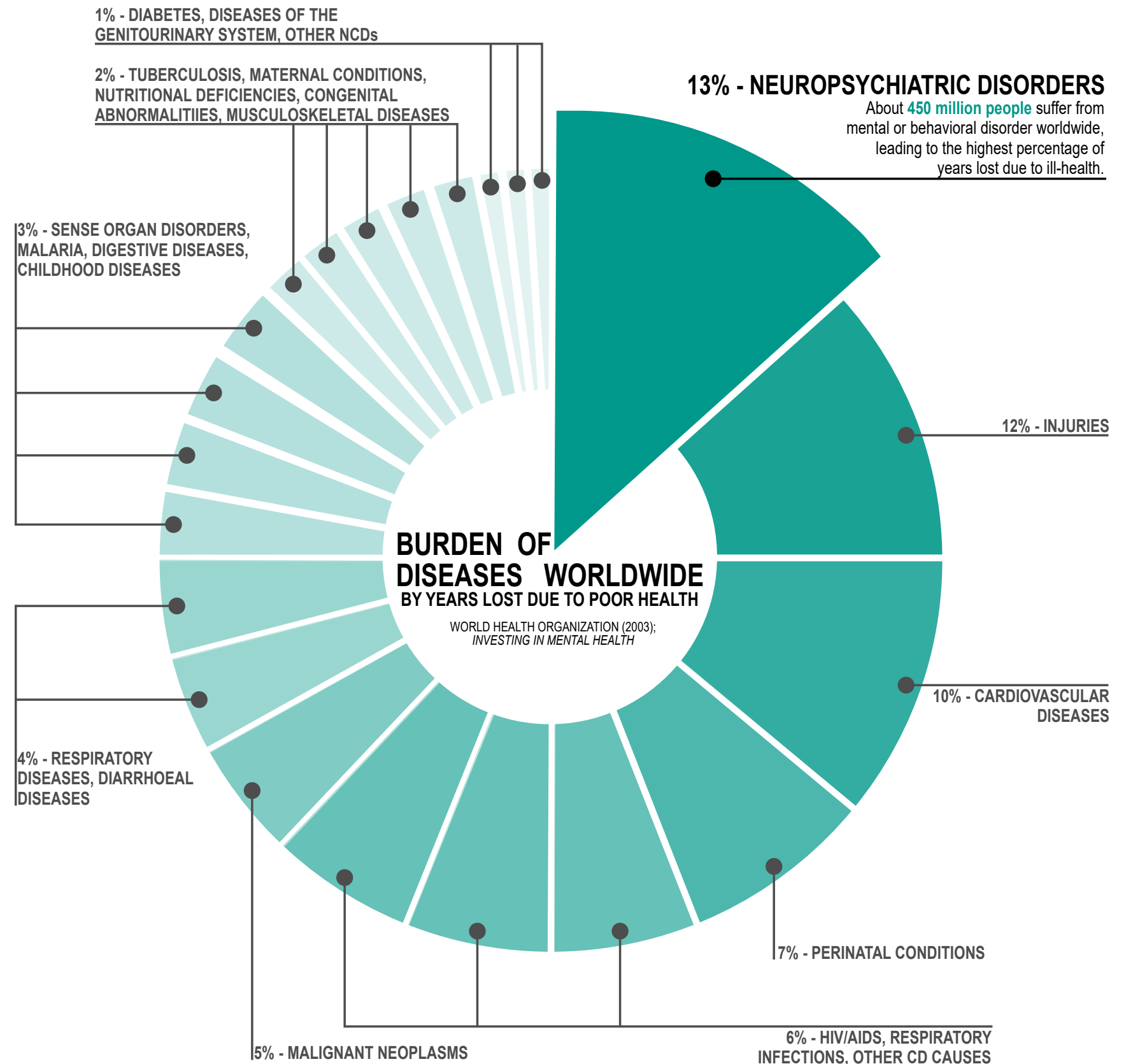
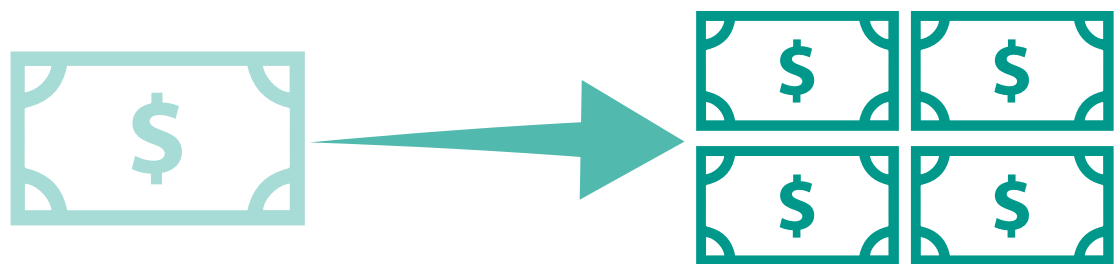
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# GLOBAL MENTAL HEALTH

Regardless of country of origin, race, or socioeconomic class mental illnesses affect people all over the world. Globally, they are the leading cause of economic loss and years of life lost due to health. However, in many countries mental health, and mentally ill patients are not properly cared for. In countries with little economic power, mental illnesses can have a drastic effect on their economies. Studies have shown that investing \$1 into mental health treatment and care leads to a \$4 return in economic growth. Now is the time to look to creating systems of care for mentally ill persons not only to help maintain their illness, but to improve their economic standing.

OVER THE NEXT TWO DECADES, MENTAL ILLNESSES WILL ACCOUNT FOR **35%** OF GLOBAL ECONOMIC LOSS.

INCREASED ATTENTION TO THIS ISSUE WILL DECREASE THE ECONOMIC BURDEN. INVESTING **\$1** IN TREATMENT LEADS TO A RETURN OF **\$4** IN BETTER HEALTH AND ABILITY OF WORK.



# MENTAL HEALTH IN MALAWI

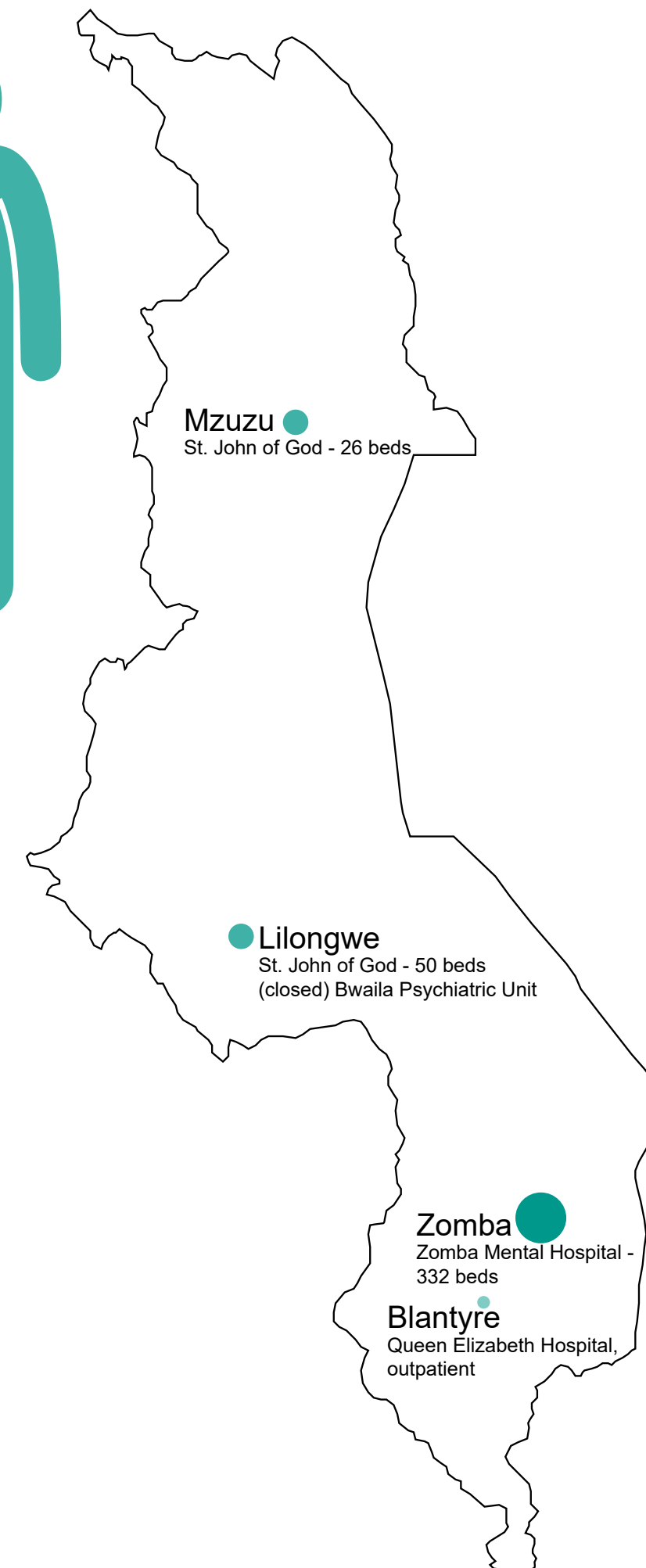
There are only 408 inpatient beds in a country of 16+ million people<sup>1</sup>: 332 at Zomba Mental Hospital (in the southern district), 26 beds at St. John of God - Mzuzu Mental Hospital (in the northern district), and 50 beds at St. John of God - Lilongwe Mental Hospital (in the central district).<sup>2</sup> In 2017, Bwaila Mental Hospital was shut down because of poor conditions and a severe shortage of personnel. Zomba is the only public health facility and only facility that handles long-term care, although public care is provided at St. John of God Hospitals under a service level agreement

## BED CAPACITY



# 150%

Bwaila Psychiatric Hospital bed occupancy prior to closure



**1910:** Zomba Central Prison opens its “Lunatic Asylum” for the “mentally abnormal”; mentally ill patients are not allowed in hospitals

**1930s:** Start of belief that mental illness required treatment due to European influence; asylums are still in poor conditions

**1950s:** Government Medical Department initiates creation of Zomba Mental Hospital; psychiatrists and antipsychotic drugs are introduced

**1980s:** Locally trained psychiatric nurses are sent to district hospitals to run mental health services around the country

**2013:** Zomba Mental Hospital sends representatives to the Zomba District Health Office to spread influence; nurses visit prisons to assess and treat mentally ill inmates

**1920s:** Psychosocial therapy begins in asylum, but sees no trained mental health workers and no improving facility conditions

**1943:** Annex opens Zomba Central Prison to encourage occupational therapy for mentally ill patients rather than isolation in old wing

**1960s:** Malawian nurses are sent abroad to train as psychiatric nurses in order to build service capacity and educate other health workers

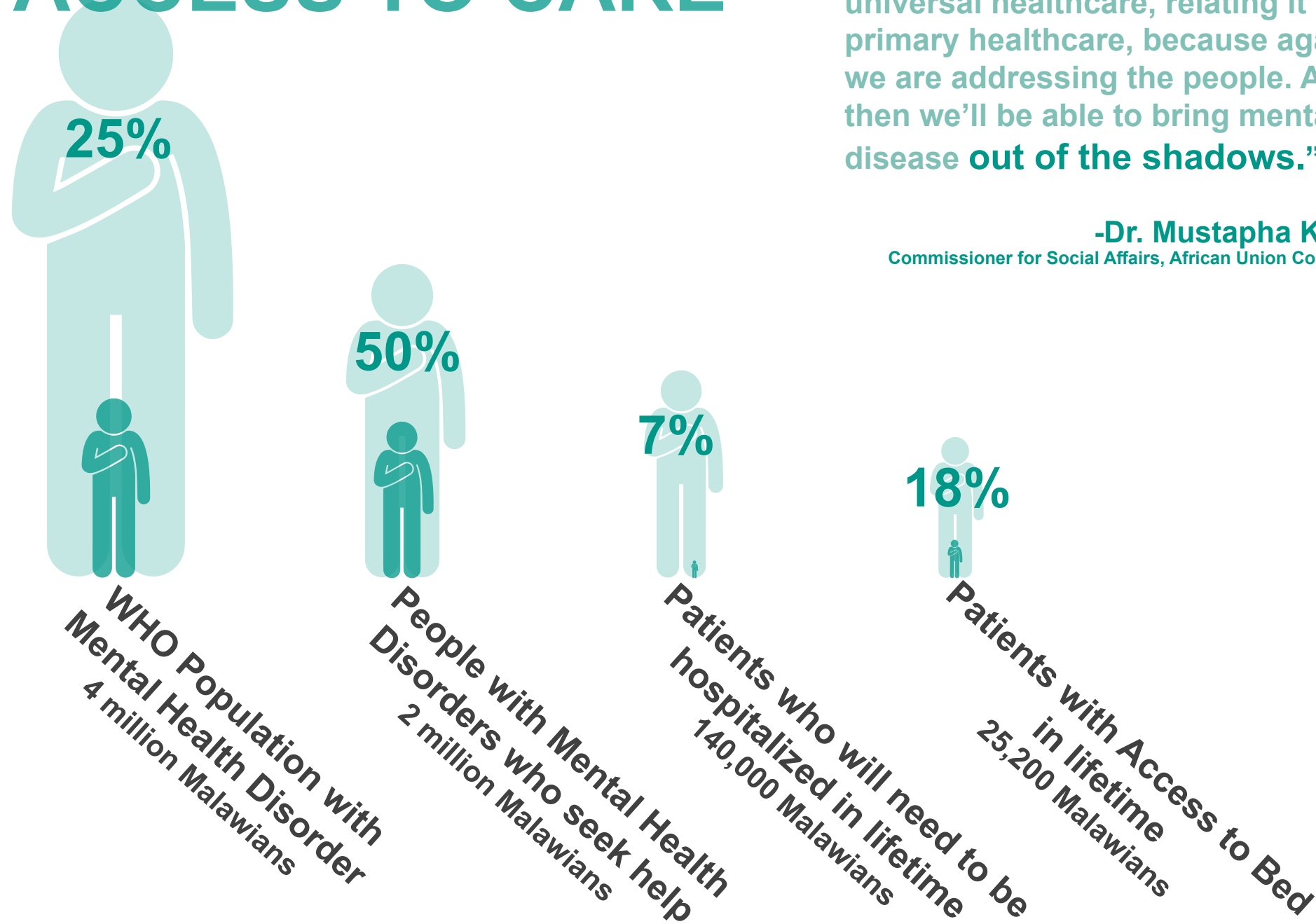
**1990s:** Movement begins for community mental health with introduction of Mental Health Action Group (organization for development of policy, services and education)

**2017:** Bwaila Psychiatric Unit closes after discovery of poor patient conditions; referred patients are sent to Zomba Mental Hospital four hours away by car

# THE SOCIAL CONDITION

The WHO estimate 25% of the world's population has a mental health disorder. Only half of those people will seek treatment in their lifetime. About 7% of patients with mental health disorders require hospitalization at some point and in Malawi, if the current inpatient facilities are full, only 18% will have access to a bed at any point in their life. This calculation does not account for readmission rates, which in Bwaila was about 7%

## ACCESS TO CARE

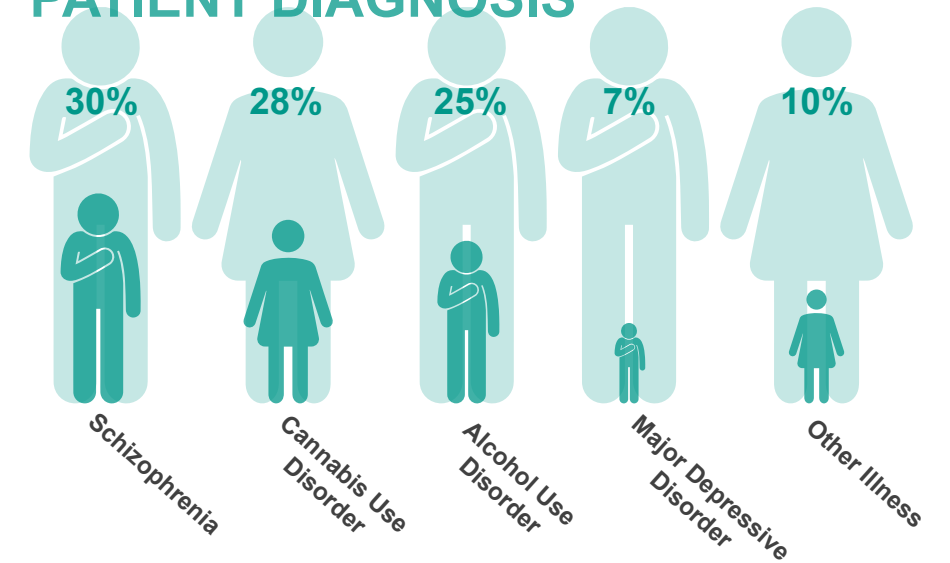


“Now we are looking seriously at universal healthcare, relating it to primary healthcare, because again, we are addressing the people. And then we’ll be able to bring mental disease out of the shadows.”

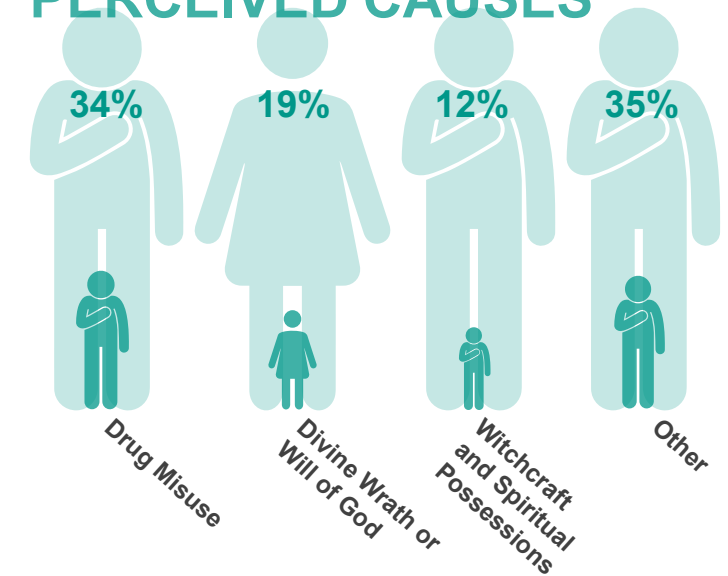
-Dr. Mustapha Kaloko

Commissioner for Social Affairs, African Union Commission

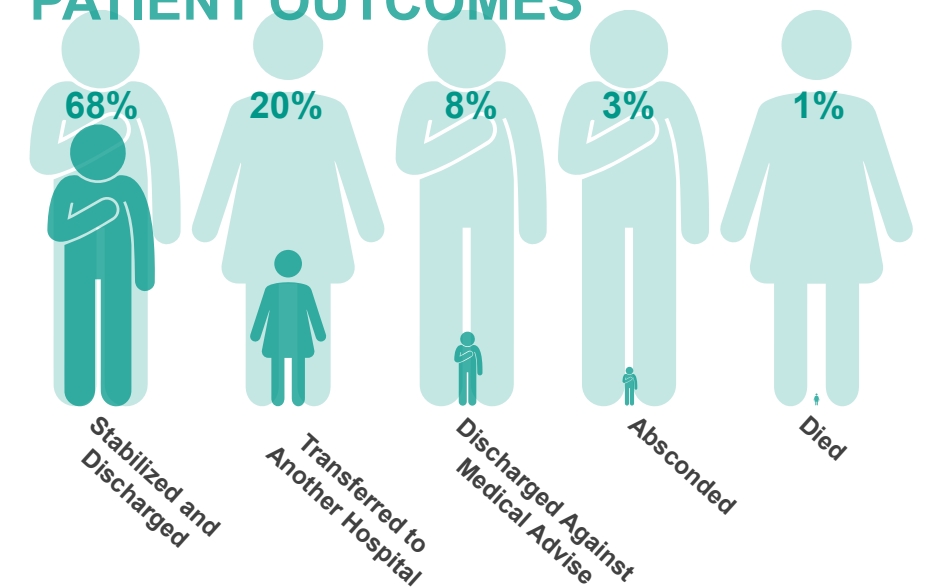
## PATIENT DIAGNOSIS



## PERCEIVED CAUSES

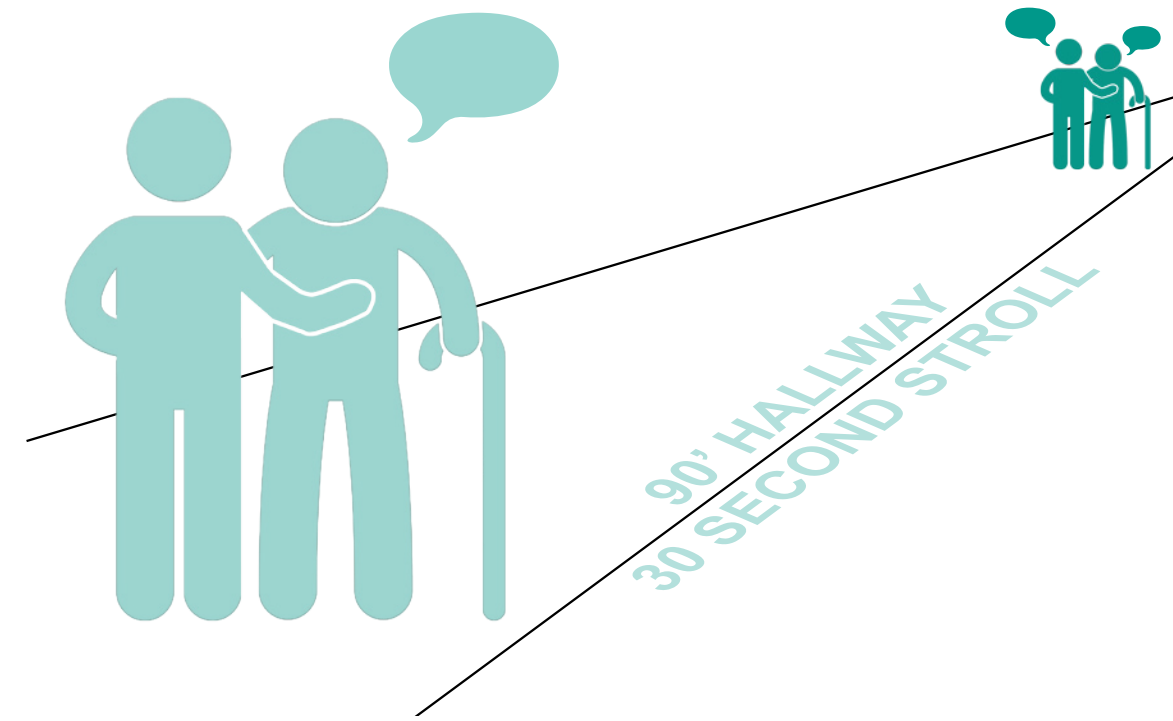


## PATIENT OUTCOMES



# COMPASSIONATE CARE

Compassion is defined as the **“sympathetic consciousness of others’ distress together with a desire to alleviate it.”** This is stronger than an empathetic sensitivity to the feelings and experiences of another because it requires action to be taken. In the days of what many are referring to as a **“compassion crisis,”** more professions are being encouraged to redefine what it means to act with compassion and care more about the impression left on someone after an interaction. While this is not isolated to one field, the healthcare sector has specifically struggled to maintain active empathy in patient care. Recent studies in the United States have shown that roughly **70% of opportunities to be compassionate are missed by medical staff and professionals.** This is a staggering amount of potentially negative interactions between patients and their caregivers at a very vulnerable point in time for both people involved



SHIFTING THE NARRATIVE FROM ISOLATION...



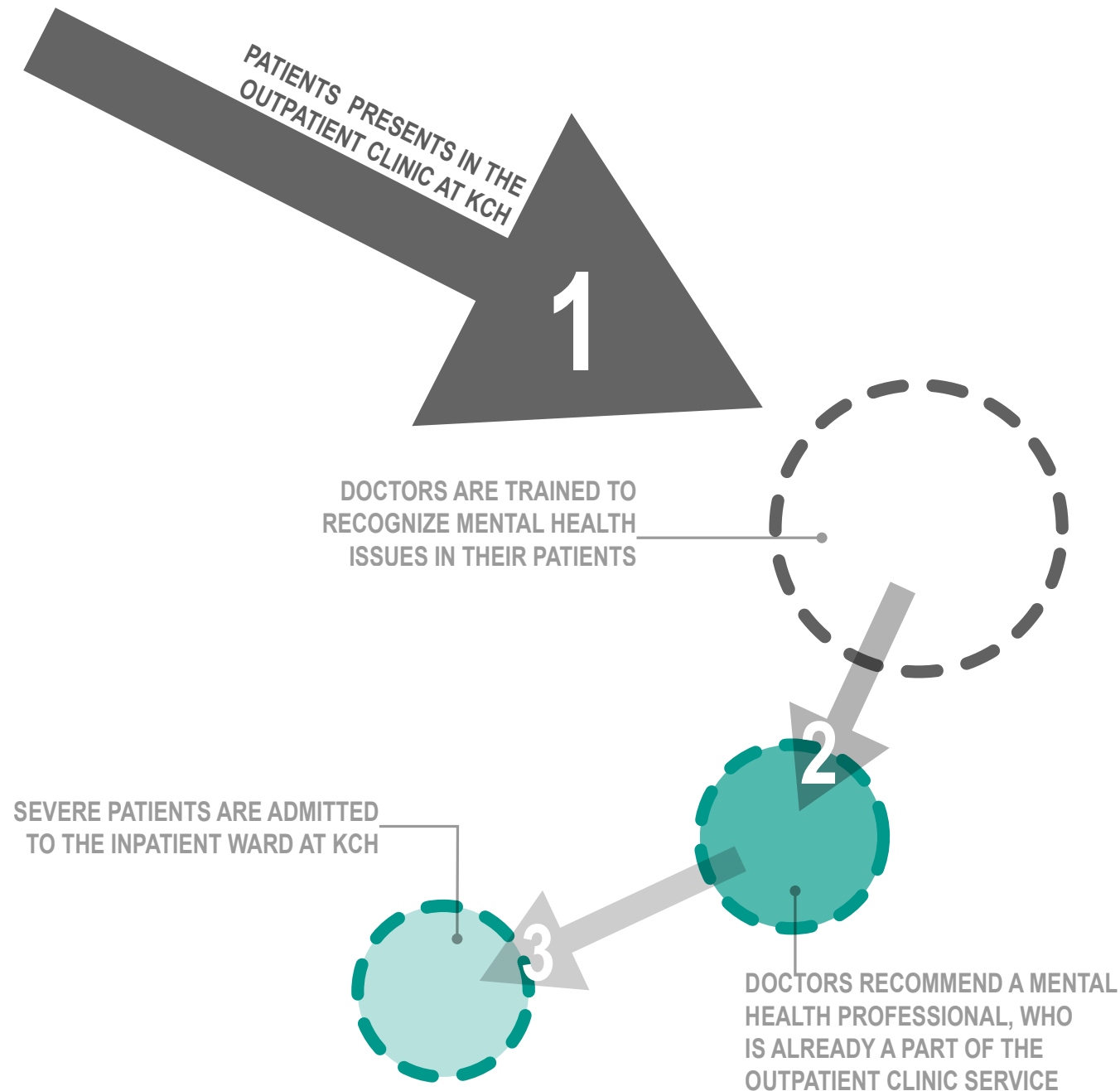
...TO INCLUSION



# CARE DELIVERY MODELS

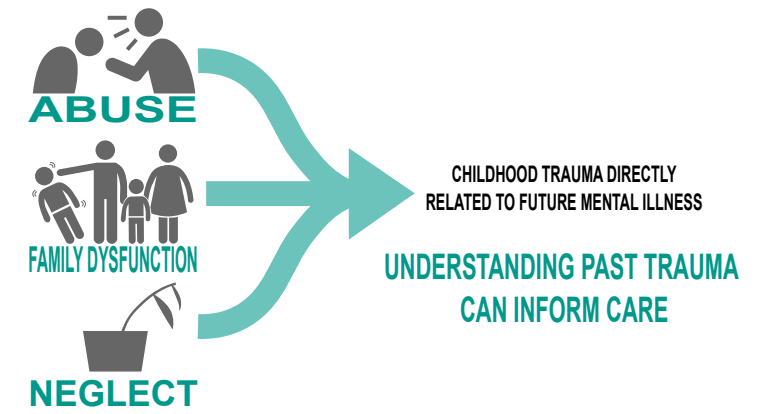
Providing more **comprehensive care** in Lilongwe can help patients get the care they need when they are in a critical situation and adhere to their medication and therapy regimen to **maintain their mental health and stay out of the hospital**. Because of the lack of trained mental health professionals, inpatient beds, and outpatient clinics, the demand on the strained resources and the consequences of untreated mental health, **there is a need for immediate intervention**.

## SELECTED CARE MODEL INTEGRATED MEDICAL MODEL



## TRAUMA INFORMED

With the trauma informed care model, doctors attempt to help patients by understanding the root cause of their illness.



