

# CHF disease management support

## ▶ Intervention in brief

<p><b>High and rising risk:</b></p>	<p><b>Chronic heart failure chronic disease management support</b> aims to help patients manage their congestive heart failure (CHF) in the long-term. Programs take different forms, but are usually based in an outpatient setting and often employ remote monitoring or other telemedicine services. The goal is to help patients self-manage to keep their heart failure under control, ultimately reducing their acute care utilization.</p>
<p><b>Strength of evidence</b></p>	 <p>High</p>
<p><b>Impact</b></p>	<ul style="list-style-type: none"> <li>• <b>Decreased cost (wide range):</b> 14-86% decrease in cost per admission or total health care costs; 55-85% decrease in HF readmission-related costs; 8-13% decrease in quarterly mean spending over 24 months</li> <li>• <b>Decreased utilization (wide range):</b> Insignificant change to 50% decrease in heart failure-related hospitalization; insignificant change to 47% decrease in all-cause hospitalization; 50% decrease in readmissions/month, 34% reduction in readmissions at six months</li> <li>• <b>Improved quality, outcomes (wide range):</b> Insignificant change to 56% reduction in mortality; decreased risk of cardiovascular disease; improved blood pressure</li> <li>• <b>Increased access:</b> Not demonstrated</li> <li>• <b>Improved stakeholder satisfaction:</b> Improvement in physical and overall quality of life</li> </ul>
<p><b>How to succeed</b></p>	<p>To develop an effective CHF chronic disease management program in primary care:</p> <ul style="list-style-type: none"> <li>• Establish standardized post-discharge follow-up protocols to ensure patients meet with their PCPs to establish ongoing management practices</li> <li>• Engage patient in ongoing management efforts by mutually identifying non-clinical needs, psychosocial status, and care goals rather than focusing exclusively on clinical conditions.</li> <li>• Tailor care plans based on patient activation levels and set clear expectations around roles and responsibilities</li> <li>• Identify the scenarios that warrant patient escalation from a PCP to a CV specialist and set up lines of multidirectional communication to ensure the patient remains in the most appropriate level of care</li> </ul> <p>To learn more about developing an evidence-based approach, review the resources on the Optimize CHF management across the Continuum page <a href="#">here</a>.</p>

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## ▶ Demonstrated impact

### Literature review summary

**Title:** Which Components of Heart Failure Programmes Are Effective? A Systematic Review and Meta-analysis of the Outcomes of Structured Telephone Support or Telemonitoring as the Primary Component of Chronic Heart Failure Management in 8323 Patients: Abridged Cochrane Review

**Publication:** European Journal of Heart Failure

**Date:** 2011

**Type:** Systematic review and meta analysis

**Study population:** Adults with diagnosed heart failure. Studies examined included randomized controlled trials that evaluated the impact of telemonitoring or structured telephone support on CHF.

**Major findings:**

- Decreased costs per admission or total health care costs: 14-86%.
- Decreased CHF-related hospitalization (21-23%) and decreased mortality (34% for telemonitoring) compared to control.
- Significant improvement in physical and overall quality of life as measured using the Minnesota Living with Heart Failure Questionnaire (MLWHFQ); Kansas City Cardiomyopathy Questionnaire (KCCM) and the Short-Form 36 Item (SF-36).

**Source:** Full article [here](#).

**Title:** Telemonitoring for Patients with Chronic Heart Failure: A Systematic Review

**Publication:** Journal of Cardiac Failure

**Date:** 2007

**Type:** Systematic review

**Study population:** Adults with heart failure. This review includes 9 randomized studies that evaluate the effectiveness of home telemonitoring to manage heart failure using different metrics.

**Major findings:**

- CHF chronic disease management through telemonitoring contributed to reductions in HF readmission related costs (55-85%) and inpatient heart failure-related costs (46%).
- CHF chronic disease management through telemonitoring occasionally contributed to reductions in heart failure hospitalizations (insignificant change-50%), all-causes hospitalization/ED use (insignificant change-47%), and mortality (insignificant change-56%).

