NIAGARA HEALTH **WAYFINDING STRATEGY REPORT**

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NIAGARA HEALTH PROLOGUE

The success of the South Niagara Hospital will be defined by six design themes, one of which is wayfinding design. Wayfinding describes the process by which an individual navigates through their environment to reach their destination. In a hospital setting, wayfinding shapes a significant part of the patients', visitors' and staff members' experience, by determining how easily they can make it to their appointment, visit a loved one and perform their job. This report is intended to define opportunities to create an effective, efficient and South Niagara Hospital specific wayfinding strategy. A successful wayfinding program not only allows individuals to move comfortably through the hospital, but also creates a calming and supportive hospital experience. The recommendations of this report are developed through an iterative research process composed of three phases.

Phase 1:
In the Understanding Phase, the wayfinding experience at the current Niagara Health sites was examined, as were the needs and expectations of stakeholders. This phase also included a review of industry trends, best practice and strategic insights to establish a baseline understanding of potential wayfinding solutions and strategies. These initial findings were further explored and developed in subsequent stages so as to generate South Niagara Specific wayfinding strategies.

Phase 2:
In the Analysis Phase, extensive stakeholder engagement workshops explored opportunities and constraints that may define a successful wayfinding strategy. A thorough analysis of proposed hospital plans and blocking, along with an audit of the St. Catharines and Welland sites provided further insight regarding an effective wayfinding strategy. The analysis phase concluded with the development of an evaluation matrix, which began the process of organizing and framing specific groups of wayfinding recommendations and requirements.

Phase 3:
In the Synthesis Phase, the recommendations developed previously were systematically framed and positioned so as to develop a South Niagara Hospital specific wayfinding strategy. Recommendations were positioned into three categories: Wayfinding Design Standards, defining the baseline, perspective, low level requirements for wayfinding success; Wayfinding Vision and Principles, defining the high-level aspirations and visions for the wayfinding experience; and Wayfinding Design Guidelines, defining holistic wayfinding strategies that allow us to bridge the gap from the Standards to the wayfinding Vision. While the Wayfinding Design Standards represent the general wayfinding best practice, the Wayfinding Vision and Principles and the Wayfinding Design Principles reflect South Niagara Hospital specific recommendations. The Synthesis Phase concluded by specifying a PSOS Compliance Metric and relevant action items – both of which will ensure that the developed recommendations are applied with the highest degree of specificity and accuracy in the design of the wayfinding program.

1

UNDERSTANDING PHASE

1. UNDERSTANDING PHASE

1.1. WAYFINDING FUNDAMENTALS

Wayfinding is the process of navigating oneself through an environment.

Wayfinding is about solving the problem of how to find one's destination. This complex task is accomplished by providing an individual with crucial information regarding their environment and their relationship to the environment. Typically, **three broad sources of information are needed for successful wayfinding: orientation, direction and destination.**

1 ORIENTATION

ORIENTATION provides information regarding the individual's current location in the environment – answering the question of "Where am I?".

2 DIRECTION

DIRECTION provides information regarding where the individual needs to go – answering the problem of "Where do I need to go?".

3 DESTINATION

DESTINATION provides information confirming that the individual has successfully reached their destination – answering the question of "Have I arrived?"

Successful wayfinding not only allows an individual to reach their destination, but also has **several positive effects** on an individual's experience of the environment.

Reduces overall stress and frustration.

Increases efficiency and functionality of a place.

Creates a more accessible and inclusive environment.

Creates an environment that is easier to exit in case of emergency evacuation and generally improves the overall user experience.

The user experience of an environment is shaped by a complex interaction between their ability to understand the environment and the enjoyment that the environment creates. Understanding and enjoyment are closely linked, influencing one another. A successful wayfinding program will not only shape a user's understanding of the environment but will also create an enjoyable and emotionally salient space.

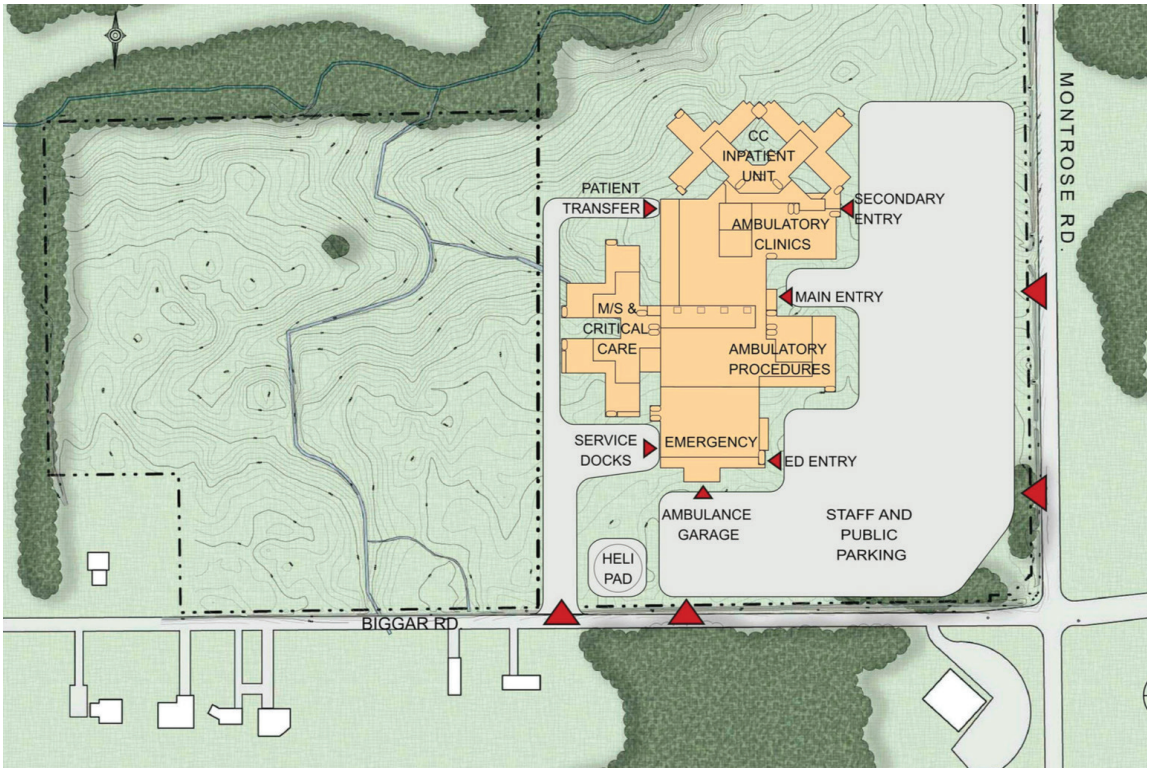
- **Understanding:** Provides relevant directional information and what we typically consider when we think of wayfinding: orientation, direction, identification, safety and regulation.
- **Enjoyment:** These are the emotional connections, the elements that create a sense of place and identity. These include placemaking, interpretation of space, and brand expression, all of which encourage interaction within and with the environment and convey the core values and vision of the environment.

- **It is the combination of understanding and enjoyment** that defines the success of a wayfinding solution. Wayfinding has the power to do more than simply get people to their destination – it should create an impactful and memorable environment, where the user enjoys spending time.

Wayfinding is often mistakenly considered as synonymous with signage. Although signage is an important tool for successful wayfinding, it is only one small part of the tools, techniques and elements used to define a wayfinding experience. In fact, wayfinding success is defined by architectural features and landmarks, verbal instruction, printed materials, electronic displays and interactive technologies, as well as signage.

1.2. PROJECT OBJECTIVES AND UNDERSTANDING

The new South Niagara Hospital will be situated at the North-West corner of Montrose Rd. and Biggar Rd., in Niagara Falls, Ontario. Although the building planning and blocking is currently under development, it is assumed that the site will consist of five "Buildings": North Ambulatory, South Ambulatory, Main Building, Acute Care and Complex Care. The creation of the South Niagara Hospital is aligned with the planned re-configuration of Niagara Health Services and system of care. Perhaps most importantly, the development of the South Niagara Hospital will coincide with the decommissioning of the Fort Erie and Port Colborne sites and a reduction of offered services at the Welland site.



The South Niagara Hospital aims to meet Niagara Health's vision of creating a healthier Niagara through extraordinary care, extraordinary teams, an extraordinary future and extraordinary innovation. This project is defined by the vision to create "a true acute care hospital of the future within a campus that supports health and wellness". **In order to accomplish this vision, the design program includes six design themes:**

1. **ACCESSIBLE & INCLUSIVE (*ELDER FRIENDLY)**
2. **PATIENT, FAMILY & STAFF EXPERIENCE**
3. **COMMUNITY CONNECTEDNESS**
4. **ENVIRONMENTAL LEADERSHIP**
5. **OPERATIONAL EXCELLENCE**
6. **FLEXIBLE, ADAPTABLE & RESPONSIVE**

To identify design strategies which will meet and support these design themes, nine research reports are under development. This Wayfinding Strategy Report constitutes one of these nine reports, intended to guide and inform the design themes in order to support the overall vision.

Generally, wayfinding has direct implications for each of the design themes. The Wayfinding Strategy Report is intended to identify wayfinding design opportunities, develop the wayfinding design metrics, and generate the wayfinding design standards.

This report is structured and developed using a design thinking approach – an iterative process of understanding challenges and needs, exploring solutions, and developing strategic insights. This process relies on extensive stakeholder engagement and testing of ideas, concepts and solutions. This approach is marked by the loop it creates between creative and critical thinking, allowing for the development of practical and actionable solutions and standards.

As a result of this design thinking framework, this report consists of several phases, each of which will inform the next.

MOBILIZATION

Project start-up and general management and scheduling.

UNDERSTANDING

Outlining the current state of hospital wayfinding, both through industry trends and strategic insights as well as exploring Niagara Health stakeholders' wayfinding experiences at Niagara Health sites.

ANALYSIS

Identifying and exploring opportunities and constraints through extensive stakeholder visioning workshops, analysis and criteria development.

SYNTHESIS

Developing the wayfinding vision, principles, guidelines and standards as informed by previous stages.

MAKING

Creating and disseminating the final wayfinding strategy report.

It is important to note that each research phase is a result of, and built from, the discoveries of the previous phase.

By engaging with diverse stakeholders throughout the research process, we are provided with the opportunity to explore and develop solutions and strategies in an iterative and comprehensive manner.

1.3. BEST PRACTICE, INDUSTRY TRENDS AND STRATEGIC INSIGHTS

The wayfinding strategy should be built from a foundation of readily available best practice documents. Many of these standards have been specifically created to address the unique wayfinding challenges of the healthcare environment, while others address wayfinding best practice more generally. A summary of the best practice guidelines is as follows:

CSA: This Standard defines the essential elements in planning, implementing, and continually improving wayfinding systems for healthcare facilities, CSA Z317.14-17

Niagara Region Facility Accessibility Design Standards

AODA: Accessibility for Ontarians with Disabilities Act, 2005

ADA: Americans with Disabilities Act of 1990, Amendment Act of 2008

Code Plus: Design recommendations for elder friendly design

RGD Accessibility 2: Practical handbook on accessible graphic design

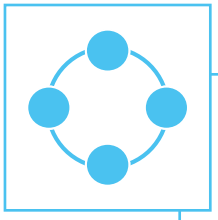
MOHLTC: Ministry of Health and Long-Term Care Service Standards

A thorough analysis of these best practice documents will ensure that the wayfinding strategy report, and future wayfinding at the South Niagara Hospital, is aligned with proven design solutions and practices. These best practice and industry standards serve as the foundation of a successful wayfinding program; when coupled with specific needs, expectations and requirements, we can ensure a successful wayfinding program for the South Niagara Hospital.

These best practice and industry trends range from holistic, big-picture factors to specific design considerations and elements, such as:

JOURNEY

The totality of the wayfinding journey – consider the journey from home or a family doctor to their destination at the hospital.



COMPONENTS

A range of tools and wayfinding components – a successful wayfinding program leverages multiple components.

NOMENCLATURE

Clear and concise communication – clearly demonstrated through the importance of understandable nomenclature, utilizing simple language terminology.

EXISTING	PROPOSED
Administration Office	**Administration**
Blood & **Marrow Transplant** Program	**Marrow Transplant**
Children's Opthalmology **Clinic**	**Children's Eye Clinic**
Otolaryngology	**Ears Nose Throat**
Dialysis Unit	**Dialysis**
Medical **Records**	**Records**
Respiratory Services	**Respiratory**
Spinal Cord **Injury** Clinic	**Spinal Injury**

UPPER AND LOWER CASE

Aa

Readability and legibility – text should be upper and lowercase since it is easier to read word-shapes formed by ascenders and descenders, especially for those affected by vision impairment.

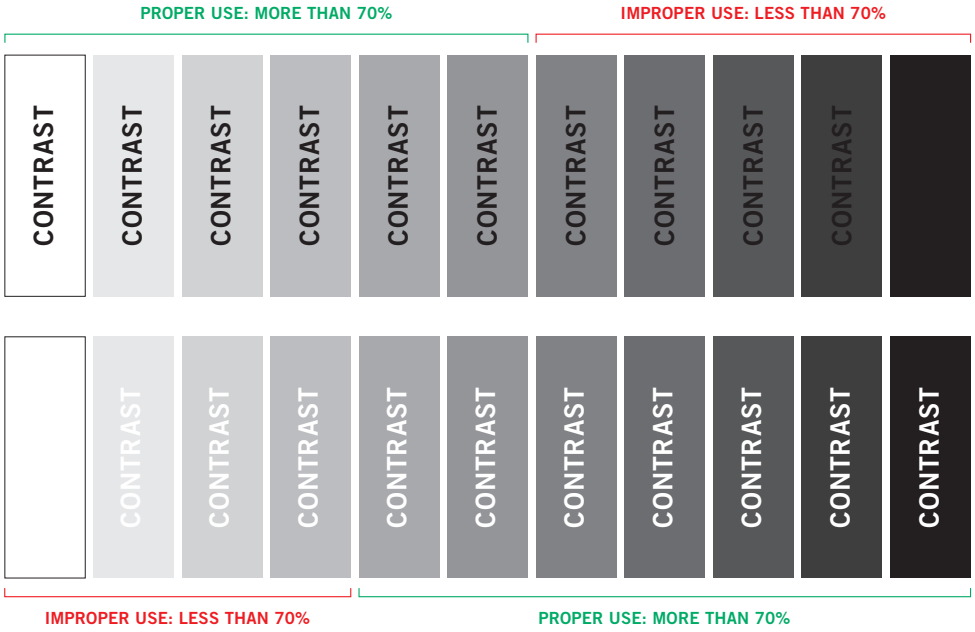
UPPER CASE

Upper and Lower Case

Lower case

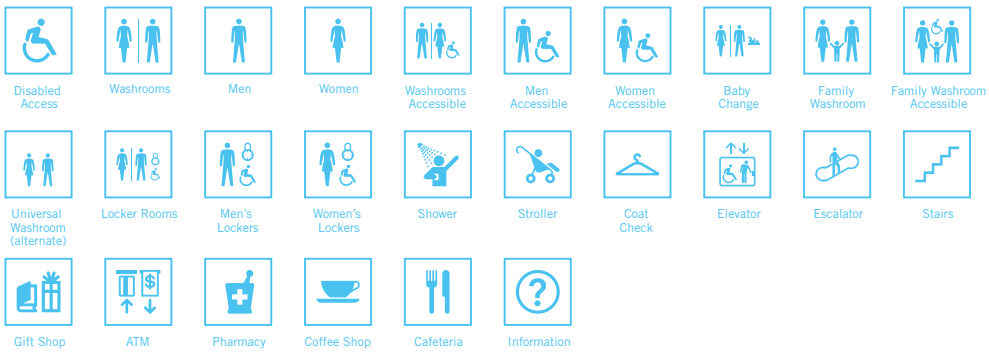
70% CONTRAST

Readability and legibility – text should be presented on a dark background with light letters; there should be a minimum of 70% contrast between the foreground and background.



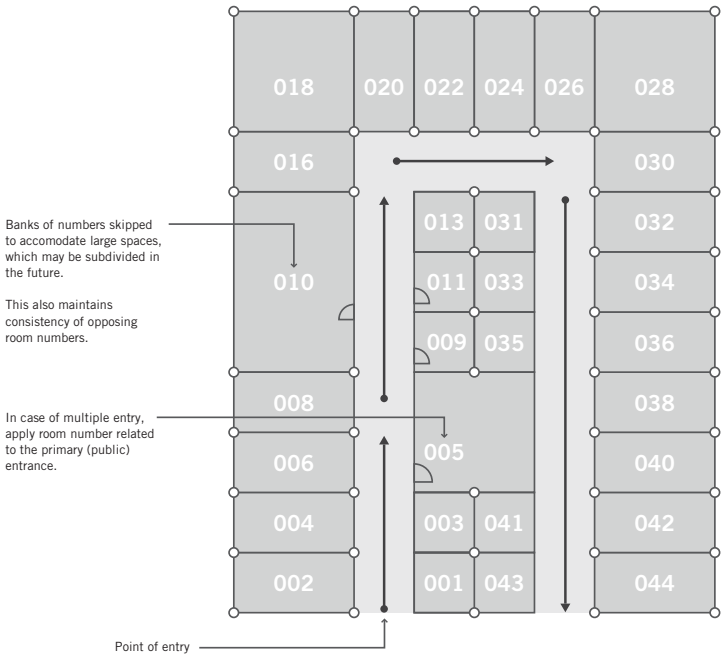
PICTOGRAMS

Universally recognized pictograms – should be used sparingly, primarily to identify public amenities.

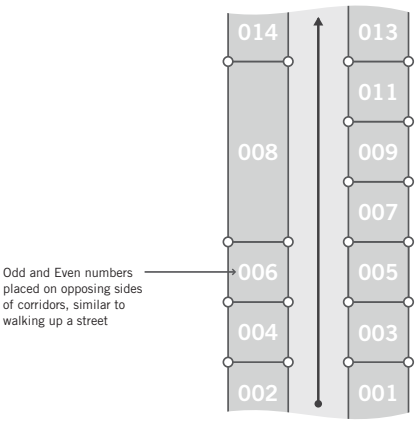


ROOM NUMBERING

Room numbering – rooms should be numbered using street numbering system where even and odd numbers are across from the other. Room numbering should take into account the smallest divisible space, preserving unused, skipped numbers for future use. It is recommended to use a letter to identify the facility, followed by the level designation within the facility, then the three digit numbers to identify the room.



RING CORRIDOR ARRANGEMENT



STRAIGHT CORRIDOR ARRANGEMENT

SPACE DELINEATION

Space delineation – organize and delineate space into logical zones and areas, based on vertical circulation.

REDUNDANCY

Redundancy – a certain degree of informational redundancy is preferred to meet the needs of individuals with a range of cognitive abilities.

DE-CLUTTER

De-cluttered space – ads, announcements, and other non-wayfinding or non-regulatory information need to be considered carefully, as they often introduce visual noise and resulting in an overload of information.

The recommendations in these best practice guidelines provide us with the foundation from which we can develop a successful wayfinding program. They serve as the general, grounded truth of what makes a successful hospital wayfinding experience. Subsequent research phases and insights will uncover Niagara Health's specific needs and expectations, which will be considered alongside the best practice guidelines and recommendations.

The best practice and industry standards discussed above provide us with the primary components of a successful wayfinding program. To ensure that the wayfinding program remains future proof and addresses the aspirational goals set for the South Niagara Hospital, it is worthwhile to consider the larger industry trends and strategic insights, which are as follows:

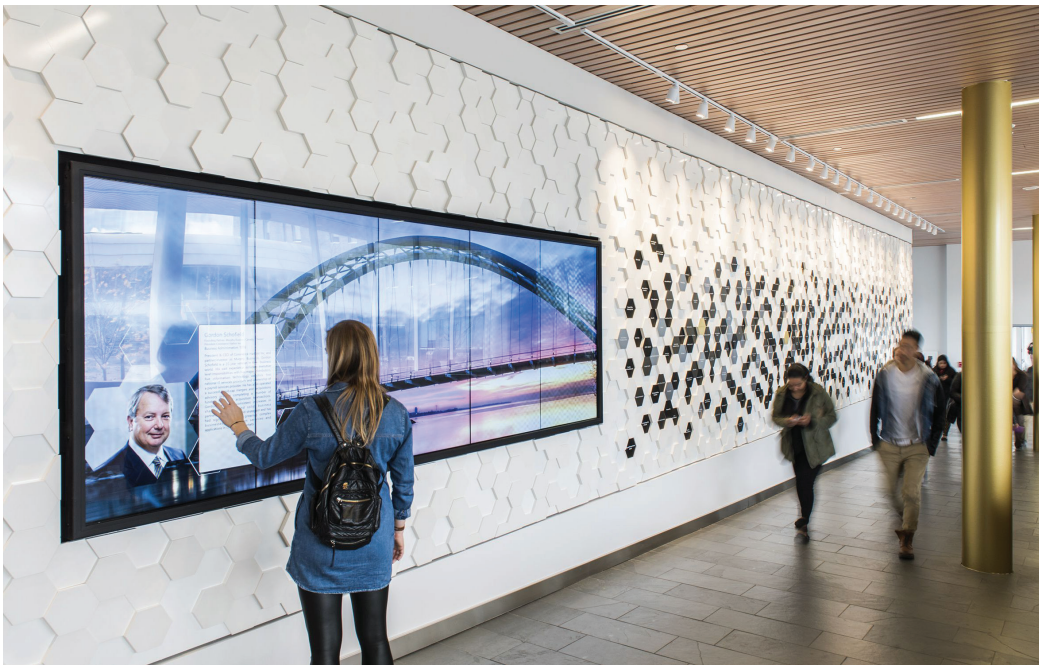
Brand Communications:

- The brand hierarchy and vision need to be communicated clearly through signage, especially when there are several sub-brands present under the umbrella of a health system, such as Niagara Health.
- Clear understanding of the brand architecture is essential, as brand architecture orders the primary identity and its sub-identities.
- For wayfinding, users are most concerned with getting affirmation that they have arrived at the correct facility.
- Given the restructuring of the Niagara Health sites and infrastructure (South Niagara Hospital to be built, other sites to be decommissioned), the importance of brand communications will be discussed in that it allows the community to better understand the organizational structure of Niagara Health and the overall relationship between various sites, offerings and services.

William Osler Health Centre – Brampton Civic Hospital

Digital Technology:

- Technological applications streamline the wayfinding experience and provide a seamless patient journey (from their home to the doctor's office).
- A range of digital wayfinding solutions were discussed, their opportunities and constraints identified.



- These technologies can be applied in a variety of ways, including wayfinding information and directories, patient communications, staff communications, room booking, appointment management and information.
- Both current and future applications such as electronic signage, apps, kiosks, directories were explored alongside augmented reality, virtual reality, autonomous vehicles, machine learning and AI.
- A critical analysis will identify the appropriateness of these various technologies to the South Niagara Hospital and how well each meets the design themes and vision.

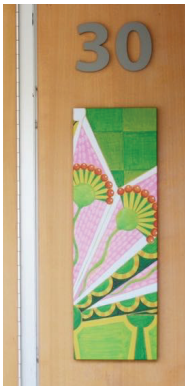
Nature, art and placemaking:

- As mentioned above, wayfinding and signage should serve to create sense of place and create a human-centred, comfortable environment.
- Nature helps reduce stress and creates a calming environment, while research demonstrates that natural elements and exterior views serve as powerful wayfinding landmarks.
- Natural solutions can range from exterior views into nature, to placing nature inside the hospital, to applying natural graphics and motifs in the environment.
- Art creates strong landmarks while also allowing the healthcare environment to engage visitors and patients and create a connection to the community at large.
- Artistic interventions can encompass framed artwork presented in a gallery-like setting, graphic designs placed unobtrusively on walls, ceilings and floors, and/or three-dimensional sculptural elements.