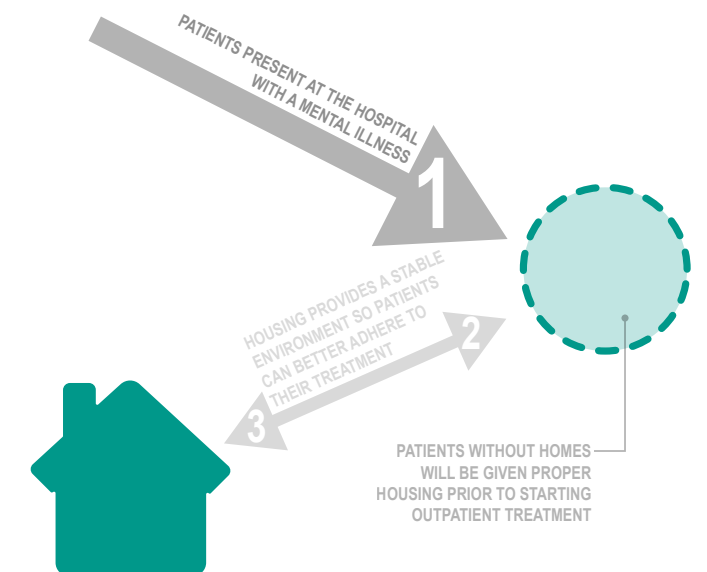
## COMMUNITY BASED

This care model relies on smaller clinics to care for patients who do not enter hospitals. This can lower the strain on hospital resources.



## HOUSING FIRST

With the housing first model, hospitals provide patients with a place to live before they are treated. This model has been found to reduce the cost and use of health services.



# PSYCHIATRIC HOSPITAL DESIGN

1. HOSPITAL PROGRAM

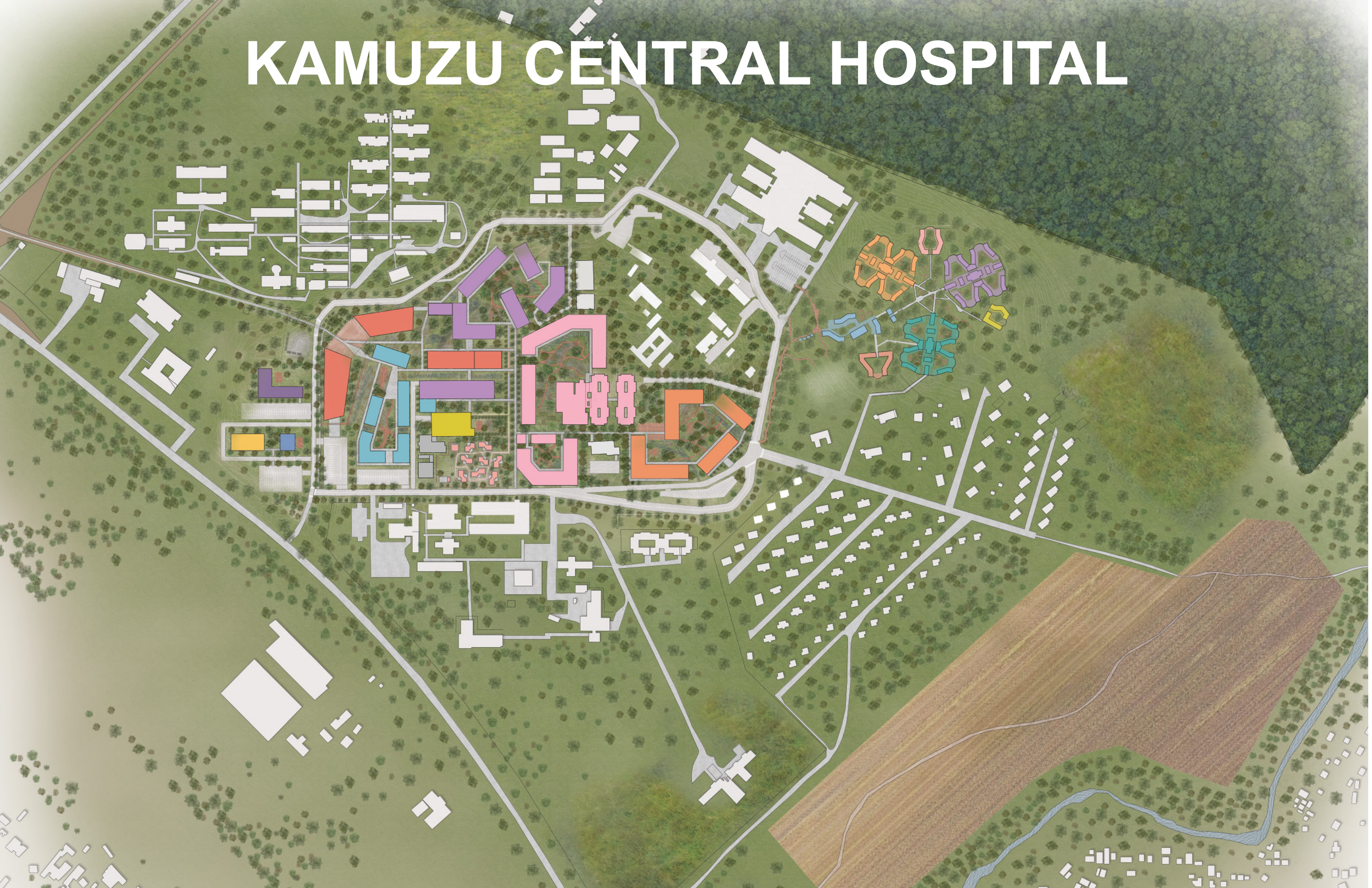
2. PROGRAM ADJACENCIES

3. SPATIAL REQUIREMENTS

4. GUIDING PRINCIPALS



# KAMUZU CENTRAL HOSPITAL



# SELECTED SITE

This centralized scheme was selected as the proposed site to maximize communication with and accessibility to necessary program on site. It requires a unique look at integration with both physical and natural resources.

**INTEGRATION**  
PROPOSED INPATIENT  
FACILITIES

**EDUCATION**  
PROPOSED LILONGWE  
INSTITUTE OF ORTHOPEDICS &  
NEUROSURGERY (LION)

**VISTAS**  
ADJACENT LINGADZI  
NAMILOMBA FOREST RESERVE

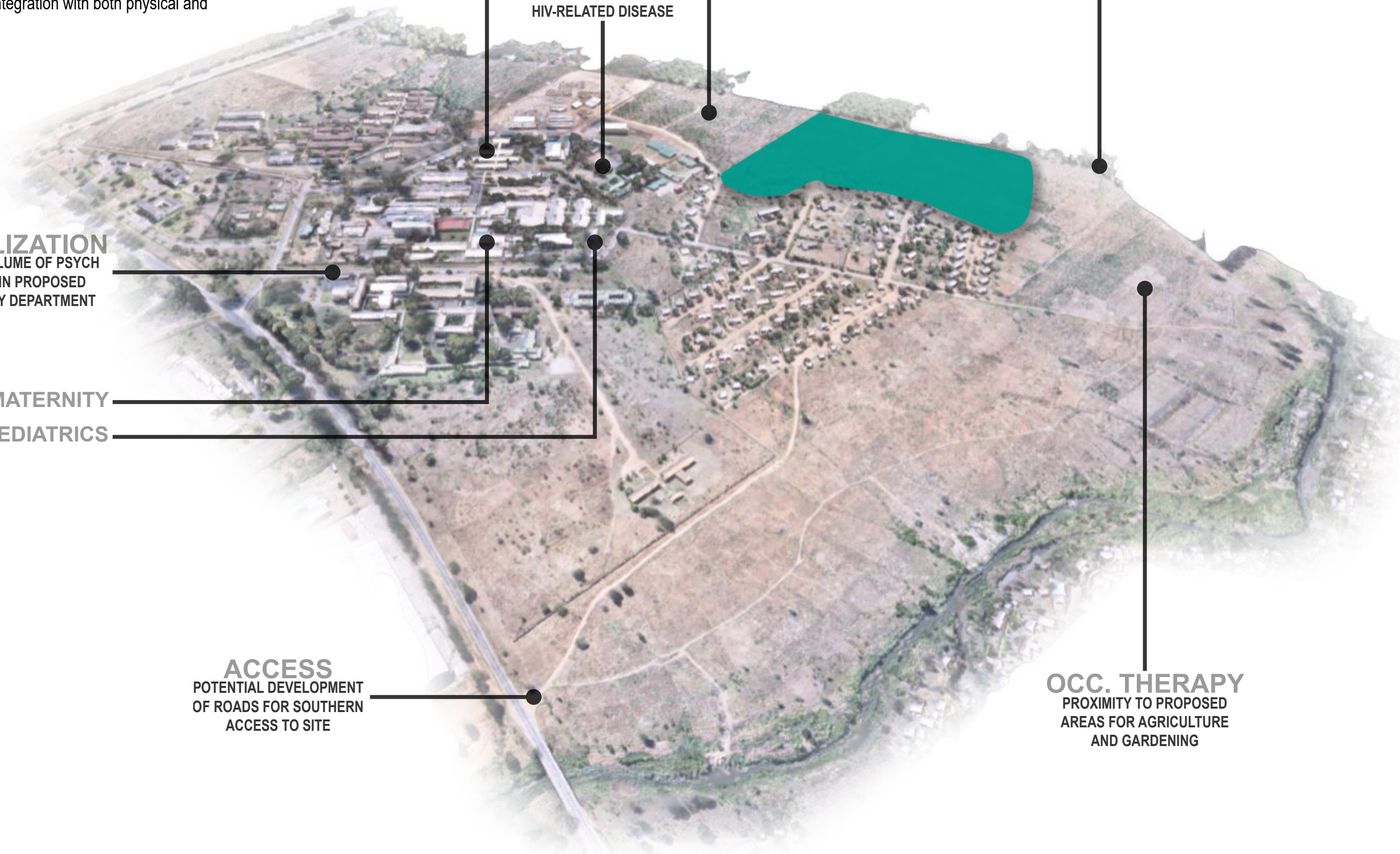
**ADHERENCE**  
LIGHTHOUSE TRUST OPEN  
ACCESS CLINIC FOR  
HIV-RELATED DISEASE

**STABILIZATION**  
REDUCE VOLUME OF PSYCH  
PATIENTS IN PROPOSED  
EMERGENCY DEPARTMENT

**MATERNITY**  
**PEDIATRICS**

**ACCESS**  
POTENTIAL DEVELOPMENT  
OF ROADS FOR SOUTHERN  
ACCESS TO SITE

**OCC. THERAPY**  
PROXIMITY TO PROPOSED  
AREAS FOR AGRICULTURE  
AND GARDENING



# HOSPITAL PROGRAM

## OUTPATIENT BLOCK

Reception	25
4 Consulting Rooms	48
<b>2 Counseling rooms (psychosocial counseling)</b>	24
Toilets (2 for patients, 2 for staff)	144
2 bathrooms for males and females	4
<b>4 beds for short stay</b>	64
Data Storage Room	16
2 Counseling rooms (HTC Counseling and testing at OPD)	24
2 store rooms at OPD	16
<b>Dispensary</b>	-
<b>Min dining hall for staff / tearoom / restroom</b>	25
Small room as kitchen for preparing tea	12
Addiction program centre	-
5 offices - 3 for clinicians and 2 for nurses	225

## ADMIN BLOCK

<b>1 Psychiatrist Office</b>	12
Min conference room for meetings	20
Computer room / data room	-
4 toilets for males and 2 for females' staff	324
Matron's office	9
1 senior clinician office	12
1 senior nurse office	12

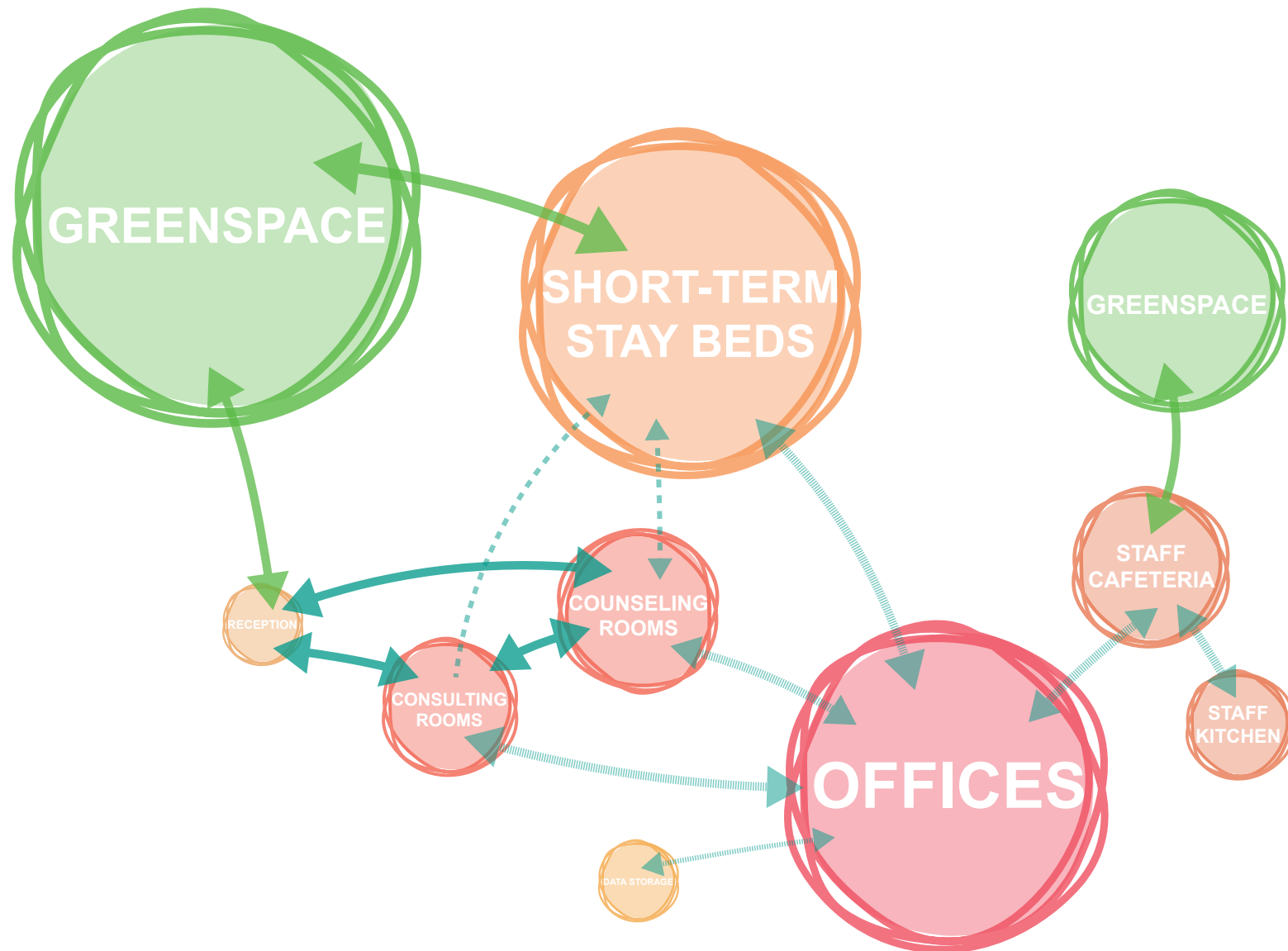
## INPATIENT BLOCK

<b>Acute section</b> - 24 for females which will include 4 maternal beds	216
Acute section - 20 for males)	192
<b>Rehabilitation section</b> 10 beds for females	96
Rehabilitation section 10 beds for male	96
<b>Infirmiry Section</b> 8 beds for female)	96
Infirmiry Section 8 beds for male	96
<b>Children and adolescent section</b> 8 beds for girls	96
Children and adolescent section 8beds for boys	96
<b>Geriatric section</b> 8 beds for female)	96
Geriatric section (8 beds for male	96
Kitchen - a separate one for preparing in between meals	48
2 consultation rooms in all wards	12
Patients' store in all wards	-
2 staff toilets for each ward	4
2 changing rooms for each ward	4
4 patient toilets, 4 patient bathrooms for each ward	4
2 side wards for staff (2 bedded rooms for male and remale)	64
2 counseling rooms (psychosocial counseling)	12
<b>Ground for Recreation/rehabilitation</b>	-
1 dining / cafeteria for patients for each ward	800
<b>3 seclusion/ single rooms for each acute ward (male and female)</b>	9
Recreation room for activities like prayer, dance, etc	300
ECT room with 4 recovery beds	100
1 Visitor's lounge for each room	25
Meeting rooms / conference rooms in each ward	20
<b>Nurses station for each ward</b>	-
Offices for ward / unit incharges in each ward	64
<b>Occupational therapy block</b> - kitchen, needle work, weaving, store room, toilets for patients and 2 for staff, small kitchen for cooking demonstration, 2 offices	-

# PROGRAM ADJACENCIES

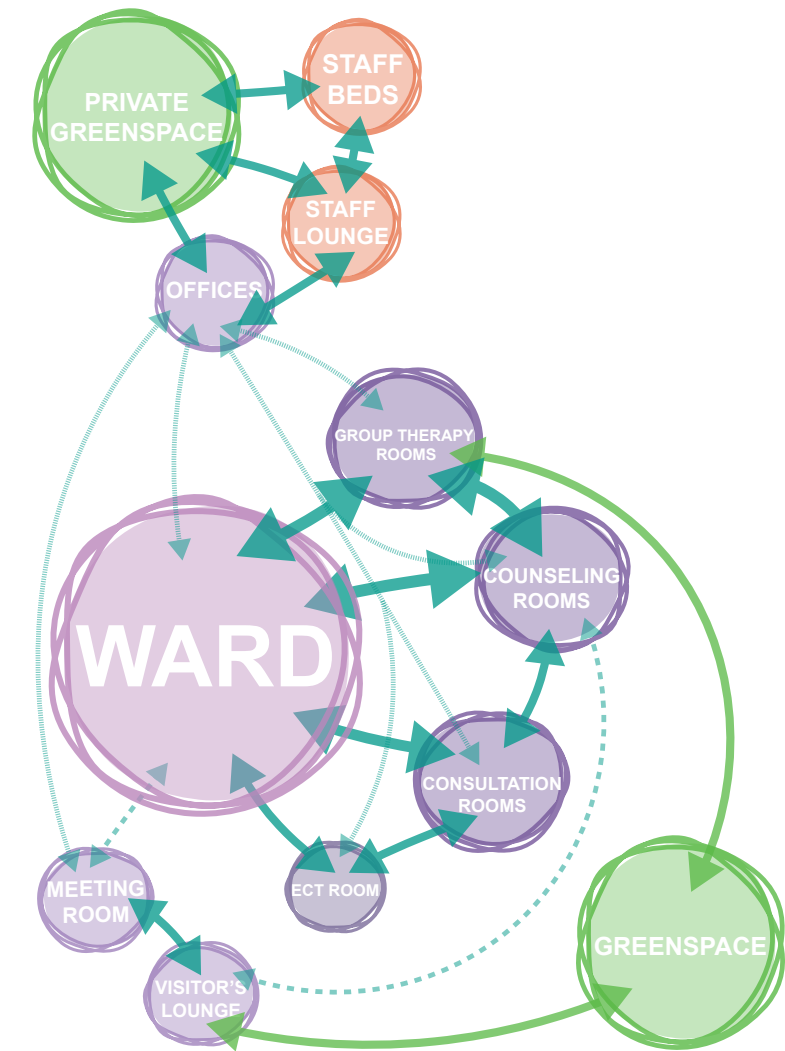
Throughout our research, we were able to find documents published by the World Health Organization, The South African Development Community, and Malawi's Ministry of Health that described standard methods of care for psychiatric patients in both inpatient and outpatient settings. As these documents recommended the implementation various care models, **not one described the programmatic or spatial requirements** of the models they described. Throughout this project, it will be our goal to **identify and develop standards for these requirements**.

## SPATIAL ORGANIZATION OUTPATIENT ORGANIZATION



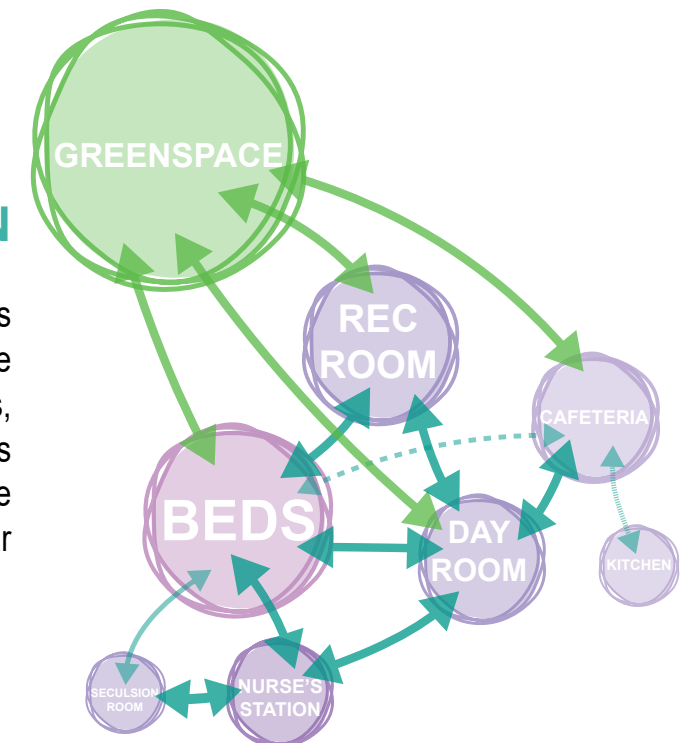
## INPATIENT ORGANIZATION

The inpatient wards need to be connected to all program elements that assist in patient care. The most important adjacencies are to the group therapy, counseling, and consultation rooms.



## WARD ORGANIZATION

Within each ward, the areas where patients sleep should be close to the day and rec rooms, because this is where patients spend most of their time. These spaces should also have a clear connection to the outdoors.



# SPATIAL REQUIREMENTS

## PROGRAM CATEGORIES

1. PATIENT SAFETY

2. PATIENT COMFORT

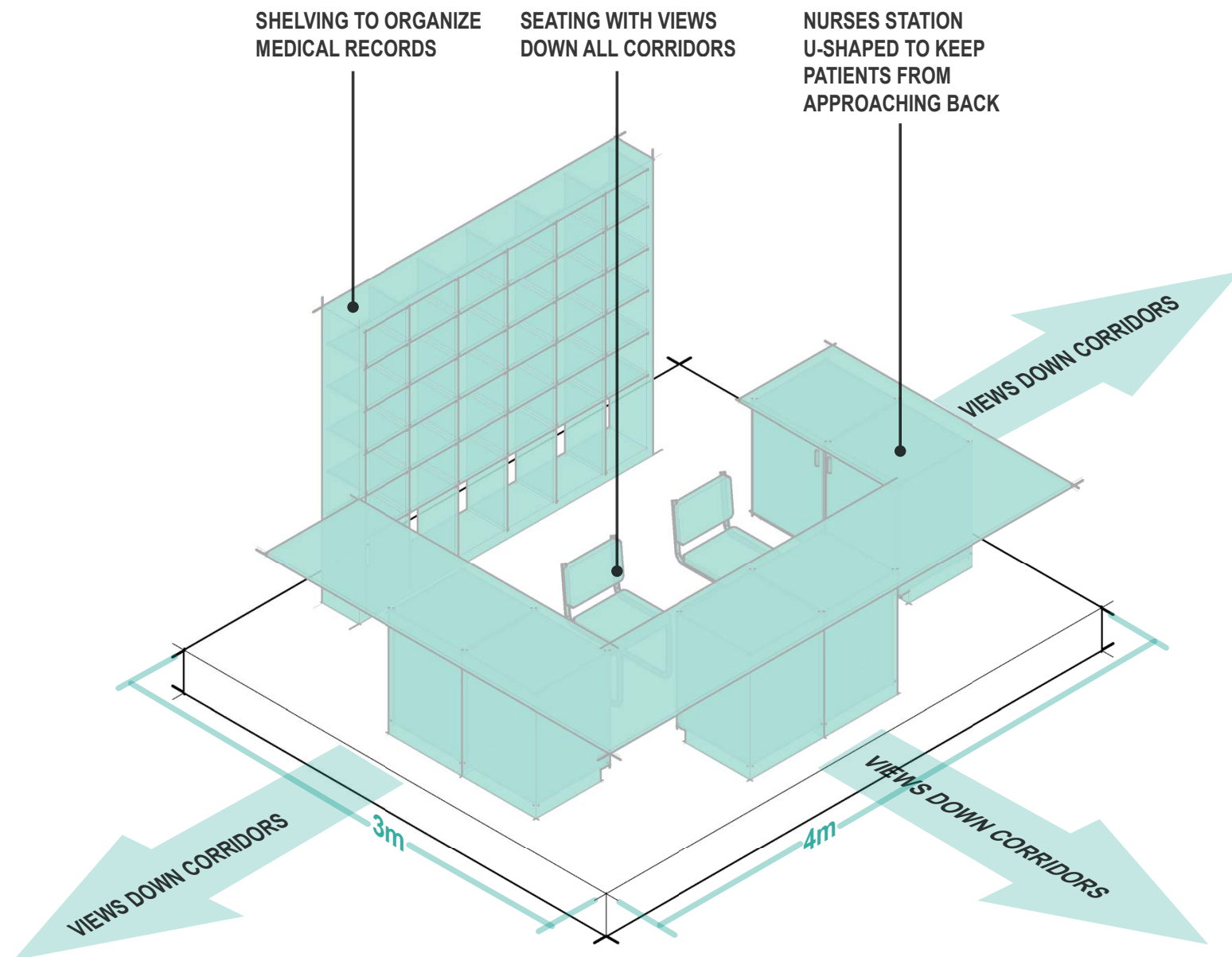
3. PATIENT INTERACTION

4. OUTDOOR SPACES

# SPATIAL REQUIREMENTS

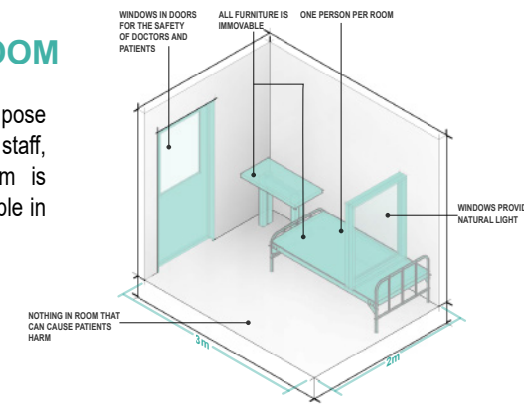
The most important elements in the design of Psychiatric hospitals are those that **mitigate the risk of harm for both patients and staff**. This idea was mentioned by every psychiatrist that was interviewed and should be a central theme for every element within the hospital. The primary method to ensure patient and staff safety is to make **every space visible from a central nurse's station**. From this location, nurses should be able to monitor all patient activity within the ward.

