

Healing Spaces: An Outpatient Primary Care Neighborhood Clinic

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And of course, to my dearest mom and dad, for always being there.

媽爸，謝謝你們一直相信我。



HEALING SPACES:

AN OUTPATIENT PRIMARY CARE NEIGHBORHOOD CLINIC

HYBRID HEALTH AND WELLNESS SERVICES IN ONE LOCATION, CENTRAL DISTRICT

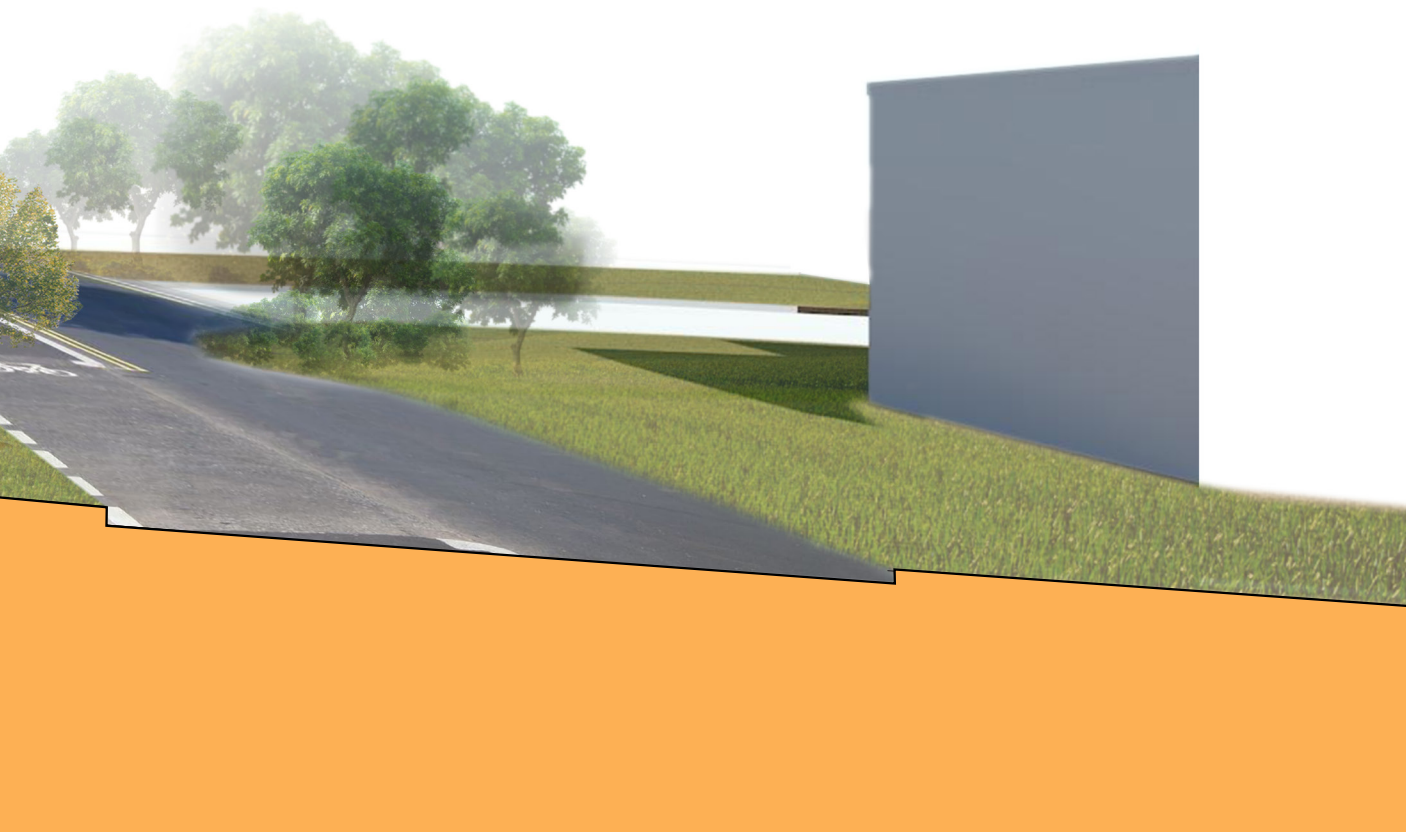


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Abstract

With the passing of the Affordable Care Act, millions of newly insured people have been catapulted into the health care system. This means that patients who formerly used emergency rooms for routine illnesses will now have the resources to obtain health care in a primary care clinic, and that more clinics will be needed to provide this care. The proposed primary care clinic provides the holistic experience for people who need psychological and physical healing services for the Central District community. To meet those newly insured and other low-income populations, creating patient-centered environments is a powerful idea. The under-one-roof approach of direct primary care, urgent care, same-day access, wellness center, and healthy food initiative to be delivered by the proposed clinic, can provide a more affordable, accessible and convenient healing space for patients, and a more effective method for clinicians with better outcomes for the community as a whole. This clinic will not only help patients with non-emergency conditions to avoid emergency room costs, but also expands access to primary care for low-income patients. The integration of medical, educational, and social aspects is intended to deinstitutionalize the clinic and to re-position it into the collective aspiration of the community.

Chapter 1: Introduction

Problem Statement

The US healthcare system has often been described as dysfunctional as it is the least accessible and most expensive among the highly developed nations of the world. In 2010 the Affordable Care Act was passed in the U.S. with the intent of reducing the costs and increasing the availability of health care to all. The impact of this groundbreaking bill, is just beginning to be felt in the existing urban infrastructure of healthcare in major American cities. (Griffin, 1) Since the ACA initiative is still in its infancy, its larger political and social implications are not yet known and too far-reaching to be addressed here. This thesis examined the

necessary and inevitable effect on the built infrastructure of health care in Seattle area as this initiative is implemented.

Despite more people obtaining health insurance under the Affordable Care Act, hospitals like Harborview, the only designated Level 1 trauma center, is as busy as ever. It is intended to serve patients with life-threatening injuries, but based on Harborview's 2013 ED analysis, only 13 percent of the patients have the most complicated and life-threatening of injuries. The other 87 percent were minor conditions (Figure 1.0). One reason might be that the newly insured are emboldened to visit the hospital even more now because they have coverage. However, the ER department is not an appropriate place for patients with minor conditions. These patients with minor conditions are in need of a new type of neighborhood clinic that is designated for specific needs for appointment based chronic disease care and urgent care services (Figure 1.1). The proposed outpatient-healing urban neighborhood clinic provides a different delivery health system with appropriate

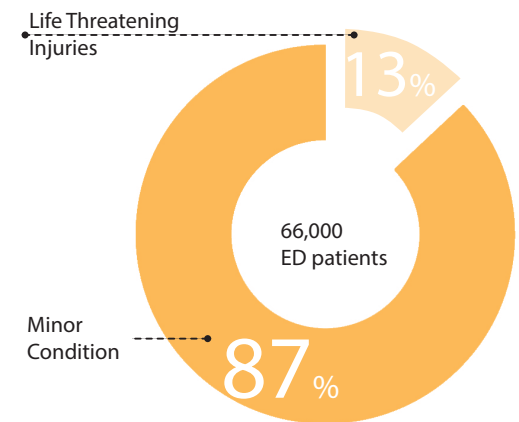


Figure 1.0 UW Harborview ER Department Analysis of 2013

psychological and physical services as a healing center. The “under-one-roof plan” addresses healing environment as part of the healing process, same-day access to primary care and urgent care, care team diagnosis with physicians working in a collaborative care team, health promotion and maintenance of wellness services and healthy food distribution center. By providing better quality of a more affordable, accessible and convenient healing space for clinicians, patients, family supports, and the community as a whole, everyone benefits.

This thesis proposes to design a healing space in the form of a direct primary and mental health care facility that organically operates between the larger Seattle health network and the intimate scale of its local community. The new clinical typology fuses the functional necessity of serving users’ needs with the larger civic ambition of playing a broader urban role. The proposed urban neighborhood clinic will not only address the patient-focused concept and care team treatment to improve the overall

health of the designated community, but also will argue for a healing space with full of educational and wellness activities, drawing in a wide range of neighborhood residents.

To understand the architectural ramifications of these changes to the nation’s medical system, it is necessary to first briefly examine the typology of our existing urban health care institutions. As noted by Fillmore Randolph, rapid developments in medical science, technology and politics over the last two centuries have resulted in the current health care system that has been described as “the medical industrial complex” (Randolph 336). The healthcare boom following World War II impacted not only on its scientific, operational, technical, and social aspects, but its physical facilities. The urban hospital type has also continued to change rapidly with advancements in medical and science technology. (Zeidler Partnership Architects, 24) The hospital typology that remains dominant in the US is a large scale, multi-floor

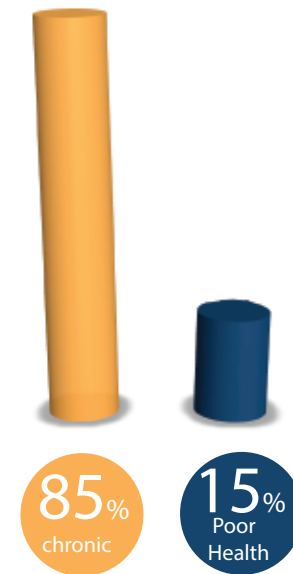
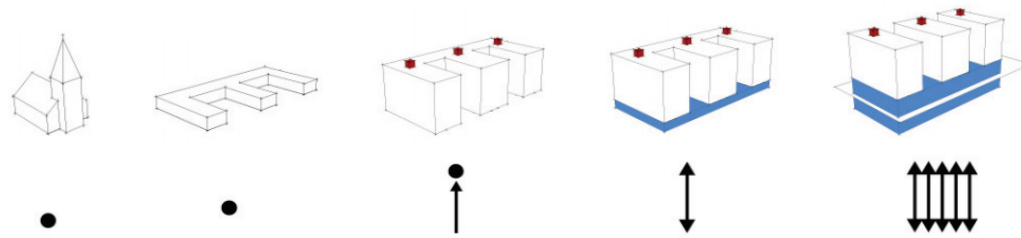


Figure 1.1 Patient ED Visit Analysis of 2014



Eberhard Zeidler's McMaser Health Science Center

Figure 1.2 The Hospital Typology prioritizes machine-like efficiency and technology over human well-being and comfort

complex that prioritizes machine-like efficiency and technology over human well-being. (Burpee, 2) (Figure 1.2) The spatial outcomes are massive, deep blocks with confusing circulation patterns that lack fresh air and light. (Burpee, 2) A fundamental shift in health care design is necessary, from the current system of autonomous, highly centralized institutions towards smaller, decentralized public facilities functioning in affiliated but decentralized networks for handling the increasing need for preventive and specialized care.

As healthcare architecture tries to address current society's expected access to more flexible medical information and its expectation for quality care, healthcare networks have been increasingly encouraged to broaden their network to strengthen their neighborhood presence in order to sell their services and attract patients as a response (Figure 1.3). In 2001 Lin MacMaster, vice president of marketing at the Group Health, stated that, "Seattle has become a very competitive marketplace, where

hospitals are trying to differentiate the quality of their doctors." (Economou, 2) As a result, the competing health networks have adopted a branding strategy in order to "keep [hospitals] current and comprehensive in the eyes of consumers." (Economou, 2) However, rather than facility expansion in size and location, it is documented that patients actually favor facilities that offer patient-centered care, including flexibility in meeting family's needs, privacy when patients need to be examined, improvement in interior space, and less errors in diagnosis and treatment. (Devlin, 84) A typical clinical hierarchy of doctor-centered care (Figure 1.4) is revealing the imperative change needs to be made from doctor-centered to patient-centered care in order to improve health and well-being of the patient and family member support, as well as reaching to common goal of healing patients. What patients desire are satisfaction with care and experience of dignity and privacy. Similar for medical staff, these caregivers will be appealed to work for facilities with not only the most advanced technology, but also the most

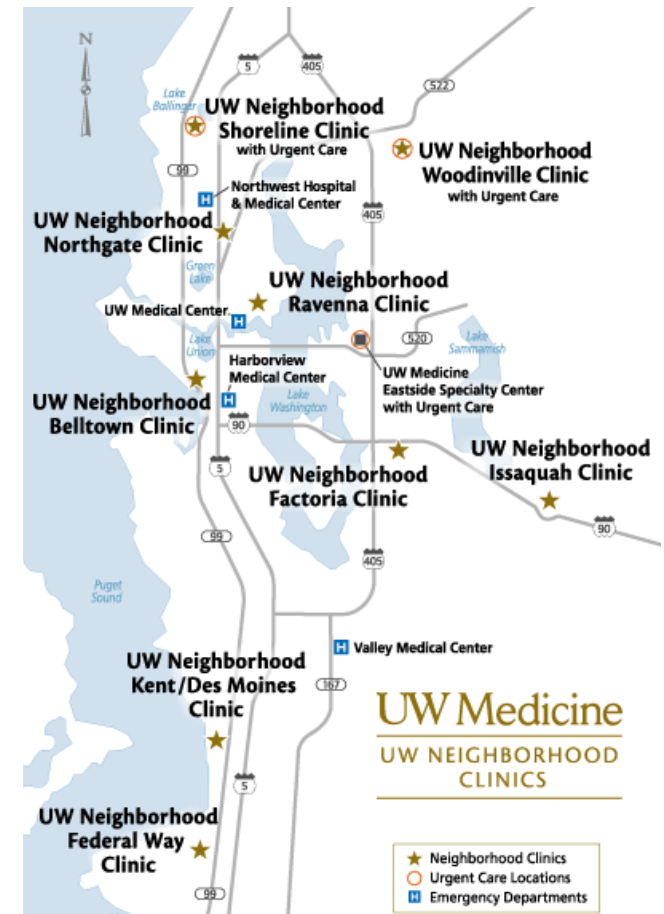


Figure 1.3 UW Neighborhood Clinics and families of outpatient care that are the new strategy to strengthen their neighborhood presence and accessibility to patients

considerate amenities and care system in carrying out a healing environment to attract patients through the door. (Devlin, 90)

This new era of healthcare demands a more accessible and flexible built infrastructure that brings together patients, caregivers and the community in an environmentally sensitive and compassionate way. In the state of Washington, UW Medicine is one of the most extensive networks of primary and specialty care that along with Swedish Medical and Group Health services in the King County area. (Economou, 1) By reaching out to the Seattle communities, UW neighborhood clinics and facilities of outpatient care are the new strategy to strengthen their neighborhood presence and to improve accessibility to care. However, its health infrastructure is not flexible and accessible to all Seattle areas to meet the needs for the underrepresented, low-income and uninsured individuals and families.

