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Motivation for and Barriers to Enrolling in Cardiopulmonary Rehabilitation Programs

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Overview

- Coronary heart disease (CHD) remains a major health issue
- Cardiac rehabilitation/secondary prevention (CR/SP) programs are proven effective in improving health outcomes
- Underutilization of CR/SP programs remains problematic
- Barriers exist to patient participation at multiple levels: health system, provider, patient, community
- Strategies to promote CR/SP referral/enrollment

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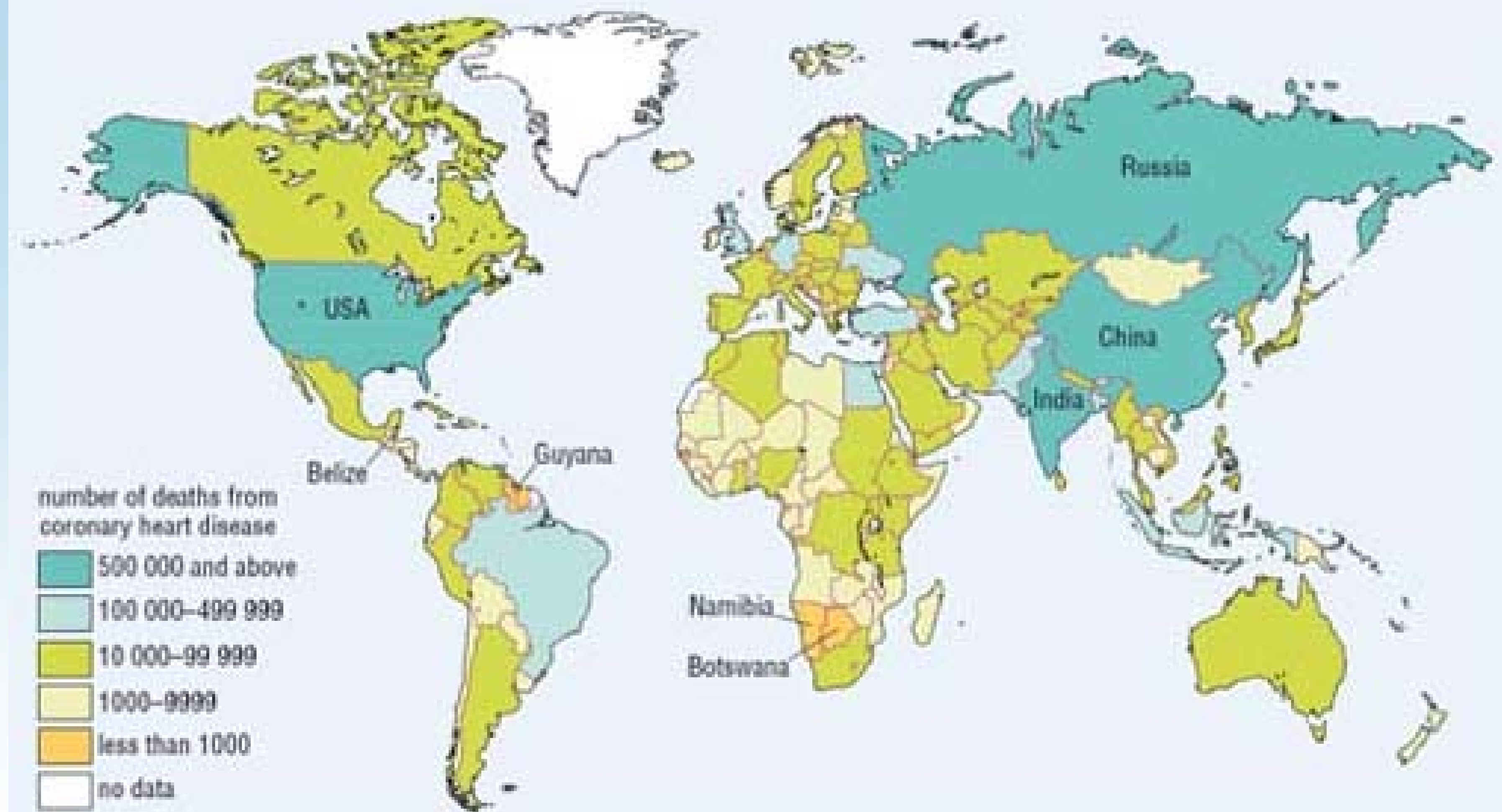
CHD Knows No Borders



