Specialist clinics wayfinding guidelines

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1.0 Introduction

This guidelines document is intended to assist public hospitals in Victoria improve the experience of patients visiting specialist clinics within the hospital grounds (known within the medical fraternity as outpatient departments or clinics).

Why focus on specialist clinics?
Outpatient visits constitute a large proportion of total patient visits to hospitals – anywhere from 30–75% of total patient visits, depending on the hospital. Specialist clinics are therefore key destinations within hospitals, and have a large impact on the overall impression of service that patients have of their public hospitals.

Note: the recommendations in this document relate to the specialist clinic wayfinding experience only.

What is wayfinding?
Wayfinding is the system that assists patients to find their way from one place to another, often through a complex or new environment. A professional wayfinding system will identify the most effective way to direct people through a space, based on research evidence collected from the particular space it relates to. The tools to assist people in wayfinding can include:
- Printed information
- Architectural features and design elements
- Permanent signage
- Digital devices (e.g. kiosks or information screens)
- Human interactions (e.g. with information officers)

See chapter 4, page 15 and appendix 1, page 33 for more detail on wayfinding definitions.

Wayfinding matters
Patient experience is emerging as an important factor in overall patient satisfaction. Poor wayfinding systems can increase anxiety, confusion and dissatisfaction with a person’s hospital experience. Inadequate wayfinding systems can also represent a significant hidden cost to a hospital, often in the form of lost time from staff members giving directions to visitors or appointment delays.

The complexity of many hospital sites, combined with the locations of clinics and the varied mobility and cognitive needs of many patients, gives rise to a need for improving patient wayfinding in many of Victoria’s public hospitals.

How to use this guidelines document

Who should read this document:
Anyone responsible for managing patient experience or outcomes, hospital capital works, or building management in Victoria’s public hospitals, particularly in outpatient departments or clinics.

Principles not prescription:
This document is intended as a set of guidelines to assist hospitals to improve the experience of patients finding their way to a specialist clinic appointment in the hospital. It is not to be read as a specific prescription for an individual hospital, but rather as a set of principles to be adapted to each unique hospital.

Existing hospitals:
Even hospitals with existing investment in signage or other wayfinding systems can benefit from this guidelines document. All hospitals can go through the Six Steps process which helps identify the wayfinding problems and provides a means to make the business decision on future wayfinding investment. In some cases, that may mean small changes to an existing system, in others it might mean a wholesale replacement of the existing system.

Greenfields sites:
New hospitals should engage the services of a wayfinding consultant as part of the briefing process to the architect, to ensure the hospital design takes into account good wayfinding principles. The chapters on the patient experience and wayfinding principles and design should be provided to the architects and wayfinding consultants as a guide to their recommendations.
## 2.0 The six steps: process to improve hospital wayfinding for clinics

The following six steps take you through a process to improve patient wayfinding for outpatient visits to existing hospitals in Victoria. Wayfinding is about taking an evidenced-based approach to assist people to move through complex spaces with the minimum confusion. We strongly recommend you follow each step in sequence to improve the final outcome.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Establish case for investigation</td>
</tr>
<tr>
<td>2</td>
<td>Is there a wayfinding problem?</td>
</tr>
<tr>
<td>3</td>
<td>Review existing wayfinding system: gaps</td>
</tr>
<tr>
<td>4</td>
<td>Business case development</td>
</tr>
<tr>
<td>5</td>
<td>Develop wayfinding solution</td>
</tr>
<tr>
<td>6</td>
<td>Implementation</td>
</tr>
</tbody>
</table>

### 1. Establish case for investigation

- Take the quiz: How complex is your hospital?
  - A quick self-assessment using the complexity diagnosis will help identify a 'prima facie', or first cut, case for further exploring wayfinding in your hospital.

### 2. Is there a wayfinding problem?

- Simple sites can undertake a self-assessment using:
  - Anecdotes from front office
  - Patient complaints
  - Simple observation

- Complex sites require a more detailed evidence-base and the services of a wayfinding consultant:
  - Traffic analysis
  - Observational research

### 3. Review existing wayfinding system: gaps

- Review your hospital’s current signage against the principles outlined in this guidelines document. An example checklist for self-assessment is provided on page 7.

- The outcomes of steps 1–3 will help reveal whether the problems identified are sufficient to justify an investment in making changes to your hospital’s wayfinding system.

### 4. Business case development

- Use the problem assessment to develop wayfinding solutions for your site. For example:
  - Identify key destination hubs for outpatients
  - Review the appointment letter template against the standards outlined in this guidelines document

### 5. Develop wayfinding solution

- Execute the wayfinding solution:
  - Pilot new signage in specific area of the hospital
  - Roll out to all relevant areas
  - Monitor and review wayfinding system over time
Step 1 Establish a case for investigation

A quick self assessment using the complexity diagnosis on this page will help identify a ‘prima facie,’ or first cut, case for further exploring wayfinding in your hospital.

<table>
<thead>
<tr>
<th>Question</th>
<th>0 points</th>
<th>1 point</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Is your hospital located on multiple sites?</td>
<td>No – on a single site</td>
<td>Yes – on two or more sites</td>
<td></td>
</tr>
<tr>
<td>2  Does your hospital campus have multiple main buildings?</td>
<td>No – one main building and possibly some smaller outer buildings</td>
<td>Yes – two or more main buildings</td>
<td></td>
</tr>
<tr>
<td>3  Is your hospital located on a sloping site?</td>
<td>No – the site is flat</td>
<td>Yes – on a sloping site</td>
<td></td>
</tr>
<tr>
<td>4  Does your hospital have multiple car parks?</td>
<td>No – only one carpark</td>
<td>Yes – multiple carparks</td>
<td></td>
</tr>
<tr>
<td>5  Does your hospital have multiple entrances (not including Emergency)</td>
<td>No – one clear patient entrance</td>
<td>Yes – more than one patient entrance</td>
<td></td>
</tr>
<tr>
<td>6  Is the key clinic reception close to the main hospital entrance?</td>
<td>No – less than 50m walk or in line of sight of main entrance</td>
<td>Yes – more than 50m walk or with multiple intersections on the journey</td>
<td></td>
</tr>
<tr>
<td>7  Are there multiple clinic areas?</td>
<td>No – one location for all specialist clinics / outpatients</td>
<td>Yes – multiple clinic areas (e.g. clinics on different areas)</td>
<td></td>
</tr>
</tbody>
</table>

Total

How did your hospital rate?

