Guideline Summary NGC-10799

Guideline Title

Team-based care to improve blood pressure control: recommendation of the Community Preventive Services Task Force.

Bibliographic Source(s)


Guideline Status

This is the current release of the guideline.
This guideline meets NGC’s 2013 (revised) inclusion criteria.

Scope

Disease/Condition(s)

- Hypertension
- Cardiovascular disease (CVD)

Guideline Category

- Counseling
- Management
- Prevention

Clinical Specialty

- Cardiology
- Family Practice
- Internal Medicine
- Nursing
- Preventive Medicine

Intended Users

- Advanced Practice Nurses
- Allied Health Personnel
- Dietitians
- Health Care Providers
- Hospitals
- Nurses
- Patients
- Pharmacists
- Physician Assistants
- Physicians
- Public Health Departments
- Social Workers

Guideline Objective(s)

To evaluate the effectiveness of team-based care to improve blood pressure (BP) control

Target Population

Adults with hypertension

Interventions and Practices Considered

Team-based care to improve blood pressure (BP) management, including medication management, patient follow-up, and adherence and self-management support

Major Outcomes Considered

- Clinical effectiveness
Primary outcomes
- Proportion of patients with controlled blood pressure (BP)
- Reduction of systolic blood pressure (SBP) and diastolic blood pressure (DBP)
- Cardiovascular disease (CVD) related morbidity (e.g., incidence of heart attacks and strokes) and mortality

Secondary outcomes
- Medication adherence
- Satisfaction with care
- Proportion of patients with controlled hemoglobin A1c (HbA1c)
- Reduction in fasting blood glucose (FBG)
- Reduction in total cholesterol and low-density lipoprotein cholesterol
- Cost-effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The Task Force finding is based on evidence from a Community Guide systematic review (52 studies; search period, July 2003-May 2012) published in 2014 and a previous systematic review published in 2006 (28 studies; search period, January 1980–July 2003), in which the conceptual approach and methods matched those of the Community Guide review (see the “Availability of Companion Documents” field).

Effectiveness Review

Search for Evidence

The search for evidence consisted of two steps. Step 1 involved locating existing systematic reviews on team-based care for blood pressure (BP) control. Although multiple high-quality systematic reviews on this topic were identified, the systematic review by Walsh and colleagues (2006) had a conceptualization and methods similar to the Community Guide approach. Further, the scope adopted for the Walsh review reflected the team’s goal of examining the effectiveness of team-based care from a population health perspective. The literature search from this prior review ended in July 2003. Step 2 consisted of an updated search adopting the Walsh review’s search terms and databases. This Community Guide update covered the period from July 2003 to May 2012. The complete search strategy is available at www.thecommunityguide.org/cvd/supportingmaterials/55-team-based-care.html.

Inclusion Criteria

Studies were included if they
- Met the definition of team-based care as described in the conceptual framework
- Were in English
- Were not in the Walsh et al. review
- Were conducted in a high-income economy consistent with Community Guide methods
- Reported at least one BP outcome of interest (i.e., proportion of patients with controlled BP, reduction in systolic BP [SBP], or reduction in diastolic BP [DBP])
- Included a comparison group or had an interrupted time-series design with at least two measurements before and after the intervention
- Targeted populations with primary hypertension or populations with comorbid conditions such as diabetes as long as the primary focus of the intervention was BP control
- Did not include populations with secondary hypertension (e.g., pregnancy) or with a history of cardiovascular disease (CVD) (e.g., myocardial infarction)

Economic Review

The economic review is based on evidence from the Community Guide search for effectiveness evidence (search period January 1980–May 2012) and an earlier search for economic evidence conducted by the Centers for Disease Control and Prevention’s (CDC’s) Division for Heart Disease and Stroke Prevention (DHDSP) (search period January 1985–March 2011).

The DHDSP review searched eight bibliographic databases: Medline, EMBASE, PsycINFO, CINAHL, EconLit, Socio Abs, Web of Science, and Cochrane. The types of documents retrieved by the search included journal articles, books, book chapters, reports, and conference papers.

