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Wayshowing in Hospital

Per Mollerup[1]

[1] Professor, Swineburne Design, Swinburne University of Technology

Review

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Corresponding Author:
Per Mollerup
Professor
Swinburne Design
Swinburne University of Technology
144 High Street Prahran, VIC 3181
Melbourne, Australia
PMOLLERUP@groupwise.swin.edu.au

Abstract

This paper describes the causes of the wayfinding problems in hospitals and suggests ways to solve them. The paper is by and large based on the author's personal experience and observations. Several causes make wayfinding in hospitals difficult. One group of causes concerns the complicated environment. Another group of causes concerns the users, a broad group out of which several constituents have reduced sight, mental and other capacities. The combination of a complicated environment and possibly weak wayfinders calls for carefully planned wayshowing.

For patients, visitors, suppliers, and staff alike, navigation in hospitals is a frequent problem. These legitimate participants in the public health system lose their way, take a longer time than necessary to find their destination, are late for appointments, and have a bad experience. Some of them will eventually ask every health professional they meet and thereby spread the problem. Patients and staff being late for appointments means an inefficient use of scarce material resources and manpower. In the long term, *wayfinding* problems can probably add up to many years of lost staff productivity. On top of this, inferior signage and other kinds of bad *wayshowing* give the hospital and the whole health system a bad reputation.

There are several causes why people have problems finding their way in hospitals. *One* obvious cause is that hospitals often are complicated built environments. There was probably a clear plan when the hospital was founded. However, later additions and changes may have compromised the good intentions of the original planners. A *second* cause why many patients and visitors have problems finding their way in hospitals is that they are first time visitors, or that the hospital has been rebuilt, or its functions have been relocated, since last visit. A *third* cause of wayfinding difficulties in hospitals is the names of units on the signs. They are often long, difficult and similar to each other. A visitor heading for the gastroenterologic clinic may head for the first unit with a name beginning with 'gastro.' A *fourth* cause for wayfinding problems is that many patients and other visitors have reduced capacities of one kind or another. Perhaps, visual impairment, perhaps reduced mobility, perhaps reduced mental capacities. *Finally*, anxiety is not known to strengthen the wayfinding capabilities of either patients or visitors.

The mentioned causes and effects of troubled navigation in hospitals call for a planned effort to improve the wayshowing in hospitals, beneficial to the involved actors by reducing mental stress and physical efforts, but also to the overall efficiency of the hospital. Wayshowing enables wayfinding. Good wayshowing means that more resources can be used for the proper purpose of the hospital. As other public services, hospitals are not better than the way they inform about their availability and use.

The standard cure for wayfinding problems is more signage. Signs are used as medicine to solve wayfinding problems. Sometimes, however, it pays to take a look behind the apparent problems before prescribing more signs. Three basic factors are critical to wayfinding in large hospitals. These are pre-visit information, architecture, and *toponomy*, the naming of places. You may consider work with these

three factors parts of prophylactic action: properly used they reduce the wayfinding problems and the need for more signs.

Pre-visit information includes all the wayshowing clues that can support the patient, visitor or other external users before arrival to the hospital. The media may be letters with appointments, websites, or ads in the local phone directory or community handbook. The information is typically given as maps supplied with text. The maps can be survey maps presenting a general plan of the hospital and its surroundings or part of it, or route maps that show the route from the city to the entrance, or from the entrance to the meeting place. Pre-visit information can also include information on accessibility, public transportation, and private parking. Good pre-visit information helps the user to *plan* the visit to the hospital. This reduces anxiety, the time needed for transport, and the space that the visitor occupies at the hospital. A visitor who goes directly to his or her destination puts fewer demands on the hospital than a visitor who stumbles around by trial and error. Internal relocations of functions trouble wayfinding for frequent visitors.

Architecture is of paramount importance to easy wayfinding, two major factors being location and appearance. The way that buildings are located and connected along with where functions are located in the buildings, influences the distances to be travelled, and the way the visitor's expectations are met. As visitors we expect certain functions to be in certain locations.

It is easy to understand why all functions in large hospitals are not always located in the most logical way. *First,* there may be several logics in play. *Second*, economy does not always permit functions to be located in the most obvious place.

By its appearance, architecture can be helpful or outright counterproductive to wayfinding. Expressive architecture that signals its functions is helpful. So is varied architecture and landmarks, visual anomalies, that helps distinguish different parts of the hospital from each other, but signals similar functions in similar ways. Different departments can look different, but toilet doors should look like toilet doors wherever we need them.

Toponomy, or giving names and numbers to places and functions, is an often-ignored means for helping hospital users. Planners should think carefully about whom they are addressing. The answer is a multitude of people with varied mental and physical capacities. Doctors naturally prefer correct medical names for departments, but such names can be very difficult to new visitors and visitors with various kinds of impairments. To dyslectic visitors or visitors with impaired vision a word of double length may be many times more difficult to read.

Giving names to departments is a judgement call: should a cancer ward be marked with that stigmatizing designation, or should it be called the oncology department, which only few visitors understands, or K2R, which nobody understands?

While good pre-visit information, logically planned and expressive architecture, and easily understandable names are all conducive to easy wayfinding, no hospital can do without signs. The challenge is to do with as few signs as possible: the right signs in the right positions.

