Complete Summary

GUIDELINE TITLE

Hypertension guidelines.

BIBLIOGRAPHIC SOURCE(S)

Kaiser Permanente Care Management Institute. Hypertension guidelines. Oakland (CA): Kaiser Permanente Care Management Institute; 2005 Jun. 83 p. [104 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
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INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
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SCOPE

DISEASE/CONDITION(S)

Hypertension

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To improve clinical understanding and treatment of adults with hypertension
- To assist physicians and other healthcare professionals in counseling adults with hypertension

TARGET POPULATION

Nonpregnant adults with hypertension who do not have diabetes, heart failure, renal insufficiency, or known coronary heart disease.

Patients younger than 18 years are not included.

INTERVENTIONS AND PRACTICES CONSIDERED

1. Early versus delayed initiation of pharmacotherapy
2. Target blood pressure assessment
3. Home blood pressure monitoring
4. Pharmacological therapy
    - Thiazide diuretic first-line therapy
    - Two drug combination therapy (thiazide diuretic + an angiotensin-converting enzyme inhibitor [ACEI] [or a thiazide diuretic + other medication if the patient is ACEI-intolerant])
    - Three drug combination therapy (thiazide-type diuretic + ACE inhibitor + beta-blocker)
    - Four drug combination therapy (thiazide-type diuretic +ACE inhibitor + beta-blocker + dihydropyridine calcium channel blocker)
5. Behavioral changes
    - Dietary modification
    - Weight reduction
    - Moderation of alcohol intake
    - Participation in a physical activity program
6. Aspirin
7. Treatment for hyperlipidemia (according to total cardiovascular risk profile)

MAJOR OUTCOMES CONSIDERED

- All cause mortality
- Cardiovascular morbidity and mortality

- Stroke
- Non-fatal myocardial infarction
- Heart failure

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Evidence Search

The Guidelines Project Management Team searched for relevant literature for each clinical question of interest. All relevant citations were then reviewed in detail. In areas where a comprehensive and high-quality systematic review or meta-analysis had been published, the literature search in the review was updated. Except for the published quantitative systematic reviews (meta-analyses), no attempt was made to quantify the results.

Only randomized controlled trials (RCTs), systematic reviews, or meta-analysis with clinical outcomes that studied nonpregnant individuals with hypertension were included. Selection was limited to studies that randomized participants to head-to-head trials in the areas addressed by the guidelines.

The Guidelines Project Management Team developed a search strategy and performed a systematic review of the literature whenever clinical questions went unanswered. Titles and abstracts of search results were reviewed for relevance to the clinical question of interest and for adherence to the inclusion criteria. The results, strengths, and weaknesses of the articles were taken into account, and a guideline was proposed on the basis of the overall weight of the evidence.

Biases

The systematic review of the literature and the attendant Hypertension Guidelines have biases that may have affected the results. The guideline developers did not search for unpublished studies, or include publication languages other than English. Both of these constraints will bias the review toward "positive" studies (i.e., the selected treatment studies will have a bias toward showing a positive effect instead of no effect). Thus, in areas with equivocal or conflicting results, the reader should be aware that this review may exclude studies that show no differences in the interventions of interest.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence is graded as GOOD, FAIR, or INSUFFICIENT.

GOOD Evidence

Therapy/Prevention/Screening	Diagnosis	Prognosis
Type and number of studies • At least one well-designed and conducted systematic review (SR) or meta-analysis (MA) (consider heterogeneity) of randomized controlled trials (RCTs) • Two or more well-designed and conducted RCTs with narrow confidence intervals • One well-designed and conducted multi-center RCT with narrow confidence intervals **Quality** • Low risk of bias • Adequate sample size and power • No major methodological concerns **Consistency** • For SR/MA, no major conflict in results (consider heterogeneity). If significant heterogeneity exists, drops to Poor. • For individual RCTs, no major conflict in results. • If major conflicts do exist, drop to "Insufficient" **Relevancy**	**Type and number of studies** • At least one well-designed and conducted SR/MA (consider heterogeneity) of cross-sectional studies using independent gold standard • Two or more well-designed and conducted cross-sectional studies using an independent gold standard **Quality** • Low risk of (verification) bias • Independent gold standard • No major methodological concerns **Consistency** • For SR/MA no major conflict in results (consider heterogeneity) • For individual studies,	**Type and number of studies** • At least one well-designed and conducted SR/MA (consider heterogeneity) of prospective cohort studies • Two or more well-designed and conducted prospective cohort studies **Quality** • Low risk of bias • Acceptable loss to follow-up (< 20%) • No major methodological concerns **Consistency** • For SR/MA no major conflict in results (consider heterogeneity) • For individual studies, consistent prognosis in