Casey House

Seattle Children's Hospital

Centre for Addiction and Mental Health



Connection to the community:

- Healthcare environments are becoming more aware of and responsible to the communities around them.
- As such, wayfinding solutions respond to local geography, history and ecology, as well as cultural and societal contexts.
- Such approaches not only lead to a more effective wayfinding program, due to the creation of powerful landmarks, but can also create a hospital where people feel comfortable and feel that they belong.
- This trend clearly addresses Niagara Health's vision of creating a true community hospital.
- A critical analysis will identify opportunities to connect the South Niagara Hospital to the community by referencing local demographics, geography and history.

Birpi Aboriginal Clinic

Image by: Birpi Aboriginal Clinic

The Cove Macmillian Support Centre

Image by: The Cove Macmillian Support Centre

Bridgepoint Health

Learning from other institutions:

- Healthcare wayfinding and experience is becoming much more multidimensional and crossing boundaries into other institutional domains. Generally, the trend appears to be designing hospitals that feel less like hospitals and more like hotels, airports and amusement parks.
- This trend is driven by the general understanding that, by applying methods and techniques from other institutions, hospitals can not only function more efficiently but can also be more enjoyable and stress-free.
- In fact, many of the trends identified above are best exemplified and inspired by trends and common practices in other fields.
- Hotels, airports and amusement parks will be discussed. Generally, these sectors focus on comfort, efficiency and exceptional service, while also pushing technological solutions. The quality of the experience is what matters – Was it memorable? Comfortable? Calming? Getting people to their destination is still important, but these institutions consider the quality of the journey, not just the destination.
- This exploration will discover relevant opportunities from these three sectors, and examine the extent to which they may or may not be applicable to the South Niagara Hospital.

Airport

Hotel

1.4 INTERVIEWS AND LESSONS LEARNED

While the best practice, strategic insights and trends discussed above provide us with valuable insight into successful hospital wayfinding, direct engagement with Niagara Health stakeholders and current Niagara Health sites is crucial for several reasons.

First, it allows us to better understand the needs and expectations of Niagara Health. The ability to apply the trends and strategic insights will be in large part dependent on the vision of Niagara Health; by engaging directly with stakeholders, we can explore the degree to which these trends align with Niagara Health's vision. This allows us to determine whether or not the trends and strategic insights are relevant and/or applicable to Niagara Health. Further, stakeholders are fully aware of the specific problems and considerations faced by Niagara Health as a result of its cultural, historical and societal factors, so engaging with them can provide us with valuable insight.

Second, by understanding and analyzing the wayfinding experience at the current Niagara sites, we can clearly and directly relate any problems and successes back to best practice, industry trends and strategic insights. This means that the wayfinding strategies and guidelines we develop will be a result of the real, lived experiences of the current sites, making them more salient, powerful and actionable.

Design is an iterative process; by learning from those with experience relevant to Niagara Health, we can leverage successes while ensuring we do not repeat past mistakes.

The interviews and lessons learned component was completed through a stakeholder workshop session and a comprehensive existing site audit and assessment.

1.4.1 Stakeholder Workshop Session

- Two interview sessions and an online survey
    - Interview sessions: July 17, 2019 (in person) & July 26, 2019 (teleconference)
    - Online survey: Distributed through SurveyMonkey
    - Participants consisted of Niagara Health staff, patient representatives, and volunteers

- The workshop session asked participants to consider a series of open-ended questions exploring the wayfinding experience at the current Niagara Health sites as well as needs, expectations, and vision for the new South Niagara Hospital. Questions were designed to examine both the successes and limitations of the existing wayfinding programs. Question themes were as follows:
    - General wayfinding experience
    - Getting lost and confusing areas
    - Successful wayfinding strategies
    - Landmarks, zones, areas and signage
    - Specific user needs
    - Digital wayfinding options

- Synthesis of the data resulted in the discovery of ten key insights

1. Consider wayfinding strategy from the beginning – not just a band-aid
    - An optimal wayfinding experience can only be created when considering wayfinding from the early stages of the design process

2. The importance of clear and consistent information
    - The most common reason for patients becoming lost is unclear information, or a complete lack of information

3. Current signage works reasonably well, but some issues are present
    - Room numbering, nomenclature and use of pictograms were identified, suggesting that clear and concise signage is key to wayfinding success
    - Primary strategy used by volunteers is over-signage

4. The patient journey begins well before they arrive at the hospital
    - Patients often show up lacking information, for example:
    - "Not informed where they should park, and unaware of the two different buildings."
    - "People have often the wrong information or a lack of and do not know what to do."
    - "Not enough information given to patients."

5. Zones and areas need to be clearly identified – especially when an area serves more than one functional role
    - The distinction between A side and B side works reasonably well, but difficulties arise when a destination is down the middle
    - Many responses were left blank when asked if the site is logically organized into zones or areas, suggesting that workshop participants are unsure

6. Consider patients with specific needs
    - Seniors and individuals with mobility issues
    - French speakers and growing Asian population

7. The importance of landmarks
    - Piano, purple wall, coloured tiles, "go to the light"
    - Consider exterior views and natural landmarks

8. Explore the use of digital options
    - Most see digital displays and kiosks as good potential wayfinding tools
    - Malls and airports are seen as positive examples

9. Consider entry and arrival sequence
    - Majority will reach new hospital coming Westbound from QEW; faced with immediate choice of whether to turn right on Montrose or continue straight on Biggar

10. Hospitals should learn from other institutions and environment
    - Examples: Disney World, airports and malls
    - Should focus on creating a welcoming, stress-free and intuitive experience in addition to providing good medical care

- There is a strong sense that the wayfinding program should lead to an environment that is easy to navigate while also creating a calm, patient-centred environment:
    - A complex relationship between stress and wayfinding ability was identified by participants. Wayfinding difficulties create stress; stress reduces wayfinding ability
    - "Surgical areas, people are anxious"; "Manage patient stress and anxiety"

- Crucially, each of the ten identified insights can be directly related to and informed by the best practice and strategic insights discussed previously. This suggests a path forward as follows:

1. Intuitive wayfinding is achieved not just through signage but also through intuitive building design and layout throughout the building.

2. Contrast, content, size, position, colour, font, and other design considerations allow us to create information that is clear and easy to read.

3. Issues with current signage can be described as a result of poor contrast, over-signing, and unclear or unintuitive information.

4. The wayfinding journey begins at home, thus it is necessary to consider the holistic wayfinding journey.

5. Delineating space using colours to create distinct zones and areas is an effective wayfinding strategy.

6. Landmarks can serve as key wayfinding components.

7. The wayfinding program should be patient-centred, and thus consider the specific needs of diverse user groups (patients, visitors, staff, volunteers, etc.).

8. When it comes to digital solutions, content matters in the same way that it matters for physical, static signage.

9. By borrowing and learning from other institutions, the new South Niagara Hospital will be more likely to achieve its vision of extraordinary care.

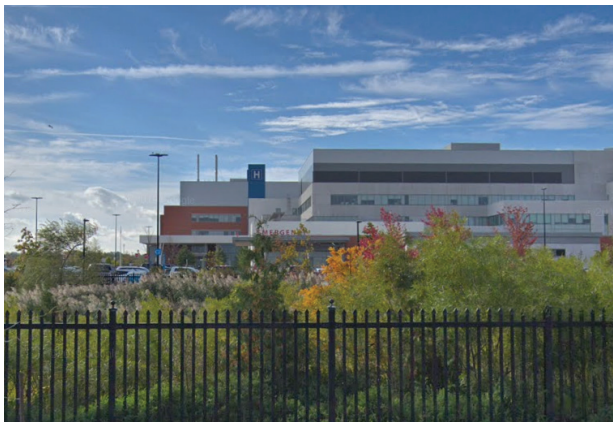
1.4.2 Existing Site Audit and Assessment

- A tour of the St. Catharines and Welland Sites was given by Izabela Cawricz to members of Entro on July 17.
- Photographic observations were made on site, while additional images and observations were made using Google Streetview at a later date.
- The site audit and assessment involved **13 areas:** Exterior Signage, Registration Desks, Department Identification, Maps / Directories, Elevators, Space Delineation, Wayfinding System, Room Numbering, Temporary Signage, Brand Identification, Appointment Letters / Information Booklets, Website, Welland Site.
- The site audit and assessment is intended to uncover both the successes and limitations of the current wayfinding program, while having the benefit of framing such a discussion using examples from sites that are intimately familiar to stakeholders.
- The site audit observations are as follows:

1 EXTERIOR SIGNAGE

- Clear directions from main intersection to hospital.

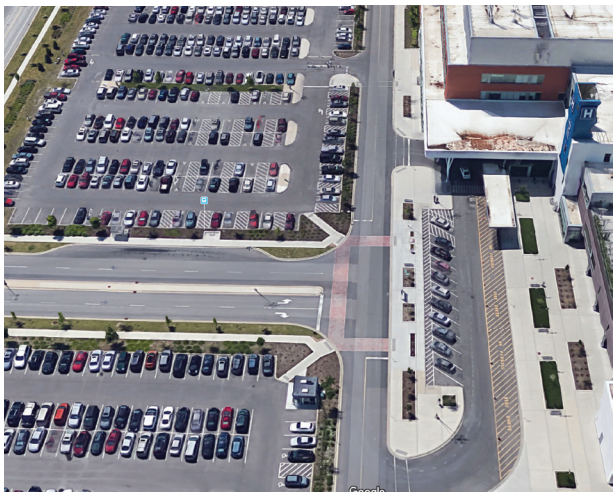
- Clear view of hospital building sign from afar.



- Directional messaging is legible but information is unclear.
  (i.e. 'Emergency' should be listed first, and 'Drop Off' should point to one location)

- Main entrance is not clearly identified.

- Improper sign location is past decision point.



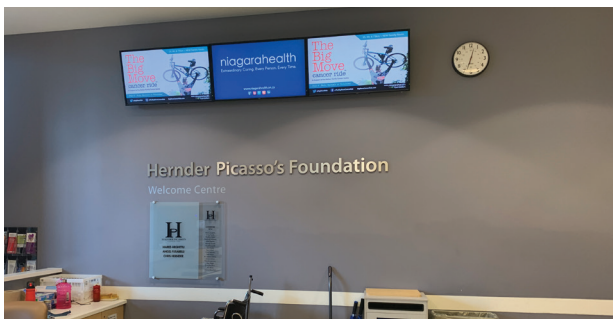
- Obstructed vehicular directional.

2 REGISTRATION DESK

- Inconsistent look and feel of signage.

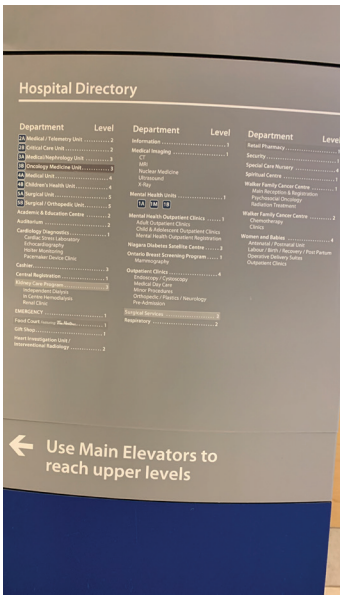
3 DEPARTMENT IDENTIFICATION

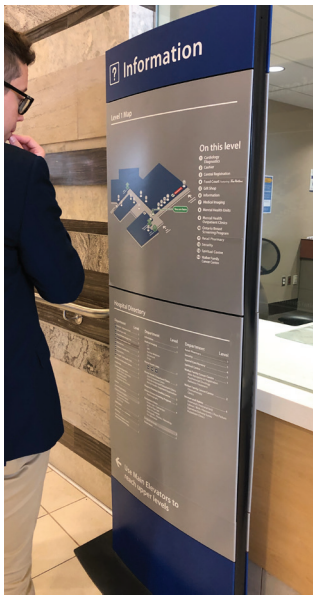
- Donor information is more prominent than clinical information.



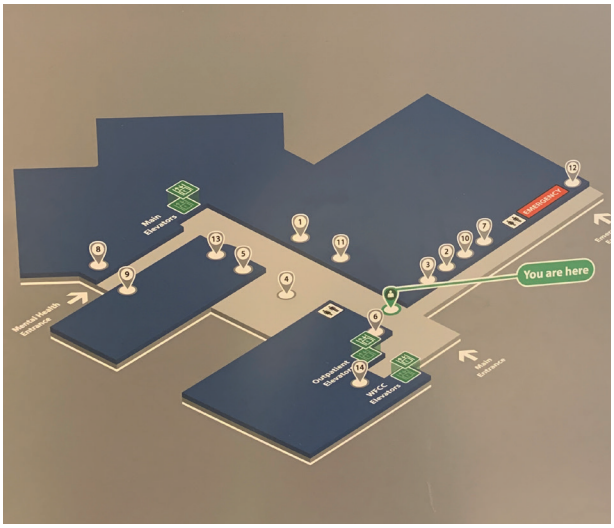
4 MAPS/DIRECTORIES

- Directory listing is too low and small on the sign, making it difficult to read.





- Isometric elevator pictogram can be confusing. Map is not orientated to user



5 ELEVATORS

- When waiting for an elevator signs placed near elevators clearly highlight the current level you are on, however, Level Identification is not prominent when exiting the elevator.

6 SPACE DELINEATION

- Zone thresholds are unclear.

- Successful application in creating a sense of 'Main Street'.

- Level Identification and landmarking is not prominent.

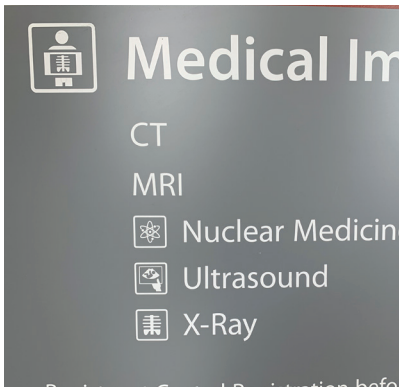
7 WAYFINDING SYSTEM

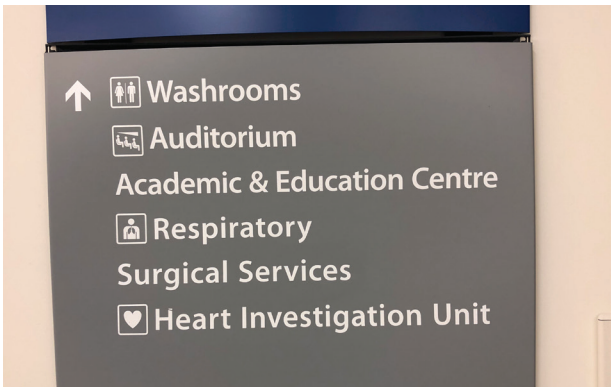
- Visual clutter causes confusion and makes it difficult to navigate through the hospital.

- Inappropriate placement of signage.

- Life-safety signage is being used with wayfinding signage, leading to confusion.

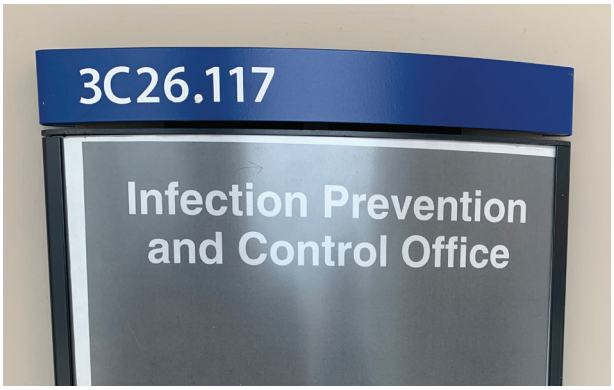
- Some pictograms are hard to decipher. In addition, the inclusion of pictograms appears random.





8 ROOM NUMBERING

- Room numbering is inconsistent, confusing and unintuitive.



- There is a lack of tactile room numbers.

9 TEMPORARY SIGNAGE

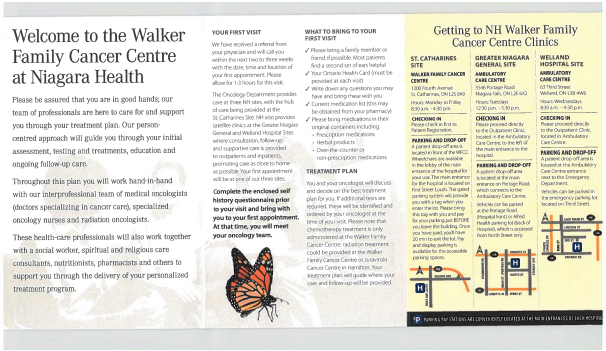
- Confusing temporary wayfinding signage, which often clutters the space.

10 BRAND IDENTIFICATION

- Some signage on site uses both old and new logo variations.

11 APPOINTMENT LETTERS AND INFORMATION BOOKLET

- Printed material provides clear direction to the hospital. Consistent use of nomenclature between signs and booklet.


Welcome to the Walker Family Cancer Centre at Niagara Health

Please be assured that you are in good hands; our team of professionals are here to care for and support you through your treatment plan. Our person-centred approach will guide you through your initial assessment, testing and treatments, education and ongoing follow-up care.

Throughout this plan you will work hand-in-hand with our interprofessional team of medical oncologists (doctors specializing in cancer care), specialized oncology nurses and radiation oncologists.

These health-care professionals will also work together with a social worker, spiritual and religious care consultants, nutritionists, pharmacists and others to support you through the delivery of your personalized treatment program.

YOUR FIRST VISIT

We have received a referral from your physician and will call you within the next two to three weeks with the date, time and location of your first appointment. Please allow for 1-3 hours for this visit.

The Oncology Department provides care at three NH sites, with the hub of care being provided at the St. Catharines Site. NH also provides satellite clinics at the Greater Niagara General and Welland Hospital Sites where consultation, follow-up and supportive care is provided to outpatients and inpatients, promoting care as close to home as possible. Your first appointment will be at one of our three sites.

Complete the enclosed self history questionnaire prior to your visit and bring with you to your first appointment. At that time, you will meet your oncology team.

WHAT TO BRING TO YOUR FIRST VISIT

- ✓ Please bring a family member or friend, if possible. Most patients find a second set of ears helpful
- ✓ Your Ontario Health Card (must be provided at each visit)
- ✓ Write down any questions you may have and bring these with you
- ✓ Current medication list (this may be obtained from your pharmacy)
- ✓ Please bring medications in their original containers including:
  - Prescription medications
  - Herbal products
  - Over-the-counter or non-prescription medications

TREATMENT PLAN

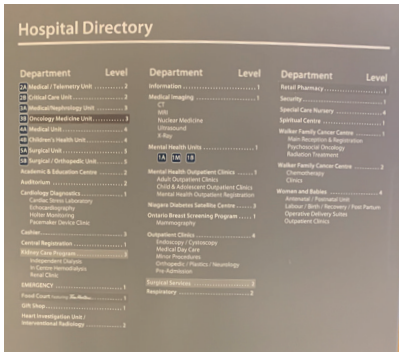
You and your oncologist will discuss and decide on the best treatment plan for you. If additional tests are required, these will be identified and ordered by your oncologist at the time of your visit. Please note that chemotherapy treatment is only administered at the Walker Family Cancer Centre; radiation treatment could be provided at the Walker Family Cancer Centre or Juravinski Cancer Centre in Hamilton. Your treatment plan will guide where your care and follow-up will be provided.

Getting to NH Walker Family Cancer Centre Clinics

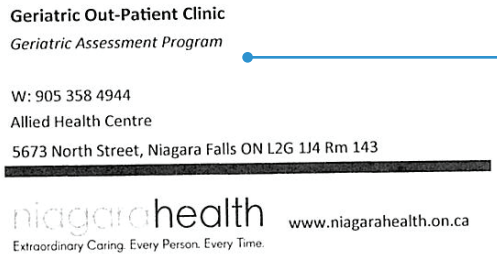
ST. CATHARINES SITE
WALKER FAMILY CANCER CENTRE
1200 Fourth Avenue
St. Catharines, ON L2S 0A9
Hours: Monday to Friday
8:30 a.m. – 4:30 p.m.
CHECKING IN
Please check in first to Patient Registration
PARKING AND DROP-OFF
A patient drop-off area is located in front of the WFCC. Parking is available in the lobby of the main entrance of the hospital for your use. The main entrance for the hospital is located on Fifth Street (south). The gated parking system will provide you with a tag when you enter the parking lot. Please keep with you and pay for your parking just BEFORE you leave the building. Once you have paid, you'll have 20 min to exit the lot. Pay and display parking is available for the accessible parking spaces.

GREATER NIAGARA GENERAL SITE
AMBULATORY CARE CENTRE
5546 Portage Road
Niagara Falls, ON L2E 6X2
Hours: Tuesdays
12:30 p.m. – 5:00 p.m.
CHECKING IN
Please proceed directly to the Outpatient Clinic, located in the Ambulatory Care Centre, to the left of the main entrance to the hospital.
PARKING AND DROP-OFF
A patient drop-off area is located at the main entrance on the Portage Road, which connects to the Ambulatory Care Centre.
Vehicles can be parked at the Portage Road (Hospital Row) or Allied Health parking lot (back of hospital), which is accessed from North Street only.

WELLAND HOSPITAL SITE
AMBULATORY CARE CENTRE
63 Third Street
Welland, ON L3B 4W6
Hours: Wednesdays
8:30 a.m. – 4:30 p.m.
CHECKING IN
Please proceed directly to the Outpatient Clinic, located in Ambulatory Care Centre.
PARKING AND DROP-OFF
A patient drop-off area is located at the Ambulatory Care Centre entrance next to the Emergency Department.
Vehicles can be parked in the emergency parking lot, located on Third Street.



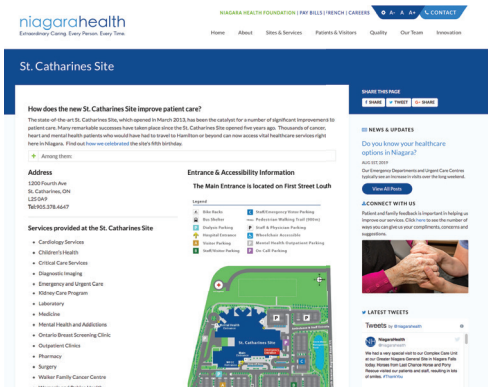
- Clinic names on appointment cards do not match existing nomenclature on the website.

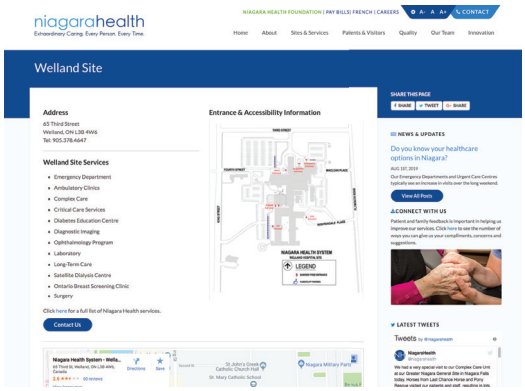


This is the name used on website.