Hypothesis

Phase 1:

Mapping The Networks of Health

In response to the current system, this thesis proposes a more organic healthcare infrastructure consisting of a network of small, neighborhood clinics. The existing health network in Seattle will be analyzed in order to identify undeserved communities. Current clinic locations and services as well as the health needs of the local residents will be studied in order to determine the optimal location for a new type of clinic. The intent is to understand this neighborhood facility as a node within this larger competitive system, and at the same time as part of the system mandated by Washington State's Triple Aim initiative (Figure 2.2). The aim is to go beyond providing an economic and efficient service in order to improve the availability of care to everyone and the individual experience of care. (Block 1)

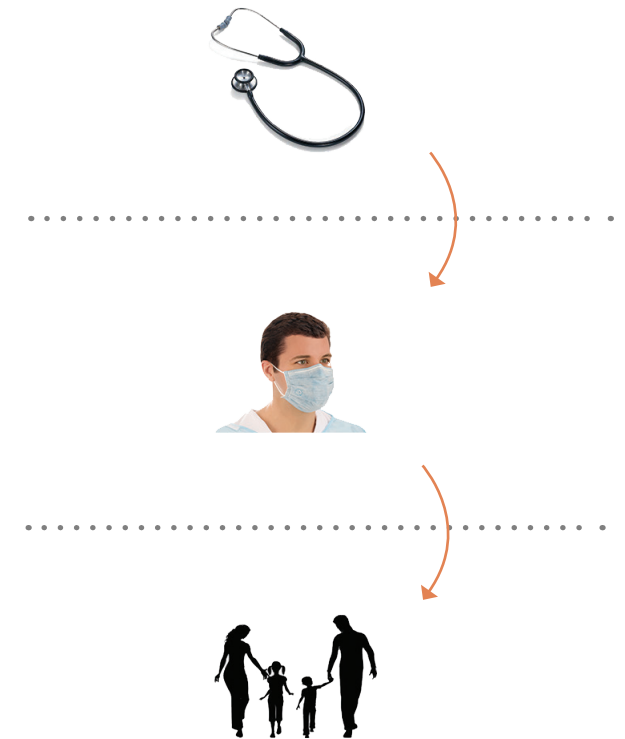


Figure 1.4 A Typical Clinical Hierarchy: doctor-centered care, where a disconnected interaction results in miscommunication and slower healing process for the well-being of a patient and family support

Phase 2:

Urban Neighborhood **Healing Clinic**

This thesis proposes that a new type of neighborhood clinic is needed; one that serves as a visible marker for the larger healthcare infrastructure, and at the same time, meets the specific needs of the community in which it serves. While the primary care treatment is paramount for a clinical setting, providing social healing space for patients, family, and clinic staff is equally critical in a comforting healing environment. Integrating a treatment facility, wellness educational center, and community food center would foster the aspiration of creating a healing space for the collective community.

In the effort to reach out to the community before hospitalization is necessary, the primary function of a Neighborhood-Care is an outpatient health clinic, seeking to serve the holistic health needs of its members including urgent care and case management for chronic illness. By recognizing the

imperative patient-centered hierarchy, the new delivery system connects the staff and patients, and improve their social and physical healing support (Figure 1.5). Clinical treatment gather a team of physicians of Internists, general practitioners (GPs), family medicine physicians (FMPs), as well as a care team of medical assistants (MAs), nurses, nutritionists, physical therapists (PTs), mental health counselors, family therapists, and lab technicians. The physicians and care team are here to supervise patients' treatment after referring them to a Cardiologist or Cardiac Electro-physiologist for specialized testing. These treatments are served as a catalyst to ensure patients are receiving their holistic health needs.

In order to provide a healing space for patients to socialize as well as to relax, the clinic will house an educational wellness center, run by the clinic staff, in accelerating and promoting patients' well-being. It is a space with full of energy and activities, in order to break down the barrier of healthcare.



Figure 1.5 A NeighborhoodCare Clinical Hierarchy: patient-centered care, where patient and their family support are as equally important as staff members, in reaching for physical and social healing environment

Another aspect of social healing space is to promote healthy food choices. It is not only a space that advocates better food options, but also as an approach to break down the conventional institution in order to integrate healthcare into the culture of the neighborhood. These social healing facilities attempt to show that from the quality of care to the degree of comfort are equally considered for patients-focused design. (Figure 1.6) The conceptual framework involves the integration of clinical care, social interaction, and nature in order to improve the healing quality of care.

With the collaborative treatment team, social interactions, and a carefully designed healing space that incorporates natural environment setting in the built environment, the physical environment of the clinic should create a positive impact on the well being of the patient as well as staff members. Other factors that would accommodate the success of this project include the connectivity to natural daylight and ventilation. All of these factors must be considered and work together in order to create a holistic healing environment for

its inhabitants and an “urban institution” for its larger community.

Thesis Overview

Essentially the goal of this thesis is to design an improved healing space in the form of a primary and mental care facilities that organically operate between the larger urban health network and the intimate scale of its local community. Working within the existing structure of UW’s primary health network, a series of distributed primary care clinics will be designated in order to bring health services to undeserved urban neighborhoods; thus increasing responsiveness to neglected or undeserved urban neighborhoods and, perhaps, patient choice. (Ettelt et al., 1) This new typology fuses the functional necessity of serving users’ personal needs with the larger civic ambition of playing a broader urban role. In the city, the urban neighborhood clinic will not only address the patient-focused concept to improve the overall health of the designated community, but also

argue for a healing space with full of educational and wellness activities, pulling neighborhood residents in rather than shutting them out.

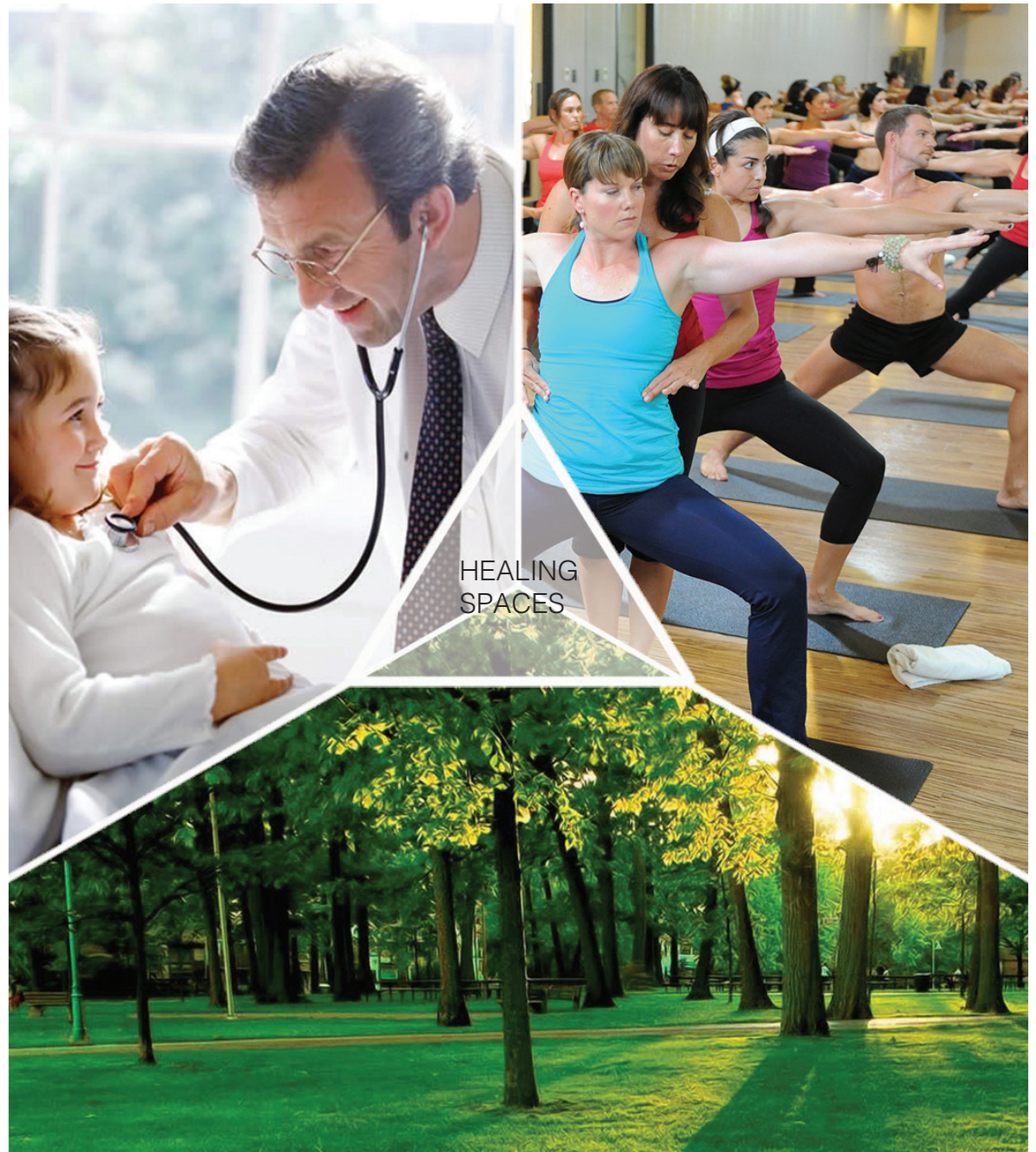


Figure 1.6 The Conceptual Framework involves clinical care, social interaction, and nature in order to improve the healing quality of care

Chapter 2:

Theoretical Framework

The theoretical framework for this thesis was structured in two parts. In order to implement effectively, physical environment was being broken down to healing-focused and evidence-based design, which the structure and function of the environment could potentially alleviate inhabitants' physical and emotional outcome, and ultimately improved patient satisfaction and their perception of care.

Components of Healing Space

The design of a healing environment must be more responsive to the environments shaped by human engagement. To best address the human quality in healthcare, a

phenomenological reading of space as proposed by Devlin offered a conceptual framework that could connect and strengthened the human experience of space by incorporating natural features into patients' spaces. (Devlin, 105)

Sight

Light and color, as explained by Sternberg's *Healing Spaces*, were two aspects of sight that could provide overall impact on patient's well-being. (Sternberg, 40) The use of color tended to associate blue and green with calming and relaxation, and red and yellow with excitement and energy. (Fouts et al., 30) While trying to integrate as part of the patient's sensory experience, a window view of trees or the arts in the form of gardens and water could also help release endorphins, contribute to the healing environment (Ulrich, 421).

Sound

Sound had the potential to provide relaxation or aggravation. Enhancing the positive effect of sounds could be contributed through the organic sound of rain and moving water. (Devlin, 109)

Research from Devlin (2010) indicated that by removing loud, stressful noise and incorporating effective soothing music could also reduce the stress level of visitors in the waiting rooms.

Touch

Touch would heal the body, mind and soul. Nature provided calming or stress relieved views. A successful design of pleasant garden spaces could encourage healthful social interaction and support for patient and their family. (Marberry, 48) In addition of positive encouragement and opportunity for massaging session or relaxation lesson could also accelerate patients recovery and comfort level. (Devlin, 108)

Evidence Based Design (EBD)

By incorporating an integrated improvement strategy, evidence-based environmental design interventions were able to measure the level of the built environment impact on patient-centric conditions, facility space efficiency, as well as a positive economic impact on

their organizations. (Sadler et al., 1) This strategy would also help achieving the Triple Aim goals at the level of the larger economic and public health system (Figure 2.0). By translating the Triple Aim Goals into Architectural Solutions, the redesign of the primary care structure must address the humanistic aspect of healthcare and consider the experience of the individual patient. The implementation of these strategies at the scale of the architectural intervention was as part of the quality improvement, where the physical environment could be skillfully designed to reduce harm and stress level for the well-being of inhabitants.

Patient-Centric Improvement

As the health care environment had increasingly become a significant part of the patient population, easily accessible with much higher level of service and quality of care were expected than previous generations. It was important to provide a supportive environment for patients, families, and caregivers because these inhabitants endured high level of stress and pain throughout the care procedures.

The skillfully designed space could easily affect on not only inhabitants' physical and psychological effects from the built environment, but also staff's productivity and operational efficiency. By connecting evidence based design to quality improvement with healing-focus design, these evidence brought out a correlation between the well-being of the physical environment in which patients receive the quality of care and their perception of the care. (Sadler et al., 3) Research and documentation on healing environments had indicated that the quality of care can be enhanced through the element of environments that acquires: 1) patient control 2) social support, 3) positive distractions , and 4) the influence of nature (Fouts el at, 29).