**Scored 3 points or less: simple site**

Your hospital site is a relatively simple. First time visitors may not need assistance to find their way around your hospital.

**Scored more than 3 points: complex site**

Your hospital is a complex site. Wayfinding is likely to be more difficult and most first time visitors are likely to require assistance to find their way in and around your hospital.
2.0 The six steps: process to improve hospital wayfinding for clinics

Step 2  Is there a wayfinding problem?

A wayfinding problem exists when the existing wayfinding system (whether deliberately devised or built up through ad-hoc growth) is inadequate for patient needs, and fails to assist people to find their way to their clinic appointment.

The following tools can be used to help identify the extent of your hospital’s wayfinding problems.

Simple sites: quick self-assessment

Sites identified as simple (from Step 1) can use existing sources of information within the hospital and collect objective data about the nature of any wayfinding problem. Possible sources include:

- **Anecdotes from front office** - talk to the information office / reception clerks about the number of people who ask for directions to an outpatient clinic each day or week. Ask them to record the requests on a sheet of paper for a week to establish a baseline number of requests.

- **Patient complaint analysis** - other officers in the hospital may be responsible for collecting and tracking patient complaints. Sift through this information in relation to issues that may be caused by a poor wayfinding system, such as finding their way, being late for appointments, expectations about waiting, confusion about the process, etc.

Complex sites: more detailed evidence-base

Sites identified as complex (from step one above) should consider engaging an external wayfinding consultant to help establish a fact base to assist in decision making about wayfinding investment.

Activities that should be considered include:

- **Patient complaint analysis** (as mentioned in simple site section above)
- **Observational research** - depending on the site, this research may involve a consultant observing visitors to a space, and identifying their initial natural choices of direction. Professional observation of human behaviour often points to specific wayfinding problems in a space.
- **Traffic analysis** - by collecting data of the total number of journeys taken through specific spaces, the wayfinding consultant can identify critical decision points and build a case for wayfinding investment.
- **Data collection of ‘Direction-Giving Incidents’** - identifying how many times per day/week/month site visitors are asking passers-by for directions. This information can uncover hidden costs in staff time, missed appointments and other internal (and avoidable) operational costs.

Example of data collection:

- Interview a sample of 100 hospital staff e.g Medical, Nursing, Clerical.
- Rank the number of Direction Giving Incidences (DGI) to various locations, e.g specialist clinics, emergency, wards, car park, exit, lifts, cafe, pathology, medical imaging, etc.
- Result: 80 DGIs to specialist clinics per day, e.g 80 x average 2 minute interruption = 160 minutes per day = 973 hours per year in wasted staff hours.
Step 3  Review existing wayfinding system: gaps

In constantly seeking to deliver best practice systems to the public, the hospital should do a quick internal review of its existing wayfinding system against the proposed wayfinding system for specialist clinics (outpatient clinics) detailed in Chapter 5 of this guidelines document.

The process can include collection of samples of existing appointment letters and taking photos of existing signage along the patient journey to and from a specialist clinic in the hospital.

This evidence can then be compared with the standards in this document.

The checklist in this section can be used to assist the process of assessment. If you answer ‘no’ to three or more of the questions, then there is a case to make changes to the existing wayfinding system.

<table>
<thead>
<tr>
<th>Wayfinding design self-assessment checklist</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the appointment letter present time and place information clearly as indicated on page 23?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Does the appointment letter clearly set the key expectations of patients relevant to the hospital in question?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Are carpark entrances identified clearly with numbers or letters for multiple entrance sites?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Where there are multiple buildings on a site, are they labelled with easy to understand and sequential numbers or letters, or architecturally relevant descriptions to assist wayfinding?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Do the major signs at building entrance identify only the key destination hubs?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Can you identify the 5–6 major hubs / receptions in the hospital on focus signage in these areas?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Is the typography on signs legible and appropriately sized for the viewing distance?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Is the colour and contrast used sufficient to provide legibility for low vision visitors?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Do key decision points in the hospital only provide information on the key destinations (e.g are there too many signs irrelevant to the major journeys)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. Are signs labelled with the appropriate content and naming conventions?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Step 4  Business case development

The outcomes of steps 1–3 will help decision-makers identify whether the problems identified are sufficient to justify an investment in making changes to the particular hospital’s wayfinding system. A business case will likely be required to demonstrate and seek approval for wayfinding investment.

A typical business case might cover:

- Current costs of existing wayfinding system
  - costs of Direction Giving Incidents
  - estimated total visits
  - estimated missed appointments due to wayfinding errors
  - summation of total potential hidden costs
- Evidence of negative impact on patient experience - complaints and anecdotal evidence
- Need for aligning wayfinding system with best practice and quality systems (ISO 9000)
- Best practice case studies for complex public environments
- Wayfinding system improvements – costs/benefits of the two options:
  - Outpatient clinic experience only within a legacy system
  - Complete hospital wayfinding redevelopment

Case study: Austin Hospital

About one year after the opening of new facilities at both the Austin Hospital and the Mercy Hospital for Women, Austin Health management and Major Projects Victoria remained concerned by ongoing wayfinding problems caused by the size and complexity of the site.

Wayfinding consultants were engaged to undertake a detailed analysis of these issues. The analysis demonstrated that the existing wayfinding provision was costing the hospital a significant amount each year in missed appointments and staff time spent giving directions.

Problems were identified using specific survey tools, and a plan was developed to improve patient wayfinding.

