Family History as a Screening Tool for Public Health and Preventive Medicine

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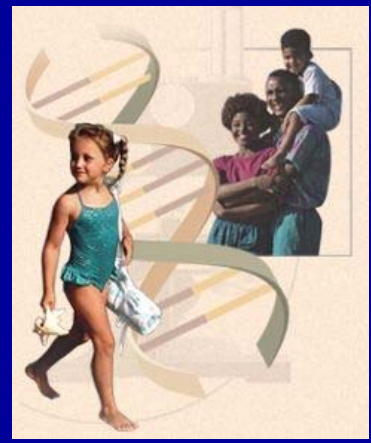
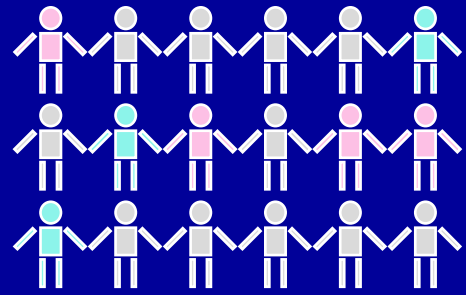
How can we use family history screening to...



- assess risk for common chronic diseases
- influence early detection and screening uptake
- target and prioritize prevention strategies

Why focus on family history screening?



- Current prevention strategies could be more effective
- Family history is risk factor for many common diseases
- Family history is underutilized in preventive medicine
- Need new tools for collecting, interpreting and acting

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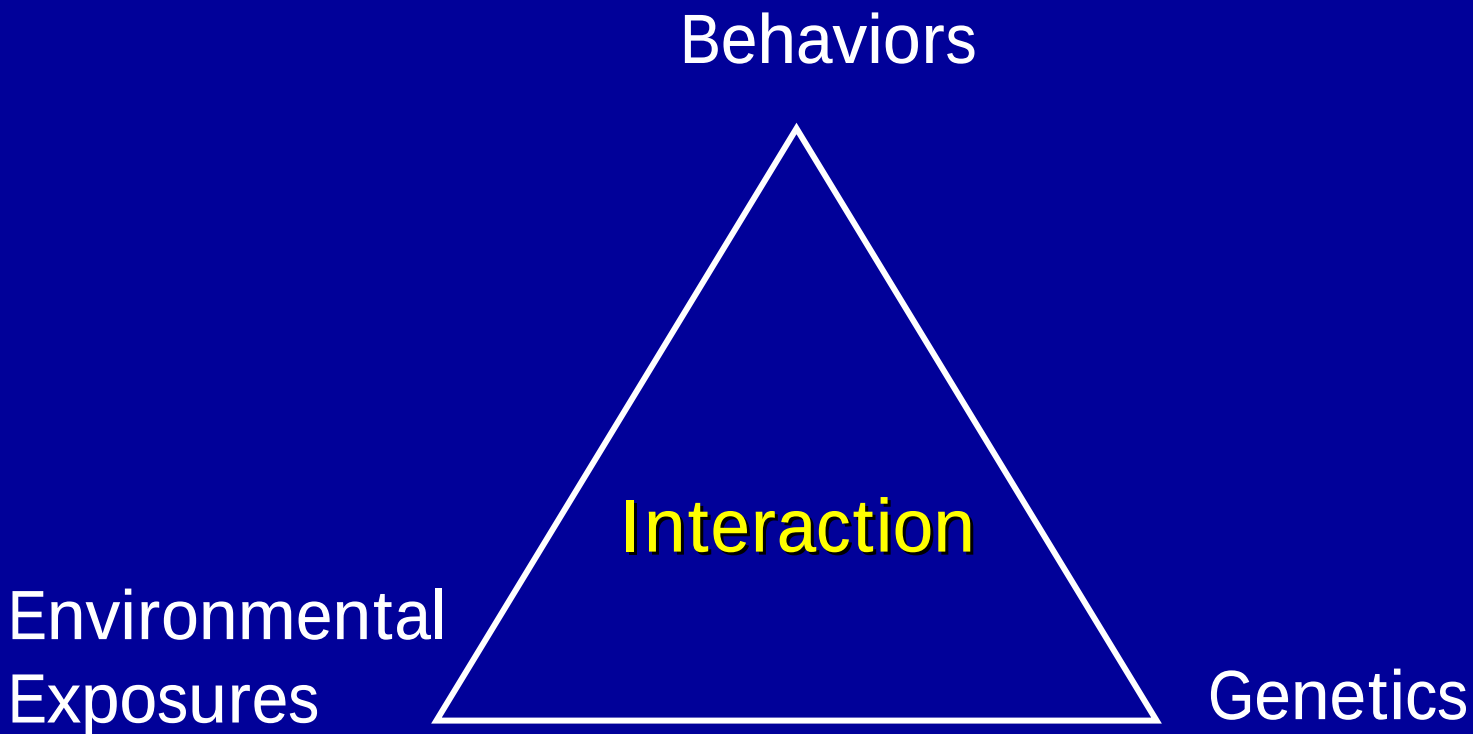
Current prevention strategies could be more effective