## NURSES STATION



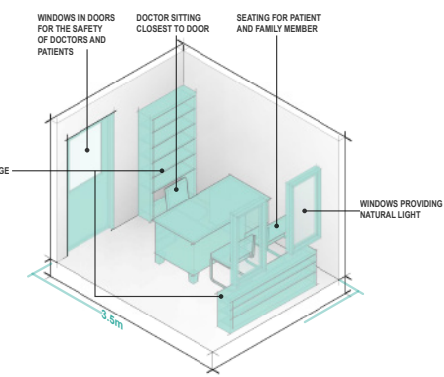
## SECLUSION ROOM

Reserved for patients who pose a threat to other patients, staff, or themselves. This room is isolated from all other people in the hospital

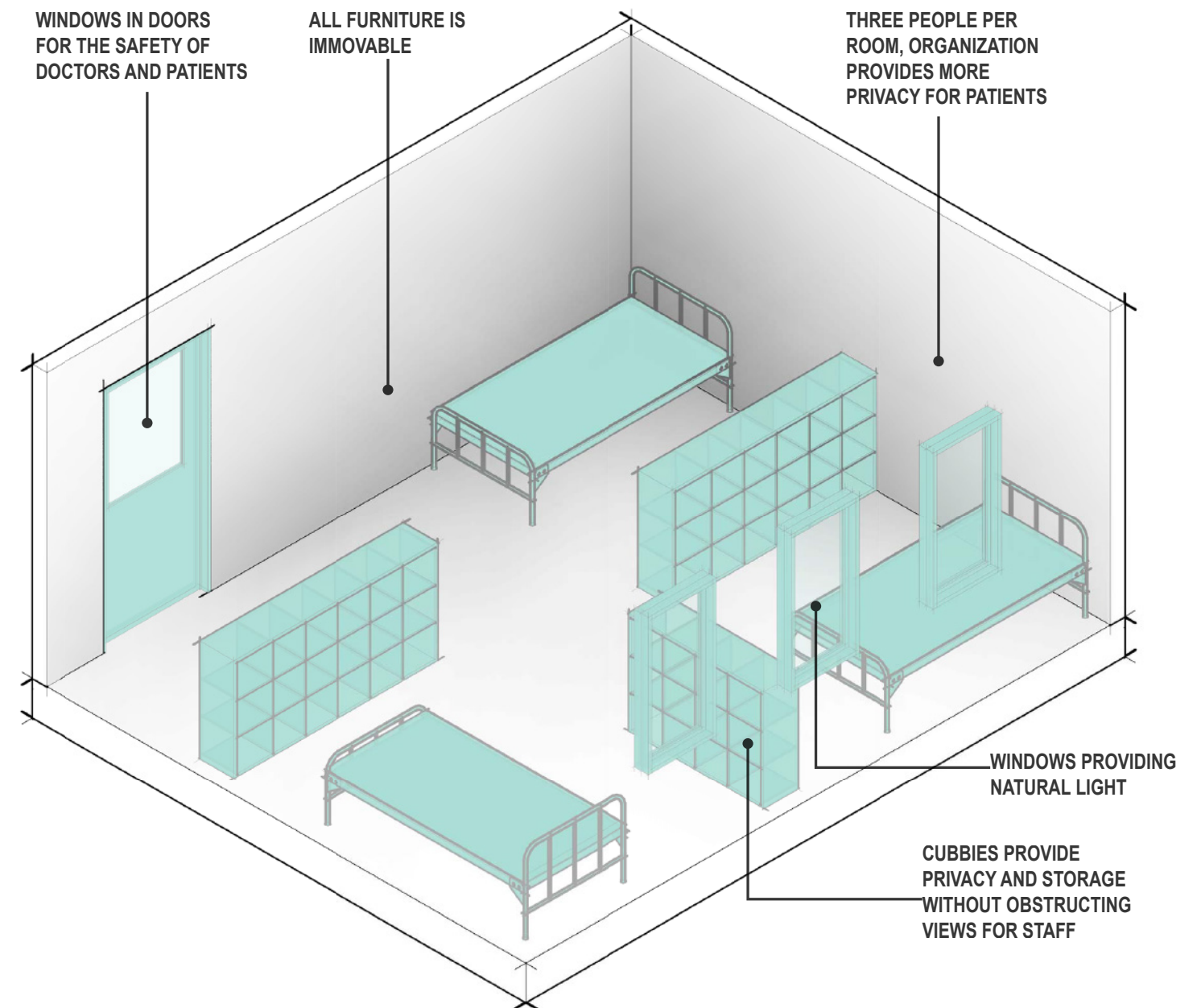


## CONSULT ROOM

Consult rooms are where most doctor patient interactions should take place.



## PATIENT ROOM

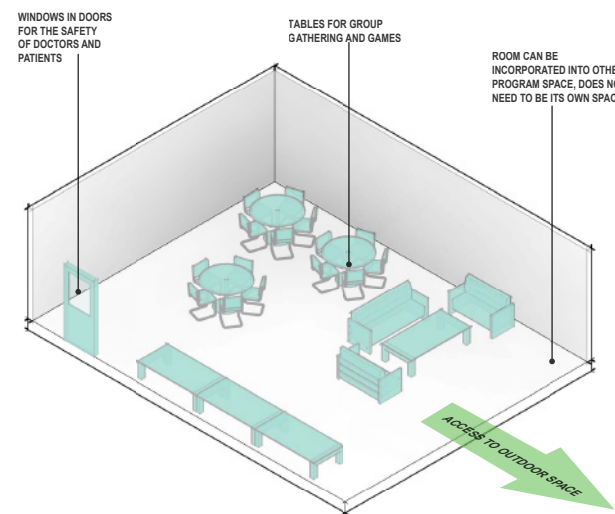


# OUTDOOR SPACES

Exposure to outdoor space is proven to positively influence a **patient's mental health as well as the staff's satisfaction**. When designing an outdoor space, it is important to mitigate harsh noise and unwanted demands which can be done through **vegetation density, elevation changes, and appropriately placed nodes**. In order to give the patient a feeling of control, minimizing physical restraints in the outdoor space is important. One study noted that patients would return to the psychiatric unit to walk through the garden because of their **positive association with their therapeutic benefits**.

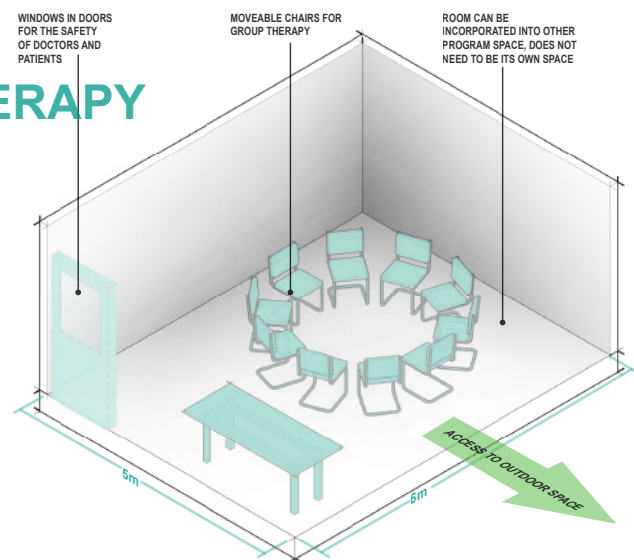
## DAY ROOM

Gathering room for patient socialization when they are not being seen by doctors.



## GROUP THERAPY

Counseling room with flexible seating to accommodate groups of different sizes. Access to green space.



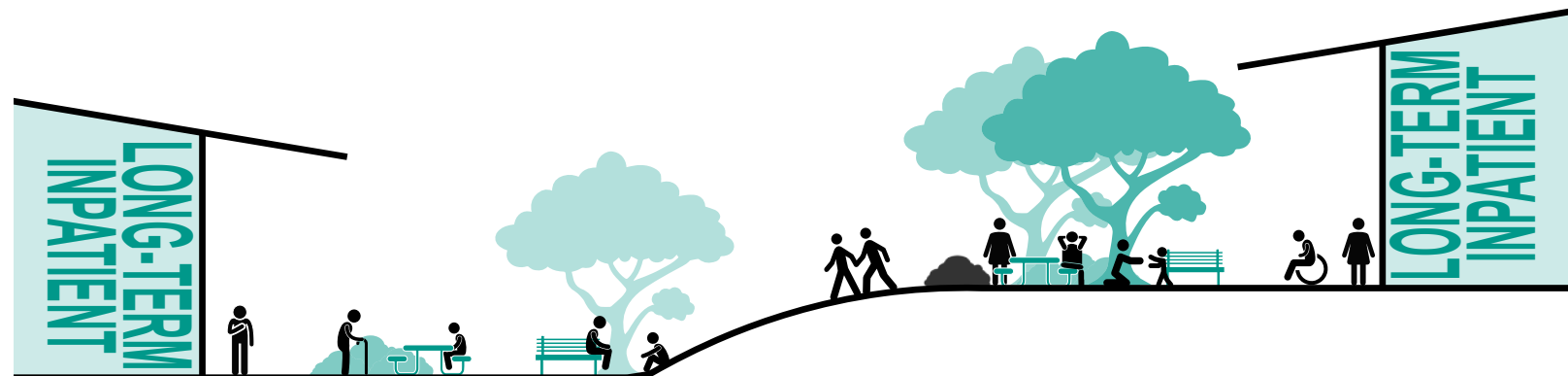
## CIVIC SPACE

Patients that have to wait to be admitted to the outpatient ward should be provided with a community-oriented space that is both peaceful and interactive.



## REHABILITATION

The long-term inpatient ward focuses on occupational therapy and healing by living and working in comfortable space. The terrain can be a bit more challenging with both recreational and work areas.



## COMFORT

Acute patients typically desire solitude and isolation from large groups. Occasional partitions allow staff to watch the patients while they explore smaller-scale spaces that are quiet with open sight lines.



## RESPITE

Staff also need their own outdoor space to retreat to away from patients and visitors. Located between wards, staff can choose whether to decompress in groups at tables or alone wandering through rich plantings.



# GUIDING PRINCIPALS

## INDEPENDENCE



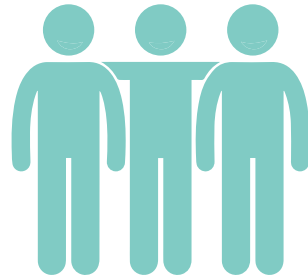
DESIGN SPACES THAT ARE LEGIBLE AND NAVIGABLE IN ORDER TO INCREASE PATIENT CONFIDENCE WHILE LIVING IN A HIGHLY-DEPENDENT MEDICAL SETTING.

## CONSCIOUSNESS



ASSIST PATIENTS IN BECOMING AWARE AND CONSCIOUS OF THEIR SURROUNDINGS THROUGH SENSORY STIMULATION AND THE PASSAGE OF TIME.

## CONNECTEDNESS



COUNTERACT FEELINGS OF ISOLATION IN SPACES THAT ENCOURAGE SOCIAL INTERACTION AND CONTACT WITH NATURE WHEN PATIENTS ARE READY TO DO SO.

## PURPOSE



ENCOURAGE PATIENTS TO ESTABLISH A ROLE IN SOCIETY THROUGH WORK OPPORTUNITIES AND RESPONSIBILITIES WITHIN THE HOSPITAL CAMPUS.

## PHYSICAL ACTIVITY



PROVIDE OPPORTUNITIES FOR MOVEMENT AND ACTIVITY AT A VARIETY OF INTENSITIES TO ACCOMMODATE MULTI-USER EXPERIENCES AND CHALLENGES.

## REST



ACCOMMODATE SAFE AND COMFORTABLE REST AREAS TO INCREASE PATIENT WELLBEING, TIME FOR REFLECTION, AND OVERALL PRIVACY.



# HOW CAN DESIGN AND COMPASSIONATE CARE REINFORCE ESTABLISHED CARE MODELS TO POSITIVELY IMPACT PATIENTS IN MALAWI'S PSYCHIATRIC HEALTHCARE SYSTEM?

**USER GROUPS**

**INPATIENT WARD DESIGN**

**WARD ORGANIZATION**

**OUTPATIENT WARD DESIGN**

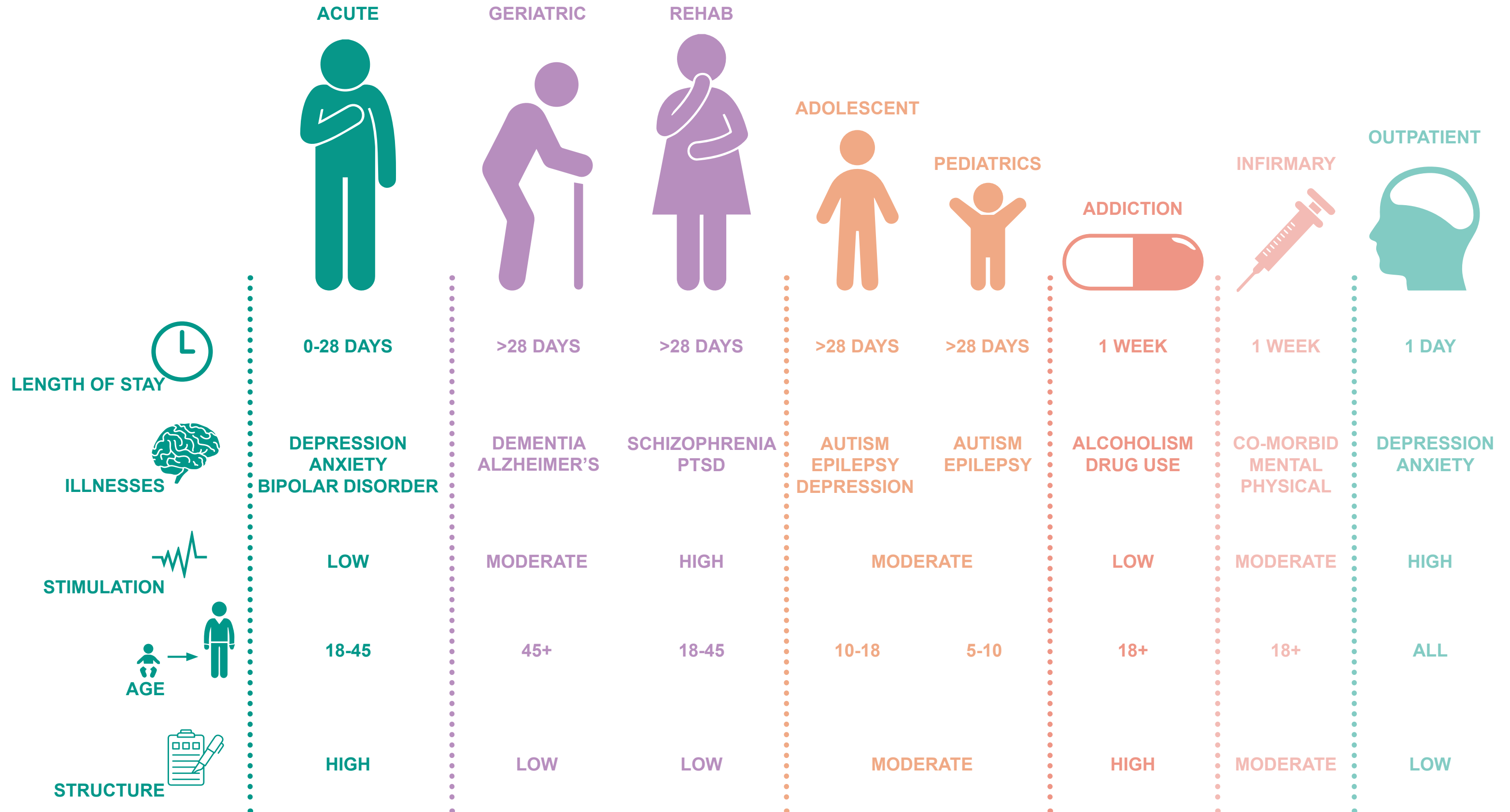
**OUTPATIENT WARD DESIGN**

**CAMPUS SECURITY**

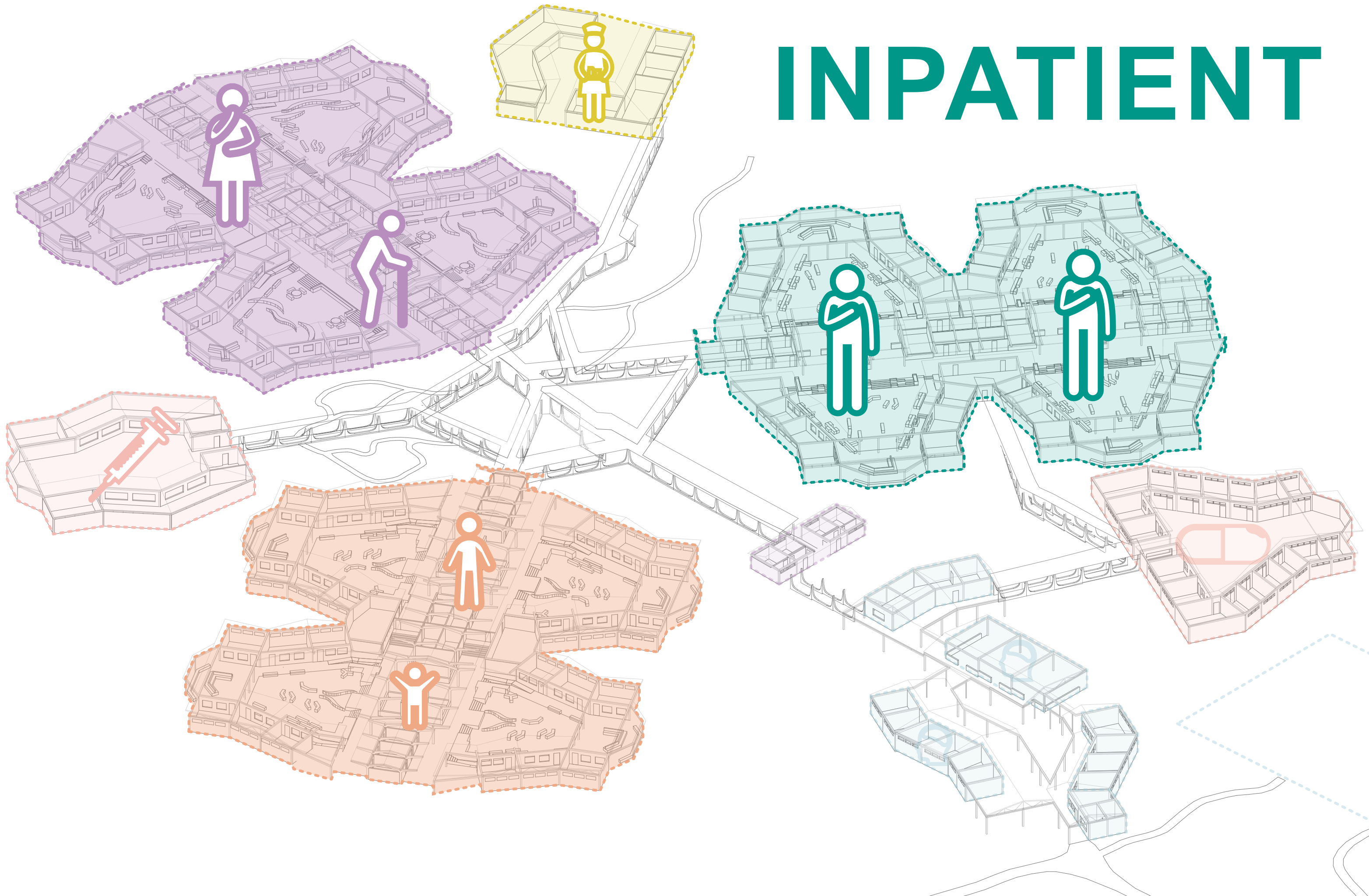
**DAILY CAMPUS LIFE**

# USER GROUPS

LEVELS OF CARE ON THIS CAMPUS ARE DETERMINED BY A VARIETY OF FACTORS. UNDERSTANDING THESE FACTORS ALLOWS US TO PROPOSE BUILT ENVIRONMENT AND LANDSCAPE SOLUTIONS THAT SUPPORT THEIR USERS

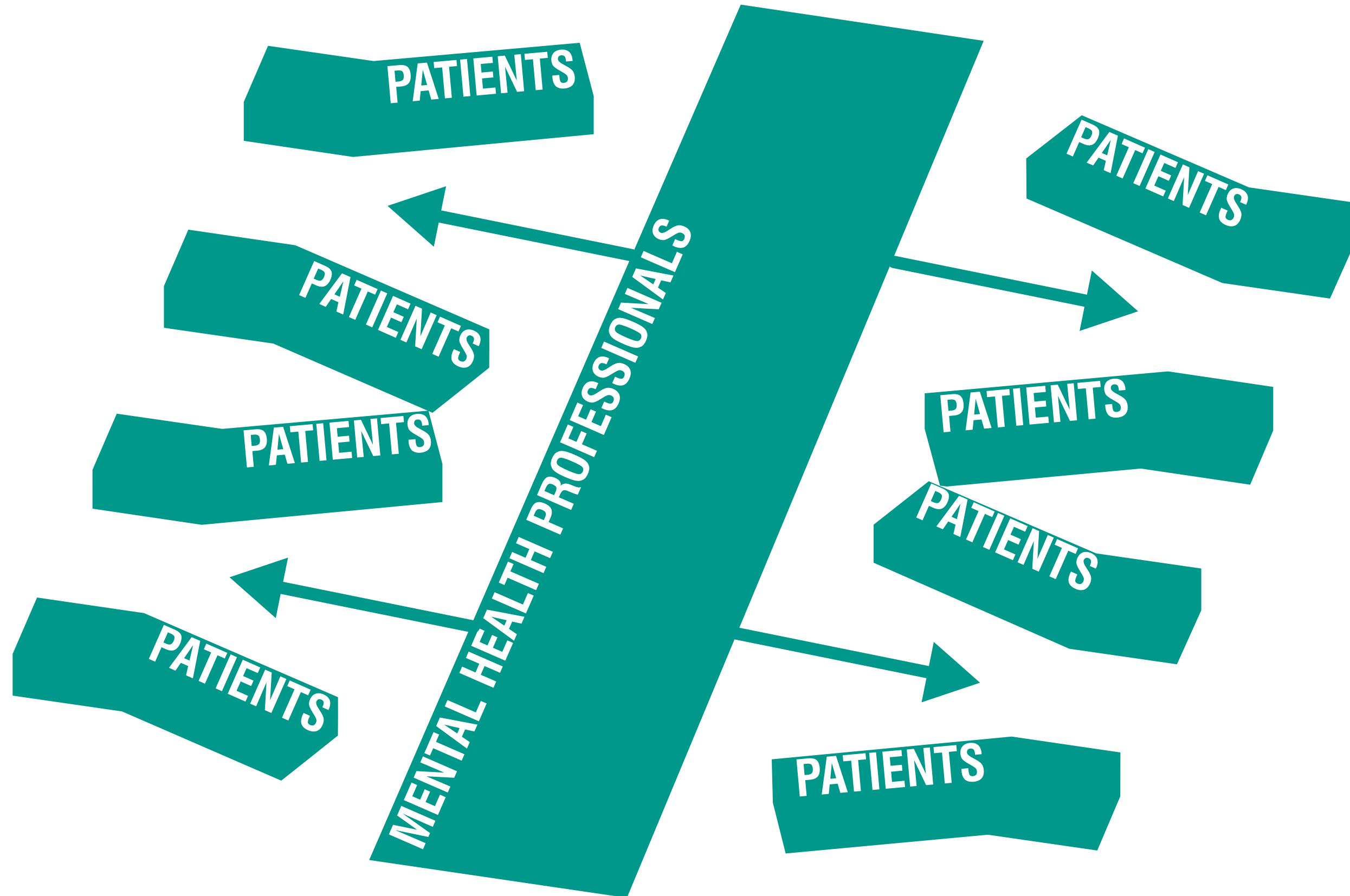


# INPATIENT



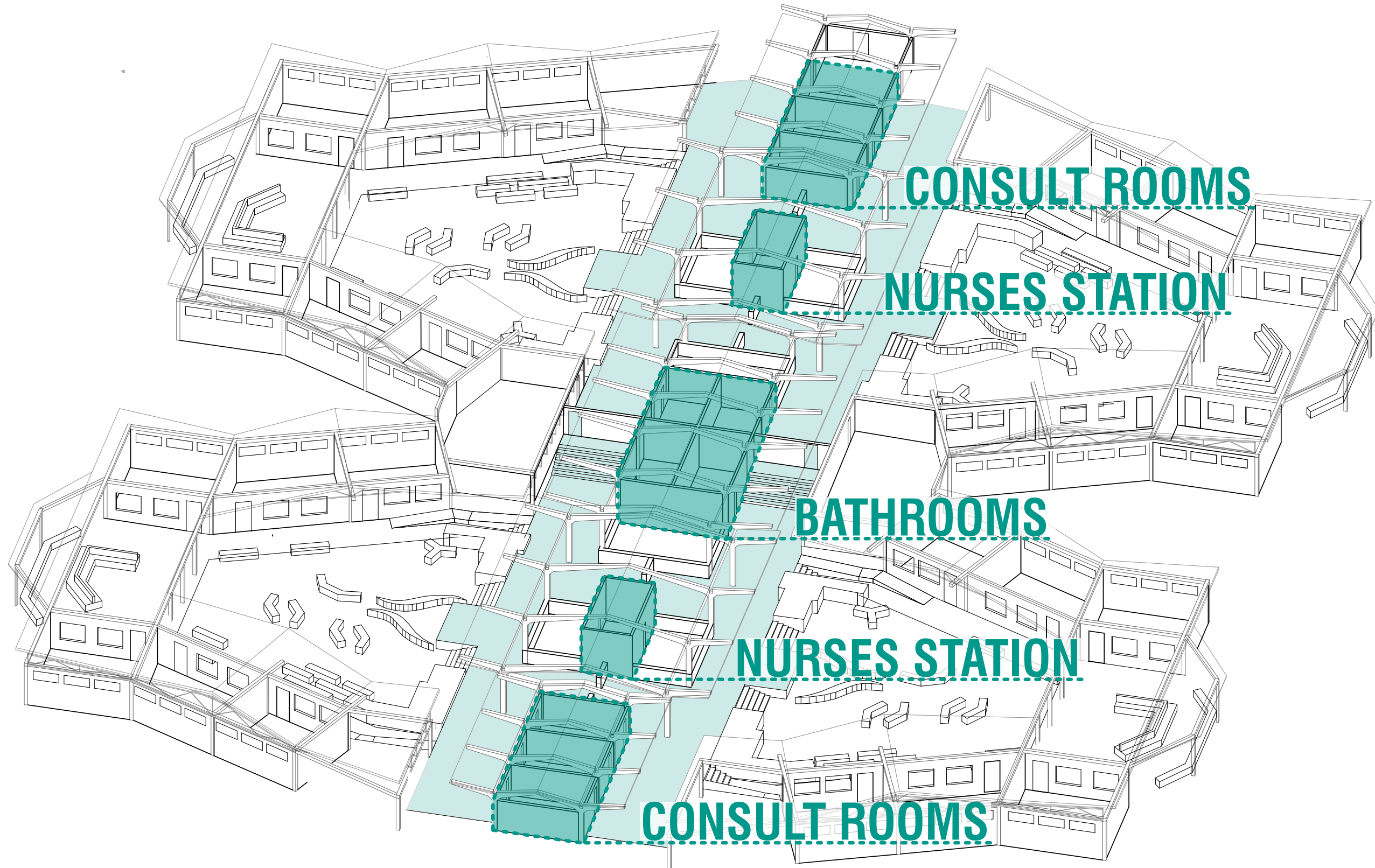
# INPATIENT WARD MODULE

ALL INPATIENT WARDS HAVE A CENTRAL SPINE THAT HOLDS PROGRAM ESSENTIAL TO MENTAL HEALTH PROFESSIONALS. PATIENT ROOMS ARE LOCATED ON BOTH SIDES OF THIS SPINE, ALLOWING DOCTORS TO EASILY SERVE ALL PATIENTS.



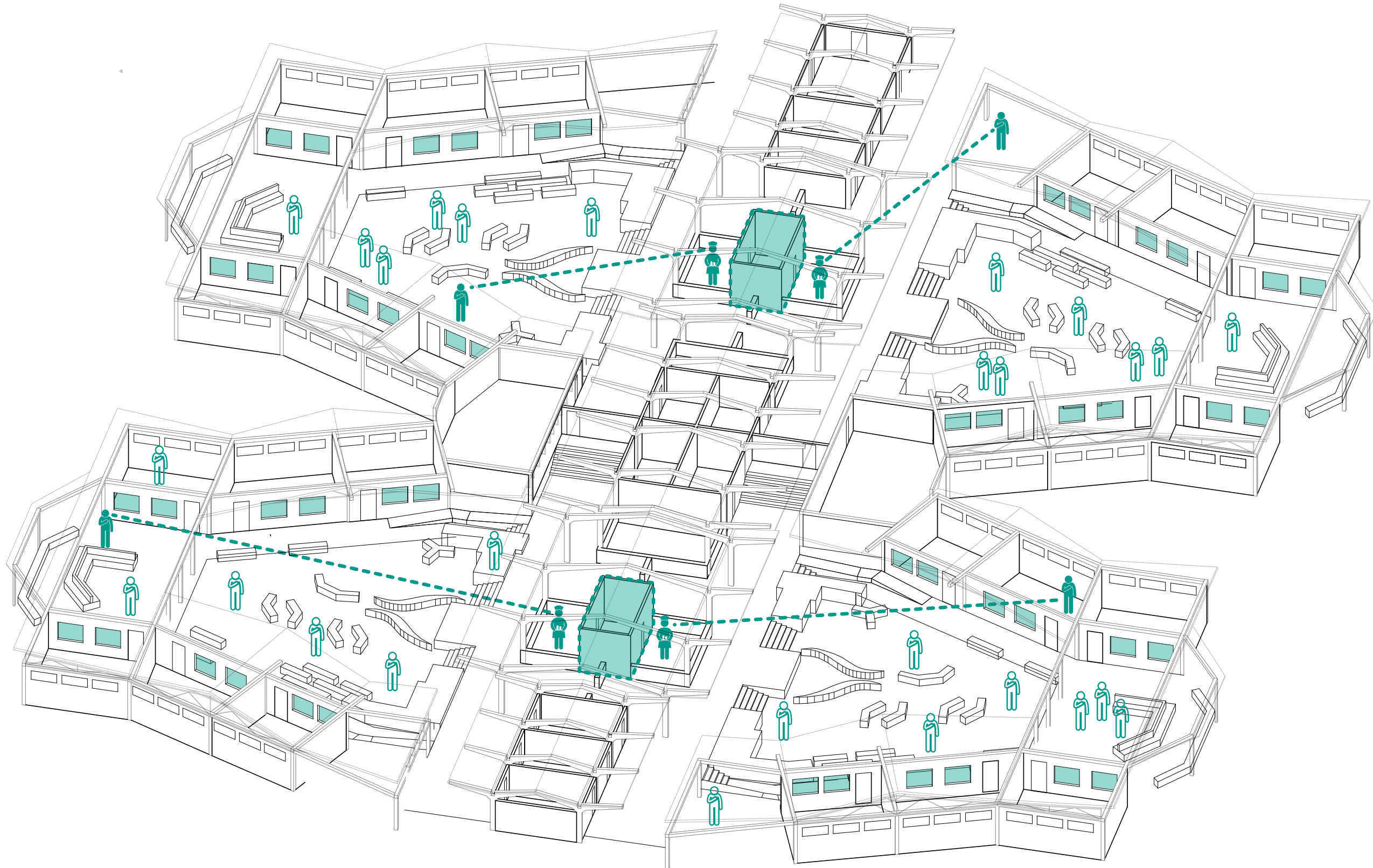
# CLINICAL OFFICER CORE

ALL INPATIENT WARDS ARE DESIGNED TO HOLD PROGRAM ELEMENTS THAT ARE ESSENTIAL TO MEDICAL PROFESSIONALS AT THEIR CORE. THIS ALLOWS THOSE PIECES OF PROGRAM TO SERVE BOTH SIDES OF THE WARD, EASING THE STRAIN ON THE HOSPITAL'S LIMITED RESOURCES AND ALLOWS NURSES AND CLINICAL OFFICERS TO MORE EFFECTIVELY MONITOR THE PATIENTS



# NURSE'S STATION

THE MOST IMPORTANT ELEMENT OF THE INPATIENT WARDS IS THE NURSE'S STATION. PATIENTS MUST BE VISIBLE FROM THIS LOCATION AT ALL TIMES TO ENSURE THEIR SAFETY IN THE WARD. TO KEEP AN IDEAL PATIENT TO STAFF RATIO OF 1:10 THE WARD WILL NEED TO BE STAFFED BY 8 MEDICAL PROFESSIONALS.