Facility Space Efficiency

Proactive evidence-based concept in healthcare facility design was essential and growing demand in current healthcare. Facility design was traditionally related to efficiency in functionality, medical treatments and costs, but with little priority given to

create calm or coping surroundings. As healthcare futurist Lan Morrison stated, "the quality of the environment sends a powerful message to patients and staff about how they are valued and respected." (Malkin, 144) When patients received care in an attractive and comfortable environment, they were also more likely to follow-up appointment and view the care facility as a place to receive education, to manage of chronic condition, and as a link to community resources. The approach would provide cost effective strategies with minimal errors with better communication between the two parties as good design supports quality (McCullough, 2)

Research showed that healthcare spaces should be categorized into two areas: on-stage and off-stage, where the prior space included all general public areas a patient or family member was going to touch, such as lobbies, waiting rooms, gardens, cafeterias, restrooms and what not. Off-stage spaces were areas for the employees, which included treatment rooms, employee lounge

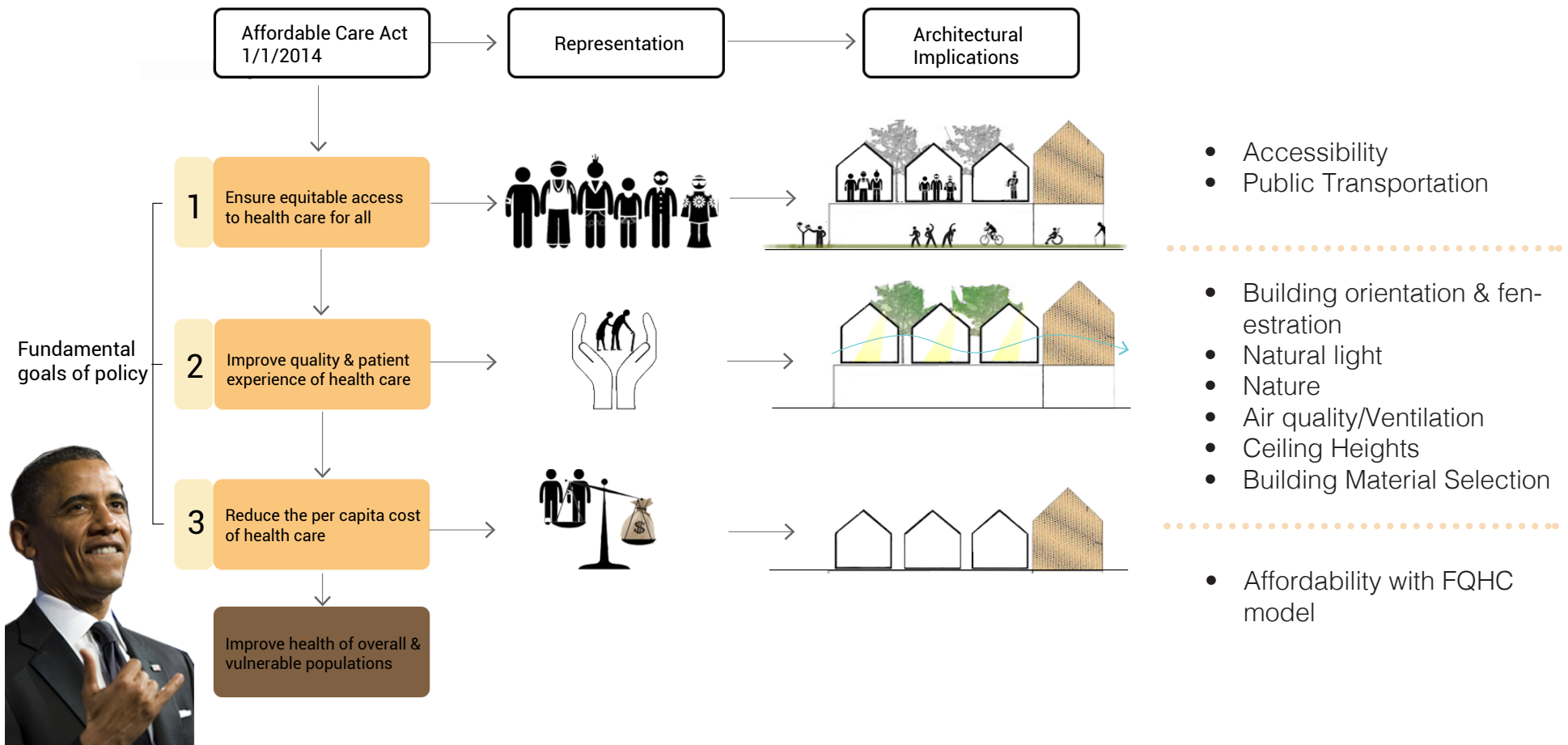


Figure 2.0 Translating The Triple Aim Goals Into Architectural Solutions

areas, employee-only spaces, offices, corridors and what not. (McCullough, 21) Key design elements for both stages were building orientation and fenestration, natural lighting and ventilation, ceiling heights and interior material selection.

Building orientation and fenestration

(Figure 2.1 Window orientation and size)

Building orientation should be carefully considered to capture more south-facing sun. The site may be best suited to a square building, or one in an “L” or “T” shape. (Malkin, 26) Window orientation, size, and location as well as shading solutions, such as overhangs, vertical fins, or even environmental objects of nearby buildings and trees should be concisely observed and measured for promising effects. (Ulrich, 2000,intro)

Natural lighting

(Figure 2.3 Natural light space)

It was beneficial in creating connection with nature by bring the outdoors inside. (Ulrich, 2000, intro) It also provided potential benefit for energy reduction use during daytime. Space designed with full of natural light, lively

accent colors, high-quality light fixtures provided an attractive and welcoming atmosphere to visitors. (Malkin, 160)

Indoor Air Quality (IAQ)

Indoor air quality is a component that directly affected occupant health and well-being. It had a strong relationship with occupant productivity, energy conservation, and HVAC system. (Marberry, 86)

Ceiling Heights

(Figure 2.2 Appropriate ceiling height)

Overall, a higher ceiling was preferred for better providing better performance in reducing sound transmission. For spaces like physical therapy or radiology, it was required a 9- or 10-foot-high ceiling. Ideally, each room with interior partitions extended above the finished ceiling 6 to 9 inches. Acoustical ceiling tile or a standard suspended acoustic ceiling was preferred for it was the noise reduction coefficient rating important, and it had better sound transmission class reduction between rooms. (Malkin, 25)

Building Construction

(Figure 2.4 Soothing materials for healing environment)

Materials, floor-to-floor heights, and accessibility to areas not readily visible were all important principles to improve patient safety and reduce stress. It was important to install noise-reducing materials such as sound-absorbing ceiling tiles in order to reduce patient and staff stress. (Sadler et al., 6)



(Mahlum Providence Newberg Medical Center)

Figure 2.1 Window orientation and size measurement for better visualization



(Adamsville Reginal Health Center)

Figure 2.2 Appropriate ceiling height for higher comfort level



(Adamsville Regional Health Center)

Figure 2.3 Natural lighting space



(Adamsville Regional Health Center)

Figure 2.4 Soothing materials for healing environment

of local facilities that introduce a healing space for the community.

Phase 1: **Mapping The Networks Of Health**

An examination of the existing medicine networks in Seattle was shown that the major hospital ER department complexes serving as the governing nodes of the system were largely concentrated in the center of King County (Figure 3.0). With a further understanding of the existing populations and sizes, the proposed network of neighborhood clinics were served not only as a visible marker for the larger healthcare infrastructure, but also as a neighborhood clinic that met the specific needs of the community in which it served (Figure 3.1). It was to extend the existing UW health network in a hierarchal system with primary care clinics concentrated around the specialized hospitals. Most importantly, this map revealed that there were dense urban neighborhoods in the city with a distinct lack of coverage, in particular the

Chapter 3:

Site & Program Analysis

This thesis proposed a new organic network that would reinforce the existing healthcare infrastructure by creating a new typology of urban neighborhood clinics. These smaller scale facilities would reach out to the community and embrace healing through the connection of architecture, community, and nature. The process of site selection for a demonstration clinic was based on multifaceted analysis of the dimensions of existing health networks, and of the growth of the urban population. The nodes of clinics would work together to form a reference network to reinforce and eventually reshape the existing infrastructure into a more distributed and organic system. At the same time, the new system would create a new typology

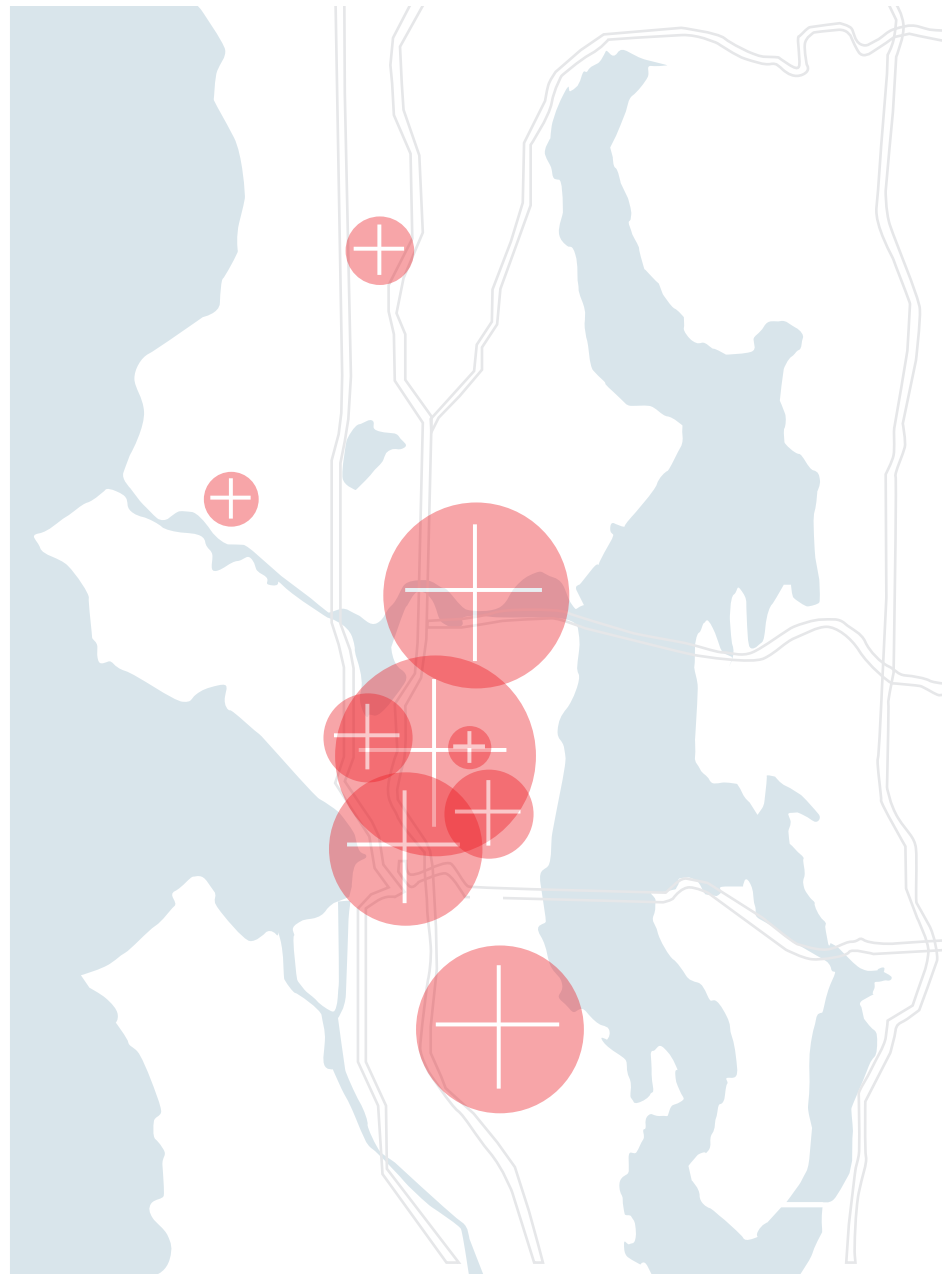


Figure 3.0 Major Hospital ER Department Network in Seattle

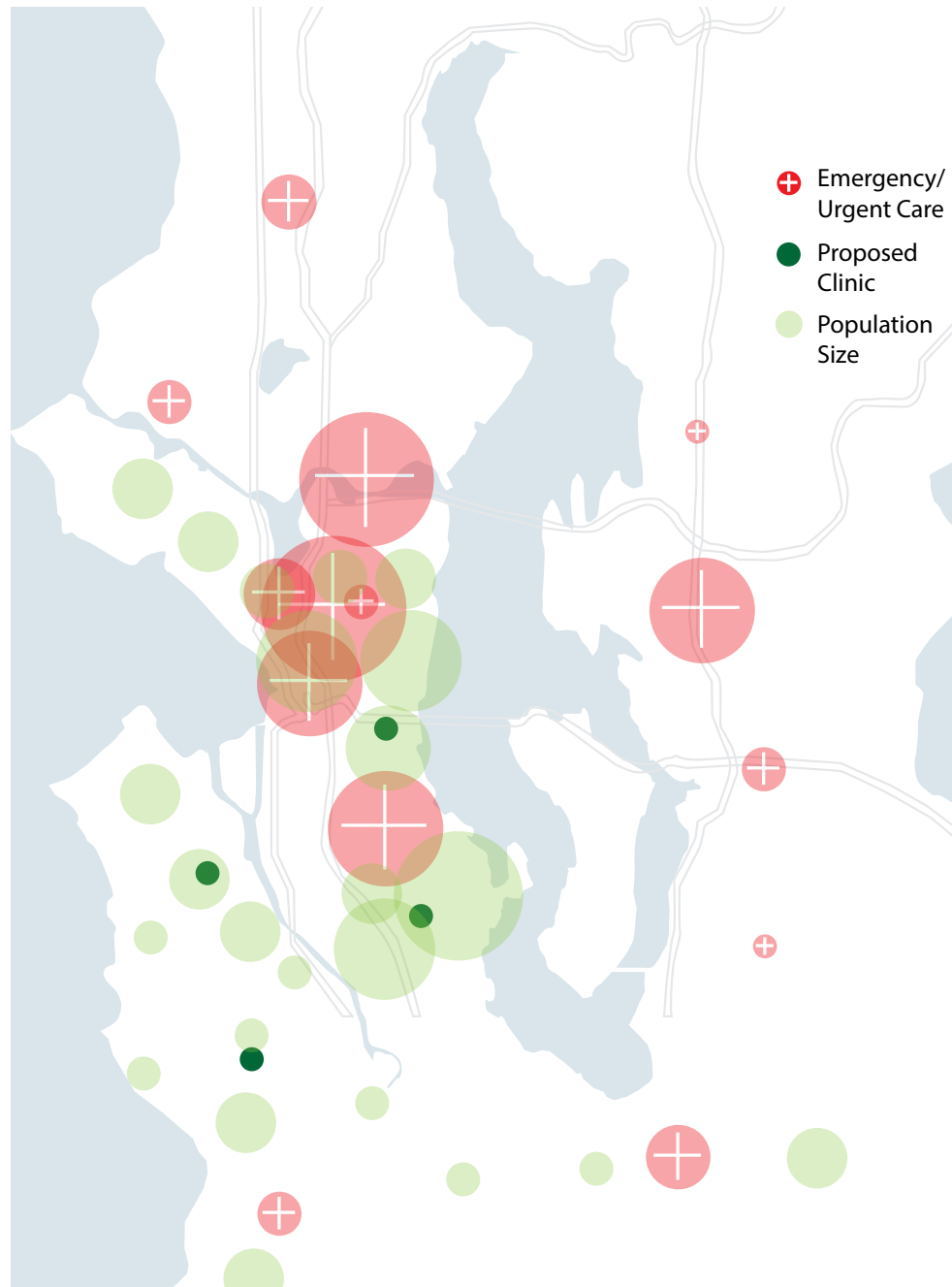


Figure 3.1 Existing Neighborhoods and The Proposed Network of NeighborhoodCare Clinics

