

TELESERVICES FOR BETTER HEALTH: BETTER OUTCOMES, MORE COST-EFFECTIVE

Global Institute for Emerging Healthcare Practices

Key Points:

- TeleServices are increasingly being used to extend health services to patients across diverse settings and to engage them more actively in their own care.
- Research shows that for a variety of conditions, organizations have been able to use these technologies to deliver high-quality services in an efficient and cost-effective way.
- Deploying TeleServices such as TeleHealth can provide benefits that accrue across the whole healthcare system, not just acute care providers.

CSC's TeleServices for Better Health series examines the emerging role of TeleServices in extending and delivering healthcare services directly to patients, for enhanced patient engagement and better outcomes.

TeleHealth is a field that has been evolving for decades and constantly fine-tuning itself. From the early days in which NASA used telemetry to monitor the heart rate, oxygen consumption and respiration of astronauts in space, to today where healthcare consumers can be monitored and coached from home or through mobile devices, the value proposition for TeleHealth has been expanding.¹ TeleHealth is a field that is constantly pushing the boundaries — one in which new programs, devices and approaches are continually tested to see which combinations offer the greatest value.

A key question for healthcare organizations, policymakers, and healthcare consumers is how cost-effective is TeleHealth? Many researchers have examined various TeleHealth and TeleHealth-related programs over the years, looking at services for a range of conditions, including congestive heart failure, chronic obstructive pulmonary disease (COPD), diabetes, stroke, dermatology, depression, stress, hypertension and asthma. Overall, the evidence is very supportive of the idea that in the right circumstances, TeleHealth can be highly cost-effective.

An emerging consensus is that TeleHealth programs are capable of generating a wide range of benefits. In some cases, such as the use of TeleHealth to manage chronic heart failure and depression, the approach has been shown to lead to better clinical outcomes. This is evidenced by standard metrics such as reductions in all-cause hospitalizations, reductions in mortality and improved patient-reported experience ratings.^{2,3} In other cases, TeleHealth programs have been shown to achieve equivalent clinical outcomes, while providing benefits such as increased patient satisfaction, better care continuity and lower overall costs. Recently, researchers in England conducted a comprehensive review of the TeleHealth literature, examining 64 different studies over the period 1988-2011. Most of the programs reported positive net effects when measured for their effect on service utilization, clinical effectiveness, cost effectiveness, social care outcomes and participant-reported outcomes.⁴

A study in Germany found that TeleHealth-supported consults for diabetics were just as effective as in-person visits for achieving reduction in patients' HbA1C levels. Additionally, these TeleHealth consults resulted in significant cost savings of approximately €650 Euros (\$850 USD; £550) per patient per year.⁵ In Colorado, the use of TeleHealth-enabled home health services providing patients with home monitoring and linking them to a clinical call center lightened the case loads of nursing staff and resulted in savings of \$1,000 to \$1,500 (€768 to €1,150; £650 to £975) per patient over the course of one year.⁶ Another study at a large academic medical institution in Boston involved 1,200 patients enrolled in a TeleHealth-based cardiac care program. According to a recent report, this program has "consistently experienced an approximate 50 percent reduction in health failure-related readmission rates for enrolled patients" and has saved the institution an estimated \$10 million since 2006.⁷

Large health systems are taking note of the positive return on investment that TeleHealth can offer, too. In the U.K., researchers studying the NHS's use of TeleCare and TeleHealth in Yorkshire found that the program reduced admissions and achieved net savings of between £90 and £103 (\$138 and \$158; €105 and €120) per patient per monitoring month, while achieving very high patient satisfaction

To measure cost-effectiveness accurately, TeleHealth programs need to be evaluated in the full context of the benefits provided, and judged using the most appropriate metrics available.

ratings (e.g., 89 percent agreed or strongly agreed that the program helped them manage their own health).⁸ Meanwhile in the U.S., the Department of Veterans Affairs (VA) has implemented TeleHealth programs that have led to significant reductions in costly hospital re-admissions and bed days. The average annual cost per patient of the VA home TeleHealth program is just \$1,600, far lower than the alternative cost of \$13,000 per year for direct home care or \$77,000 per year for nursing home care.⁹

Isolating and evaluating the net benefit of a TeleHealth program can, under some circumstances, be challenging. The best approach to measuring the value of TeleHealth takes into consideration not just clinical effectiveness and cost-effectiveness, but also factors such as service utilization, patient satisfaction, and patient-reported outcomes. However, it is often the case that studies do not adequately compare the treatment group (i.e., the group of patients or healthcare consumers enrolled in the TeleHealth program) to the control group (i.e., those receiving usual care).¹⁰

Other times, researchers with access to limited data resort to using inappropriate proxy measures to judge the TeleHealth program. For instance, they might judge the program based on its effect on mortality (because those data are readily available) – even if patient satisfaction would have been a more appropriate target metric. Sometimes researchers also base their evaluations on metrics such as generic “Quality-Adjusted Life Years” instead of validated disease-specific scoring tools that would have given a more accurate picture of how well the services performed. There are many reasons why TeleHealth program measurement is less than ideal. Better collection and aggregation of data through integrated computer systems is one way to address this issue.

There is much work still to be done in understanding the full potential of TeleHealth. Still, the evidence shows that, implemented properly, TeleHealth can be cost-effective, with benefits accruing across the whole healthcare system, not just acute care providers. TeleHealth can do much more, too, such as improve health outcomes, help organizations make more efficient use of their trained personnel and provide unprecedented convenience for patients and caregivers. Industry leaders who are engaging with TeleHealth today are already benefiting from it, and they will be well-positioned to seize new opportunities as they appear.

About the Authors

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