The Doctor Is Out There
Telemedicine—which uses video cameras and digital tools—lets kids be treated by an M.D. without a trip to the office. by HALLIE LEVINE SKLAR illustrations by NATHALIE DION

Nancy Berardi, R.N., an elementary-school nurse in Rochester, New York, has Ben in her office. The towheaded fifth-grader has arrived with a fever, a cough, and a sore throat. "I just saw your sister yesterday—she has strep, right?" Berardi asks. Ben nods.

Seconds later, Berardi’s on the phone with Ben’s mom, who’s at work. "We’ll take a strep culture and have the doctor examine him," she explains, jotting down Ben’s health-insurance information. She calls a telemedicine tech, who arrives at the school soon after to swab Ben’s throat for a rapid strep test. Five minutes later, the results come back positive. The tech logs Ben’s details on a secure server.

"Ready to see the doctor now?" Berardi asks. With a click of the tech’s mouse, a physician appears on a monitor. "So, Ben, I hear you aren’t feeling so great," says the doctor. "Yeah," Ben replies, enthralled by the image on the screen.

The pediatrician goes over the symptoms with Berardi. "Let’s check his ears and lungs," he says, and the tech fastens an electronic otoscope to Ben’s ear. An image of his eardrum pops up on the screen. "Looks fine," the doctor says. "Let’s check the other ear." After he determines that neither ear is infected, Berardi places a digital stethoscope on Ben’s chest so the doctor can listen to his heart and lungs. The doctor asks Ben to open his mouth so he can see his throat and..."
tongues. "Purplish-red throat," he says. "It's definitely strep. I'll phone in a prescription." Berardi thanks him and then calls Ben's mom, who will leave work and take her son home.

Thanks to the use of telemedicine, technology that brings the doctor's office to child-care centers and schools, this was another typical day in the nurse's office at Abraham Lincoln School No. 22. "We can often get a child seen by a doctor and treated within an hour," says Berardi. Telemedicine has evolved from chiefly being a way to bring medical care to rural areas with a shortage of primary-care doctors and specialists. Now it's an increasingly popular way to offer care in urban and suburban areas too.

Berardi's school is part of a telemedicine program designed by the University of Rochester Medical Center. Sometimes a provider from the child's own primary-care practice is available to see the child; either way, a report goes out to the child's own pediatrician after the visit. This program, called Health-e-Access, began in 2001 in three child-care centers and is now in all 37 of Rochester's city elementary schools, says director Kenneth McConnochie, M.D., M.P.H., professor of pediatrics. Since the program started, there have been more than 13,000 telemedicine visits and there are at least 24 similar programs across the country, including The Georgia Partnership for TeleHealth and the Arizona Telemedicine Program at the University of Arizona in Tucson.

**Insta-results**

One big advantage of telemedicine is that kids can be seen right away at school, rather than at an after-hours pediatric clinic or a local E.R. "In one analysis of pediatric emergency-department visits, we found that 40 percent were for nonemergencies such as rashes and other problems that can be diagnosed with telemedicine," says Dr. McConnochie. When telemedicine was offered in child-care facilities and in elementary schools, E.R. visits for these kids dropped by 22 percent.

VaLesa Rush, of Kansas City, Kansas, used her school's service when her then 6-year-old daughter, MacKayla, developed an ear infection. Within an hour of hearing from the nurse, she was videoconferencing with the doctor at school. "MacKayla gets stressed in doctor's offices," says Rush. "Since she knew the school nurse, she was much more relaxed. It was also a relief not to have to sit in a doctor's office worrying about germs." Windy Garrett, R.N., the nurse at MacKayla's school, says having the trusted figure of a school nurse in the comfort of a familiar setting nearby may also ease parent anxiety. "I can tell by the look on a parent's face when she doesn't understand something," she says. "I'll ask the physician to repeat it, or I'll say to the parent, 'That sounds confusing. Does that make sense to you?' so she can speak up."