Search terms and strategies were adjusted to each database, based on controlled and uncontrolled vocabularies and search software.

For more information on searches, see the Community Guide Web site (see also the “Availability of Companion Documents” field).

Number of Source Documents

Results from Effectiveness Review
- 2014 Community Guide Systematic Review: 52 studies from 70 papers
- 2006 Walsh et al. Systematic Review: 28 studies

See Figure 2 in the systematic review (Proia et al.; see the “Availability of Companion Documents” field) for breakdown of the article selection process.

Systematic Economic Review

Thirty-one studies were included in the review. Eleven studies provided cost-effectiveness estimates while the other studies provided estimates for the cost of intervention and the change in health care cost.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Quality Assessment

Each study was assessed for threats to internal and external validity and rated as:

Good (0–1 limitations)
The systematic review of available studies provides strong or sufficient evidence that the intervention is effective.

**Categories of Task Force Recommendations and Findings**

**Recommended**
The systematic review of available studies provides strong or sufficient evidence that the intervention is effective.

The categories of "strong" and "sufficient" evidence reflect the Task Force's degree of confidence that an intervention has beneficial effects. They do not directly relate to the expected magnitude of benefits. The categorization is based on several factors, such as study design, number of studies, and consistency of the effect across studies.

**Recommended Against**
The systematic review of available studies provides strong or sufficient evidence that the intervention is harmful or not effective.

**Insufficient Evidence**
The available studies do not provide sufficient evidence to determine if the intervention is, or is not, effective. This does NOT mean that the intervention does not work. It means that additional research is needed to determine whether or not the intervention is effective.

Task Force findings may include a rationale statement that explains why they made a recommendation or arrived at other conclusions.

**Cost Analysis**
A separate systematic review examining the economic evidence (31 studies; search period, January 1980–May 2012) found most cost-effectiveness estimates to be below the conservative threshold of $50,000 per quality-adjusted life-year (QALY) saved. This suggests that implementation of team-based care for blood pressure (BP) control is cost-effective. See the economic review on the Community Guide Web site for more information.

**Method of Guideline Validation**

**Not stated**

**Description of Method of Guideline Validation**

**Not applicable**

**Recommendations**

**Major Recommendations**
Definitions for the categories of task force recommendations and evidence (recommended, recommended against, or insufficient evidence) are provided at the end of the "Major Recommendations" field.

**Task Force Findings**
The Community Preventive Services Task Force recommends team-based care to improve blood pressure (BP) control on the basis of strong evidence of effectiveness in improving the proportion of patients with controlled BP and reducing systolic BP (SBP) and diastolic BP (DBP). Evidence was considered strong based on findings from 80 studies of team-based care organized primarily with nurses and pharmacists working in collaboration with primary care providers, other professionals, and patients. The economic evidence indicates that team-based care is cost effective.

A summary of the Task Force finding and rationale is available at www.thecommunityguide.org/cvd/teambased care.html.

**Definitions**

**Categories of Task Force Recommendations and Findings**
The Task Force uses the terms below to describe its findings.

**Recommended**
The systematic review of available studies provides strong or sufficient evidence that the intervention is effective.
The arrival of new technologies presents many opportunities to further harness the potential of team-based care. Various modalities (e.g., Web-based, app-based, text message-based, and electronic health records) could serve to improve communication between providers and patients, clinical decisions by providers, and patient support.

### Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

### Benefits/Harms of Implementing the Guideline Recommendations

#### Potential Benefits

- Results from two systematic reviews demonstrate the effectiveness of team-based care in improving the proportion of patients with controlled blood pressure (BP) and reduced systolic blood pressure (SBP) and diastolic blood pressure (DBP). Magnitude of effect estimates, number of studies, and consistency of effects provide the basis for the strong evidence finding.
- Team-based care also resulted in improvements for most lipid- and diabetes-related outcomes, suggesting potential benefits for comprehensive cardiovascular disease (CVD) risk reduction.

