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Secondary Cardiovascular Risk Reduction Strategies

- Clinician Presentation -




Background

"Heart disease and stroke are the leading causes of death in the United States. Although most cardiovascular disease (CVD) is preventable, proven prevention approaches are not being adequately applied in clinical practice."

–Elias Zerhouni, MD, Director, National Institutes of Health
April, 2004

Proven Preventive Therapies – 4 Drug Interventions

- **Antithrombotic Medication**
  - Treatment with Aspirin 81-325 mg daily for patients unless contraindicated
  - If contraindicated, consider clopidogrel
- **Lipid Lowering Medications**
  - Treatment with statin is recommended even if LDL-C is <100 mg/dL
- **ACE Inhibition**
  - Treatment with ACE inhibitor long-term unless contraindicated
- **Beta Blockade**
  - Treatment with a beta blocker for members with CAD, PAD, and AAA unless contraindicated

Proven Preventive Therapies – Controlling 3 Risk Factors

- **Blood Pressure**
  - BP ≤ 129/79 mm Hg for patients with heart failure, chronic kidney disease (renal insufficiency or proteinuria), and diabetes
  - BP ≤ 139/89 mm Hg for patients with CAD, PAD, AAA, and CVD
- **Lipids**
  - Statin dose sufficient to bring LDL-C levels < 100 mg/dL
  - Statin recommended even if baseline LDL-C is < 100 mg/dL
- **Blood Glucose Control**
  - HgA1c < 7.0 is optimal for members with diabetes

Proven Preventive Therapies – 4 Lifestyle Changes

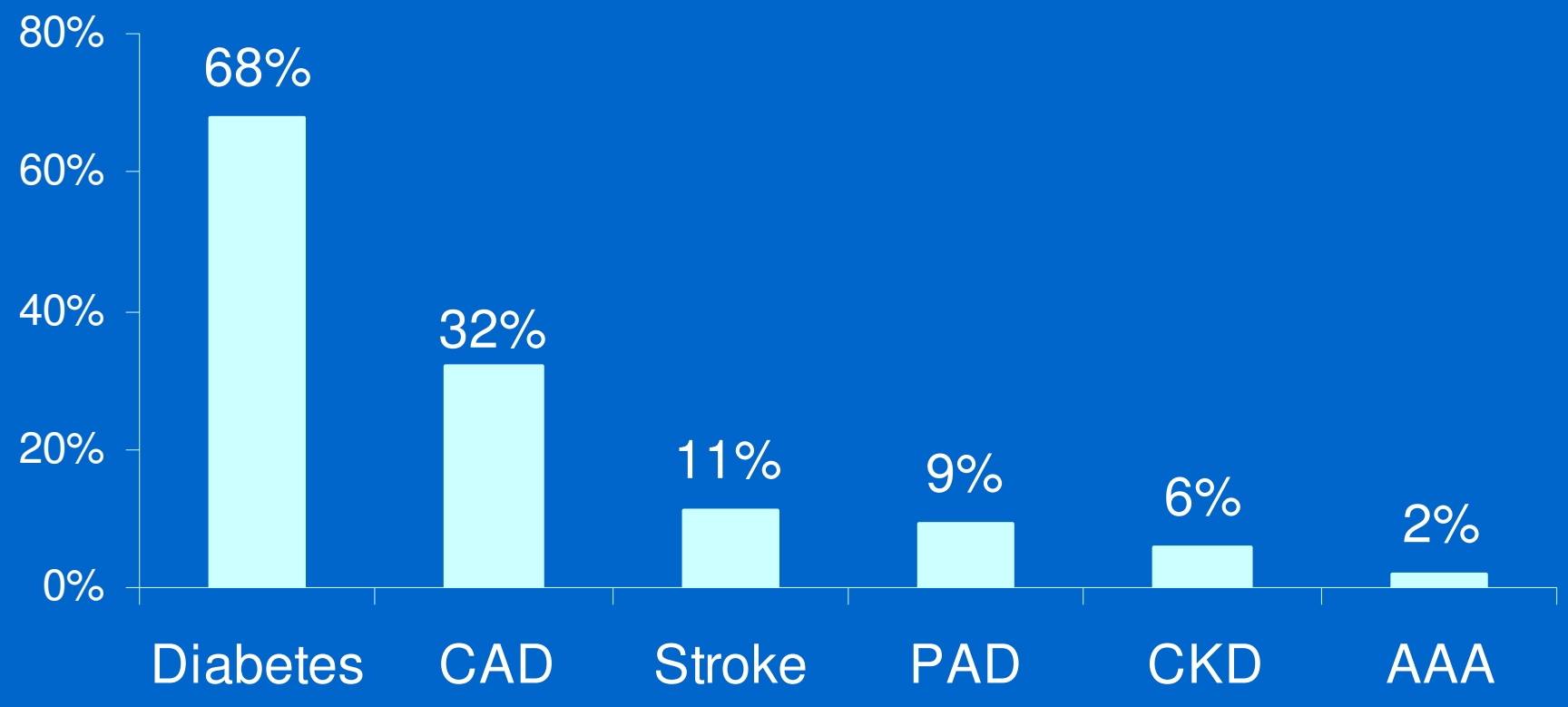
- **Tobacco Cessation**
  - Smoking cessation should be a primary target in the clinical strategy
- **Physical Activity**
  - Regular, moderate physical activity is recommended for all patients
- **Healthy Eating**
  - Recommend a diet rich in fruits, vegetables, legumes, nuts, whole grains, and n-3 polyunsaturated fat
- **Weight Management**
  - Weight management reduces multiple risk factors