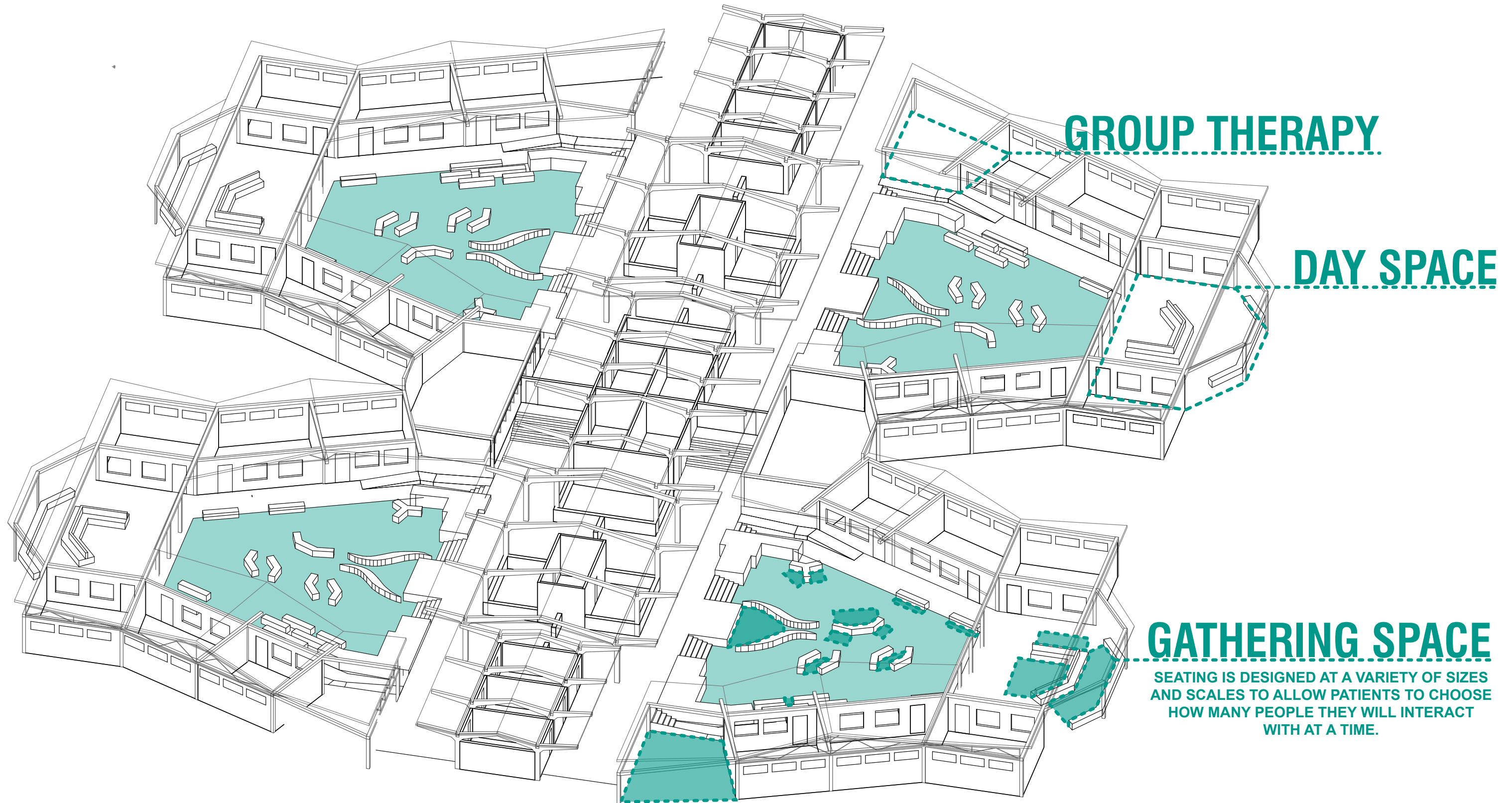
# PATIENT ROOMS

PATIENT ROOMS ARE KEPT AT THE EDGES OF THE WARDS. THEIR ANGLES ALLOW NURSES TO LOOK DIRECTLY INTO THE ROOMS FROM THE NURSES STATION.  
3 PERSON ROOMS ALLOW PATIENTS TO CONTROL HOW MANY PEOPLE THEY INTERACT WITH AT ON TIME.



# COURTYARDS

ALL INPATIENT WARDS HOUSE ENCLOSED COURTYARDS WHERE A MAJORITY OF PATIENT ACTIVITY WILL TAKE PLACE. THE UNCOVERED COURTYARDS ARE SUPPLEMENTED BY COVERED GROUP THERAPY SPACES AND DAY SPACES THAT CAN BE USED WHEN IT IS RAINING. PATIENTS WILL EAT THEIR MEALS IN THESE SPACES DURING THE DAY.



## GATHERING SPACE

SEATING IS DESIGNED AT A VARIETY OF SIZES AND SCALES TO ALLOW PATIENTS TO CHOOSE HOW MANY PEOPLE THEY WILL INTERACT WITH AT A TIME.



# REHAB AND GERIATRIC

## LENGTH OF STAY



THESE PATIENTS WILL REQUIRE SPACES THAT VARY IN SIZE AND FUNCTION TO HELP SUPPORT THEIR LONGER STAY AND TO BREAK THE MONOTONY OF LIVING IN THIS FACILITY

## STIMULATION



REHAB AND GERIATRIC PATIENTS CAN HANDLE THE MOST EXTERNAL STIMULI OUT OF THE INPATIENT GROUPS. THEIR ACTIVITIES WILL INCLUDE FARMING, GROUP THERAPY, AND OCCUPATIONAL THERAPY

## ILLNESSES



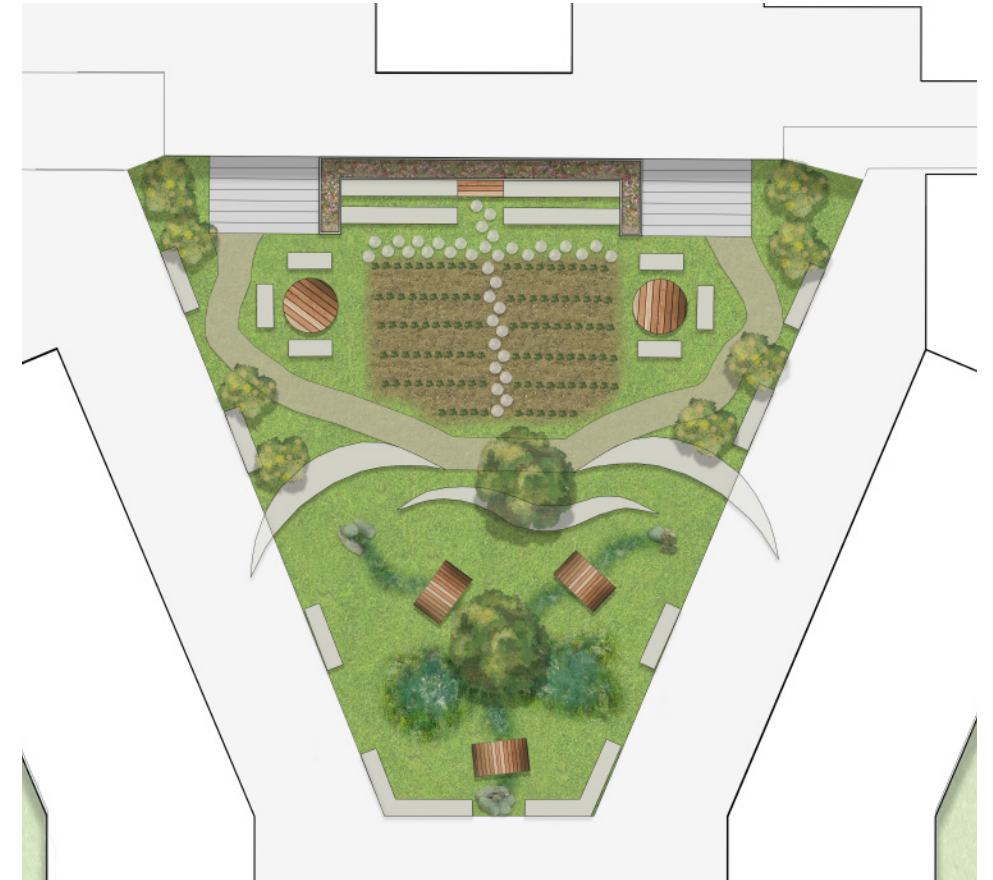
THE TREATMENT FOR PATIENTS IN THESE WARDS FOCUSES ON REINTEGRATION INTO SOCIETY. MOST OF THEIR THERAPY WILL BE CONDUCTED IN GROUPS

## STRUCTURE

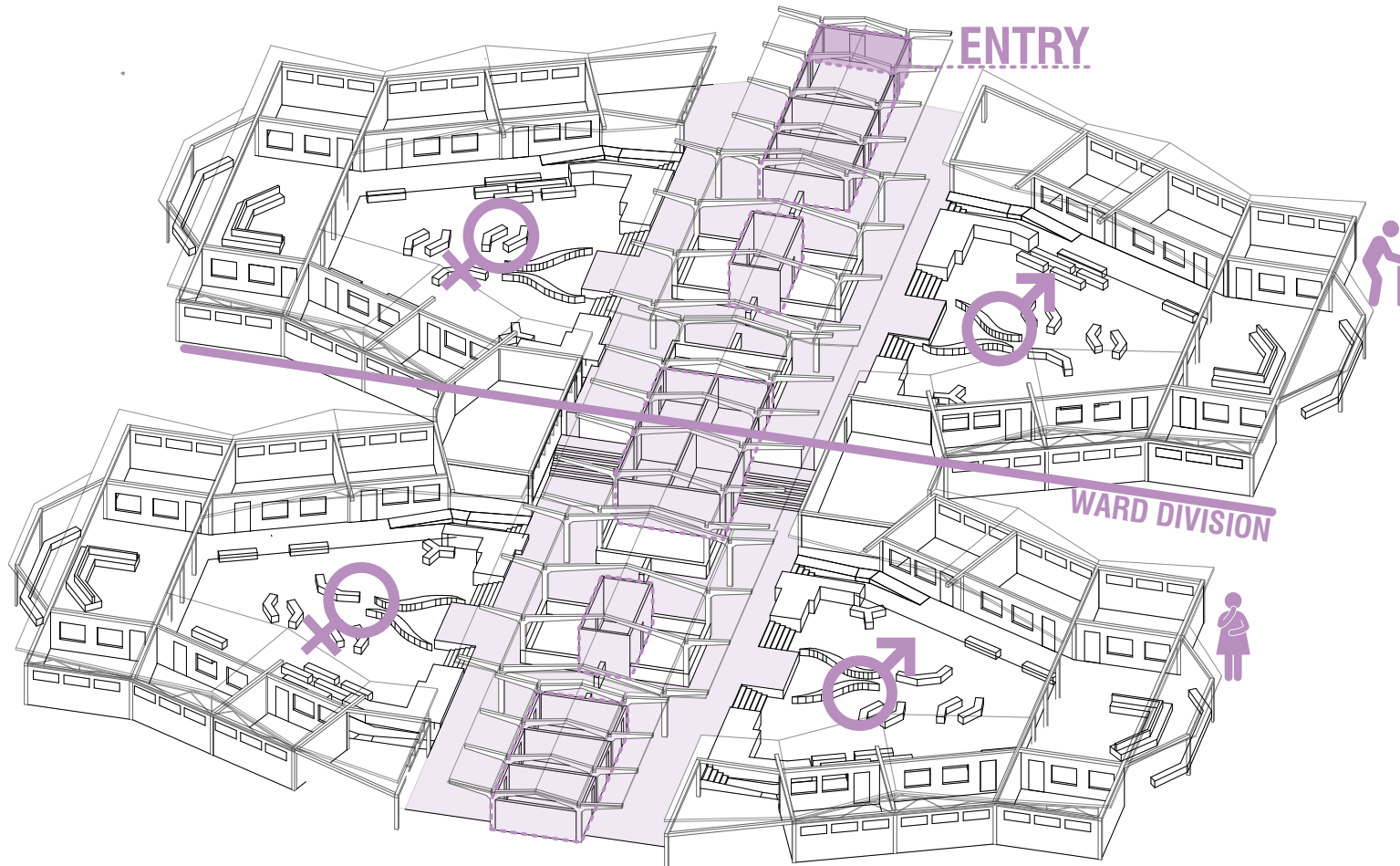
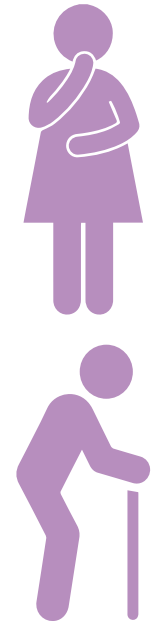


THE PATIENT POPULATIONS IN THESE WARDS HAVE THE MOST FREEDOM OUT OF THE INPATIENT GROUPS. THEY WILL STILL HAVE A DAILY SCHEDULE, AND WILL BE THE GROUP TO MOST FREQUENTLY MOVE IN AND OUT OF THE WARDS

THE PASSAGE OF TIME IS EVIDENT FOR REHAB PATIENTS WHERE THEY CAN CHOOSE TO EXPLORE DEMONSTRATION PERMACULTURE GARDENS IN THE DRY SEASON OR FUNCTIONAL RAIN GARDENS IN THE WET SEASON.

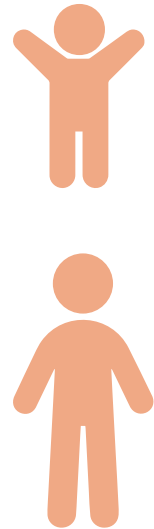


GERIATRIC PATIENTS CAN SPEND THEIR TIME OUTSIDE MEANDERING THROUGH PERENNIAL MEADOWS WITH FOUR-SEASON INTEREST OR JOINING AS A GROUP FOR HEALING DISCUSSIONS AND STORY-TELLING.



# PEDIATRIC AND ADOLESCENT

## LENGTH OF STAY



CHILDREN THAT ARE ADMITTED TO THIS WARD WILL NEED TO CONTINUE THEIR EDUCATION WHILE THEY ARE BEING TREATED.

## STIMULATION



PROVIDING SPACE FOR THESE PATIENTS TO PLAY IS AN IMPORTANT ELEMENT OF THEIR THERAPY AND GENERAL HAPPINESS IN THE WARD

## ILLNESSES

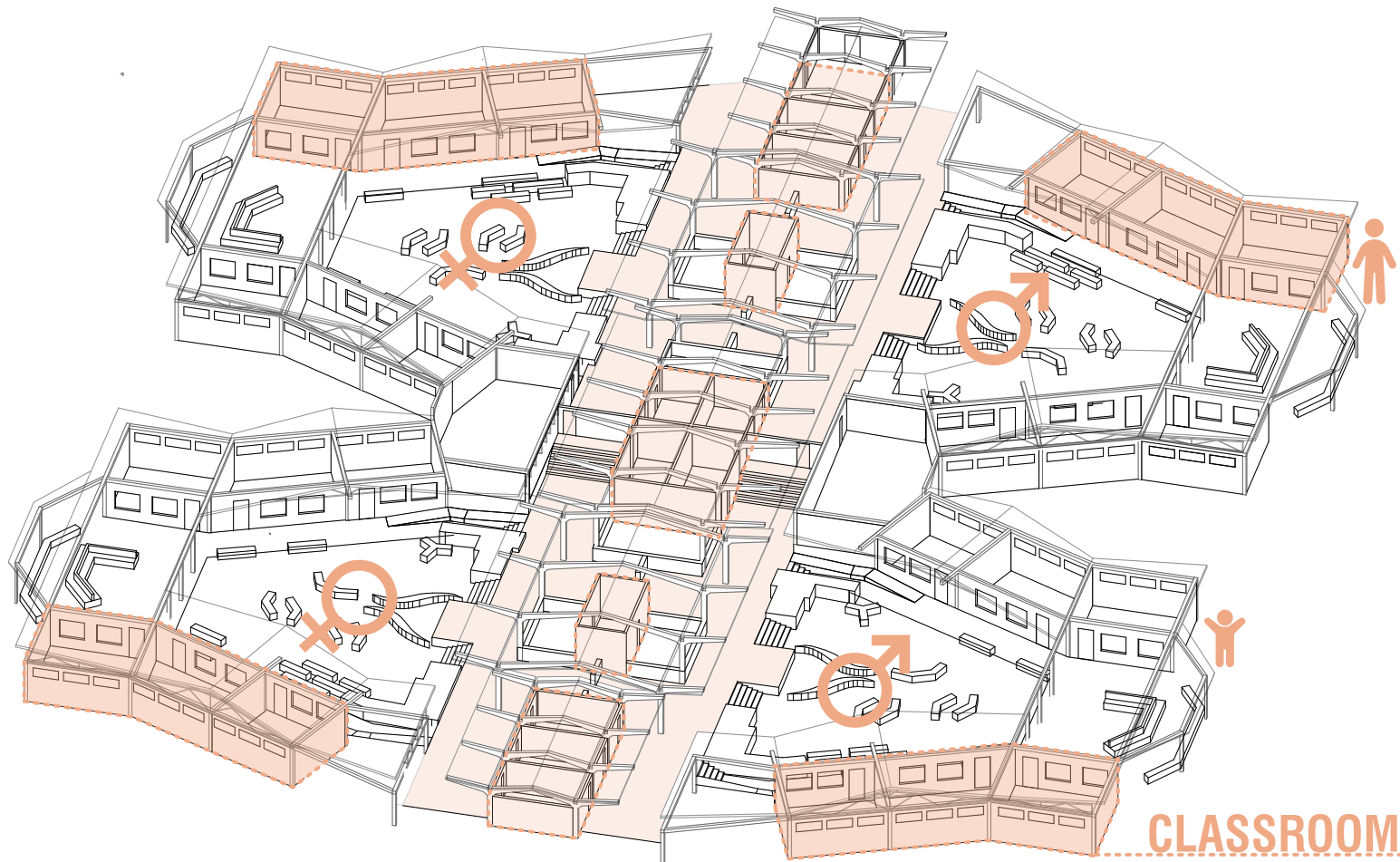


PATIENTS IN THESE WARDS ARE LIKELY TO HAVE SEVERE FORMS OF THEIR ILLNESSES. THEY WILL NEED TO BE MONITORED CLOSELY WITH A HIGHER STAFF TO PATIENT RATIO

## STRUCTURE



PEDIATRIC AND ADOLESCENT PATIENTS WILL HAVE A HIGHLY STRUCTURED SCHEDULE. THIS IS THE SMALLEST PATIENT POPULATION SO THEY WILL PARTICIPATE IN MANY SMALL GROUP ACTIVITIES



CLASSROOMS



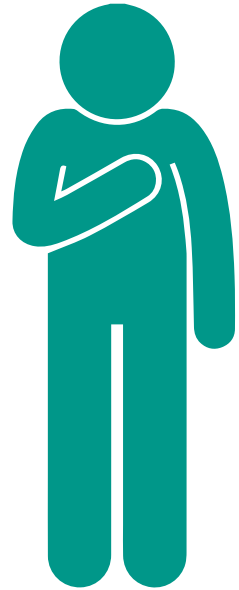
A BALANCE BETWEEN PHYSICAL ACTIVITY AND REST IS PRIORITIZED HERE TO ALLOW PEDIATRIC AND ADOLESCENT PATIENTS TO EXPEL ENERGY IN A POSITIVE WAY AND CONTINUE TO GET AN EDUCATION IN A NATURAL SETTING.

# ACUTE

## LENGTH OF STAY



THE HIGH TURNOVER OF PATIENTS IN THIS WARD MEANS FURNITURE AND OTHER HOSPITAL ELEMENTS WILL WEAR QUICKLY



## STIMULATION



PATIENTS IN THIS WARD ARE THE MOST SENSITIVE ON THE CAMPUS. THEY REQUIRE A LOT OF TIME ALONE WITH LITTLE EXTERNAL STIMULATION. MOST OF THEIR STAY WILL BE SPENT INSIDE THE WARD

## ILLNESSES

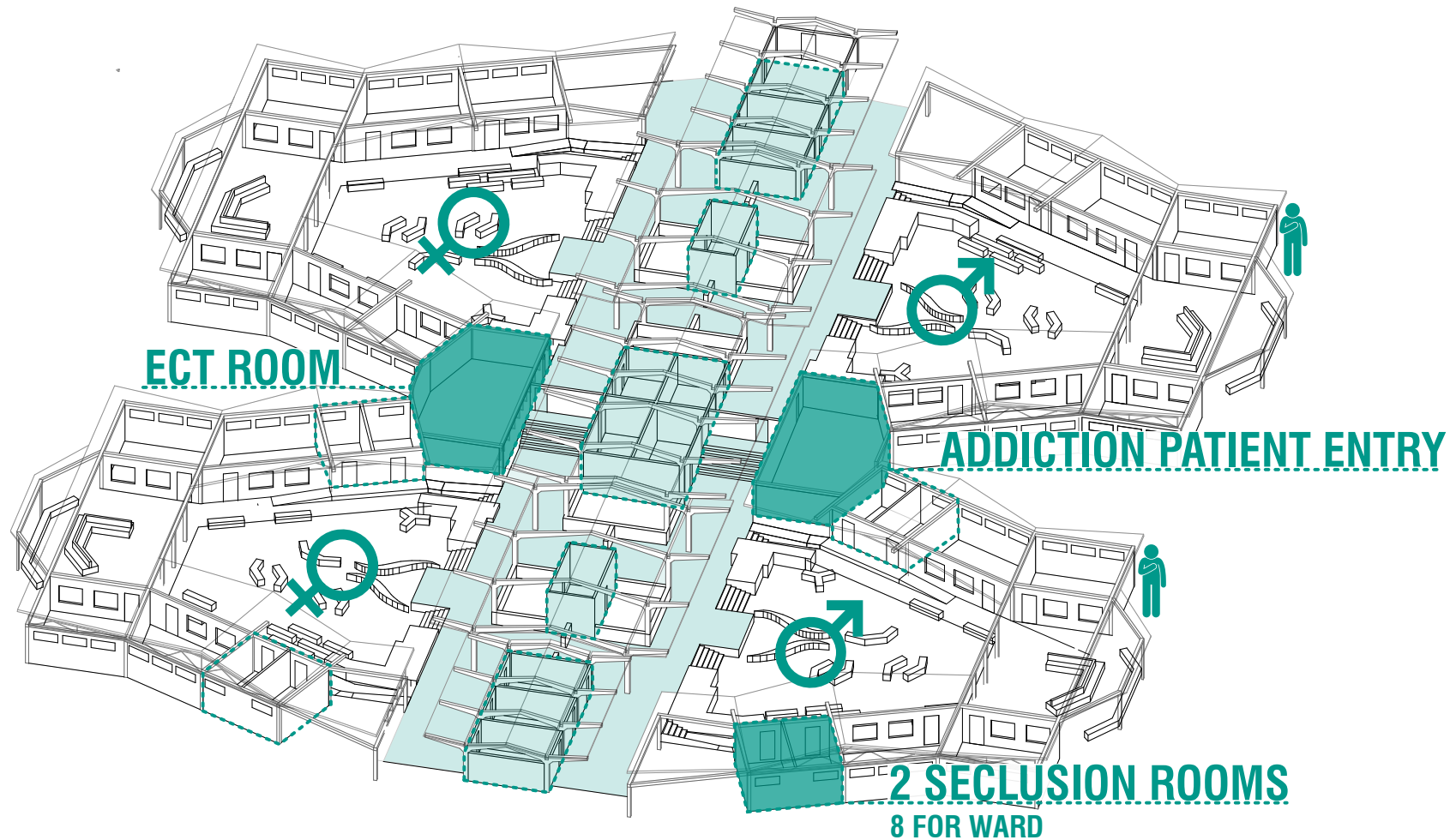


ACUTE PATIENTS CAN POSE THE GREATEST THREAT TO THEMSELVES OR OTHERS. FOR THIS REASON, SECLUSION ROOMS ARE ADDED TO THE WARD WHERE PATIENTS CAN BE KEPT SAFE

## STRUCTURE

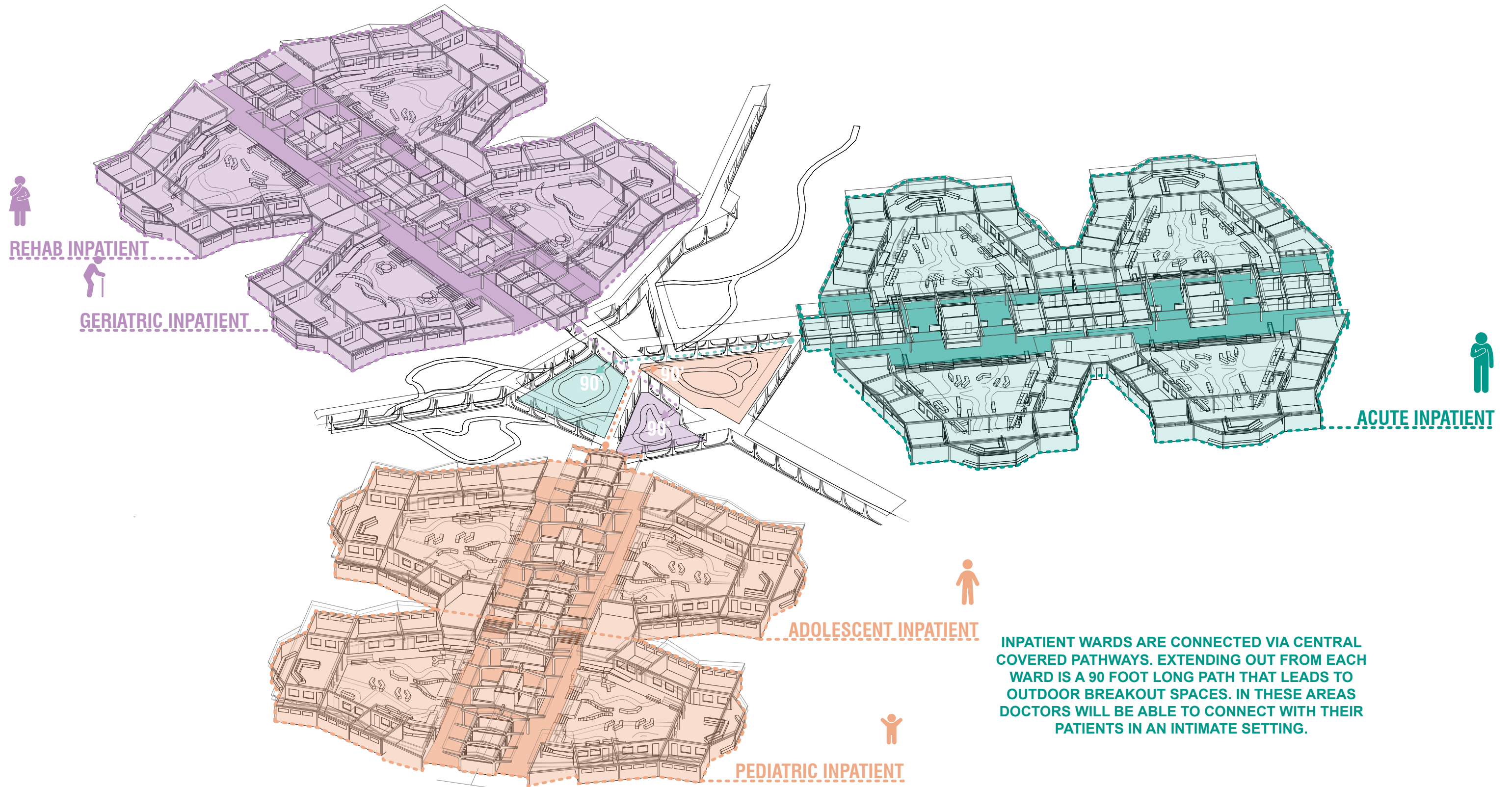


THE SIZE AND ILLNESSES FOUND IN THIS WARD REQUIRE A STRUCTURED ENVIRONMENT. PATIENTS WILL NOT FREQUENTLY LEAVE THE WARD DURING THEIR TREATMENT