Signs basically solve five different jobs at the hospital. *First*, signs identify the hospital, its departments, functions, and rooms. *Second,* signs show directions to parts of the hospital that users can't see from the locations of the signs. *Third*, signs regulate by stating dos and don'ts. *Fourth,* signs inform about the function of the hospital, for instance by informing about opening hours. *Fifth*, and finally, maps, here considered a special kind of sign, provide you-are-here information, surveys, and routes from here to there.

Each of these wayshowing implements has their own grammar, which makes them work as intended. A great number of practical rules guide the professional wayshowing designer in choosing the right solution for any specific wayfinding problem.

One example of such rules concerns the double function of signs. Signs must be noticed, and they must be read. If the user cannot see the sign, he or she won't read it. Therefore, signs must have a colour contrast that makes them stand out from their background. Next, the text on a sign plate must have a colour contrast that makes it stand out from the colour of the plate. Otherwise, nobody will be able to read it.

Many other practical rules concern the kind and size of typography, the use of pictograms, the exact location of signs, and the need for – strictly speaking – redundant signs. All these practical rules serve practical purposes, but beyond the knowledge of these rules the wayshowing designer should have a general understanding of the ways in which we all tend to navigate in *terra incognita*. There are nine wayfinding strategies that most of us know and apply. This knowledge is, however, a tacit knowledge that we hardly know that we possess.

The first wayfinding strategy is *track following*. Directional signs with arrows help users to go from one part of the hospital to another. A red line in the floor helps patients to go from the reception to the x-ray department. That is track following. The necessary wayfinding information is found *on location*.

In the second wayfinding strategy, *route following*, the wayfinding information is given *off location* in the shape of a route description: Go down the corridor, turn right after the kiosk, enter the big red door marked 2.

The third wayfinding strategy is *educated seeking*, which implies that wayfinders use syllogisms, the way of logical inference introduced by Aristotle. Two premises are followed by a conclusion: General premise: Newsstands in

hospitals are normally based in the main lobby. 2. This is a hospital. 3. The newsstand in this hospital is probably situated in the main lobby.

The fourth wayfinding strategy is *inference*, a sibling to educated seeking. Inference involves reading numerical and alphabetical information on doors and elsewhere and understanding the direction of unseen numbers and letters.

Screening is the fifth wayfinding strategy. It implies systematic searching an area for a certain destination. Screening may imply a lot of footwork, where educated seeking might have led directly to the destination.

Aiming, the sixth wayfinding strategy is used when the wayfinder can see the destination (direct aiming) or something known to be near the destination (indirect aiming).

The seventh strategy is *map-reading*. Maps can be portable or so-called You Are Here maps. In both cases the wayfinder must establish the connection between the information on the map and the real environment. Not everyone feels comfortable with this.

The eighth wayfinding strategy is *compassing*, using compass directions for – primarily outdoor – navigation. Maps, the sun, and names such as 'South entrance' and 'North wing' may deliver helpful clues.

The ninth and last wayfinding strategy is *social navigation*, learning from what other people do (or have done). This is probably not the most relevant strategy in hospital setting, but can be helpful for finding the way out of the car park or the cashier in the cafeteria.

The nine wayfinding strategies are important background knowledge for wayshowing designers. Their job is to make it easy for hospital users to apply their chosen wayfinding strategies. Each of the strategies calls for certain considerations. Track following calls for good directional signs. Educated seeking is facilitated by business as usual. Inference is helped by logical numbering of rooms and functions. Screening is helped by transparency. And so on. All nine strategies call for clear identification of functions and places. It is bad luck to have found one's destination without knowing it and therefore continuing the search.

There are in principle two ways to solve the problem of weak wayfinders. One obvious solution is to make special wayshowing for these groups such as signs with Braille and three-dimensional touch letters. This *exclusive* method is expensive and implies double signage.

Another, as a rule preferred, solution is to make all wayshowing so clear that *most* users are helped. One argument for this *inclusive* method is that what helps the weak groups will eventually help everyone. Good, easily readable signs are good for all hospital users. However, the good-for-all argument doesn't hold water in all situations. One example is that people with poor sight want signs on the floor and signs at eye height. Signs on the floor are a bad idea for several reasons, and signs that should be seen at a distance and by many people should preferably be located over man height so as not to be covered by other users. Also, people with visual impairments prefer talking signs. In elevators such signs may benefit everyone, but in other places they may become unwanted noise sources.

How large a part of the hospital users the inclusive method will help is a question of ambition and, behind that, of economy. However inconvenient it may appear, the quality of wayshowing will always end in a discussion of value for the dollar. How much will the hospital invest to reduce the number of users with wayfinding problems?

As may appear from this article, wayshowing problems call for professional solutions. What intuitively appears as good wayshowing will often prove to be counterproductive. Nothing can replace the experienced wayshowing designer's accumulated knowledge. The professional wayshowing designer will research the problem before he devises the solution. As in other fields of professional work, diagnosis precedes treatment. A thorough analysis of the present wayfinding/wayshowing is the natural point of departure for any improvement.

Reference

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CONFLICTS OF INTEREST

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