Secondary Prevention Population

Approximately 11% adults

- DM **Diabetes**
- CAD **Coronary Artery Disease**
- CVA **Cerebrovascular Accident or**
  TIA **Transient Ischemic Attack**
- AAA **Abdominal Aortic Aneurysm**
- PAD **Peripheral Arterial Disease**
- CKD **Chronic Kidney Disease** if age ≥ 50 and
  - GFR < 30 or
  - GFR 30-60, plus proteinuria

Secondary Prevention Population



2003 Kaiser Permanente Northern California data

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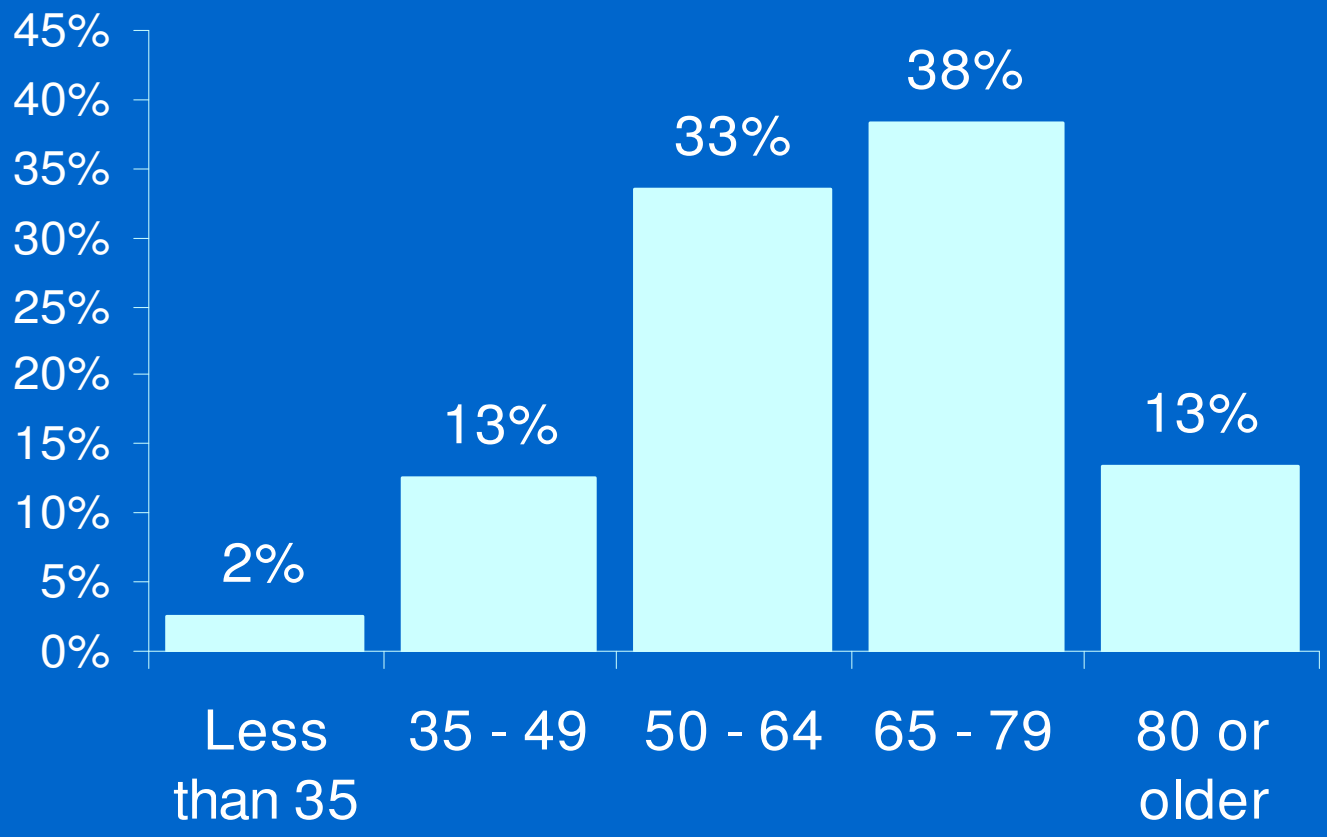
Secondary Prevention Age Distributions