Therapy/Prevention/Screening	Diagnosis	Prognosis
• No compelling reason not to generalize the published work to the target KP population	consistent diagnostic accuracy **Relevancy** • No compelling reason not to generalize the published work to the target Kaiser Permanente (KP) population	similar populations **Relevancy** • No compelling reason not to generalize the published work to the target KP population

FAIR Evidence

Therapy/Prevention/Screening	Diagnosis	Prognosis

Type and number of studies
 	
• Single well-designed and conducted RCT with narrow confidence intervals
• Two or more RCTs of lower quality
• Well-designed and conducted SR/MA of cohort studies (consider heterogeneity)
• For screening interventions only, the following are also acceptable as Fair evidence:
  • Two or more well-designed and conducted cohort studies
  • Two or more well-designed and conducted case-control studies
  • Two or more well-designed and conducted time series studies
 	
Quality
 	
• Minor methodological concerns
 	
Consistency
	Type and number of studies
	
	• Single well-designed and conducted cross-sectional study
	• Two or more cross-sectional studies of lower quality
	• Well-designed and conducted SR/MA of lower quality studies
	
	Quality
	
	• Minor methodological concerns
	• Independent gold standard
	
	Consistency
	
	• For SR/MA, no major conflict in results (consider heterogeneity)
	• For individual studies, no major
		Type and number of studies
		
		• Single well-designed and conducted prospective cohort study
		• Two or more prospective cohort studies of lower quality
		• Well-designed and conducted SR/MA (consider heterogeneity) of either retrospective cohort studies or untreated control arms in RCTs
		
		Quality
		
		• Minor methodological concerns
		
		Consistency

Therapy/Prevention/Screening	Diagnosis	Prognosis
• For SR/MA, no major conflict in results (consider heterogeneity) • For individual studies, no major conflict in results • If major conflicts do exist, drop to "Insufficient" **Relevancy** • No compelling reason not to generalize the published work to the target KP population	conflict in results **Relevancy** • No compelling reason not to generalize the published work to the target KP population	• For SR/MA, no major conflict in results (consider heterogeneity) • For individual studies, no major conflict in results **Relevancy** • No compelling reason not to generalize the published work to the target KP population

INSUFFICIENT Evidence

NOTE: Any evidence that fails to meet criteria for GOOD or FAIR evidence is considered to be INSUFFICIENT. Examples of insufficient evidence are provided for the different criteria.

Therapy/Prevention/Screening	Diagnosis	Prognosis
Type and number of studies • Single RCT of lower quality or insufficient size • Cohort study **Quality** • Major methodological concerns (i.e., lack of concealed allocation, inadequate blinding, no ITT analysis) **Consistency** • Studies that are well-designed and conducted (Good or Fair) but with major conflict in results • SR/MA with major conflict in	**Type and number of studies** • Single cross-sectional study of lower quality • Case-control study **Quality** • Major methodological concerns (non-consecutive, poor or non-independent gold standard) **Consistency**	**Type and number of studies** • Single prospective cohort study of lower quality • Retrospective cohort study • Untreated control arm of RCT • Case series **Quality** • Major design or methodological concerns (sampling bias, high dropout, non-blinded outcome assessment, lack of adjustment for

Therapy/Prevention/Screening	Diagnosis	Prognosis
results (consider heterogeneity) **Relevancy** • Compelling reasons why the results do not apply to the target KP population	• Studies that are well-designed and conducted (Good or Fair) but with major conflict in results **Relevancy** • Compelling reasons why the results do not apply to the target KP population	confounders) **Consistency** • Studies that are well-designed and conducted (Good or Fair) but with major conflict in results **Relevancy** • Compelling reasons why the results do not apply to the target KP population