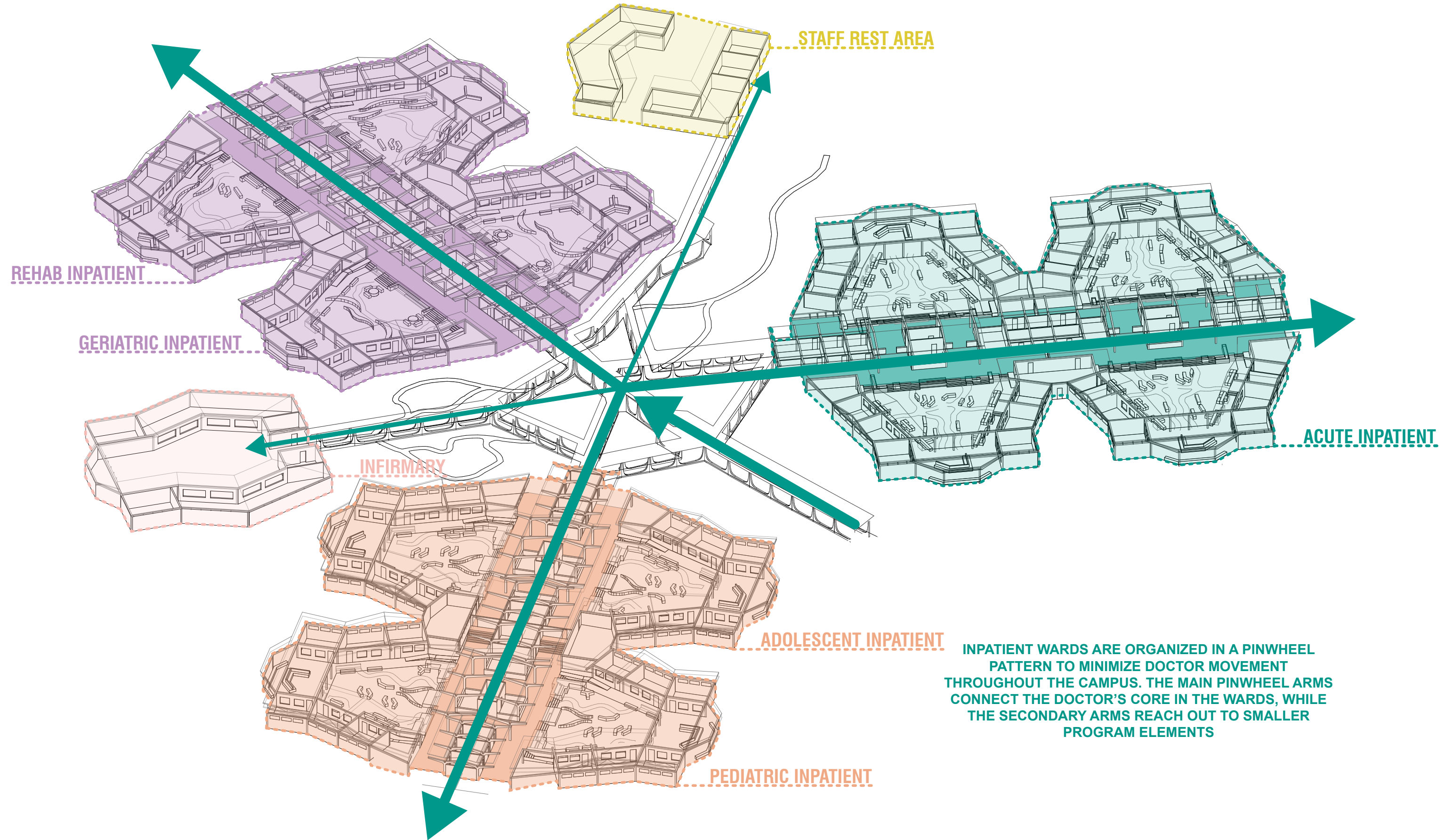
SMALL-SCALE SPACES ARE CAREFULLY DEVELOPED IN A WAY THAT DO NOT DISRUPT SIGHTLINES FROM THE NURSE'S STATION. PATIENTS CAN CHOOSE TO REFLECT IN AN ISOLATED SETTING OR JOIN SMALL GROUP SPACES WHEN THEY FEEL READY TO.

# INPATIENT ORGANIZATION



INPATIENT WARDS ARE CONNECTED VIA CENTRAL COVERED PATHWAYS. EXTENDING OUT FROM EACH WARD IS A 90 FOOT LONG PATH THAT LEADS TO OUTDOOR BREAKOUT SPACES. IN THESE AREAS DOCTORS WILL BE ABLE TO CONNECT WITH THEIR PATIENTS IN AN INTIMATE SETTING.

# INPATIENT ORGANIZATION



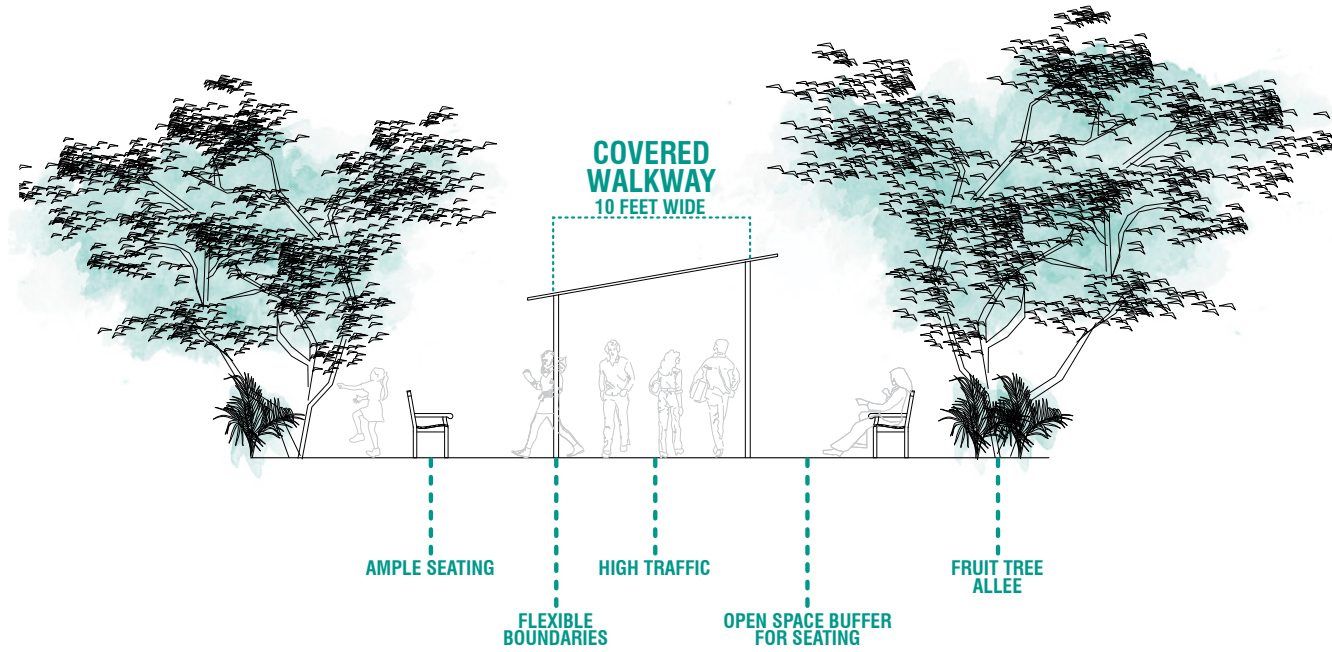
INPATIENT WARDS ARE ORGANIZED IN A PINWHEEL PATTERN TO MINIMIZE DOCTOR MOVEMENT THROUGHOUT THE CAMPUS. THE MAIN PINWHEEL ARMS CONNECT THE DOCTOR'S CORE IN THE WARDS, WHILE THE SECONDARY ARMS REACH OUT TO SMALLER PROGRAM ELEMENTS

# CENTER CIRCULATION

CIRCULATION IN THIS AREA OCCURS AT FOUR LEVELS TO ACCOUNT FOR VARIOUS USER AND STAFF NEEDS. THE FIRST TWO LEVELS OF COVERED WALKWAY ALLOW FOR EFFICIENT MOVEMENT AT DIFFERENT WIDTHS TO ACCOMMODATE THE AMOUNT OF TRAFFIC AND SENSORY STIMULATION ON THE WAY TO THEIR RESPECTIVE WARDS.

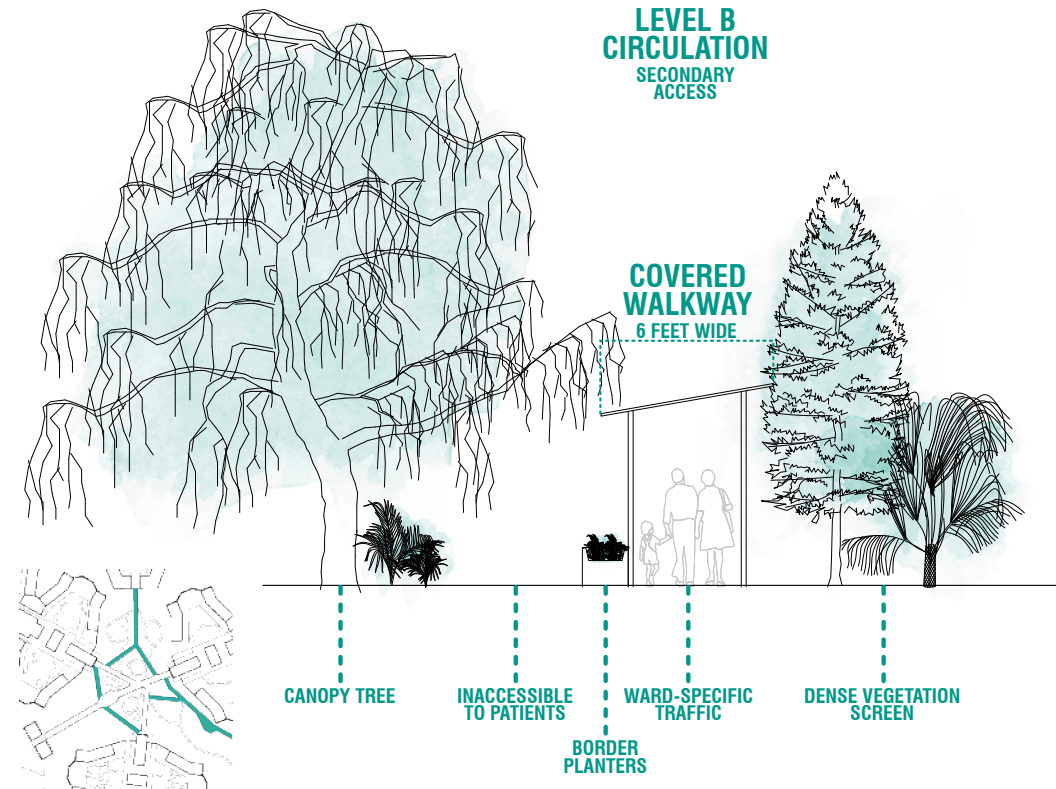
## LEVEL A CIRCULATION PRIMARY MOVEMENT

### COVERED WALKWAY 10 FEET WIDE



## LEVEL B CIRCULATION SECONDARY ACCESS

### COVERED WALKWAY 6 FEET WIDE

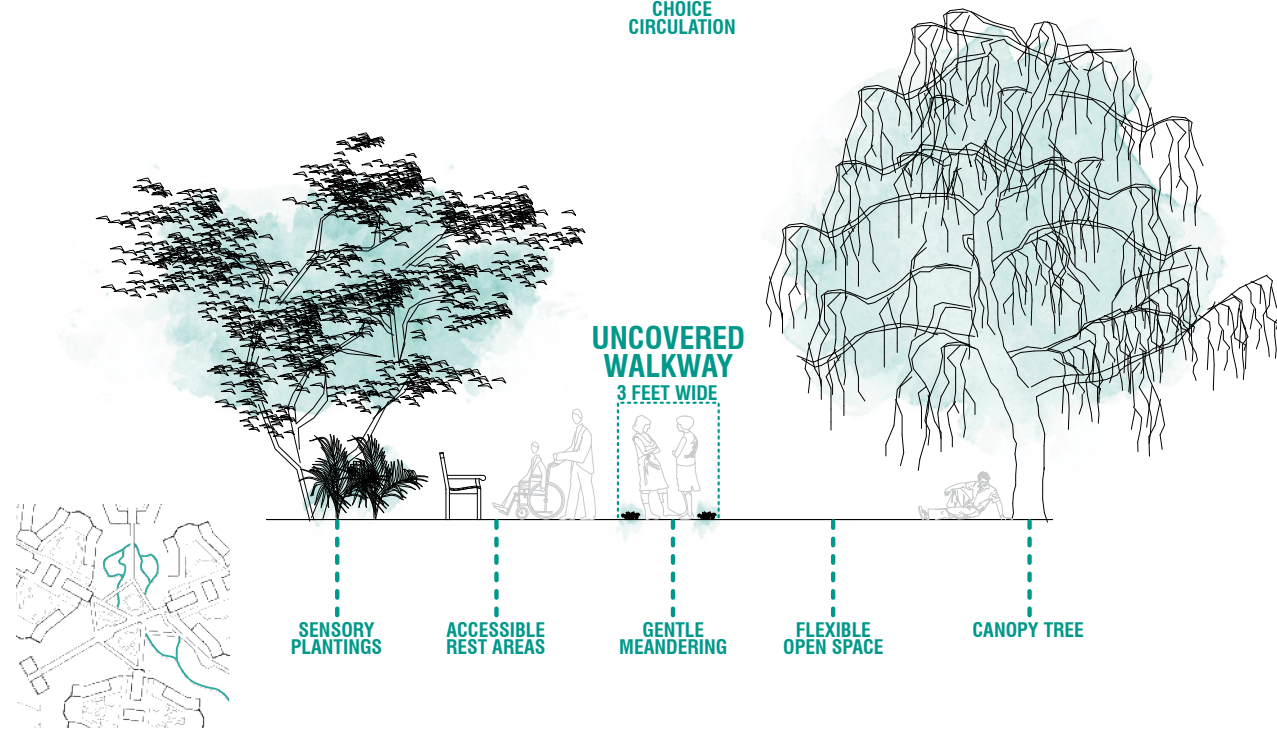


# CENTER CIRCULATION

THE REMAINING TWO UNCOVERED WALKWAYS PROVIDE A MORE INTIMATE SCALE OF CIRCULATION FOR SMALL GROUPS AND INDIVIDUALS. THE FIRST, MORE PUBLIC PATH ALLOWS PATIENTS TO CHOOSE A LONGER, MEANDERING PATH TO THEIR DESTINATION WHILE THE SECOND INTRODUCES PATIENTS TO A NEW SETTING IN A QUIET, CONTROLLED ATMOSPHERE.

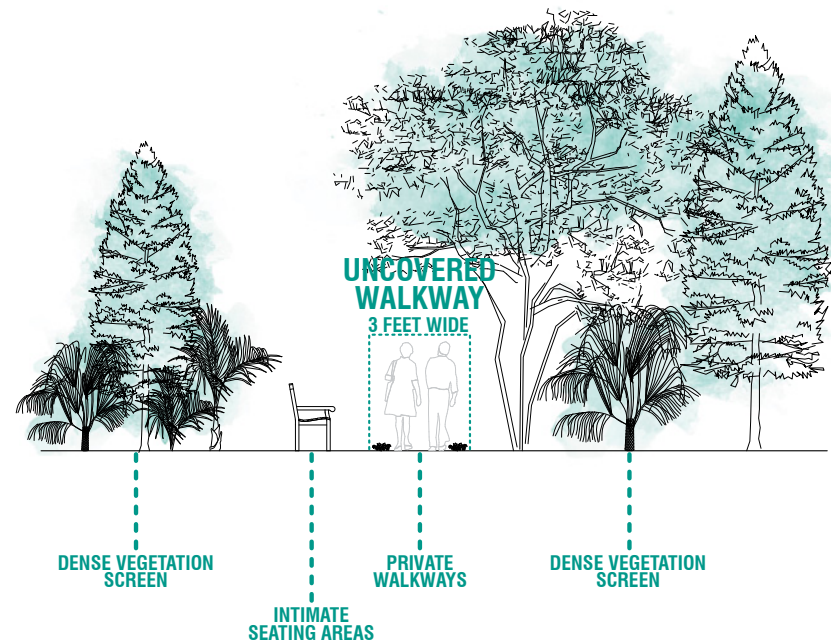
## LEVEL C CIRCULATION CHOICE CIRCULATION

### UNCOVERED WALKWAY 3 FEET WIDE

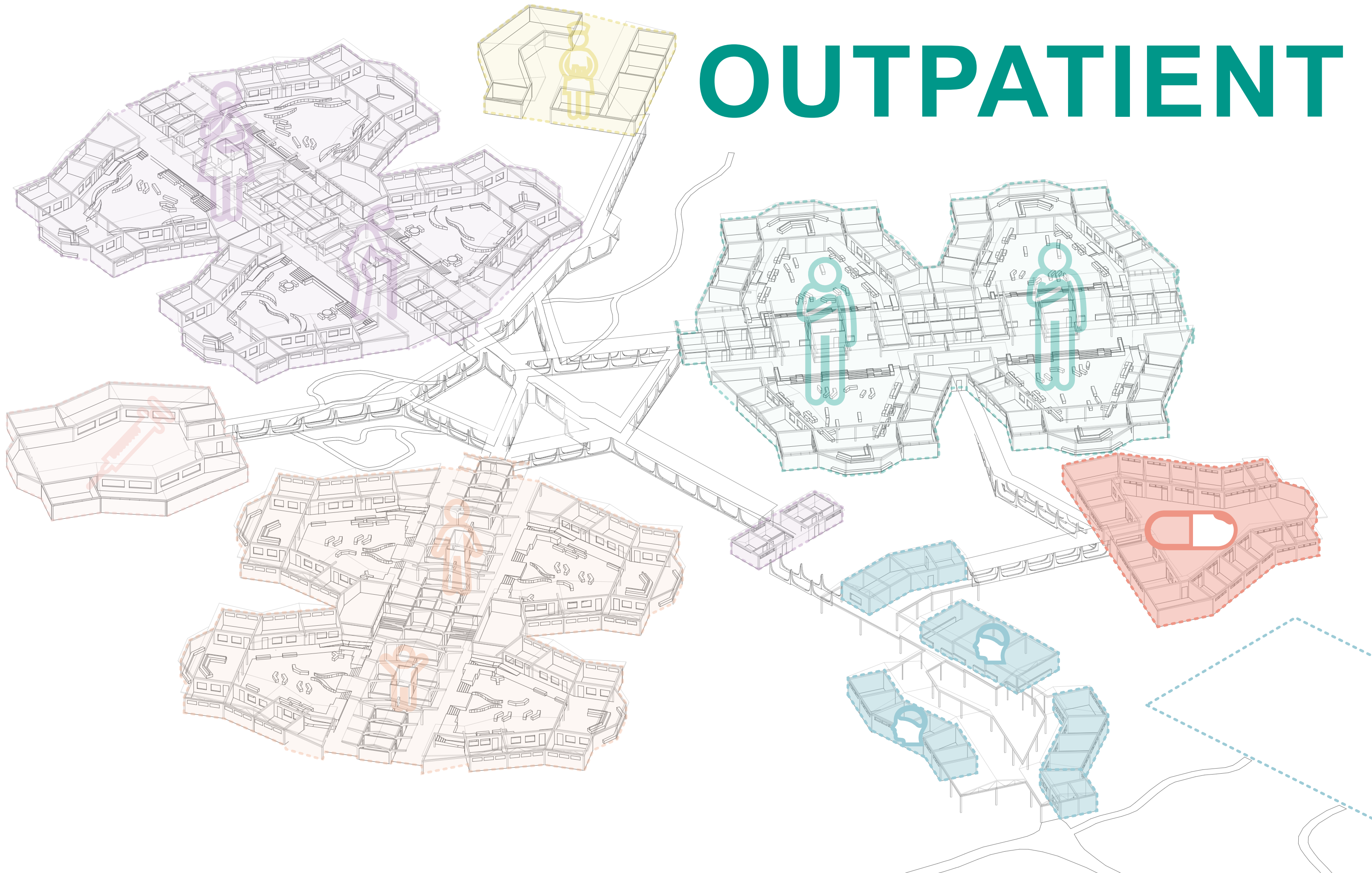


## LEVEL D CIRCULATION HEALING PATHS

### UNCOVERED WALKWAY 3 FEET WIDE



# OUTPATIENT





# OUTPATIENT SERVICES



## LENGTH OF STAY



PATIENTS THAT COME TO THE OUTPATIENT CENTER ONLY STAY FOR THE DAY. LINES FOR THE DISPENSARY OR THE WAIT FOR THEIR COUNSELING SESSION CAN BE LONG

## STIMULATION



WHILE THEY WAIT, PATIENTS CAN SIT IN THE COVERED WAITING AREA, ATTEND ANY MENTAL HEALTH CLASSES THAT ARE RUNNING, OR PLAY A GAME OF SOCCER ON THE FIELD

## ILLNESSES

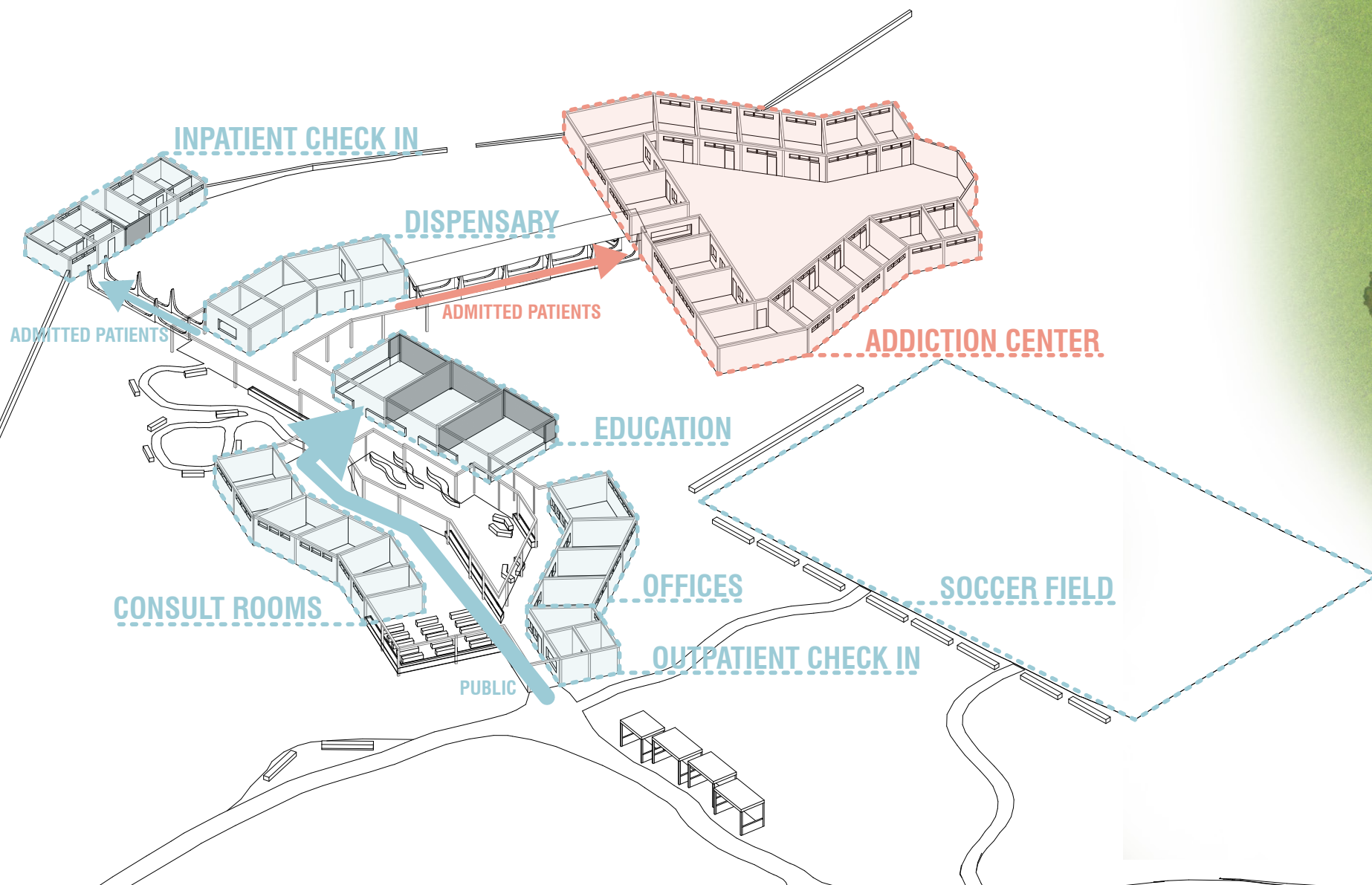


PATIENTS VISITING THIS WARD DO NOT LIVE AT THE HOSPITAL. THEIR ILLNESS IS ABLE TO BE MANAGED WITH REGULAR COUNSELING SESSIONS AND MEDICATION

## STRUCTURE

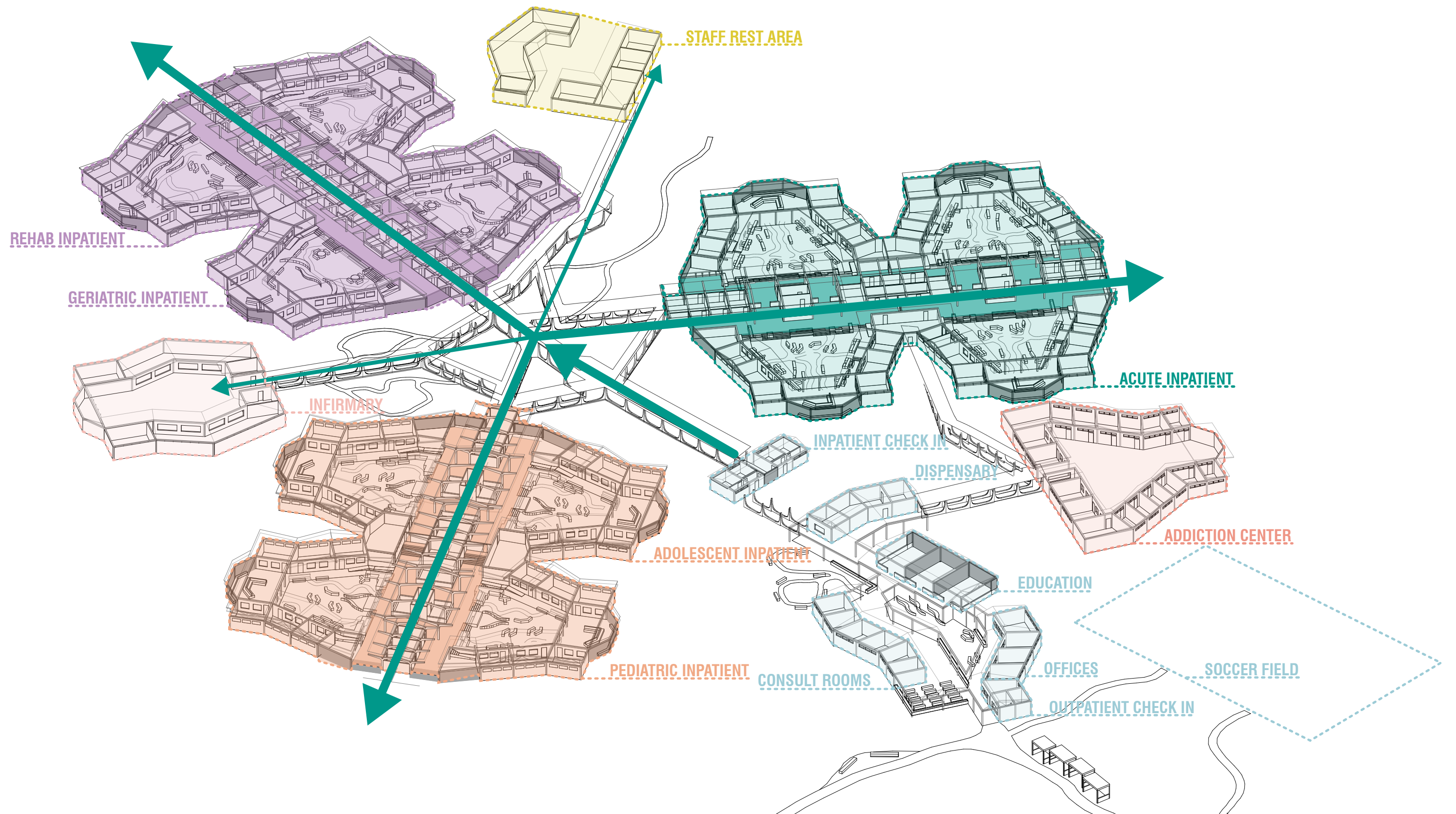


THERE IS LITTLE STRUCTURE TO THE OUTPATIENT WARD. THESE PATIENTS ARE HIGHLY ACCLIMATED TO THEIR ENVIRONMENT AND DO NOT NEED A DAILY SCHEDULE



