

## Cardiovascular Disease and Stroke Prevention Guideline

Colorado Stroke Advisory Board

July 20, 2007

Presented by:  
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Colorado Clinical Guidelines Collaborative

## Colorado Clinical Guidelines Collaborative (CCGC)

A non-profit coalition of health plans, physicians, hospitals, employers, public health agencies and others working together to implement systems and processes, using evidence-based guidelines, to improve healthcare in Colorado.

## What Does CCGC Do?

- Started 1996 to address inundation with multiple guidelines
- Develop ONE GUIDELINE per condition
  - Use “best available” evidence
  - Highlight top 3-5 key issues
  - Get consensus from >50 organizations

## Goals

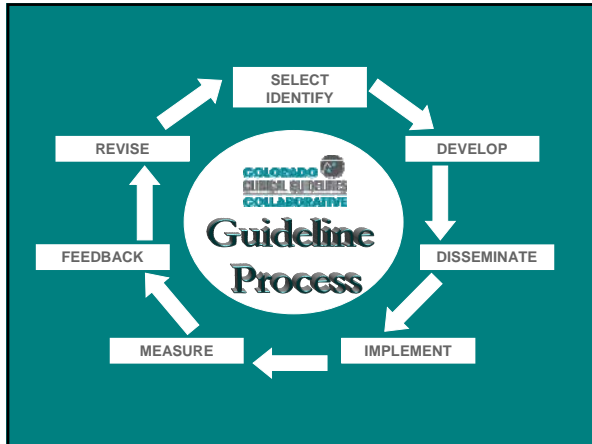
- Reduce number of guidelines
- Provide a reliable source
  - do research, gather experts and compile data
- Simplify message
  - One page laminated quick reference to highlight key issues – consistent formats
  - Paper, web, PDA

## Goals

- Provide tools
  - Chart tracking forms, education materials
- Promote consistency
  - Same message to physicians, patients, health plans, employers
- Promote system wide approach to decrease fragmentation

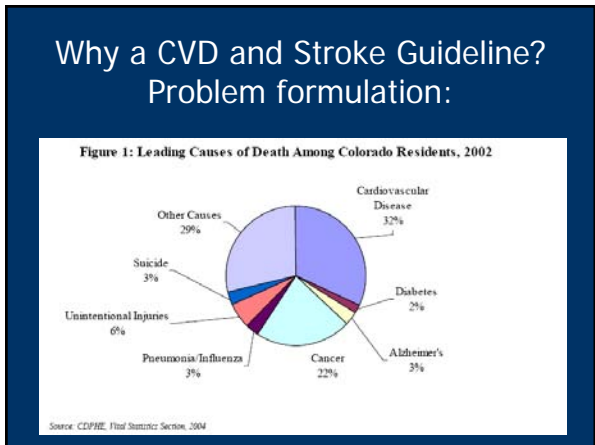
## CCGC Guidelines

- |                                       |  |
|---------------------------------------|--|
| ■ Diabetes                            | ■ Pediatric and Adult Immunizations        |
| ■ Depression                          | ■ Tobacco Cessation                        |
| ■ Screening for Colorectal Cancer     | ■ Obesity                                  |
| ■ Asthma                              | ■ Gestational DM                           |
| ■ Appropriate Antibiotic Use for URIs | ■ <b>Cardiovascular Disease and Stroke</b> |



- ## Guideline Selection
- Demonstrated burden of disease
    - Impacts significant percentage of population
    - Potential to reduce morbidity/mortality/cost
  - Adequate evidence
    - Current national guidelines
  - Demonstrated need by primary care providers
  - Available resources

- ## Guideline Selection
- CCGC received a grant from The Colorado Trust to develop a guideline for CVD and stroke.
  - Audience: Primary care physicians and other health care providers in Colorado



- ## Needs Assessment
- Reviewed literature and baseline data
    - Although Colorado has low prevalence of CVD compared to other states, it is still the leading cause of death in the state
    - Nearly 9,000 Coloradans died of CVD in 2005, an average of one death every hour
    - CVD is the #1 killer of women (33%) and men
    - Stroke is the #3 killer of women and men

- ## Other Issues
- High risk individuals are not adequately identified
  - Many patients with known heart disease/stroke do not receive evidence-based care

## Heart Disease in Women

- Most primary care physicians are unaware that heart disease kills more women each year than men
- Only 46% of women over 25 years old identified heart disease as the leading cause of death in women; and only 38% of women over 25 reported that their doctors had ever discussed heart disease with them

## Goals

- Short term (process)
  - Develop and distribute guidelines
  - Frame expectations/standards
- Intermediate (surrogate outcomes)
  - CAD-stroke in Colorado
- Long term (reduce CVD death and hospitalizations)
  - Continue current trend reducing age-adjusted stroke and MI death rate in Colorado - 10% reduction by 2010

## Guideline Development

- Conducted environmental scan
  - Identified existing activities in this area
    - CDPHE, Colorado Prevention Center, others
- Convened guideline committee
  - Primary care, specialty physicians and other disease/prevention experts