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Guidelines are developed using an "evidence-based methodology" and involve a systematic literature search, critical appraisal of the research design and statistical results of relevant studies, and grading of the sufficiency (quantity, quality, consistency, and relevancy) of the evidence for drawing conclusions.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A multidisciplinary Hypertension Guidelines Workgroup was formed by Care Management Institute (CMI) that included hypertension champions from the Kaiser Permanente (KP) regions, primary care physicians, specialists, pharmacists, and other guideline developers. During the guideline development process, the Guideline Development Team reviewed evidence published in peer-reviewed scientific journals, existing evidence-based guidelines, and consensus-based statements from external professional societies and government health organizations, and clinical expert opinion of KP regional specialty groups.

The CMI Hypertension Guidelines Workgroup was convened in November 2004 to define the scope and to provide direction for the project. At this time, the major topics of interest were chosen for guideline development. A teleconference was held in May 2005 and appropriate changes to the guidelines were made on the basis of the Workgroup's input, always maintaining an evidence-based focus. Consensus was reached on the final product, including problem formulations, search strategies, evidence tables, guidelines, and rationale statements.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Recommendations are classified as either "evidence-based (A-D, I)" or "consensus."

- Evidence-based: sufficient number of high-quality studies from which to draw a conclusion, and the recommended practice is consistent with the findings of the evidence. A recommendation can also be considered "evidence-based" if there is insufficient evidence and no practice is recommended.
- Consensus: insufficient evidence and a practice is recommended based on the consensus or expert opinion of the Guideline Quality Committee (GQC).

Label and Language of Recommendations*

Label	Evidence-Based Recommendations
Evidence-based (A)	**Language**: [a] The intervention is strongly recommended for eligible patients. **Evidence**: The intervention improves important health outcomes, based on good evidence, and the Guideline Quality Committee (GQC) concludes that benefits substantially outweigh harms and costs. **Evidence Grade**: Good.
Evidence-based (B)	**Language** [a] The intervention is recommended for eligible patients. **Evidence**: The intervention improves important health outcomes, based on 1) good evidence that benefits outweigh harms and costs; or 2) fair evidence that benefits substantially outweigh harms and costs. **Evidence Grade**: Good or Fair.
Evidence-based (C)	**Language**: [a] No recommendation for or against routine provision of the intervention. (At the discretion of the GQC, the recommendation may use the language "option," but must list all the equivalent options.) **Evidence**: Evidence is sufficient to determine the benefits, harms, and costs of an intervention, and there is at least fair evidence that the intervention improves important health outcomes. But the GQC concludes that the balance of the benefits, harms, and costs is too close to justify a general recommendation.

Label	Evidence-Based Recommendations
	Evidence Grade: Good or Fair.
Evidence-based (D)	**Language**: [a] Recommendation against routinely providing the intervention to eligible patients. **Evidence**:The GQC found at least fair evidence that the intervention is ineffective, or that harms or costs outweigh benefits. **Evidence Grade**: Good or Fair.
Evidence-based (I)	**Language**: [a] The evidence is insufficient to recommend for or against routinely providing the intervention. (At the discretion of the GQC, the recommendation may use the language "option," but must list all the equivalent options.) **Evidence**: Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits, harms, and costs cannot be determined. **Evidence Grade**: Insufficient.
Consensus-based	**Language**: [a] The language of the recommendation is at the discretion of the GQC, subject to approval by the National Guideline Directors. **Evidence**: The level of evidence is assumed to be "Insufficient" unless otherwise stated. However, do not use the A, B, C, D, or I labels which are only intended to be used for evidence-based recommendations. **Evidence Grade**: Insufficient, unless otherwise stated.
For the rare consensus-based recommendations which have "Good" or "Fair" evidence, the evidence must support a different recommendation, because if the evidence were good or fair, the recommendation would usually be evidence-based. In this kind of consensus-based recommendation, the evidence grade should point this out (e.g., "Evidence Grade: Good, supporting a different recommendation)."	

[a] All statements specify the population for which the recommendation is intended.