The first phase of the wayfinding strategy focused on the confusing vertical circulation and the ‘legibility’ of primary pathways. The effect on patient and visitor experience, as well as staff efficiency and job satisfaction, has been significant. The changes made created a 70% reduction in complaints about wayfinding.

“The most urgent of these recommendations have just been implemented and the improvements are astonishing! It is clear that wayfinding is not signage, but a holistic view of navigation and human behaviour.”

– Megan Gray,
Manager, Capital Works and Infrastructure

...
Step 5 Develop wayfinding solution for outpatients

For simple sites, hospital staff can conduct their own review of the outpatient journey and identify changes that need to be made, using the wayfinding system outlined in Chapters 4 and 5.

We recommend for complex sites that an external wayfinding consultant is appointed. A good reason to appoint independent professionals is that they will put forward a plan that minimises the total number of signs required.

A typical process a wayfinding consultant may follow includes:
- Problem assessment (as described in steps 1 and 2 above)
- Review of existing wayfinding system to identify gaps compared with best practice
- Development of the business case for investment in wayfinding
- Mapping the journeys of patients to the specialist clinics
- Development of recommendations on new wayfinding elements, and which elements to remove (e.g. existing signage)
- Identification of key destination hubs for outpatient visits, and appropriate labelling
In large hospitals, it may be preferable to pilot the new signage in a specific area of the hospital for one specialist clinic, and pending the results, roll-out new signage to all relevant areas in the hospital.

Implementation of the wayfinding solution may require redesign of the appointment letter, and testing this with patients in terms of its clarity and usefulness.

**Note:** this guidelines document covers only the specialist clinic (or outpatient) wayfinding journey. Hospitals should consider how these principles apply to outpatient areas only, but they may have implications for the wayfinding in other parts of the hospital. Separate whole-of-hospital wayfinding guidelines and standards should be sought for the design of wayfinding across the entire hospital.
3.0 The patient journey: core principles

**What is the patient journey?**

The patient journey encompasses the complete experience a patient encounters from referral to follow-up. Although each patient is different, the outpatient journey follows a predictable process. The typical stages are:

<table>
<thead>
<tr>
<th>Patient Stage</th>
<th>GP referral</th>
<th>Notification of referral</th>
<th>Appointment letter from hospital</th>
<th>Tests required prior to appointment</th>
<th>Physical journey to the clinic</th>
<th>Arrival and wait</th>
<th>Appointment</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What patients need to know</strong></td>
<td>Why am I being referred?</td>
<td>How it works, why, how long likely, next step</td>
<td>When, where, why, expectations</td>
<td>When, where and what’s expected</td>
<td>How do I get there? What’s expected?</td>
<td>When will I be called? What can I do while I am waiting?</td>
<td>Medical instructions, actions</td>
<td>What should I do next? Next appointment</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>GP contacts outpatient department, data entered, triaged by clinician</td>
<td>Acknowledgement of referral; Letter generated and sent</td>
<td>Appointment letter generated and sent; call made if within one week of referral</td>
<td>Tests: MI, Pathology, etc. Internal or external to hospital</td>
<td>Patient arranges for transport, assistance, interpreter, time off work, etc.</td>
<td>Clerk takes time of arrival and details</td>
<td>Name called in waiting room; taken to consulting room; may be baseline observations; sees specialist</td>
<td>a) reviewed b) discharged c) possible further tests: radiology, pathology, ECG, etc.</td>
</tr>
</tbody>
</table>
3.1 Mapping the patient journey

Example: Metro Hospital consultation journey

Depart from home by car.
Find Metro Hospital, Rose St Entrance (based on instructions on Appointment letter).

Enter Hospital site via Rose St Entrance.
Find Carpark B (based on instructions on Appointment letter).

Park car in Carpark B. Walk towards building.
Find South Entrance on Central tower building (based on instructions on Appointment letter).

Turn left then right towards Carpark B following carpark directional signs. Parking limitations?
Enter Central Tower via South Entrance.
Find Reception C (based on instructions on Appointment letter).

Turn right then left towards lifts, following internal directional signs to Receptions A–D.
Take lift to Level 2, following lift directory to Receptions A–D.

Walk past Receptions A and B
Arrive at Reception C.

Present Appointment letter, remain in waiting area until called.
Nurse calls name and room.

Walk past Receptions A and B
Arrive at Consultation.

* This document uses the fictitious 'Metro Hospital' as a sample hospital for illustrative purposes
### 3.2 Setting expectations

Customer satisfaction research\(^1\) indicates that one of the keys to improving satisfaction is setting appropriate expectations prior to the experience. Patient research\(^2\) indicates that patients have a range of questions throughout their journey. This table indicates general content and the different channels that can be used to communicate answers to these questions to optimally set expectations of an outpatient visit.

<table>
<thead>
<tr>
<th>Patient question</th>
<th>Content of answer</th>
<th>Method of communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where do I go?</td>
<td>Standard way-finding instructions [warn of distance if it will be an issue]</td>
<td>– Appointment letter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– On signage</td>
</tr>
<tr>
<td>When do I go there?</td>
<td>Clear date and time</td>
<td>– Appointment letter</td>
</tr>
<tr>
<td>How long will it take?</td>
<td>Estimated duration range: may be expressed as a time range (e.g. 2-4 hours)</td>
<td>– In an appointment letter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Verbal updates at clinic reception</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Possibly on signage</td>
</tr>
<tr>
<td>What preparation do I need?</td>
<td>Relevant to visit: e.g. for initial consultation, mention there is no need to fast</td>
<td>– Appointment letter</td>
</tr>
<tr>
<td>What do I need to bring?</td>
<td>X-rays, appointment card, medicare card...</td>
<td>– Appointment letter</td>
</tr>
<tr>
<td>What is the purpose of the visit?</td>
<td>What I’m being treated for</td>
<td>– GP or specialist verbal advice</td>
</tr>
<tr>
<td></td>
<td>What stage this is</td>
<td>– Appointment letter</td>
</tr>
<tr>
<td></td>
<td>The type of visit, e.g. consultation with a doctor for diagnostic purpose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Whether surgery or procedure will be done on the day</td>
<td></td>
</tr>
<tr>
<td>How much will it cost?</td>
<td>Public hospital – no charge</td>
<td>– Verbal on request</td>
</tr>
<tr>
<td>What can I expect the next stage to be?</td>
<td>Typical process of diagnosis, treatment plan, treatment, follow-up</td>
<td>– Specialist verbal advice in at a consultation</td>
</tr>
<tr>
<td>Who will see me?</td>
<td>An individual doctor’s name if possible, or the nature of the specialist</td>
<td>– Specialist or GP verbal advice</td>
</tr>
</tbody>
</table>