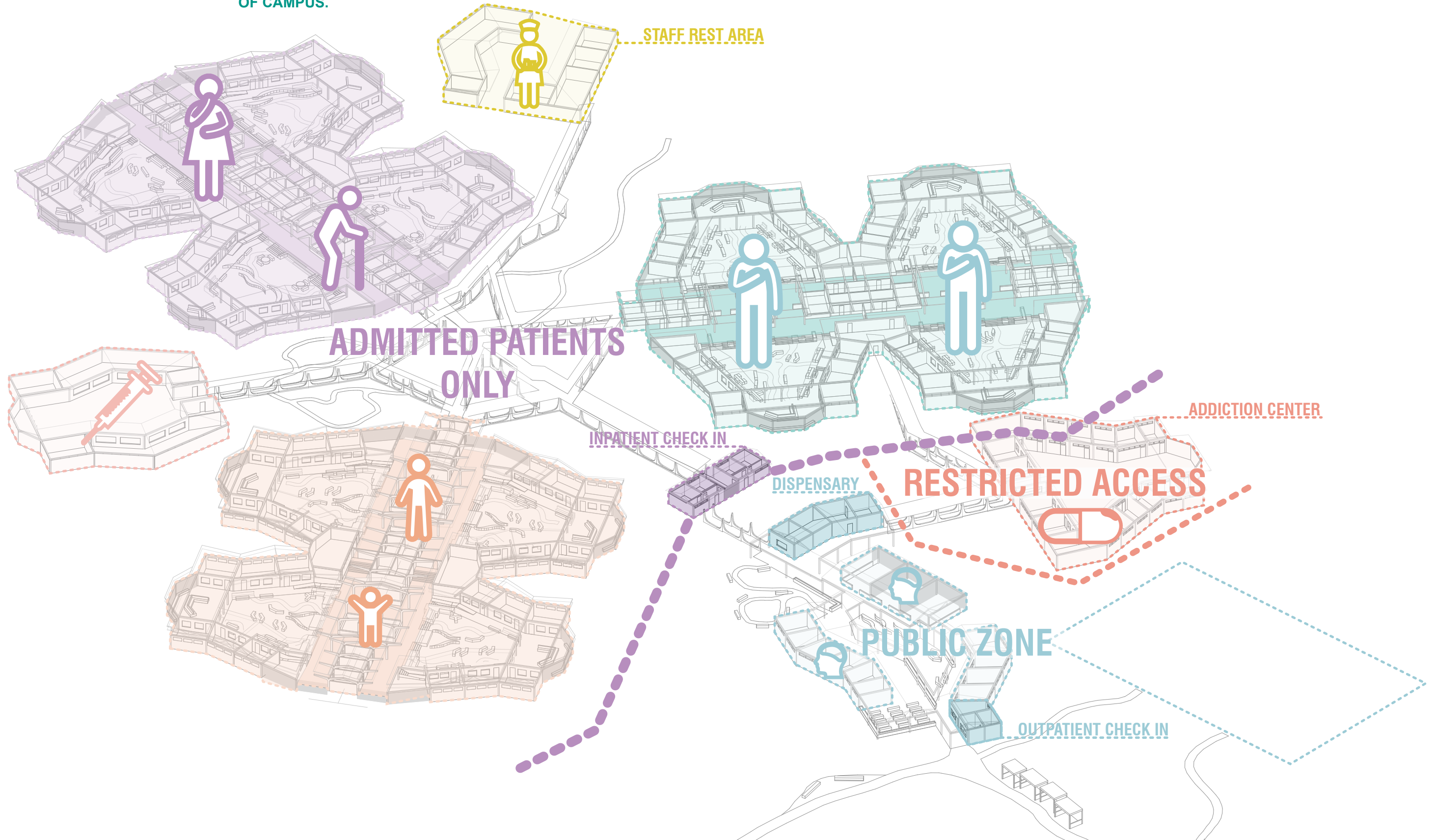


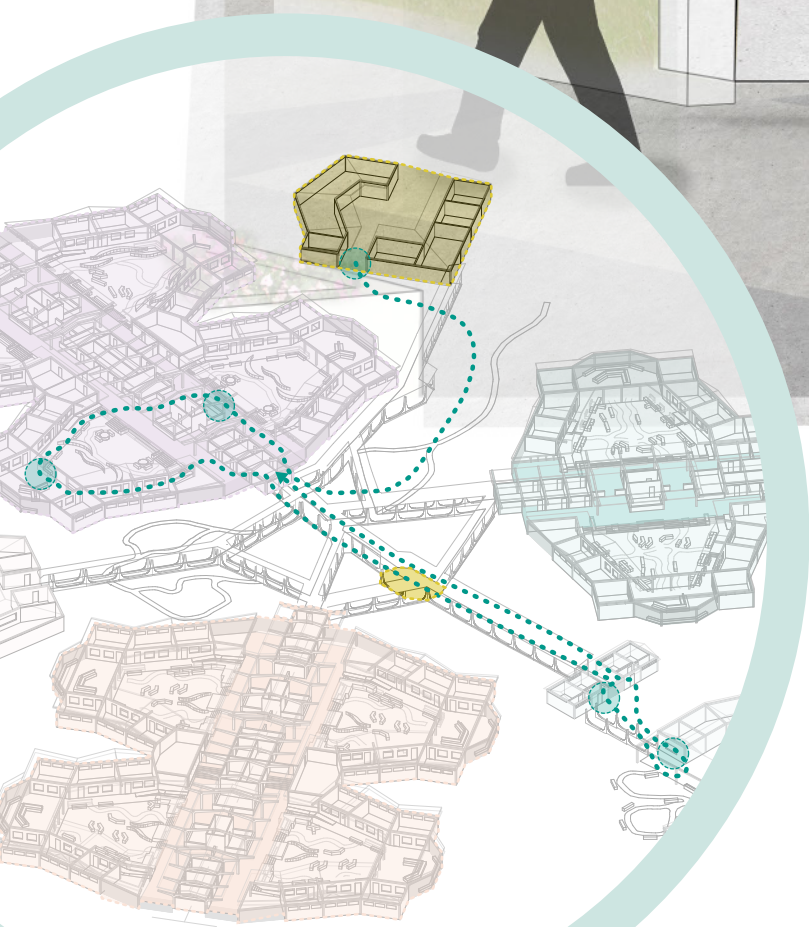
# OUTPATIENT ORGANIZATION



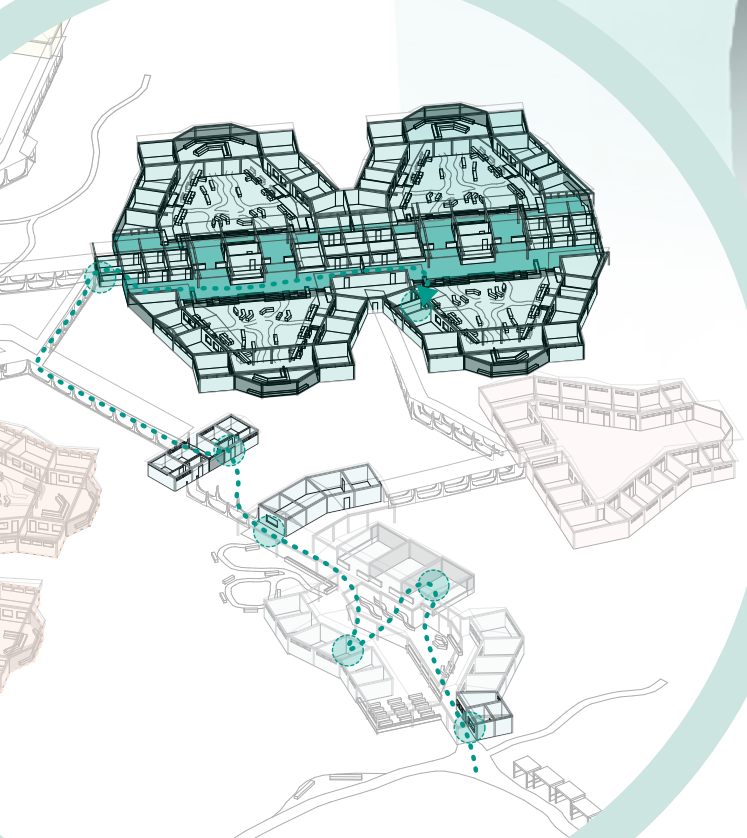
# CAMPUS SECURITY

THIS CAMPUS DEALS WITH MANY HIGHLY SENSITIVE PATIENTS. IN ORDER TO ENSURE THAT THESE PATIENTS AND THE PUBLIC ARE KEPT SAFE MOVEMENT THROUGHOUT THE CAMPUS IS HIGHLY CONTROLLED. SEPARATING THE HIGHLY PUBLIC OUTPATIENT AREA AND THE PRIVATE INPATIENT WARDS IS THE INPATIENT CHECK IN. THIS IS THE ONLY WAY ANYONE CAN MOVE IN OR OUT OF THE CENTER OF CAMPUS.













## Endnotes

1 The Government of Malawi. (n.d.). National Mental Health Policy(Malawi)

2 Chitete, S. (2017, October 15). Funding woes hit KCH hard. Retrieved from <https://mwnation.com/funding-woes-hit-kch-hard/>

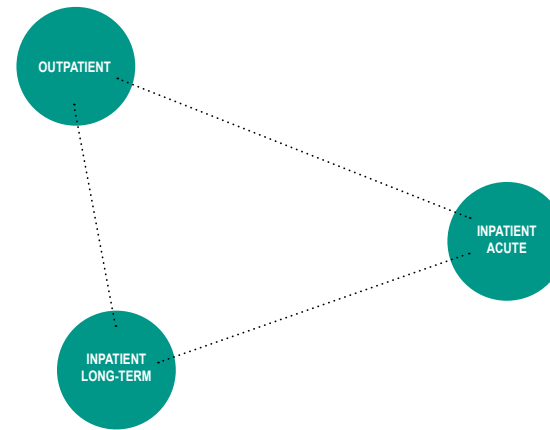
3 Stewart, G. (2019, February 6). Dr. Stewart Interview [Telephone interview].

4 Stewart, G. (2019, February 6). Dr. Stewart Interview [Telephone interview].

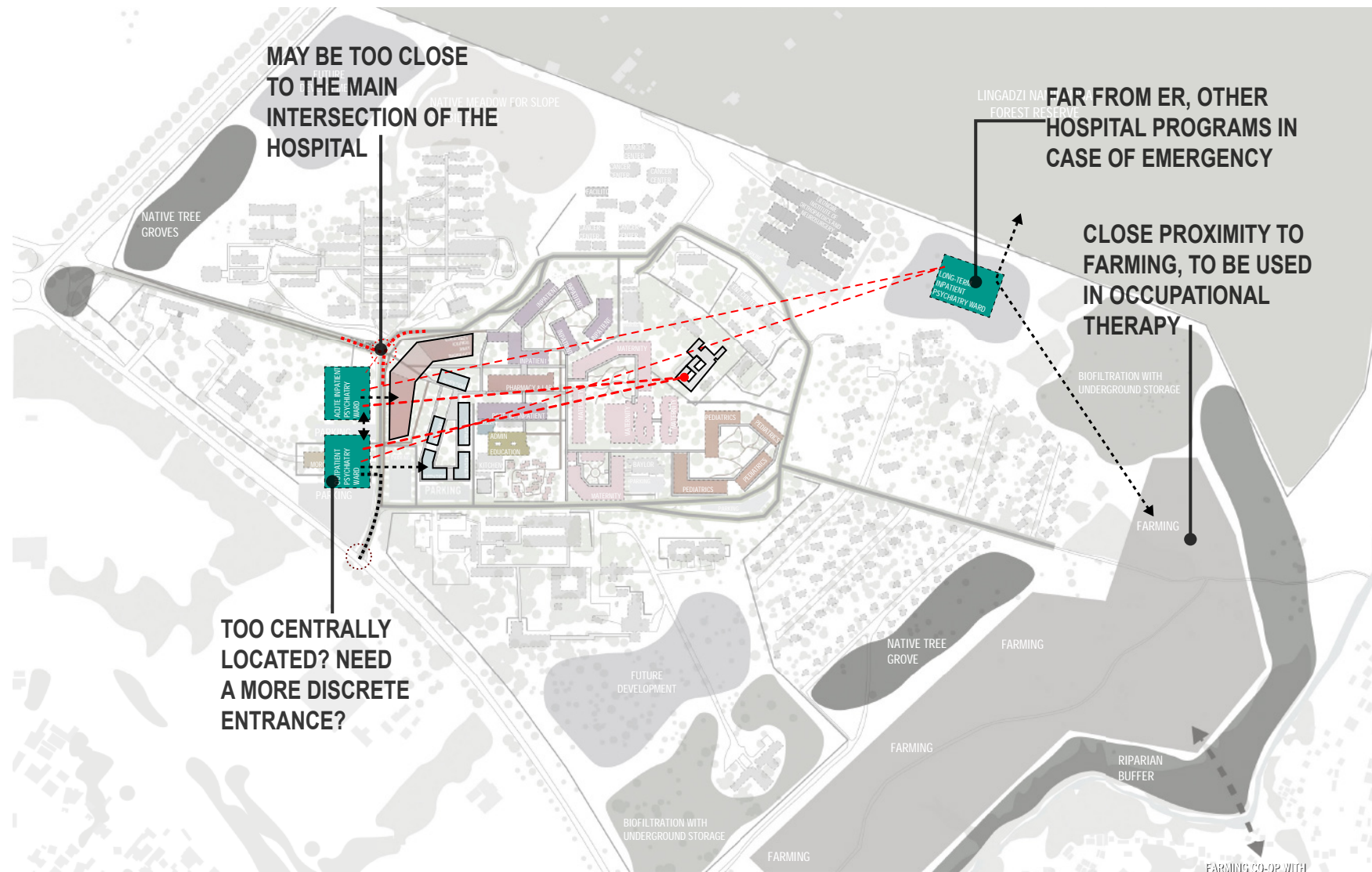
5 Almony, J. (2019, February 1). Dr. Almony Interview [Telephone interview]

# DECENTRALIZED SCHEMES

Decentralized schemes break up the Psychiatric Hospital program, allowing pieces of program that have critical adjacencies to existing hospital program or to each other to be clustered together on different parts of campus. These schemes also allow patients with severe mental illnesses to be located in a more private area of the campus

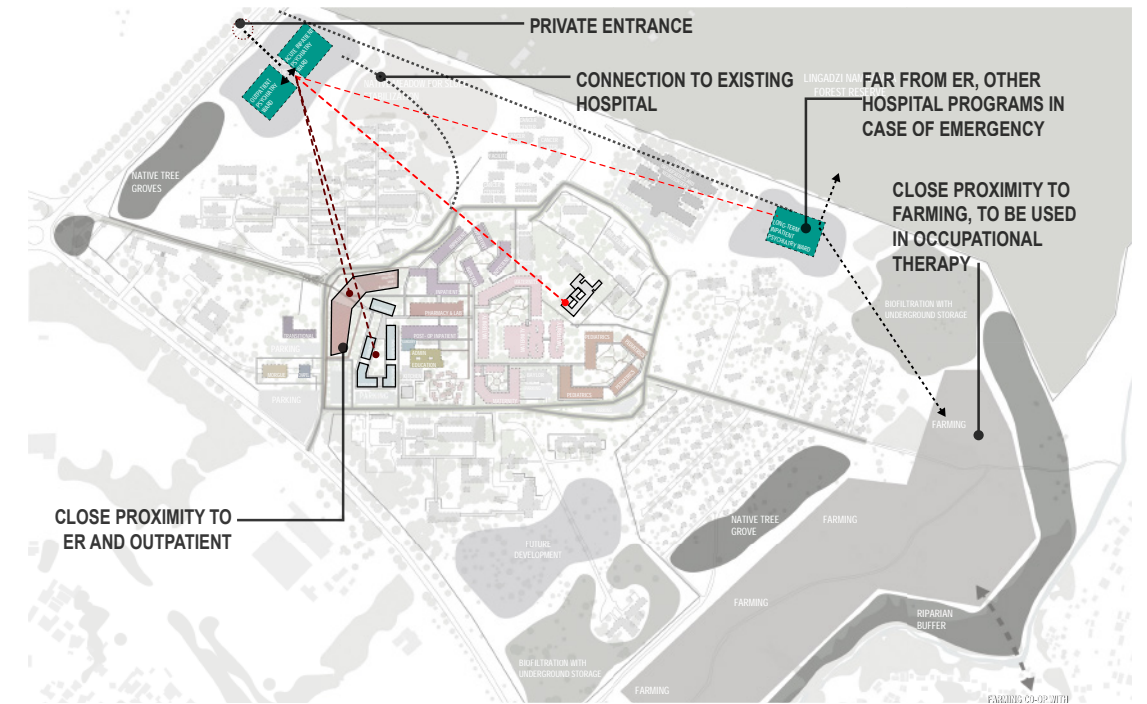


## DECENTRALIZED SCHEME\_01



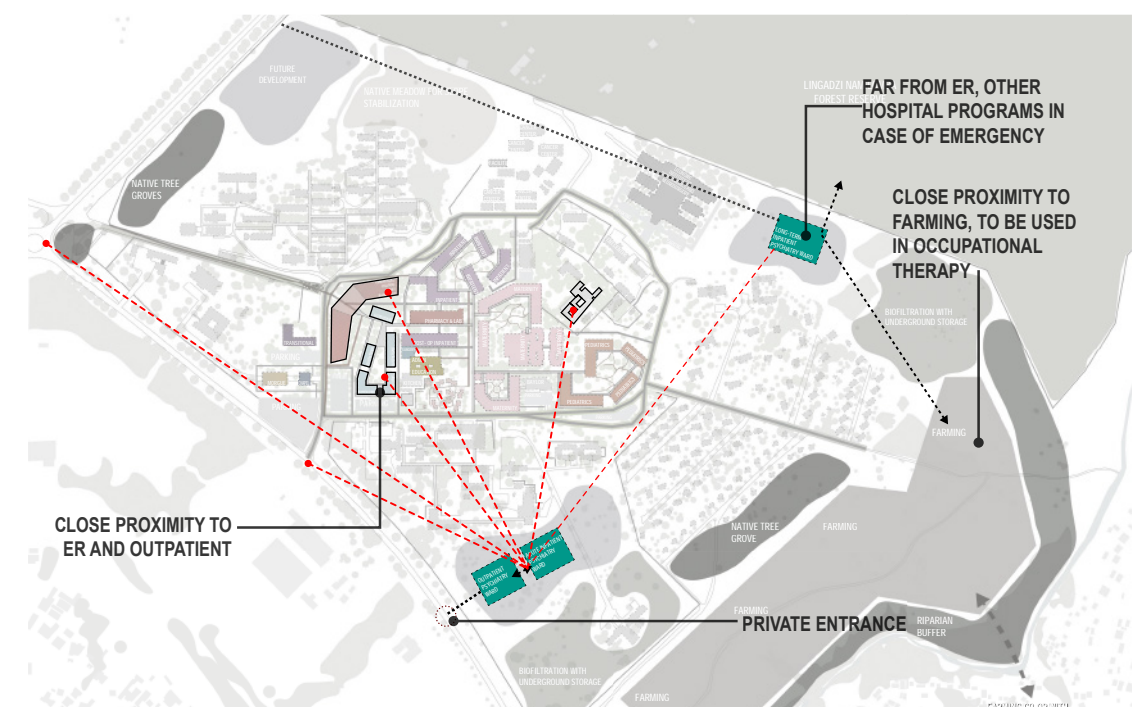
The acute ward and outpatient clinic are located directly adjacent to the ER and current outpatient clinics to optimize programmatic connections for the patients. Connecting the outpatient clinics encourages an Integrated Medical Model approach to care. The long-term care inpatient ward is located in the northeast of the site to provide a calm place away from the congestion of the hospital.

## DECENTRALIZED\_02



By placing the outpatient clinic and acute inpatient ward in the North corner of the site provides a discrete entrance into the hospital for patients while also being located close to the necessary hospital programs such as outpatient and emergency room. The long-term care inpatient ward is located in the northeast of the site to provide a calm place away from the congestion of the hospital.

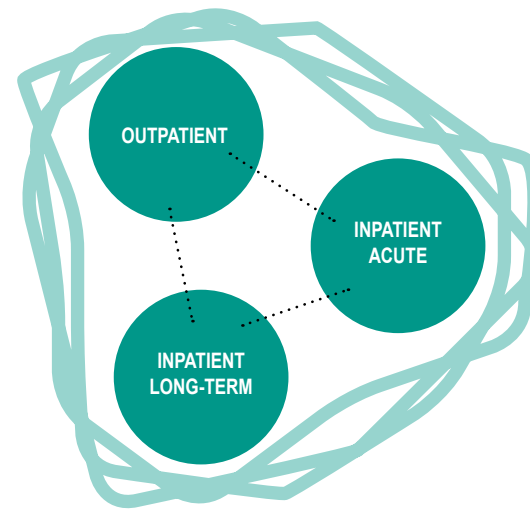
## DECENTRALIZED\_03



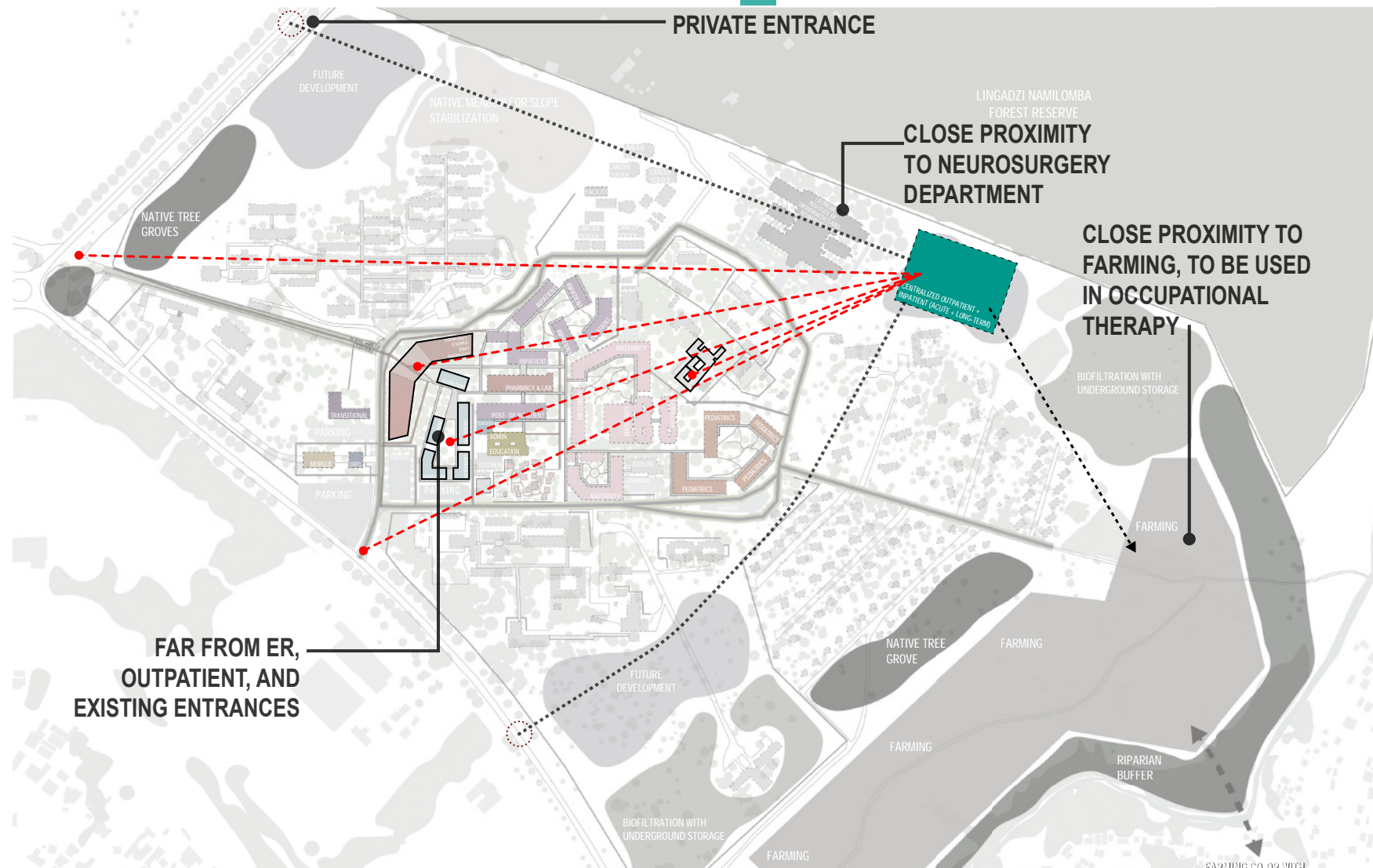
Locating the outpatient clinic and acute ward south of the nursing hospital provides a direct connection to the nursing students who one day might be the primary mental health professionals. The long-term care inpatient ward is located in the northeast of the site to provide a calm place away from the congestion of the hospital.

# CENTRALIZED SCHEMES

Centralized schemes keep all elements of the Psychiatric hospital program in one area. This allows hospital resources to be shared with all wards, easing the strain on staff. These schemes can make it difficult for patients to access existing hospital resources.

