

Radical Technology: Your Grandfather's Telephone

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by Douglas L. Smith

More than 100 years ago, a cutting-edge technology offered the potential to improve and better manage care. But like each innovation that was to follow, the telephone wasn't implemented in a day.

Editor's note: The most common technologies surrounding us were once revolutionary. The landline telephone, for example, is a fixture so ubiquitous in physician offices, pharmacies, and hospitals that it's easy to forget it is a "technology" at all. Yet in an era when patients never knew if the doctor was in, the telephone provided a vital connection between doctors and patients and paved the way for the modern office practice. If history is any guide, the EHR will one day seem no more radical than the telephone.

The telephone's first revolutionary act was to put patients in touch with doctors. At the time of the telephone's introduction, distance posed a primary barrier to care, and patients needing medical attention had to be transported to the physician's office, unsure of whether the physician would be there upon their arrival. The problem was exacerbated by slow modes of transportation and the lack of fast long-distance communication technology. If the patient could not travel, someone had to travel to the doctor's office or home and bring the doctor to the patient. Because there was no way to know if the physician would be available, the trip could waste precious time needed for treatment. Telephones offered a solution, saving time and often lives.

Not everyone took to the telephone at first, however. The general public lagged behind the early adopters. A newspaper editorial in 1865 voiced a commonly held opinion: "Well-informed people know it is impossible to transmit the voice over wires and that were it possible to do so, the thing would be of no practical value."¹ Even the president of the United States, Rutherford Hayes, said after participating in a telephone conversation test in 1876, "That's an amazing invention, but who would ever want to use one of them?"²

Doctors, however, recognizing the potential to improve delivery of care, were some of the earliest subscribers to telephone service. The first recorded special arrangement for medical use was in July 1877, when an experimental switchboard connected several lines used by doctors and drug stores in Hartford, CT. Shortly after its installation, the switchboard was used to awaken 21 doctors to treat victims of a train wreck.³ By June 1878 telephone lines reached as far as 25 miles from the originating caller, further lowering the distance barrier between patients and physicians.

As a practice management tool, the telephone enabled efficient scheduling and lower costs. Patients were more willing to travel to the doctor's office if they knew the doctor would be there. Those who visited the office could save the cost of the doctor's travel fee. Doctors benefited because they could see more patients when they did not travel. (Debate existed, however. Some doctors felt that the telephone made it easier for patients to send for them.)⁴

In the end, telephones greatly encouraged the practice of medicine in offices rather than homes. As office-based practice increased, physicians began to hire support personnel. And the less they traveled, the more willing they became to invest in sophisticated medical equipment designed for office settings.

By 1891 doctors and hospitals in New York and New Jersey comprised the largest number of business telephone subscribers. By 1923 one medical practice manual commented that the telephone had become as necessary to physicians as the stethoscope.⁵

Druggists also were early adopters of the telephone. In many cases, doctors gave patients the drugstore telephone number, and druggists agreed to take calls. In 1903 a group of doctors in Palo Alto, CA, began to complain of a local drugstore that did not take calls at night.⁶

As call volume increased, challenges surfaced. Doctors began to express concerns that giving care by telephone delayed office examinations, prescriptions were being miscommunicated to druggists via the new technology, and it was unclear how to charge for advice given by telephone.⁷ These concerns echo today in practices and hospitals implementing doctor-patient e-mail, computerized physician order entry, and EHRs.

Notes

1. Navasky, Victor, and Christopher Cerf. *The Experts Speak: The Definitive Compendium of Authoritative Misinformation*. New York: Pantheon Books, 1984, p. 205.
2. Ibid., 206.
3. de Sola Pool, Ithiel, ed. *The Social Impact of the Telephone*. Cambridge, MA: MIT Press, 1981.
4. Ibid.
5. Starr, Paul. *The Social Transformation of American Medicine*. New York: Basic Books, 1982, p. 70.
6. Fischer, Claude. *America Calling: A Social History of the Telephone to 1940*. Berkeley, CA: University of California Press, 1992.
7. Ibid.

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