---

1. Churchill, Surprenant
   ‘An Investigation into the Determinants of Customer Satisfaction’,
   *Journal of Marketing Research* Vol 19

2. GSG patient research, selected Victorian hospital Outpatient Clinics, 2008
3.4 Core wayfinding principles for outpatient wayfinding

1 Design for everyone – including people with difficulties
Wayfinding needs to be designed for everyone – including for people who have the most difficulty in finding their way. These people are more likely:
- To be first time visitors
- To be elderly
- To have limited English
- To have vision impairment or mobility issues

2 Address paradigm
To improve patients’ ability to find their way to a specialist clinic, wayfinding should use a generic and standardized information system that treats destinations as ‘addresses’.

Complex journeys can be broken up by directing patients first to key navigation points, then supplying secondary navigation information to find a specific location (start broad, then zoom in). A hierarchy of information will use the minimum amount of information and reveal more details on a ‘need to know’ basis. This system is useful because people generally only remember the last couple of instructions in a journey.

Wayfinding instructions should only include a direction where there are multiple choices at a decision point in the journey.

3 Use of key hubs
A key to simplifying a complex journey is to break the hospital down into key ‘destination’ hubs that can be well sign-posted, with secondary destinations indicated once a hub is reached. Outpatient departments can effectively be broken down into a few key destination hubs, based on total visitor numbers, rather than multiple destinations across the entire hospital.

Therefore, not all destinations in a hospital need to have signage at key entrances. At each journey decision point, only destinations that ‘break off’ from the main path need to be listed.

4 Naming of destinations
The term Reception has universal understanding and should be used to identify key outpatient hubs within the hospital.

A wayfinding system should use generic and sequential labels and reduce medical terminology so that it is well-understood by the general (uninformed) public.

Therefore, the word outpatient should not be used as a primary navigation word within the wayfinding system. As a transition, the word ‘outpatients’ can be used as a secondary label beneath the primary hub label of “Reception”.

Rationale for avoiding the word “outpatient” in a wayfinding system.
Wayfinding is easiest if destinations within hospitals are named for the patient who is uninformed or has a low level of English. The term “outpatients”:
- Is unnecessary and confusing for wayfinding purposes, as it can refer to multiple different destinations in the hospital.
- Is not understood by the majority of new patients.
- Has a meaning that varies across hospitals, and has changed over time.

De-clutter!
A clear wayfinding system communicates the minimum required for a smooth journey, and nothing more. That means signage should be in spaces clear of other communications or visual clutter. Remove temporary posters, words or pictures in the vicinity of wayfinding signage.

Hospitals may need to allocate a role of wayfinding management which involves removal of unnecessary posters, signs and communications that distract from the core wayfinding information.
4.0 Wayfinding design guidelines

General principles

Verbal directions
The wayfinding strategy should include guidance for staff on giving verbal directions, especially the consistent naming of buildings, zones, facilities and functions.

Management
How a wayfinding system is managed is as vital to good wayfinding as the original design and implementation. Without active management, a wayfinding system quickly becomes obsolete, and as the gap between the information provided by the wayfinding system and the users experience widens, trust in the system is diminished.

The wayfinding strategy must therefore include a plan for the onward management of the system.

Sign location
Signage must be visible and legible for all users. Signage fixing heights play an important role in the legibility of information, and reference should be made to international standards.

External and internal signs
External signage must be tamper proof and resistant to weather. Internal signage should be tamper proof. Illuminated internal signs should generally only be used when required by legislation.

Pedestrian and vehicle signs
Vehicle signage must conform to local state and national standards for all approach roads and site circulation. Pedestrian site signing must be distinct from vehicle signing to avoid confusion.
4.0 Wayfinding design guidelines

4.1 Non-sign elements

A wayfinding system is more than just signs; it is a mutually reinforcing group of sensory aids that form a language of visual clues that enable people to make navigational decisions. Architectural environments provide a variety of clues that allow people to navigate unfamiliar places.

Wayfinding is about creating a memorable environment which allows people to differentiate between areas. The north wing of a building might use a cool colour palette, while the south might have a warm palette. While this cannot be directly referenced for direction-giving purposes, it helps to provide people with a sense of where they are in the building at a subconscious level.

Non-sign wayfinding elements can include landscaping, architecture, interior design, floor coverings, lighting, wall and window graphics.

Points of reference

Some environments contain one or more highly visible landmarks that can be constantly referred to from any location.

These landmarks help people navigate even if their journey does not take us via the landmark. One example is the Eiffel Tower in Paris; an unmistakable shape, highly visible amongst other buildings, it provides an orientation point from which to build a mental map of the area.

It is important that patients and visitors can identify key features and functions from a distance, even when they are partly obscured (such as lift lobbies and reception areas).

Architectural landmarks

Architectural landmarks or decorative features in an environment can be used as powerful wayfinding devices. The best examples can be easily described in basic English. Wayfinding instructions such as 'turn right at the green beanstalk' encourage exploration and prompt a person's memory for return journeys.

