The Division for Heart Disease and Stroke Prevention (DHDSP) selected a set of core indicators for the purpose of enhancing the evaluation of the National Heart Disease and Stroke Prevention Program. The intention is that core indicators will be collected and analyzed on a regular basis to inform program improvement and provide accountability. Some core indicators will be collected by DHDSP and others will be collected by funded state programs.

Core indicators were selected by DHDSP Senior Leadership based on:

**Alignment with Division Strategic Priorities:** The degree to which the selected core indicators address the identified strategic needs of the Division. These needs may include those specified in the Division strategic plan, those required to address accountability demands, and/or those that reflect current and planned allocation of DHDSP resources. Ultimately, this criterion will be determined by DHDSP Senior Leadership and may include both current as well as aspirational priorities.

**Greatest Impact:** The degree to which the selected core indicators reflect actions that will have the greatest beneficial impact on public health given the resources invested. The criterion includes issues of both reach and effectiveness.

**High Overall Quality:** The degree to which the selected core indicators received a high overall quality score by the expert reviewers.

**Sustainability:** The degree to which relevant data and measurement systems are expected to provide consistent, stable measurement over time. Individual indicators ranking high under this criterion will have long term viability.

**Proximity to Activity:** The degree to which the selected core indicators are in close proximity to State HDSP program activities. Indicators that rank high under this criterion will have a high level of specificity in that they are more completely influenced or determined by HDSP program actions. In contrast, indicators that rank low under this criterion will be influenced by many other causes operating in the environment.

**Representation Across the Logic Model:** The degree to which the core indicators are selected broadly across the logic model from short, intermediate and long term outcome elements to facilitate evaluation of the causal pathways and ensure that aspirational, long-term effects remain salient and impart a sense of urgency.
Face Validity: The degree to which judgments about and measurement of the indicator would appear valid and relevant to the Division, its partners, policy makers and other decision makers.

Consideration of Unintended Impact on Disparities: The degree to which the selected core indicators minimize unintended impacts on issues of disparities. For example, an indicator measuring the implementation or use of a costly systems-level change may improve care provided to a subset of the population with higher socio-economic status but may adversely impact the care of others by shifting resources away from current programs, initiatives or infrastructures for care.

Core Indicator Profiles

Each indicator included in this report is associated with a short-term, intermediate, or long-term outcome component of the high blood pressure control logic model. The indicator profiles provide detailed information about each indicator. These profiles include the following elements:

- **Rating**—Summary ratings provided by the expert reviewers. The symbols used correspond to median reviewer ratings for each criterion.
- **Indicator Name and Number**—Each indicator has been assigned a unique three-part number. The first number identifies the priority area (1=High Blood Pressure Control), the second number identifies the outcome component of the logic model, and the third number identifies the specific indicator within the component.
- **Priority Area**—The title of the priority area.
- **Logic Model Component**—The title of the associated outcome component.
- **What to Measure**—A description of what to measure when employing the indicator for outcome evaluation.
- **Why This Indicator is Useful**—A brief rationale statement is provided for using the indicator as a measure of the outcome component.
- **Example Data Sources/Measures**—Example surveys or methodologies for collecting information relevant to the indicator. Although some of the proposed data sources/measures are able to provide pertinent information at the state-level, others are not. Additionally, depending on the context and scope of state strategies, evaluation of state program activities may require utilizing a given measure or data collection methodology in a more targeted way, for example, within a single county or healthcare system. The example data source/measure information is provided as an initial suggestion.
- **Population Group**—The population group for which data relevant to the indicator are most commonly collected, if applicable.
- **Comments**—Additional information pertinent to measuring the indicator and/or to the example data source. At times, we note suggestions regarding collecting, analyzing, and reporting data.
- **References**—A small subset of pertinent citations relevant to the indicator.
DHDSP High Blood Pressure
Core Indicators