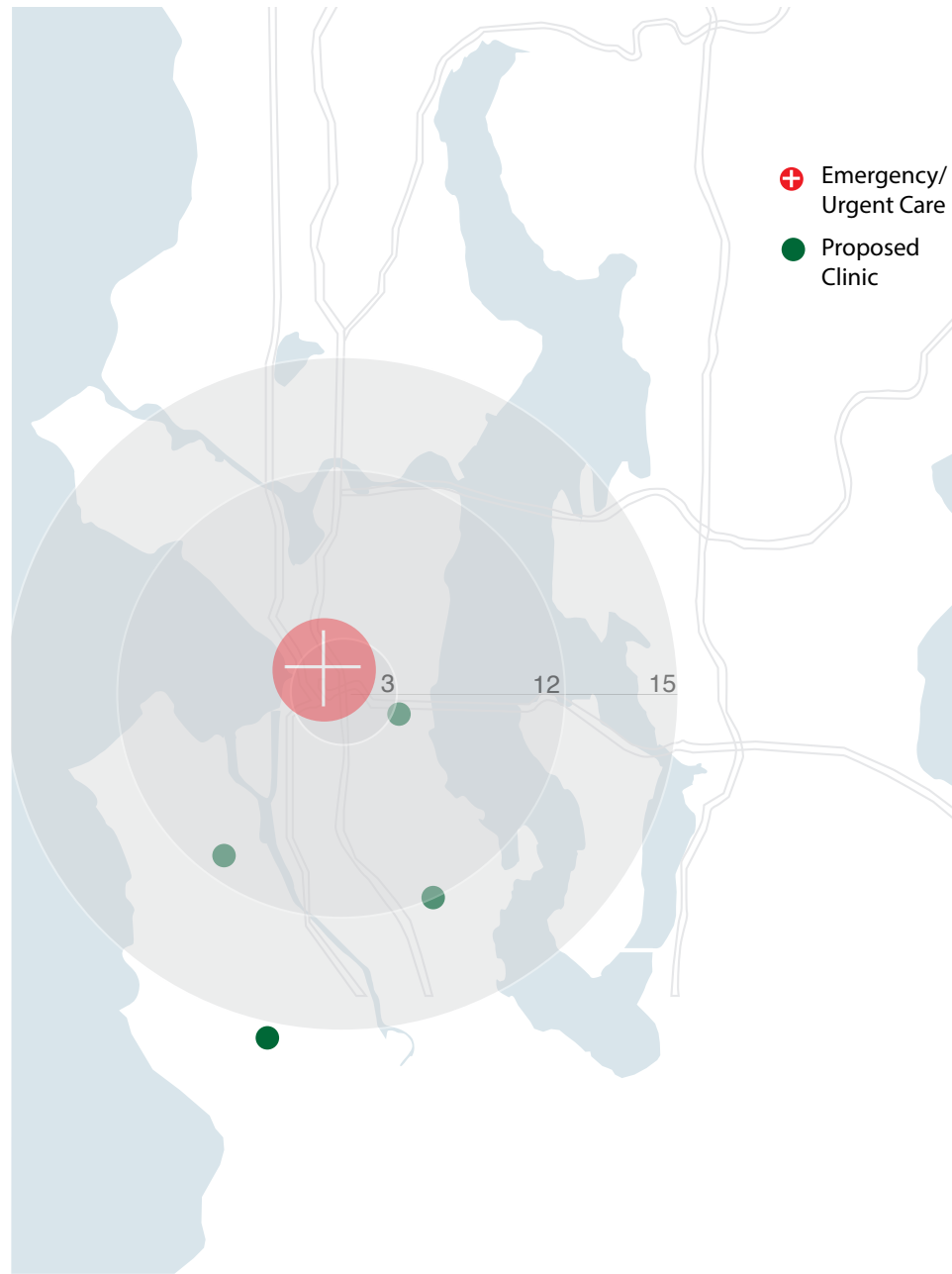


Figure 3.2 Distance to Affiliated Hospital

Central District and south King County. The representation of green dots as the proposed network of neighborhood clinics would bring accessible and affordable primary care in according to the local community's health needs to attract and benefit those of minor condition patients. The distance between the affiliated hospitals to the proposed primary care neighborhood clinics was also critical. Approximately three to fifteen minutes of the traveling time for emergency transfer or further referral for patients to be relocated from the clinic to the affiliated hospital or vice versa (Figure 3.2).

Phase 2: Urban Neighborhood **Healing Clinic**

The main focus of the thesis was the physical and social healing environment of the clinic. By utilizing the form of an urban neighborhood clinic, it was reformed in reaching for better accessibility to health services, and an improved quality of comprehensive healthcare to the undeserved communities. The new type

of primary care delivery approach (Figure 3.3) would be able to treat patients to prevent future use of acute care facilities, and to maximize the cost-effective use of resources. Because it was the experience that inspired the people inside it, the first logical step was to understand the principle of the outpatient clinic.

The outpatient clinic principles

Accessibility

The urban neighborhood clinic would be part of a decentralized network, small-scale and accessible. The location would be chosen based on the efficiency in reaching by any transportation system, as well as its visibility and familiarity in the surrounding area to effectively reach out to the community.

Pause Area

Pause area as oppose to the typical name for waiting area would be carefully designed through the integration of interior nature and furniture placement. The mixture of the elements could

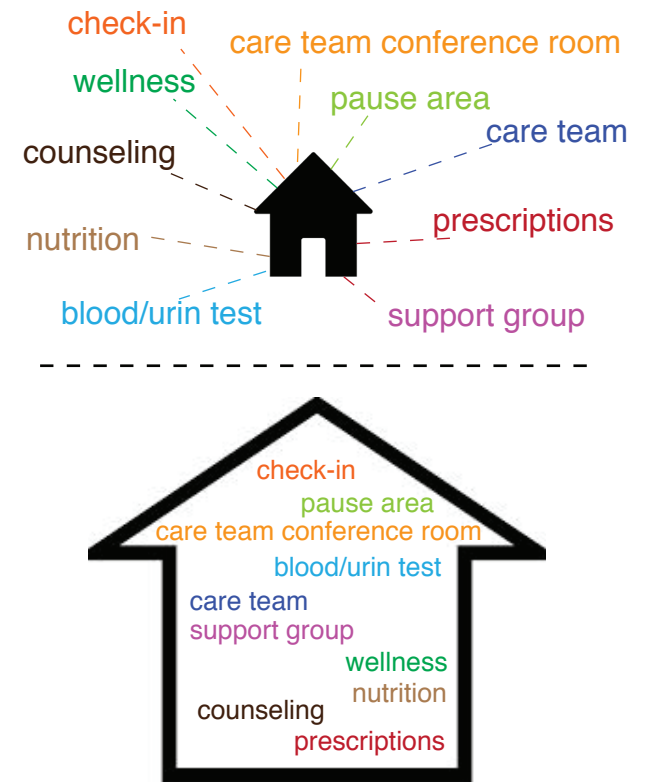


Figure 3.3 Under-One-Roof: better efficiency and interaction with each other if activities are connected under one roof

ensure privacy and promote comforting atmosphere in according to patient's personal preference.

The Care Team

In the effort to reach out to the community before hospitalization is necessary, the outpatient-healing clinic would house physicians working in a collaborative team to treat urgent care and care management for chronic illness patients. Chronic conditions included heart disease, stroke, diabetes and obesity. Each of these physicians would be mixed together with a care team of nurse, nutritionist, and mental health counselor managed by a certified medical assistant. It was projected that with the new type of health care delivery system, physicians were able to acquire further understanding of each patient's improvement as well as to provide more consistent care for varying symptoms. There would also be transient professionals of physical or family therapists floating between each case according to the needs of each patient.

Care teams would share an office space as well as weekly meeting to not only foster a comprehensive approach to each patient's diagnosis and treatment (Figure 3.4). Each comprehensive office would connect to the care team conference stations as opposed to the conventional exam and treatment room, where a team of nurse, physician assistant, medical assistant, mental health counselor and a nutritionist leading by the physician were coordinated to supervise patients with a holistic health services and treatment options. These conference stations represented a hybrid in the decentralization movement of healthcare delivery system.

The Care Team Conference Station

The care team conference station was a unified exam room with a consulting space. It was as intimate and separated in responding to patient's preference with privacy. Each station was designed to be facilitated with an intimate healing garden, which would be further illustrated under Chapter 4: Design Development. The main conference space would

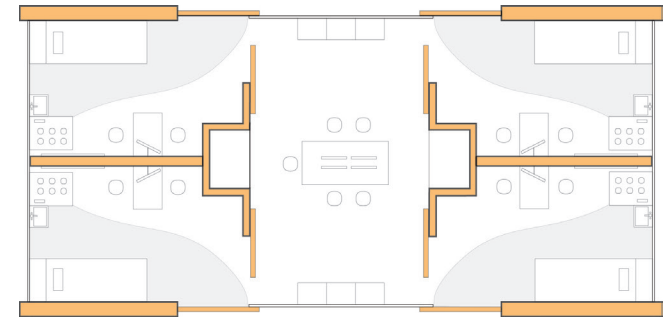


Figure 3.4 The Proposed Health Care Delivery Service: Care Team Conference Stations

house the whole care team members to ensure comprehensive supervision with professionals in all fields. Each appointment was designed for forty-five minutes, and the medical assistant, as the personal coach assigned for each patient will schedule, fill out insurance forms, and follow-up before patient's next visit. Family members were welcomed and encouraged to participate in the main conference space to understand and support their loved ones throughout the procedure.

On-Site Lab Service

Outside of the conference rooms were facilities for blood draw as well as lab station for on-site testing and housing of samples. These facilities were essential to provide convenience and fast result for both patient and the care team. It was also encouraged to participate one blood analysis during patient's first visit, to not only observe their own health condition through blood cells, but also to assist practitioners to use it as a basis for prescribing supplements and treatment options. (Nguyen, 1)

The Healing Hub

This was no longer a typical clinic because it was one that addressed an appropriate care facility for minor condition patients and undeserved communities, recognized federal qualified clinical model, and increased adherence associated with greater weight loss and cardiac risk factor reductions (Dansinger et al). While the clinical space was placed at the top level on site for better privacy, natural light, and views of nature, there were also programs for social support and interaction located on the lower levels within the site. Educational healing spaces for wellness and events would be housed on the third level, whereas the second level would house all the food retails and pharmacy spaces, and the ground level would be designated for the community food distribution space to attract and encourage the involvement from the public.

The intention of these program spaces was to provide education and socialization between patients, as well as between the clinic and the public. (Figure



Figure 3.5 The Program Framework

Integrated by clinical space, wellness center, and healthy food support

3.5) It was envisioned that this proposal would bring people together to heal, exercise, meditate, cook, and share, and advocate for better health and healthy diet.

Nature

Successful environments for health and wellness required positive relationships between patient spaces and natural elements. This would be accomplished with therapeutic gardens, views to surrounding trees or parks, natural light, and interior colors and artworks that evoke nature.

Central District Site Analysis

The site of the proposed clinic needed to be carefully selected because of its proposes to not only foster medical aids for better accessibility for minor condition patients, but also to implement healing activities to connect the facility fully into the exiting collective community.

Central District was the most suitable setting for the proposed clinic

location, for it was one that would be serving all the surrounding major ER service hospitals with a more accessible and affordable primary care health delivery services for the local community. It also had a potential to bring higher attention to the health condition of the neighborhood since the area was undergone a transition of redevelopment by the Seattle Housing Authority.

Urban Context

The Central District Area is bounded to the north by East Madison Street, to the south by Interstate 90, to the west by Rainier Avenue/12th Avenue, and to the east by Lake Washington. (Seattle.gov, Central Area District) Within the boundary, there are four major large-scaled medical centers that provide and compete with each other in serving inpatient and outpatient general, acute, and emergency services (Figure 3.7). They are Virginia Mason, Swedish Medical Center (First Hill and Cherry Hill Campus) and Harborview Medical Center, providing a stable presence of healthcare in specialized care and trauma center.

There is also a new neighborhood clinic serving as a dental care service center. It was cost-effective to understand and recognize the available medical services to avoid repetitive health care services in the same neighborhood. There was nothing similar to the propose clinic of providing healing space and primary care services to the local residents.

Health Profiles of Seattle Neighborhoods

While chronic diseases typically result in specialized treatment in centralized facilities, the proposed health care facility sought to focus on supervising patients' treatment after referring them to specialized testing, as well as providing preventive care in the hopes of shifting the focus from the treatment of disease to the promotion of wellness. Outreach strategies such as the promotion of exercise and a healthier lifestyle would also carefully designed as part of the program.

Data from the public health department of king county revealed that the leading cause of death in the Central District Area was heart disease (City

Health Profile, King County), which was related to other health problems such as strokes, diabetes, and obesity (Figure 3.6).

Lack of Decent Food Amenity

Access to healthy food sources was another big concern in the Central District Area since health-related social support was scarce in this region (Figure 3.8). The site analysis revealed that the majority of the food services were coffee shops, along with three bars, and five restaurants. This information would be considered and improved through the social support provided by the proposed site programs.