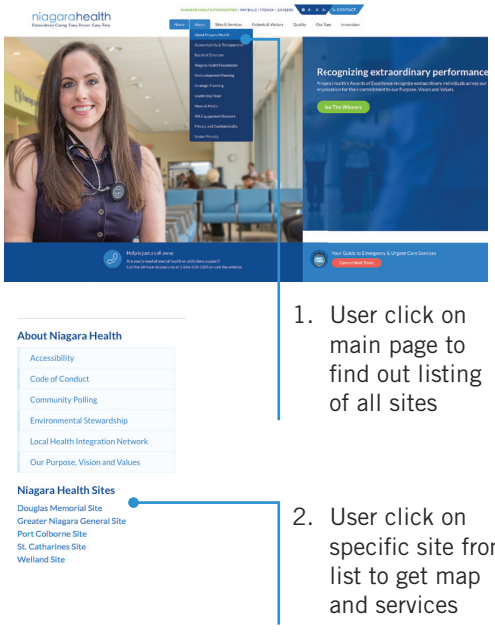
12 WEBSITE

- Facility pages on website are easy to find using popular search engines (i.e. Google, Yahoo).



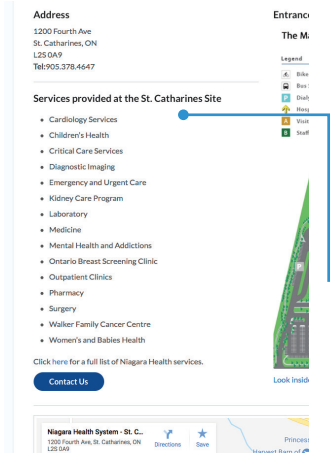


- High-level directional information for each facility is not easily available on the website.



1. User click on main page to find out listing of all sites

2. User click on specific site from list to get map and services

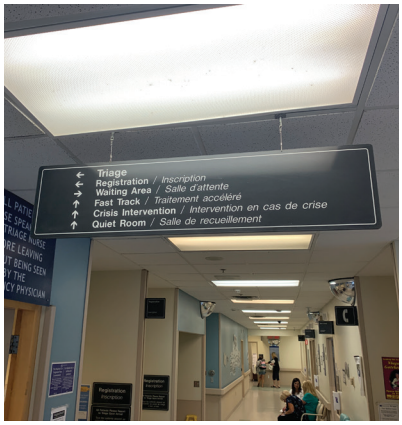


3. Only listing of services are provided along with site map. No directional information or department names

13 WELLAND

- Inconsistent treatment of signage throughout the Welland Site.

- Over-signage creates confusion.



- Mix of bilingual and English-only signage.

1.5 UNDERSTANDING PHASE DISCUSSION AND CONCLUSIONS

The development of this wayfinding strategy report considers a range of existing sources of data. By considering industry best practice and guidelines, industry trends, strategic insights, Niagara Health stakeholder experiences, and the wayfinding experience at the current sites, we can develop a strong foundation for a successful future wayfinding program. By undertaking both a general overview of healthcare best practices along with exploring the current wayfinding experience at Niagara Health sites, we can develop a broad set of recommendations. These sources of data provide us with a good degree of converging evidence for the design of an efficient and enjoyable wayfinding experience.

At the most basic level, this understanding phase identifies the need for clear, concise, legible and easy-to-understand wayfinding information. This can best be achieved by adhering to the guidelines and standards of the CSA, ADA, RGD, and general design best practices as discussed previously.

The wayfinding program needs to be human and patient-centered, to create an environment that is not only easy to navigate but also reduces stress and creates calm and relaxation. This insight support the application of best practices, since they align wayfinding solutions to human perceptual and cognitive abilities and needs. For example, the best practice for 70% contrast between foreground and background, is derived from an understanding how human visual acuity, and our ability to accurately perceive and read visual content. This response to human needs and expectations becomes even more nuanced when we consider populations with unique needs and expectations, such as the elderly and those with diverse cultural backgrounds and cognitive abilities. Fortunately, one of the key tenants of wayfinding best practices, is to present information as clearly, simply and intuitively as possible, allowing the wayfinding program to be broadly accessible.

Beyond the wayfinding best practices, this Understanding Phase identified that the South Niagara Hospital should learn from sectors outside the healthcare environment, so as to create an environment that is efficient and functional as well as enjoyable. Hotels, for example have a very specific function of providing overnight accommodations but place great importance on creating a warm, welcoming and comfortable experience stay. While airports serve as transportation hubs, they provide important secondary roles of retail experience while creating moments of enjoyment within the wayfinding journey. In this way, although the primary role of the South Niagara Hospital wayfinding experience should be efficient and intuitive navigation, it should also create an environment that is welcoming and enjoyable, improving the overall hospital experience.

Another one of the primary themes discovered, was that the wayfinding experience needs to be considered from a holistic viewpoint, addressing points of contact well before the patient reaches the hospital. This includes information received from their family physician as well as wayfinding information available online. This requires an exhaustive and aligned program that extends to more than just physical signage. The program should include, and is not limited to, online and appointment letter information, roadside signage, parking information and digital content.

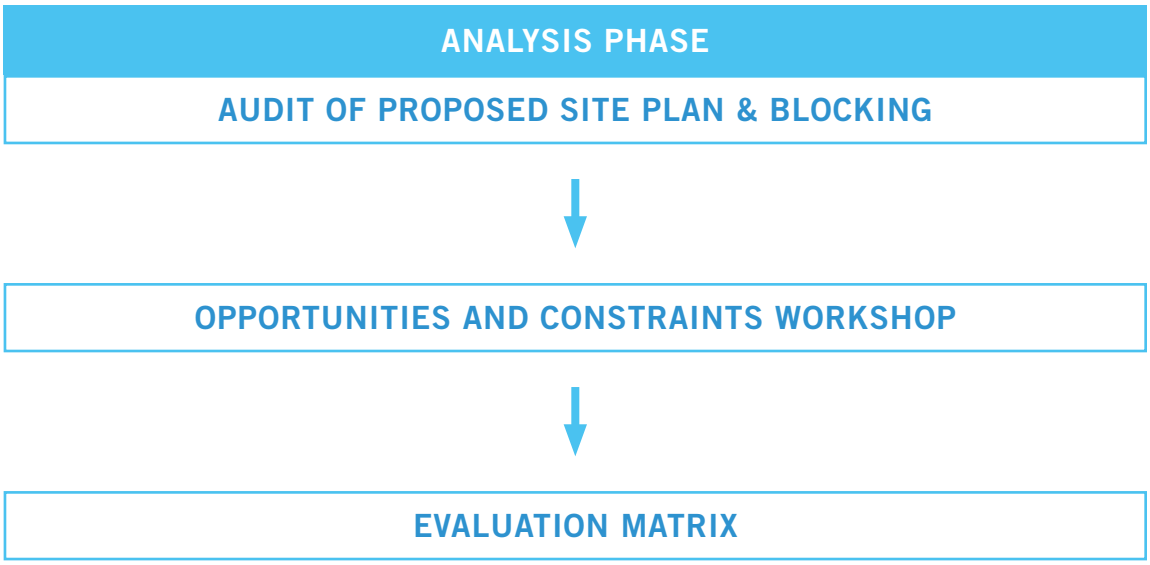
This Understanding Phase serves the function of providing us with a baseline understanding of hospital wayfinding strategies and solutions in the form of industry best practices as well as more specific Niagara Health and the South Niagara Hospital needs and expectation. The subsequent phases are intended to further develop and clarify these initial solutions and recommendations. Specifically, the Analysis Phase more deeply examines South Niagara Hospital wayfinding constraints and opportunities, while the Synthesis Phase takes these learning and frames in into specific recommendations and requirements.

2

ANALYSIS PHASE

2. ANALYSIS PHASE

While the Understanding Phase allowed us to establish the baseline knowledge of the current wayfinding experience at Niagara Health sites, the Analysis Phase is intended to provide us with a deeper sense of the potential wayfinding experience at the new South Niagara Hospital. This phase has three distinct sections, each of which crucially responds to and addresses several key findings from the Understanding Phase.



Audit of Proposed Site Plan & Blocking

- First, the Understanding Phase established that it is important to determine the optimal wayfinding strategy well before a building has been built. Wayfinding should be considered from a holistic perspective, right from the beginning of the design of the new South Niagara Hospital. The wayfinding experience is in large part determined by the architectural design of the hospital, and, although a wayfinding system often serves to clarify the architectural space, for a true patient-friendly wayfinding experience to be achieved, it is necessary to determine how the blocking and overall plan of the hospital will shape wayfinding. Crucially, signage should not be considered as a band-aid to cover up any potential wayfinding difficulties as resulting from the architectural plan.

Opportunities and Constraints Workshop

- Second, the Understanding Phase identified important considerations and potential solutions for the design of a successful wayfinding program for the South Niagara Hospital. During the Analysis Phase, four specific solutions were explored in further detail to identify opportunities and constraints regarding their application:

Artistic interventions as important landmarking tools were identified and discussed during a workshop session, exploring the applicability of various artistic styles, applications and aesthetic directions.

Nature was found to be a key driver of wayfinding and hospital experience both in our initial analysis of best practice and during our conversations with various stakeholder groups. Thus, opportunities and constraints were explored regarding the various applications of nature within wayfinding design so as to drive discussion toward the appropriate application for the South Niagara Hospital.

Landmarks are a wayfinding strategy that can be instituted in countless ways, so during the analysis phase workshops, several exercises and activities were intended to uncover opportunities for successful landmarking.

Digital wayfinding solutions were mentioned numerous times during the Understanding Phase discussion, thus a more complete analysis of such wayfinding solutions was explored.

- Although it is understood that the wayfinding program should be efficient while meeting the needs of the diverse users of Niagara Health, the opportunities and constraints workshop included several activities intended to clarify the vision and overall guiding principles of the South Niagara Hospital wayfinding experience.

Evaluation Matrix

- Based on the insights generated from the Understanding and the Analysis Phase, this phase concludes with the development of an evaluation matrix. This matrix begins the important task of summarizing and synthesizing the research findings thus far.

2.1. AUDIT OF PROPOSED SITE PLAN & BLOCKING

The Understanding Phase correctly identified the need for wayfinding to be considered early in the design of the new hospital. Wayfinding is in large part a result of the architectural plan of the building or environment – the arrangement and organization of spaces, programming, and paths of travel are all dependent on the architectural design. In this way, architectural design forms the backbone of the wayfinding experience, defining how users navigate the environment.

This means that both a successful and unsuccessful wayfinding experience begin and are dependent on the architectural plan. A wayfinding program imposes new information in the form of signage, maps and printed material and/or introduces additional content such as landmarks and space delineation. As such, wayfinding programs are intended to assist wayfinding by adding new information into the environment, ensuring that the spatial cognition of the user is fostered by the environment. Therefore, a plan that considers the wayfinding needs of a user as well as the psychology behind spatial navigation is more likely to create an efficient and enjoyable wayfinding experience.

Unfortunately, wayfinding and signage are often considered as a band-aid solution to a confusing and inefficient wayfinding experience created by the architecture. If wayfinding is not considered early in the architectural design process, it is likely that the wayfinding experience will be disconnected from user wayfinding needs and expectations. Indeed, one of the key discoveries during the Understanding Phase was the need to consider the wayfinding experience as early in the design process as possible. Thus, an audit of the proposed site and blocking plans was conducted as part of the Analysis Phase.

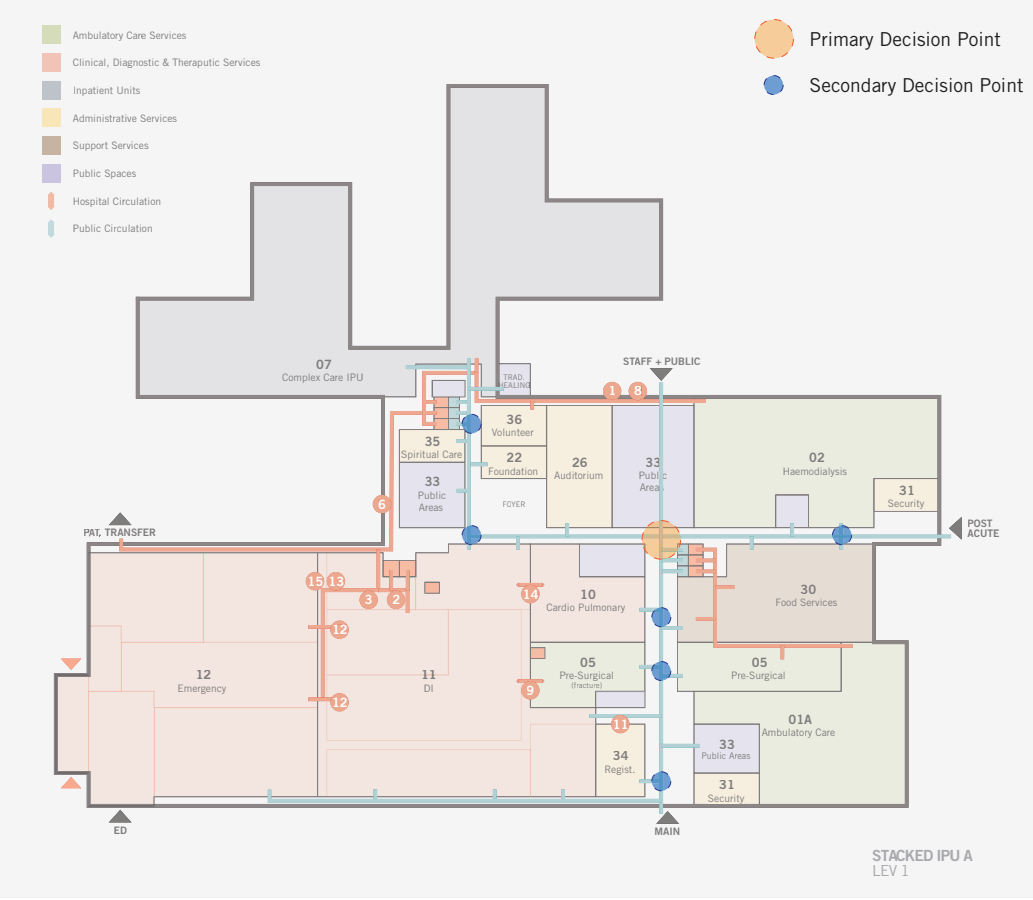
Our conversations with users, as well as our site audit, identified several successes and limitations of the architectural plan for the St. Catharines and Welland hospitals, which demonstrated the importance of considering wayfinding from the perspective of the site plan and blocking:

1. The long corridor on the main level poses significant wayfinding challenges to the elderly and those with mobility issues. Additionally, due to the long travel times as one moves down the corridor, confusion can occur since the user begins to question if they are headed in the correct direction.
2. The position of the registration and check-in desks can cause congestion at the entry-way.
3. The location of the Walker Family Clinic Entranceway in relation to the main hospital entrance can cause confusion regarding the main entrance and entry into the Walker Family Clinic.
4. Certain elevators do not serve all floors at the Welland Site.
5. The inclusion of a “main-street” corridor on the main level supports wayfinding by providing a primary route through the hospital from which all major destinations can be reached.
6. The ample presence of windows allows users to orient themselves using exterior views.
7. Conflict between architectural/facilities room numbering and public facing room numbering.

- These observations clarify how the architectural plan can shape both a positive and negative wayfinding experience and demonstrate that considering wayfinding as early as possible in the design process ensures an intuitive wayfinding experience. Additionally, early consideration of wayfinding can help avoid potential obstacles and hurdles, such as long corridors and travel distances identified at St. Catharines hospital.

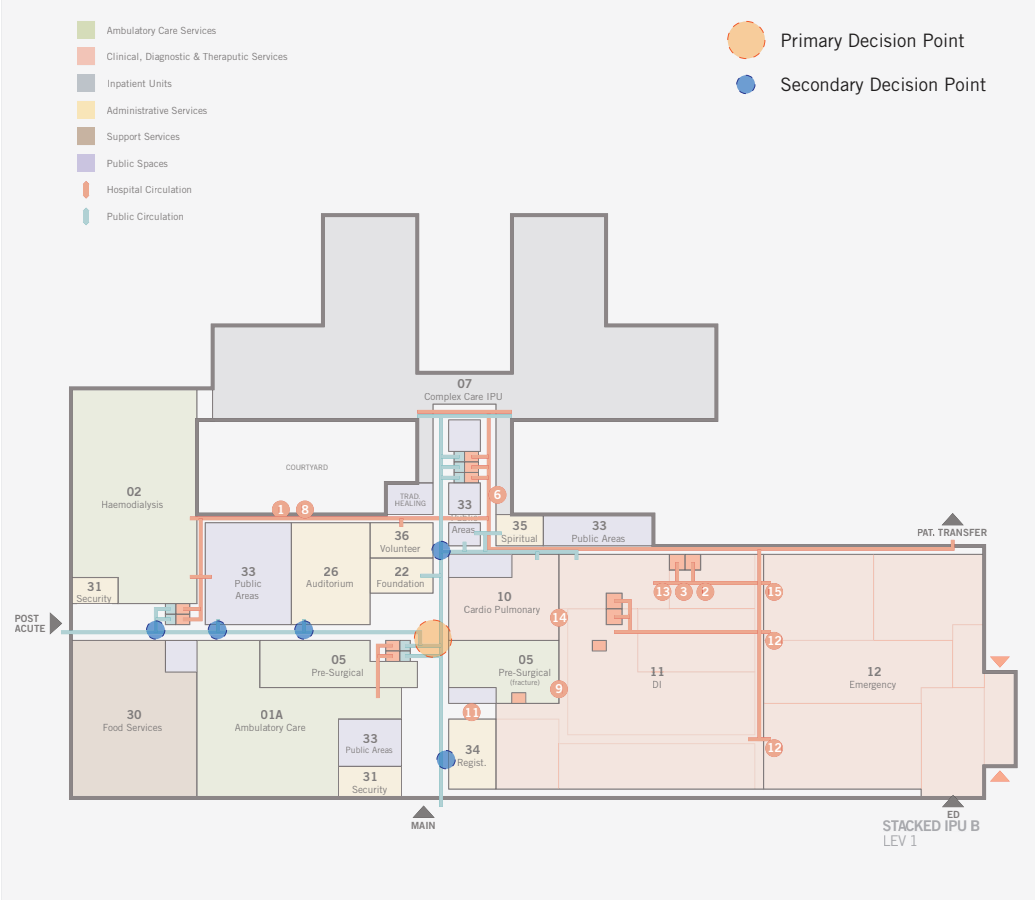
- On August 12th, 2019, members of the Entro team remotely attended a presentation of site plan blocking as presented by Stantec. Three site plans were presented, and we considered the wayfinding experience of each. It is important to note that, due to the early stage of the site plans, these initial assessments are intended to define general principles for an effective wayfinding experience, rather than to serve as an extensive critique of the plans:

1. Stacked IPU A
    - Presents a strong sense of "main-street", a primary corridor from which all primary locations can be reached and from which a successful wayfinding experience can be built.
    - Elevators are placed at a major decision point and are potentially visible from the main entrance.
    - Entry sequence is intuitive; for example, security and registration are both placed right at the main entrance

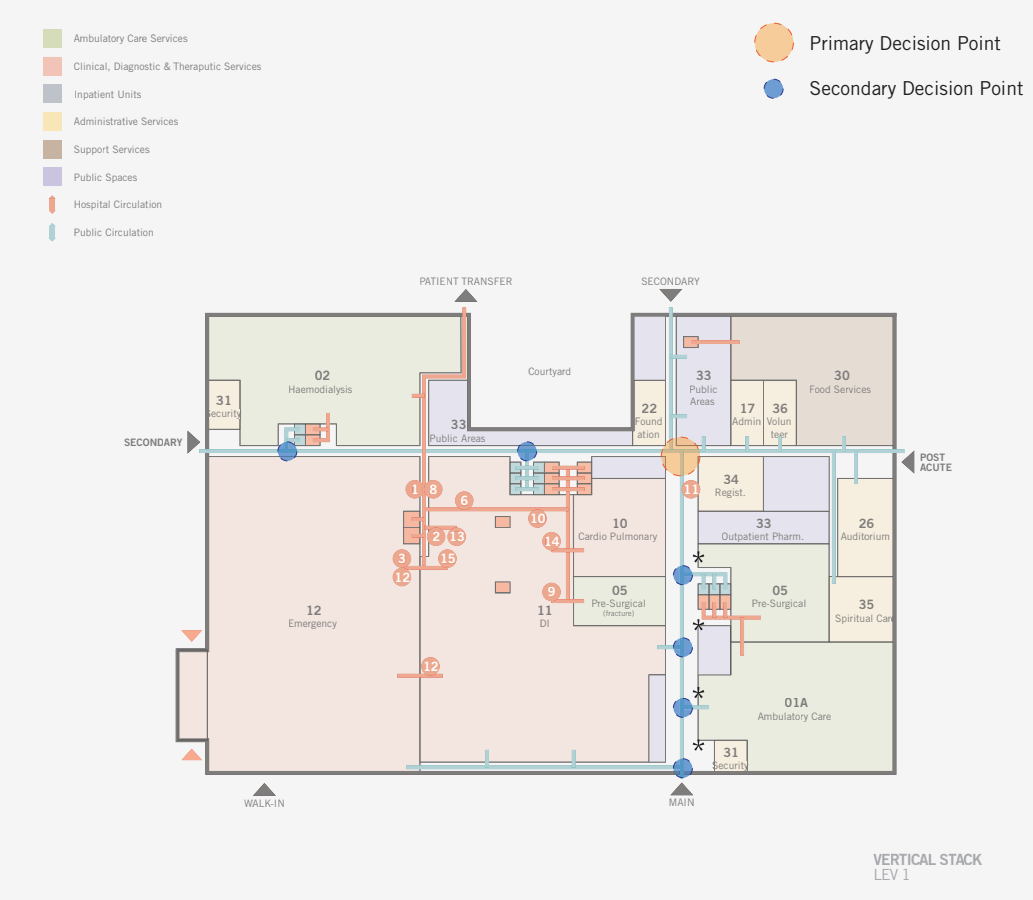


2. Stacked IPU B

- Presents a weaker sense of “main-street”, connecting all main destinations. The primary connecting corridor from which the wayfinding experience is built is unclear.
- The lack of a clear primary corridor presents the additional barrier of making it difficult to give patients and visitors directions.
- The elevators likely would not be visible from the primary entrance.
- The large decision point where the corridor from the main entrance meets the corridor from the secondary entrance might be confusing if the primary and secondary corridors are not well defined and distinguished.



3. Vertical Stack
    - Shorter routes of travel result in an easier and more intuitive wayfinding experience, but level identification becomes particularly important.
    - Elevator bank is hidden and not visible from the main entrance.
    - Registration desk is perhaps too far from the main entrance – there are potentially 5-6 destinations that participants would need to backtrack to from the registration desk. Thus, the wayfinding experience does not occur in an intuitive sequence.



- **Thus, our general recommendations regarding site plan and blocking are as follows:**

  1. **Smaller building footprint and shorter distances between departments and elevators are preferred.** This creates a simpler wayfinding experience, while also directly addressing one of the issues identified at the St. Catharines Hospital – the extremely long corridor and distance traveled to reach the elevators on the main floor. Additionally, shorter distances between departments also create an easier walking experience for the elderly or those with mobility issues or other disabilities.

  2. **Placement of main entrance, registration and elevators should be considered in sequence, so as to create an intuitive and streamlined wayfinding experience.** This avoids backtracking and aligns the experience with user expectations (i.e. registration should be near the main entrance).

