Augmented Reality and the Patient Experience

By Donna McHale

While often associated with video games, augmented reality (AR) is transforming consumer experiences by making them more interactive, memorable and practical. ARtGlass is helping museums and cultural sites attract visitors by bringing history to life with a special pair of glasses. Google created AR Beauty Try-On, a feature that allows subscribers to test makeup virtually before making a purchase. The Sky Guide app enables users to see and identify constellations, track planetary movements and experience outer space from the palm of their hand.

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As patients continue to expect more from providers and become more involved in their own care, AR offers an increasingly familiar way to create meaningful engagement. By applying AR solutions to care delivery, healthcare leaders can transform their organization's patient experience, further differentiating themselves from the competition.

Augmented Reality in Healthcare

Though the technology is relatively new, many healthcare organizations are exploring the power of AR; research indicates the market value for AR in healthcare is expected to climb to $1.3 billion by 2023. Below are a few ways healthcare leaders are transforming the patient experience using AR technology.

Better Care, Outcomes and Experiences

Healthcare consumers are looking for providers who can successfully treat them the first time around with little to no disruption to their daily lives. For healthcare professionals to meet these demands, they must continue to educate themselves on leading medical procedures, surgical techniques and care best practices. AR is helping providers expand their expertise through 3D imaging. Traditional X-ray and MRI images, though revolutionary for their time, only provide a 2D representation of an object.

In the case of cardiac surgeons, for example, this means the surgeon must piece together multiple images to visualize a full view of their patient's heart. With 3D imaging, surgeons get one complete view of the patient's heart, which can be used to guide their decisions on surgical technique and to educate patients in detail about their condition and treatment.

3D imaging also helps prepare medical students for real-life surgeries and enables current surgeons to practice new techniques or perfect a common procedure, increasing safety and accuracy in the operating room. ImmersiveTouch, a company that provides medical augmented reality solutions, teamed up with Oculus Rift, an augmented and virtual reality gaming platform, to create a tool that simulates surgeries. Johns Hopkins University, the University of Chicago and the University of Texas are currently using this tool to teach students and assist in actual surgeries at their medical facilities. Additionally, the University of New Mexico's Interprofessional Healthcare Simulation Center (IHSC) allows students to practice everything from basic clinical functions to acute care skills in a safe, simulated environment.

These educational advantages directly influence the patient experience and clinical outcomes. Better training leads to more accurate procedures, meaning patients can recover faster with less complications. It also improves the patientprovider relationship by making the experience more personal: patients get the benefit of knowing that their provider is specifically prepared to operate on their heart, mitigating the risk of the unknown.

Quality Care Without Borders

The places that most urgently need access to emergency healthcare also tend to be the places where access to care is significantly limited. AR can bring valuable medical knowledge to war zones, natural disaster sites and disease epicenters, enabling local providers to save lives in real time while also working to transform their communities in the future.

In 2018, researchers at Purdue University created the System for Telementoring with Augmented Reality (STAR), which connects less-experienced physicians with accomplished peers to learn critical medical skills needed in their particular region. Through a transparent headset and interactive video screen, the field physician and mentoring physician share a view of the patient, allowing for instant feedback and care recommendations.

Although this technology is being explored for use in remote areas around the world, it will have a major impact on patients in many rural communities across the United States, which tend to have less access to care than their urban neighbors. AR technology enables rural physicians to offer higher quality, more accessible care, relieving patients of the need to find childcare, take off work or secure transportation when seeking care.

As care continues to move from the hospital to the home, AR will be used to further reduce the friction of maintaining personal health. For example, patients who overeat may one day use an app or a headset to measure sensible meal portions instantly, making it easier for patients to adopt better eating habits. AR could also be influential in improving a mother's experience during pregnancy and delivery, particularly for home births.

Choosing Augmented Reality Solutions

Although still in its early stages, AR is developing at a breakneck pace and will remain a powerful force that shapes healthcare for decades to come. To take advantage of this revolutionary technology, healthcare leaders should make investments in AR tools that best serve their organization in these areas:

- **Mission:** Choose technology that is consistent with the organization's core foundational principles. For organizations focused on improving public health, consider tools designed to educate and encourage behavioral changes.

For organizations looking to become the leading authority on a particular type of care, seek tools that increase accuracy and effectiveness.

· **Culture:** In a world of "change fatigue," not all organizations are ready to implement additional complex technology. Leaders can start simple and still make an impact with AR tools that focus on improving one or two aspects of the patient's care journey.

· **Current and desired capabilities:** Many AR solutions facilitate knowledge sharing across regional, national or international borders. Healthcare leaders can use AR as a way to increase their strength within their current capabilities and to start developing expertise within new service lines, new delivery models and more.

AR is positively impacting consumer experiences in a variety of industries, and healthcare is no exception. By harnessing AR's power today, healthcare leaders can deliver exceptional patient experiences, enabling patients to connect with and manage their care in ways that have never been possible before.

Key Takeaways

Healthcare leaders can use AR to transform the patient experience if they:

Think differently.

When brainstorming ways your organization can use AR to enhance the patient experience, look at how the technology is impacting consumer experiences in other industries.

Plan differently.

To choose the AR solutions that are right for your organization, consider tools that match your organization's current and future needs.

Act differently.

Keep the patient top of mind as you explore your AR options.

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