- 1.1.3 Proportion of healthcare systems with electronic medical records for high blood pressure control (including pharmacologic and lifestyle modification components)
- 1.2.6 Proportion of patients who receive provider-initiated prescription and follow-up of therapeutic lifestyle modifications
- 1.3.6 Proportion of workplaces with environmental changes to control high blood pressure
- 1.4.2 Number of community interventions to control high blood pressure
- 1.5.1 Proportion of individuals who are aware of the risks associated with uncontrolled high blood pressure (both causes and consequences)
- 1.6.9 Proportion of individuals with high blood pressure in compliance with hypertensive medication regimen
- 1.7.1 Average blood pressure levels among individuals with high blood pressure
- 1.8.1 Proportion of individuals who have achieved blood pressure control
- 1.8.2 Degree of reduction in disparities in blood pressure control between general and priority populations
- 1.9.5 Mortality rate due to cardiovascular disease associated with high blood pressure
- 1.10.2 Degree of reduction in disparities in cardiovascular mortality between general and priority populations
**Proposed Indicator 1.1.3**  
Proportion of healthcare systems with electronic medical records for high blood pressure control (including pharmacologic and lifestyle modification components)

<table>
<thead>
<tr>
<th>Rating</th>
<th>$$ $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Quality</td>
<td>Scientific Evidence</td>
</tr>
<tr>
<td>low --- high</td>
<td>$$$ - highest</td>
</tr>
</tbody>
</table>

**Priority Area**  
High Blood Pressure Control

**Logic Model Component**  
Short-term Outcomes Box 1: Healthcare System Changes: Adherence, efficiency, policies, protocols, and tools

**What to Measure**  
Proportion of healthcare systems that use electronic medical records to track the care provided to patients with hypertension.

**Why This Indicator is Useful**  
Effective use of information and medical technology is one of the strategies the Institute of Medicine (2001) recommended to improve the quality of care in the U.S. There is both direct and indirect evidence that shows electronic medical records systems improve high blood pressure management by enhancing health information exchange between patients, providers, and health systems (Kinn et.al 2002; Rossi, 1997).

**Example Data Sources/Measures**  
To be determined

**Population Group**  
Not applicable. This indicator is best measured by monitoring whether healthcare systems are using electronic medical records for hypertension management.

**Comments**  
In addition to tracking care provided to patients with hypertension, evaluators may also want to determine whether healthcare systems are using electronic medical records to track patient health outcomes.

**Other Information**  
If applying the indicator within a single healthcare system, the indicator will simply denote the presence or absence of the given policy.

**References**  

<table>
<thead>
<tr>
<th>Proposed Indicator 1.1.3</th>
<th>Proportion of healthcare systems with electronic medical records for high blood pressure control (including pharmacologic and lifestyle modification components)</th>
</tr>
</thead>
</table>

* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.
<table>
<thead>
<tr>
<th>Proposed Indicator</th>
<th>Proportion of patients who receive provider-initiated prescription and follow-up of therapeutic lifestyle modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
<td>Overall Quality</td>
</tr>
<tr>
<td></td>
<td>low ↔ high</td>
</tr>
</tbody>
</table>

**Priority Area**  
High Blood Pressure Control

**Logic Model Component**  
Short-term Outcomes Box 2: Provider Changes: Awareness, adherence to guidelines

**What to Measure**  
Proportion of patients with hypertension who have received provider-initiated prescription for therapeutic lifestyle modifications recommended by JNC 7. For the list of JNC 7 lifestyle modifications, see “Comments” below.

**Why This Indicator is Useful**  
Adoption of healthy lifestyles is “an indispensable part of the management of those with hypertension” (JNC 7, 2003). Provider-initiated discussion and follow-up of therapeutic lifestyle modifications, if consistently applied, may improve cardiovascular risk. However, evidence that it is directly linked with blood pressure control is mixed (Mashru, 1997).