  3. **A "main-street" corridor that connects all major destinations is preferred.** This allows users to build a spatial understanding of the facility by scaffolding their maps of the environment via this primary corridor. It serves the role of a spine from which other destinations can be reached. From the perspective of hospital volunteers and staff, the primary corridor makes it easier to give directions since the corridor presents a primary path of travel from which all other destinations can be reached. By having a single primary corridor, we also avoid possible wayfinding confusion that can be caused if the environment has two corridors of similar importance, since this can disorient users by making it unclear the direction which they came from and which direction they need to go. It becomes challenging to situate oneself in the environment if all the corridors look alike. Finally, since many wayfinding errors occur at decision points, by having one primary corridor, the number and relative importance of any decision points is mitigated.

- While our analysis of the architectural blocking and site plan sets out certain suggestions to achieve an intuitive wayfinding experience, it is important to note that wayfinding begins prior to entry into the hospital, as discussed during the Understanding Phase. For example, the entry sequence can be pulled back to the moment the user drives into the hospital site and parks their car, or even earlier –to when they are at home preparing themselves for their visit. During these various stages of the wayfinding journey, the importance of clear and intuitive information remains, and it is important to acknowledge that wayfinding should be considered holistically and that it is not solely defined by architectural blocking.

2.2. OPPORTUNITIES AND CONSTRAINTS WORKSHOP

- While the previous Understanding Phase research outlined healthcare wayfinding best practices, it also provided us with several opportunities and constraints specific to the South Niagara Hospital. These preliminary findings were explored in greater detail during our opportunity and constraint workshop, intended to articulate wayfinding recommendations that are clearly aligned with the specific needs and expectations of Niagara Health stakeholders.

- While the workshop explored various opportunities to support wayfinding and enhance overall user experience at the South Niagara Hospital, it was equally important to discuss and uncover the relevant constraints that might limit the effectiveness of any potential wayfinding opportunities.

- Broadly, these workshop sessions were intended to have **three primary objectives**:

Opening:	Discussing the overall vision, theme and principles of a Niagara Health specific wayfinding program and uncovering new ideas, strategies and opportunities.
Exploring:	Experimenting with previously uncovered wayfinding opportunities so as to drive the direction of the wayfinding program and determine specific requirements for success.
Closing:	Evaluating the established wayfinding solutions and opportunities, so as to reach consensus and establish next steps and action items for successful implementation.

A total of four exercises were conducted on September 10th, 2019. The exercises were as follows (methodology, results and conclusions of each will be discussed in turn):

1. **MOOD BOARD VISIONING EXERCISE**
2. **WORD INSPIRATION ACTIVITY**
3. **FUTURE TWEETS ACTIVITY**
4. **SEMANTIC ENVIRONMENT CANVAS**

2.2.1. Mood Board Visioning Exercise:

The Understanding Phase identified numerous wayfinding strategies and solutions that could be applied to the South Niagara Hospital. The mood board visioning exercise was intended to take these general concepts and develop more concrete wayfinding recommendations specific to Niagara Health. Crucially, the mood board visioning exercise used images and examples of previous wayfinding solutions to expose Niagara Health stakeholders to healthcare wayfinding programs from various hospitals and clinics – by understanding what others have done, we can begin to develop Niagara Health specific recommendations.

The mood board visioning exercise presented examples from various aspects of wayfinding strategy, from directional and amenities signage to digital wayfinding tools and artistic interventions, giving us the ability to analyze Niagara Health's responses to a range of wayfinding strategies.

Methodology:

- A total of 12 different categories of wayfinding tools, strategies and principles were examined. For each category, a range of images representing a range of design solutions were gathered, printed and presented to the Niagara Heath stakeholders. Participants were instructed to carefully view the various wayfinding categories and comment regarding how well the wayfinding strategy might work for the South Niagara Hospital and the degree to which the strategy would be appropriate for the new hospital. Participants provided commentary on sticky-notes, which were placed directly on the printed wayfinding solution images. Green sticky-notes corresponded to positive comments, while pink sticky-notes corresponded to negative comments. This visual method provided us with a rough sense of how positive and negative the participant response was to each wayfinding solution. Participants were invited to come up to the mood board and complete the activity as a group.

  Although responses were made individually, the use of the sticky-notes allowed each participant to see how their fellow participants responded to the various wayfinding solutions, thus leading them to think more deeply about their own responses in the context of the group.

  Once the responses were made, facilitators from Entro led a group-based discussion based on the trends in the sticky-notes, intended to more fully understand the participant responses.

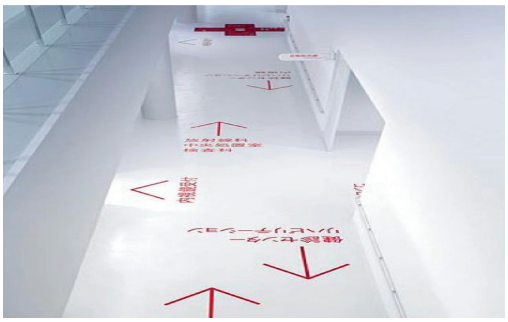
The 12 categories, and the reason for their selection are as follows:

(Refer to Appendix A Mood Board Visioning Exercise for a complete list).

1

Directional Signage: Signage presenting directional information and providing a sense of direction to the user. While directional signage typically lists a destination and provides a directional arrow, the quality and aesthetics of the sign can vary dramatically in the application of colours, textures, materials, typeface, etc.

POSITIVE "Clear"
"Clear, easy"



NEGATIVE "Too busy / confusion"
"Could be difficult to navigate / always looking down"

2

Area and Space Delineation: Organizing the space into colour or letter coded regions, areas or neighbourhoods, taking into consideration the building's vertical circulation. Space delineation is an important strategy that simplifies the environment, making the wayfinding experience more pleasant and efficient.

POSITIVE "Very identifiable"

NEGATIVE "Distracting... may not be good for specific population"

3

Digital Wayfinding Tools: A range of digital applications, including mobile phone apps, digital kiosks, interactive digital displays, digital check-in kiosks, augmented reality and virtual reality. While some options (i.e. mobile apps) are commonplace, others (i.e. augmented and virtual reality) are more cutting edge and less readily available.

POSITIVE "Easy to follow"
"Very easy to follow if you have a phone"

NEGATIVE "Not easy to find... Too many"

4

Feature Walls and Artistic Interventions: Artistic elements are often represented using large scale wall graphics, sculptures, or framed artwork, ranging in artistic style from representational art to abstracts. Artistic elements serve as important wayfinding landmarks while creating a more pleasing and enjoyable environment, lowering stress and anxiety.

POSITIVE "Nice and contemporary"
"Clear colour lines carry through"

NEGATIVE "Too busy"
"Too much"
"Way too much"

5

Natural Elements: Range from exterior views, living walls and plants to natural motifs, graphics and patterns. Distinct natural elements can function as landmarks and have been shown to reduce stress and improve recovery time post medical procedure.

POSITIVE "Bright, happy, calming"
"Nice view"
"Bring in the outside"

NEGATIVE "Too dark"
"Too busy"

6

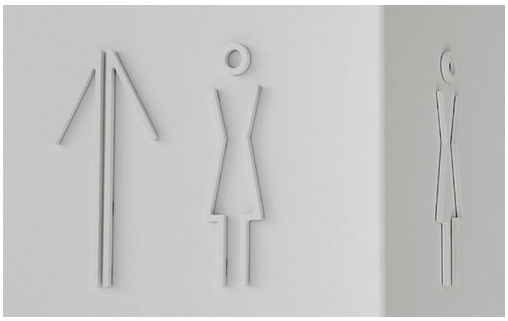
Site Identification: Signs intended to identify the hospital site and create a sense of welcome and arrival. Often the first interaction a user will have with the wayfinding program, these serve the important role of setting the tone for the rest of the wayfinding journey. Signs can vary in their position/location in the environment as well their aesthetic direction.

POSITIVE "Large format easy to read"

NEGATIVE "Not very functional"

7 **Amenities Signage:** Signs identifying amenities such as bathrooms. While some are very direct and simple, others are more playful and abstract.

POSITIVE
"Very clear"
"Gender neutral"
"Like, not typical washroom sign"



NEGATIVE
"Hard to read if vision issues"
"Confusing"

8 **Directories and Maps:** Signage listing important destinations and their locations in the environment. These provide important wayfinding information at the early stages of the wayfinding experience.

POSITIVE
"Concise!! Clearly separates zones"
"Clear. Should correlate with colour in each area."

NEGATIVE
"Too small & too much information"
"Too small. Too busy"
"Too small."

9 **Donor Recognition and Storytelling:** An recognition system intended to acknowledge the contribution of donors as well as tell the story of the South Niagara Hospital. These elements provide the hospital with an opportunity to express its vision and guiding principles. Approaches range from decorative, colourful designs to simple, muted applications.

POSITIVE "Always room to add more donors / adds texture"
"Like that this lights up and is 3D"

NEGATIVE "Very static"

10 **Entry / Lobby / Registration:** The experience that defines entry into the hospital, often providing important information regarding check-in and patient registrations, this is intended to be inviting and welcoming. It sets the tone for the rest of the wayfinding experience. While certain strategies have a more institutional and clinical feel, others present a friendlier, more emotionally supportive space.

POSITIVE "Good use of clear zones"

NEGATIVE "Too crowded"

11

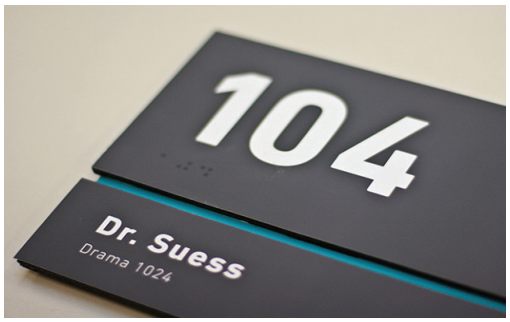
Level Identification: Stair and elevator landings often look very similar between floors, making level changes a potential pain point for wayfinding. Level identification serves to clarify level changes and transitions. Approaches range from large scale graphical treatments to more explicit but subdued approaches.

POSITIVE "Clear"
"Love"
"Really nice"

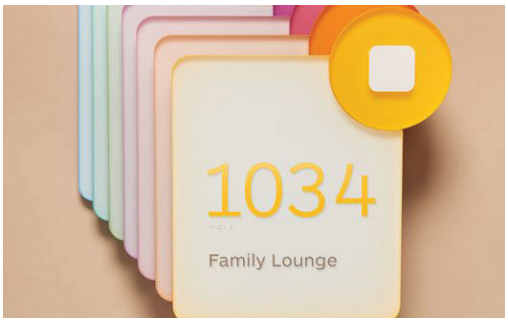
NEGATIVE "A lot of information at once"
"Too bland and too much information"

12

Room Signage: Signage presented at the destination confirming that the destination has been reached. This final step of the wayfinding process often includes room and tenant information, while aesthetics range from simple and direct to expressive and decorative.



POSITIVE "Very good information"
"White on black/ dark easy to read"



NEGATIVE "Too busy"

Results:

1. **Directional Signage:** Beyond presenting clear and concise information, directional signage should use colours to define spaces and strive to create a calming experience. Overly colourful, or overly simple directional signs should be avoided.

2. **Area and Space Delineation:** The primary focus should be to identify regions and areas, thus text running in the vertical direction and distracting patterns were identified as less than ideal. Colours should serve to clarify and organize the space, and not add additional complexity to the wayfinding experience.

3. **Digital Wayfinding Tools:** Participants were intrigued by the range of digital wayfinding options, while concerns were raised regarding how user friendly and accessible the digital options might be. For example, augmented reality solutions received a significant amount of commentary, while the question of how useful this technology would be for seniors was raised.

4. **Feature Walls and Artistic Interventions:** Approaches that presented a warm experience while being calming, relaxing and clear were preferred. Issues of information overload and concerns about designs being too chaotic, busy, and cold were identified.

5. **Natural Elements:** Nature received generally positive response, especially when providing clean and bright wayfinding information. Nature is seen as an important landmark, while any natural elements that were dark were seen as oppressive and should be avoided.

6. **Site Identification:** Functionality was deemed most important, as exemplified by the positive response to large signs that identified the site clearly.

7. **Amenities Signage:** The primary role of public amenity signage should be to clearly identify said amenities while gender neutral approaches were seen as inclusive.

8. **Directories and Maps**: Preferred methods presented information clearly and concisely while also establishing an intuitive information hierarchy where zones and areas are separate on the directory. Interactive directories received positive feedback. Concerns were raised about information that was too small and difficult to read and other directories that included too much information.

9. **Donor Recognition and Storytelling:** Dynamic options that allow for growth were preferred. Interpretations that were too information heavy and static should be avoided.

10 **Entry / Lobby / Registration:** Wayfinding experience at the entrance should be clearly identified and appear natural and warm. The entry wayfinding experience should reduce crowding and not seem sterile or clinical.

11 **Level Identification:** Natural, calming, and clear level identification received the most positive feedback. Several options were deemed too information or content heavy, leading to a chaotic experience.

12 **Room Signage:** Use of natural materials with clear and concise information was preferred. Issues of contrast were discussed, and high-contrast room signage was deemed was easy to read. Concerns were raised regarding personification of space (including individual occupant names on the signs) and maintenance/updatability as tenants and users change. Digital room signage might solve the issue of room sign updatability but would require significant investment.

Conclusions:

- The mood board vision activity served two primary purposes. First, it allowed us to explore and establish a visual and aesthetic direction that is in direct response to the needs and expectations of the Niagara Health stakeholder group. Second, it provided us with the opportunity to more deeply analyze the appropriateness of the various wayfinding solution, introduced in the Understanding Phase, such as digital options, artistic interventions and natural elements. The participant response to the various wayfinding solutions and options can be summarized in 10 primary insights:

1. **Clear and concise information:** Simple, intuitive and concise design options were preferred. This approach focuses on clarifying the wayfinding experience, without introducing additional complexity into the environment or providing superfluous content to the user. Clarity and simplicity were seen as the hallmarks of a successful and efficient wayfinding program.

2. **Natural elements:** Natural motifs, patterns and artwork were seen as appropriate, while exterior views were also perceived positively. While living walls and plants within the hospital were well received, issues of maintenance and upkeep made such applications less desirable, thus driving the positive response towards natural motifs, patterns and artwork. Fortunately, such motifs and graphical applications of nature have been shown to have many of the same positive benefits as real nature.

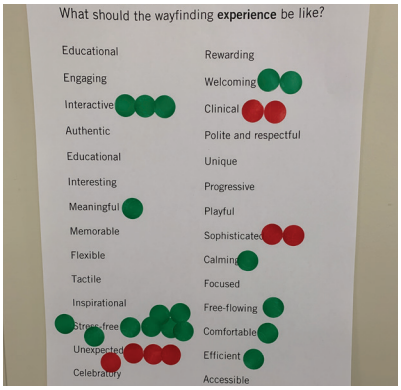
3. **Avoid overstimulation:** While artistic interventions can create a pleasing experience and serve as important landmarks in the wayfinding experience, it is important to not overstimulate users. The most negatively received visioning examples were those that featured many colours, patterns, shapes and forms, for the reason that they created an overly complex and chaotic experience. This point is especially salient in the healthcare context, where perceptual and cognitive stimulation can have strong adverse effects on individuals with various disorders and disabilities. For example, individuals on the autism spectrum might respond negatively to perceptually complex spaces, while the same complexity can create confusion and stress to individuals with Alzheimer's disease. Instead of serving to calm a user, such overstimulation can create undue stress and anxiety.

4. **Digital options:** The stakeholder group responded positively to a range of digital wayfinding solutions, with much of the discussion revolving around integrated app-based methods that would not only assist in wayfinding but could also provide additional functionality, such as check-in, registration and appointment scheduling. Additionally, updatable digital signage was preferred in the context of meeting room scheduling or identifying rooms with high tenant turnover. More advanced and cutting-edge technologies (augmented and virtual reality) were intriguing, but applications and usability remain concerns, suggesting that such approaches are not appropriate for the South Niagara Hospital.

   Additionally, since one of the primary principles and design themes of the South Niagara Hospital is elder and senior friendly design, concerns were raised regarding how senior friendly and usable digital wayfinding solutions would be. Thus, digital options in the form of an app and updatable digital signage should be further explored for the South Niagara Hospital, but the wayfinding program needs to be built from a foundation of thoughtful, effective, and low-tech physical signage.

2.2.2 Word Inspiration Activity

The mood board activity discussed was intended to provide us with valuable information regarding the aesthetic direction of specific wayfinding solutions. The purpose of the word inspiration activity was slightly different, in that its focus was not directly tied to specific design decisions. Instead, it was intended to discover the desired vision of the South Niagara Hospital wayfinding experience. A wayfinding vision will form the necessary big-picture goals of the wayfinding program, setting the tone for the overall experience.



Methodology:

- Participants were presented with five questions probing the desired vision of the wayfinding program, and word lists of possible answers to each question. Using green stickers, participants were instructed to select words that best represented the most Niagara Health specific response to each question. Red stickers were used to identify words describing experiences that should be avoided. The questions asked are as follows, while a complete word list of potential responses can be located in ***Appendix B***:

> What should the wayfinding experience be like?

> What should be the outcome of the wayfinding program?

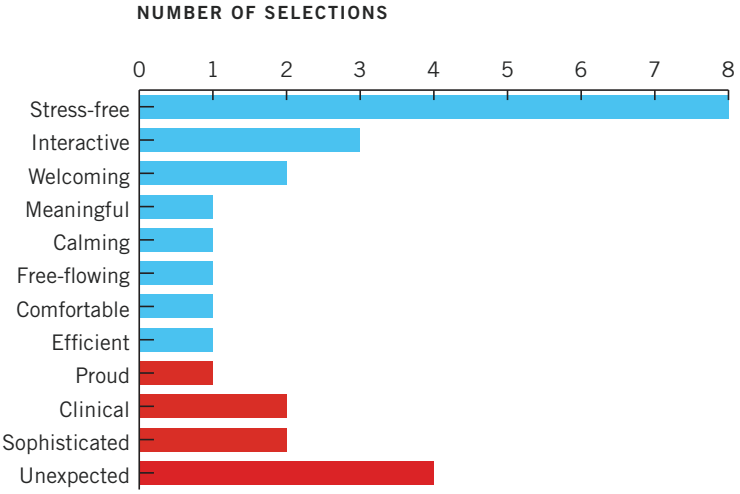
> If the wayfinding program were a person, how would you describe them?

> What topics and themes should the wayfinding program communicate?

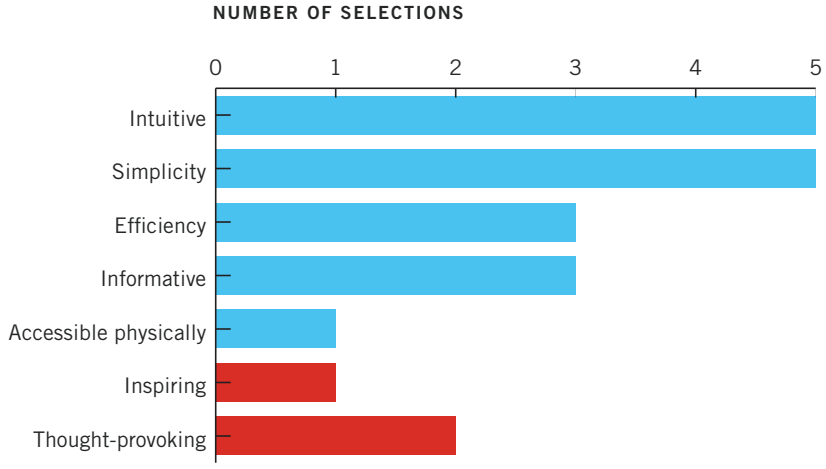
> What method of arrival should the wayfinding program consider most important?

Results:

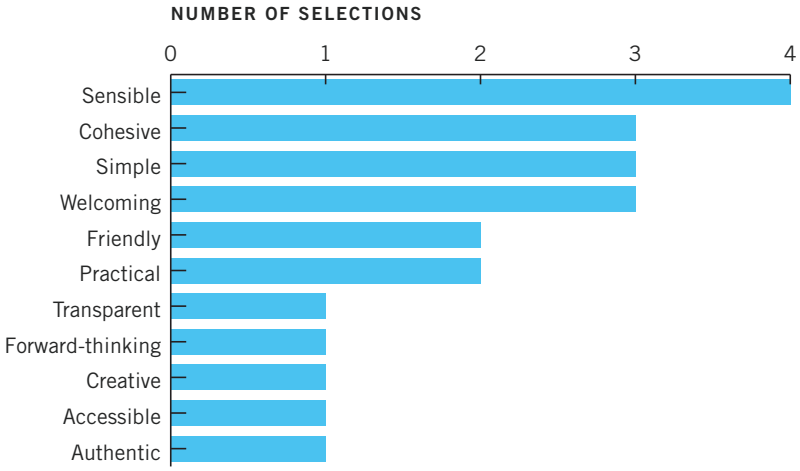
- What should the wayfinding experience be like?
    - Stress-free was the most selected word by a large margin, with eight total selections compared to the next closest word, interactive, with three responses. The experience should be welcoming, as demonstrated by the negative responses towards clinical, sophisticated and unexpected.



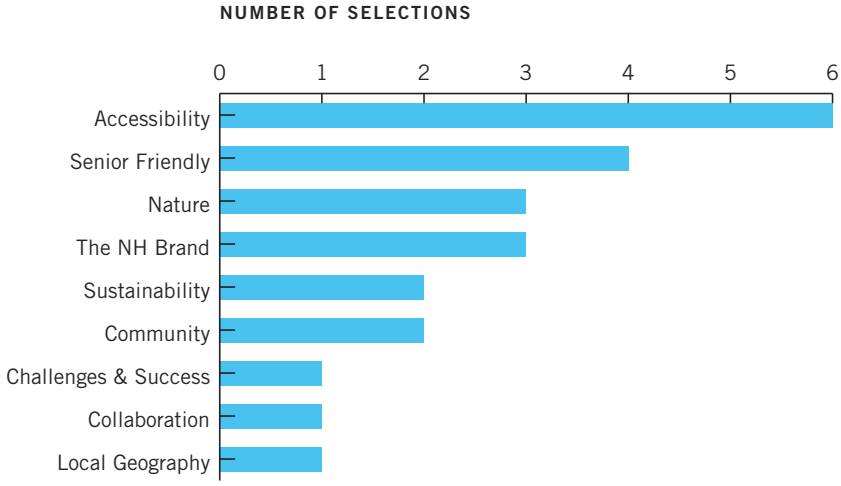
- What should be the outcome of the wayfinding program?
    - The outcome should be intuitive and simple, while it should avoid being thought-provoking. These responses support the notion that functionality should remain the primary goal of the wayfinding program.



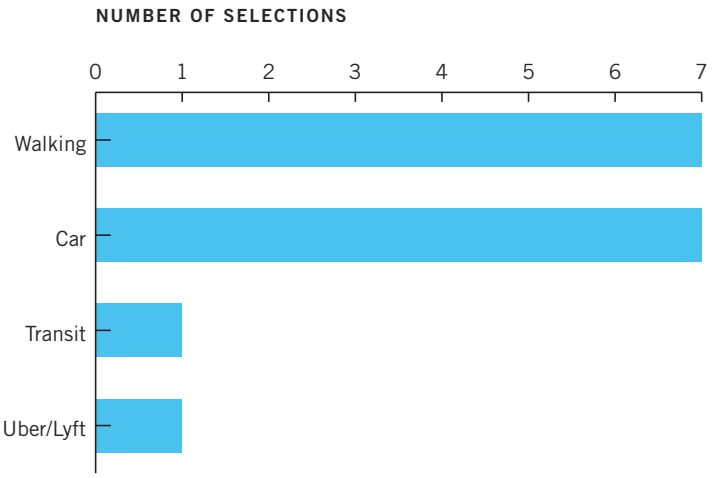
- If the wayfinding program were a person, how would you describe them?
    - The personality traits that resonated with the stakeholder group were sensible, cohesive, simple and welcoming. Once again, functional aspects of the wayfinding experience are of primary concern, although the high selection of welcoming and practical suggest that the wayfinding program be supportive and congenial.