#### Potential Harms

No harm to patients were identified from team-based care interventions in the included studies or the broader literature. Team-based care is well suited to addressing potential adverse effects from hypertension medications through providing support for patients about medications as well as proactive follow-up and monitoring.

### Qualifying Statements

The findings and conclusions in the guideline are those of the Community Preventive Services Task Force and do not necessarily represent those of Centers for Disease Control and Prevention (CDC). Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

### Implementation of the Guideline

#### Description of Implementation Strategy

**Considerations for Implementation**

The team-based care model is the essence of the shifting paradigm of U.S. healthcare delivery to an approach that is more coordinated and integrated. Central to this approach is organizing care around the patient with the support of multiple providers. Team members who worked with patients and primary care providers in the studies included in the systematic review were most frequently nurses and pharmacists. There were larger improvements in the proportion of patients achieving blood pressure (BP) control when pharmacists were included in the team, whereas reductions in systolic blood pressure (SBP) and diastolic blood pressure (DBP) were similar to overall estimates when either nurses or pharmacists were part of the team. Involvement of additional team members related to medication management (e.g., pharmacists and nurses) was conceptualized in three levels. Team-based care models in which team members could make changes to medications independent of the patient's primary care provider or make suggestions for medication changes to the primary care provider based on evidence-based clinical protocols achieved larger improvements in BP outcomes than those that only provided education on hypertension and support for medication adherence to patients.

Moreover, the improvement in outcomes for common comorbidities such as diabetes and cholesterol using team-based care suggest the great potential for applying this approach to managing chronic disease. Studies that used team-based care for comprehensive cardiovascular disease (CVD) risk reduction most commonly employed nurse practitioners to work with primary care providers and patients to both manage patient medications and provide vital self-management support.

With the advent of the Patient-Centered Medical Home and accountable care organizations, many health systems are looking to implement value-based models of chronic care—where reimbursement is tied to improvements in health outcomes for entire panels of patients. At the center of this systems-level organizational change are models like team-based care that improve the efficiency, quality, and value of care.

Health systems will need to consider the needs of their patients and resources at their disposal when establishing team-based care to manage CVD risk factors. Clear decisions about team constitution and team member roles as well as reimbursement mechanisms are needed. Activities to foster team building and achieve provider buy-in could prove invaluable. Training resources for providers need to provide orientation and exposure to skills necessary to address multiple CVD risk factors while working with a team that includes the patient. Screening and proactive follow-up processes, as well as access to self-management resources including tools such as BP home monitors, seem to facilitate the success of team-based care. Support for self-management includes developing patient knowledge and skills as well as improving patient attitudes and health behavior aimed at addressing high BP and related risk factors.

The arrival of new technologies presents many opportunities to further harness the potential of team-based care. Various modalities (e.g., Web-based, app-based, text message-based, and electronic health records) could serve to improve communication between providers and patients, clinical decisions by providers, and patient support.

### Institute of Medicine (IOM) National Healthcare Quality Report Categories

#### IOM Care Need

- Getting Better
- Living with Illness
- Staying Healthy
Bibliographic Source(s)


Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Jul

Guideline Developer(s)

Community Preventive Services Task Force - Independent Expert Panel

Source(s) of Funding

The Task Force is an independent, unpaid, nonfederal body. The U.S. Congress mandates that the Centers for Disease Control and Prevention support the operations of the Task Force.

Guideline Committee

Community Preventive Services Task Force

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Financial Disclosures/Conflicts of Interest

No financial disclosures were reported by the authors of this paper.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC’s 2013 (revised) inclusion criteria.

Guideline Availability

Available from the Community Guide Web site.

Availability of Companion Documents

The following are available:


Additional supporting materials, including the analytic framework, evidence gaps, evidence tables, included studies, and search strategies, are available from the Community Guide Web site.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on December 16, 2015. The information was verified by the guideline developer on January 25, 2016.

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