

# Telehealth can reduce deaths and emergency hospital care, but estimated cost savings are modest

June 21 2012

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For people with long term conditions, telehealth can reduce deaths and help patients avoid the need for emergency hospital care, finds a study published in *BMJ* today.

However, the estimated scale of hospital cost savings is modest and may not be sufficient to offset the cost of the technology, say the authors.

Telehealth uses technology to help people with [health problems](#) live more independently at home. For example, equipment to measure [blood pressure](#) or [blood glucose levels](#) at home can reduce hospital visits. Measurements are electronically transmitted to a health professional.

Several studies have been conducted on the impact of telehealth for people with long term conditions, but findings have been mixed. Some research suggests that telehealth can help patients develop a better understanding of their condition, leading to better quality and more appropriate care, as well as more [efficient use](#) of [health care resources](#), but other studies have found negative effects.

However, assessing the scale of such an effect is complex.

So, an international team, led by researchers at the Nuffield Trust, set out to assess the impact of telehealth on hospital use for 3,230 patients with long term conditions ([diabetes](#), [chronic obstructive pulmonary](#)

[disease](#) or [heart failure](#)) over one year.

The study is one of the largest telehealth studies ever conducted.

Patients were randomly split into two groups. A total of 1,570 intervention patients were given devices and taught how to monitor their condition at home and transmit the data to [health care professionals](#). A further 1,584 control patients received usual care.

During the study period, significantly fewer (43%) of intervention patients were admitted to hospital compared with 48% of control patients. Significantly fewer (4.6%) of intervention patients died compared with 8.3% of controls. This equates to about 60 lives over a 12 month period.

There were also statistically significant differences in the mean number of emergency hospital admissions per head (0.54 for intervention patients compared with 0.68 for controls) and the mean hospital stay per head (4.87 days for intervention patients compared with 5.68 days for controls), although the authors say these findings should be interpreted with caution.

These differences remained significant after adjusting for several factors that could have influenced the results. However, the authors point out that these effects appear to be linked with short term increases in hospital use among control patients, the reasons for which are not clear.

They also say that the estimated cost savings are modest.

These results suggest that telehealth reduced mortality and helped patients avoid the need for emergency [hospital care](#), conclude the authors. This may be because telehealth helps patients better manage their conditions and avoid a worsening of symptoms that may need

emergency care. Other possibilities are that telehealth changes people's perception of when they need to seek additional support.

But they stress that these benefits need to be balanced against the cost of the technology itself and the level of savings that can be achieved.

In an accompanying editorial, Josip Car, Director of the Global eHealth Unit at Imperial College London and colleagues say this latest evidence doesn't warrant full scale roll-out but more careful exploration.

Although factors that might be important for successful telehealth can be described, "we need more clarity on how to interpret the relative contributions of these elements," they write. They suggest that policy makers, commissioners, and guideline developers should help ensure that the research agenda focuses on areas where telehealth shows most promise. "There is great potential but also still much to be done," they conclude.

**More information:** Effect of telehealth on use of secondary care and mortality: findings from the Whole System Demonstrator cluster randomised trial, *BMJ*.

Telehealth for long term conditions, *BMJ*.

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Provided by British Medical Journal

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<https://medicalxpress.com/news/2012-06-telehealth-deaths-emergency-hospital-modest.html>

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