2002: www.open.jorum.ac.uk

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CHD: United States

- Progressive & chronic disease – high risk for recurrent events
- Leading cause of death & disability
- Responsible for 17% of national health expenditures
- Rising CHD prevalence & cost are projected to rise substantially in the future

AHA Heart Disease & Stroke Statistics- 2011

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Cardiac Rehabilitation

"The sum of activities required to influence favorably the underlying cause of the disease, as well as to provide the best possible physical, mental & social conditions, so that the patients may, by their own efforts, preserve or resume when lost as normal a place as possible in the community"

WHO definition (1993)

AHA/AACVPR Scientific Statement

Core Components of Cardiac Rehabilitation/ Secondary Prevention Programs: 2007 Update

A Scientific Statement From the American Heart Association Exercise, Cardiac Rehabilitation, and Prevention Committee, the Council on Clinical Cardiology; the Councils on Cardiovascular Nursing, Epidemiology and Prevention, and Nutrition, Physical Activity, and Metabolism; and the American Association of Cardiovascular and Pulmonary Rehabilitation

Gary J. Balady, MD, FAHA, Chair; Mark A. Williams, PhD, Co-Chair; Philip A. Ades, MD;
Vera Bittner, MD, FAHA; Patricia Comoss, RN; JoAnne M. Foody, MD, FAHA;
Barry Franklin, PhD, FAHA; Bonnie Sanderson, RN, PhD; Douglas Southard, PhD, MPH, PA-C

Balady et al. Circulation. 2007:115;2677-2682

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Core Components of Care

Patient Assessment

Risk Factor Management

- Lipids
- Diabetes
- Hypertension
- Weight Management
- Psychosocial
- Exercise Training

Lifestyle Interventions

- Nutritional Counseling
- Smoking Cessation
- Physical Activity Counseling

Balady et al. Circulation. 2007:115;2677-2682

Ongoing dilemma: Under-utilization of CR

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Underutilization…why?

Complexity of barriers

- Provider
- System
- Patient
- Community

Thomas RJ, Editorial, Circulation 2007; 116:1644-1646; CR/Secondary Prevention Programs: A Raft for the Rapids: Why have we missed the boat?

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Health Services and Outcomes Research

Use of Cardiac Rehabilitation by Medicare Beneficiaries After Myocardial Infarction or Coronary Bypass Surgery

Jose A. Suaya, MD, PhD; Donald S. Shepard, PhD; Sharon-Lise T. Normand, PhD;
Philip A. Ades, MD; Jeffrey Prottas, PhD; William B. Stason, MD, MSc

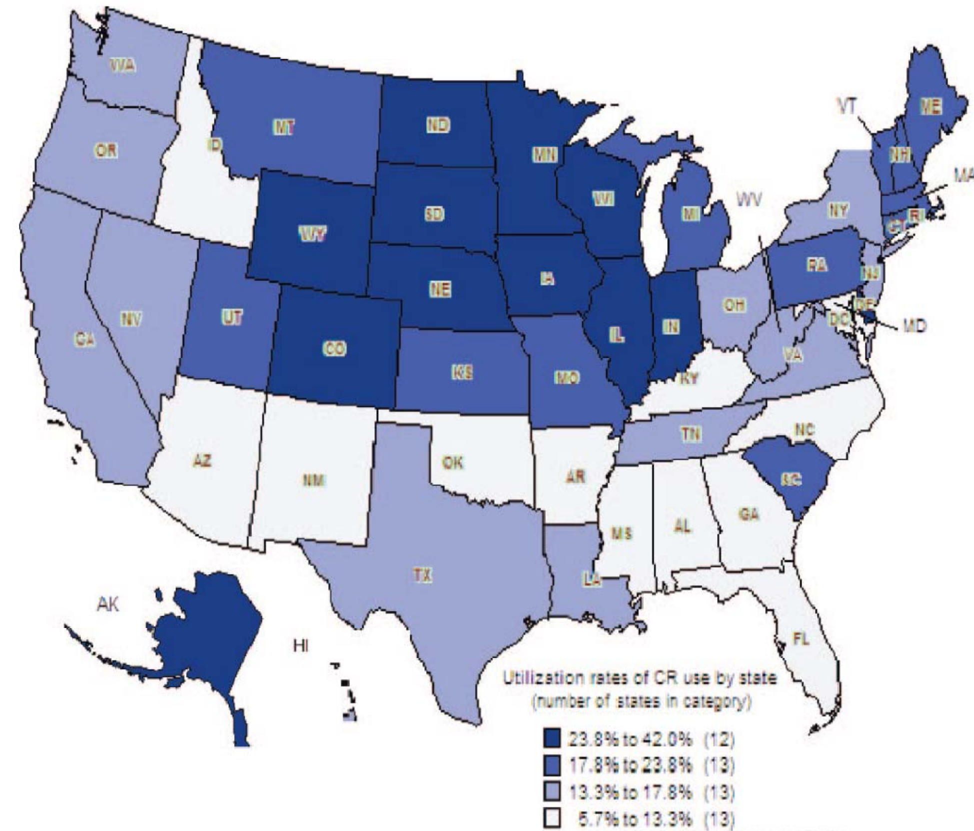
Participation in CR:

- 13.9% of patients hospitalized for acute myocardial infarction
- 31.0% of patients who underwent coronary artery bypass graft surgery.

Circulation. 2007 Oct 9;116(15):1653-62.

Cardiac Rehab Is Underutilized

- N=267,427 Medicare patients
  - S/P MI or CABG 1997
  - Survived ≥30 days post D/C
- Overall CR use:
  - MI 13.9% / CABG 31%
- Negative predictors of CR:
  - Older age
  - Women
  - Nonwhites
  - Co-morbidities (incl. HF, previous stroke, DM, cancer)
- Positive predictors of CR:
  - CABG
  - Higher household income
  - Higher level of education
  - Shorter distance to the nearest CR facility



9-fold variation among States

- Idaho 6.6%
- Nebraska 53.5%

Average 18.7%

Suaya et al. Circulation 2007;116 – www.americanheart.org

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System Barriers

- Lacks systematic integration within the total scope of cardiovascular healthcare
- Reimbursement mismatch of services provided vs. cost of delivery
- Administrative support – competing demands on resource availability

Perceived value: optional vs. necessary?

Journal of the American College of Cardiology
© 2009 by the American College of Cardiology Foundation
Published by Elsevier Inc.

Vol. 54, No. 6, 2009
ISSN 0735-1097/09/$36.00
doi:10.1016/j.jacc.2009.02.080

Coronary Artery Disease

Predictors of Cardiac Rehabilitation Referral in Coronary Artery Disease Patients

Findings From the American Heart Association's Get With The Guidelines Program

Todd M. Brown, MD, MSPH,* Adrian F. Hernandez, MD, MHS,† Vera Bittner, MD, MSPH,* Christopher P. Cannon, MD,‡ Gray Ellrodt, MD,§ Li Liang, PHD,† Eric D. Peterson, MD, MPH† Ileana L. Piña, MD,|| Monika M. Safford, MD,* Gregg C. Fonarow, MD,¶ on behalf of the American Heart Association Get With The Guidelines Investigators

Birmingham, Alabama; Durham, North Carolina; Boston and Pittsfield, Massachusetts; Cleveland, Ohio; and Los Angeles, California

CONCLUSIONS:

•Only 56% of eligible CAD patients discharged from these hospitals were referred to cardiac rehabilitation.

•Patient-level factors independently associated with lower odds of CR referral were:

Demographics (older age, women, minorities)

Medical conditions (poorly controlled BP, admitting diagnosis of heart failure, most co-morbid diseases)

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Provider Barriers

- Competing demands, priorities
- Referral process – often complex, confusing
  - Eligibility criteria
  - Reimbursement "rules"
- MD Responsibility/Ownership –
  - Primary Care MD? Cardiologist? CV Surgeon?

Perceived value: optional vs. necessary?

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Increasing Referral and Participation Rates to Outpatient Cardiac Rehabilitation: The Valuable Role of Healthcare Professionals in the Inpatient and Home Health Settings : A Science Advisory From the American Heart Association

Ross Arena, Mark Williams, Daniel E. Forman, Lawrence P. Cahalin, Lola Coke, Jonathan Myers, Larry Hamm, Penny Kris-Etherton, Reed Humphrey, Vera Bittner, Carl J. Lavie and on behalf of the American Heart Association Exercise, Cardiac Rehabilitation and Prevention Committee of the Council on Clinical Cardiology, Council on Epidemiology and Prevention, and Council on Nutrition, Physical Activity and Metabolism

Circulation 2012, 125:1321-1329: originally published online January 30, 2012
doi: 10.1161/CIR.0b013e318246b1e5
Circulation is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
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Goal: Clearly define the role of key healthcare professionals in both inpatient and home health settings to improve outpatient CR referrals and participation.