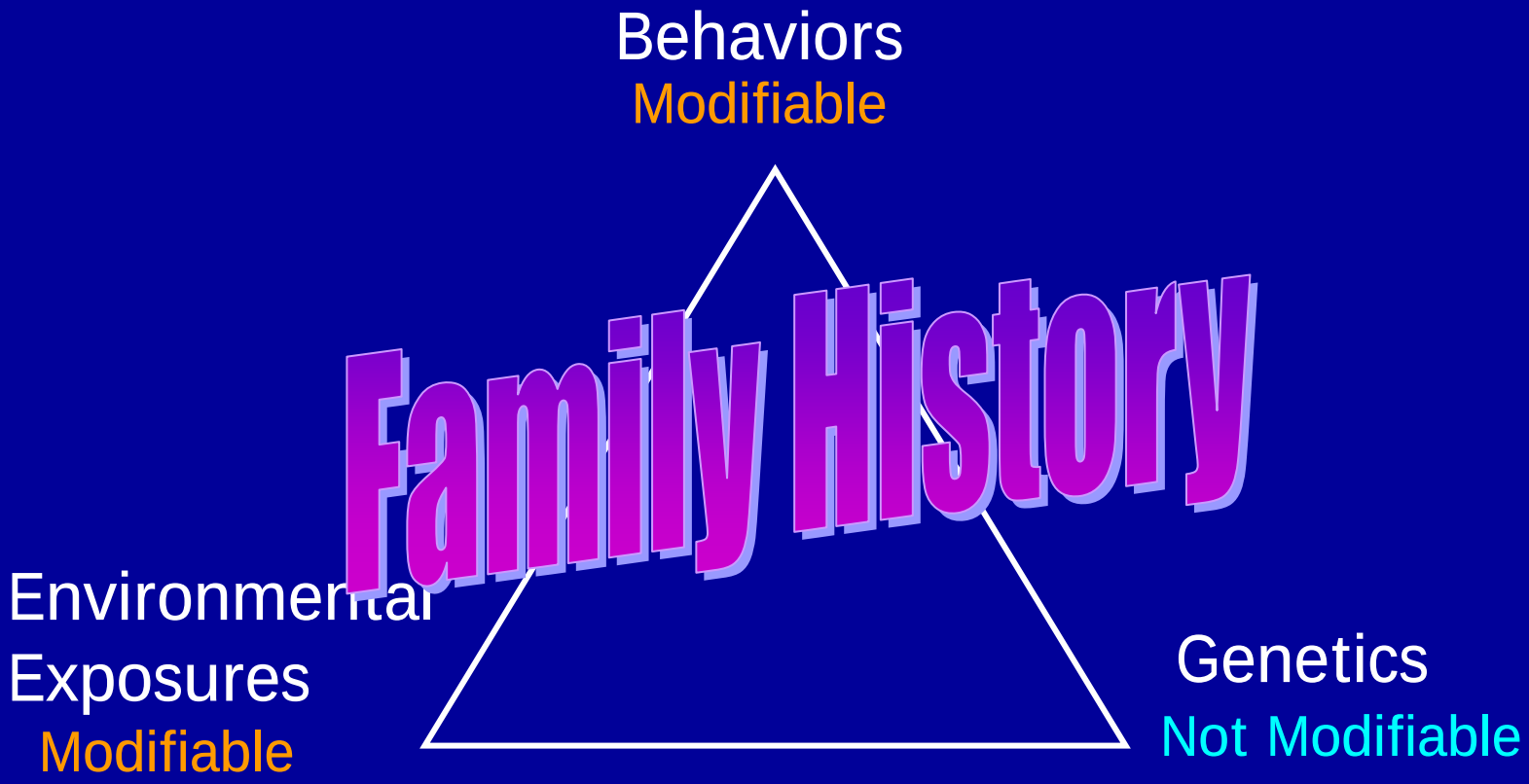
- 23% still smoke
- Only 25% engage in recommended physical activity
- Only 23% consume 5+ fruits & vegetables per day
- 2/3 overweight; 30% obese
- 48% eligibles screened for colon cancer

