

Cost-Effectiveness of Nurse Practitioner/Community Health Worker Care to Reduce Cardiovascular Health Disparities

The following is a synopsis of “Cost-Effectiveness of Nurse Practitioner/Community Health Worker Care to Reduce Cardiovascular Health Disparities,” published online ahead of print in April 2013 in the *Journal of Cardiovascular Nursing*.



What is already known on this topic?

Cardiovascular disease (CVD) is the leading cause of death among U.S. adults, especially individuals with lower income, prior coronary heart disease, or diabetes. Although evidence-based guidelines for managing CVD and type 2 diabetes are widely available, implementing them as standard practice in the clinic—which requires health care providers to deliver the recommended therapies appropriately and patients to adhere to them—has been slow. Research suggests that nurse-led, team-based case management that includes community health workers (CHWs) is an effective strategy to lower CVD risk. Research also suggests that nurse practitioners (NPs) can provide primary care services of equal or better quality and at a lower cost than similar services provided by other health care professionals.

What is added by this article?

The authors summarize the outcomes and cost-effectiveness analysis of a CVD risk reduction program (the intervention) delivered by NP/CHW teams versus enhanced usual care in improving cholesterol, blood pressure, and hemoglobin (Hb) A1C levels (a measure of diabetes control) among patients in federally qualified community health centers located in major cities.

At 12 months, patients in the intervention group had significantly greater overall improvement in low-density lipoprotein (LDL) cholesterol (“bad” cholesterol), systolic and diastolic blood pressure, and HbA1C. In addition, significantly more program participants had values that reached guideline goals compared with patients receiving enhanced usual care.

Due to the cost of laboratory testing and medications, the total cost to patients in the risk reduction program for 1 year of treatment was higher than the cost for enhanced usual care. However, the average total cost per patient, regardless of the type of care, was \$627.

The cost-effectiveness of the 1-year risk reduction program was:

- ▶ \$157 for every 1% drop in systolic blood pressure.
- ▶ \$190 for every 1% drop in diastolic blood pressure.
- ▶ \$149 for every 1% drop in HbA1c.
- ▶ \$40 per 1% drop in LDL cholesterol.

The costs for a 1-unit reduction in each of these risk factors were similar except for HbA1c, with a cost of \$1,255 for a drop of 1 unit.

What are the applications and implications for these findings?

Comprehensive management of CVD risk factors by NP/CHW teams, including lifestyle counseling, prescription medications, patient-specific adjustments to medication schedule, and adherence promotion, may be a cost-effective strategy to reduce CVD risk. NPs and CHWs are underused resources who can be incorporated into patient care to improve quality and address health disparities in underserved and minority populations. However, adopting and sustaining this type of model in the mainstream health care system requires funding mechanisms for CHWs.

Resources

Robert Wood Johnson Foundation

Implementing the IOM Future of Nursing Report—Part III: How Nurses are Solving Some of Primary Care's Most Pressing Challenges
www.rwjf.org/content/dam/files/file-queue/cnf20120810.pdf

Centers for Disease Control and Prevention

Addressing Chronic Disease through Community Health Workers: A Policy and Systems-Level Approach
www.cdc.gov/dhdsp/docs/chw_brief.pdf

American Heart Association

Statements & Guidelines

http://my.americanheart.org/professional/StatementsGuidelines/Statements-Guidelines_UCM_316885_SubHomePage.jsp

Citations

Allen JK, Dennison Himmelfarb CR, Szanton SL, Frick KD. Cost-effectiveness of nurse practitioner/community health worker care to reduce cardiovascular health disparities. *J Cardiovasc Nurs*. 2013 [ePub ahead of print].

Allen JK, Dennison-Himmelfarb CR, Szanton, Bone L, Hill MN, Levine DM, et al. Community Outreach and Cardiovascular Health (COACH) Trial: A randomized, controlled trial of nurse practitioner/community health worker cardiovascular risk reduction in urban community health centers. *Circ Cardiovasc Qual Outcomes*. 2011;4:595–602.

Allen JK, Himmelfarb CR, Szanton SL, Bone L, Hill MN, Levine DM. COACH trial: A randomized controlled trial of nurse practitioner/community health worker cardiovascular disease risk reduction in urban community health centers: rationale and design. *Contem Clin Trials*. 2011;32:403–11.

The findings and conclusions in these reports are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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