ANCHOR

Canadian Therapeutics Congress

Satellite Symposium

Disease Management Partnerships – Creating Health Solutions

Our Partners:

Partner Organizations

- Nova Scotia Department of Health
- Heart and Stroke Foundation of Nova Scotia
- Cape Breton District Health Authority
- Capital District Health Authority
- Pfizer Canada, Inc
- QEII Foundation

Why Anchor?

- Growing burden of risk factors and disease prevalence in cardiovascular and metabolic conditions
- Cardiovascular Health programs identify need for more "upstream" interventions
- National primary care renewal strategy -- community based teams with focus on prevention and enhanced disease management

Disease Management

- Population based approach
  - supports the physician or practitioner/patient relationship and plan of care
  - emphasizes prevention of exacerbations and complications utilizing evidence-based practice guidelines and patient empowerment strategies
  - evaluates clinical, humanistic, and economic outcomes on an going basis with the goal of improving overall health

Disease Management Association of America

Disease Management

Components:

- Population identification process
- Evidence-based practice guidelines
- Collaborative practice models to include physician and support-service providers
- Patient self-management education (may include primary prevention, behavior modification programs, and compliance/surveillance)
- Process and outcomes measurement, evaluation, and management
- Routine reporting/feedback loop (may include communication with patient, physician, health plan and ancillary providers, and practice profiling)

Disease Management Association of America

Study Primary Objectives

- To improve management of global cardiovascular risk of patients within the primary care setting
- To increase patient compliance with lifestyle & pharmaceutical interventions aimed at decreasing global cardiovascular risk

Study Design

- Case Control design with 1 year intervention
  - 1500 participants, 750 in each of two sites
  - Comparison cohort in 3rd primary care site
- Pre-post measurement:
  - Health Risk
  - Objective parameters (BP, Lipids, Glucose, etc.)
  - Readiness for change, motivation and barriers to change
  - Other parameters monitored include drug and service utilization to inform economic analysis

Study Design

- Two participating Primary Care Practices:
  - Halifax – Alternate Funding
  - Sydney – Fee For Service
- Anchor intervention incorporates:
  - Health Risk Assessment
  - HRA Review
  - Individualized Goal Setting
  - Standardized follow up regime
  - Access to education, exercise and self management programs
  - Periodic review with family physician

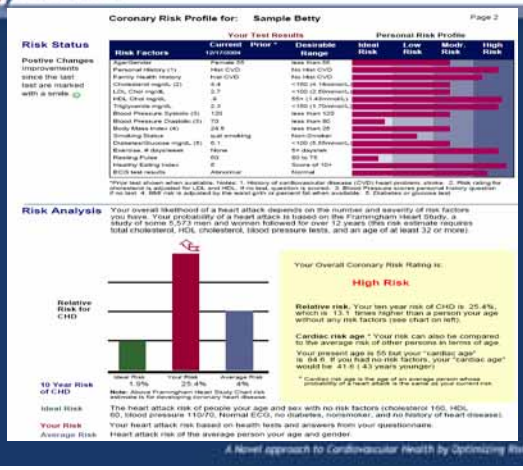
The Anchor Model…

Health Risk Assessment

Calculates an individual's 10 year risk estimate of having a coronary event using the Framingham Heart Study model known as the **Framingham Score**

- Low Risk <10% 10 year risk estimate
- Moderate Risk 10-20% 10 year risk estimate
- High Risk > 20% 10 year risk estimate or pre-existing Diabetes or any atherosclerotic disease

Based on NCEP Guidelines


Coronary Risk Profile for: Sample Betty

Page 2

Your Test Results

Personal Risk Profile

Risk Status

Risk Factors

Current

Prior *

Desirable Range

Ideal Risk

Low Risk

Mod. Risk

High Risk

Positive Changes

Improvements since the last test are marked with a smile

Risk Analysis

Your overall likelihood of a heart attack depends on the number and severity of risk factors you have. Your probability of a heart attack is based on the Framingham Heart Study, a study of some 5,573 men and women followed for over 12 years (this risk estimate requires total cholesterol, HDL cholesterol, blood pressure tests, and an age of at least 32 or more).

Relative Risk for CHD

Your Overall Coronary Risk Rating is:

High Risk

Relative risk. Your ten year risk of CHD is 25.4%, which is 13.1 times higher than a person your age without any risk factors (see chart on left).

Cardiac risk age * Your risk can also be compared to the average risk of other persons in terms of age.

Your present age is 55 but your "cardiac age" is 84.6. If you had no risk factors, your "cardiac age" would be: 41.6 (-43 years younger)

* Cardiac risk age is the age of an average person whose probability of a heart attack is the same as your current risk.

10 Year Risk of CHD

Ideal Risk

Your Risk

Average Risk

Note: Above Framingham Heart Study Chart risk estimate is for developing coronary heart disease.

The heart attack risk of people your age and sex with no risk factors (cholesterol 160, HDL 60, blood pressure 110/70, Normal ECG, no diabetes, nonsmoker, and no history of heart disease).