- What topics and themes should the wayfinding program communicate?
    - Accessibility and senior friendliness are the themes that the wayfinding program should communicate. Nature and the Niagara Health brand were also deemed important, just behind accessibility and senior friendliness.



- What method of arrival should the wayfinding program consider most important?
    - Walking and car are considered the most important modes of arrival to be facilitated by the wayfinding program.

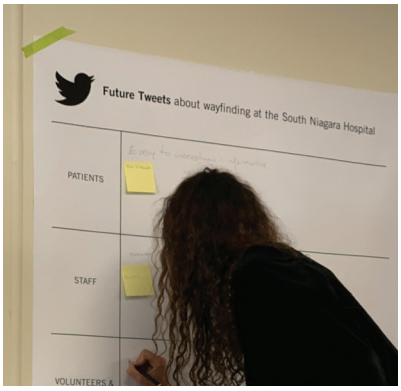


Conclusion:

- The results of the word inspiration exercise showed that, through primarily considering arrival by walking or driving, the wayfinding experience should be stress-free and expected, allowing users to reach their destination intuitively. The program is intended to be sensible, simple, cohesive and communicates the values of accessibility, senior friendliness, nature and the NH brand. From the various responses, it is clear that the program should remain user-focused with the primary goal and objective being function – getting users to their destination easily and efficiently. Interestingly, it is understood that wayfinding should affect the overall user experience and thus lead to an environment that is stress-free, accessible and senior friendly.

2.2.3. Future Tweets Activity

Social media has quickly become a way that we communicate to one another, and by which we can gauge people's responses. We would hope that, once built, the response regarding the South Niagara Hospital wayfinding experience will be positive, and this task asks stakeholders to consider what response and reaction they would like to see from future users. Additionally, by asking stakeholders to take the role of various user groups, we can uncover important differences in how these user groups will experience the space and what they require from the wayfinding experience. Specifically, by having users develop and discuss potential future Tweets regarding the wayfinding program, we can succinctly and clearly identify the intended and desired future experiences.



Methods:

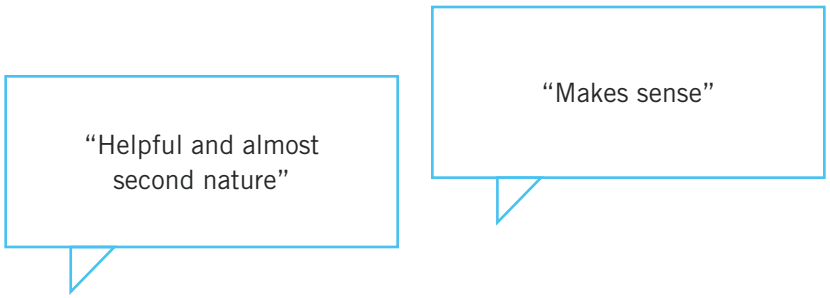
- Participants were asked to take the role of four different user groups: patients, staff, volunteers, and patient partners and family friends. For each group, a series of Tweets was developed and placed on a large poster board using sticky-notes. Participants were instructed to keep their Tweets brief and pertaining specifically to the wayfinding experience from the perspective of each group. Tweets were discussed briefly as a group and trends identified.

Results:

- **Patients:**

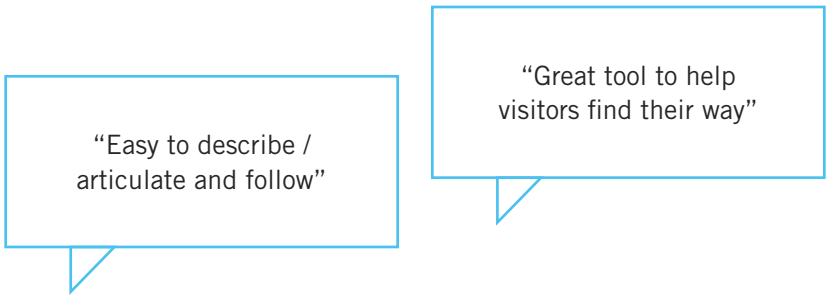
Patients would react best to an experience that balances ease of navigation while creating a stress-free and relaxing environment.

- **Staff:**



Staff response focused primarily on functionality.

- **Volunteers & Patient Partners:**



Volunteers would prefer a wayfinding program that is easy to describe to patients, supporting their role and responsibility as ambassadors and hospital guides.

- **Family & Friends:**

The future response of family and friends should primarily revolve around reducing stress and creating a comfortable environment.

Additionally, the Tweets identified the need for the wayfinding journey to begin before family and friends arrive at the hospital, while they are in the process of planning their visit.

Conclusions:

- The primary future experience should be one where the South Niagara Hospital is easy to navigate and reduces stress. Importantly, not many comments were made about the specific wayfinding tools and solutions, which is expected from a successful wayfinding program: when a program is most effective and efficient, users often do not overtly notice its specific components. Only when wayfinding is difficult do users notice the specific failures or total absence of a wayfinding program.

  There also seems to be a general distinction between those working at the hospital as compared to those visiting the hospital. For example, patients, family and friends placed equal attention on ease of navigation and the role this has in reducing stress. Volunteers, partners and staff, on the other hand, identified ease of navigation, but also made several comments identifying the wayfinding program as being important in allowing them to do their job more effectively. For example, volunteers and partners commented that “easy to describe / articulate”, referring to the role they play as wayfinding guides.

2.2.4. Semantic Environment Canvas

The understanding phase identified that wayfinding at the South Niagara Hospital needs to consider a range of users, each with distinct goals, needs and expectations. User groups will have distinct relationships to the hospital, but certain aspects of their wayfinding experience will be shared. The semantic environment canvas was intended to uncover these commonalities and differences by considering the goals, challenges and communication touchpoints that define the relationship between user groups and their wayfinding experience at the hospital. Four primary user groups were identified: patients, staff, volunteers & partners and friends & family.

While wayfinding best practice will positively affect the wayfinding experience for each group, we sought to uncover requirements and opportunities to ensure that the unique needs of each group are met by the wayfinding strategy.

Methods:

- In groups, participants were asked to assume the viewpoint of one of the four user groups. From the perspective of the user group, they were asked to answer the following questions:

- **Goals:**

  What does each participant want from the hospital wayfinding?

  What do they expect from the wayfinding program?

- **Challenges:**

  What are the challenges to achieving goals?

- **Touchpoints and Keywords:**

  How will the wayfinding experience be communicated?

  What tools will be used?

- For each question, participants responded on sticky-notes, which were then placed on chart paper. Once all responses were posted, a brief group discussion was facilitated to refine participant responses and identify commonalities and differences.

Results:

- For each question, the commonalities between the groups were identified, as were the differentiators and any unique group considerations.
  (Refer to Appendix C Semantic Environment Canvas for complete responses).

Goals:

Commonalities

- The primary goal of the wayfinding program should be clear and concise information, resulting in an efficient and easy experience.

Differences

Patients – Need for shorter travel distances and areas to rest. There was also a stated goal of direct access to one's destination, suggesting that the wayfinding experience should be quick and easy.

Staff – Need for internal access to staff-specific destinations such as the pharmacy, while ease of maintaining signs was also discussed.

Volunteers – Primary goal is to instruct and guide visitors effectively through the space and the tools that they require in order to do this successfully.

Friends and Family – Stated goal of finding something to do while they wait, thus wayfinding towards amenities is important.

Challenges:

Commonalities

- The primary expressed challenge faced by each user group during their wayfinding experience is inconsistent terminology and poorly designed or unintuitive signage.

Differences

Patients – Accessibility concerns were raised as a unique challenge; visual, physical and reading/learning impairments were discussed as potential roadblocks to an effective wayfinding experience.

Staff – The lack of universality in the wayfinding system makes the wayfinding experience challenge.

Volunteers – Volunteers often face the difficulty of incomplete information, such as the information provided by the physician to the patient.

Friends and family – Similar to the goals of this group, the challenge that differentiates friends and family is that they are unsure where they can wait and rest.

Touchpoints and keywords:

Commonalities

- Regardless of the user group, the primary touchpoint between the user and the wayfinding experience is the physical signage.

Differences

Patients – An important patient-specific touchpoint is the hospital volunteer, who forms an important part of a patient's hospital wayfinding journey.

Staff – While physical signage is an important touchpoint for all user groups, staff identified the importance of reconciling the difference and distinction between facilities-based room numbers and functional, user-friendly room numbering.

Volunteers – It was identified that volunteers would prefer to have physical, printed information to communicate more effectively with patients.

Friends and family – Important touchpoints are often waiting and activity rooms, areas that are not necessarily foundational aspects of wayfinding, but they serve as important landmarks, and the wayfinding program needs to ensure that they are easy to locate.

Conclusions:

- The semantic canvas task identified that an intuitive, efficient and functional wayfinding experience is the primary goal of the wayfinding experience, while also presenting the primary challenge that needs to be solved, regardless of the user group. Several important differences between how the various groups view their relationships to wayfinding at the South Niagara Hospital were also uncovered. For patients, the primary concerns revolve around issues of accessibility – the wayfinding program needs to meet the broad range of needs and abilities of the patient group. For staff, volunteers and partners, the primary experience is concerned with their ability to effectively perform their roles at the hospital. For volunteers, this means effectively instructing and guiding patients and visitors to their destinations, while for staff, this means easily identifying locations and navigating the non-public facing areas of the hospital.

2.3. ANALYSIS PHASE DISCUSSION AND CONCLUSIONS

The Analysis Phase findings are intended to determine specific design requirements as well as the guiding vision and principles of the South Niagara Hospital wayfinding program. Thus, the **analysis phase findings can be summarized in 5 key points.** While some relate more generally to standards and basic guidelines, others refer to specific South Niagara Hospital recommendations and vision.

1 CLEAR AND CONCISE INFORMATION

Considered one of the foundations of a successful wayfinding program, clear and concise information is the key to efficient and intuitive wayfinding. The necessary criteria to design clear and concise information can be gathered from healthcare wayfinding best practice documents such as the CSA Healthcare Wayfinding Standards. Additionally, guidelines from AODA standards and Niagara Region Facility Accessibility Design Standards will allow for the design of an accessible wayfinding experience, which will not only help those with accessibility needs, but will also create a wayfinding experience that is more efficient and user friendly for all. The analysis proves beyond a doubt that clear and concise information is of primary importance, as it was a main finding in each phase of the research process.

2 NATURAL MOTIFS AND GRAPHICS

Nature can play an important role in the wayfinding program by acting as a landmark and providing natural views by which users can orient themselves. Additionally, by integrating natural elements and features in the wayfinding program, the program will support the well-being of South Niagara hospital patients and visitors. Nature has been shown to increase positive emotions, reduce stress, and improve recovery times. Integrating natural elements into the wayfinding program creates a South Niagara Hospital specific solution that expands the function of wayfinding to create a more supportive and welcoming hospital experience. It is important that nature-inspired elements be incorporated intelligently into the wayfinding program, however, to make sure that they do not compete with wayfinding information – as clearly stated by point 1, clear and concise wayfinding information is key.

3 WALL GRAPHICS AS IMPORTANT LANDMARKS

The findings of the Analysis Phase suggest that artistic interventions should be considered in supporting the wayfinding program, since artistic interventions can serve as important landmarks in the wayfinding experience. Specifically, an integrated approach, where wall graphics are used as part of the wayfinding system, is preferred over framed art. This integrated approach will ensure that the art becomes an integral part of the wayfinding system, rather than an afterthought placed into the environment in addition to signage and other wayfinding content. Like natural elements, artistic interventions will not only support wayfinding but also have the potential to improve the overall hospital experience by boosting positive emotions, discovery, and engagement, all while reducing stress.

4 INTEGRATE ART AND NATURE INTELLIGENTLY

There is a certain degree of tension among the points stated above. Where the first point argues in favour of communicating information clearly and concisely, the second and third points suggest adding additional information to the wayfinding program. This introduction of additional information has the potential of complicating the wayfinding experience, thus creating a more difficult wayfinding journey. For example, a natural motif placed at a non-decision point will not be experienced as an important landmark, while an artistic intervention placed too close to important directional signage will distract from the relevant wayfinding information. To prevent such potential conflict between natural elements, artistic interventions and wayfinding signage, it is necessary to consider natural and artistic interventions as a holistic part of the wayfinding program. The design and selection of natural and artistic elements should happen in close collaboration and in conjunction with signage design. In this way, natural and artistic interventions will be considered a part of the wayfinding program design, alongside signage design for the South Niagara Hospital.

5 AVOID PERCEPTUAL AND COGNITIVE OVERLOAD

Natural and artistic interventions have the potential of introducing perceptual and cognitive overload into the environment. For example, and as noted in the visioning exercises, if natural elements are too dark or too many colours and patterns are used in an artwork, stress and feelings of being overwhelmed may occur. Rather than creating a calming hospital experience, such interventions would result in an environment that is uncomfortable and stressful. Such concerns are especially relevant in the hospital environment given that patients may be particularly sensitive to perceptually and cognitively demanding environments created by interventions. For example, certain patterns and colours used on the floor to distinguish thresholds may actually exacerbate freezing of gait in individuals with Parkinson's Disease, while certain visual content may cause undue stress and confusion for individuals with Alzheimer's and other forms of dementia.[1, 2, 3] In order to avoid such negative effects, all artwork and natural interventions need to be carefully considered and screened. A committee to determine the appropriateness of potential interventions should be established, while additional user testing and stakeholder engagement will ensure that natural and artistic interventions will lead to a pleasant experience in support of wayfinding at the South Niagara Hospital.

1. Gál, Ota, Kamila Poláková, Martina Hoskovcová, Jan Tomandl, Václav Capek, Roman Berka, Hana Brožová, Irena Šestáková, and Evžen Ružicka. "Pavement Patterns Can Be Designed to Improve Gait in Parkinsons Disease Patients." Movement Disorders, 2019.

2. Davis, Rebecca, and Catherine Weisbeck. "Creating a Supportive Environment Using Cues for Wayfinding in Dementia." Journal of Gerontological Nursing 42, no. 3 (January 2016): 36–44.

3. Chiu, Yi-Chen, Donna Algase, Ann Whall, Jersey Liang, Hsiu-Chih Liu, Ker-Neng Lin, and Pei-Ning Wang. "Getting Lost: Directed Attention and Executive Functions in Early Alzheimer's Disease Patients." Dementia and Geriatric Cognitive Disorders 17, no. 3 (2004): 174–80.

2.4. EVALUATION CRITERIA MATRIX

To expand upon the results of the Analysis Phase, an evolution criteria matrix was developed. The items in the criteria are in direct response to best practice and trends uncovered in the Understanding Phase and the findings of the Analysis Phase. The evaluation criteria are organized into the three sections:

First, General Objectives define the overall vision and principles of the wayfinding program and is intended to inform the big picture objectives of the wayfinding program. These seven items are less prescriptive than the subsequent evaluation sections but serve the important purpose of setting the tone of the wayfinding program.

Second, Best Practice Criteria define necessary wayfinding design criteria that form the foundation of a successful wayfinding program. These criteria are defined primarily by CSA, AODA and Code Plus best practice recommendations. This section considers items such as site plan and blocking, location, messaging and general design principles, room numbering, nomenclature, donor recognition, space delineation and accessibility considerations. Each of these subcategories is composed of several items. These best practice recommendations are not necessarily South Niagara Hospital specific, but are instead the basis of every successful healthcare wayfinding program. These items are drawn primarily from the Understanding Phase findings.

Third, South Niagara Hospital Considerations outline four criteria categories, each of which is composed of several items. These south Niagara Hospital specific items include senior friendly design, connection to nature, artistic elements and interventions, and digital content. These items are drawn primarily from the Analysis Phase findings.

The Evaluation Criteria Matrix is intended to evaluate the schematic design concepts of DBFM teams, and uses a 0/1 scoring system for each criteria item.

(Refer to Appendix D for the Evaluation Criteria Matrix).

3

SYNTHESIS PHASE

3. SYNTHESIS PHASE

The Synthesis Phase is intended to advance the findings of the previous stages into a set of recommendations and inform the evaluation of the PSOS (Project Specific Output Specifications) document. These recommendations will ensure that both the basic requirements for a successful wayfinding program are met while also guaranteeing that Niagara Health specific needs and expectations are achieved.

- The first requirement category is defined as the Wayfinding Design Standards and identifies various fundamental wayfinding best practice requirements such as typeface, contrast and size specifications.

- The second requirement category is defined as the Vision and Guiding Principles and specifies big picture objectives of the wayfinding program – importantly, the wayfinding requirements that are specific to the South Niagara Hospital.

- The third requirement category is defined as the Wayfinding Design Guidelines and serves to fill the gap between Design Standards and the Wayfinding Vision. Like the Wayfinding Vision, it considers South Niagara specific requirements as defined by previous research phases.

These three recommendation categories are then used to inform PSOS development by specifying mandatory PSOS items in an evaluation matrix. This will ensure a high degree of specificity and clarity in the PSOS, so that the needs of the South Niagara Hospital are met, and ensuring high wayfinding performance. Additionally, as part of our process, we provide an additional performance-outcome measures methodology, using post-occupancy evaluation to test and validate the effectiveness of the developed wayfinding strategy.

As part of the research processes, several items needing additional development and consultation were identified. These action items, along with recommendations and next steps are outlined, allowing for quick and efficient response to each item. These action items need to be addressed in order to provide additional specificity for PSOS.

Finally, the Synthesis Phase outlines a sample implementation plan/strategy and order of magnitude costing.

3.1. WAYFINDING DESIGN STANDARDS

At its most basic level, and as identified during the Analysis Phase, a wayfinding program needs to present clear and concise information to the user. By doing so, the program simplifies the environment and helps orient and direct the user through the space. The following Wayfinding Design Standards have been defined throughout our Understanding Phase research, by reviewing industry trends, best practice, and standards such as the CSA, ADA, AODA and Niagara Region Facility Accessibility Design Standards requirements. These requirements are prescriptive, defining specific wayfinding design requirements in clear, objective terms and leaving little room for misinterpretation. Many of the requirements are derived from human perceptual limits and abilities, such as specifying size of typeface so as to consider human visual acuity, while others are defined from human spatial cognition, such as the need to clearly delineate space and use intuitive room numbers and nomenclature. These Wayfinding Design Standards can be applied to any healthcare environment; South Niagara Hospital specific recommendations will be explored in subsequent subsections.

1 DECISION POINTS AND DESTINATIONS

- Entrances must be identified from the exterior.
- Directional signs must be placed at all decision points.
- All doors to have a room number.
- All elevator lobbies should have elevator directories that list destinations that can be accessed from the corresponding elevator lobby.
- ‘Emergency’ should always be on the top of all directional signage.

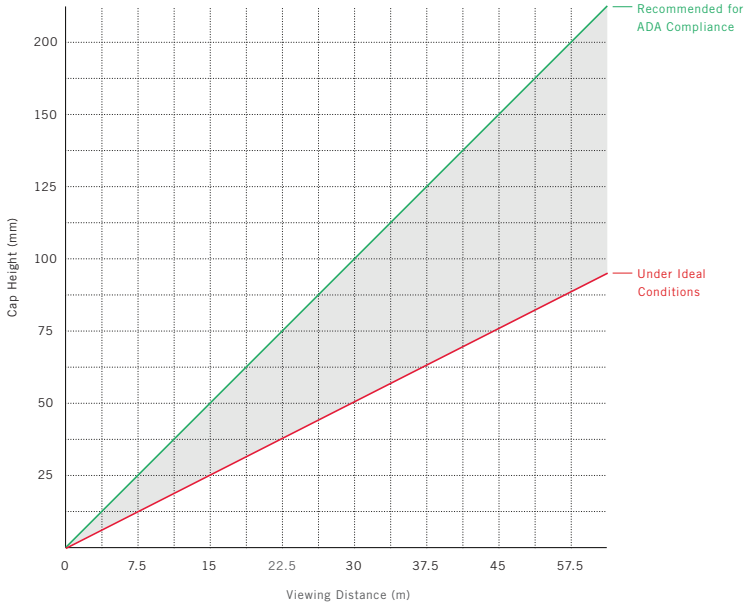
2 ORGANIZATION AND CLARIFICATION OF SPACE

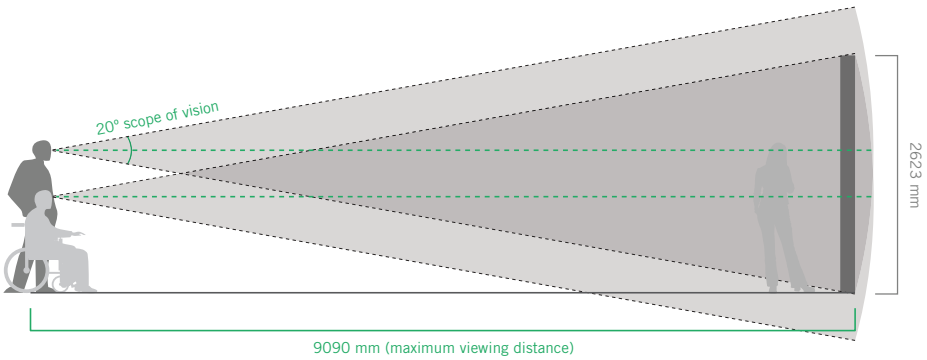
- All levels must be identified within and outside stairwells as well as on opposing walls of elevator lobbies.
- All zone thresholds need to be identified.
- Zone boundaries must correspond to the floor below, thus creating logic and order.

3 ACCESSIBILITY

- Utilize principles of universal design, best practices, CSA standards for Wayfinding for Health Care Facility, and Niagara Region Facility Accessibility Design Standards.

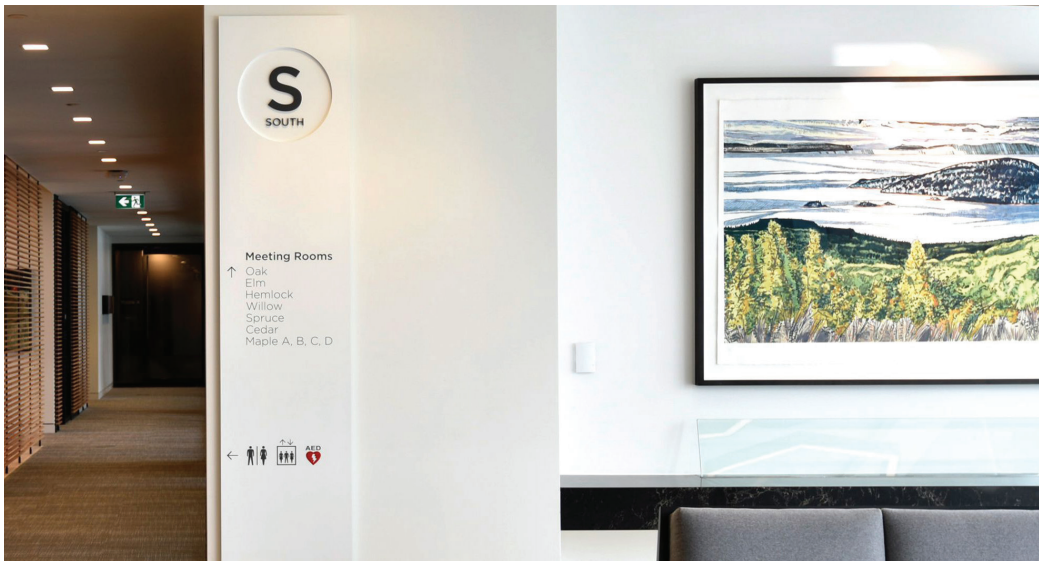
4 READABILITY AND LEGIBILITY





- Clear hierarchy, using position, colour, and size to differentiate between various levels of message importance.
- Cap height of all text on all directional signs are to be a minimum of 25-32mm in height for a view distance of 7.5m.
- For the viewer traveling up to a speed of 30km/h, the cap height in a Sans Serif font should be between 68 – 82mm high, and up to 136mm high if the viewer is traveling 50 km/h.
- Font should be a Sans Serif medium font.
- Text should be upper and lower case.
- Text should be presented on a dark background with light letters.
- Signs should have a foreground/background contrast of 70% and over.
- All signs must be placed within the majority of the population's cone of vision – 10˚ from center line.