Examples of features used for wayfinding include:
- A giant green guitar sculpture acts as a visual reference adjacent to the main reception area at the new Dell Children's Medical Centre of Central Texas.
- Previously, a giant red sphere acted as a piece of play equipment and a navigational aid in a central reception area at Austin Children's hospital in Texas, which was replaced by the Dell Children's after closing mid 2007. The red sphere device was then used on signage to help people navigate back to that hub.

Location and arrangement of outpatient services

In an effort to ensure patient convenience, the new Women's hospital in Victoria located all outpatient services on a single level (Level 1), and provided dedicated lift access to the car park below. Services on Level 1 include Pharmacy, Pathology collection, medical imaging, ultrasound and other key services that encompasses the majority of outpatient services provided by the Women's. The area is also close to shops and food outlets.
4.2 Deciding on sign content

Information hierarchy
The way information is organised on a sign is critical to speed of understanding. Keep these principles in mind when selecting content for signs:
- Signs are easiest to read and understand when they are uncluttered and the information is presented in a logical, sequential layout.
- Directional signs should contain a maximum of five destinations.
- Key hospital hub destinations should be listed at the top of the hierarchy or highlighted as primary information. Secondary destinations should be presented lower in the information hierarchy.
- Destinations on signs should be grouped and ordered with a logic relevant to the destinations listed: either by alphabetical order (for a longer list), by the direction to the destination in clockwise order, or by the order of distance to destination (closer destinations first).
- It is important that people can quickly connect the destination with the directional arrow - ensure labels are visually connected to the arrows.

Incorporating hospital graphic identity
Each hospital has its own graphic identity (possibly including a logo and associated graphics and colours) that plays a role in identifying the hospital as part of the wayfinding system. The logo should be used on all written communications and at key external entrances to the hospital site, which may include signage on the main buildings. Once a visitor has entered the hospital building, the relevance of the hospital logo diminishes (the visitor now knows which hospital they are in), and the generic wayfinding solutions should be applied without the hospital logo.

The graphic designer should consider whether the hospital identity colours are of sufficient contrast to be able to used in the wayfinding signage.

Arrows
Arrows play an important role in sign design and are often over stylized by designers, affecting their legibility (especially for those with partial sight). Arrow designs should be based on the ISO arrow (ISO 7001) where the terminals of the arrow head are parallel to the shaft.

Colour coding
Colour coding areas in a hospital can assist in memory of a space. This may, for example, be useful to identify different areas or levels in a multi-level car park, or between two major and connected buildings.

There are, however, various downsides to using colour coding for navigation:
- People do not tend to remember distinctions between more than 3 or 4 colours.
- Colours do not form a logical sequence to assist with navigation as numbers or letters do.
- Building usage changes would require complete colour coding changes which may result in a ‘broken’ system of colour coding.
- Colour differences may be hard to read for people with low vision or colour blindness.
- Colour used in an architectural space (e.g. on a wall) may not be read as a navigation aid.

General colour use guidelines
- Navigation signage throughout the hospital should use consistent and limited, high contrast colour palette with white text appearing on a dark colour background, or dark text on a white background, or a combination of these.
- Use of a limited number of key generic destination hub names (e.g. Receptions A-C) to differentiate between spaces, rather than colour.
- Selective use of distinctive architectural elements (which may themselves have a distinctive colour) to assist in differentiating spaces visually.

The navigational signage colour chosen is clearly different from other required signs that co-exist in the hospital environment such as fire exits (green), fire equipment (red), safety warnings (black and yellow).

Coloured lines on a floor
Can be useful for specific, single destination navigation aids.
- Ensure high contrast with the floor (for assistance for people with low vision)
- Avoid using multiple lines with different colours (which are difficult to distinguish for people with low vision)
- Use only for point to point navigation between two commonly used, but complex journeys, e.g. between two key hubs in a hospital.

Receptions A–D

↑ Pathology
← Pharmacy
← Wards
← Lifts

The ISO arrow (left) is an optimal design for arrows on signage. Although triangular arrows look stylish, the direction which they point is ambiguous.
4.2 Deciding on sign content (continued)

Use accessible terminology
To minimise patient confusion, medical terminology should be used sparingly and, where possible, replaced with common references that everyone understands. For example, the term Eye Clinic would have meaning for more people than Opthamology. In addition, medical terms can sound and look similar to each other, particularly for people with vision impairment, e.g. Opthamology can look and sound similar to Orthopedics and other words ending in 'ology', (Haematology, Pathology, etc).

Use terms consistently
Terms and destination labels should be used consistently across all hospital communications, including the pre-visit appointment letter and verbal communication by hospital staff. Where multiple different names are currently used for the same service, this may require some stakeholders to give up their historically-used names in order to achieve consistency.

Avoid acronyms and only use universally-understood symbols
Acronyms and abbreviations will have no meaning for people who are unfamiliar with the original name or terminology. To avoid patient confusion these should be avoided in all signage and other hospital communication.

Some symbols and icons are universally understood and can be useful aids to reinforce the meaning of a message and assist wayfinding. These symbols are typically for amenities and public services, e.g. a picture of a telephone handset to signify public telephones and male and female icons for toilet facilities.

Symbols for medical services are much less commonly understood by people in the general public, and should therefore generally be avoided in hospital signage.

Many medical terms are not widely understood
A study undertaken in 1998 for NHS Estates in the United Kingdom ranked a sample of medical terminology in order of how many people understood the term. The results demonstrated that people often do not understand medical terminology. People who have little interaction with the medical sector, or have limited English skills are likely to be even less familiar with terms that hospital staff might perceive to be common knowledge.

