


Chronic disease management support

► Intervention in brief

<p>High and rising risk:</p>	<p>Chronic disease management support refers to programs that aim to help patients manage their chronic diseases in the long-term. Programs are usually based in an outpatient setting. The goal is to help patients learn to self-manage and keep their conditions under control on a long-term basis, thereby reducing their acute care utilization.</p>
<p>Strength of evidence</p>	<p> Research on condition-agnostic disease management programs is rare; most are disease-specific. Recent systematic review demonstrated mixed results.</p> <p>Medium</p>
<p>Impact</p>	<ul style="list-style-type: none"> • Decreased cost: \$714-\$3,158 averted costs per patient per year; 8-13% decrease in quarterly mean spending compared to control; reduced costs in 9/11 studies • Decreased utilization: 3-11% decrease in hospitalization from six months–four years; 37% decrease in HF readmissions in four years; reduced service use in 12/26 studies • Improved quality, clinical outcomes: 3% reduction in mortality compared to control; reduced risk of cardiovascular disease through significant improvement in lipid profile, HbA1c, blood pressure; improved health status in 10/31 studies; improved physiological measures of disease in 65/108 studies; improved adherence to treatment in 9/22 studies; improved knowledge level in 21/30 studies; improved functional status in 12/25 studies; reduced risk behavior in 13/28 studies; improved provider adherence to guidelines in 19/32 studies; change in medication in 22/30 studies • Increased access: Not demonstrated • Improved stakeholder satisfaction: Improved satisfaction in 9/14 studies; improved quality of life in 18/44 studies
<p>How to succeed</p>	<p>To develop an effective chronic disease management program:</p> <ul style="list-style-type: none"> • Identify your target population and engage primary care physicians to drive care management efforts for patients who need them most as identified through risk stratification • Set up an infrastructure to best support active patient management by strategically allocating chronic care services, developing multidisciplinary care teams, and different patient pathways • Create channels for ongoing management through patient-care team communication <p>To learn more about developing an evidence-based approach, check out our How Providers Scale Disease-Agnostic Approaches to Patient Management webconference here.</p>

► Demonstrated impact

Literature review summary

Title: Long-Term Impact of a Chronic Disease Management Program on Hospital Utilization and Cost in an Australian Population with Heart Disease or Diabetes

Publication: BioMed Central Health Services Research

Date: 2015

Type: Cohort study

Study population: Australian adults aged 20-89 with diagnosed diabetes or chronic heart disease.

Major findings: Individualized telephonic support led to:

- Reduced costs (\$3,158 in per-member per-year costs across four years)
- Decreased hospital admissions compared to control (11%; odds ratio 0.73) and readmissions (37%; OR 0.55)

Source: Full article [here](#).

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Title: The Impact of Chronic Disease Self-Management Programs: Healthcare Savings Through a Community-Based Intervention

Publication: BioMed Central Public Health

Date: 2013

Type: Cross-sectional study

Study population: Participants in a Chronic Disease Self-Management Program (CDSMP). The program was a 6-week, peer-led program designed to help patients with chronic illnesses learn to better manage their conditions.

Major findings:

- Decreased ED visits at six and 12 months (5%) and decreased hospitalizations at 12 months (3%)
- Calculations of cost savings based on reduced ED and inpatient utilization project considerable annual averted health care costs per participant by \$713.80.

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: Patients that attended specified clinics in Wenatchee, Washington or Bend, Oregon and were classified as high-risk and high-cost.

Major findings: Patients receiving chronic disease management caused lesser quarterly spending per patient over 24 months as compared to control by 8-13%.

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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Title: A Systematic Review of Chronic Disease Management Interventions in Primary Care

Publication: BMC Family Practice

Date: 2018

Type: Systematic review

Study population: 1,051,707 adults (65.7% female, average age of 60.7 years) with a range of chronic diseases (COPD, type 2 diabetes, heart disease, hypertension, lipid disorders, arthritis, and osteoporosis) receiving care in the community or primary care setting in 11 countries across 157 studies

Major findings: Six types of chronic disease management interventions were assessed. The review identified how many studies showed significant improvement across a range of outcomes. Bolded outcomes indicate where a majority of studies reported significant improvement.

- Self-management support
 - **Provider adherence to guidelines (5 of 7 studies)**
 - **Change in medication (5 of 6 studies)**
 - Adherence to treatment (6 of 13 studies)
 - Service use (1 of 7 studies)
 - **Physiological measure of disease (32 of 52 studies)**
 - **Risk behavior (11 of 20 studies)**
 - Quality of life (10 of 25 studies)
 - Health status (5 of 13 studies)
 - **Satisfaction (3 of 5 studies)**
 - **Functional status (5 of 6 studies)**
 - **Knowledge level (16 of 23 studies)**
 - **Costs (5 of 5 studies)**
- Delivery system design:
 - **Provider adherence to guidelines (3 of 5 studies)**
 - **Change in medication (6 of 7 studies)**
 - Adherence to treatment (1 of 5 studies)
 - **Service use (4 of 7 studies)**
 - **Physiological measure of disease (18 of 22 studies)**
 - Risk behavior (0 of 4 studies)
 - Quality of life (6 of 13 studies)
 - Health status (3 of 8 studies)
 - **Satisfaction (4 of 5 studies)**
 - Functional status (1 of 3 studies)
 - **Knowledge level (4 of 6 studies)**
 - **Costs (2 of 2 studies)**
- Decision support interventions
 - Provider adherence to guidelines (6 of 13 studies)
 - **Change in medication (8 of 13 studies)**
 - Adherence to treatment (1 of 3 studies)
- **Service use (5 of 9 studies)**
- Physiological measure of disease (8 of 22 studies)
- **Risk behavior (2 of 3 studies)**
- Quality of life (1 of 5 studies)
- Health status (2 of 9 studies)
- Satisfaction (1 of 3 studies)
- Functional status (2 of 10 studies)
- **Knowledge level (1 of 1 studies)**
- **Costs (1 of 2 studies)**
- Clinical information system interventions
 - **Provider adherence to guidelines (4 of 5 studies)**
 - **Change in medication (3 of 3 studies)**
 - **Quality of care (1 of 1 studies)**
 - **Service use (1 of 2 studies)**
 - **Physiological measure of disease (5 of 8 studies)**
 - Risk behavior (0 of 1 studies)
 - **Satisfaction (1 of 1 studies)**
 - **Functional status (4 of 5 studies)**
 - **Costs (1 of 2 studies)**
- Health care organization
 - **Provider adherence to guidelines (1 of 2 studies)**
 - Adherence to treatment (1 of 1 studies)
 - Physiological measure of disease (1 of 3 studies)
 - Health status (0 of 1 studies)
 - Functional status (0 of 1 studies)
- Community resources
 - Change in medication (0 of 1 studies)
 - **Service use (1 of 1 studies)**
 - **Physiological measure of disease (1 of 1 studies)**

Source: Full article [here](#).

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Appendix

- 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>.
- Hamar GB, et al., “Long-Term Impact of a Chronic Disease Management Program on Hospital Utilization and Cost in an Australian Population with Heart Disease or Diabetes,” *BMC Health Services Research*, 15, no. 174 (2015): <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-0834-z>.
- Ahn SN, et al., “The Impact of Chronic Disease Self-Management Programs,” *BMC Public Health*, 13, no. 1141 (2013): <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-13-1141>.
- 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>.
- Reynolds R, et al., “A systematic review of chronic disease management interventions in primary care” *BMC Family Practice*, (2018), <https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-017-0692-3>.