

# Coenzyme Q10 to manage chronic heart failure with a reduced ejection fraction: a systematic review and economic evaluation

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## Plain English summary

Co-Q10 for chronic heart failure

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## Plain English summary

People living with chronic heart failure suffer from shortness of breath, ankle swelling, tiredness, frequent stays in hospital and reduced quality of life and have shorter lives. The NHS spends over £2 billion each year managing chronic heart failure.

Coenzyme Q10 is a vitamin-like substance made by the body that helps cells produce energy. Low levels of coenzyme Q10 in heart muscle may lead to, or exacerbate, chronic heart failure. Taking coenzyme Q10 supplements might improve symptoms or slow deterioration.

To the best of our knowledge, we found all randomised clinical trials of coenzyme Q10 in patients with the type of chronic heart failure caused by muscle weakness (i.e. heart failure with reduced ejection fraction, where the heart's pumping function is weaker than normal). We asked the research groups responsible for these trials to provide the patient data that they had collected in their trials. Most research groups did not share their data and so we mainly used information from published trial reports. This limited our planned analyses.

We found that taking coenzyme Q10 alongside usual treatment for heart failure with reduced ejection fraction potentially reduced deaths by approximately one-third and reduced readmission to hospital by around 40%. However, these results were uncertain. Side effects were not increased. We had some concerns about how reliable the data were, and it is not clear how well the results apply to UK patients.

We also worked out what the benefits and costs to the NHS would be if coenzyme Q10 became available on prescription for patients with heart failure with reduced ejection fraction. Our model found that prescription could be worthwhile; however, a new trial is needed first to make sure that coenzyme Q10 improves outcomes for patients.

A new trial would be particularly important because coenzyme Q10 has not been assessed in the same way as prescribed medicines. A new trial could make sure that there is better evidence about whether or not prescribing would be a good use of NHS resources.

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