Mobility, Convenience and Enhanced Patient Experience: The Future of Telehealth

Population Health Sciences

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When you envision a visit with a health care provider, you likely imagine it happening face-to-face in a doctor's office, but health care delivery is changing. In recent years, a new frontier of health care delivery called telemedicine—also known as virtual visits or video visits—has prompted headlines such as "Telemedicine is the future of medicine" or "Telemedicine, the solution to medical access."

In a nutshell, telemedicine refers to patients communicating with a health care provider via video conferencing like we experience using Facetime. Think of video visits as the newest way to see patients and a much better way to triage a medical or behavioral health problem compared to a phone call. Using modern technology, we can re-create the house call of days gone by. Patient families can complete video visits from the comfort of their home or the convenience of the school nurse's office, or use them to facilitate a consult with a top specialist located many miles away.

There is no doubt that video visits will play an important role in health care of the future. However, it will take time and important pioneering efforts before we can lay such broad claims as the aforementioned headlines. Video visits are not meant to replace physical touch and the essential physical exam used during in-person visits, but when we implement video visits appropriately, there are obvious advantages.

The Benefits of Telemedicine

Telemedicine has a few key benefits to patients. First, it is far more convenient. As a patient, you might be on your couch discussing important follow-up medical advice with your provider instead of having to spend the day traveling, parking and waiting for your appointment. Furthermore, certain conditions such as rashes may not require an in-person visit. With clear pictures and answers to questions, we can accurately make a diagnosis and offer treatment suggestions. For example, we might be able to better triage more serious causes of abdominal pain if we watch a patient doing a few robust pain-free jumping jacks on the screen. The Jetson's were on to something here.



Doctor's visits by videophone in the Jetson home (1962)

Second, telehealth can lead to more timely care. A three-year-old may have a puffy eye that's so painful that they won't open it and cries when it's touched. To top it off, they have a fever of 102. An on-demand video visit will allow us to get a better sense of the situation than a phone call, and in this case, we would likely refer the

patient to urgently see a provider because it could be a more serious bacterial infection of the soft tissue around the eye.

Especially when it comes to caring for our children, we are concerned that we might be missing something. There are times when the reassurance from a medical professional over video might be exactly what we need.

Telehealth at Children's Hospital of Philadelphia (CHOP)

Here at CHOP, our Office of Digital Health is prioritizing our telemedicine programs. Our purpose can be boiled down into a more pragmatic headline: "Telemedicine is coming, so let's find places to use it now."

Central to our health care mission for children, we have developed digital health programs that may not only enhance the patient and family experience but also decrease health disparities. According to the Pew Research Center, 77 percent of all Americans own a smartphone, which is up from just 35 percent in 2011. With that smartphone comes the ability to have a telehealth visit from anywhere. Furthermore, qualifying families finally have access to very low-cost at-home Wi-Fi, as low as $10 per month, which means families don't have to use their broadband plans for smartphone connectivity.

Currently there are many programs with a digital-health component throughout our hospital. Here are just a few examples:

School telehealth

Last spring, we partnered with our community relations team to institute a free school telemedicine program in three schools within the under-resourced Norristown School District. With a $10,000 grant from The United Way, we purchased three telemedicine machines that allow schools nurses to offer free telemedicine sick visits when appropriate. On-call, remote clinicians can also direct the nurse to show magnified live videos of the students and diagnose conditions like ear or respiratory infections. Furthermore, we have the ability to talk to parents during the visit, fax in prescriptions, suggest an over-the-counter medication while at school, then send a summary letter to the student's primary care provider.

By making an earlier diagnosis, our program is an example of how we can use technology to help reduce missed school or work days or decrease the inappropriate use of the emergency room visit for minor pediatric problems. The school nurses now have a second set of eyes to help them distinguish contagious rashes and decide whether they need to send the student home. Last year, we demonstrated that this program was feasible and, this year, we expanded to the other nine schools in the district.

Follow-up video visits for the most medically complex patients:

We have partnered with our care management team to help enhance communications with families that have medically complex children in between physical visits. Video visits can help parents connect more deeply to their providers than phone calls. Furthermore, the nurse or doctor can see the child and examine skin sites that might get inflamed such as a feeding tube in the stomach and tracheostomy. With telemedicine, we hope that the families can minimize the number of times that they need to transport their medically fragile children to the hospital without compromising important medical guidance and equally important emotional support.

A texting chatbot that offers feeding advice to low-income communities:

We're launching an exciting project—thanks to a monetary prize from the Health Resources and Services Administration—to create a prototype of a digital solution to help prevent childhood obesity in low-income populations. The idea is to create a nurturing and familiar chatbot to teach, remind, but not nag caregivers to avoid offering sugar-sweetened beverages to their kids. The interactive smartphone text messages complete with GIFs and emojis aim to motivate caregivers to stick with milk and water as beverages as they advance

their child’s feedings. This “sugarbot” motivates the caregiver to be a better role model as they shift their own beverage choices away from sodas and sweetened teas. While not strictly a telemedicine project, this digital public health intervention is another example of how we can innovate using technology to promote child health.

With Interim Senior Director Tracey Haines, Chief Health Informatics Officer Dr. Bimal Desai and Care Anywhere Portfolio Leader Kate Fuller leading the charge, you can see just a small sample of how CHOP’s Office of Digital Health has been buzzing with activity for the past two years. Stay tuned for more digital health projects using robots, virtual reality, provider iPads for mobility and bedside iPads for patient education and entertainment. Digital health innovations can push the needle so that the right care is provided to the right people at the right time, the first time.

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