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Key Recommendations

1. Formulate a multidisciplinary inpatient CR program
2. Initiate automatic referral to appropriate inpatient services to assess readiness for discharge home & for CR
3. Develop/examine evidence-based models of discharge planning

Arena et al. AHA Science Advisory: Increasing referral & participation rates to outpt CR. Circulation, 2012

Patient Barriers

Cardiac Rehabilitation and Women

WHAT KEEPS THEM AWAY?

Bonnie K. Sanderson, PhD, RN, Richard M. Shewchuk, PhD, and Vera Bittner, MD, MSPH

■ **BACKGROUND:** Cardiac rehabilitation (CR) is underutilized, especially among women. The goal of this study was to examine CR referral and enrollment patterns among eligible women and identify factors asso-

K E Y W O R D S

cardiac rehabilitation

Sanderson et al. JCRP 2010, 30:12

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Patient Barriers

- Even if referred, <50% actually attend
- Reasons: *"not interested", too far, too inconvenient, too time-intensive, insurance doesn't cover, too expensive, too sick, too well, etc…*
- Personal commitment and effort involved

Perceived value: optional vs. necessary?

Sanderson et al. JCRP 2010, 30:12

Patient Barriers

- Particular attention to reduce barriers to underserved populations: elderly, minority, women.
- Flexible , adaptable approaches- culture sensitivity
- Focus on retention/adherence strategies

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Community Barriers

- Community support for prevention-oriented lifestyles lacking for both apparently healthy individuals & patients with known disease.
  - Infrastructure – walking paths, etc.
  - Policies – smoking bans, menu labeling, etc.
- Media and community support for prevention oriented lifestyles – how to distinguish available resources to needs of patients with disease?

Perceived value of lifestyle interventions in general: optional vs. necessary?

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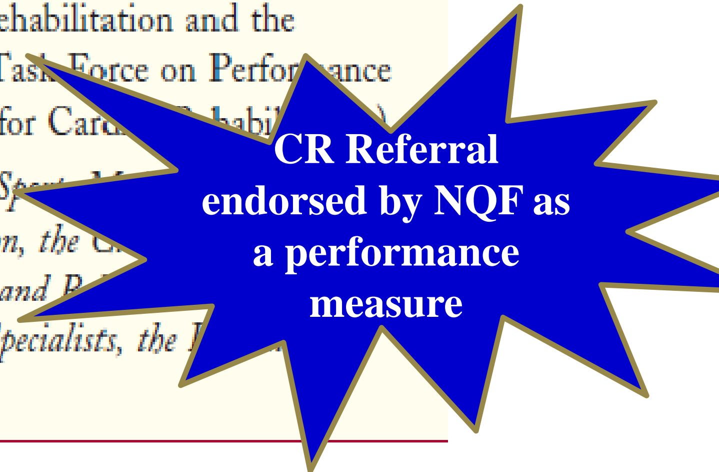
What will the future bring?

PERFORMANCE MEASURES

AACVPR/ACCF/AHA 2010 Update: Performance Measures on Cardiac Rehabilitation for Referral to Cardiac Rehabilitation/Secondary Prevention Services

A Report of the American Association of Cardiovascular and Pulmonary Rehabilitation and the American College of Cardiology Foundation/American Heart Association Task Force on Performance Measures (Writing Committee to Develop Clinical Performance Measures for Cardiac Rehabilitation)

Endorsed by the American College of Chest Physicians, the American College of Sports Medicine, the American Physical Therapy Association, the Canadian Association of Cardiac Rehabilitation, the Clinical Exercise Physiology Association, the European Association for Cardiovascular Prevention and Rehabilitation, the Inter-American Heart Foundation, the National Association of Clinical Nurse Specialists, the Preventive Cardiovascular Nurses Association, and the Society of Thoracic Surgeons



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Performance measures serve as vehicles to help transform scientific evidence into clinical practice…. (Sept, 2010, JACC)

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Strategies to Improve CR Utilization

- Set services as high-priority – education at all levels
  - Patient, provider, system, community, policy makers
- Simplify the referral-enrollment process
  - Automatic referral-enrollment process
  - Communicate necessary vs. “optional” message
  - Integrate within “total package” of CV services; link to reimbursement
- Expect more from services
  - Expanded delivery models: Increase access/availability
  - Increase resources for CR/SP services
- Implement CR/SP Performance Measures

Thomas RJ, Editorial, Circulation 2007; 116:1644-1646

International strategies

International Charter on Cardiovascular Prevention and Rehabilitation: A CALL FOR ACTION

PROPOSED VERSION 11

RATIONALE

Cardiovascular disease remains the leading killer of adult women and men globally. However, as substantial gains in reducing acute cardiovascular mortality have been realized the prevalence of persons living with cardiovascular disease has increased significantly. Without systematic access to formal and informal programs of chronic cardiovascular disease prevention such as cardiac rehabilitation, these individuals will suffer multiple recurrent acute care events and/or unnecessarily premature death.