## Guideline Committee

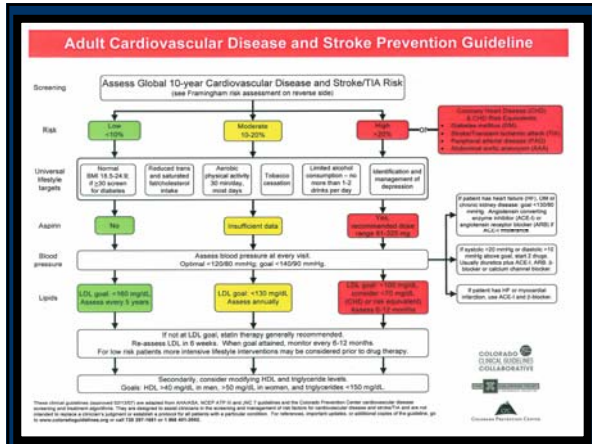
- 23 Committee Members
  - Physicians, nurses, researchers, non-profit leaders
  - Representing 16 different organizations dedicated to CVD and stroke
- Committee Chair: John Merenich, MD, FACP with Kaiser Permanente
- Active subcommittee assisted with revisions and research support
- 5 committee meetings, 2 subcommittee meetings (June-November)

## Development Process

- June 2006 – February 2007
- Reviewed existing evidence-based guidelines
  - Colorado Prevention Center materials
  - AHA/ASA guidelines, NCEP ATP III, JNC 7
- Decided to focus on primary and secondary prevention of CVD/stroke
- Identified 5 key issues to concentrate on for appropriate care
  - Screening-global risk assessment
  - Lifestyle issues
  - Aspirin
  - Blood pressure
  - Lipids
- Determined Format

## Review Process

- Wide review across state
  - Engaged experts in CVD/Stroke
  - Conducted focus group with PCP's
  - CCGC members/partners
  - Final approval at February 13, 2007 CCGC Membership Meeting



### Adult Cardiovascular Disease and Stroke Prevention Guideline

**Screening:**

- Diabetes: Screen for diabetes (fasting glucose or HbA1c) in asymptomatic adults aged 35-70 years who are overweight or obese.
- Cholesterol: Screen for cholesterol in asymptomatic adults aged 20-75 years who are overweight or obese.

**Lifestyle:**

- Smoking: Advise all patients to quit smoking.
- Alcohol: Advise all patients to limit alcohol consumption.
- Exercise: Advise all patients to engage in regular physical activity.

**Blood pressure:**

- Screen for high blood pressure in all patients.
- Treatment: Initiate treatment for high blood pressure in patients with a systolic blood pressure of 160 mmHg or higher.

**Lipids:**

- Screen for high cholesterol in all patients.
- Treatment: Initiate treatment for high cholesterol in patients with a total cholesterol of 240 mg/dL or higher.

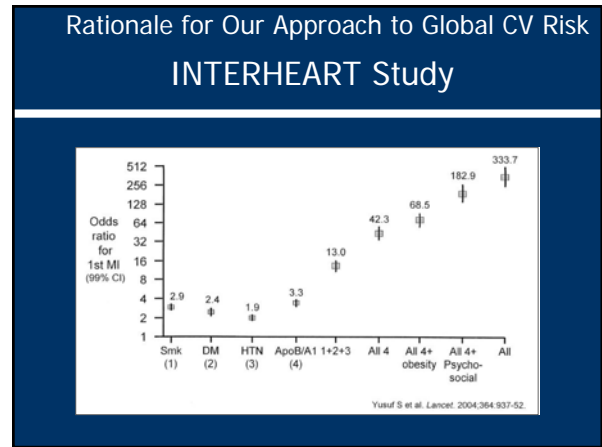
**Stroke/TIA:**

- Screen for stroke/TIA in all patients.
- Treatment: Initiate treatment for stroke/TIA in patients with a history of stroke/TIA.

**Appendix:**

- Table 1: Risk Factor Points
- Table 2: Framingham 10-year Cardiovascular Disease Risk Assessment

- ## Global Risk Assessment
- Various risk assessment tools
    - Framingham (validated)
    - Reynolds Risk Score Calculator
    - Others
  - Objective way to measure risk rather than just adding individual risk factors
  - Categorize patients into:
    - Low Risk
    - Moderate Risk
    - High Risk
  - Then determine prevention and treatment options



## Number of Adults (Millions) Needing Lifestyle and Drug Treatment

Category	Therapeutic Lifestyle Changes	Drug
CHD and CHD Risk Equivalents 10-year risk >20%	24.1	20.7
2+ Risk Factors 10-year risk 10-20%	10.9	8.3
2+ Risk Factors 10-year risk <10%	14.6	2.8
0-1 Risk Factor	15.6	4.7
<b>Total</b>	<b>65.3M</b>	<b>36.5M</b>

Summary: 29 million adults need drug treatment, and 7.5 million need both lifestyle changes and drug treatment.