Site advantages in the neighborhood were also important considerations to ensure that the site was appropriately selected. With the benefit of the existing site accessibility, institutional referrals, nature, and site familiarity, these physical characteristics of the neighborhood strengthened the concept of providing an accessible healing center to the local community.

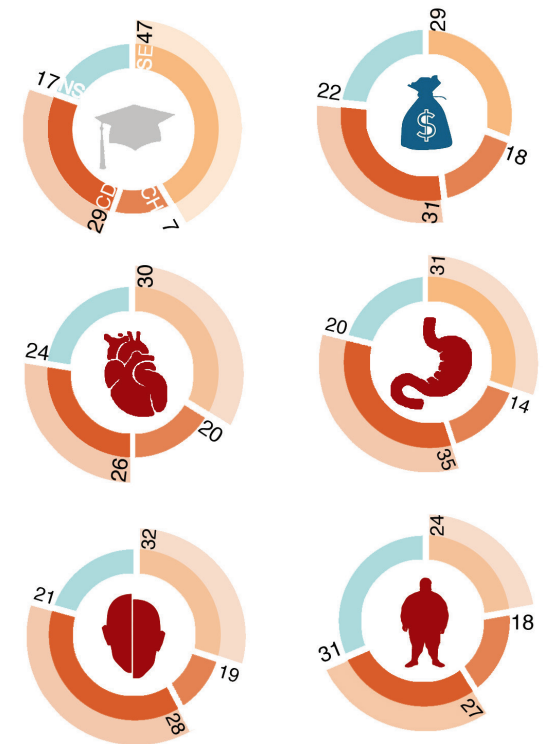
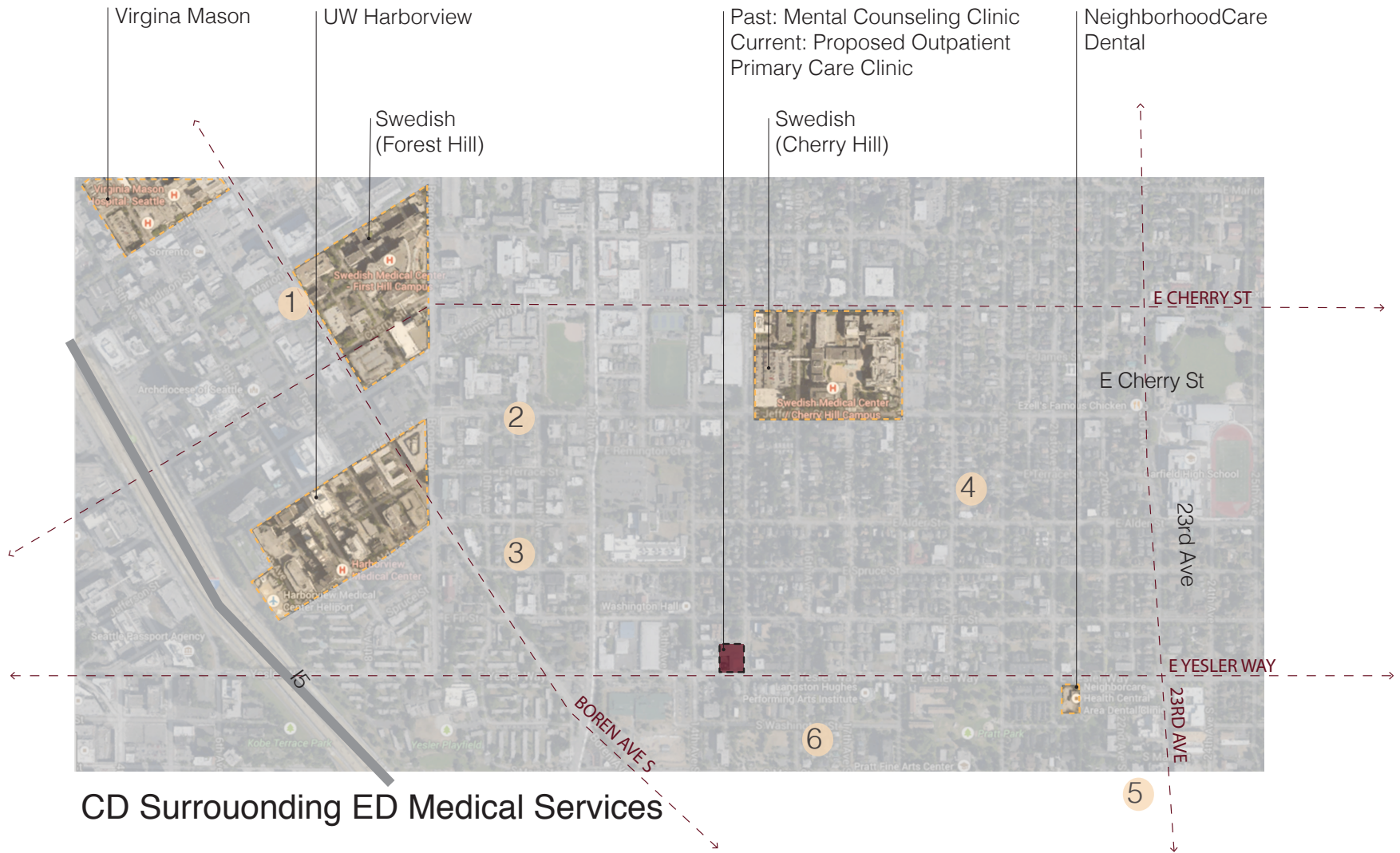


Figure 3.6 Health Indicators and Risk Factors of Seattle Neighborhoods



CD Surrouding ED Medical Services

- | | | |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <p>1 Virginia Mason Seattle Main Campus
- 335 beds for general/acute/emergency</p> | <p>3 Harborview Medical Center
- 400+ beds for general/acute/emergency</p> | <p>5 Neighborcare Health Center Dental Clinic
- of former Odessa Brown Children's Clinic</p> |
| <p>2 Swedish Medical Center/ First Hill
- 500 + beds for general/acute/emergency</p> | <p>4 Swedish Medical Center/ Cherry Hill
- 198 beds general/acute/emerg/cancer</p> | <p>6 The Proposed Site
- of former It Takes A Village Farmer services</p> |

Figure 3.7 Site Analysis of Surrounded Site Medical Services

Site Accessibility: Public Transportation

The success of the proposed neighborhood clinic required appropriate delivery services, but also critically depended on accessible public transportation. Because this project was expected to serve a high percentage of low-income group within the community, it was critical to recognize the advantage of having public transportation options. The easier to access to the site, the more potential users and staff would utilize this new facility. The proposed health clinic was at its convenience and accessibility to the public transportation of bus stops, future streetcar stops, as well as recently developed bike path from Belltown to north neighborhoods.

The Streetcar Service

The new public transit line of the First Hill streetcar would make this neighborhood even more connected to the heart of the city. The streetcar would also connect to major medical centers (Harborview, Swedish, and Virginia Mason), institutions of Seattle Central Community College and Seattle University and major sporting event

venues (CenturyLink and Safeco Field). The two stops in Central District Area were specifically located on Yesler Way between 14th Ave and Broadway, then on 14th between Yesler and Jackson, which meant that the proposed site would be within a ten-minute walk of a streetcar stop (Figure 3.9).

The Bus Service

Yesler Way hosted the 27 route public bus line, which went from Downtown Seattle through Harborview Medical Center, Yesler Terrace, Bailey Gatzert elementary school, the **proposed site**, Langston Hughes Performing Art Institute, Neighborcare Dental Clinic, Public Library Douglass Branch, and Leschi Elementary School end route to Leschi Park. This bus line facilitated the local community to all significant public services to easily commute to the clinic. As for outside visitors and staff members, a short walking distance bus station (0.2 miles) has various bus route options (9, 43, 49, 205, 265, and 309) to access to the clinic facilities.

Social Factor: Institutional Referrals

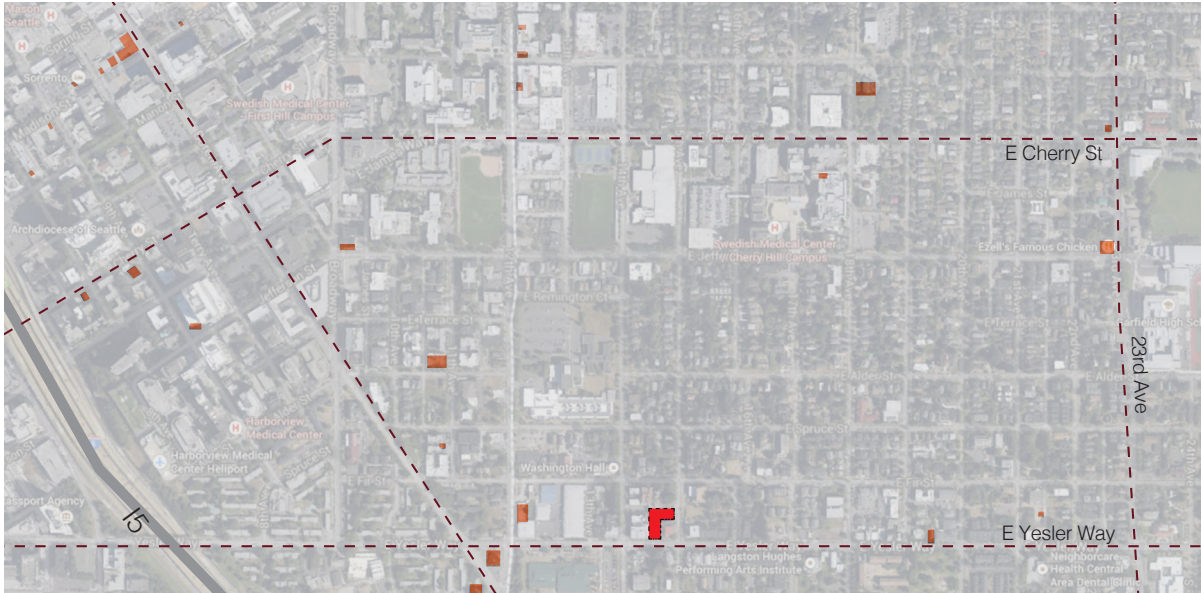


Figure 3.8 Site Analysis of Food Services in the Neighborhood

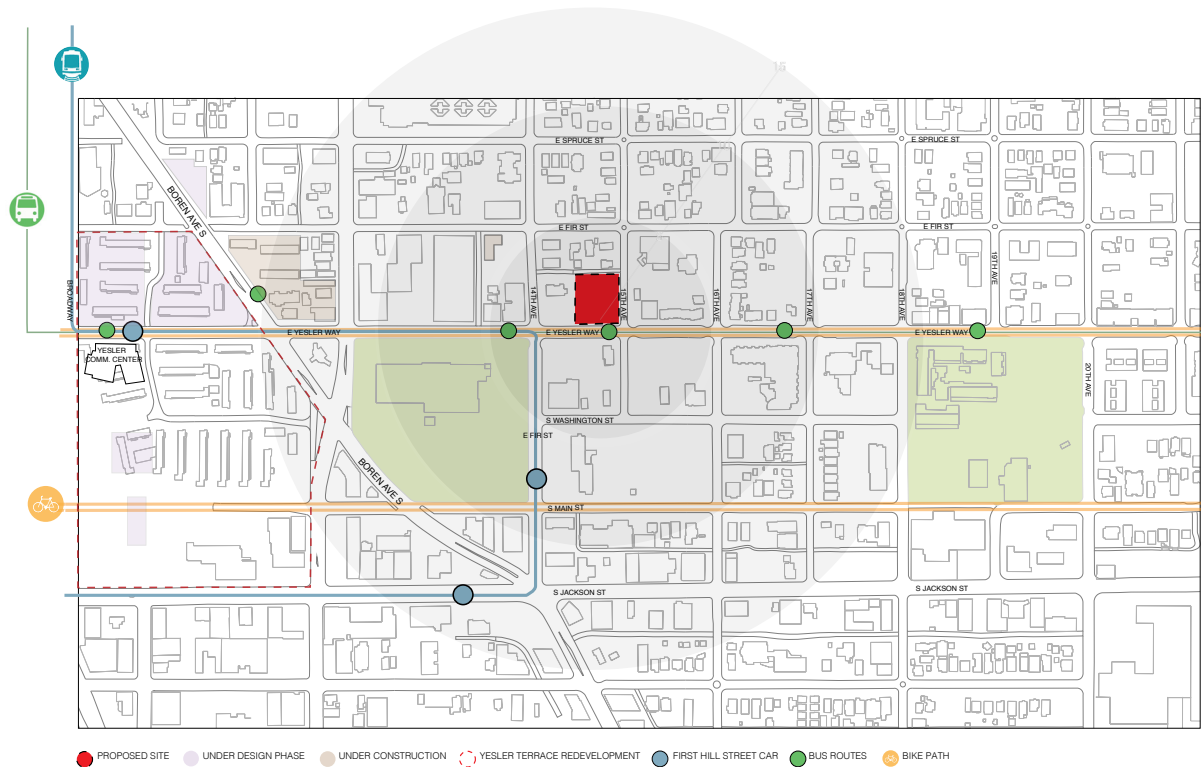


Figure 3.9 Public Transportation Options Around the Proposed Site

The surrounding institutions of the site would form a strong referral network. Including churches, temples, schools and community centers (Figure 3.10), the site would be highly utilized because of its engagement and relationship with the local community.

Nature

The Central District Area had a high greenery concentration around the neighborhood (Figure 3.11). Throughout the analysis, there were approximately six types of tree species: Maple, Ash, Linden, Cherry, Evergreen, and Oak. The illustration revealed the deciduous and evergreen species around the surrounding area, as well as their height approximation. In addition, water flowing direction and its relationship with the grade change were also studied during the research process.

Familiarity

Although it was an abandoned mental health counseling service site on the urban village zoning area, the event in turn led to a familiarity to the local

community (Figure 3.12). There were more incentive and potential to renovate since the site functioned as a medical service facility already.