5 NOMENCLATURE



- The destination list should be developed based on common language terminology.
- Destinations should be ten characters or less, ideally with no acronyms used, and words such as “centre”, “clinic”, “office”, “diagnostic” should be kept to a minimum.

6 ROOM NUMBERING

Refer to the figure on page 9

- Implement a user friendly, grid based, street numbering system (odd numbers on one side and even numbers on the other).
- Room numbering should take into account the smallest divisible space, preserving unused/skipped numbers for future use.
- Unique numbers used with consistency between floors.
- Room numbering is designed with patients and visitors in mind, while facilities management room numbering should be separate/secondary information.
- Take into consideration the vertical circulation (i.e. Room ranges 1100-1199 are below room ranges 2100-2199 within the same building block).

7 PICTOGRAMS

Refer to the figure on page 8

- Utilize common pictograms to identify public amenities consistently.

8 MAP / DIRECTORY

- The location of the map should be marked on the map with “You Are Here” marking and oriented to the user.
- Map and directory listings should be associated and in close proximity to all exterior points of entry.

9 PRODUCT DESIGN

- Maintain practicality in the designs by taking changeability, durability, maintenance, vandal resistance and other design features into account.
- Static and digital wayfinding should carry the same look-and-feel.
- Tactile signage and Braille signage.
- Common mounting methods and placement standards should be applied to all signage.
- Reduce glare on sign surfaces by using matte or semi-gloss treatments or materials.
- Product system should allow for addition and deletion of messaging.
- Maintenance of the product family should be considered.
- Consider the elements and how the product may be affected. Exterior
- Signage is exposed to weather and often must be able to endure severe conditions such as wind, ice, and moisture.
- The product family should be able to be updated and maintained using a computer database that can track changes
- Illuminated exterior signage: Site identity, vehicular directional signage, emergency entrance and parking identity should be illuminated.
- Signage design must consider ways to reduce hard and soft vandalism.
- Provide large-font printed materials at reception and entrance areas to accommodate for the elderly users who may not be comfortable with digital information.

3.2 WAYFINDING VISION AND GUIDING PRINCIPLES

While the Wayfinding Standards define how to create an efficient and effective program in general, the Vision and Guiding Principles define the aspirational goals and objective of the South Niagara Hospital wayfinding program, thus allowing for the design of a program that is not only efficient, but also meets the varied user needs while creating a warm, welcoming and friendly environment. The items defining the Vision and Guiding Principles are drawn directly from the Understanding and Analysis Phase findings, and reflect the high-level aspirations and goals of the South Niagara Hospital wayfinding program.

Confident and efficient wayfinding through clear and concise information:

The wayfinding strategy and resulting signage is one of the key elements of the program that impacts users directly. As such, the wayfinding system must be clear and intuitive for users of varying abilities. Clarity of information can be supported through the application of the Wayfinding Standards as outlined above. The wayfinding program needs to enable patients, visitors and staff to navigate to their destination confidentiality and efficiently.

Universal design to meet diverse needs:

The design of the South Niagara Hospital wayfinding system promotes universal design principles, supports 'senior friendly' design by considering the specific needs of elderly populations, and considers the following challenges: unfamiliarity of the site, cultural differences, and visual impairment.

Holistic wayfinding journey:

The wayfinding strategy considers various stages of the patients' wayfinding journey – from before they arrive at the hospital to when they reach their destination. This includes information given to patients prior to their visit to the hospital, such as appointment letters received from their family physician and information available on the Niagara Health website. Regardless of its source, the information needs to be consistent and clear so as to ensure a smooth, integrated and holistic wayfinding journey. Additionally, the strategy needs to consider all areas of South Niagara Hospital site in an integrated manner to enhance the overall site experience for staff, visitors and patients.

Calming and relaxing environment:

The wayfinding program should do more than create an efficient environment; it should also create an environment that is calming and relaxing. Although an efficient wayfinding program will reduce stress and create calm, additional wayfinding design choices, such as natural and green design, as well as artistic elements to create landmarks, need to be considered as a strategy to induce a calming and relaxing environment.

Clear understanding of brand architecture:

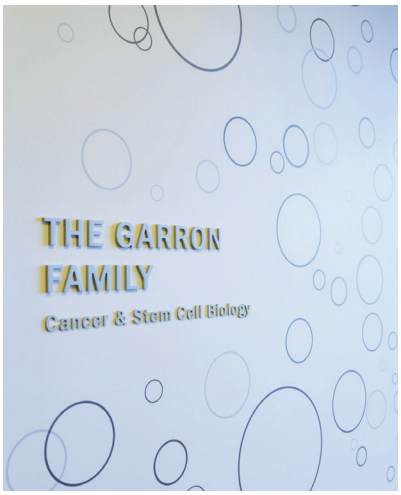
The South Niagara Hospital will be an important part of the Niagara Health System group of facilities, signaling a significant operational shift. For this reason, it is important that signage and the wayfinding system clearly identify the South Niagara Hospital's role and position in the Niagara Health System family of facilities. By logically organizing and understanding the place of South Niagara Hospital in the Niagara Health brand, an understandable and cohesive wayfinding experience can be created.

Community connection:

The Niagara region is a culturally diverse community, featuring a large French-speaking population, along with a growing Asian community and Aboriginal populations. The South Niagara Hospital needs to be seen a community health partner by all groups and individuals in the region. By responding and being sensitive to diverse community needs, the wayfinding program enables the South Niagara Hospital to present itself as a supportive space and thus positions the Hospital as a community partner, building trust with the surrounding community.

Extraordinary care:

The wayfinding strategy supports the Niagara Health staff in providing extraordinary care, by creating an environment that is efficient and functional. A thoughtful and effective wayfinding strategy will not only meet the needs of patient, but will also support the staff during their day-to-day activities. By making the environment easier to navigate, the strategy will give staff more time to interact with patients while making it easier for volunteers to guide patients through the hospital.



3.3 WAYFINDING DESIGN GUIDELINES

While the Standards provide prescriptive, low-level requirements for a successful wayfinding strategy, the Vision and Guiding Principles define high-level aspirations and goals. The Wayfinding Design Guidelines occupy the middle ground by specifying requirements that are more aspirational than the Standards and more tractable than the Vision. Thus, the Wayfinding Design Guidelines serve as a bridge between the two. Abiding by only the Standards, one could design a functional, efficient wayfinding program. Individuals might be able to navigate the environment relatively effectively, but important nuances in their wayfinding journey and patient experience would be sorely missing. The program would lack an appreciation of the desired big picture final outcomes (as defined by the Vision and Guiding Principles). Conversely, if one was to rely solely on the Vision and Guiding principles, creating an effective wayfinding program would be difficult, since the Vision and Principles define the big picture requirements while not providing a road map of how to get there. The Design Guidelines can serve as a set of recommendations that consider both the low-level specifications (Standards) and the high-level final outcomes (Vision and Principles), shaping both the objective requirements and the subjective final outcomes of the strategy.

1 INTEGRATED WAYFINDING

- Holistic wayfinding experience that considers website and digital apps, appointment letters, branding, identity of destinations, wayfinding signage, verbal direction, directories and maps, and landmarks.
- Presents concise, comprehensive and unambiguous information to allow user decision making throughout the hospital with a minimum of effort.
- Clear and understandable for first time users.

2 UNIVERSAL ACCESSIBILITY

- Accommodating of all user groups, including seniors, by including messages that are universal in communication and accessible.
- State-of-the-art technology that aids in wayfinding and accessibility is integrated whenever feasible.
- Design complements, yet sufficiently contrasts with the surroundings for visibility.

3 WAYFINDING INFORMATION

- Applies message hierarchy to all signs to ensure logical progression of information.
- Signs contain the right information at key decision points to ensure users' confidence.
- Provides wayfinding information within departments to sub destinations.
- All public destinations must be identified, including washrooms.
- Identifies all public destinations at the point of interaction.

4 WAYFINDING ORIENTATION

- Incorporates landmarking strategies to aid in user wayfinding.
- Presents maps that are simple, intuitive, consistent and include exterior orientation.
- Orientation to the exterior is provided in interior maps.

5 SPACE DELINEATION

- Zones simplify wayfinding by grouping destinations together and organizing the building vertically.
- Directional information to other zones should only be communicated at elevator core.
- Wayfinding information for destinations within the floor's zone boundaries is provided in each zone.

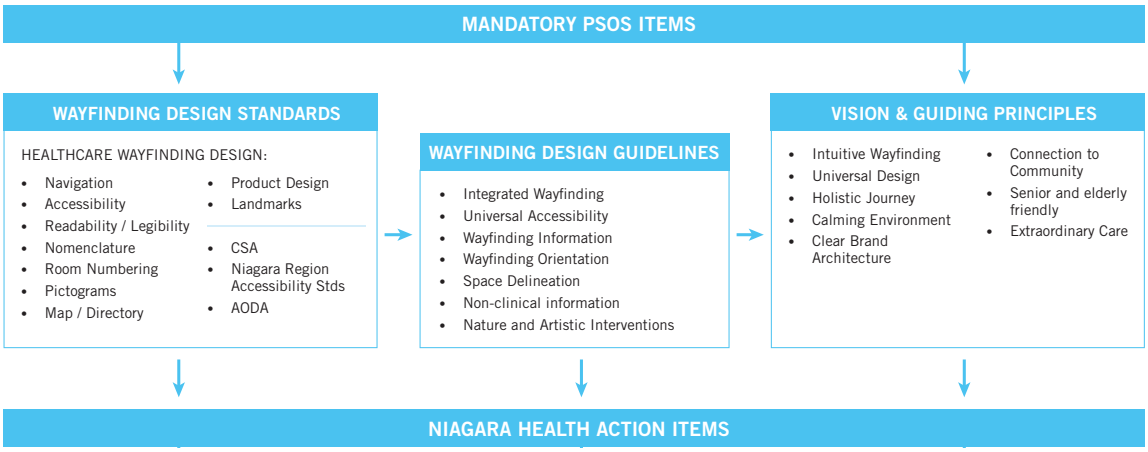
6 NON-CLINICAL INFORMATION

- Donor naming signs should not be mixed with clinical wayfinding.
- Advertising/temporary signage placement guidelines to be developed, to integrate these elements into the overall program without distracting from user wayfinding.
- Digital booking and room signage to be considered for meeting rooms and other areas with high tenant turnover or functional flexibility.

7 NATURE AND ARTISTIC INTERVENTIONS

- Natural and green design elements to be considered to create landmarks over living walls due to ease of maintenance.
- Graphic walls to serve as landmarks are preferred over framed art.

The mandatory PSOS items are defined by the wayfinding standards, guidelines and vision, as summarized in the following table.



3.4 NIAGARA HEALTH ACTION ITEMS

Over the course of the development of the Wayfinding Design Standards and the Vision and Guiding Principles, it became evident that certain recommendations need additional specificity in order for them to be reliably applied in subsequent phases. For example, while artistic interventions are recommended, the nature and specifics of the artistic interventions need to be determined. Other items are intended to reconcile discrepancy between various standards and best practice recommendations. Thus, action items will help define subsequent steps to ensure that the recommendations in this report are actionable and developed into prescriptive requirements. The objective of these recommendations is to eliminate the ambiguity that is often found in PSOS documents, so as to create a highly tailored and effective wayfinding program. The following action items clarify the need, make general recommendations and outline the necessary action for the item to be resolved.

1

Wayfinding Standards – Braille: A discrepancy was identified between The Niagara Region Facility Accessibility Design Standards and other standards (CSA, AODA), whereby the former specifies Braille II and the latter specifies Braille I.

RECOMMENDATION:
Braille I is recommended in CSA, since it allows for French content and we are aware that the Niagara Region has a significant French speaking population.

ACTION:
While our recommendation is Braille I, a workshop session should be held with the PDC team to understand the pros/cons of both Braille options and determine the best applicable type for South Niagara Hospital. While Braille I allows for French language content, Braille II allows information to be communicated more efficiently. These pros and cons should be discussed.

2

Nomenclature: During both the Analysis and Understanding Phase, several instances of unclear and inconsistent nomenclature were identified. For example, many of the services at the St. Catharines site include redundant information such as "clinic," "office" and "unit." Medical terms such as "Ophthalmology" may not be understood by all patients and visitors.

RECOMMENDATION:
Based on hospital wayfinding best practices, nomenclature should be developed with laypeople in mind, understanding that patients may not be familiar with technical terms and departmental names. Thus, clinical destinations should avoid jargon and redundant information, while the naming should be simple and consistent throughout all signage, communication materials and facilities.

ACTION:
An internal Niagara Health workshop should be held to streamline all clinical nomenclature. Participants may include Communications, Departmental Directors and Physicians. Inclusion of a broad range of stakeholder groups will ensure consensus on the suggested nomenclature, thus leading to a quick adoption and high degree of buy-in.

3

Room Numbering: As identified during the lessons learned interviews and the site audit, the room numbering system at the St. Catharines Hospital is non-intuitive and hard to remember. This is in part a result of mixing facilities management room numbers with patient-specific room numbers and giving equal visual prominence to both sets of information. ***(Refer to the figure on page 9)***

RECOMMENDATION:
As recommended by CSA standards and industry best practices, room numbers should utilize the smallest divisible grid-based system that mimics municipal/street numbering (odd and even on opposite sides). Allowance for future room reconfigurations should be provided by skipping numbers for large rooms. This allows rooms to be subdivided in the future and the skipped number used to identify the new room.

ACTION:
A workshop should be held with PDC to agree upon a room numbering methodology that is simple, oriented to the user, grid-based, and uses a municipal address-based numbering system that also relates to the vertical circulation.

4

Art Consultation: The Wayfinding Design Guidelines identify the need to implement artistic interventions as part of the wayfinding strategy. Artistic interventions range dramatically based on style, content and application; thus it is necessary to determine the appropriate artistic interventions for the South Niagara Hospital.

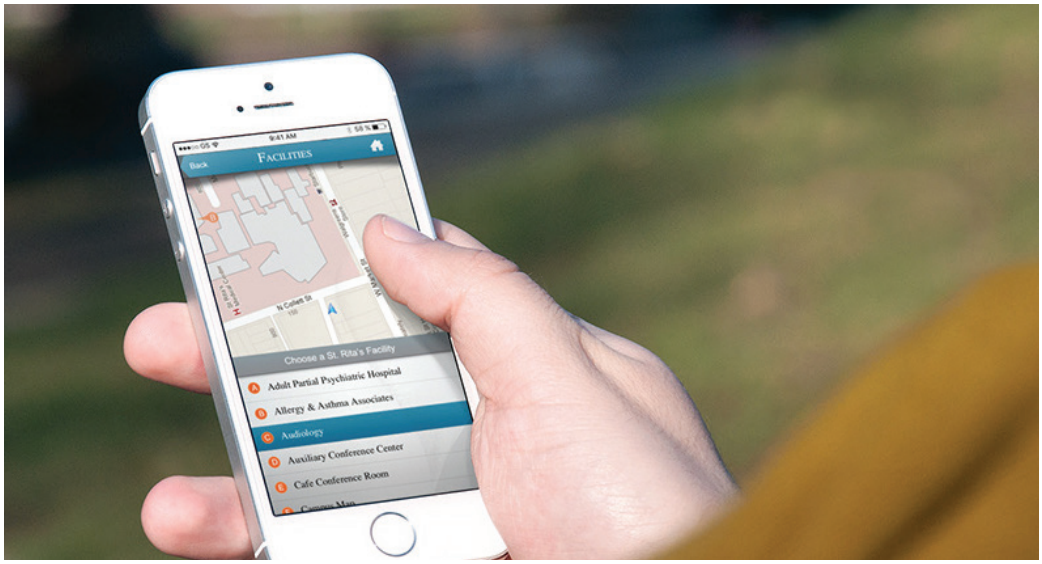
RECOMMENDATION:
The direction of a potential artistic intervention was established in the Analysis phase, with wall graphics preferred over framed art, while stakeholders responded positively to nature themes and motifs. Special consideration should be given to ensure that the art is integrated intelligently with the wayfinding program to avoid perceptual and cognitive overload while creating a calming and relaxing experience.

ACTION:
Workshop sessions should be held with an Art Consultant & PDC to coordinate themes and to ensure support/enhancement to the wayfinding experience. The workshop should explore a range of options for artistic interventions, including style, motifs and themes. An additional workshop with DBFM will ensure alignment with the established themes and that the artistic interventions are integrated into the wayfinding strategy by considering their placement and interactions with the program so as to support wayfinding.

5

Digital Consultation: Digital wayfinding solutions have the potential to serve as a cornerstone of the wayfinding strategy at the South Niagara Hospital. Indeed, during both of the previous phases, digital wayfinding solutions were identified as important potential wayfinding tools. Digital wayfinding solutions require a substantial financial investment and, due to the wide range and quality of potential digital solutions, require careful consideration to ensure the solution meets the needs of the South Niagara Hospital. For example, during the Analysis Phase, we became aware of a digital display at the St. Catharines Hospital that, due to its location and usability issues, is rarely used. We want to make sure that any digital wayfinding solutions suggested at the South Niagara Hospital are optimally usable and useful. A more thorough understanding of digital wayfinding solutions will not only consider the hardware but also issues pertaining to software, user experience, content management and content updating – all of which are factors shaping the success of the solution.

RECOMMENDATION:
To address the concerns stated above, we recommend that a digital consultant be engaged to explore the most suitable options for South Niagara Hospital. Our Analysis Phase findings suggest that digital displays to identify room information and room bookings might be a useful application of digital signage. Additionally, due to the stated goal of senior and elderly friendly design, and concerns raised during the Analysis Phase, the usability of digital solutions needs to be carefully examined so as to ensure that seniors and individuals with varying degrees of familiarity and comfort with digital technologies will find the solutions usable.



ACTION:
A workshop session should be held with a digital consultant pre-PDC and/or with PDC to determine the procurement process based on the selection of required products/ capabilities suitable for Niagara Health. This action will also ensure that developed PSOS criteria is prescriptive and specific to the needs of the South Niagara Hospital.

6

Brand Architecture: The development of the South Niagara Hospital presents a dramatic change to the operations of Niagara Health Systems, as the opening of the hospital will occur alongside the decommissioning of several other sites and a reduction of services at the Welland Hospital site. The wayfinding program therefore has the opportunity to visually represent and identify the position of the South Niagara Hospital under the Niagara Health umbrella, while also easing community concerns. Thus, it is necessary to determine how the South Niagara Hospital fits into the Niagara Health brand architecture and how to communicate that relationship to patients.

RECOMMENDATION:
To clarify the position of the South Niagara Hospital in the Niagara Health System, a standards document needs to be developed, determining how the new hospital relates to the Niagara Health brand.

ACTION:
A workshop should be held with PDC to identify brand hierarchy and the use/placement for signage.

7

Community Engagement: For the South Niagara Hospital to achieve its vision of connecting to the community, it is necessary to establish a concrete strategy determining how the hospital can successfully position itself as a community health partner via the wayfinding program.

RECOMMENDATION:
To ensure alignment between the proposed wayfinding program and community needs, we recommend an engagement sessions with the community to support buy-in and positive response to the program. These engagement session will position the hospital as an active participant in a conversation with the surrounding community while also providing the opportunity to collect valuable feedback from community members, which can potentially help refine the program.

ACTION:
Community engagement sessions should be arranged during both the PDC and DBFM phases. Workshops with the community at large and patient advocacy groups can ensure alignment between the PSOS and community expectations.

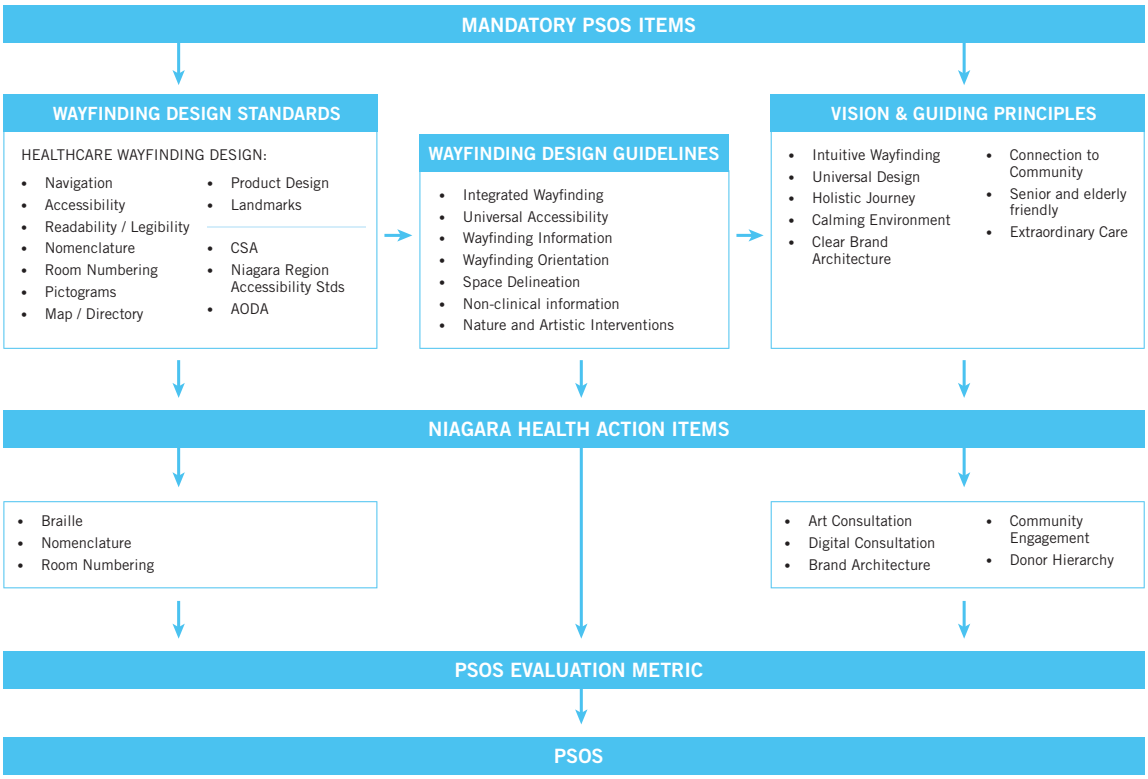
8

Donor Hierarchy: As acknowledged in the previous research phases, donor information signifies an important and necessary component within the hospital experience. It supports the financial needs of the hospital where donors feel proud of their contributions, while also providing the opportunity to create an inspirational environment and sense of community. At the same time, however, donor information can compete with wayfinding, leading to a confusing environment that is difficult to navigate. Indeed, the site audit in the Analysis Phase identified such a conflict between non-clinical information and clinical wayfinding. For this reason, it is important to develop a strategy to reconcile wayfinding information with donor naming recognition, so that the two do not compete with one another.