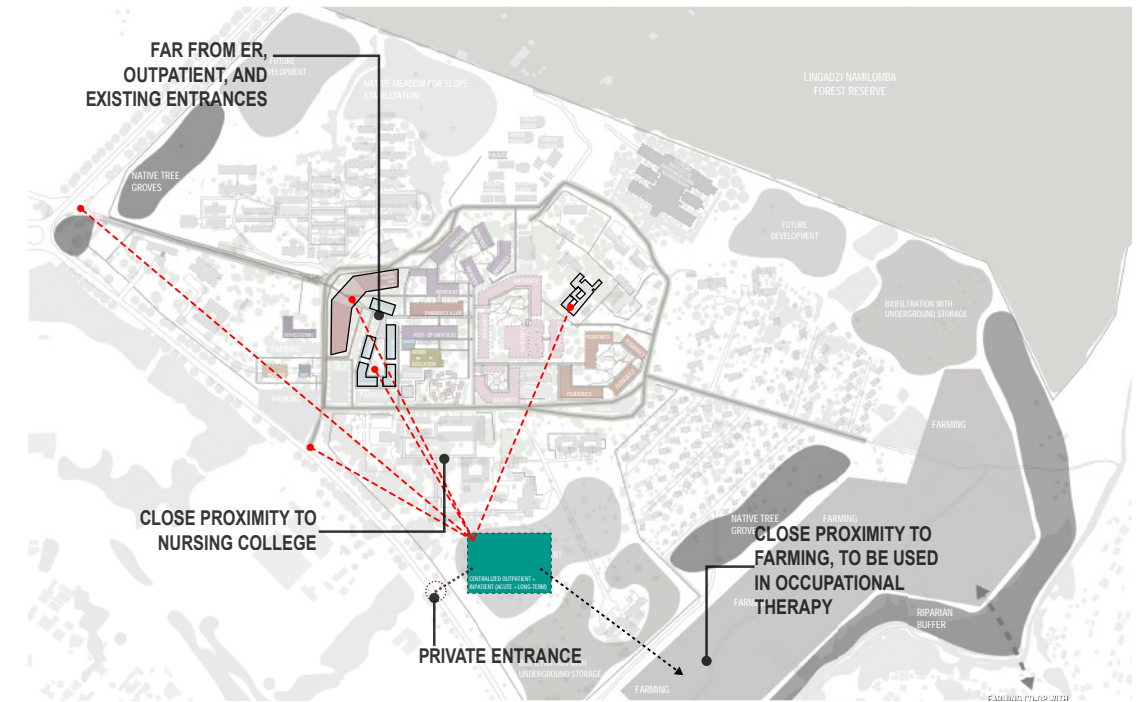


## CENTRALIZED SCHEME\_01



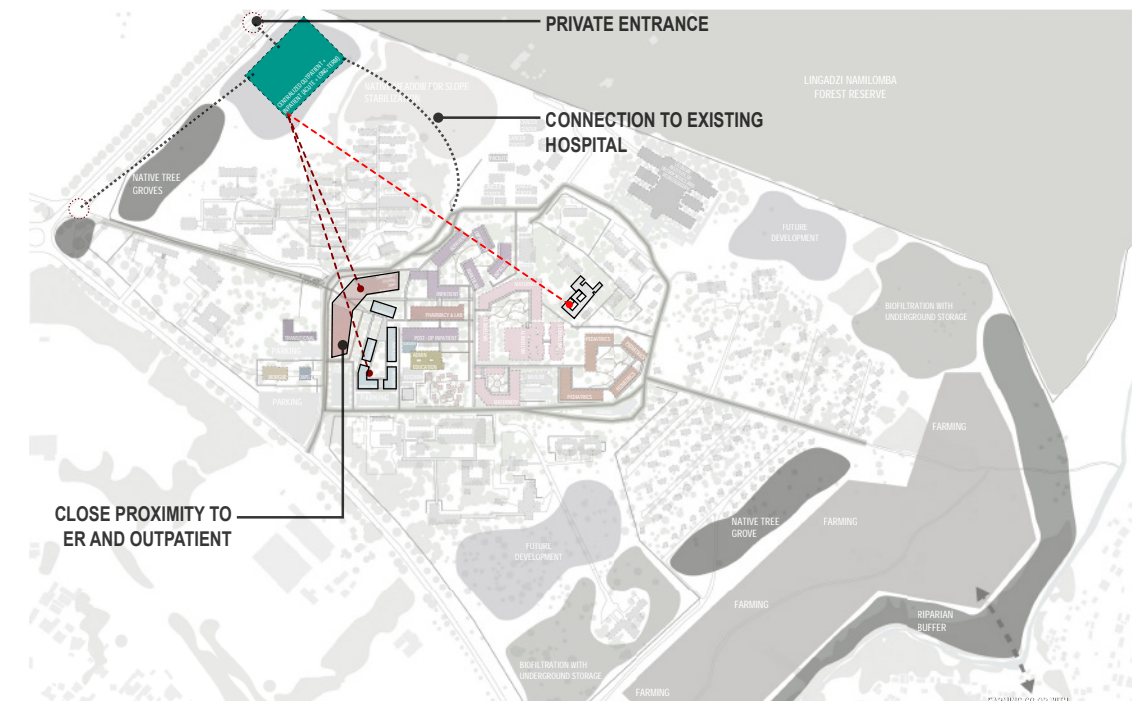
Locating the psychiatric hospital adjacent to the new neuro ward can increase the communication between mental health professionals and neurologists regarding the treatment of epilepsy. Over 2/3 of children admitted to a psychiatric hospital in sub-Saharan Africa are admitted for epilepsy despite neurologists typically providing treatment.

## CENTRALIZED\_02

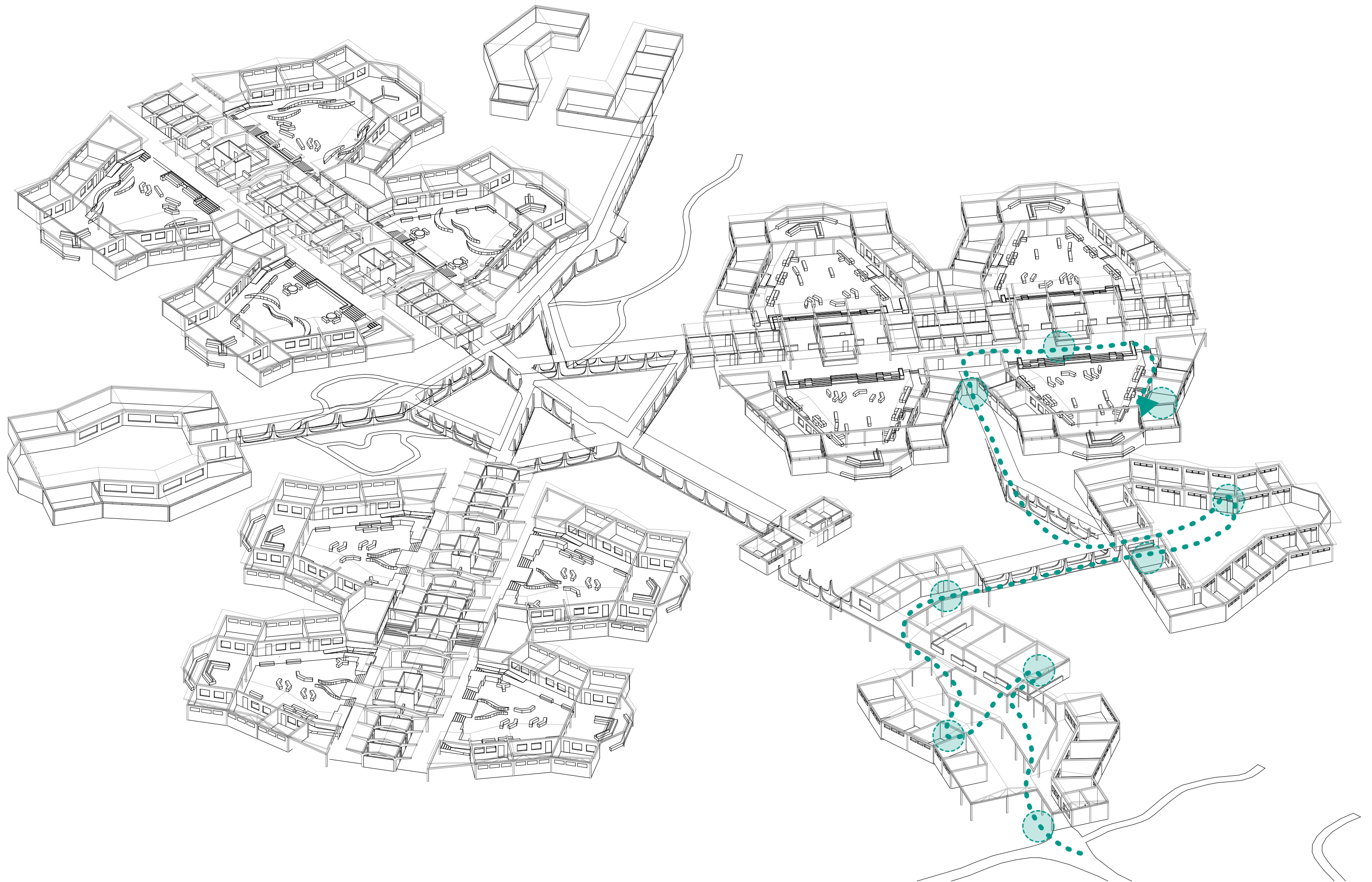


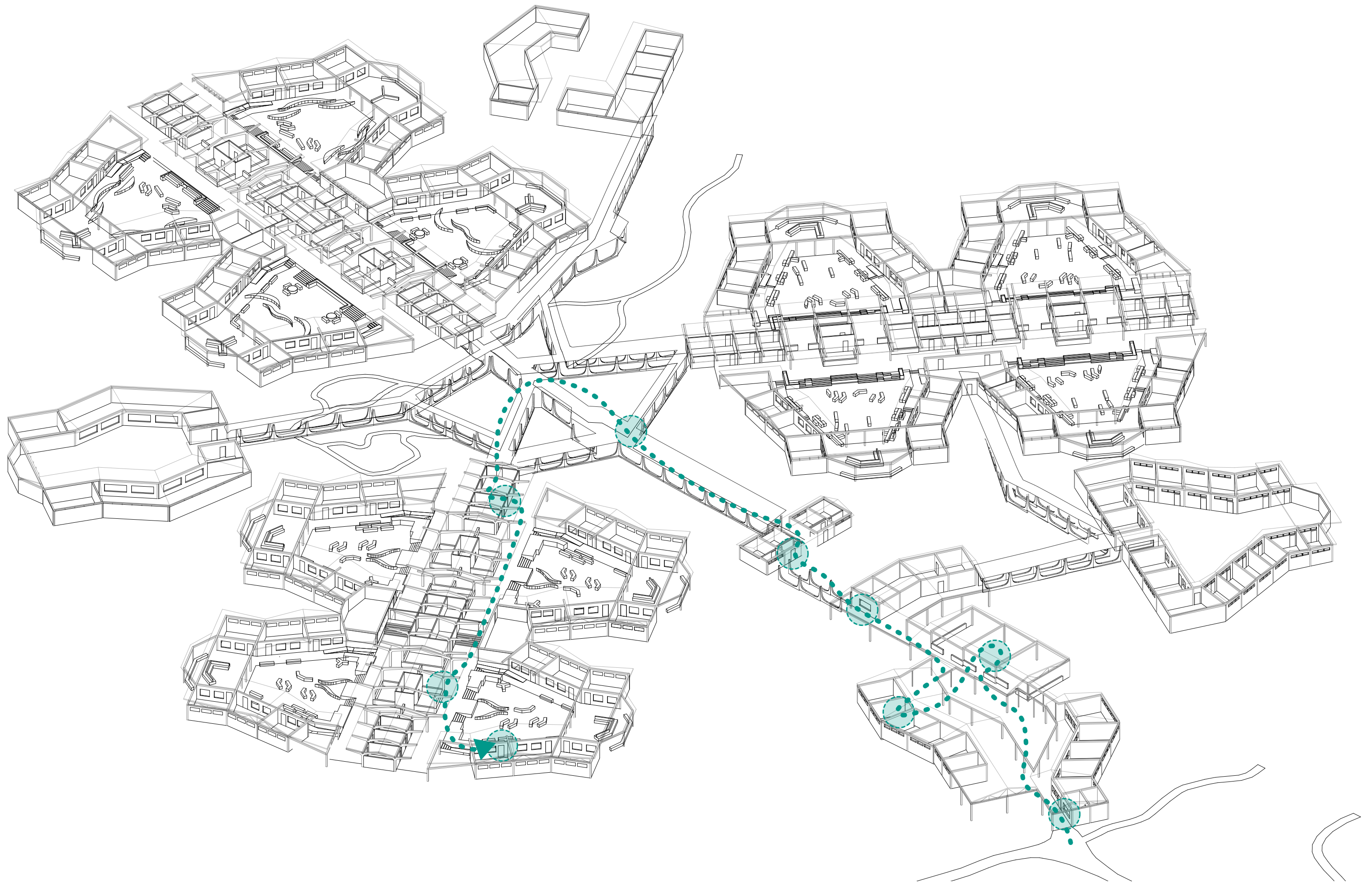
Locating the psychiatric hospital south of the nursing hospital provides a direct connection to the nursing students who one day might be the primary mental health professionals at the psychiatric hospital as psychiatric nurses are more prevalent than psychiatrists. The location does not provide close proximity to the ER and outpatient wards.

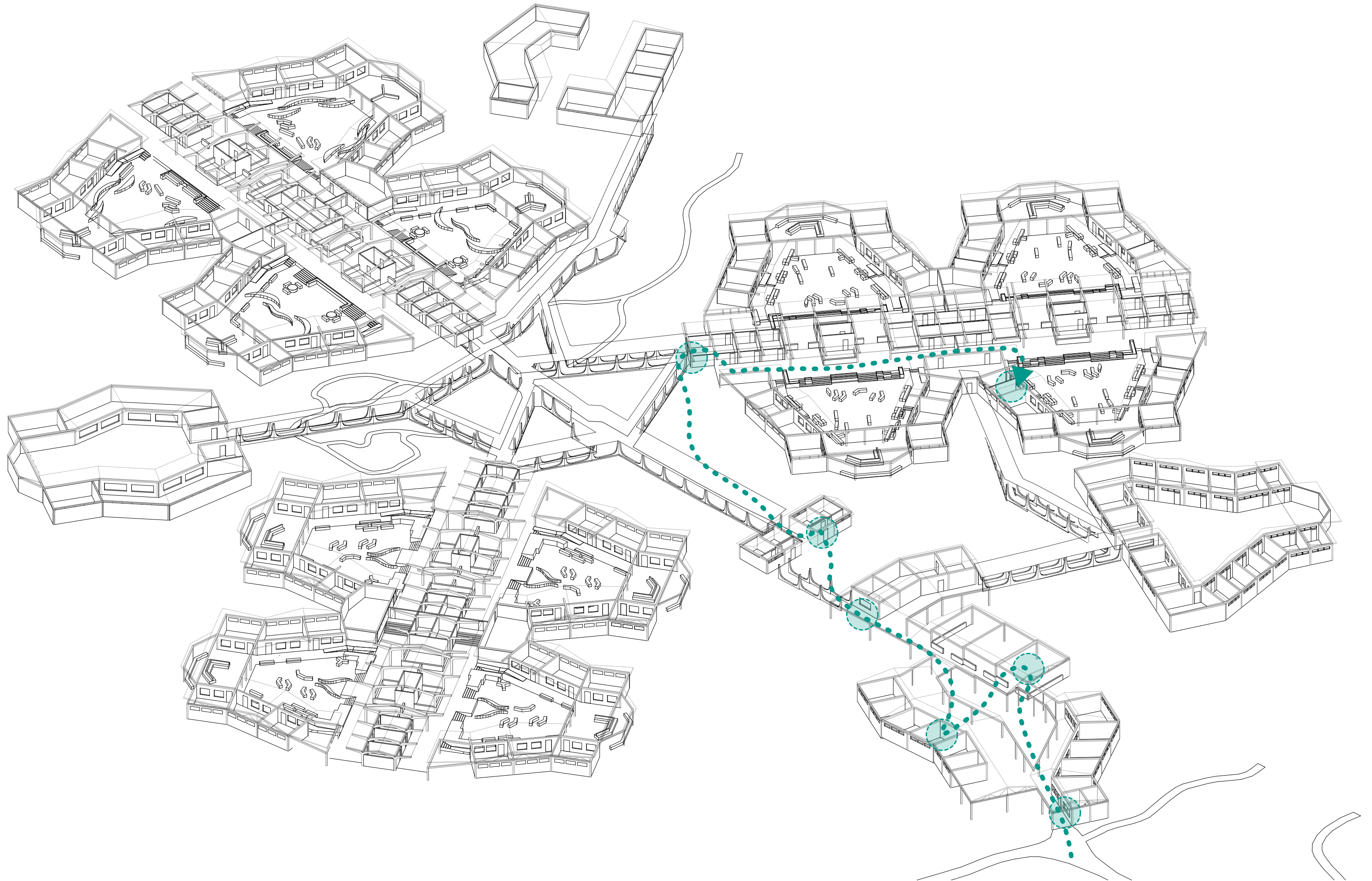
## CENTRALIZED\_03

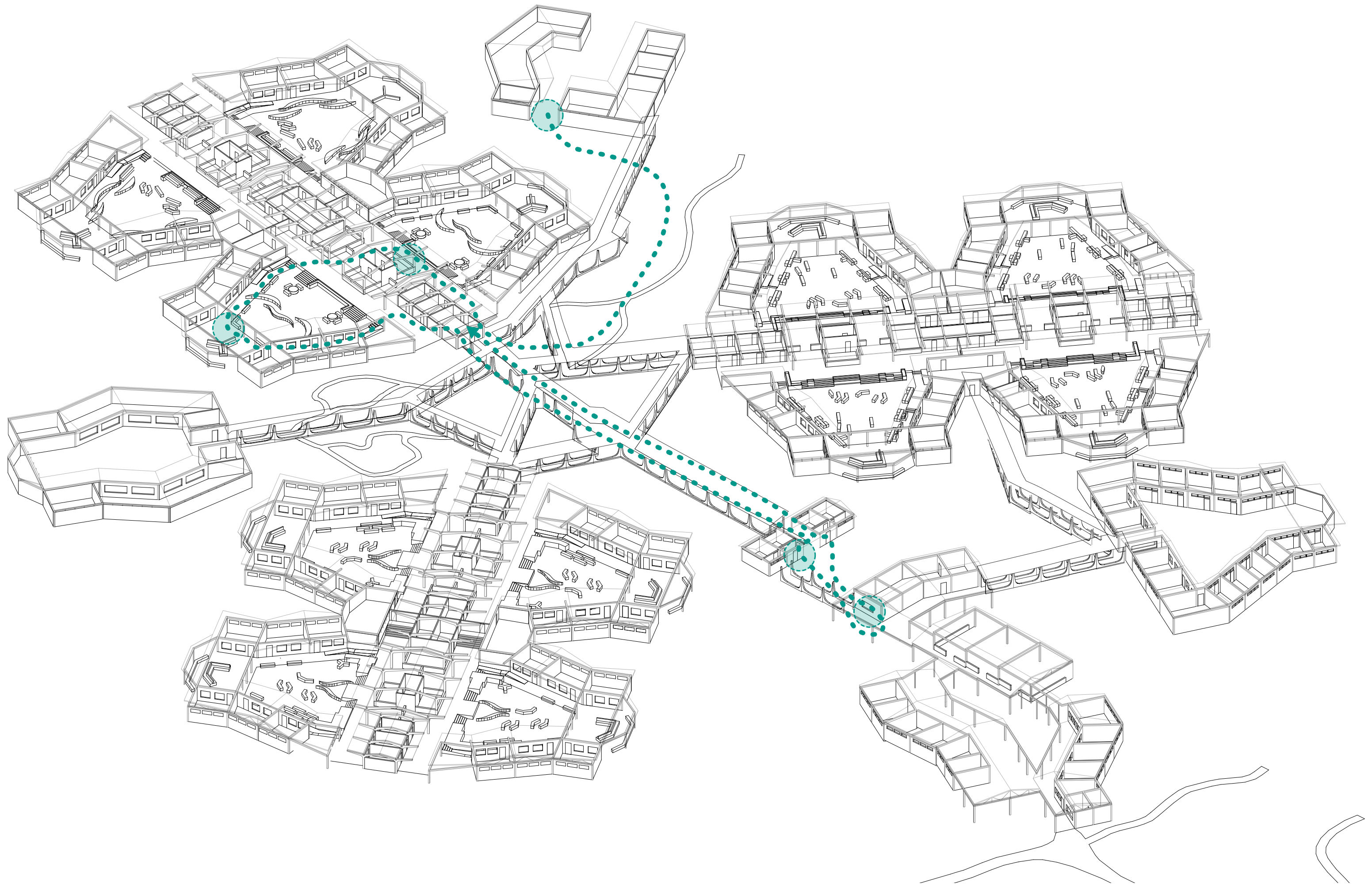


By placing the psychiatric hospital in the North corner of the site provides a discrete entrance into the hospital for patients while also being located close to the necessary hospital programs such as outpatient and emergency room.





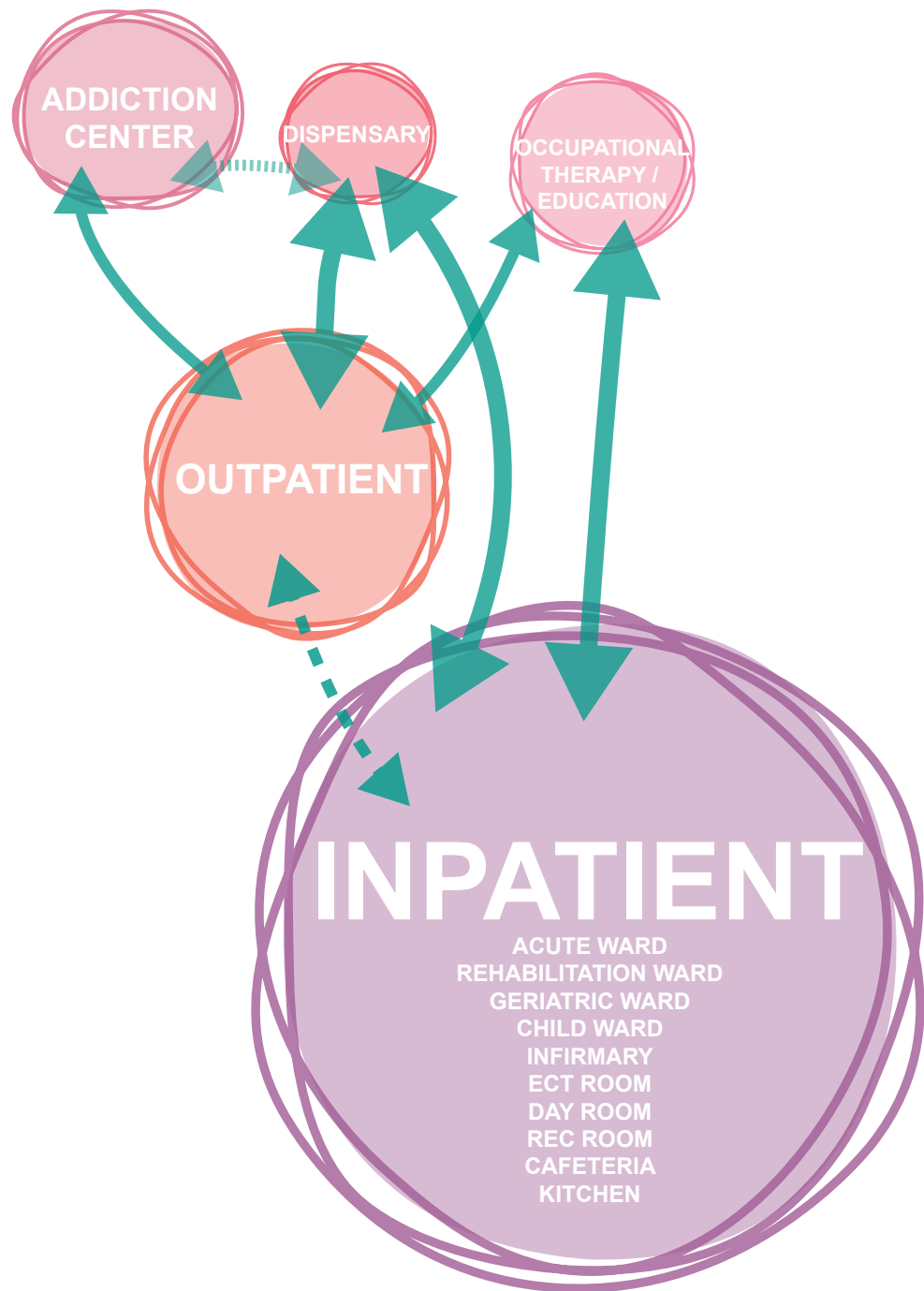




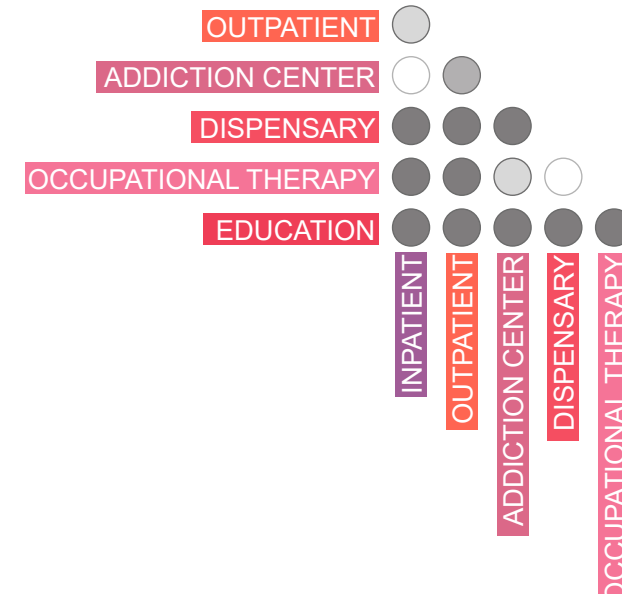
# HOSPITAL PROGRAM

Throughout our research, we were able to find documents published by the World Health Organization, The South African Development Community, and Malawi's Ministry of Health that described standard methods of care for psychiatric patients in both inpatient and outpatient settings. As these documents recommended the implementation various care models, **not one described the programmatic or spatial requirements** of the models they described. Throughout this project, it will be our goal to **identify and develop standards for these requirements**.

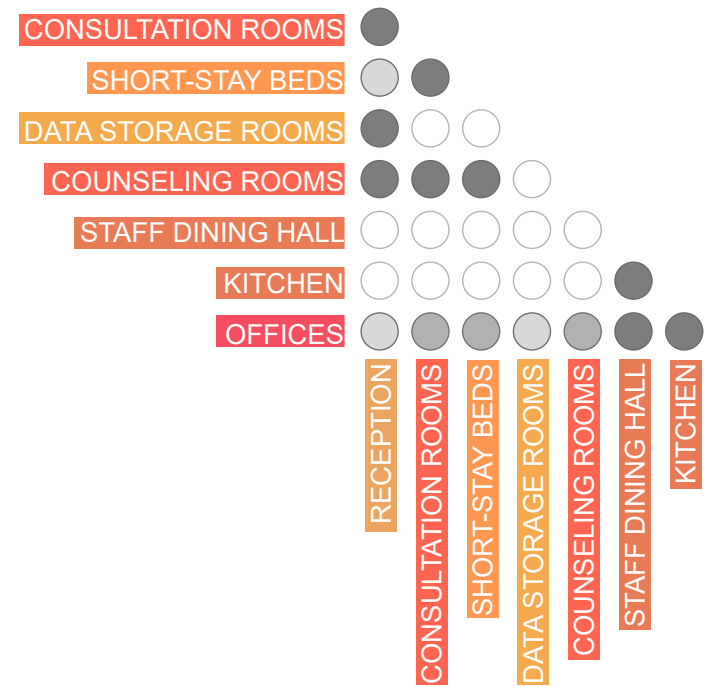
## CRITICAL ADJACENCIES



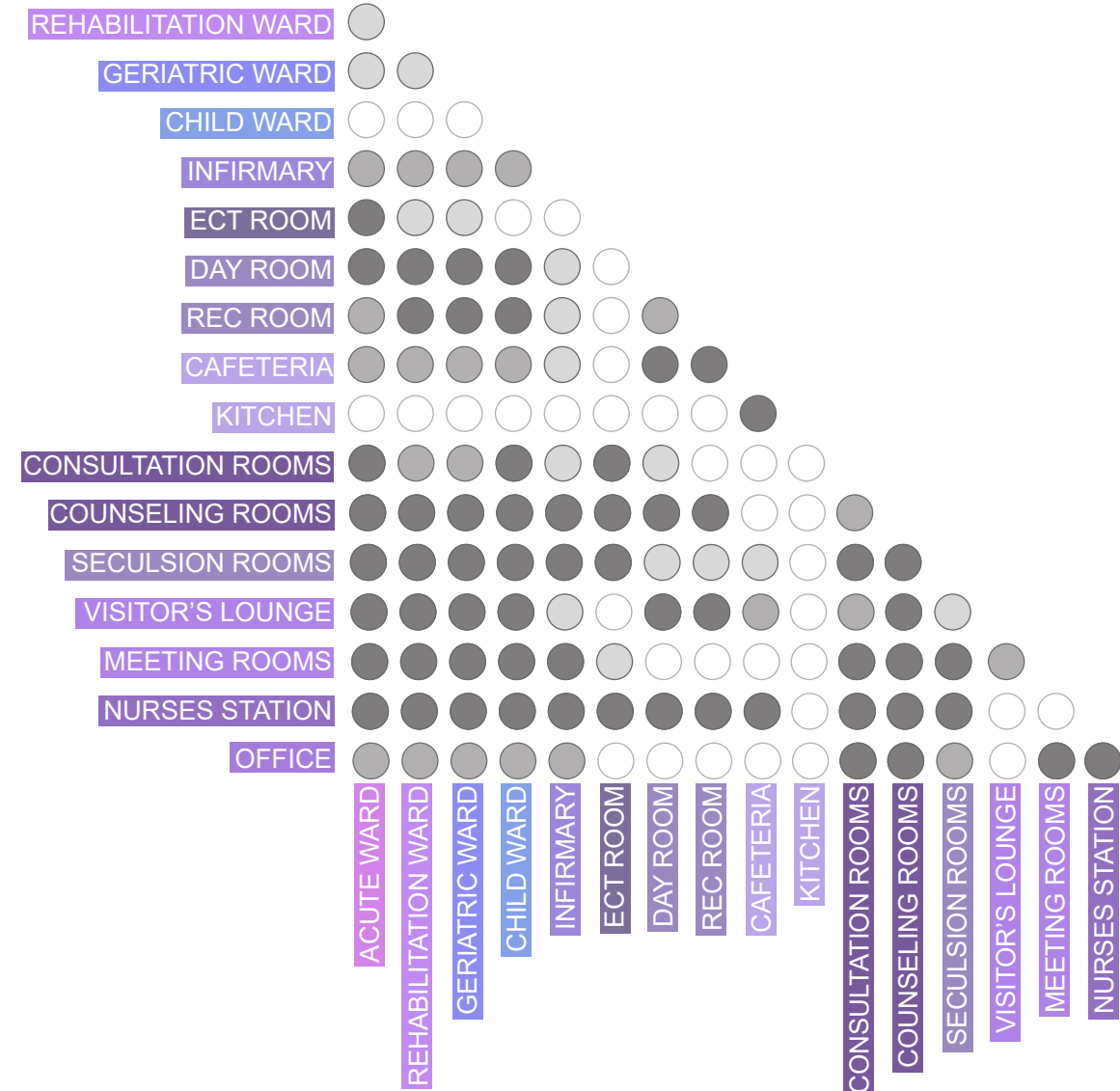
## PSYCHIATRIC HOSPITAL



## OUTPATIENT



## INPATIENT





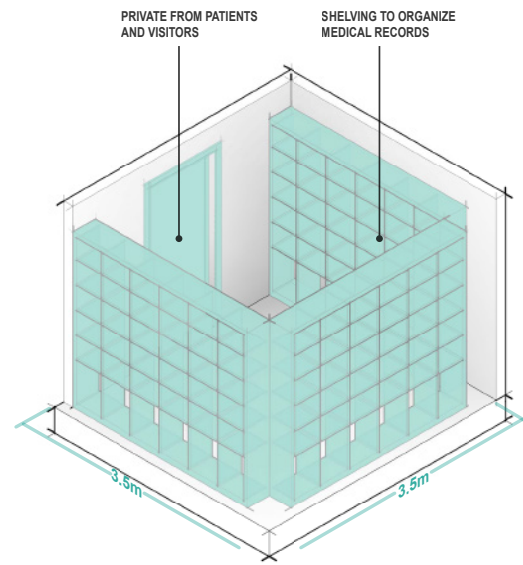
# PATIENT COMFORT

It is common for hospitals in Malawi to have an open ward typology, where **30 or more beds are located in a large open room**. Psychiatric hospitals should not follow this model. The most common reason for admittance to a Psychiatric hospital in Malawi is schizophrenia, and above all, these **patients desire privacy and confidentiality during their treatment**.<sup>3</sup> It is therefore recommended that patients be kept in rooms with **no more than 4 beds**. This will allow patients to have **greater control over the environments they are in, giving them the freedom to move into areas where they are most comfortable**

## SPATIAL REQUIREMENTS PATIENT ROOM

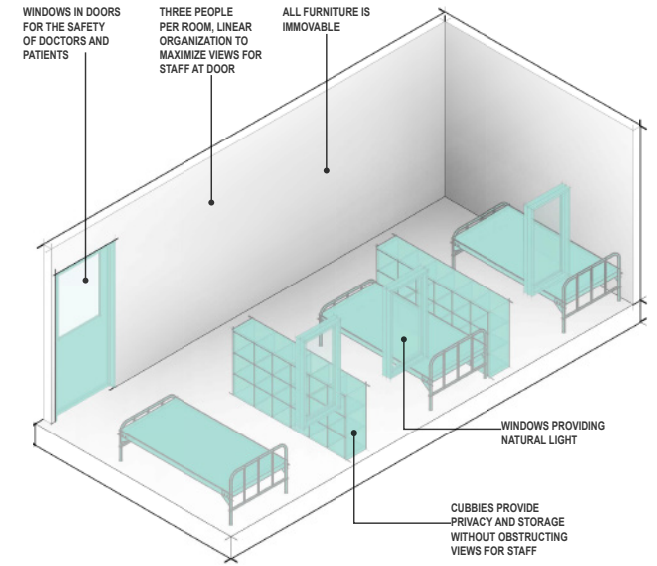
### STORAGE

Most medical records are kept in print form, a proper storage space is necessary to keep patient documents organized.