*Recommendations should be labeled and given an evidence grade. The evidence grade should appear in the rationale. Evidence is graded with respect to the degree it supports the specific clinical recommendation. For example, there may be good evidence that Drugs 1 and 2 are effective for Condition A, but no evidence that Drug 1 is more effective than Drug 2. If the recommendation is to use either Drug 1 or 2, the evidence is good. If the recommendation is to use Drug 1 in preference to Drug 2, the evidence is insufficient.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The members of the Guideline Development Team develop the guideline and facilitate the information exchange in both directions on behalf of the Region that they represent. This process should include obtaining the buy-in of the local champions regarding the guideline so that it will be implemented once published.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Recommendations are identified as either "evidence-based (A to D and I)" or "consensus." For definitions of the levels of recommendations see the end of the "Major Recommendations" field.

Definition of Hypertension

The Care Management Institute (CMI) Hypertension Guidelines Project Management Team used the definition of hypertension to be a blood pressure at or above 140/90 mm Hg. The guidelines pertain to uncomplicated hypertension which is defined as hypertension in nonpregnant adults who do not have diabetes, heart failure, renal insufficiency, or known coronary heart disease.

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC7) Report defines blood pressure as:	Systolic Blood Pressure (SBP) mm Hg	Diastolic Blood Pressure (DBP) mm Hg
Normal	<120	<80
Prehypertension	120–139	80–89
Stage I Hypertension	140–159	90–99
Stage II Hypertension	≥160	≥100

Treatment of Hypertension

When to Begin Pharmacotherapy for Hypertension

In addition to lifestyle interventions:

If an individual has blood pressure of 140 to 159 mm Hg systolic OR 90 to 99 mm Hg diastolic (Stage 1), and does not have target organ damage or diabetes mellitus, then:

- If there is documentation of elevated blood pressure (≥140 mm Hg systolic OR ≥90 mm Hg diastolic) for two or more months prior to the current measurement, then initiate pharmacotherapy.

- If this is the first elevated measurement, wait approximately two months. After two months, if blood pressure is ≥140 mm Hg systolic OR ≥90 mm Hg diastolic, then initiate pharmacotherapy.

If an individual has blood pressure of 160 to 179 mm Hg systolic OR 100 to 109 mm Hg diastolic (Stage 2), and does not have target organ damage or diabetes mellitus, then:

- If there is documentation of elevated blood pressure (≥140 mm Hg systolic OR ≥90 mm Hg diastolic) for one or more months prior to the current measurement, then initiate pharmacotherapy.
- If this is the first elevated measurement, wait approximately one month. After one month, if blood pressure is ≥140 mm Hg systolic OR ≥90 mm Hg diastolic, then initiate pharmacotherapy.

If an individual has blood pressure ≥180 mm Hg systolic OR ≥110 mm Hg diastolic, then initiate pharmacotherapy.

Methodology – Consensus-based (Guideline Quality Committee [GQC]-sponsored)

Appropriate Office-Based Target Blood Pressure for Hypertension

When treating an individual with hypertension, the target office blood pressure is ≤139/≤89 mm Hg.

Methodology – Consensus-based (GQC-sponsored)

Home Blood Pressure Monitoring for Diagnosis and Management

Diagnosis of hypertension should be established in the medical office.

Home self-measurement of blood pressure is recommended to:

- Identify a low-risk subpopulation of individuals with "white coat hypertension," without target organ disease or diabetes, for whom medication may not necessary. These individuals have home blood pressure levels <130/80 mm Hg but have office blood pressure levels ≥140/≥90 mm Hg.
- Attain control in patients with uncontrolled hypertension (>135/85 mm Hg by home monitoring) according to drug treatment algorithms, and by using telephone/e-mail/fax or other electronic patient communications in conjunction with standard provider-based clinic visits.
- Monitor controlled hypertension over time.

Methodology – Consensus-based (GQC-sponsored)

First-Line Treatment of Hypertension

Thiazide diuretics are recommended as first-line agents for initial therapy in people with hypertension.