**Example Data Sources/Measures**  
**National Health Interview Survey (NHIS), 2006**  
Have you EVER been told by a doctor or other health professional that you had hypertension, also called high blood pressure?  
Were you told on two or more different visits that you had hypertension, also called high blood pressure? How long have you had hypertension or high blood pressure?  
DURING THE PAST 12 MONTHS, have you been told by a doctor or health professional to...control your weight or lose weight?  
DURING THE PAST 12 MONTHS, have you been told by a doctor or health professional to...increase your physical activity or exercise?  
DURING THE PAST 12 MONTHS, have you been told by a doctor or health professional to...reduce the amount of fat or calories in your diet?  
**BRFSS (Behavioral Risk Factor Surveillance System, 2005)**  
Has a doctor or other health professional ever advised you to do any of the following to help lower or control your high blood pressure?  
- (Ever advised you to) change your eating habits (to help lower or control your high blood pressure)?  
- (Ever advised you to) cut down on salt (to help lower or control your high blood pressure)?  
- (Ever advised you to) reduce alcohol use (to help lower or control your high blood pressure)?  
- (Ever advised you to) exercise (to help lower or control your high blood pressure)?

**Population Group**  
Adults with high blood pressure aged 18 years and older
Comments

- Weight reduction
- DASH eating plan
- Dietary sodium reduction
- Aerobic physical activity
- Moderation of alcohol consumption

References


*Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.†Denotes low agreement among reviewers, defined as less than 75% of valid ratings being within one point of the median for this indicator-specific criterion.*
## Proposed Indicator 1.3.6

### Proportion of workplaces with environmental changes to control high blood pressure

<table>
<thead>
<tr>
<th>Rating</th>
<th>Overall Quality</th>
<th>Resource Needed</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>††</td>
<td>$$$</td>
<td>$\circ$</td>
<td>$\circ$</td>
<td>$\circ$</td>
<td>$\bullet$</td>
<td>$\bullet$</td>
</tr>
</tbody>
</table>

### Priority Area

**High Blood Pressure Control**

### Logic Model Component

Short-term Outcomes Box 3: Worksite Changes: Policies, protocol, tools, and environmental changes

### What to Measure

Proportion of worksites that have made environmental changes to increase access to healthier foods and labeling, improve access to physical activity venues, manage stress or eliminate smoking in the worksite.

### Why This Indicator is Useful

Making environmental changes such as ensuring smoke-free worksites, providing access to physical activity venues and increasing the proportion of healthier ready-to-eat foods can help support employee efforts to reduce high blood pressure (Brownson et al., 2006; Cheadle et al, 2000)

### Example Data Sources/

- **National Worksite Health Promotion Survey**
  The survey covered employers’ health risk and prevention programs and policies provided to their employees; corporate characteristics; corporate perspectives on health, values, support, and barriers; use of health plans for current and future health promotion delivery; delivery mechanisms, cost sharing and incentives; and disease- and demand-management programs and trends.
  - Does you work-site have on-site exercise facilities (e.g., gym, outdoor court, walking paths)?
  - Other than foods brought to work, are healthful foods available to employees at the worksite during work hours?
  - If yes, does the worksite provide labeling or information to identify healthier food choices?
  - Do you have a formal policy that prohibits smoking on the entire premises of the worksite?

- **Georgia Health Plan Survey, 2004**
  The Health Plan Policies and Practices survey was conducted in 2004 to gather data from licensed health plans in Georgia on:
  - Counseling and health education on physical activity, nutrition, and tobacco cessation.
  - Assessment and counseling for high blood pressure and high blood cholesterol.

### Population Group

Employers

### Other Information

The National Worksite Health Promotion Survey was last administered nationally.
Proposed Indicator
1.3.6
Proportion of workplaces with environmental changes to control high blood pressure in 1999.
If applying the indicator within a single worksite, the indicator will simply denote the presence or absence of the given policy.

References

* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.
†† Denotes low agreement among reviewers, defined as less than 75% of valid ratings being within two points of the median for overall quality of the indicator.
Proposed Indicator

1.4.2

Number of community interventions to control high blood pressure

<table>
<thead>
<tr>
<th>Rating</th>
<th>$$$</th>
<th>○</th>
<th>○</th>
<th>◀</th>
<th>◀</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Quality</td>
<td>Resources Needed*</td>
<td>Scientific Evidence</td>
<td>Face Validity</td>
<td>Utility</td>
<td>Accepted Practice</td>
</tr>
<tr>
<td>low ↔ high</td>
<td>← ● ○ ○ ○ ◀ → better</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Priority Area

High Blood Pressure Control

Logic Model Component

Short-term Outcomes Box 4: Community Changes: Environmental, policy and legislative changes

What to Measure

Number of community interventions intended to help control high blood pressure. More information regarding types of activities that typify these interventions included in “Comments” below.