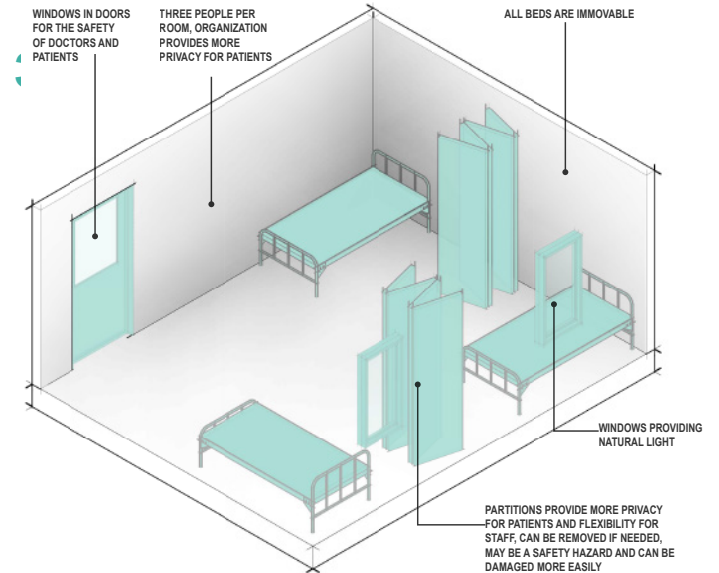
### PATIENT ROOM\_OPT 2

A linear organization for a 3 person room can help maintain patient privacy



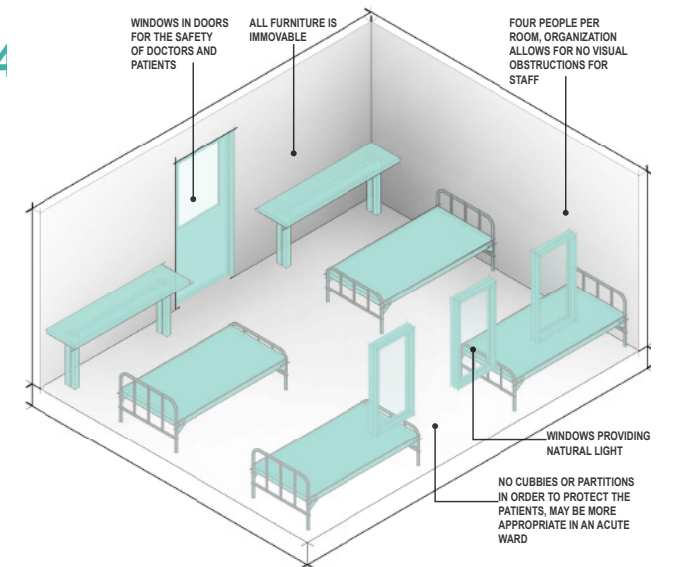
### PATIENT ROOM\_OPT 3

Movable partitions allow patients to control their privacy, but over time they may become damaged by normal wear.



### PATIENT ROOM\_OPT 4

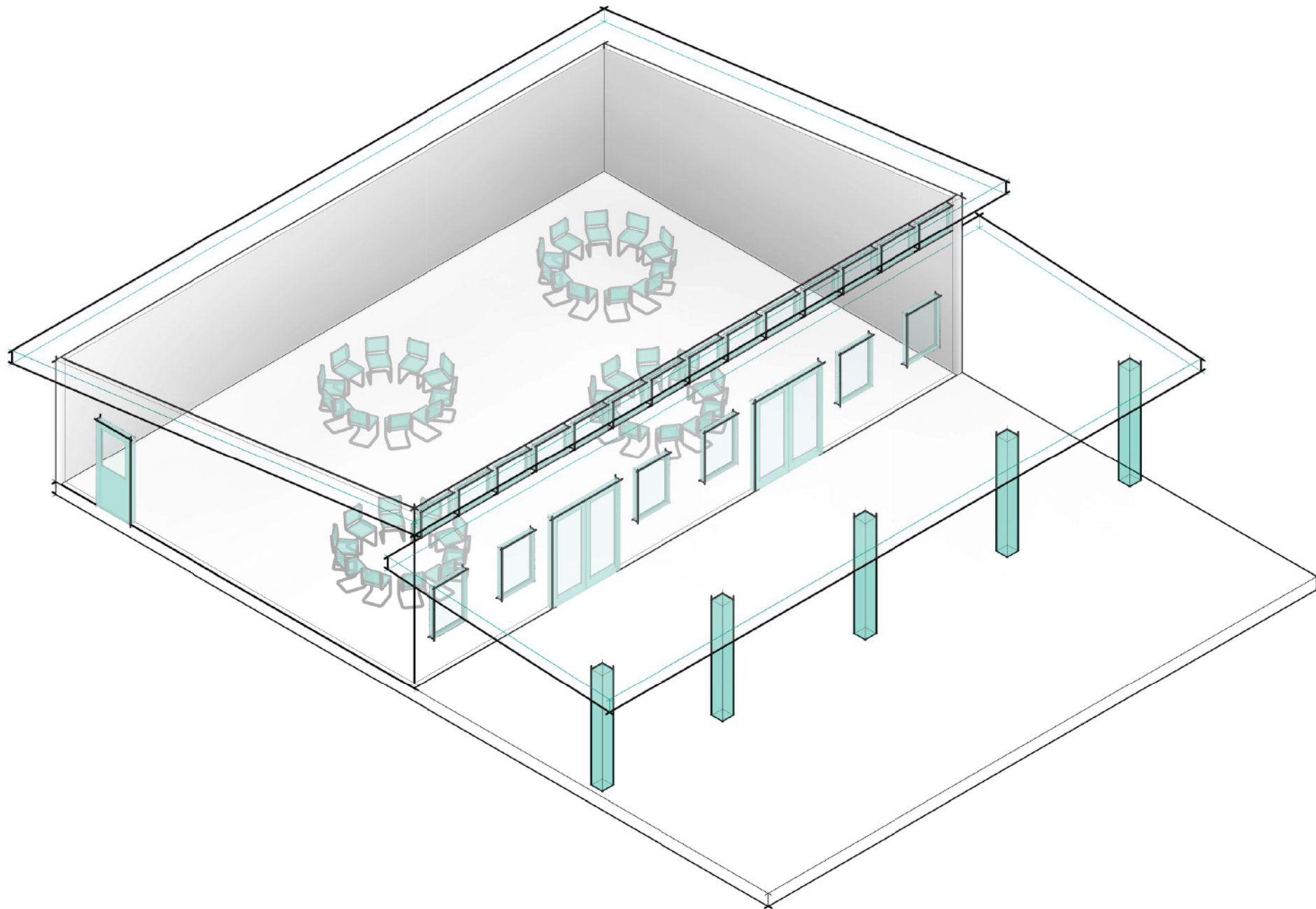
Four person rooms can create more efficient hospital layouts, but at the cost of patient privacy



# PATIENT INTERACTION

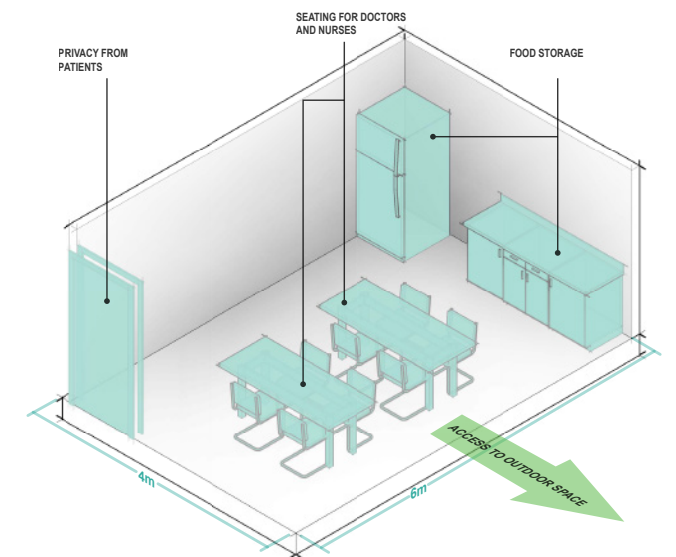
From our conversations with mental health professionals, we identified the need for **community spaces** in the wards. Although, the acute ward has less of a need compared to the long-term ward. **Including rooms that encourage socialization can be helpful for patients to feel less alone in their struggles.**<sup>4</sup> Also having spaces for communal eating, games, puzzles, TV, and radio are beneficial to the patient.<sup>5</sup> Keeping all **communal spaces located in front of the nurses station** ensures a safer environment for patients and staff.

## SPATIAL REQUIREMENTS RECREATION ROOM



## STAFF ROOM

Staff room for respite from the demands of the job. Private from the patients with access to a private green space.





**PATIENT A  
WOMAN, 25  
ANXIETY**

UTILIZED KCH OUTPATIENT SERVICES &  
PSYCHIATRIC OUTPATIENT CLINIC  
INTEGRATED MEDICAL MODEL

**7:30am** Patient A presents in the outpatient clinic for an issue not related to mental health.

**8:30am** She mentioned to her doctor that she had been feeling anxious. Her doctor asked relevant questions and determines she would benefit from the outpatient psychiatric clinic

**9:00am** She goes to the outpatient psychiatric clinic and checks in at the reception desk. Patient A sits in the waiting area outside of reception.

**10:00am** There is a long wait to see the clinical officers so she decides to attend a nearby education session while she waits. At that session she learned about the causes of mental illness and it helped her break down the stigma she carried.

**2:30pm** Patient A is seen by a clinical officer trained in psychiatry. He confirms that she has anxiety and prescribed a benzodiazepine.

**3:30pm** She goes to the dispensary and waits in a long line. She receives her medicine.

**4:30pm** Patient A is able to take a minibus home after addressing her physical and mental health.



**PATIENT B  
MAN, 45  
DEPRESSION**

UTILIZED PSYCHIATRIC OUTPATIENT  
CLINIC

**7:30am** Patient B arrives at the psych outpatient clinic early in the morning.

**8:30am** He waits outside of reception in the waiting room.

**9:00am** He sees a psychiatric officer after only waiting an hour.

**10:00am** The clinical officer determines that his current anti-depression is not working and prescribes him a different one.

**11:00am** He realizes that he has 5 hours to wait for the minibus to go home so he walks to the market to get lunch. The market is run by the long-term psychiatric patients.

**1:00pm** He saw a posted for a class on managing depression and attends it.

**4:30pm** Patient B is able to take a minibus home after changing his medicine and learning how to better manage his depression.



**PATIENT C  
MAN, 32  
SUICIDE ATTEMPT**

UTILIZED EMERGENCY ROOM &  
INPATIENT ACUTE PSYCHIATRIC WARD

**4:30pm** Patient C presents at the emergency room after an attempted suicide attempt.

**4:45pm** The emergency room doctors induce vomiting to rid his body of the pesticides that he ingested.

**8:30am** Patient C is stabilized and after spending the night in the main hospital for observation, he is transferred to the psychiatric hospital. He is placed in the seclusion room for his safety.

**10:00am** After the patient is transferred, his family receives an educational class to help them understand and aid in his recovery.

**11:00am** Patient C spends the day being evaluated and after the medicine has stabilized his suicidal ideation, he is transferred to the acute ward and continues therapy.



**PATIENT D  
WOMAN, 63  
DEMENTIA**

UTILIZED INPATIENT GERIATRIC WARD

**9:00am** Patient D arrives at the psychiatric hospital via ambulance from the northern region of Malawi.

**9:20am** She was brought to a consultation room and the nurses take down her information, history, and vitals.

**12:00pm** After taking her information, she is brought to the cafeteria for lunch.

**12:45pm** She was then brought to her room in the geriatric ward and introduced to her roommates.

**1:00pm** After settling in, a psychiatrist comes to evaluate her. They decide to take a walk outside of her room so she is more comfortable.

**2:00pm** She is taken back to her room and then taken to a group therapy session outside.

**4:30pm** After the group therapy session, she decides to stay outside and hang around the rec room to pray during her afternoon free time

**6:00pm** Patient D heads to the cafeteria and sits with her roommates. They don't talk much but seem relaxed.

**8:00pm** After sitting in the dayroom, she receives her medicine and heads back to her room.

**9:00pm** She heads to her room and gets ready for bed



**PATIENT E  
MAN, 19  
ADDICTION**

UTILIZED PSYCHIATRIC OUTPATIENT  
CLINIC & ADDICTION CENTER

**7:30am** Patient E shows up to the outpatient psychiatric ward and asked about their addiction treatment

**8:30am** Soon after, he is meeting with a clinical officer to discuss treatment. They recommend a 72 hour detox in the short term stay and then outpatient meetings. For a few weeks, he would need to come to the clinic for the day and then slowly his treatment time will lessen.

**10:00am** After deciding to detox, Patient E is taken to shower and change into hospital clothing. His belongings are stored for his release.

**2:30pm** He settled into his room and spends the next 72 hours detoxing. He is in too much pain to take part in any counseling or activities.

**3 Days Later** He starts intensive therapy and learns coping strategies to help him stop drinking for good.



**PATIENT F  
MAN, 27  
DEPRESSION,  
ANXIETY - HIV**

UTILIZED KCH INPATIENT WARD,  
PSYCHIATRIC OUTPATIENT CLINIC  
INTEGRATED MEDICAL MODEL

**8:30am** Patient F is in the hospital for HIV related complications

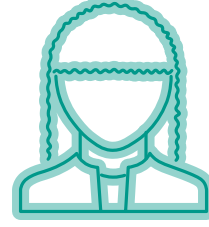
**9:30am** He is ready to be discharged and is evaluated by a clinical officer knowledgeable in mental health. The doctor notices signs of depression and anxiety as a result of having HIV.

**1:00pm** Patient F is discharged from the inpatient ward and is referred to the psychiatric clinic.

**2:00pm** After checking in and waiting outside, he meets with a nurse in a consultation room.

**2:30pm** The doctor diagnoses the patient with anxiety and depression co morbid to HIV. He is given a prescription for anti-depressants, and told to come back later in the week for an educational class.

**3:30pm** He goes to the dispensary to pick up his medicine that he was prescribed and leaves the hospital.



**PATIENT G  
WOMAN, 37  
SCHIZOPHRENIC**

UTILIZED PSYCHIATRIC INPATIENT  
ACUTE WARD

**6:30am** Patient G wakes up. She bathes and dressed before breakfast.

**7:30am** She eats her breakfast and is given her morning medicine.

**8:00am** She is given some time to relax in the morning which she spends outside.

**9:00am** Patient G then attends her morning group therapy session where she sets her goals and goes for a walk outside.

**11:00am** Following the group session, she checks in with her doctor and receives therapy. The therapy session brings up a traumatic past event.

**12:00pm** She goes to lunch visibly upset but is refusing to talk to her nurse.

**1:00pm** After lunch, she starts to hear voices telling her to hurt herself and her behavior becomes altered.

**1:15pm** The doctor decides to have her go in the seclusion room so that the doctors can monitor her more closely.

**6:00pm** Patient G stays in the seclusion room until dinner but she eats away from the other patients.

**7:00pm** She checks in with the nurse in the consult room where she tells the nurse that the thoughts have gone away.

**7:30pm** The nurse allows her to relax in the day room until it's time for bed.



**PATIENT H  
CHILD, 8  
EPILEPSY**

UTILIZED KCH OUTPATIENT CLINIC,  
PSYCHIATRIC INPATIENT  
PEDIATRIC WARD & NEURO DEPARTMENT  
INTEGRATED MEDICAL MODEL

**9:30am** Patient H had a seizure while cooking with her mom and was brought to KCH for treatment.

**10:00am** The doctor treats the burns in the outpatient clinic and refers the child to the psych ward to treat her epilepsy.

**12:00pm** She is seen in the psychiatric hospital where she is referred again to the neuro department to treat the cause of her seizures

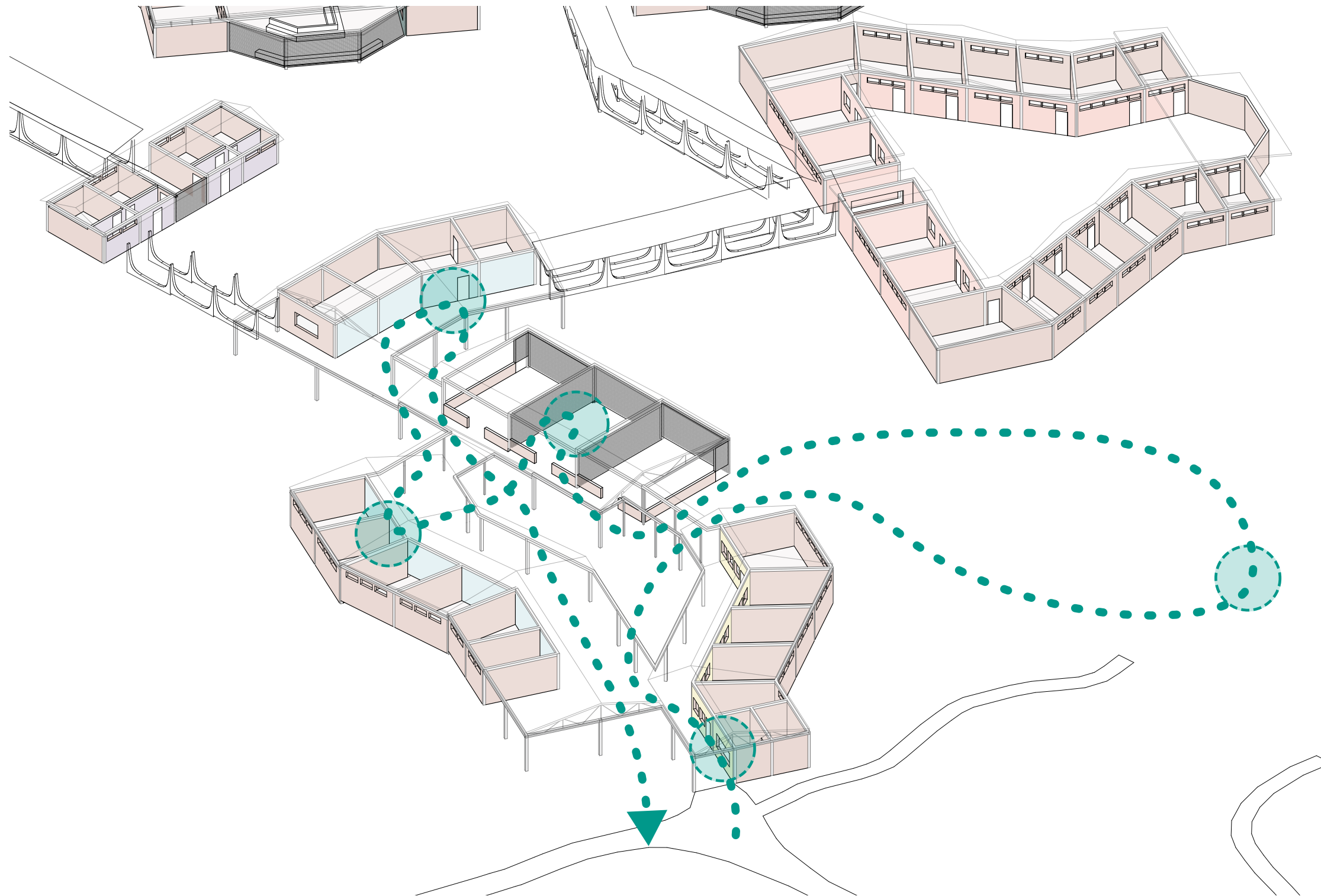
**2:00pm** Patient H is seen in the neuro department and is prescribed a medicine to help with her seizures.

**4:00pm** She goes to the dispensary to pick up her medicine with her mom and they leave the hospital.

# PATIENT CIRCULATION



**PATIENT B**  
**MAN, 45**  
**DEPRESSION**  
UTILIZED PSYCHIATRIC OUTPATIENT CLINIC



**7:30am** Patient B arrives at the psych outpatient clinic early in the morning.

**8:30am** He waits outside of reception in the waiting room.

**9:00am** He sees a psychiatric officer after only waiting an hour.

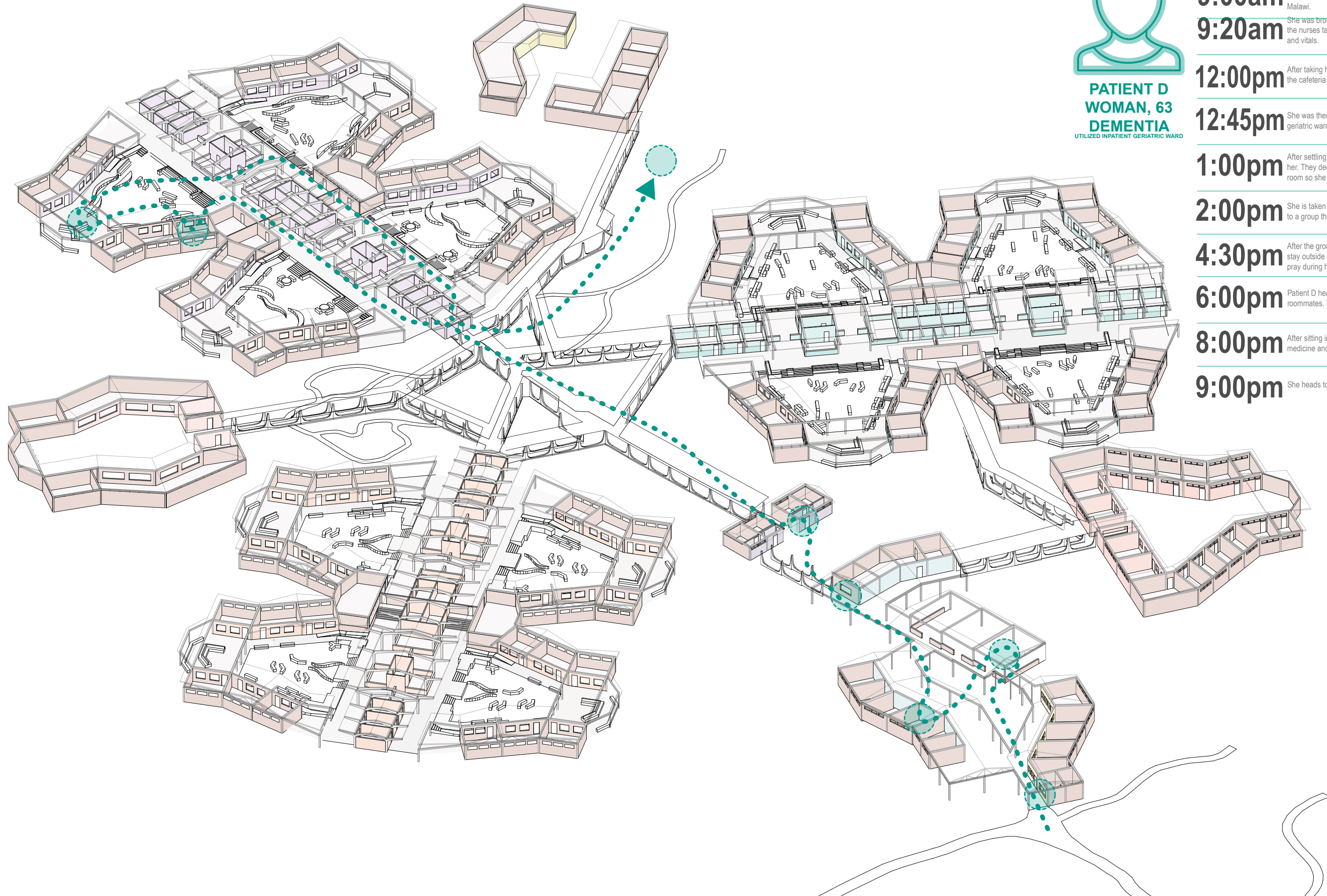
**10:00am** The clinical officer determines that his current anti-depression is not working and prescribes him a different one.

**11:00am** He realizes that he has 5 hours to wait for the minibus to go home so he walks to the market to get lunch. The market is run by the long-term psychiatric patients.

**1:00pm** He saw a posted for a class on managing depression and attends it.

**4:30pm** Patient B is able to take a minibus home after changing his medicine and learning how to better manage his depression.

# PATIENT CIRCULATION



**PATIENT D**  
**WOMAN, 63**  
**DEMENTIA**  
UTILIZED INPATIENT GERIATRIC WARD

- 9:00am** Patient D arrives at the psychiatric hospital via ambulance from the northern region of Malawi.
- 9:20am** She was brought to a consultation room and the nurses take down her information, history, and vitals.
- 12:00pm** After taking her information, she is brought to the cafeteria for lunch.
- 12:45pm** She was then brought to her room in the geriatric ward and introduced to her roommates.
- 1:00pm** After settling in, a psychiatrist comes to evaluate her. They decide to take a walk outside of her room so she is more comfortable.
- 2:00pm** She is taken back to her room and then taken to a group therapy session outside.
- 4:30pm** After the group therapy session, she decides to stay outside and hang around the rec room to pray during her afternoon free time.
- 6:00pm** Patient D heads to the cafeteria and sits with her roommates. They don't talk much but seem relaxed.
- 8:00pm** After sitting in the dayroom, she receives her medicine and heads back to her room.
- 9:00pm** She heads to her room and gets ready for bed.