**Source:** Full article [here](#).

**Title:** Integrated Telehealth And Care Management Program For Medicare Beneficiaries With Chronic Disease Linked To Savings

**Publication:** Health Affairs

**Date:** 2011

**Type:** Randomized controlled trial

**Study population:** 1,767 High-risk, high-cost patients with diabetes mellitus (884), congestive heart failure (682), or chronic obstructive pulmonary disease (631), or other comorbidities that attended specific clinics in Wenatchee, Washington or Bend, Oregon.

**Major findings:**

- Chronic disease management for CHF patients contributed to significant predicted cost savings over two years (\$1,009 PMPQ) according to regression models as compared to a control group;
- Predicted cost savings were also significant for patients with diabetes (\$519 PMPQ) and COPD (\$726 PMPQ) as compared to a control group, but less significant than cost savings for patients with CHF.
- Mortality rates were lower for patients in the intervention group compared to the control group after two years: 2.5%.

**Source:** Full article [here](#).

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**Title:** Effect of Patient Activation on Self-Management in Patients with Heart Failure

**Publication:** Journal of Cardiovascular Nursing

**Date:** 2013

**Type:** Randomized controlled trial

**Study population:** 84 patients with heart failure that attended the VA San Diego Healthcare System.

**Major findings:** Patients who received targeted heart failure support saw lower readmissions after six months compared to patients receiving usual care: 34%

**Source:** Full article [here](#).

**Title:** What Works In Chronic Care Management: The Case of Heart Failure

**Publication:** Health Affairs

**Date:** 2009

**Type:** Meta-analysis

**Study population:** 2,028 chronic heart failure patients from Australia, the Netherlands, the U.K., and the U.S. The majority of patients were elderly and white. The analysis examined ten randomized controlled trials.

**Major findings:** Multidisciplinary chronic care management support that involved in-person communication contributed to a reduction in readmissions per month: 50%.

**Source:** Full article [here](#).

**Title:** Effects of Community-Based Health Worker Interventions to Improve Chronic Disease Management and Care Among Vulnerable Populations: A Systematic Review

**Publication:** American Journal of Public Health

**Date:** 2016

**Type:** Systematic review

**Study population:** Patients with diagnoses of cancer, cardiovascular disease, diabetes, or another chronic disease. Many studies in the review focused on patients that were low-income, underserved, and racial and ethnic minorities.

**Major findings:**

- Decreased risk of cardiovascular disease in 62% of relevant studies reviewed; improvement in lipid profile, blood pressure, HbA1c and global CVD risk in 56% of relevant studies reviewed
- Mixed outcomes for programs focused on mental health: significant results for one study, partially or fully insignificant results for two studies

**Source:** Full article [here](#).

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## Appendix

- Inglis SC, et al., “Which Components of Heart Failure Programmes are Effective?” *European Journal of Heart Failure*, 13 (2011): 1028-1040, <http://onlinelibrary.wiley.com/doi/10.1093/eurjhf/hfr039/full#>.
- Chaudry SI, et al., “Telemonitoring for Patients with Chronic Heart Failure,” *Journal of Cardiac Failure*, 13, no. 1 (2007): 56–62, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1910700/>.
- Baker LC, et al., “Integrated Telehealth and Care Management Program for Medicare Beneficiaries with Chronic Disease Linked to Savings,” *Health Affairs*, 30, no. 9 (2011): 1689-1697, <http://content.healthaffairs.org/content/30/9/1689.full>.
- “Enhancing the Role of Primary Care in CHF,” Population Health Advisor, Advisory Board, <https://www.advisory.com/research/population-health-advisor/resources/2018/chronic-heart-failure-management>.
- Sochalski J, et al., “What Works in Chronic Care Management,” *Health Affairs*, 28, no. 1 (2009): 179-189, <http://content.healthaffairs.org/content/28/1/179.full.html>.
- Kim K, et al., “Effects of Community-Based Health Worker Interventions to Improve Chronic Disease Management and Care Among Vulnerable Populations,” *American Journal of Public Health*, 106, no. 4 (2016): e3-e28, <http://ajph.aphapublications.org/doi/full/10.2105/AJPH.2015.302987>.