Central District Site Selection

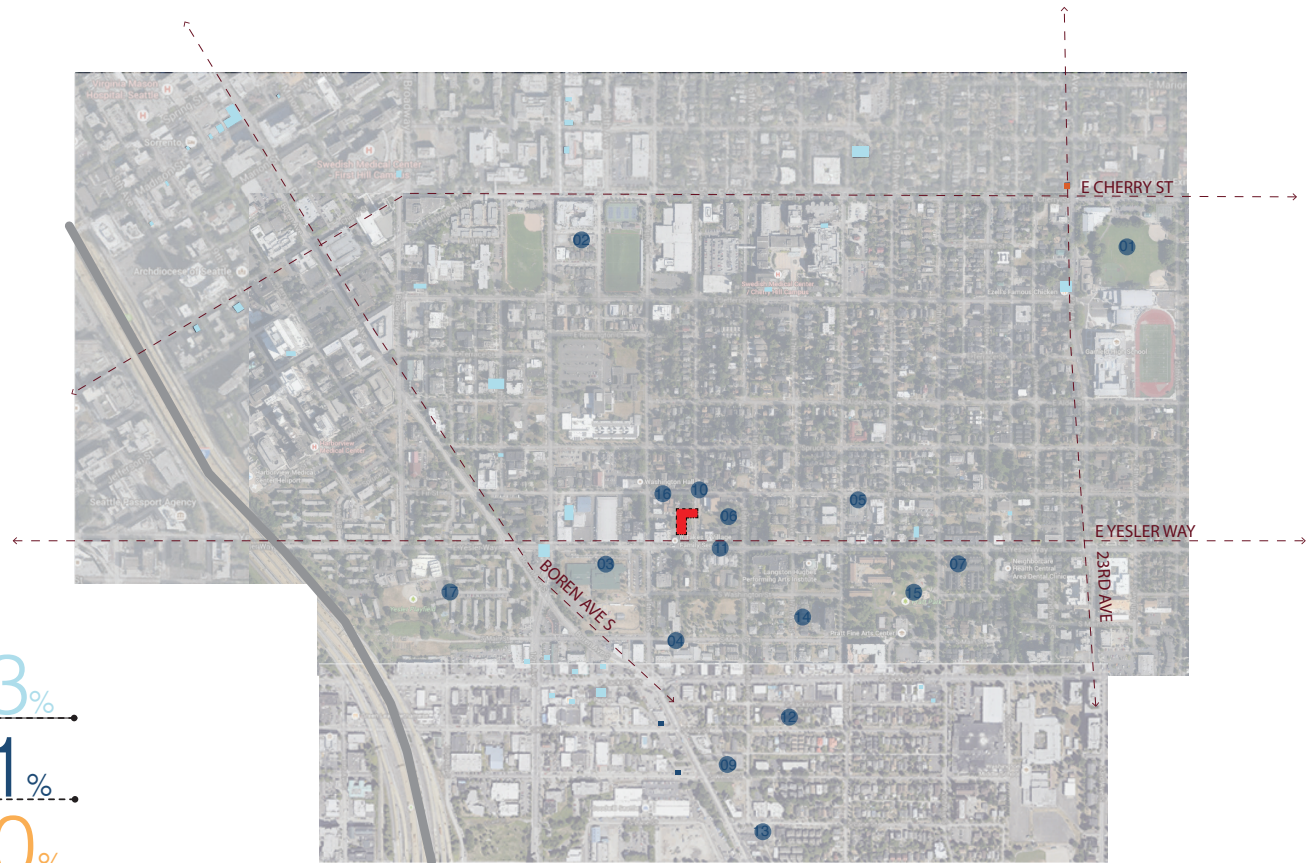
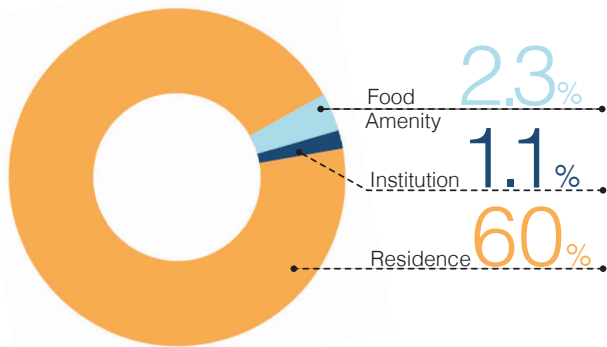
There was one site found to be the best corresponding to all needed criterion: **1416 E Yesler Way** (Figure 3.13). It was surrounded by a mixed-use development hosting single families apartments, Community Law Center, and Central District for Arts and Ideas (1), a Kuniyuki home for elderly (2), a single family residential use (3), and a 7-unit apartment development (4). Adjacent to the proposed site is a vacant land (10), a parking lot for Armored Transport (5), Armored Transport (6), a triplex apartment (7), a Filipino community club (8), and a 4-unit apartment (9). In addition, one block west of the site began with the Yester Terrace construction (Figure 3.14), and Bailey Gatzert Elementary school.

FOOD AMENITY

- ☐ Coffee shop/ Restaurant

INSTITUTIONS

- ① Garfield High School
- ② Seattle University
- ③ Bailey Gatzert Ele. School
- ④ Seattle Buddhist Church
- ⑤ Faith Bible Church
- ⑥ Koyasan Buddhist Temple
- ⑦ Church Of God
- ⑧ Japanese Cultural & Comm.
- ⑨ Filipino Comm.
- ⑩ Langston Hughes Perf. Arts
- ⑪ Refugee Resettlement Office
- ⑫ Tea Garden
- ⑬ Pratt Fine Art Center
- ⑭ Pratt Park
- ⑮ Old Folks Home
- ⑯ Yesler Terrace



CD Surrounding Amenities

Figure 3.10 Social Factor: Institutional Referral

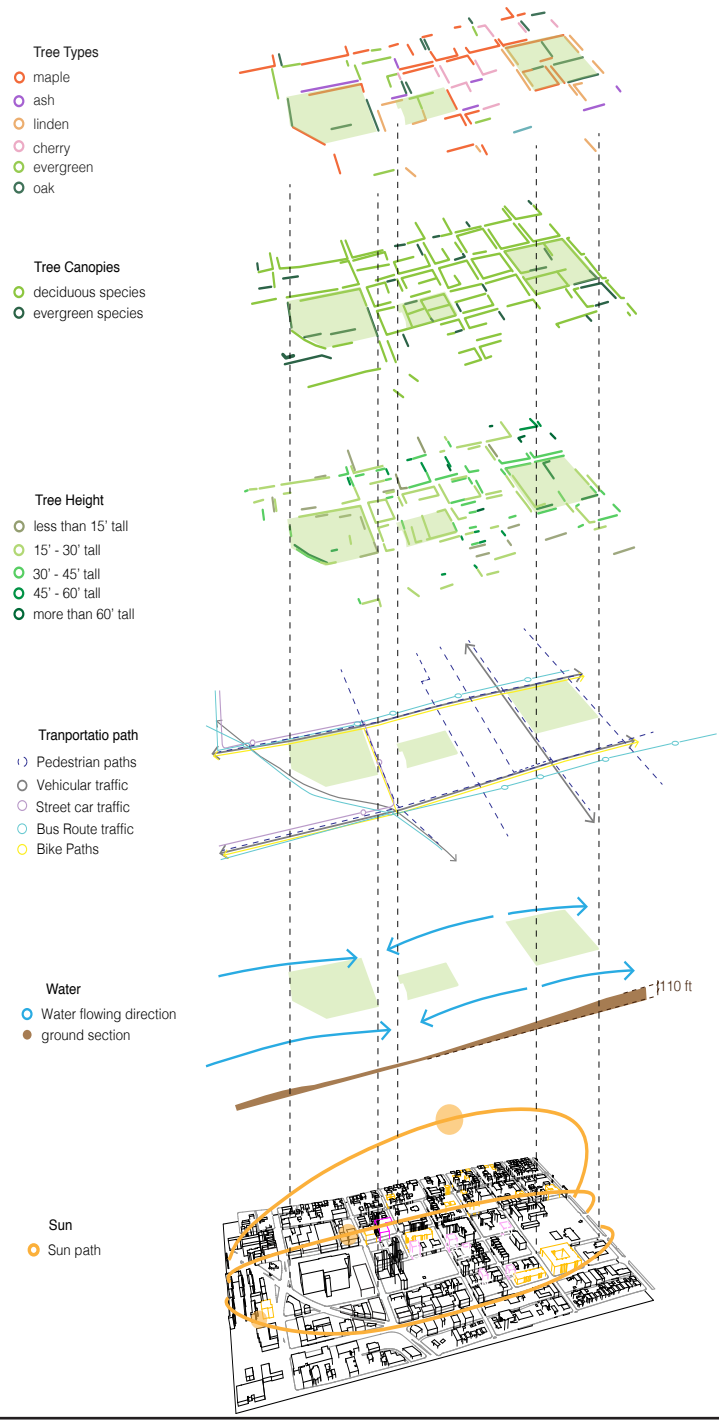


Figure 3.11 Greenery Infrastructure in CD Area



Figure 3.12 The Current Site Condition

Zoning Condition

The zoning classification for most of the Central District Area was Neighborhood Residential, with a 44-foot height restriction for NC2- as medium-sized neighborhood commercial medical facility. For transparency requirement, this non-residential used building needs to have 60 percent of a street-facing facade, with an depth of 30-foot wide on street level and a minimum height of 13-foot. The maximum footprint was no more than 25,000 Square Feet. There was no parking required in urban center zoning when the potential site is part of the urban village with frequent transit service within ¼ miles. (Seattle Municipal Code Table of Contents) Although no parking was required in urban villages with frequent transit service within ¼ miles (~1,320 feet), an available NC2-40 vacant lot was adjacent to the potential site that can be potentially utilized as a parking lot. It was a rectangular shape lot with a maximum width of 70 feet, and a maximum length of 135.83 feet, with a total footprint of 9508.1 Square Feet.

The Site and its adjacency

The 1416 E Yesler Way site was located on E Yesler Way between 14th and 15th Ave. It was an L shape lot with a maximum width of 137 feet, and a length of 173 feet, which the total footprint of the lot is 16,801 square feet. Although it was currently an abandoned site on the urban village zoning area, there were no soil or environmental conditions that warranted future consideration.

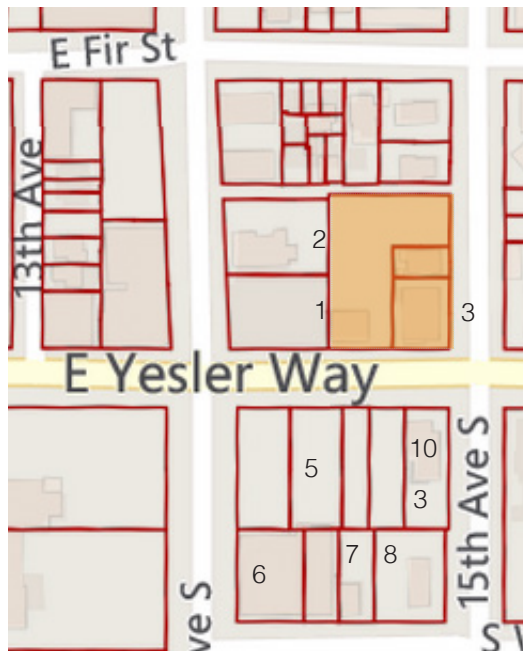


Figure 3.13 The Chosen Site for this Project and Its Adjacency



Figure 3.14 The Relationship between The Site and Yesler Terrace Redevelopment

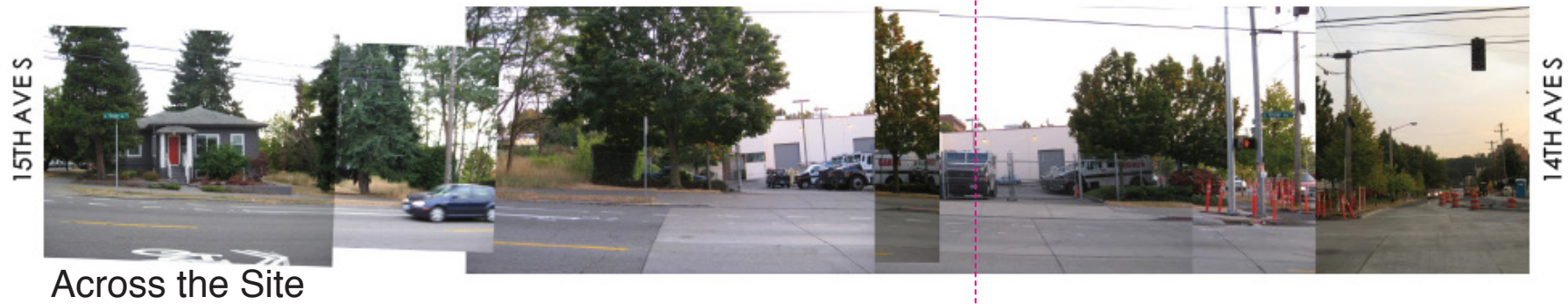
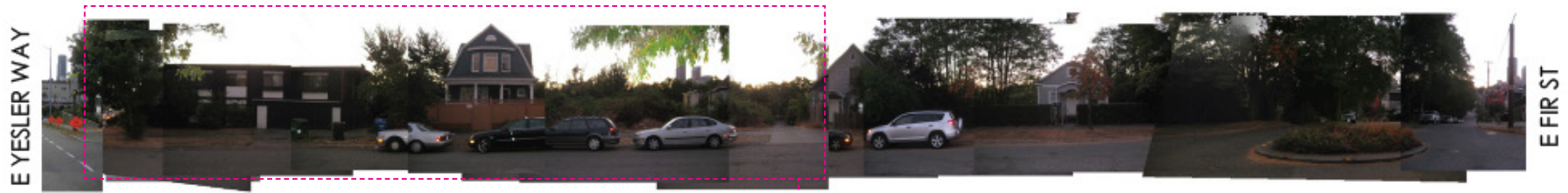


Figure 3.15 The elevation of 23 E Yesler Way showed the character of the street on which the project would be built. It was currently the abandoned mental counseling clinic



E YESLER WAY

E FIR ST

14th Ave



E FIR ST

E YESLER WAY

15th Ave



Figure 3.16 The Elevation of 14th and 15th Ave on E Yesler Way

Design Concerns

Site condition considerations vary from building grade change to programmatic adjacencies. With a fifteen feet grade change between 14th and 15th Ave of the site, the site condition would affect the placement of the programs on ground level. The surrounding relationship with the site was mostly residential development to the north, east, and west, and more commercial and social development to the south of the site. To correspond to the site conditions, the orientation of most programs would face south, while the educational classrooms may orient to east and west. The structure of the interior landscape and healing garden spaces would be determined and corresponded in according to the placement of the building programs. Although the form of the program space was still uncertain, Figure 3.17 revealed that programs were imagined to be organized horizontally with various atrium spaces connecting them vertically.