Why This Indicator is Useful

Community initiatives such as health promotion interventions targeted at reducing cardiovascular risks have been shown to increase knowledge and help to reduce blood pressure (Alcalay, et al., 1999; Gerber, et al., 1998; Schuit, et al., 2006; Carleton, et al., 1995)

Example Data Sources/Measures

To be determined

Population Group

Not applicable. Indicator measures community interventions.

Comments

Community interventions intended to control high blood pressure may include the establishment of community coalitions, mass media campaigns, and community-based hypertension monitoring.

References


<table>
<thead>
<tr>
<th>Proposed Indicator</th>
<th>Number of community interventions to control high blood pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4.2</td>
<td></td>
</tr>
</tbody>
</table>

**References (continued)**


* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.*
Proposed Indicator 1.5.1
Proportion of individuals who are aware of the risks associated with uncontrolled high blood pressure (both causes and consequences)

Rating

<table>
<thead>
<tr>
<th>Overall Quality</th>
<th>Resources Needed*</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>low ↔ high</td>
<td>$\bullet$</td>
<td>$\bullet$</td>
<td>$\bullet$</td>
<td>$\bullet$</td>
<td>$\bullet$ → better</td>
</tr>
</tbody>
</table>

Priority Area
High Blood Pressure Control

Logic Model Component
Short-term Outcomes Box 5: Barriers and Facilitators to Individual change

What to Measure
Proportion of individuals with high blood pressure who are aware of personal risks associated uncontrolled high blood pressure.

Why This Indicator is Useful
Studies have shown that increased awareness of risks associated with high blood pressure increases motivation to change behaviors, increases the likelihood of seeking treatment for hypertension, and satisfaction with care (Bosworth, et al, 2005; Fleischmann, et al., 2004; Hunt et al., 2004; Pegus, et al., 2002).

Example Data Sources/ Measures
The American Heart Association’s Women’s Survey
Telephone survey of women age 25 years and older. Survey includes a standardized 32-item questionnaire with a mixture of Likert scale, open-ended, and recognition questions. The questions were divided into 4 sections: general awareness of women’s health issues; communications and behaviors related to heart disease prevention; specific understanding of heart disease and behaviors associated with prevention; and demographic characteristics

Population Group
Adults aged 18 or older

References


* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.
Proposed Indicator
1.6.9

Proportion of individuals with high blood pressure in compliance with hypertensive medication regimen

Rating

<table>
<thead>
<tr>
<th>Overall Quality</th>
<th>Resources Needed*</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>$$$</td>
<td>⬇️</td>
<td>⬇️</td>
<td>⬇️</td>
<td>⬆️</td>
<td>⬆️ ← better</td>
</tr>
</tbody>
</table>

Priority Area
High Blood Pressure Control

Logic Model Component
Intermediate Outcomes Box 6: Risk factor reduction through lifestyle and therapeutic intervention

What to Measure
Proportion of individuals with high blood pressure reporting that they are currently taking prescribed medication to control high blood pressure

Why This Indicator is Useful
In clinical trials, adherence to pharmacologic therapy lowers blood pressure levels and is associated with 35% to 40% mean reductions in stroke incidence; 20% to 25% in myocardial infarction; and more than 50% in heart failure (Chobanian et al., 2006)

Example Data Sources/Measures

BRFSS (Behavioral Risk Factor Surveillance System, 2005)
Have you ever been told by a doctor, nurse, or other health professional that you have high blood pressure?
Are you currently taking medicine for your high blood pressure?

National Health and Nutrition Examination Survey NHANES 2003–2004 Questionnaire
Have you ever been told by a doctor or other health professional that you had hypertension, also called high blood pressure?
Because of your high blood pressure/hypertension, have you ever been told to take prescribed medicine?
Are you now taking prescribed medicine?