<table>
<thead>
<tr>
<th>Medical Term</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapy</td>
<td>70%</td>
</tr>
<tr>
<td>Ante-natal</td>
<td>70%</td>
</tr>
<tr>
<td>Haematology</td>
<td>69%</td>
</tr>
<tr>
<td>Mammography</td>
<td>67%</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>66%</td>
</tr>
<tr>
<td>Neurophysiology</td>
<td>66%</td>
</tr>
<tr>
<td>Radiology</td>
<td>63%</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>55%</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>50%</td>
</tr>
<tr>
<td>Paediatric</td>
<td>48%</td>
</tr>
<tr>
<td>Opthamology</td>
<td>43%</td>
</tr>
<tr>
<td>Pathology</td>
<td>42%</td>
</tr>
<tr>
<td>Endoscopy</td>
<td>37%</td>
</tr>
<tr>
<td>Podiatry</td>
<td>30%</td>
</tr>
<tr>
<td>Orthoptics</td>
<td>27%</td>
</tr>
<tr>
<td>Hysteroscopy</td>
<td>22%</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>26%</td>
</tr>
<tr>
<td>Colposcopy</td>
<td>20%</td>
</tr>
<tr>
<td>Oncology</td>
<td>15%</td>
</tr>
<tr>
<td>Cytology</td>
<td>6%</td>
</tr>
</tbody>
</table>
4.3 Graphic design of signs

Colour contrast
Sign colour must be chosen to provide clear contrast between the information content and its surrounding environment.
An example of a good combination is dark green or dark blue with white text reversed out.

Finish
The finish of the sign face can have a huge impact on the legibility of information. The proximity of light sources to signs can also play an important role and gloss factors must be considered when specifying materials.

Symbols
Symbols can be important when signing for a multi-cultural audience, but for symbols to be effective they must conform to recognized conventions (ISO 7001 and AS 2342-1992). If new symbols are developed, they must be tested with appropriate user groups.

Tactile and special needs signing
National standards for tactile and Braille signs need to be applied consistently.

Mapping and directories
Mapping is an important part of a wayfinding system. Clear maps located at strategic points throughout the site allow visitors to orientate themselves.
Map design is not included in this document, however the following principles must be observed:
- Architectural plans do not make good wayfinding maps. Maps must be drawn for the specific purpose of wayfinding
- Maps displayed must be in a ‘head up’ orientation
- Colour coding should be consistent with signing
- Typography must be clear and legible
- Large directories should list destinations alphabetically
- All maps should be reviewed by relevant user groups

Colour contrast
Sign colour must be chosen to provide clear contrast between the information content and its surrounding environment.
An example of a good combination is dark green or dark blue with white text reversed out.

Finish
The finish of the sign face can have a huge impact on the legibility of information. The proximity of light sources to signs can also play an important role and gloss factors must be considered when specifying materials.

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Tactile and special needs signing
National standards for tactile and Braille signs need to be applied consistently.
4.3 Graphic design of signs (continued)

Choice of typeface
Some typefaces are more appropriate for signing than others. Before deciding on a typeface, test its legibility at the appropriate reading distances. This does not apply to typefaces used on tactile signs.
- All text must use both upper and lower case.
- A sans serif font should be used with large x-height and consistent stroke weight.
- Decorative typefaces are not suitable; some typefaces contain similar characters and should be avoided e.g. Futura lowercase a and o.

Effective and widely available typefaces
The spacing between letters (tracking) may need to be increased from the default settings in these typefaces when they are used for signage.

Frutiger 55
Myriad Semibold
Arial Regular

Size of type
Type size and reading distance play a huge part in the accessibility of information. Variations in typeface, sign colour, lighting and sign face gloss mean that reading distances for all designs will need to be tested with the appropriate user groups.

Typical reading distances
(Based on a x-height : viewing distance ratio of 1 : 400)

<table>
<thead>
<tr>
<th>Viewing Dist (m)</th>
<th>8</th>
<th>12</th>
<th>16</th>
<th>24</th>
<th>36</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>x-height (mm)</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>60</td>
<td>90</td>
<td>120</td>
</tr>
</tbody>
</table>

Case study: Frutiger – a good signage typeface
The choice of typeface can have a significant impact on the legibility of a sign.
Frutiger is a typeface specifically designed for signage* and is particularly good for reading from a distance. It is less modular and geometric than other typefaces, which makes it appear larger and more legible to the human eye.

In the example below Frutiger is compared to Futura. Futura’s ascenders and descenders are too tall in proportion to its x-height. This means that for any given type size Futura will always appear optically smaller than Frutiger. The example also highlights the difference between some of the most frequently confused characters. It is clear that there is not enough differentiation between many of the characters.

These are some of the considerations that should be incorporated into decision making on the appropriate typeface for signage.

Frutiger

* Originally designed by Adrian Frutiger for the Charles de Gaulle airport in Paris
5.0 Wayfinding system for visits to specialist clinics

This chapter describes a journey by car, from home to the hospital. It shows the choices that the patient has and the decisions they need to make at various stages of their journey.

The stages of the patient journey are:
1. Appointment - verbal instructions at GP offices
2. Appointment letter
3. Hospital site entrance
4. Car park directions
5. Building entrance (interior)
6. Liftwell directory
7. Key internal decision point
8. Hub destination arrival
9. Clinic name
10. Sub-destinations

Note: The illustrations in this chapter are intended to set standards and are NOT intended to be specific recommendations for individual hospital sites.

Sign size, content and design need to be decided on a case-by-case basis.
5.1 Appointment: verbal instructions at GP offices

**Pre-visit information**

Often the pre-visit information is the first contact the patient will have with the Hospital. This information will form the patient’s initial impression of the hospital and affect how they feel about their visit.

Poor pre-visit information can add to the level of stress a patient experiences, as they are unable to plan their visit with confidence. This is particularly relevant for patients with disabilities who need to plan their route before their visit and understand how long this might take.

Currently, pre-visit information is produced on a local level and as a result lacks consistency.

Ideally hospitals should develop a standard for pre-visit information, to promote a consistent approach to information structure, terminology, typography, colour and mapping.

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Where possible, GPs should be encouraged to provide patients with critical information to assist in setting their expectations around visiting a specialist clinic. This may include key elements about the nature of the visit, what’s expected, any available frequently asked questions and direction to the Health Service’s web site for further information.

"I'm referring you to a specialist in [discipline e.g. cardiology] at [hospital]."