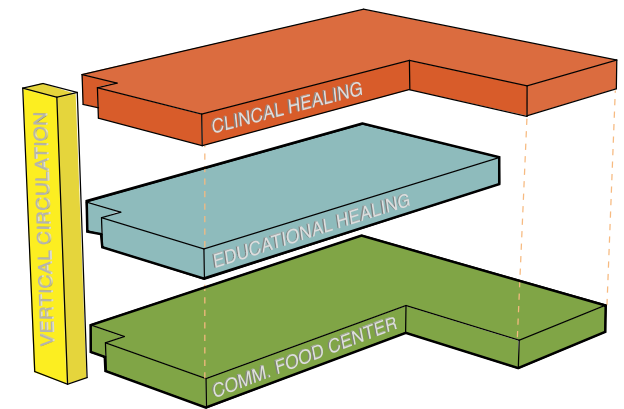


Figure 3.17 Privacy Diagram of Programs

Programs were organized into tiers based on privacy level from public programs on the ground floor to semi private and private as moving further away from the street



Figure 3.18 Looking Towards Puget Sound

Chapter 4: Design Development

Concept

To first fully understand the relationship among the caregivers, patients, and family member, the design development considered a typical patient experience in sequence, the collective care team members, and a fictional network of care team members, patient, and family support. This approach could inform design process on how each program space should connect and respond to its inhabitants when occupying the space. The horizontal flow corresponded to the efficient and proper clinical procedure with patients, and

the vertical flow focused on how design program spaces can attract and bring in inhabitants to interact and experience a healing experience from the moment they walk in (Figure 4.0). Target groups as community members would have various roles within the clinic, such as being a patient, parent, student, visitor, or staff. It is critical to sensitively separate and organize the appropriate program space in according to the privacy level and site condition, in order to provide a unique experience in a healing environment. This project focuses on the relationship between inhabitant's interaction with the placement of the program, the characteristics of the healing space, and the relationship between the healing space to the surrounding greenery (Figure 4.1). In other words, it is a healing center for not only patients, but also staff members, family support, students, visitors, and all the local community members.

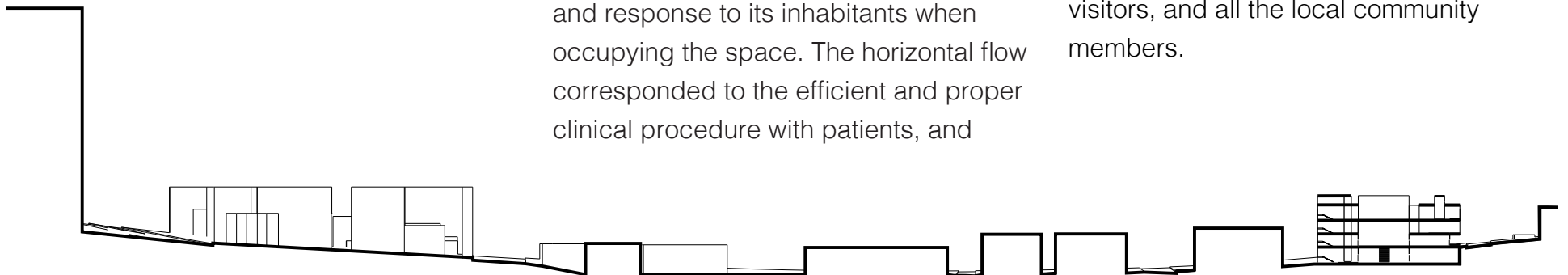




Figure 4.1 Site plan of the Neighborhood clinic which also revealed the vegetative layer throughout the surrounding neighborhood

Entrances

Since there was a grade change of 15 feet from the west to the east and north, an entrance would be located on the ground level of both the west and the south side (Figure 4.3). As the main entrance would be located on the south side, the west side entrance would function as the building's loading dock area for all the arriving medical equipment and distributed food sources (Figure 4.1).

As the external approaches were determined based on drop off locations, community flow, as well as the 15' grade change, the second step was to design the characteristics of interaction at each node between inhabitants and healing space.

Strategies

The programs of this project provided inhabitants with the opportunity to interact with its environment more than a typical clinic or hospital, and to foster interaction between interior greenery and the building itself. Important nodes throughout a patient's experience within the clinic were demonstrated in sequence

(Figure 4.5): the main entrance (1F), the atrium (1F), food retail (2F) classroom's hallway (3F), the pause (waiting) area (4F), blood test area, the intimate care team conference station (4F), and pharmacy (2F). Not only that these nodes were designed to have different levels of privacy, they were also assigned and collaborated with a specific healing garden according to the level of activity.

Healing Garden Spaces

As the comfort level of inhabitants was the primary design concern, the sequence of a patient's experience within the clinic informs both the scales and the characteristics of the interior landscape. The south side of the ground floor was chosen to be the main entrance to greet each inhabitant, which in result it was critical to bring in natural light for both plants and people in the area. The green landscape at the entrance was designed based on a mixture of healing herbs and green wall on a grand staircase where anyone could pause and appreciate the public indoor landscape scenery (Figure 4.8).

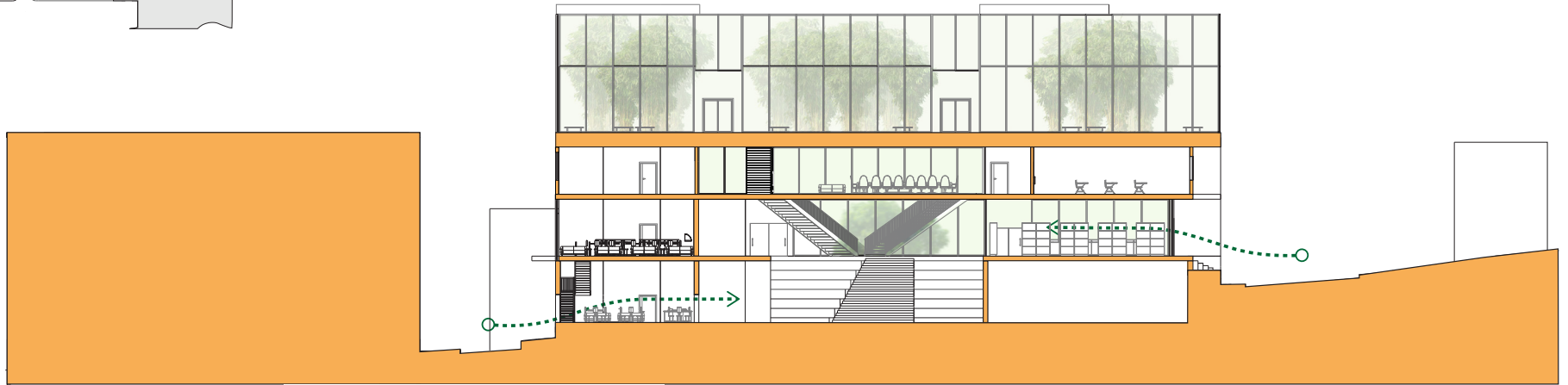
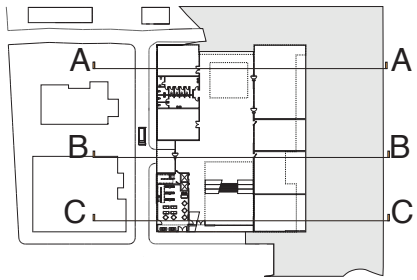


Figure 4.2 A-A Short Section

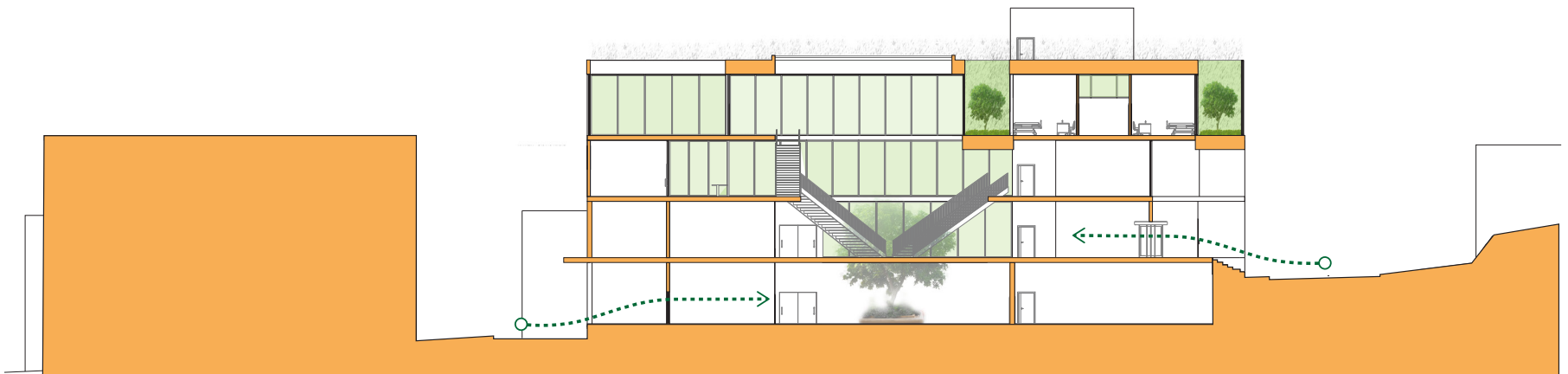


Figure 4.3 B-B Short Section

As the rest of the ground level was proposed to be food distribution area, it was an opportunity for the low-income community to interact with healthier food and diet options. This connection helped to determine the ground level greenery as healing forest, with planter seating areas that was opened to the public while having abundant sunlight coming from the skylight (Figure 4.4). The illustration revealed the openness of the healing space for plenty of activities and interactions.

As the patient moved upward to the second level, healing herb plants were placed along the pathway to provide an interaction with inhabitants' movement (Figure 4.5). The interior landscape lead the patient walk pass the wellness center no the third level area before reaching to the care level (Figure 4.9). With a transparent green canopy along the pathway, the semi-private space helped patients, students, and staff to have more intimacy interaction with each other.

As the patient reached to the care level, a healing sky walk was part

of the experience before reaching to the care team conference station (unified care room) (Figure 4.5). While being in the conference station, both patients and staff got to experience their own intimate healing garden space to heal psychologically during the treatment procedure (Figure 4.15). The closer interaction with nature was in hope to abate the stress level as well as increase the potential to heal more rapidly in according to Ulrich's research on "View through a Window May Influence Recovery from Surgery" (Ulrich, 3). With the abundant natural sunlight entering the care room space, it was to not only help patients to appreciate and enjoy the healing atmosphere, but also to provide sufficient nutrition to healing gardens.

Although the roof area was not accessible, it was proposed and designed as a vegetated roof system used in place of a conventional roof (Figure 4.6). The decision was highly relevant to the benefits in regard to the significant rainfall during the winter months in Seattle. It would improve not only human health and

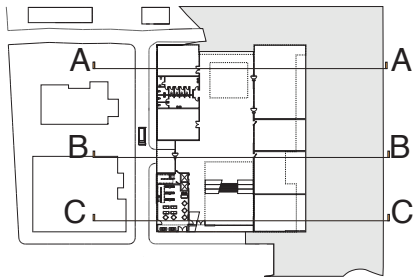


Figure 4.4 C-C Short Section



E Yesler Way

Healing Bamboo
Pause Area

Cascading Healing Herb and
Healing Green wall
Care Room's Individual Healing
Garden

Healing Canopy For Wellness
Center

Vegetated Green Roof

Healing Forest For Public Gathering
Area

Alley Way

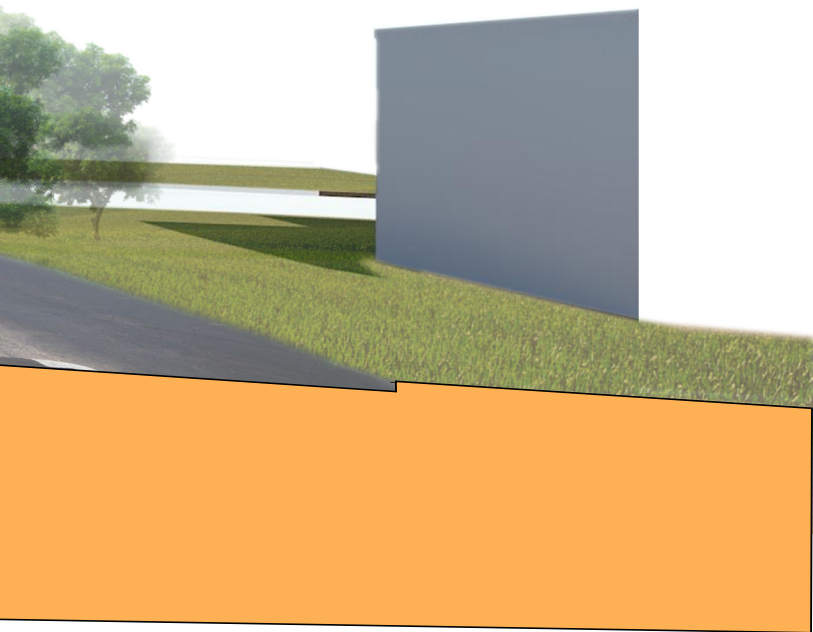


Figure 4.5 Section Perspective: Revealing the interior relationship between program and healing space through the illustrated section perspective

comfort, but also the quality of water, air, as well as energy use.

