

# Advanced heart failure: Telemonitoring reduces cardiovascular mortality

November 4 2019

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Do patients with advanced heart failure benefit from data-supported, timely management in collaboration with a medical telemedical centre, in short: telemonitoring with defined minimum requirements?

This question was investigated by the German Institute for Quality and

Efficiency in Health Care (IQWiG) on behalf of the Federal Joint Committee (G-BA). The results of the assessment have now been published in the form of a rapid report.

The main finding: In comparison with care without telemonitoring, fewer [cardiovascular deaths](#) occur under telemonitoring with defined minimum requirements. No statistically significant advantage was found for the outcome "all-cause mortality" on the basis of all four studies investigated. However, if one considers only the two studies in which the patients themselves performed the measurements at least once a day, the data provide an indication of a benefit with regard to all-cause mortality in patients without [depressive symptoms](#).

## Two types of telemonitoring in heart failure

In [heart failure](#), the ability of the heart to fill with blood or pump blood out again is impaired. If heart failure becomes chronic, the organism no longer receives enough oxygen to ensure metabolism under both resting and exercise conditions. Chronic [heart](#) failure occurs frequently in the elderly population and is also one of the most frequent causes of death in Germany.

In order to avoid crises and deaths, close monitoring of the health status is recommended. If [communication technologies](#) are used to transmit and monitor physiological data, this is referred to as telemonitoring. In telemonitoring with defined minimum requirements, the data (e.g. [heart rate](#) and rhythm, weight and blood pressure) are analysed not only by a doctor, but also by a telemonitoring centre.

In addition to the automatic collection and transmission of data by an implanted device, a monitoring strategy is available where the patients themselves perform measurements at least once a day after appropriate training and also assess their state of health. The data are transmitted, for

example, via a tablet-PC. IQWiG identified and analysed two randomized controlled trials (RCTs) for each of these two strategies.

## **Depressive symptoms as a subgroup characteristic**

The risk of bias was rated as high for all four studies and all outcomes reported in them. No statistically significant effect was shown in the meta-analysis for the important outcome "all-cause mortality".

The subgroup characteristic "depressive symptoms" was investigated in the two studies on the strategy with active involvement of patients. If only these studies are considered, patients without depressive symptoms have a statistically significant survival advantage. For this group, the Institute sees an indication of a benefit with regard to all-cause mortality. However, such an advantage was not found in patients with depressive symptoms.

Cardiovascular deaths—about two thirds of all deaths in the studies—were overall less frequent in the [telemonitoring](#) groups than in the control groups, regardless of the monitoring strategy: this finding provides a hint of a benefit. The consideration of other outcomes and subgroup characteristics did not result in any further hints of benefit or harm.

Provided by Institute for Quality and Efficiency in Health Care

Citation: Advanced heart failure: Telemonitoring reduces cardiovascular mortality (2019, November 4) retrieved 3 May 2024 from <https://medicalxpress.com/news/2019-11-advanced-heart-failure-telemonitoring-cardiovascular.html>

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