Medical Expenditure Panel Survey, 1996, Pharmacy Component (PC)
The PC is a mail survey of the pharmacy providers identified by household respondents during the series of MEPS interviews. Household respondents were asked to sign permission forms authorizing the MEPS project to contact their pharmacies and authorizing the pharmacies to release a respondent’s pharmacy records.
The pharmacies were asked to provide information about each prescription filled or refilled for the named patients. For each medication, they were asked to provide such information as:
- The date the prescription was filled or refilled.
- The medication name (generic or brand).
- The strength of the medicine.
- The quantity dispensed.
- The total charge.
- The sources of payment.
<table>
<thead>
<tr>
<th>Proposed Indicator</th>
<th>Proportion of individuals with high blood pressure in compliance with hypertensive medication regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example Data Sources/ Measures (continued)</td>
<td>Medicare Current Beneficiary Survey (MCBS), 2004, Community Questionnaire</td>
</tr>
<tr>
<td></td>
<td>The MCBS is a continuous, multipurpose survey of a representative national sample of the Medicare population, conducted by the Office of Strategic Planning of the Centers for Medicare &amp; Medicaid Services. The central goals of MCBS are to determine expenditures and sources of payment for all services used by Medicare beneficiaries, including co-payments, deductibles, and non-covered services; to ascertain all types of health insurance coverage and relate coverage to sources of payment; and to trace processes over time, such as changes in health status and spending down to Medicaid eligibility and the impacts of program changes, satisfaction with care, usual source of care, and prescribed medicine utilization.</td>
</tr>
<tr>
<td>Population Group</td>
<td>Adults aged 18 years or older</td>
</tr>
<tr>
<td>Comments</td>
<td>Note that there is a need for improved state level data sources to adequately measure compliance with hypertensive medication regimen.</td>
</tr>
</tbody>
</table>

* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.
<table>
<thead>
<tr>
<th>Proposed Indicator 1.7.1</th>
<th>Average blood pressure levels among individuals with high blood pressure</th>
</tr>
</thead>
</table>

**Priority Area**  
**Logic Model Component**  
Intermediate Outcomes Box 7: Reduced levels of BP among individuals with HBP

**What to Measure**  
Average blood pressure levels among individuals with high blood pressure

**Why This Indicator is Useful**  
The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure states “The relationship between blood pressure and risk of cardiovascular disease events is continuous, and independent of other risk factors. The higher the blood pressure, the greater the chance of myocardial infarction, heart failure, stroke, and kidney disease (Chobanian et al., 2003)

**Example Data Sources/Measures**  
National Health and Nutrition Examination Survey, Blood Pressure Module  
About how long has it been since you last had your blood pressure taken by a doctor or other health professional?  
Have you ever been told by a doctor or other health professional that you had hypertension, also called high blood pressure?  
Were you told on two or more different visits that you had hypertension, also called high blood pressure?  
Measured: Blood pressure: three systolic/diastolic BP measurements will be taken following a strict protocol.

**Population Group**  
Adults aged 18 years or older

**Comments**  
Note that a limited number of states are currently implementing elements of a state-level Health and Nutrition Examination Survey to capture self-reported as well as measured blood pressure levels.
### Proposed Indicator 1.7.1

**Average blood pressure levels among individuals with high blood pressure**

### References


### References (continued)


* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.

† Denotes low agreement among reviewers, defined as less than 75% of valid ratings being within one point of the median for this indicator-specific criterion.

†† Denotes low agreement among reviewers, defined as less than 75% of valid ratings being within two points of the median for overall quality of the indicator.
**Proposed Indicator**

1.8.1

**Proportion of individuals who have achieved blood pressure control**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Overall Quality</th>
<th>Resources Needed*</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$$$</td>
<td>⬛ ⬛ ⬛ ⬛ ⬛ ⬛</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*low ↔ high

- ● ○ ○ ○ ○ → better

**Priority Area**

High Blood Pressure Control

**Logic Model Component**

Intermediate Outcomes Box 8: Increased control of BP levels among individuals with HBP

**What to Measure**

Proportion of individuals diagnosed with high blood pressure who have achieved blood pressure control (<140/90 mmHg or <130/80 mm/Hg for those with diabetes or chronic kidney disease)

**Why This Indicator is Useful**

An individual’s ability to control high blood pressure through hypertensive medication and/or therapeutic lifestyle modification is directly associated with CV morbidity and mortality (Freidman et al., 1996; Orstein et al., 2004; Shea et al., 1990, Szirmai et al., 2005). In clinical trials, antihypertensive therapy has been associated with reductions in stroke incidence averaging 35–40 percent; myocardial infarction, 20–25 percent; and heart failure, more than 50 percent (Neal, et al., 2000).