"The hospital will send you an appointment letter with all the details."

"The specialist will meet with you and [any special details regarding the appointment]."

"They may order some tests or give you a plan for treatment."
5.0 Wayfinding system for visits to specialist clinics

5.2 Appointment letter

**Information structure**

Pre-visit information, in the form of an appointment letter, is a critical stage in the patient journey and plays an important role in setting patient expectations about their visit. Simple changes to the appointment letter can have a big impact.

The primary purpose of the letter is to clearly communicate essential information relating to the appointment. This includes the appointment date and time, location (including site, building, level and department), name of the specialist (if available), what, if anything, the patient must bring or do beforehand (e.g. bring Medicare card and pathology test results, do not ingest food 12 hours before the appointment etc), and hospital contact details (to change or query appointment). Where possible, including distances and time duration estimates is very helpful in preparing patients for their visit.

Critical information is easily distinguishable when placed upfront and in plenty of white space. Bold type and colour can be used where required, but only where it assists readability.

Critical vs secondary information should be ordered accordingly and delivered in easily readable chunks rather than long paragraphs, with thin lines to visually separate the groups. Underline, italics and all capitalized text should be avoided.

To promote patient understanding, medical terminology, abbreviations, acronyms, symbols and other language that may not be universally understood should be avoided. Privately owned sub-destinations should be identified by the universally understood name for wayfinding, not by the company name.

Note: Hospitals should aim to replicate this standard as closely as possible within the constraints of their IT systems.
5.3 Hospital site entrance

Hospitals are normally on primary roads, and often VicRoads has provided road signage. These signs will normally take visitors to the main entrance.

Perimeter signage needs to accommodate drivers travelling at a speed of 80km/h. It may need to indicate several entrances.

The sign will be used in conjunction with VicRoads signs. The landscaping (tree-lined driveway) can be used to signal the location of the site entrance and the sign acts as confirmation.

Small sites may only have one site entrance.
5.4 Car park directional

Directional information to visitors carparks will usually be read from a moving vehicle, and the size of the panel as well as the size of the font on the sign will have to be large enough to be legible.

Locate the sign in such a way that it can be read from the likely reading distance.

The sign should be positioned perpendicular to the driving direction.

(Internal) illumination depends on the ambient light available.

A site that has a number of carparks should direct to these different carparks from the main entrance, so if the appointment letter says ‘Carpark 3’ then carpark 3 should be signed from the main entrance.

Note: A simple site may only have one carpark, which can be indicated with a ‘Parking’ sign plus directional arrow.
5.5 Building entrance (interior)

Hospitals should select the key internal ‘hubs’ within the hospital and clearly sign journeys to these locations.

Signs to specialist clinics (outpatient departments) could be labelled as reception destinations e.g. Reception A, with other receptions (e.g. Day Surgery) labelled as Reception B, etc.

This would require a whole-of-hospital wayfinding analysis, out of scope for this guidelines document.

Key hubs should appear at the top of the sign, with secondary destinations below them, separated by a line. Local amenities may appear at a third level. This helps establish a clear hierarchy of information.

A good generic and high contrast colour for directional signage is navy blue (as shown in the illustration on this page).
5.6 Liftwell directory

Once a visitor decides to change a level, they need to know what level they are on. This sounds obvious, but often hospitals are built on slopes, and different entrances may bring people onto different levels. It is important that in these instances the level that a visitor enters on is displayed prominently.

If a visitor is not on the right level, they will look for the lift or stairs. It is helpful if their end destination is confirmed near the lifts, and in the lifts, e.g.

You are now on level 2
Receptions D-H Level 4
Receptions A-C Level 3
Main Reception Ground Level

Complex hospitals may have multiple floors and high traffic through main liftwells. Staff, patients and visitors may all share the same lifts.

Key wayfinding hubs should be labelled at the lift entrance on each floor and inside the lift adjacent to the floor buttons. Secondary destinations can also be labelled adjacent on lift directories.

Lifts should conform to best practice, including audio prompts for floors and key destinations, plus tactile signals on lift buttons.
5.7 Key internal decision point

Key decision points exist where there are multiple choices at a junction of paths. Most often this occurs at corridor crossroads. Given the number of secondary destinations in complex hospitals, the signage should be limited to highlighting key hub destinations, plus secondary destinations in the immediate vicinity to the decision point.

Deciding which destinations to include involves an analysis of the journeys taken in that area of the hospital.

The notation in the letters D-H implies that there is more than one reception, and it is logical to expect them in some sort of sequential order to confirm that you are walking in the right direction.

If the distance between two Receptions is too far, you need a confirmation that you are still walking in the right direction, for instance with a simple sign that says ‘Receptions E-H’.

Key hubs should appear at the top of the sign, with secondary destinations below them, separated by a line. Local amenities may appear at a third level. This helps establish a clear hierarchy of information.
5.8 Hub destination arrival

Reception hubs need to be identified with a clear and unmissable sign. It provides confirmation to patients that they have arrived, that they have found the right place.

The design can be bold, and should be clearly visible from any direction of travel. Do not use colours that are being used for other primary items in the same area (such as doors or columns).

There may be multiple clinics linked to each reception point.
5.9 Clinic name

General naming principles need to be followed to ensure clinic names are clear and well-understood. This includes limiting the use of medical terminology where possible, using terms consistently throughout the hospital, avoiding acronyms and only using universally-understood visual symbols.

Where there are multiple clinics, they could be named using letters (A – D) or numbers (1 – 4). There may also be room numbers that are fed off from different clinics which may need wayfinding signage.

In some cases, the clinic could be named according to the medical service provided, e.g. Eye Clinic instead of Ophthalmology. If the service is easily understood this may assist patients (as in the Royal Victorian Eye and Ear Hospital). However, most clinics in multiple-service hospitals should be generically named (Clinic A, etc.) to allow for use of a single space for different clinic types and to enhance patient privacy.