Methodology – Evidence-based (GQC-sponsored), Grade A

Initial Combination Treatment of Hypertension

Combination therapy consisting of a thiazide diuretic plus an angiotensin converting enzyme inhibitor (ACEI) (or a thiazide diuretic plus other medication if the patient is ACEI-intolerant) is an option for initial therapy for Stage 1 hypertension (systolic blood pressure 140 to 159 mm Hg OR diastolic blood pressure 90 to 99 mm Hg).

Combination therapy of a thiazide diuretic plus an ACEI (or a thiazide diuretic plus other medication if ACEI-intolerant) is recommended for Stage 2 hypertension (systolic blood pressure >160 mm Hg OR diastolic blood pressure >100 mm Hg).

Methodology – Consensus-based (GQC-sponsored)

Step-Care Therapy for Hypertension

Because most people with hypertension will need more than one drug to control their hypertension effectively:

- **For two drugs**:
  If blood pressure is not controlled on a thiazide-type diuretic alone, then a thiazide-type diuretic + ACE inhibitor is recommended.
- **For three drugs**:
  If blood pressure is not controlled on a thiazide-type diuretic + ACE inhibitor, then a thiazide-type diuretic + ACE inhibitor + beta-blocker is recommended.
- **For four drugs**:
  If blood pressure is not controlled on a thiazide-type diuretic + ACE inhibitor + beta-blocker, then a thiazide-type diuretic + ACE inhibitor + beta-blocker + dihydropyridine calcium channel blocker is recommended.

Methodology – Consensus-based (GQC-sponsored)

Supplementary Treatment of Uncomplicated Hypertension with Behavior Change Measures

- A moderately low-sodium, low-fat diet with a high intake of fruits and vegetables (Dietary Approaches to Stop Hypertension [DASH] diet) is recommended to supplement pharmacotherapy for patients with hypertension.
- Weight reduction is recommended for patients with a body mass index (BMI) $\geq$25 kg/m^2 on antihypertensive medications.
- It is recommended that hypertension patients who consume alcohol have no more than one alcoholic drink (for women) or two alcoholic drinks (for men) daily.
- Physical activity (at least 30 minutes of walking or equivalent at least three times per week) is recommended for patients with hypertension who are on medications.

Methodology – Consensus-based (GQC-sponsored)

Concomitant Therapy

Use of Aspirin in Hypertensive Patients Receiving Antihypertensive Medications

For individuals aged 50 to 80 years, whose hypertension is controlled by antihypertensive medications, low-dose aspirin (81 mg) is recommended as an adjunct therapy to further reduce risks of long-term cardiovascular outcomes (excluding mortality). When recommending aspirin, consider potential side effects, especially gastrointestinal bleeding.

Methodology – Evidence-based (GQC-sponsored), Grade A

Use of Statins in Hypertensive Patients Taking Antihypertensive Medications

There is insufficient evidence to recommend the use of statins in hypertensive patients in the absence of other significant risk factors. Patients with hypertension should be treated for hyperlipidemia according to their total cardiovascular risk profile.

Methodology – Evidence-based (GQC-sponsored), Grade A

Definitions:

Recommendations are classified as either "evidence-based (A-D, I)" or "consensus."

- Evidence-based: sufficient number of high-quality studies from which to draw a conclusion, and the recommended practice is consistent with the findings of the evidence. A recommendation can also be considered "evidence-based" if there is insufficient evidence and no practice is recommended.
- Consensus: insufficient evidence and a practice is recommended based on the consensus or expert opinion of the Guideline Quality Committee (GQC).

Label and Language of Recommendations*

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Evidence-based (B)	**Language** [a] The intervention is recommended for eligible patients. **Evidence**: The intervention improves important health outcomes, based on 1) good evidence that benefits outweigh harms and costs;