## Risk Assessment Tool

**Age:** 20-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79

**Systolic BP:** <120, 120-129, 130-139, 140-159, >160

**HDL:** <40, 40-49, 50-59, >60


**Risk Factor Value Points:**

- Age: 0-10
- Systolic blood pressure: 0-10
- HDL: 0-10
- Total cholesterol: 0-10
- Smoker: 0-10

**Total Points:**

- Male: <11 (Low Risk <10%), 12-15 (Moderate Risk 10-20%), >16 (High Risk >20%)
- Female: <11 (Low Risk <10%), 12-15 (Moderate Risk 10-20%), >16 (High Risk >20%)

## Universal Lifestyle Targets



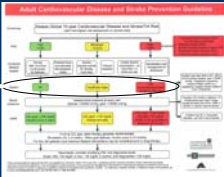
The flowchart shows a path leading to a box with the following targets:

- Normal BMI 18.5-24.9; if  $\geq 30$  screen for diabetes
- Reduced trans and saturated fat/cholesterol intake
- Aerobic physical activity 30 min/day, most days
- Tobacco cessation
- Limited alcohol consumption – no more than 1-2 drinks per day
- Identification and management of depression

## Lifestyle Changes

- **Weight** (see CCGC Obesity Guideline)
  - Measure BMI at each visit
  - $\geq 30$  screen for DM
- **Diet**
  - Reduce trans and saturated fat/cholesterol intake
- **Exercise**
  - 30 min per day for most days
- **Tobacco Cessation**
  - ASK; ADVISE; REFER to the Colorado Quitline (1-800-QUIT-NOW)
- **Limited Alcohol**
  - No more than 1-2 drinks per day
- **Identification and management of depression**
  - See CCGC Depression Guideline

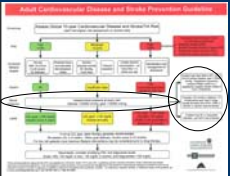
## Aspirin



The flowchart leads to the following risk categories:

- Low risk: no
- Moderate risk: insufficient data
- High risk: yes

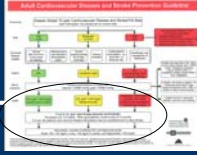
## Blood Pressure



The flowchart leads to the following goals:

- Goal:  $<140/90$  mmHg
- Optimal:  $<120/80$  mmHg
- HF, DM, CKD:  $<130/80$  mmHg

## Lipids



The flowchart leads to the following risk categories and goals:

- Low risk:  $<160$  mg/dL assess every 5 yrs
- Moderate risk:  $<130$  mg/dL assess annually
- High risk:  $<100$  mg/dL ( $<70$ ) assess 6-12 months



Good start – gets everyone  
on same page

**BUT...**

**Guidelines Alone Are  
*Not Enough!***

So How Do You  
Implement Guidelines  
and Measure Their  
Effectiveness?

## Guideline Dissemination

- Mail to ~4,000 physicians/providers
  - Pre/post survey
- CCGC Website
  - Guideline and risk calculator
  - Additional resources for physicians including for acute care (AHA and NSA materials)
- Partner with AHA, state health department, CPC, others to increase community awareness
  - Newsletters, articles, websites, email blasts, postcards, etc – TV spot
- Statewide conferences

## Cardiovascular Disease Survey

- Pre-post survey design
- Stratified random sample of about 1400 practitioners to assess baseline knowledge
- Stratification of the sample is by region (where region is defined by AHEC regions), physician specialty, (family versus internal medicine) and provider type (physician versus mid-level provider)
- Post surveys differ from the pre survey in that question on receiving and reading the CVD guideline was added.

***Coming Soon...***  
***CVD Survey Results***

## New Statewide Initiative: Improving Performance in Practice (IPIP)

- IPIP is best vehicle we've had to date to implement guidelines into practice
  - integrates them into daily routines
  - provides tools, systems and support to help practices redesign the way they deliver care
  - makes it easier to provide optimal care to every patient, every time!
  - uses registries and measures (metrics) to track patients over time and demonstrate what is working and what areas need improvement
    - teaches you to control and monitor your own data
  - team approach including patients

## Current IPIP Measures (for DM)

	MEASURE	GOAL
Blood Pressure	<140/90	>65%
	<130/80	>35%
LDL	At least one LDL documented	>85%
	<130	>63%
	<100	>36%
Smoker	Identified Counseled	>80%

## Other Implementation Strategies

- Use survey findings to target provider education activities
- Host 3-4 talks throughout the state
- Collaborate with other state initiatives including Colorado Prevention Center
- Work with state CVH Coalition on unified state plan

## Summary

- Use global risk assessment for all patients
  - Encourage providers to assess risk (Framingham)
  - Encourage patients to “know their numbers”
- Concentrate efforts on high risk groups
  - Focus limited time and resources on those most likely to benefit from intervention
  - Recognize DM as a CAD (high risk) equivalent
- For others, teach preventive aspects of CVD/stroke
  - Primarily lifestyle

## Long Term Goal

Continue current trend reducing  
age-adjusted stroke and MI death  
rate in Colorado

10% reduction by 2010

For CCGC guidelines and additional resources:

[www.coloradoguidelines.org](http://www.coloradoguidelines.org)

[info@coloradoguidelines.org](mailto:info@coloradoguidelines.org)

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