PAGE 05

Funding source: Canadian Institutes of Health Research

Primary Writing Panel: JA Stone; JP Buckley, Dwarburton, B Sanderson, SLGrace

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International : A Call for Action

Partner & collaborate with those responsible for administering patient care:

- To establish cardiovascular prevention and rehabilitation as an obligatory, not optional service
- To support both low-to-middle and high-income countries to establish and augment, respectively, programs of cardiovascular prevention and rehabilitation *(adapted to local needs & conditions)*, to ensure broader access to these proven services.

Funding source: Canadian Institutes of Health Research
Primary Writing Panel: JA Stone; JP Buckley, Dwarburton, B Sanderson, SLGrace

What is needed to make prevention a priority ?

Health Systems & Providers

- Partners in care vs "providers" of care
- Societal imperative for preventive & continuity of care vs. "reactive" care
- Incentives/reimbursement models coincide with the preventive/continuity care models

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What is needed to make prevention a priority ?

Patients & Communities

- Partners in care vs. "recipients" of care
- Proactive in reducing barriers to healthy living through the age span
- Accountable and responsible for personal lifestyle choices

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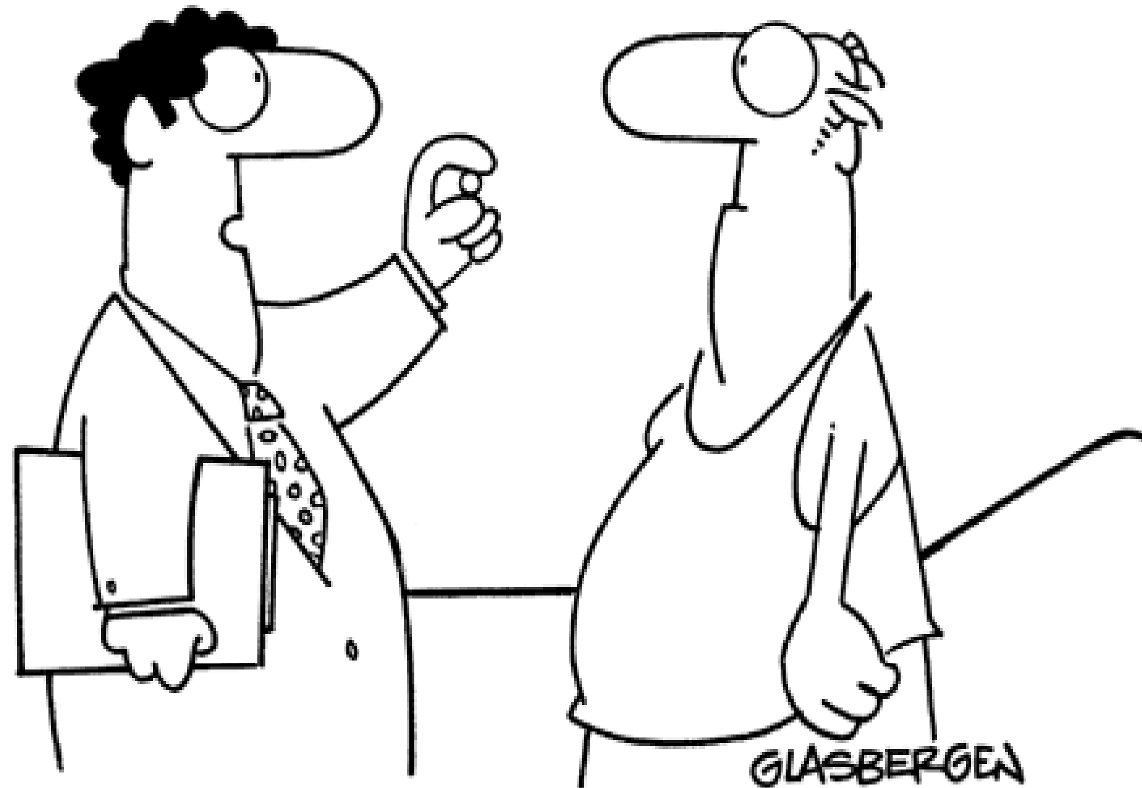

**"To prevent a heart attack, take one aspirin every day.
Take it out for a jog, then take it to the gym,
then take it for a bike ride..."**

***Cardiac Rehab is as important as the medications*!**