Label	Evidence-Based Recommendations
	or 2) fair evidence that benefits substantially outweigh harms and costs. **Evidence Grade**: Good or Fair.
Evidence-based (C)	**Language**: [a] No recommendation for or against routine provision of the intervention. (At the discretion of the GQC, the recommendation may use the language "option," but must list all the equivalent options.) **Evidence**: Evidence is sufficient to determine the benefits, harms, and costs of an intervention, and there is at least fair evidence that the intervention improves important health outcomes. But the GQC concludes that the balance of the benefits, harms, and costs is too close to justify a general recommendation. **Evidence Grade**: Good or Fair.
Evidence-based (D)	**Language**: [a] Recommendation against routinely providing the intervention to eligible patients. **Evidence**:The GQC found at least fair evidence that the intervention is ineffective, or that harms or costs outweigh benefits. **Evidence Grade**: Good or Fair.
Evidence-based (I)	**Language**: [a] The evidence is insufficient to recommend for or against routinely providing the intervention. (At the discretion of the GQC, the recommendation may use the language "option," but must list all the equivalent options.) **Evidence**: Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits, harms, and costs cannot be determined. **Evidence Grade**: Insufficient.
Consensus-based	**Language**: [a] The language of the recommendation is at the discretion of the GQC, subject to approval by the National Guideline Directors. **Evidence**: The level of evidence is assumed to be "Insufficient" unless otherwise stated. However, do not use the A, B, C, D, or I labels which are only intended to be used for evidence-based recommendations. **Evidence Grade**: Insufficient, unless otherwise stated.
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CLINICAL ALGORITHM(S)

A clinical algorithm titled "Management of Adult Hypertension" is available in the pocket guide for this guideline. See the "Availability of Companion Documents" field for ordering information.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

The recommendations contained in these guidelines are based on the current evidence from randomized, controlled trials and meta-analyses of those studies. In cases when high-quality evidence is lacking, recommendations are made on the basis of consensus reached after literature review.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Use of these guidelines should lead to an increase in both the number of members with hypertension who are treated with antihypertensive medications and the number who achieve hypertension control through the use of multiple drugs when necessary. Use of these guidelines should also increase the number of patients who are following self-care guidelines to decrease the amount of salt and fat in their diet, increase the amount of fruits and vegetables in their diet, limit intake of alcoholic beverages, increase physical activity, and reduce their weight.

POTENTIAL HARMS

- Side effects of pharmacologic therapy
- Potential side effects of aspirin include gastrointestinal bleeding

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- These guidelines are informational only. They are not intended or designed as a substitute for the reasonable exercise of independent clinical judgment by

practitioners, who should consider each patient's needs on an individual basis. Guideline recommendations apply to populations of patients. Clinical judgment is necessary to design treatment plans for individual patients.
- The authors' systematic review of the literature and the attendant Hypertension Guidelines have biases that may have affected the results. They did not search for unpublished studies, or include publication languages other than English. Both of these constraints will bias the review toward "positive" studies (i.e., the selected treatment studies will have a bias toward showing a positive effect instead of no effect). Thus, in areas with equivocal or conflicting results, the reader should be aware that this review may exclude studies that show no differences in the interventions of interest.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Clinical Algorithm
Pocket Guide/Reference Cards

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Kaiser Permanente Care Management Institute. Hypertension guidelines. Oakland (CA): Kaiser Permanente Care Management Institute; 2005 Jun. 83 p. [104 references]

ADAPTATION

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

DATE RELEASED

2005 Jun

GUIDELINE DEVELOPER(S)

Kaiser Permanente Care Management Institute - Managed Care Organization

SOURCE(S) OF FUNDING

Kaiser Permanente Care Management Institute

GUIDELINE COMMITTEE

Hypertension Project Management Team

Hypertension Guidelines Workgroup

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the Workgroup signed a Financial Conflict of Interest Disclosure Form stating that neither they nor their family had a financial interest in any company that makes or sells an agent recommended in the guideline.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: None available

Print copies: Available from the Kaiser Permanente Care Management Institute, One Kaiser Plaza, 16L, Oakland, CA 94612

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Pocket card: Management of adult hypertension. Oakland (CA): Kaiser Permanente Care Management Institute; 2005. 2 p.

Electronic copies: Not available

Print copies: Contact the CMI Product Line at (510) 271-6424 or CMIProduct@kp.org

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on October 31, 2006. The information was verified by the guideline developer on November 28, 2006.

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For any questions regarding the content of this Kaiser Permanente National Clinical Practice Guideline, please contact Donna M. Schaffer, RD, MPH, CMI at Donna.M.Schaffer@kp.org or (510) 271-5678.

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