RECOMMENDATION:
A clear donor naming strategy needs to be developed to determine the hierarchy of various donor elements in relation to clinical information. This document should serve as a guide to balance donor recognition needs with wayfinding. Generally, wayfinding information should be of most importance, while donor recognition should be supported in specific areas where it does not negatively influence the wayfinding experience.

ACTION:
An internal workshop involving Foundation, Communications, and Executives should be held prior to PDC engagement to determine donor hierarchy. A further workshop with PDC should be held to develop a signage strategy that seamlessly incorporates established donor hierarchy with clinical information.

The Niagara Health action items are intended to provide additional specificity to the Design Standard, Design Guidelines and Vision described previously. These items will be used to determine the appropriateness of the PSOS item developed by the PDC team. This process is intended to aid i the creating of a PSOS document that provides a high degree of specificity while also being tailored to the specific needs of the South Niagara Hospital.



3.5 PSOS COMPLIANCE MATRIX

This wayfinding strategy report is designed to inform a very specific outcome: an efficient and enjoyable wayfinding experience. This efficiency and enjoyableness will result in a hospital that can treat a greater number of patients and do so in a comfortable and patient-centric manner. Typically, the PSOS document is intended to serve as a guide for the development of an effective wayfinding strategy and program. It is assumed that adherence to PSOS will lead to positive outcomes and optimal wayfinding performance. As a result, the PSOS serves as a document to gauge and predict future performance.

However, at times, PSOS documents may lack specificity and can be highly subjective, meaning that the items can be met with minimum effort, without actually meeting the intended purpose of the item. For example, statements such as "Follow all standards within the project's jurisdiction" is too broad and loose as specific standards are not actually referenced, meaning that the item can be met multiple ways, including the application of standards that are not necessarily relevant to the project. Additionally, standards can often conflict with one another, yet the PSOS item does not address nor guide how the conflicts should be resolved.

While the previous steps in this report have identified mandatory PSOS items and suggested additional steps to clarify these items, it is necessary to develop a document to gauge accuracy and specificity of the PSOS document to be created by the PDC team. To accomplish this, we have developed a PSOS Compliance Matrix. This document is intended to serve as a guide during the development of the PSOS to determine whether an appropriate degree of specificity has been included. This approach ensures that PSOS items will have the intended positive effect on wayfinding performance leading to an outcome of an efficient and enjoyable wayfinding experience.

To summarize, the performance of a wayfinding program is determined by the individual elements of the program - which is to say, the application of the Standards, Guidelines and Vision as developed in this report. The PSOS is intended to serve as a checklist for these items, while our PSOS Compliance Matrix ensures that the PSOS accurately and effectively reflects the items. Thus, an accurate PSOS becomes our predictor of wayfinding outcomes.

Examples of evaluation criteria items are as follows:

1

Example of Compliance Metric:
The PSOS must specifically list all applicable standards within jurisdiction.
Conflicts must be addressed within all listed applicable standards.

Example of PSOS items that are too generic and not acceptable (Non-compliant):

- Follow all applicable standards within the jurisdiction.

Example of PSOS item that are specific to Niagara Health (Compliant):

- Tactile Characters:
  Follow CSA and Niagara Region Facility Accessibility Standards.
- For Braille: Use Braille I.

2

Example of Compliance Metric:
The PSOS must include the list of nomenclature that has been vetted and approved by Niagara Health.
The PSOS must prescribe clearly the criteria for vetting additional nomenclature not captured by previous workshops.

Example of PSOS items that are too generic and not acceptable (Non-compliant):

- Messages and nomenclature shall be simple, clear and concise.

Example of PSOS item that are specific to Niagara Health (Compliant):

- Utilize NH approved Nomenclature.
- The destination list should be based on common language terminology.
- Destination names should be ten characters or less, ideally with no acronyms used and no repetitive descriptor/words such as ‘centre’, ‘clinic’, ‘office’.

The examples above show the importance of having a Compliance Matrix as a means to guide and measure the resulting PSOS against. The following pages show the Compliance Matrix in a check-list form for a PSOS writer to review whether the PSOS is compliant or non-compliant:

	Compliance Metric	Compliant/non-compliant
1	• The Wayfinding & Signage PSOS must outline the objectives and philosophy of the PSOS section.	
2	• The Wayfinding & Signage PSOS must provide and clarify sections for: Exterior Wayfinding, Interior Wayfinding & other supplemental interior signage, Digital Signage, Landmark / Artwork / Interpretive Signage and Donor Recognition.	
3	• The PSOS must ensure that none of the above sections contradict each other.	
4	• The PSOS must include references to other specialized PSOS section (i.e. Landscape, IT, etc.) as applicable, and ensure that the criteria are in alignment with the specialized sections referenced in the document.	
5	• The PSOS must clearly define the expectation of integration and coordination between site signage & landscape, interior signage & interior design, and all other required coordination.	
6	• The PSOS must clearly identify the 'requirements' category & 'guidance' category for each sub-topic within each section.	
7	• The PSOS must clearly identify the wayfinding design standards, guidelines, vision & guiding principles.	
8	• The PSOS must clearly prescribe the use of Niagara Health Brand and the overall brand hierarchy for signage use.	
9	• The PSOS must include qualifiers to measure success in achieving an optimized building design that facilitates efficient wayfinding to accommodate sightlines, clinical process & travel distances, etc.	

	Compliance Metric	Compliant/non-compliant
10	• The PSOS must reference user journey as part of wayfinding strategy requirements.	
11	• The PSOS must specifically list all applicable standards within the jurisdiction. Conflicts must be addressed within all listed applicable standards.	
12	• The PSOS must ensure that exterior signage criteria do not conflict with the regional and municipal by-laws.	
13	• The PSOS must include the list of nomenclature that has been vetted and approved by Niagara Health.	
14	• The PSOS must prescribe clearly the criteria for vetting additional nomenclature not captured by previous workshops.	
15	• The PSOS must clearly identify the message hierarchy, starting from the most important clinical destinations.	
16	• The PSOS must identify clearly Niagara Health's expectation for thematic art to support / enhance the wayfinding experience.	
17	• The PSOS must identify clearly Niagara Health's criteria for landmarks.	
18	• The PSOS must clearly specify the type of artistic treatment that is appropriate for various areas (i.e. architecturally integrated in a large space vs. smaller art items in a narrow/tighter space).	
19	• The PSOS must identify the infrastructure requirements for various art installations (i.e. power, data).	

	Compliance Metric	Compliant/non-compliant
20	• The PSOS must clearly identify Niagara Health's opportunities and criteria for Interpretive Signage development & placement.	
21	• The PSOS must identify the infrastructure requirements for Interpretive Signage (i.e. power, data).	
22	• The PSOS must identify the type(s) of Digital Signage required for Niagara Health and the criteria (i.e. product capabilities, future updates requirement).	
23	• The PSOS must include the Donor Recognition hierarchy that has been vetted and approved by Niagara Health.	
24	• The PSOS must outline the signage requirements for various donor levels, and how it translates in key areas.	
25	• The PSOS must include a methodology for room numbering development and implementation that has been vetted and approved by Niagara Health.	
26	• The PSOS must include exemplary design for the wayfinding family of products.	
27	• The PSOS must include a comprehensive list of sign types & criteria to be met by each sign type.	

3.6 GAP-ANALYSIS AND POST-OCCUPANCY EVALUATION

While the above PSOS Compliance Matrix provides us with a method by which to support the design of an effective and well-functioning wayfinding system, it still does not provide us with an objective measure of performance. While compliance to the Standards, Guidelines and Vision during the design process will create and effective wayfinding program, we must acknowledge that implementation and realities on the ground may drastically effect wayfinding performance. For example, changing to programing or budgetary consideration can influence the wayfinding experience and implementation of the program. Such considerations can result in misalignment between the developed wayfinding program and the wayfinding experience once the hospital is operational.

For this reason, we purpose a dual methodology to test performance following completion of the hospital to directly measure and identify potential gaps in the hospital wayfinding performance. First, gap-analysis identified limitations and pain-points in the wayfinding experience while suggesting potential solutions. Second, post-occupancy evaluation allows us to validate the effectiveness of the wayfinding strategy by using a more rigorous research process so as to develop a performance measure and validate outcomes.

1 GAP ANALYSIS

A site audit and on-site interviews will allow us to determine any potential wayfinding issues at the South Niagara Hospital. This process is akin to the methodology used in the Understanding phase, allowing us to determine any limitations in the wayfinding program. This is a necessary step since the implemented strategy and program can often vary substantially from the developed wayfinding strategy and program. For example, signage relocation, addition and/or revision may be necessary if visitors to X department primarily use a secondary entrance rather than the primary entrance as intended, leading to misalignment between intended and observed wayfinding behaviour. It is our intent that the extensive recommendations and PSOS evaluation defined in this document will minimize/close the degree of gaps in the wayfinding program, but Gap Analysis is still a valuable endeavor.

2 POST-OCCUPANCY EVALUATION

The purpose of the post-occupancy evaluation is to demonstrate the effectiveness of the wayfinding program once it has been designed, implemented and used. The post-occupancy evaluation demonstrates final performance and return on investment following the wayfinding design process. This approach employs three methods by which to measure wayfinding performance. First, a series of qualitative methods allows us to determine the subjective nature of the wayfinding experience. Second, behavioural measures provide us with an objective measure of the wayfinding performance. Third, a monetary-productivity calculation as determined by wayfinding gives us a financial outcome of the wayfinding strategy. It is recommended that post-occupancy evaluation occurs at least a year after the opening of the hospital to ensure that the wayfinding experience representative of the typical day-to-day experiences.

- **Qualitative Measures**:
  A series of methods allow us to determine the quality of the wayfinding program. Many of these methods rely on subjective responses from hospital users.

Questionnaire: A series of questions probing the wayfinding experiences of patients, staff, volunteers and visitors. Questions will cover a range of wayfinding experiences, including ease of navigation, confusing and problematic areas, first impressions of the wayfinding program, wayfinding experience in relation to previously experienced hospitals, and perceived effectiveness of wayfinding strategies (signage, landmarks, space delineation etc.). This questionnaire can be administered on site, at the South Niagara Hospital or in an online survey format.

Interview: An open-ended conversation with users at the hospital, exploring their wayfinding experiences and observations. Similar in format and structure to the Lessons Learned discussions conducted during the Understanding Phase, these interviews may be conducted one-on-one or in small groups. This is intended to provide big picture commentary regarding the wayfinding experience while allowing us to dive into comments that might be especially relevant or insightful.

Verbalize the wayfinding journey: By asking participants to describe their wayfinding journey through the hospital, we can uncover any potential pain-points or positives within the wayfinding program. Positive and negative patterns to the wayfinding journey can be established by looking at commonalities in participants' verbalized wayfinding journeys.

Site Audit: An on-site inspection will determine the degree to which the final wayfinding strategy was effectively implemented. As was the case for the Site Audit in the Analysis Phase, this approach allows us to objectively determine the quality and outcomes of the wayfinding program, so as to infer wayfinding outcomes.

- **Behavioural Measures:**
  A series of quantitative methods allow us to determine the efficacy and efficiency of the wayfinding program. These methods may take one of two approaches. First, an experimental perspective could be taken, where participants are recruited and asked to perform a series of tasks (as described below). Second, an observational perspective could be applied where individuals in the hospital are unobtrusively observed and their behaviour is noted.

Time taken to reach destination: A more efficient wayfinding program will allow individuals to reach their destination quicker, by providing effective wayfinding.

Path taken to destination and total distance travelled: In a hospital environment, there may be multiple paths and routes that one can take to reach their destination. A shorter, more direct route is considered optimal and more efficient as compared to a longer, less direct route. In this way, a wayfinding program that results in shorter, more direct routes is creating a more efficient and effective wayfinding experience.

Number of errors: Wayfinding errors take various forms such as wrong turns, wrong heading directions, backtracking, and reaching incorrect destinations. Generally, they define the subjective experience of being lost. A better performing wayfinding program will result in fewer errors and instances of getting lost.

Information-seeking behaviour: When individuals have difficulty navigating an environment, they will seek out help from others – this is especially the case if the wayfinding signage and information is unclear or confusing. Additionally, if wayfinding signage and information is present, they will check such information more frequently if the environment is difficult to navigate. Thus, a lower frequency of such information-seeking behaviour suggests a more efficient and effective wayfinding strategy.

- **Monetary-Productivity Calculation Measures:**
  The final post-occupancy evaluation measure attempts to place a monetary value on the positive effect of the wayfinding program, thus providing us with a return on investment measure. The intent is to estimate the cost of lost productivity due to hospital staff being asked for directions by patients and visitors. Every time hospital staff is asked for directions, they have to disengage from their occupational task, leading to an inherent cost, since they are not focusing on the job and tasks they are being paid to perform. If we know how much time, on average, hospital staff spends giving directions, and we know their average wage or salary, we can calculate the cost to wayfinding as:

TIME SPENT GIVING DIRECTIONS

X

AVERAGE WAGE

=

COST OF WAYFINDING DIFFICULTIES

To calculate this cost of wayfinding difficulties measure, we will need to engage with hospital staff so as to determine the amount of time they spend giving directions. Additionally, anonymous and confidential wage or salary information will also need to be gathered. By performing the above calculation, wayfinding performance is quantified using a monetary value.

Our post-occupancy evaluation approach to determining wayfinding program performance relies on using the St. Catharines Hospital wayfinding experience as a baseline. Thus, the ultimate performance of the wayfinding program can be measured by noting improvements from this baseline. We propose to use the St. Catharines Hospital as the baseline for several reasons. First, the Analysis and Understanding Phase findings already provide us with some of the measures described above for the St. Catharines Hospital, giving us a head start on the data collection. Second, since key stakeholders involved in the development of the wayfinding strategy for the South Niagara Hospital are already familiar with the St. Catharines Hospital, it serves as an intuitive and salient comparison point. Third, the St. Catharines Hospital wayfinding program is relatively modern, and the site is comparable in size and function to the South Niagara Hospital, thus controlling for these potential confounds. Fourth, although serving different communities, both hospitals are in the Niagara Region and we would thus expect a relatively similar user group across the two sites.

By applying the qualitative, behavioural, and monetary-productivity measures to both the St. Catharines and the South Niagara Hospitals, we can contrast the wayfinding performance between the two sites, and test of improved wayfinding performance at the South Niagara Hospital. This will allow us to generate a quantitative measure of the wayfinding program's performance and establish its impact on wayfinding efficiency and enjoyment of the environment.

To summarize, we have established four methods by which the effectiveness of the South Niagara Hospital Wayfinding Program, each with a different purpose and timeline of application.

1 PSOS COMPLIANCE MATRIX

Intended to check that the PSOS document developed by the PDC team provides an appropriate degree of specificity to ensure that the PSOS document effectively drives the design of South Niagara Hospital wayfinding program. The PSOS Compliance Matrix is applied during PDC to help refine the PSOS document.

Additionally, following occupancy, several methods are suggested allowing for testing and validation of the wayfidning program. These methods represent optional steps, above and beyond the general requirements but signifying valuable opportunities to optimize wayfinding outcomes and demonstrate excellence in wayfinding performance.

2 GAP-ANALYSIS

Intended to identify any potential gaps or limitations in the wayfinding program once the hospital is completed and occupied. Any identified limitations can be rectified so as to improve the wayfinding performance.

3 POST-OCCUPANCY EVALUATION

A rigorous research processes intended to quantify the effectiveness of the wayfinding experience once the hospital is occupied. By comparing performance at the South Niagara Hospital to a baseline condition, this process attempts to validate the wayfinding program and demonstrate return on investment.

3.7 IMPLEMENTATION PLAN / STRATEGY

1 DBFM PURSUIT PHASE

Schematic Design Presentations:

- Part of architectural team's pursuit presentations.

2 50% DESIGN DEVELOPMENT PHASE

Workshop 1:

- Presentation of schematic design recap, including: Conceptualize signage products and wayfinding solutions, development of typical scenario walkthroughs of the wayfinding journey, development of the written narrative in response to the PSOS requirement, & understanding/clarification of pursuit phase feedback
- 50% Design Development draft submittal 1
- Review period: formal feedback from stakeholders

Workshop 2:

- Presentation of 50% Design Development revised draft and clarification of feedback
- 50% Design Development draft submittal 2
- Review period: formal feedback from stakeholders

Workshop 3:

- Present refinement of 50% Design Development revised draft 2 and clarification of feedback
- 50% Design Development final submittal

3 100% DESIGN DEVELOPMENT PHASE

Workshop 1:

- Presentation of schematic design recap & understanding/clarification of pursuit phase feedback
- 100% Design Development draft submittal 1
- Review period: formal feedback from stakeholders

Workshop 2:

- Presentation of 100% Design Development revised draft and clarification of feedback
- 100% Design Development draft submittal 2
- Review period: formal feedback from stakeholders

Workshop 3:

- Present refinement of 100% Design Development revised
- draft 2 and clarification of feedback
- 100% Design Development final submittal
- Review period: synchronized with overall project's
- 100% Design Development submittal

4 50% CONTRACT DOCUMENTS PHASE

Workshop 1:
- Presentation of schematic design recap & understanding/clarification of pursuit phase feedback
- 50% Contract Documents draft submittal 1
- Review period: Review period: formal feedback from stakeholders

Workshop 2:
- Presentation of 50% Contract Documents revised draft and clarification of feedback, and present draft estimates for implementation
- 50% Contract Documents draft submittal 2
- Review period: Review period: formal feedback from stakeholders

Workshop 3:
- Present refinement of 50% Contract Documents revised draft 2 and clarification of feedback
- 50% Contract Documents final submittal

5 100% CONTRACT DOCUMENTS PHASE

Workshop 1:
- Presentation of 100% Contract Documents revised draft and clarification of feedback, and present refined draft of order of magnitude cost estimates for implementation and operations.
- 100% Contract Documents draft submittal 1, including: refined final wayfinding narrative supported by illustration pages, as required, message schedule and location plans, technical drawings and specifications suitable for fabrication team to proceed with fabrication and installation shop drawings.
- Review period: formal feedback from stakeholders.

Workshop 2:
- Presentation of 100% Contract Documents revised draft and clarification of feedback, and present refined draft of order of magnitude cost estimates for implementation and operations.
- 100% Contract Documents draft submittal 2
- Review period: formal feedback from stakeholders

Workshop 3:
- Present refinement of 100% Contract Documents revised draft 2 and clarification of feedback
- 100% Contract Documents final submittal
- Review period: synchronized with overall project's 100% Contract
- Documents submittal

6 CONSTRUCTION ADMINISTRATION

- Participate in the Site Permit Application (SPA) process & coordinate with the landscape team to ensure signage are coordinated with utility, property line, official plan and zoning amendments, third party agreements, etc.
- Participate/review in the Building Signage permit process & coordinate with building envelope team, including electrical, structural, etc.
- Coordination of power/data and other structural support requirements.
- Review of shop drawings submittals, samples, and mock-ups.
- Periodic observation of fabrication to ensure compliance with design intent.
- Comply with substantial completion, milestones and final acceptance by client.
- Complete final list of signage deficiencies.

Note:

- Coordination with the architectural, landscape, and interior design team is assumed to be ongoing throughout each phase.
- Coordination is not limited to the core teams only, but also to the extended sub-teams, such as: structural, electrical, art, traffic, life safety and accessibility consultants.

3.8 WAYFINDING IN SUPPORT OF THE SOUTH NIAGARA HOSPITAL

- **Stress in the hospital environment**

The hospital environment is unique for the fact that it is often a very stressful environment – given the choice, most individuals would rather not have any reason to visit the hospital. Nevertheless, hospitals serve an incredibly important and necessary function, and thus the design of the South Niagara Hospital should be considered very carefully. A unique and circular relationship exists between wayfinding and stress in the hospital experience. Stress has been shown to have a determined effect on one's performance of a range of tasks, including wayfinding.[1] It is argued that stress reduces attentional resources, making attention-demanding tasks like wayfinding difficult to perform successfully. At the same time, wayfinding difficulties create stress – as soon as an individual cannot find their destination or gets lost, there is a dramatic increase in stress.[2] In this way, a negative feedback loop is formed whereby stress reduces wayfinding ability, leading to an increase in stress, which further reduces wayfinding ability. When this feedback loop is coupled with the fact that the hospital experience is often negative to begin with, we have an incredibly relevant concern regarding patients' and visitors' hospital experience.

Given that the baseline experience of the hospital is often stressful, it therefore becomes the goal of the wayfinding program to not add additional stress into the environment, and if at all possible, to create a calm and stress-reducing experience. Stress in the hospital environment is of great importance as it has been shown to negatively impact recovery times and procedure success rates.[3] In this way, we see a user-centric wayfinding program as an important component of the hospital experience, one which has the potential of supporting the South Niagara Hospital in creating a pleasant, stress-free patient experience.

1. Meng, Fanxing, and Wei Zhang. "Way-Finding during a Fire Emergency: an Experimental Study in a Virtual Environment." Ergonomics 57, no. 6 (March 2014): 816–27.
2. Zimring, Craig M. "Stress And The Designed Environment." Journal of Social Issues 37, no. 1 (1981): 145–71.
3. Walburn, Jessica, Kavita Vedhara, Matthew Hankins, Lorna Rixon, and John Weinman. "Psychological Stress and Wound Healing in Humans: A Systematic Review and Meta-Analysis." Journal of Psychosomatic Research 67, no. 3 (2009): 253–71.

- **Uncovering design opportunities in support of the design themes**
  It is understood that this wayfinding strategy report is one of several reports intended to inform the six design themes. While at first glance, wayfinding might not seem relevant to each of the themes, the breadth of this report identifies several insights for each design theme. Thus, **a wayfinding program has the potential to not only get patient, staff and visitors to their destination efficiently, but it can also support each of the six design themes**.

1 SENIORS AND ELDERLY FRIENDLY

One of key tenets of the South Niagara Hospital is accessibility, inclusiveness and senior friendly design. This is part due to the aging population in the Niagara Region and the diverse needs of various community groups. This senior and elderly friendly requirement has been one of the key threads throughout this research report, and the recommendations within the report directly address this theme. Accessibility defines a successful wayfinding program and is supported by industry standards and best practice.

Simply put, an effective wayfinding strategy supports the physical and cognitive needs of users, creating an intuitive wayfinding experience. Their needs are addressed through a variety of Wayfinding Design Standards and Guidelines:

- Contrast, position, location, etc., recommendations result in signage and information that is optimally legible and accessible to everyone regardless of ability.
- Site plan – recommendations suggest that corridor lengths in the site plan need to be reduced so as to meet the mobility needs of the elderly.
- Application of accessible and universal standards can create a hospital that can be physically accessed physical by all, regardless of ability. Wayfinding design serves as a primary tool through which accessibility is fostered by presenting accessible information to those with a range of accessibility needs.

2 PATIENT, FAMILY & STAFF EXPERIENCE

Wayfinding is an important factor shaping the overall patient, family and staff experience. A thoughtful wayfinding strategy supports intuitive wayfinding, allowing participants, staff, and family members to reach their destination easily, creating an enjoyable experience.

As described above, efficient wayfinding leads to reduction in stress, creating a calming and comfortable environment. This is highlighted by several of the points defined above:

- Clear, concise and intuitive wayfinding information improves wayfinding and reduces stress.
- Nature, art and artistic interventions serve as important wayfinding landmarks while having the potential of engaging patients, staff and visitors to create a memorable and pleasant hospital experience.

