



## Guideline for Disease Management in Correctional Settings

### HYPERTENSION

#### **Recommended Resources to Support Evidence-Based Practice and Quality Improvement**

NCCHC issues guidelines to assist correctional health care clinicians in evidence-based decision making. For specific clinical practice guidelines and recommendations, please see the resources listed on page 2.

#### **Introduction**

Although clinical guidelines are important decision support for evidence-based practice, to leverage the potential of guidelines to improve patient outcomes and resource use, NCCHC recommends that health care delivery systems also have components including primary care teams, other decision support at the point of care (such as reminders), disease registries, and patient self-management support. These components have been shown to improve outcomes for patients with chronic conditions. In addition, we recommend establishment of a strategic quality management program that supports ongoing evaluation and improvement activities focused on a set of measures that emphasize outcomes as well as process and practice. For information on the chronic care model, model for improvement, and outcomes measures, see the resources listed on page 2.

#### **Hypertension Care in Corrections**

The general approach to the management of hypertension is organized into four components:

- Assessment and monitoring of disease severity and control to reduce cardiovascular risk
- Patient education and self-management about the disease process, lifestyle modifications, and medication use
- Mitigation of factors that increase blood pressure such as over-the-counter medications and illicit drugs, and co-morbidities that increase cardiovascular risk such as diabetes and hyperlipidemia
- Medications including first-line agents such as thiazide diuretics unless there are comorbidities or contraindications

It is important that all inmates be screened for hypertension on entry to the correctional system and reassessed on a regular basis. Entering a correctional facility may be stressful and result in temporary elevation of blood pressures in some people. In addition, inmate-patients in chemical withdrawal may have elevated blood pressures. Thus, NCCHC recommends that patients be reassessed within a reasonable time frame after entry to confirm the diagnosis of hypertension in someone who does not have a history of this condition.

The diagnosis of hypertension is based on the average of two or more blood pressure readings at each of two or more visits. We recommend categorizing severity and control of disease based on the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) and NCCHC definitions shown in Table 1. For patients who also have diabetes, the blood pressure goal is systolic less than 130 mmHg and diastolic less than 80 mmHg. Initial diagnostic testing recommended by the JNC 7 is geared toward the search for secondary causes, target organ damage, and other cardiac risk factors and includes complete blood count, routine blood chemistries, lipid profile, urinalysis, and electrocardiogram.

| JNC 7 Severity Classification | Systolic BP | Diastolic BP | NCCHC Degree of Control |
|-------------------------------|-------------|--------------|-------------------------|
| Prehypertension               | 120-139     | 80-89        | Good                    |
| Stage 1                       | 140-159     | 90-99        | Fair                    |
| Stage 2                       | ≥ 160       | ≥ 100        | Poor                    |

As with all chronic conditions, self-management is paramount to improve outcomes and reduce morbidity and mortality. Some correctional systems now provide dietary choices that have less salt, less fat, and fewer calories. It also is important that patients are educated about healthier foods available in the commissary, avoidance of drugs that increase blood pressure, and adherence to medications.

Medication adherence is facilitated if clinicians prescribe a regimen of drugs taken once or twice a day rather than more frequently. Most patients with stage 2 hypertension will require more than one type of medication, and most regimens should include a thiazide diuretic agent. It should be noted that long-term therapy with clonidine to control blood pressure is not recommended since no studies show that this agent reduces cardiovascular morbidity or mortality, and it may lead to rebound hypertension.

### Quality Improvement Measures

The following quality improvement measures are suggested, but they are not intended to be a complete list necessary to ensure a successful hypertension management program in a correctional setting. We recommend that the improvement measures for a patient population be reported at a facility level and at a provider or team level. These indicators should be compared over time to correlate improvement.

- Percentage of inmates with a hypertension diagnosis who undergo a complete intake health assessment within an appropriate time frame
- Percentage of patients with a hypertension diagnosis who had at least one blood pressure reading in the preceding 6 months
- Percentage of patients with a hypertension diagnosis who had at least one fasting lipid panel and fasting plasma glucose in the preceding 24 months
- Percentage of patients with a hypertension diagnosis whose degree of control is categorized as fair or poor who have a plan that includes a strategy for improving blood pressure control
- Percentage of patients with a hypertension diagnosis who have blood pressures < 140/< 90 mmHg based on the last blood pressure reading in the preceding 6 months
- Percentage of patients with a hypertension diagnosis and diabetes who have blood pressures < 130/< 80 based on the last blood pressure reading in the preceding 6 months

### Recommended Resources to Support Evidence-Based Practice and Quality Improvement

- RESOURCE Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) (December 2003)
- SOURCE National High Blood Pressure Education Program; National Heart, Lung, and Blood Institute; National Institutes of Health
- URL [www.nhlbi.nih.gov/guidelines/hypertension](http://www.nhlbi.nih.gov/guidelines/hypertension)
- RESOURCE Essential Hypertension (Brief Summary) (February 2009)
- SOURCE University of Michigan Health System; available from the Agency for Healthcare Research and Quality's National Guideline Clearinghouse
- URL [http://www.guideline.gov/summary/summary.aspx?doc\\_id=14586&nbr=007260&string=adult+and+hypertension](http://www.guideline.gov/summary/summary.aspx?doc_id=14586&nbr=007260&string=adult+and+hypertension)

RESOURCE The Heart/Stroke Recognition Program  
SOURCE Developed by the National Committee for Quality Assurance and the American Heart Association  
URL <http://www.ncqa.org/tabid/140/Default.aspx>

RESOURCE Chronic Care Model (1998)  
SOURCE Developed by Ed Wagner MD, MPH, MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, and the Improving Chronic Illness Care program; available from the Institute for Healthcare Improvement  
URL <http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/Changes>

RESOURCE Model for Improvement (1997)  
SOURCE Associates in Process Improvement; available from the Institute for Healthcare Improvement  
URL <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/HowToImprove>

RESOURCE Measures  
SOURCE Institute for Healthcare Improvement  
URL <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Measures>

RESOURCE HEDIS & Quality Measurement  
SOURCE National Committee for Quality Assurance  
URL <http://www.ncqa.org/tabid/59/Default.aspx>

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| <p>Last reviewed: May 2011<br/>Next scheduled review: May 2012<br/>For the latest version, go to <a href="http://www.ncchc.org/resources">http://www.ncchc.org/resources</a></p> |
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