2003 Kaiser Permanente Northern California data

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Impact of Recommended Medications

	Risk Reduction in CV Events	Number Needed to Treat
Antiplatelet	↓ 22%	41 in 2 yrs[1]
Statin	↓ 28-37%	28-40 in 3-5 yrs[2]
ACE inhibitor	↓ 23%	27 in 4 yrs[3]
Beta Blocker	↓ 24%	56 in 1-2 yrs[4]

1. Collaborative meta-analysis of RCTS of antiplatelet therapy: BMJ 2002; 324(7329):71-86.
2. Heart Protection Study: Eur Heart J 1999; 20(10):725-741.; LaRosa JC : JAMA 1999;282(24):2340-2346.Bucher: Aterioscler Thromb Vasc Biol 1999; 19(2):1870195; Law: BMJ2003:326(7404):1423.
3. ACE Inhibitor Collaborative: Circulation 1998:97(22):2202-2212; Yusuf: N Engl J Med 2000:342(3):145-153; Domanski: J AM Coll Cariol 1999:33(3):598-604; Flather: Lancet 2000:355(9215):1575-1581; EUROPA: Lancet2003:362(9386☹782-788).
4. Yusuf : Prog Cardiovasc Dis 1985: 27(5):335-371; Freemantle N, et al: BMJ 1999; 318(7200): 1730-1737.

Impact of Recommended Lifestyle Changes

	Risk Reduction for CV Events	Number Needed to Treat
Tobacco Cessation	↓ 36%	12[1]
Physical Activity	↓ 20-24%	37-46 in 3-5 yrs[2]
Healthy Eating	↓ 10-75%	12-93 in 2-3 yrs[3]
Weight Management	Improves multiple risk factors	

1. Critchley JA: JAMA 2003: 270(7):945-950
2. Joliffe JA: Cochrane Database Syst Rev 2001;(1):DC001800
3. Lion Diet Heart Study: Eur J Clin Nutr 1997:51(2):116-122; GISSI-Prevenzione Trial: Lancet 1999:354(9177):447-455. Bucher HC: Am J Med 2002:112(4):298-304

Impact of interventions for 300 Patients

Let's take an example of a physician with about 300 secondary prevention patients

- **Utilization of one recommended medication is increased by 30 patients**
- **At the end of four years, one of those patients will have avoided a heart attack, stroke, or death**

Impact of Recommended Interventions

Drug	Increased Rx Use	Decrease in CV events over 4 yrs.
Antiplatelet	30 patients	↓ 1.5
Statin	30 patients	↓ 0.9
ACE- I	30 patients	↓ 1.11
Beta Blocker	30 patients	↓ 1.1

Each of these interventions prevents about 1 CV event in 3-4 years because the number needed to treat (NNT) is about 30.

Tools Clinicians Might Find Helpful

- Posters
- Patient Medication Tip Sheets
- Clinical Practice Guidelines
- Care Paths