**Example Data Sources/Measures**

Health Plan Employer Data and Information Set (HEDIS®)

Measure: Controlling High Blood Pressure, applicable to Medicaid, Commercial, Medicare and PPO

National Health and Nutrition Examination Survey, Blood Pressure Module

About how long has it been since you last had your blood pressure taken by a doctor or other health professional?

Have you ever been told by a doctor or other health professional that you had hypertension, also called high blood pressure?

Were you told on 2 or more different visits that you had hypertension, also called high blood pressure?

Measured: Blood pressure reading

**Population Group**

Adults aged 18 years or older

**Comments**

Ensuring that individuals maintain high blood pressure control over time is important. Tracking this information requires longitudinal data at the individual level, possible to capture through some registries as well as electronic medical record data analyses.
Proposed Indicator
1.8.1 Proportion of individuals who have achieved blood pressure control

References


*Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.*
### Proposed Indicator 1.8.2

| Degree of reduction in disparities in blood pressure control between general and priority populations |

<table>
<thead>
<tr>
<th>Rating</th>
<th>$$$</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Overall Quality</th>
<th>Resources Needed*</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td>high</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Priority Area

**High Blood Pressure Control**

#### Logic Model Component

Intermediate Outcomes Box 8: Increased control of BP levels among individuals with HBP

#### What to Measure

Reduction in disparities in blood pressure control between all individuals previously diagnosed with high blood pressure and those within priority groups.

#### Why This Indicator is Useful

Evidence suggest that age, race, and ethnicity are associated with increased blood pressure and absolute risks (Hicks et al., 2005; Lloyd-Jones et al., 2005; Mensah et al., 2005). BP control rates vary in minority populations and are lowest in Mexican Americans and Native Americans (JNC 7, 1997). Socioeconomic factors and lifestyle may be important barriers to BP control in some minority patients (ALLHAT, 2002).


#### Example Data Sources/Measures

**Health Plan Employer Data and Information Set (HEDIS®)**

HEDIS is a set of standardized performance measures designed to compare the performance of managed health care plans.

2007 HEDIS Measure: Controlling High Blood Pressure. Applicable to:
- Commercial
- Medicaid
- Medicare
- PPO

**HRSA Disparities Collaborative, Cardiovascular Disease**

An integrated and collaborative national effort to eliminate disparities and improve delivery systems of healthcare to all individuals living in the United States under the care of HRSA-supported Health Centers.

The number of CVD patients with a
1. diagnosis of hypertension (but not DM) whose last BP (taken with the last 12 months) was less than 140/90 OR
2. diagnosis of hypertension AND DM whose last BP was less than 130/80

DIVIDED by the total of CVD patients with hypertension in the clinical information system. Multiply by 100 to get a percentage.

Administrative records
### Proposed Indicator

**1.8.2 Degree of reduction in disparities in blood pressure control between general and priority populations**

<table>
<thead>
<tr>
<th>References</th>
<th>Details</th>
</tr>
</thead>
</table>

* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers' ratings regarding resources required to collect and analyze data to measure the indicator.
<table>
<thead>
<tr>
<th>Proposed Indicator</th>
<th>Mortality rate due to cardiovascular disease associated with high blood pressure</th>
</tr>
</thead>
</table>

**Rating**

<table>
<thead>
<tr>
<th>Overall Quality</th>
<th>Resources Needed*</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>$|$</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$$$$$</td>
</tr>
</tbody>
</table>

Priority Area | High Blood Pressure Control |

Logic Model Component | Long-term Outcomes Box 9: Reduced mortality and morbidity due to heart disease and stroke |

What to Measure | Number of deaths attributed to cardiovascular disease including heart disease and stroke associated with high blood pressure. |

