

## EXECUTIVE OVERVIEW

# THE CHALLENGE OF WAYFINDING IN HOSPITALS AND MOBILE TECHNOLOGY AS AN ANSWER

Hospitals are a stressful place. Being a patient or a visitor of a sick loved one can surface anxious and vulnerable feelings.

And to make matters worse, hospitals are often crowded and fast-paced. Campuses can be overly complex — between different color-coded wings and a wide variety of departments that span across multiple buildings — visitors can easily become overwhelmed trying to figure out where they need to be and the fastest route to get there.

### REDUCE PATIENT STRESS

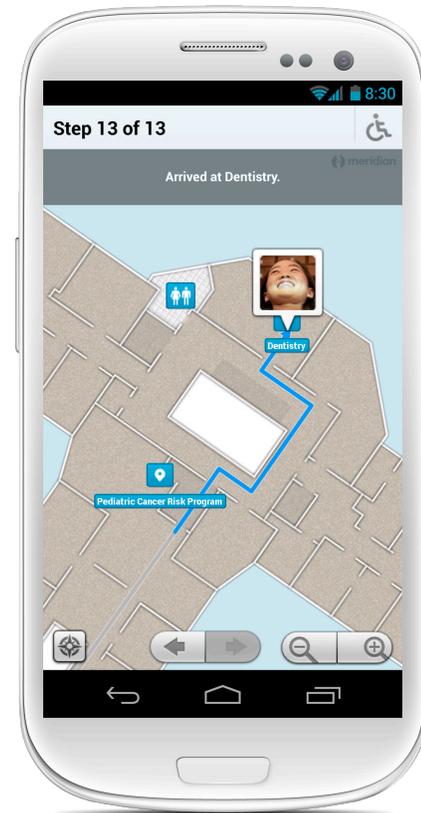
Ensuring that patients have an easy way to get to their appointments on time can significantly reduce their stress and create a more positive hospital visit. The interior of a hospital is often maze-like, leading patients and visitors to feel frantic and worried. These feelings can affect patient health — raising blood pressure, causing headaches, and increasing physical exertion (Carpman and Grant, 2001) — negatively impacting treatment outcomes (Passini and Arthur, 1992).

### TREATING MORE PATIENTS

Patients often miss doctor appointments because of wayfinding difficulties. When this happens, physicians get backed up, stress builds on patients, and hospital scheduling gets thrown off. This forces staff to scramble and readjust, and not all patients will get the time they need with doctors.

### IMPROVE USE OF HOSPITAL RESOURCES

In an ideal hospital environment, information desks are always available to help lost and frantic visitors. Unfortunately, that's rarely the case. Visitors often resort to waving down physicians and nurses; having staff devote time to answering wayfinding questions takes them away from their busy jobs. This causes treatment delays and can be costly — as much as \$220,000 a year (Zimring, 1990).



### ADVANTAGES OF MOBILE WAYFINDING

Problems navigating through large hospitals have always existed and solutions have typically been limited to rearranging signage.

With the recent surge of smartphone usage, hospitals now have the opportunity to implement a wayfinding application. This allows patients and visitors to access hospital maps in the palm of their hands. Not only can these applications pinpoint the visitor's location inside the hospital, but it can also help direct them step-by-step to their desired destination.

## Personalization

Navigating through a large hospital is confusing. There are too many signs and too many possible directions. A mobile wayfinding option can eliminate this confusion by leading patients on a direct path to their destination.

## Adaptability

Hospital environments are constantly changing — doctors' offices move locations, elevators get shut down for repairs, and cafeterias close for remodeling. To reflect these changes on physical signage and maps can take time, money, and added effort. Software can be updated on a moment's notice — much like a hospital website. No longer will hungry visitors find their way to a cafeteria, only to see it is closed for remodeling. A wayfinding platform has the ability to reassign a route that avoids the closed cafeteria.

