

## Cochrane reviews – in their own words

### Structured telephone support or telemonitoring programmes for patients with chronic heart failure

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Chronic heart failure is a debilitating condition, which can lead to frequent stays in hospital and shortened life expectancy. In recent years, a variety of ways to strengthen self-management and education interventions have been researched and developed. The most successful strategies involve specialist multidisciplinary disease management programs but many patients with heart failure don't have access to these specialist services. This is either because of limited healthcare resources and services, or difficulty in attending the management programmes because of distance or disability.

Structured telephone support may be defined as monitoring, self-care management or both. It is delivered using simple telephone technology, with data sometimes being collected and stored by a computer. An alternative, telemonitoring, may be defined as the transmission of physiologic data, such as an ECG, blood pressure, weight, respiratory rate, and other information, such as self-care, education, lifestyle modification and medicine administration; using other technology like broadband, satellite, wireless or blue-tooth.

Both models of care have the potential to provide access to specialist care for a much larger number of patients across a much greater geographical area, while at the same time reducing the costs of care. These systems can also support patient self-management, transferring some of the burden of care from health professionals.

Our Cochrane review included studies of both technologies compared to usual care for patients with chronic heart failure (1). We excluded studies that also provided intensified specialist follow-up to patients in either the intervention or the control group, because those additional resources might have confounded the effects of the interventions. We found that both structured telephone support and telemonitoring had benefits for patients. We also found that most patients reported a positive experience and little difficulty with this technology, despite the fact that the majority were over 65 years of age.

More than 9500 patients had taken part in the thirty studies that we included and we were able to analyse details on deaths and hospitalisations for 25 peer-reviewed studies. The patients in these studies had been followed for three to 18 months, with many studies reporting outcomes after one year. The other five studies are currently available as abstracts only, with insufficient information and, although, we included them in a sensitivity analysis, we have kept them out of our main results of mortality and hospitalisation rates.

In the trials of telemonitoring, there were fewer deaths in the patients allocated to telemonitoring compared to those in the control group. The number of deaths fell from about 150 per 1000, to 100 per 1000. No significant benefit was seen on mortality with structured telephone support. Both interventions produced statistically significant falls in the number of patients who needed to be admitted to hospital for heart failure. In the telemonitoring trials, it fell from 285 per 1000 in the control group, to 225 per 1000. The drop was similar for structured telephone support: 164 per 1000, down from 213 per 1000. Patients also found that their quality of life improved and we did detect some positive impact on healthcare costs, where this was reported. But, some of the studies didn't report these outcomes and more detailed data are needed in order to evaluate the potential cost-savings of these interventions.

In summary, telemonitoring and structured telephone support appear to lead to benefits for patients with chronic heart failure; although there are still several important issues to consider. For example, only very limited details are available on the cost-benefits and appropriate business models for these interventions; the impact of these interventions on patient quality of life has only been reported by a few studies; and the optimal duration of these interventions is unclear. We hope that these issues will be tackled in future research, which we will add to updates of this review.

1. Inglis SC, Clark RA, McAlister FA, Ball J, Lewinter C, Cullington D, Stewart S, Cleland JGF. Structured telephone support or telemonitoring programmes for patients with chronic heart failure. *Cochrane Database of Systematic Reviews* 2010, Issue 8. Art. No.: CD007228.