Final Neighborhood Clinic Design

Each significant node of the building space was designed to create a high interior healing environment that would establish a standard of healing center for all users. With five skylights penetrating natural light into the building, programs and greenery were illuminated and spotlighted at different periods throughout the day.

The indoor environment encouraged the concept of creating a collective community and centralizing all services along the bars on east and west side of the building, while keeping the central pathway opened as the social heart of the site. Each level had its unique characteristics, and strategically incorporated healing landscape and seating surfaces throughout the building to encourage communication and collaboration. The shared communal space had become an important connective tissue to navigate inhabitants to reach to the upper levels within the clinic.





Figure 4.6 Site Perspective: Revealing the Adaptation of Greenery Into the Site

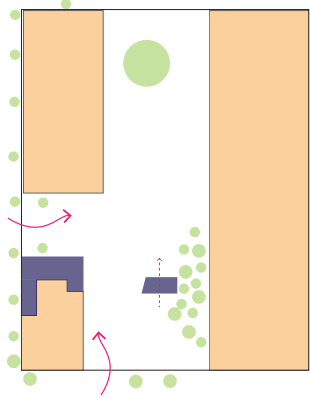
Program placement

Ground floor

The ground floor plan housed most of the public functions, and worked to attract both patients and community members into the building (Figure 4.7). Once through the main entry, visitors approached to the grand staircase, the central healing herb path, yoga space on the east side of the building, and a mix-use space of a coffee shop and a second hand bookstore on the west side of the building. The two elevators were located on the west side of the building, which were easily accessible for any urgent matters, but not celebrated to be heavily in use since the idea was to encourage and reinforce exercise when possible (Figure 4.8).

Along the east side bar was the placement of yoga space, community kitchen, restroom and food storage space. On the west side bar was the space for an used bookstore, loading dock area, job training center, drop-in food, and food

bank. The placement of the public healing forest at the central path was placed for all inhabitants to interact with (Figure 4.9).



1. Yoga
2. Community Kitchen
3. Restroom
4. Food Storage
5. Used Bookstore
6. Job Training
7. Drop-In Food
8. Food Bank



Figure 4.7 Ground Floor and Diagram



Figure 4.8 The interior landscape with cascading plants and green wall, and a few free-standing tall trees created the healing herb atmosphere. Illuminating by the skylights, this space was carefully designed to welcome and comfort patients and all community members.



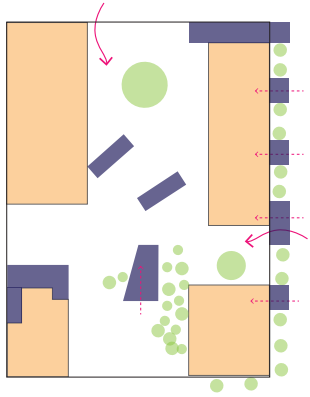
Figure 4.9 Healing Forest Atrium Space

Second Floor

The second floor mainly consisted of food retail spaces as well as medically related services such as pharmacy and massage therapy. As the visitor walked up to the grand staircase along the healing herb path, the pharmacy and a tranquil healing garden space were placed as the storefront advertisement (Figure 4.10). A secondary entrance was placed on the east side bar due to the existing grade change, as well as to promote accessibility. Three food retail spaces were presented on the northeast side bar for enhancing storefront engagement with the public. Each retail space also had its direct entry way for customers to access from 15th Ave.

There was a tertiary entrance located on the north side of the second floor for convenience and connectivity to the street. Since there were plenty of coffee shop amenities around the Central District neighborhood, the coffee shop on the second floor was placed to serve the internal staff during break periods or for any personal needs. Be aware that it was

not a celebrated program, but functioned as a supplemental support for the staff members in the building.



- 9. Pharmacy
- 10. Food Retail
- 11. Coffee Shop
- 12. Herb Healing
- 3. Restroom
- 13. Massage Healing

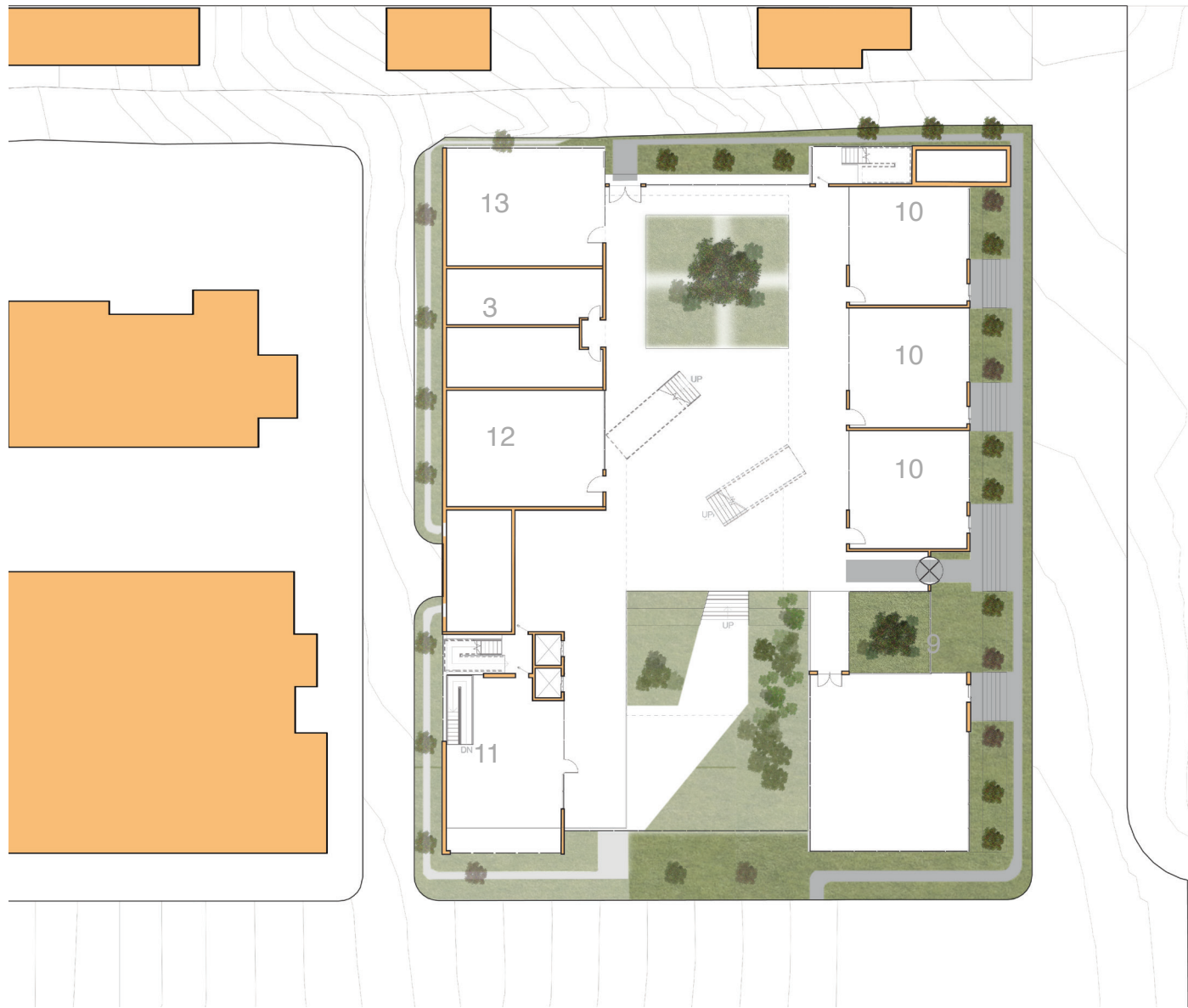
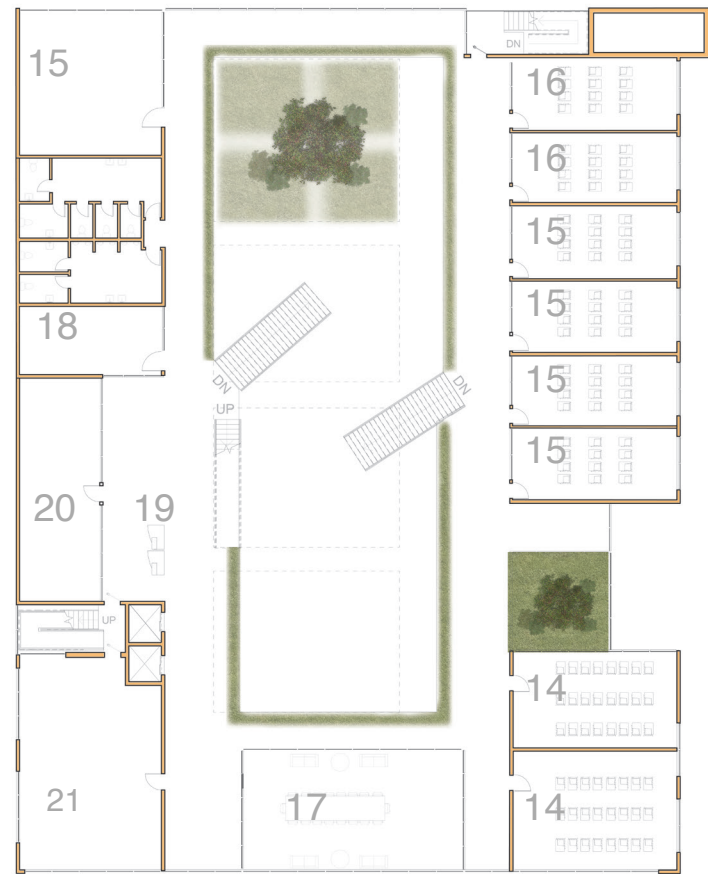
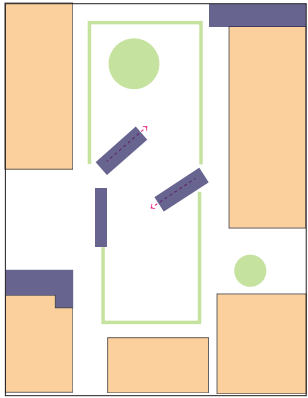


Figure 4.10 Second Floor and Diagram

Third Floor

There were two staircases bringing the visitor to the wellness center floor. The third floor housed classrooms for counseling sessions, internal staff training, and wellness center (Figure 4.11). Wellness center focused on prevention and promoting positive physical and mental health. While the level was considered more semi-private, healing canopy was designed as a buffer zone as well as a different interior landscape atmosphere to establish an appropriate healing standard for educating space.

There were all services on the west side bar starting with reception desk and staff office at the immediate approach when landing on the third floor. An event space and kids play area were also located on this level. Kids play area was provided to assist students who have children, so that parents would be able to participate and perform better during classes. Patients with kids could also drop off their kids at the area before their appointment. All programs on this floors were supportive services for all inhabitants to utilize.



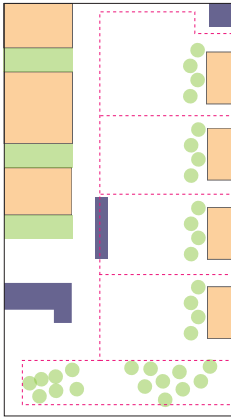
- 14. Classroom for Counseling
- 15. Classroom for Wellness Center
- 16. Classroom for Staff Training
- 17. Meeting/ Conference Room
- 18. Kids Play Area
- 19. Reception Desk
- 20. Staff Room
- 21. Event Space

Figure 4.11 Third Floor and Diagram

Fourth Floor

The fourth floor was separated into two elements (Figure 4.12). The east side bar occupied all the care rooms and caregivers' office space. Each of the care rooms was designated with an intimate unconditioned healing garden (Figure 4.13). This gardening space could be observed during the sky walk, or during the appointment session. Each staff room was connected to four care team conference stations, which was a similar concept to the unified care room (Figure 4.15).

The bamboo healing pause area was also created to help patients and family members to relax or distress from any sickness (Figure 4.14). It was created into two parts of the bamboo healing spaces, the larger and the smaller planter seating area, where patients could simply decide which area they wanted to be seated in.



- 22. Care Team Conference Room
- 23. Staff Office Area
- 24. Intimate Healing Garden
- 25. Blood Test
- 26. Lab Station
- 27. Bamboo Healing Pause Area



Figure 4.12 Forth Floor and Diagram



Figure 4.13 Viewing Care Room's Healing Garden and Bamboo Healing Pause Area



Figure 4.14 Bamboo Healing Pause Area



Figure 4.15 Care Team Meeting With An Urgent Care Patient

Chapter 5: Conclusion

This thesis first started as an attempt to create a healing environment in which patients would feel more comfortable during their wait in the bamboo healing area, and more willing to interact and share personal experiences with one another. Fueled by my own struggles growing up in the hospital, I felt that this was a great opportunity to solve what was absent in the current clinical atmosphere, especially with the passing of Affordable Care Act. Growing up with universal healthcare, it really made me appreciate it more when studying abroad in the U.S. This idea of integrating a healing center and social support remained as the core focus of the project since the beginning stage to the day of completion.

Throughout the past two quarters of research and project development, the programs expanded and new elements were added, such as bringing vegetation in all aspects into the project. The initial concept remained solid with a new type of health care delivery system, the involvement of preventive education, and the main driving force of integrating healing gardens.

The research process had a strong impact on the development of this document. Lots of design decisions and solutions were directly influenced by the theoretical framework. Especially on the spatial design of care team conference station and care team organization, there would not be a new proposed typology without the existing conventional examples.

Through each pinup session the concept was always supported, but how to find a strategy to connect this clinic to with the community both internal and externally was always a part of the discussion. In addition, the dialogue between the characteristics of healing gardens and its relationship with program spaces were carefully

designed throughout the process development.

With all the specialized care facilities, it was important to recognize the need for an appropriate neighborhood primary care clinic that would mainly serve the communities' health conditions in order to prevent overutilization of hospitals. The standard of appropriateness includes accessibility, elements of healing space and social support. These programs were never implemented into the health care system, but these changes would create a stronger holistic healing environment with better treatment and efficiency for all.

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