## Showcase resources

Hospitals strive to help patients as much as possible. One way of doing so is by offering resources such as daycare or counseling. Mobile wayfinding applications can give hospitals the ability to showcase resources that patients may not otherwise be aware of.

## CASE STUDY: BOSTON CHILDREN'S HOSPITAL

For patients and visitors of Boston Children's Hospital, navigating around the hospital can be a nightmare. With 395 inpatient beds spanning across 12 buildings, the campus is extensive and overwhelming.

To make things worse, buildings were constructed over the course of 150 years. A brand new building may sit next to one from the 1860s, and because construction plans were not aligned, patients looking to cut across the two buildings often end up lost and confused.

The hospital has attempted to alleviate the problem by providing printed color-coded maps that emphasize the main pathways for each building, but hospital workers claim they are still unable to find their way, even with maps.



## IMPLEMENTATION: MOBILE WAYFINDING IN ACTION

In April 2012, Boston Children's Hospital implemented a Meridian-powered mobile application called MyWay. Chandra Edwards, the project lead for MyWay, praises the app's functionality, "Not only does the app provide simple turn-by-turn directions through hospital corridors and across streets, but it also acts as a concierge. Visitors are able to find information such as who clinicians are, what they specialize in, and where their offices are located."

MyWay's interface is built on Meridian Editor and according to Edwards, Meridian Editor is simple to update and can easily integrate with the hospital's existing databases. The ability to allow instantaneous updates is essential to keeping the hospital running smoothly. In one instance, an elevator was closed and the app made it possible to reroute visitors away from that elevator without them ever knowing it was out of order.

At the start of the project, building the app seemed like a daunting task. The hospital wanted a lot of features like the ability to host extensive hospital information, act as a source of communication between hospitals, visitors and employees, and of course, wayfinding. After just a few months, with extensive cooperation across various departments, this massive project was completed and launched to the public.

According to Edwards, "We attribute our success to our ability to achieve a very high level of early buy-in among physicians and departments throughout the hospital campus." To attain successful inter-departmental integration, the hospital implemented a Patient Experience Committee. A leader from each department, from parking to security, was part of the team leading the charge for building out and designing the app. Department leaders spent months working together to ensure the app was accurate and intuitive.

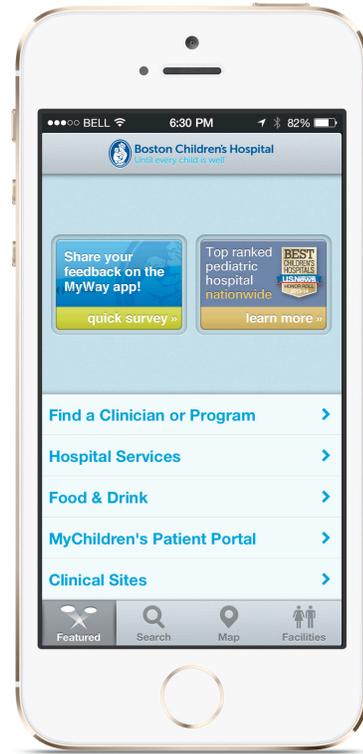
## RESULTS: MOBILE APP USER TESTING

After launching the app, Boston Children's Hospital conducted a survey to measure if patients and visitors found MyWay helpful.

In the first six months, the app was downloaded by more than 4,500 patients. 65 percent of those who downloaded it reported that they felt their experience at the hospital had improved. The Patient Experience Committee plans to review all the user feedback and will work towards future enhancements. There are also plans to train the staff on how to encourage and educate patients to use MyWay.

In the long term, Boston Children's Hospital plans to see if there is a correlation between how many visitors use the Meridian-powered app and how many missed appointments there are. Initial results are very encouraging.

Learn more about the [Aruba Mobile Engagement Solution](#).



**4,500**  
**DOWNLOADS IN**  
**6 MONTHS**



**45%**  
**VISITORS USING**  
**SMARTPHONES**



**65%**  
**VISITORS REPORTING**  
**IMPROVED EXPERIENCES**