A complex site may have multiple clinics clustered in one area, or spread over different floors or parts of the hospital.

A simple site may not have separately signed clinics, but one clinic area, and would therefore not require additional clinic signage.
5.10 Sub-destinations

Sub-destinations are key service areas and amenities of the hospital that people often visit as part of their outpatient journey. The prime examples are Pathology, Medical Imaging and Pharmacy. Best practice in newly built hospitals is that these service areas are clustered close to outpatient clinics. However, in existing hospitals, these destinations may be located remotely from outpatient specialist clinics and at a distance from each other.

Signage directing patients to key sub-destination areas is required at key points in their journey, particularly at exits from clinic areas.

The labelling of sub-destinations needs to be considered in a hospital-wide context given that many patients who are not outpatients may also need to access these services.

Seek to apply these principles
- Directional signs to these sub-destinations should appear at the exit to the clinic / outpatient area
- Depending on the location of these sub-destinations, the hub and address concept can be applied to simplify directions (e.g. to direct people to another hub in the hospital, then to the sub-destination)
- Use consistent terms across the hospital (e.g. X-ray, Medical Imaging, MRI etc.
- Privately owned sub-destinations should be identified by the universally understood name for wayfinding, not by the company name, e.g. Pathology. The company name can appear at the final destination.

A journey from the clinic to a sub-destination may require directional signage at various decision points in the journey, and needs to be considered in relation to other patient journeys. Specifications may depend on existing signage and may need to be incorporated within it.
6.0 Appendices
6.0 Appendices

6.1 Appendix 1: what is wayfinding?

Wayfinding is behaviour. It is not the same as signage. Good wayfinding means knowing where you are, knowing your destination, following the best route to your destination and recognising your destination when you arrive.

More than signs

A wayfinding system is more than just signs; it is a mutually reinforcing group of sensory aids that form a language of visual clues that enable people to make navigational decisions.

Architectural environments provide a variety of clues that allow people to navigate unfamiliar places. When these clues are consistently presented, people find their way effortlessly. When they are inconsistent, people get lost.

Hospitals

Hospitals are large and complex environments. Many have grown in an ad-hoc manner with buildings or departments next to each other that are unrelated, while areas that are related are often connected by long and complex pathways. Destinations may have incomprehensible names, or may be hard to remember or pronounce by users with limited English proficiency. All of this makes it difficult for people to find their way.

How people find their way

Most people possess innate abilities and strategies that allow them to navigate unfamiliar environments, without the need for signs and arrows. By understanding these abilities, it is possible to develop wayfinding strategies that do not clutter a space with expensive and unnecessary signs.

Creating legible environments

An environment is easy to navigate when the user can easily ‘read’ that environment. A good example is a church in a historic European town. There is a good chance that the church is relatively central in town and when you walk up to the building you have a good idea where the entrance will be, what to expect when you enter and how to behave inside. All of this is achieved without any signage.

This example demonstrates that the surrounding environment can play a powerful role in assisting understanding, expectation setting and wayfinding without the use of directional signs.

Inference

Humans are excellent at identifying patterns and sequences. Some coding systems, such as numbers and letters, lend themselves to sequencing while colour coding and shapes do not. We use sequences to find our way all the time – from identifying house numbers to finding our car in a multi-story car park.

Points of reference

If we are lucky, our environment contains one or more highly visible landmarks that can be referred to constantly from any location. These landmarks help us navigate even if our journey does not take us via the landmark. An excellent example is the Eiffel Tower in Paris. An unmistakable shape, highly visible amongst other buildings; which provides an orientation point from which to build a mental map of Paris.

Understand the audience

In order to create an environment that is legible, it is important to consider the person who is trying to find their way through the environment. Someone new to a hospital environment will know less about what to expect than a person who is familiar with the space. They may be more anxious and emotional and less able to remember verbal directions from staff. Wayfinding systems must also account for people with limited English skills, mobility and vision impairments and their carers.
6.2 Appendix 2: benefits of good wayfinding

Good wayfinding promotes healing
When users are able to understand their environment, it gives them a sense of control and empowerment, key factors in reducing stress, anxiety, and fear—feelings that undermine the body’s ability to heal3.
When analysing the relationship between disorientation and design it was found that: “It is important to consider that wayfinding problems have their own particular cost in the healthcare environment”4. Stress caused by disorientation may result in feelings of helplessness, raised blood pressure, headaches, increased physical exertion, and fatigue. In addition, patients may be affected by the wayfinding troubles of visitors who, because they became lost, may have less time to spend with them.

Good wayfinding promotes safety
Visitors that are stressed are more likely to act aggressively towards staff, patients or other visitors. Stress caused by disorientation can be a contributing factor. Another safety related issue is that staff that are working in sensitive areas or with medication distribution, may be distracted from their primary work objectives, and with this create an unsafe environment.

Good wayfinding promotes fiscal health
Successful wayfinding systems make financial sense. Costs associated with wayfinding problems are often hidden. For example, consider the indirect cost of lost productivity as concerned staff members take time away from patient care to give directions or walk lost visitors to their destination.
Another indirect cost of poor wayfinding is that lost visitors are late, miss their appointments or are too upset for testing to take place.

Good wayfinding promotes the healthcare facility
Ensuring visitors feel comfortable with navigation from the minute they enter the facility not only reduces stress and frustration, it also communicates to everyone that the facility is organised, professional, and capable.
In today’s economy, with many institutions vying for increasingly scarce consumer healthcare dollars, it’s more important than ever that providers consider the image they are presenting to the outside world.

Further, successful wayfinding systems can contribute to a reduction in complaints.

Benefits of good wayfinding
In summary, good wayfinding promotes5
- Reduction of stress and frustration for the visitor
- Functional efficiency
- Visitor accessibility
- Safety
- Patient empowerment, improving cognitive skills in spatial understanding
- Improved bottom line

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- Outpatient Experience Sub-Committee
- IDLab
- Department of Human Services

4 Carpman and Grant (2001)