Causes of chronic disease



MT Scheuner, 2003

What is family history?



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Family history is a risk factor for many common diseases

	Relative Risk
Heart disease	2.0 – 5.4
Breast cancer	2.1 – 3.9
Colorectal cancer	1.7 – 4.9
Prostate cancer	3.2 – 11.0
Melanoma	2.7 – 4.3
Type II diabetes	2.4 – 4.0
Osteoporosis	2.0 – 2.4
Asthma	3.0 – 7.0

Am J Prev Med - February 2003

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Usefulness of Cardiovascular Family History Data for Population-Based Preventive Medicine and Medical Research (The Health Family Tree Study and the NHLBI Family Heart Study)

Roger R. Williams, MD*, Steven C. Hunt, PhD, Gerardo Heiss, MD, PhD, Michael A. Province, PhD, Jeannette T. Bensen, MS, Millicent Higgins, MD, Robert M. Chamberlain, PhD, Joan Ware, MSPH, and Paul N. Hopkins, MD, MSPH

Detailed medical family history data have been proposed to be effective in identifying high-risk families for targeted intervention. With use of a validated and standardized quantitative family risk score (FRS), the degree of familial aggregation of coronary heart disease (CHD), stroke, hypertension, and diabetes was obtained from 122,155 Utah families and 6,578 Texas families in the large, population-based Health Family Tree Study, and 1,442 families in the NHLBI Family Heart Study in Massachusetts, Minnesota, North Carolina, and Utah. Utah families with a positive family history of CHD (FRS $\geq$0.5) represented only 14% of the general population but accounted for 72% of persons with early CHD (men before age 55 years, women before age 65 years) and 48% of CHD at all ages. For strokes, 11% of families with FRS $\geq$0.5 accounted for 86% of early strokes (<75 years) and 68% of all strokes. Analyses of >5,000 families sampled each year in Utah for 14 years demonstrated a gradual decrease in the frequency of a strong positive family history of CHD (−26%/decade) and stroke (−15%/decade) that paralleled a decrease in incidence rates ($r = 0.86$, $p < 0.001$ for CHD; $r = 0.66$, $p < 0.01$ for stroke). Because of the collaboration of schools, health departments, and medical schools, the Health Family Tree Study proved to be a highly cost-efficient method for identifying 17,064 CHD-prone families and 13,106 stroke-prone families (at a cost of about $27 per high-risk family) in whom well-established preventive measures can be encouraged. We conclude that most early cardiovascular events in a population occur in families with a positive family history of cardiovascular disease. Family history collection is a validated and relatively inexpensive tool for family-based preventive medicine and medical research.

(Am J Cardiol 2001;87:129–135)