3 COMMUNITY CONNECTEDNESS

By considering that wayfinding needs to be geared to, and supportive of, the community members who visit the hospital, the wayfinding strategy positions the hospital as an important community health partner. The needs, expectations and requirements of the community from a wayfinding perspective form the foundation of the wayfinding strategy report:

- By exploring how signage and wayfinding can support and position the South Niagara Hospital within the Niagara Health brand, the wayfinding strategy has the potential of fostering trust with the community through clear communications. This can be done through the action items described above.
- Art and artistic interventions can be geared to support community health and wellness by presenting motifs that are aligned with the community. For example, Aboriginal art and motifs may create a sense of connection with the Aboriginal population. Such application need to be fully explored as defined in the Action Items section above.

4 ENVIRONMENTAL LEADERSHIP

Wayfinding creates the potential to demonstrate environmental leadership, by serving as a touchpoint to connect the hospital with nature and the local geography:

- Natural motifs as well as exterior views can be supported as part of the wayfinding program.
- The wayfinding program should consider using natural and sustainable materials in signage, so as to demonstrate environmental stewardship.

5 OPERATIONAL EXCELLENCE

The ability of individuals to navigate and move through the hospital will have a significant impact on Hospital operations. Efficient wayfinding means an efficient environment, where patients, staff and visitors can get to their destination easily and perform their tasks and responsibilities without any additional complications from wayfinding and navigation.

- The holistic wayfinding perspective developed in this report will ensure that wayfinding is optimally supportive of operations by considering the functional wayfinding needs of all users.
- The primary requirement of the wayfinding strategy is clear, concise and intuitive information. This foundational principle will form the backbone of operational excellence.

6 ADAPTIVE, FLEXIBLE AND RESPONSIVE

A wayfinding program needs to be designed with change and flexibility in mind. As tenants and departments move, change and evolve, the wayfinding program signifies an important touch-point to communicate these changes to the user. Signage and other wayfinding tools clarify the space and are designed with change and flexibility in mind.

- This wayfinding strategy report provides important opportunities for applying digital displays as tool to display flexible messaging. Specifically for boardrooms and meeting rooms, in the form of a booking and scheduling systems.
- A wayfinding program will often include design criteria and procedures for temporary sigange, to be applied in the case of unexpected operational changes. This creates a flexible system that can adapt to environmental changes but ensures consistency and agreement with the wayfinding program as a whole.

APPENDIX

A. MOOD BOARD VISIONING EXERCISE

B. WORD INSPIRATION EXERCISE

C. SEMANTIC ENVIRONMENT CANVAS

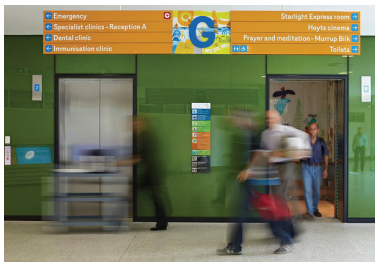
D. EVALUATION CRITERIA MATRIX

A. MOOD BOARD VISIONING EXERCISE

DIRECTIONAL SIGNAGE

POSITIVE

- "Clear"
- "Clear, easy"

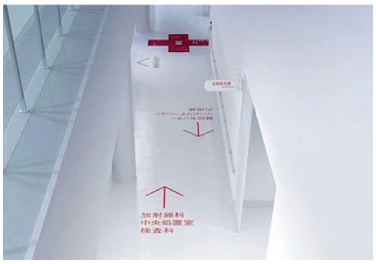


POSITIVE

- Blank x2

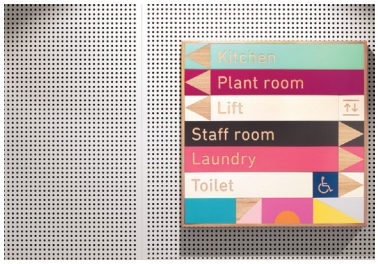
POSITIVE

- "Good colour scheme - calming"



NEGATIVE

- "Too busy/confusion"
- "Could be difficult to navigate/ always looking down"



NEGATIVE

- "Too much colour"

NEGATIVE

- "Not very easy to capture"
- "Don't like individual shapes"

DIGITAL WAYFINDING

POSITIVE

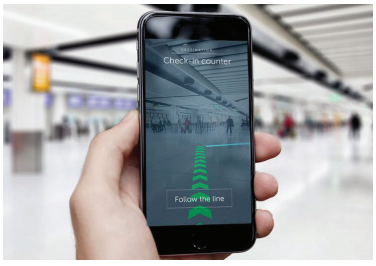
- "Love it. Sky Guide"

POSITIVE

- Blank x2

POSITIVE

- "Easy to follow"
- "Very easy to follow if you have a phone"



NEGATIVE

- "Not for seniors"
- "Great for... - no so good for seniors"

NEGATIVE

- "Not easy to find... Too many"

NEGATIVE

- "May not work for everyone"

A. MOOD BOARD VISIONING EXERCISE

DONOR RECOGNITION AND STORYTELLING

POSITIVE

- "Heart"
- "Room to grow. Texture and colour ro blank wall."
- Blank

POSITIVE

- "Always room to add more donors/ adds texture"
- "Like that this lights up and is 3D"

POSITIVE

- Blank

NEGATIVE

- "Too confusing"

NEGATIVE

- "Too small and busy"

NEGATIVE

- "Very static"

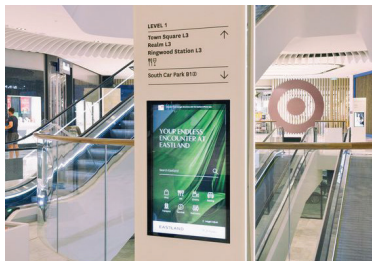
DIRECTORIES/MAPS

POSITIVE

- "Easy to follow which elevator to us"
- "Information clear at eye level."
- "Good segregation of a lot of information."
- Blank

POSITIVE

- "Concise!! Clearly separates zones"
- "Clear. Should correlate with colour in each area."



POSITIVE

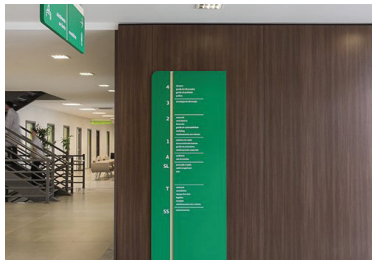
- "Interactive very good"

NEGATIVE

- "Picture too much information. Too large of an area"

NEGATIVE

- "Too small & too much information"
- "Too small. Too busy"
- "Too small."



NEGATIVE

- "Interesting but all written not good for multi-languages"
- "Too small. Too much information"

A. MOOD BOARD VISIONING EXERCISE

SITE IDENTIFICATION

POSITIVE

- "Large format easy to read" x2

POSITIVE

- "Colour directs your eyes upwards towards signs"
- Blank

POSITIVE

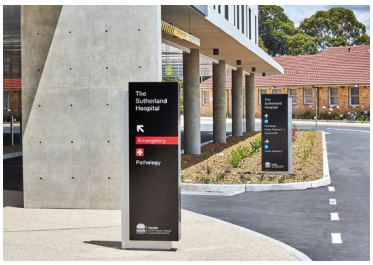
- "Good branding"
- Blank x2

NEGATIVE

- "Not very functional"

NEGATIVE

- "Too close. Different messages"



NEGATIVE

- "Too small font"

ENTRY/LOBBY/REGISTRATION

POSITIVE

- "Good use of clear zones"

POSITIVE

- "Very clear destination"

POSITIVE

- "Clearly identified. Warm, natural."

NEGATIVE

- "Too much colour"

NEGATIVE

- "Too crowded"

NEGATIVE

- "Too sterile"

A. MOOD BOARD VISIONING EXERCISE

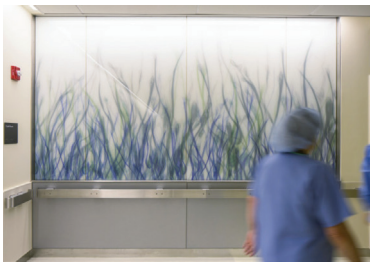
FEATURE WALLS AND ARTISTIC INTERVENTIONS

POSITIVE

- "Great art and wayfinding combination"
- "Good not too busy"
- Blank

POSITIVE

- "Nice and contemporary"
- "Clear colour lines carry through"



POSITIVE

- "Relaxing or perfect"
- " Good conept for elevators"
- "Calming"

NEGATIVE

- "Hurts my brain"

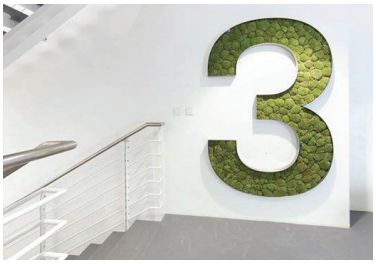
NEGATIVE

- "Too busy"
- "Too much"
- "Way too much"

NEGATIVE

- "Too cold"

NATURAL ELEMENTS



Positive

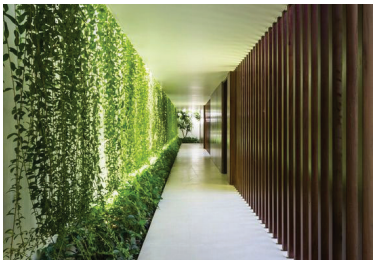
- "Clean, nice contrast"
- "Love, clear white along nature"

Positive

- "Bright, happy, calming"
- "Nice view"
- "Bring in the outside"
- Blank

Positive

- "Adds nature as landmark"



Negative

- "Too dark + closed in"

Negative

- "Yuck"

Negative

- "Too dark"
- "Too busy"
- Blank

A. MOOD BOARD VISIONING EXERCISE

LEVEL ID

POSITIVE

- "Natural feel, calming"
- "Like the set up maybe change the colour of the number"

POSITIVE

- "Clear"
- "Love"
- "Really nice"

POSITIVE

- "Good messaging"
- Blank x2

NEGATIVE

- Blank

NEGATIVE

- "Overkill"

NEGATIVE

- "A lot of information at once"
- "Too bland and too much infomation"

PUBLIC AMENITIES

POSITIVE

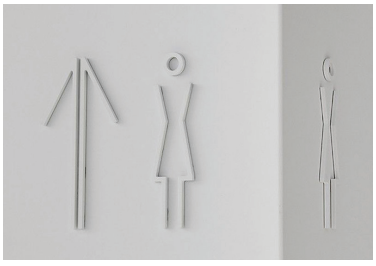
- "Very clear"
- "Gender neutral"
- "Like, not typical washroom sign"

POSITIVE

- Blank
- "Great"
- "Use of natural material"

POSITIVE

- "Gender neutral"
- "Easily understood"



NEGATIVE

- Blank
- "Hard to read if vision issues"
- "Confusing"

NEGATIVE

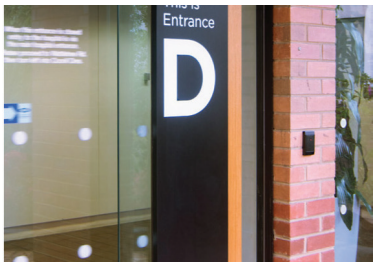
- "Confusing"

A. MOOD BOARD VISIONING EXERCISE

AREA/SPACE DELINEATION

POSITIVE

- "Reinforces floor with words"



POSITIVE

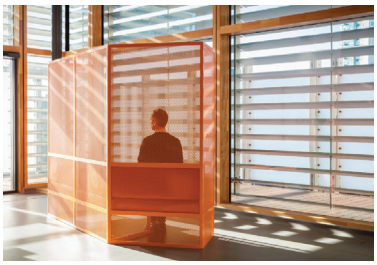
- "Clear messages"

POSITIVE

- "Very identifiable" x2
- Blank

NEGATIVE

- "Distracting may not be good for specific population"



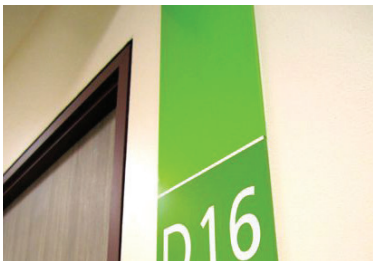
NEGATIVE

- "Quarantine? Time out?"

NEGATIVE

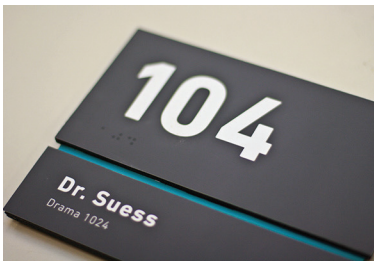
- "Sign should be straight to read"

ROOM SIGNAGE



POSITIVE

- "Clear and can change what's going on"

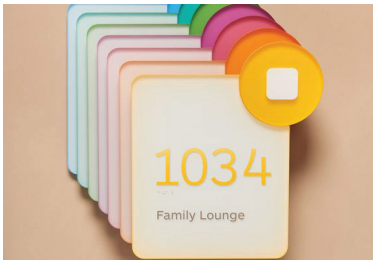


POSITIVE

- "Very good information"
- "White on black/ dark easy to read"

POSITIVE

- "Use of natural elements and clear/ easy to update"
- "Very clear and can be easily updated"



NEGATIVE

- "Too busy"

NEGATIVE

- "Don't like personification of space"
- "Names"

B. WORD INSPIRATION EXERCISE

What should the wayfinding experience be like?

Educational
Engaging
Interactive
Authentic
Curious
Interesting
Meaningful
Memorable
Varied
Flexible
Tactile
Inspirational
Stress-free
Unexpected
Celebratory
Proud
Pleasurable
Rewarding
Shared experiences
Collaborative
Entertaining
Unique
Exploratory
Progressive
Fun
Playful
Sophisticated
Solitary
Calming
Focused
Free-flowing
Brainstorming
Multidisciplinary
Comfortable
Efficient

What should be the outcome of the wayfinding program?

Aspirational
Sense of pride
Educational
Fun
Informative
Accessible intellectually
Accessible physically
Inspiring
Encouraging
Thought-provoking
Intuitive
Create an impression
Sense of belonging
Efficiency

B. WORD INSPIRATION EXERCISE

If the wayfinding program was a person, how would you describe them?

Transparent
Sensible
Open
Forward-thinking
Unique
Collaborative
Cohesive
Business-like
Plain
Creative
Unique
Welcoming
Friendly
Practical
Accessible
Inviting
Passionate

Authentic
Progressive
Warm
Practical

What topics and themes should the wayfinding program communicate?

Nature
Challenges & Successes
Sustainability
Collaboration
Research
Discovery
Community
Senior Friendly
Innovation
The NH Brand
Digital technology

B. WORD INSPIRATION EXERCISE

What method of arrival should the wayfinding program consider most important?

Walking
Car
Transit
Taxi
Uber/Lyft
Bicycle

C. SEMANTIC ENVIRONMENT CANVAS

GOALS

What does each participant want from the hospital wayfinding?
What do they expect from the wayfinding program?

Patients

- Direct access
- Short distances
- Rest points
- Clearly identified zones and buildings

Staff

- Pharmacy information, internal, security and staff elevators
- Internal access
- New hires – need more information, lack of signage for internal information
- Staff dependent areas
- Universal dept names
- Signs easily replaced, for names and titles

Volunteers

- Consistent nomenclature
- How to easily direct patients
- Volunteers and patients have inconsistent information
- Have maps, but not easy to read

Friends & Family

- Pharmacy information, internal, security and staff elevators
- Internal access
- New hires – need more information, lack of signage for internal information
- Staff dependent areas
- Universal dept names
- Signs easily replaced, for names and titles

Commonalities

- Clarity of information for ease of wayfinding
- Patients – rest, direct access and short distances
- Staff – internal access and wayfinding information (pharmacy), maintenance of signage
- Volunteers – how to guide and instruct individuals, the tools that allow them to do this
- Friends – do something while they wait, common areas

C. SEMANTIC ENVIRONMENT CANVAS

CHALLENGES

What are the challenges to achieving goals?

Patients

- Reading/learning disability
- Inconsistent terminology
- Physical limitations
- Visual impairment

Staff

- Dept names not consistent among folks
- Match patient communication with universal signage

Volunteers

- HR/OCC, health "Directing new staff"
- Lack of info from physicians for patients

Friends & Family

- Lost looking for Walker Clinic, signs are too high
- Cannot access from 3/4 floor
- Long hallways,need to take a break

Commonalities

- Inconsistent terminology, sign positions
- Patients: Accessibility concerns (visual, physical, reading/learning)
- Staff – Lack of universality in the system, internally
- Volunteers – Lack of information from physicians to patients
- Friends and Family – Unsure of what to do while they wait, where they can rest

C. SEMANTIC ENVIRONMENT CANVAS

TOUCHPOINTS AND KEYWORDS

How will the wayfinding experience be communicated?
What tools will be used?

Patients

- Volunteer, staff to ask for assistance
- Signs in line of sight

Staff

- Consistent placement of signs
- Room numbers, functional for facilities but not actually useful

Volunteers

- Being able to hand off from volunteer to volunteer
- Volunteers have a binder with info, not a complete document, missing extension number

Friends & Family

- Walked Family at and artwork
- Activity room
- Canvases and musical instruments
- Piano and other interactive aspects in the building
- Website information before coming in

Commonalities

- Clear, consistent and intuitive physical signage
- Patients – communicate with volunteers
- Staff – facilities vs. functional numbers
- Volunteers – have a binder with info, but incomplete, maps etc.
- Friends and family – Give them something to do while they way, activity rooms. Website with visitor information

D. EVALUATION CRITERIA MATRIX

Niagara Health South - Signage & Wayfinding - Evaluation Matrix Criteria		
1. GENERAL OBJECTIVES		Scoring (1 or 0)
a:	The wayfinding strategy supports the Niagara Health vision of extraordinary care by creating an environment that is easy to navigate thus reducing stress and creating an enjoyable patient experience	
b:	Enables patients and visitors to confidently and efficiently navigate the hospital to reach their destination	
c:	Supports senior friendly design by considering the specific needs of elderly populations and creating an environment that is accessible and welcoming to individuals with diverse of needs and levels of ability	
d:	Signage acknowledges and is consistent with the current Niagara Health branding	
e:	The wayfinding strategy considers the South Niagara Hospital holistically and at various stages of the patients wayfinding journey - from before they arrive at the hospital to when they reach their destination	
f:	The wayfinding stategy is integrated into the building design and site plan to create a seamless and efficient patient wayfinding journey	
g:	The wayfinding strategy supports the NH staff in providing exraordinary care, by creating an environment that is efficient and functional	
2. BEST PRACTICE		Scoring (1 or 0)
1. Site Plan and Blocking		
a:	Site plan features a smaller footprint and shorter distance between departments and elevators	
b:	Main entrance, registration and elevator placement considers sequential wayfinding and are arranged in a logical sequence	
c:	Building plan creates a "Main Street" that connects all major destinations	
d:	Site plan creates an easily navigable journey from parking to entrances	
e:	Exterior describable/identifiable Landmarks create reference points for directing visitors	
2. Location, Messaging and General Design Principles		
a:	Messaging is in mixed case - not all upper case - and uses san serif typeface	
b:	Pictograms are used primarily to identify amenities	
c:	When used, pictograms and symbols are within a 6" by 6" bounding box	
d:	"Emergency" is always top-most directional information	
e:	Messages intended for patients and visitors are given highest priority and prominence	
f:	Messaging takes into consideration human information processing limits and thus presents only the most relevant information at any given point in the wayfinding journey	
g:	A clear message hierarchy is present separating primary, secondary and tertiary information, developed through overall location volume or location urgency	
h:	The wayfinding program considers the totality of the patient journey, from their home or doctors office to their destination at the South Niagara Hospital	

D. EVALUATION CRITERIA MATRIX

Niagara Health South - Signage & Wayfinding - Evaluation Matrix Criteria		
I:	Various arrival to site scenarios are considered (both from the QEW as well as local routes from Biggar and Montrose)	
J:	Wayfinding elements are placed directly across from elevators to clearly identify floors/zones	
K:	Advertising is limited to defined areas where it will not cause visual clutter and negativly impact the effectivness of the wayfinding program	
L:	Communication materials issued to patients (Appointment Letters etc) to reflect NH branding standards and be consistent when providing wayfinding information	
3. Room Numbering		
a:	User friendly, grid based, street system will be used (odd numbers on one side and even numbers on the other)	
b:	Unique numbers used with consistency between floors	
c:	Room numbering is designed with patients and visitors in mind while facilities management room numbering should be separate, secondary information	
4. Nomenclature and Terminology		
a:	An extensive nomenclature audit shall be completed with naming inconsistencies identified and remedied	
b:	Naming and terminology is aimed at patients and visitors and is user friendly and easy to understand	
c:	Preference is given to non-technical terms and names	
d:	Abbreviations are avoided, except where commonly used and understood (MRI, X-ray)	
5. Donor Recognition and Foundation Information		
a:	Donor recognition is independent from wayfinding information and signage -- clinic name or function is the primary information communicated by signage	
b:	Donor recognition content is consistent with Niagara Health brand standards and guidelines creating a cohesive and unified environment	
6. Space Delineation		
a:	Spaces and zones are delineated in a logical and clear way so as to support wayfinding	
b:	Colour used strategically to delineate zones to assist wayfinding. Calming and relaxing colours should be used	
c:	Use of Landmarks/Artwork to orientate and identify spaces	
7. Accessibility Considerations		
a:	Accessibility requirements from CSA Z317.14-17, AODA and Ontario Building Code are followed *NH / PDC team should identify gaps based on these standards and recommend ADA standards to be followed to fill in gaps as part of PSOS. Alternatively, this can be summarized in a set of separate NH accessibility guidelines.*	
b:	NH Accessibility requirements are followed (TBD)	
c:	Braille and tactile (raised messaging) are present on signage	
d:	Viewing distance of 1 inch per 25 feet of viewing distance	

D. EVALUATION CRITERIA MATRIX

Niagara Health South - Signage & Wayfinding - Evaluation Matrix Criteria		
e:	70% contrast	
3. SOUTH NIAGARA HOSPITAL CONSIDERATIONS		Scoring (1 or 0)
1. Senior Friendly Design		
a:	Contrast, size, legibility and positioning of signage is considered and specified to meet the needs of elderly individuals	
b:	Wayfinding program does not rely heavily on digital information and content, instead it guarantees clear, legible and concise physical signage and printed materials	
c:	Wayfinding program creates an environment that is uncluttered and clear allowing for ease of movement and navigation	
d:	Provides large font printed materials at reception and entrance areas	
e:	Areas and clinics are named using non-technical terminology	
2. Connection to Nature		
a:	Natural and green design elements used to create landmarks, supporting wayfinding and creating a calming and relaxing environment	
b:	Natural motifs and graphics rather than living walls and nature brought into the interior of the hospital due to ease of maintance and upkeep	
c:	Exterior views provided, serving as important wayfinding landmarks	
3. Artistic Elements and Interventions		
a:	Artistic elements and interventions are multifunctional so as to serve as landmarks while also creating a calming and relaxing hospital environment	
b:	Artistic elements and interventions placed directly on to the walls or other surfaces rather than framed due to maintenance and upkeep concerns	
c:	Colours, forms and elements used create a calming effect and avoid sensory overload	
4. Digital Content		
a:	The wayfinding strategy should rely primarily on physical signage, while digital options should be explored where appropriate	
b:	Appropriateness and applicability of digital directories such as those found in malls is evaluated	
c:	Digital booking and room signage considered for meeting rooms and other areas with high tenant turnover or functional flexibility	
d:	Digital content follows location, messaging and general design principles specificed above	

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