



## Improving Outpatient Care: Research Feeds Design

For outpatient treatment clinics, getting patients to adhere to their prescribed treatment plans is one of the most challenging issues of care management. When patients don't comply, it's not only a threat to their well-being and wasteful of healthcare resources, they're also likely to be back with the same or worsening symptoms, further burdening the system.

The Nurture research team believes that if facilities could be designed to make it easier for patients to learn about their medical condition and understand how the treatment plan will help them, these patients will feel much more committed to following the plan. "Compliance starts with patients

learning," says design researcher Melanie Redman, "and learning is affected by many factors, one of which is an attitude of mutual respect between patient and staff. We believe environments can promote a more egalitarian experience."

What led the team to this conclusion is a rigorous process of discovery known as user-centered research. Using a variety of ethnographic tools and methods, Ms. Redman and her fellow researchers Caroline Kelly and Ritu Bajaj visited several prominent healthcare facilities across the country, where they observed many outpatient practices including internal medicine, dermatology, oncology, pediatrics, orthopedics, and wound care.

The tools of user-centered research involve intensive information-gathering

for later analysis: interviews, shadowing of individual practitioners, time motion studies and video and still photography. What the researchers found was the "extreme work" practices of healthcare providers amidst often inflexible and make-do layout and furnishings of clinical environments.

Now, more than a year after starting its investigations, the team has created design principles that can be applied to either new or existing facilities. These principles have also been applied to the design of products from Nurture, Steelcase's new healthcare subsidiary.

One of the first scenarios to draw the group's attention was the exam room. In what can be a highly stressful situation, the physician generally sits behind a desk to explain the findings and treatment, while the patient sits on the



opposite side in an uncomfortable chair, or even worse, on the exam table. If the practitioner uses any visual aids, such as a computer or model, the patient often has to “crane” his or her neck or get up and come around the desk to see it. There’s seldom even room for the patient’s care partner, whose help is often crucial to carrying out the plan. In addition, there is rarely a vertical surface, such as a whiteboard, for making the information visible and the learning possible.

“It’s a real challenge to share information and there’s no sense of collaboration between patient and practitioner,” suggests Ms. Redman. “The desk itself is often a barrier to communication”.

Under such conditions, it can be difficult for patients to learn or remember much about their condition or treatment regimen. Trying to gain commitment from their families to help them follow it also becomes harder.

The team, along with designers from Nurture, came up with a new peninsula-like table soon to debut as part

of the Opus™ line of products. The table was developed to foster a “team” approach to consultations, where patients, caregivers and partners in care can gather around the table to discuss and review charts or computer images in a setting of equality. The new table is now being tested in one of the country’s most prominent outpatient facilities to actually measure its affect on the decision-making interaction between doctors and patients and its overall effect on patient compliance.

“The healthcare industry wants measurable proof of the effects of furniture and design,” says Ms. Redman, “so we’re developing experimental trials that will give us quantitative data to share with them.”

The Opus table is on the way and there’s more coming. The studies of the research team, which included weeks of synthesizing its observations, eventually led to models constructed of paper and foam core and then a full-size, on-site, 3,000-sq.-ft. clinic prototype with check-in, waiting area, two examination rooms, a consultation room and a staff hub.

“A team of doctors were able to walk through the mock-up and give us their feedback,” says Ms. Redman, “this was extremely helpful in guiding our thinking. After that, we went out to visit more observation sites to broaden and confirm our findings. Now we’ve gone through the synthesis process with these other sites.”

This process of synthesis involves extracting the patterns from hundreds of observations. The researchers noticed, for instance, that nurses and doctors are “nomads” who spend most of the day moving from room to room or from floor to floor. They often work while standing, not sitting at a desk. Researchers could also see that work environments needed to be responsive to frequent changes in technology and practice.

In the end, the team generated concepts for many new products and new applications for existing products. They also developed a hypothetical floorplan that allows patients to easily find their way through the clinic, while enabling staff to perform their duties efficiently and safely.



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The entire floorplan is designed to reduce stress and make it easy for patients to absorb information, anything that will help patients to understand and eventually comply with their treatment plan. The waiting room, for instance, replaces traditional rows of “bus station” seating with multiple sizes and types of seating divided into small, more private groups by tables or shelving. Such an arrangement supports the nature of families to “gather together” as they wait and provides more privacy for initial conversations with nurses or physicians.

“We’re trying to use the environment to provide dignity and privacy for the patient,” explains Ms. Redman. “We want to reduce their confusion and anxiety so that they are receptive to learning about their condition, and when information is presented to them, we want it to be in an environment where it is tangible, they have support and feel respected and understood.”

Nurture plans to continue collaborating with customers, architects and designers to gain a deeper understanding of the healthcare environment and how it can help improve the healthcare experience for the patient, caregiver and partner in care.

To learn more about Nurture research or to find out how we can work together, please visit us at [nurturebysteelcase.com](http://nurturebysteelcase.com).

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