**All about teamwork**

Increasingly, schools are also using telemedicine as a way to diagnose and treat mental-health issues like ADHD and autism, says Ryan Spaulding,
Ph.D., director of the Center for Telemedicine & Telehealth at the University of Kansas Medical Center, in Kansas City, home of the country’s longest-running school program. This is largely because there’s a shortage of child psychiatrists, psychologists, and autism-spectrum experts in the United States. “It can be hard for parents to find an expert close enough to them. Often they have to take a day off for psychological testing,” explains Dr. Spaulding.

Telemedicine is also a gentle way to let moms and dads know their child needs professional help. “Parents are often unaware or in denial that there’s a behavioral or developmental issue,” says Garrett. “If a teacher has concerns, she suggests to parents that we set up a consult with a specialist via telemedicine.” Because the school nurse is the one to make the appointment and handle any other clerical issues, the parent is less likely to put it off. The child can be seen faster this way, too, since specialists hold a certain number of spots open for telemedicine visits. After the doctor conducts diagnostic testing, parents—along with the school nurse, the teacher, and other professionals such as the school psychologist—are able to sit in and listen to the results. “It’s helpful for the teachers, because they hear firsthand what the doctor is saying,” says Garrett. “They often bring up points or concerns the doctors or parents may not have thought of.”

**a dose of prevention**

Research shows that telemedicine may help keep chronic conditions in check. *A Journal of Pediatrics* study, for example, found that kids with type 1 diabetes who participated in a school-based telemedicine program had better blood-sugar control and fewer visits to the E.R. than those who were treated traditionally. When chronic conditions are better controlled, kids are less likely to miss school. In fact, Dr. McConnachie’s research shows that child absences due to illness plummeted by an average of 63 percent at child-care centers that use telemedicine.

Telemedicine can also be used for routine matters such as dental or vision screenings. Eight years ago, the Marshfield Clinic, in Wisconsin, started a dental-screening program for children in local Head Start programs. Dentists at the clinic “see” children thanks to a camera used by a hygienist at the Head Start site. “Three out of every 15 children had decay so severe that they needed immediate treatment,” says Nina M. Antoniotti, R.N., Ph.D., director of TeleHealth for the Marshfield Clinic. The new method of examining kids has
been a big success; the children are less frightened than if they were actually at the dentist. "When they see their teeth on the screen, they’re mesmerized," explains Dr. Antoniotti.

**stumbling blocks**
So if telemedicine has so many success stories, why isn’t it more widely available? Lack of funding, for one thing. While many school-based programs get grants for start-up fees and equipment—Medicaid and private insurance may also cover some or all costs—programs are difficult to maintain for many reasons, explains Jenny Kattlove, director of strategic health initiatives at the Children’s Partnership, a nonprofit, nonpartisan child-advocacy organization based in Santa Monica, California, and Washington, D.C.

Perhaps the biggest champions of telemedicine are the school nurses themselves. "I overheard a mother tell a secretary in our principal's office that her 8-year-old daughter's asthma had flared up, so she was keeping her home," recalls Garrett. "I told her about our telemedicine service and we got her to bring her daughter in to be seen by a physician that afternoon. He quickly realized she had pneumonia and needed to be hospitalized. If we hadn’t caught it, the girl could have died."

**COULD TELEMEDICINE WORK IN YOUR SCHOOL?**

*If you’re interested in having a telemedicine program in your child’s school or day-care center, start by talking to other parents and the school health staff to gauge interest, says Jenny Kattlove. Encourage this group to engage with your PTA, principal, superintendent, and other pertinent community members, as well as with local and distant health-care organizations to see whether telemedicine is appropriate for your area and how it could be implemented. You should identify whether your greatest need is for acute or preventive care, or management of chronic diseases.*

* Your next step is to contact local hospitals and large pediatric practices to see if they already provide telemedicine services, says Dr. Ryan Spaulding. You can also reach out to any major medical center or university hospital in your area that already has a telemedicine program, since they may be willing to join forces.

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