Why This Indicator is Useful | Evidence demonstrates that high blood pressure leads to increased cardiovascular disease related mortality (Agewall et al., 2001; Mensah et al., 2007; Rosen et al., 2007). Reductions in risk factors, including high blood pressure, result in decreased in cardiovascular disease mortality (Farquhar et al., 1990). |

Example Data Sources/Measure |

**State Inpatient Databases (SID)**
- Principal and secondary diagnoses
- Principal and secondary procedures
- Admission and discharge status
- Patient demographics

**National Registry of Myocardial Infarction (NMRI)**
Among the areas NRMI examines are trends in treatment, length of hospital stay, mortality, and variations among specific patient populations.
A registry coordinator at each participating hospital completes an electronic Case Report Form (eCRF) for each acute myocardial infarction (AMI) patient.
The Coordinator collects data on:
- Patient demographics
- Medical history
- Diagnostic procedures
- Timing of treatment
- Treatments and medications
- Patient outcomes

**National Vital Statistics System**
Legally responsible for the registration of vital events—births, deaths, marriages, divorces, and fetal deaths

Population Group | Adults aged 18 and over.
References


* Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.
Proposed Indicator 1.10.2
Degree of reduction in disparities in cardiovascular mortality between general and priority populations

Rating

<table>
<thead>
<tr>
<th>Overall Quality</th>
<th>Resources Needed</th>
<th>Scientific Evidence</th>
<th>Face Validity</th>
<th>Utility</th>
<th>Accepted Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>low</td>
<td>high</td>
<td>$\beta$</td>
<td>$\beta$</td>
<td>$\beta$</td>
<td>$\beta$</td>
</tr>
</tbody>
</table>

Priority Area
High Blood Pressure Control

Logic Model Component
Long-term Outcomes Box 10: Reduced levels of disparities in heart disease and stroke

What to Measure
Reduction of disparities in cardiovascular mortality rates between individuals in the general population and those within priority groups.

Why This Indicator is Useful
Reducing health disparities remains a major public health challenge in the United States. Although disparities exist across a number of domains, mortality age-specific death rates for cardiovascular disease suggest that black adults had higher death rates at all ages compared with other ethnic/racial groups (Mensah et al., 2005).

Example Data Sources/Measures
State Inpatient Databases (SID)
Principal and secondary diagnoses
Principal and secondary procedures
Admission and discharge status
Patient demographics
National Registry of Myocardial Infarction (NMRI)
Among the areas NRMI examines are trends in treatment, length of hospital stay, mortality, and variations among specific patient populations.
A registry coordinator at each participating hospital completes an electronic Case Report Form (eCRF) for each acute myocardial infarction (AMI) patient.
The Coordinator collects data on:
- Patient demographics
- Medical history
- Diagnostic procedures
- Timing of treatment
- Treatments and medications
- Patient outcomes
National Vital Statistics System
Legally responsible for the registration of vital events—births, deaths, marriages, divorces, and fetal deaths

Expecting Success: Excellence in Cardiac Care
A national program of the Robert Wood Johnson Foundation to improve the quality of health care provided to minority populations in the United States. The effort currently includes 10 funded hospitals that use uniform methods to collect and submit standardized race and ethnicity specific data on a select uniform set of measures including measures for patients with acute myocardial infarction /heart
### Proposed Indicator

<table>
<thead>
<tr>
<th>Proposed Indicator 1.10.2</th>
<th>Degree of reduction in disparities in cardiovascular mortality between general and priority populations (attack and/or congestive heart failure).</th>
</tr>
</thead>
</table>

### Population Group

- Adults aged 18 and over.

### Comments

- Analyze cardiovascular mortality rates by stroke and heart disease.

### References


*Dollar signs denote a qualitative rating of the resources (funds, time, and effort) needed to collect and analyze data using the most commonly available data source. The greater the number of dollar signs (maximum four), the greater the resources needed. Dollar signs do not represent a specific amount or range of costs but are instead a relative measure of expert reviewers ratings regarding resources required to collect and analyze data to measure the indicator.*

†Denotes low agreement among reviewers, defined as less than 75% of valid ratings being within one point of the median for this indicator-specific criterion.