Your heart attack risk based on health tests and answers from your questionnaire.

Heart attack risk of the average person your age and gender.

Behavioral Intervention

Assess Stage of Change for one or two self selected risk factors:

- •Pre-contemplation
- •Contemplation
- •Preparation
- •Action
- •Maintenance

Behavioral Intervention

- Motivators and strength of motivators
- Barriers and strength of barriers
- Goal selection:
  - Specific
  - Reasonable
  - Can be maintained over long term

The Anchor Team

- Practice-based physician lead
- Nurse coordinator
- Dietician
- Consultants
  - Exercise specialist
  - Community pharmacist
- Investigators: Dr Blair O'Neil, Dr Jafna Cox, Dr Michael Vallis, Dr. Brendan Carr
- Project Manager

ANCHOR Patients by risk category

(Baseline n=776 Males n=265 Females n=511)

	Low (<10%)	Moderate (10-20%)	High (>20%)
Females	27.8% (n=142)	37.4% (n=191)	34.8% (n=178)
Males	14.3% (n=38)	22.6% (n=60)	63.0% (n=167)
Combined	23.2% (n=180)	32.3% (n=251)	44.5% (n=345)

Patients with High Risk Default

Of the 776 patients recruited to the ANCHOR Study

206/776 or **26.5%**

default to high risk
without being able to change risk category because of established disease

ANCHOR Patients with Established Disease

(Baseline n=776 Males n=265 Females n=511)

Disease	Gender	% of Participants by Gender	
Diabetes	Female	17.6%	(n=90)
	Male	17.0%	(n=45)
	Total	**17.4%**	**(n=135)**
Congestive Heart Failure	Female	0.6%	(n=3)
	Male	1.1%	(n=3)
	Total	0.8%	(n=6)
Stroke	Female	0.8%	(n=4)
	Male	3.0%	(n=8)
	Total	1.5%	(n=12)
Transient Ischemic Attack	Female	3.9%	(n=20)
	Male	3.0%	(n=8)
	Total	3.6%	(n=28)
Coronary Heart Disease	Female	6.3%	(n=32)
	Male	14.7%	(n=39)
	Total	9.1%	(n=71)

Patients with high risk default at 6 month HRA

Of the 234 patients who had a 6 month HRA,

81/234 or 34.6%

default to high risk
without being able to change risk category due to established disease

ANCHOR Patients

As of May 5th, 2007

Patients with Established Disease 6 Month HRA

(n=234)

	# of Patients
Diabetes	55
Coronary Heart Disease	27
Stroke	5
Transient Ischemic Attack	14
Congestive Heart Failure	3
# Pts with 2 Diseases	17
# Pts with 3 Diseases	6
Total Patients	81

ANCHOR Patients

As of May 5th, 2007

Risk Reduction Results

ANCHOR patients who have had a 6 month HRA and do not have established disease (n=153)

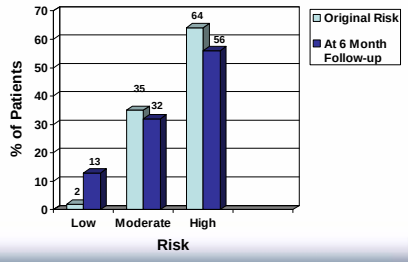
43/153 have reduced their risk **category** (28%)

54/153 have reduced their risk **score** (35%)

ANCHOR Patients

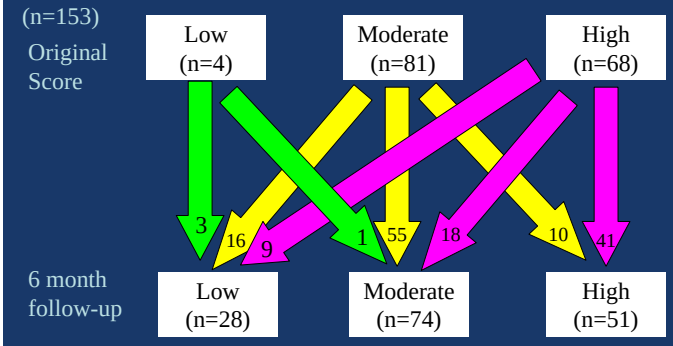
As of May 5, 2007

Original Risk with 6 Month Follow-up (n=234)



ANCHOR Patients

Reduction in Risk Category



ANCHOR Patients

As of May 5th, 2007

Patients with 6 Month HRA Follow-up

(n=234)

Measurement	# Improved	# Worsened	# Same	Average Change
Weight (Kg)	143	59	32	-1.67 Kgs
BMI	158	65	11	-0.89
Systolic BP	116	109	9	+0.58
Diastolic BP	106	111	17	-0.41
HDL Chol	157	68	9	+0.11
LDL Chol	98	133	3	+0.13

Data based on HRA at Start, compared to 6 month follow-up HRA

ANCHOR Patients

As of May 5th, 2007

Metabolic Syndrome Criteria

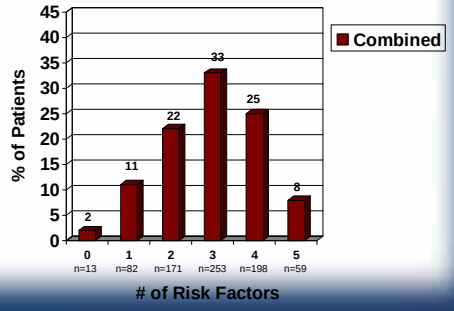
Three or more of the following Risk Factors:

- Waist Girth > 102 cm (Male) or 88 cm (Female)
- HDL < 1.0 mmol/L (Male) or 1.30mmol/L (Female)
- BP >/= 130/85 /Blood Pressure Medication /Personal History
- Fasting Blood Glucose >/= 5.6 mmol/L /Diabetic /Diabetic Medication
- Triglycerides >/=1.69mmol/L

ANCHOR Patients

As of May 5th, 2007

Metabolic Syndrome

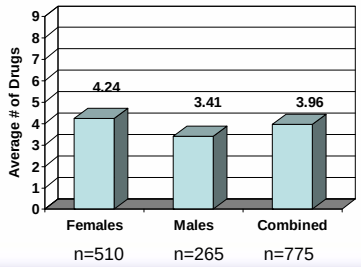


A Novel approach to Cardiovascular Health by Optimizing Risk management

ANCHOR Patients

As of May 5th, 2007

Analysis of Drug Utilization



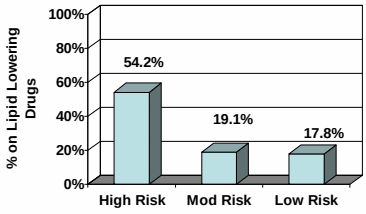
n=510 n=265 n=775

A Novel approach to Cardiovascular Health by Optimizing Risk management

ANCHOR Patients

As of May 5th, 2007

Lipid Lowering Drug Use



n=345 n=251 n=180

A Novel approach to Cardiovascular Health by Optimizing Risk management

ANCHOR Patients

As of May 5th, 2007

Patients with 6 Month HRA Follow-up

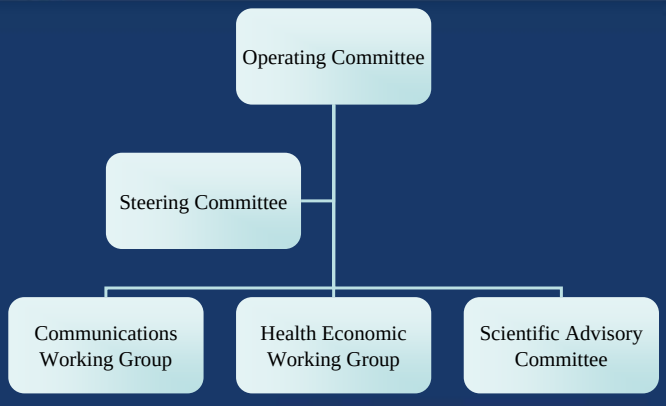
(n=234)

Initial Risk	% on LL Drugs Start	% on LL Drugs 6M	% on BP Drugs Start	% on BP Drugs 6M	% on Diabetic Drugs Start	% on Diabetic Drugs 6M	
High	53%	57.7%	63.1%	68.5%	29.5%	31.5%	N=149
Mod	18.5%	21%	29.6%	37%	0%	1.2%	N=81
Low	75%	75%	50%	50%	0%	0%	N=4

Data based on HRA at Start, compared to 6 month Follow-up HRA

A Novel approach to Cardiovascular Health by Optimizing Risk management

Project Organization



A Novel approach to Cardiovascular Health by Optimizing Risk management

Operating Committee

- Principle Investigators
- Project Manager
- Medical and Research Specialists, Pfizer Canada

A Novel approach to Cardiovascular Health by Optimizing Risk management

Steering Committee

- Department of Health
- Department of Health Promotion and Protection
- Participating Health Authorities
- Hearth and Stroke Foundation of Nova Scotia
- Practice Leads
- Coordinators
- Principle Investigators
- Project Manager
- Medical and Research Specialists, Pfizer Canada

Health Economics Working Group

- Research Health Economist, Department of Medicine, Dalhousie University
- Senior Health Economist, Department of Health
- Manager of Pharmacy Services, Department of Health
- Governmental Affairs Manager- Pfizer Canada
- Principle Investigator
- Project Manager

Challenges and Lessons Learned

- Engagement of Fee for Service medical practice
- Health Risk Assessment technology → creating research platform
- Community applied research looks and feels very different than RCT's
- Importance of champions within each of the partner organizations
- Value of team building – learning skills to support behavioral change
- Collaboration is more than just different people all looking after the same patient
- Linking to existing community programs and services critical

Thank you!

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www.anchorproject.ca