

## **The Chronic Vascular Disease Management Marketplace: But who is the investor?**

### **Abstract**

The prevention and management of chronic disease is resource intensive, and accounts for a sizable minority of total health care expenditures in Canada and elsewhere. Outcome benefits associated with integrated chronic cardiovascular disease management and life-style programs have been well-established. For cardiovascular disease, available evidence has demonstrated improvements in survival, quality of life, avoidable re-admissions, and improved societal productivity. Despite this evidence, the current investment into chronic cardiovascular disease prevention and management (of which on-site cardiac rehabilitation programs and congestive heart failure clinics serve as examples) by our public health care system in Canada is negligible. For example, in Ontario, currently 10 million dollars are invested into cardiac rehabilitation annually (which corresponds to under 0.1% of the total Ontario annual health care budget). By comparison, expenditures for technology related to the diagnosis and acute management of ischemic heart disease exceeds \$500 million dollars per year in Ontario. Consequently, unmet population needs for secondary cardiac prevention services in Ontario approach 500,000 individuals annually, 50,000 of which comprise particularly high-risk subgroups, such as those recently discharged from hospital with acute coronary syndromes, congestive heart failure, and diabetes-related complications. While the rationale for implementation of chronic disease management is well-founded, who will pay? Where are the incentives? Who are the advocates? and, Is there market-place for chronic cardiovascular disease management and prevention in Canada? This presentation explores these issues and describes the evolution of INTERVENT<sup>CANADA</sup> (PREVCAN<sup>TM</sup>) - - one of the first scientifically-developed comprehensive chronic cardiovascular disease and life-style management program - - and its penetration into Canada.

## Chronic vascular disease market- place: Who is the investor?

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## Disclaimer

- Canadian Scientific Director of InterventCan/PrevCan
  - Commercialized chronic disease and life-style management program

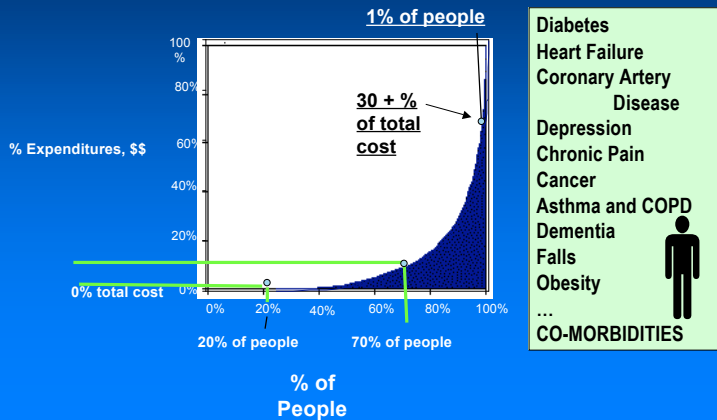
## What is Intervent?

- A personalized chronic cardiovascular and life-style management program.
- Integrated case-managed care
- Several individualized modules (e.g., diet, exercise, stress management, smoking cessation, etc)
- Behavioral readiness to change.
- 'Best-practice' standards and evidence-based guidelines.
- Tracking/surveillance mechanism

## Chronic vascular disease complexities

- Multiple interventions
- Multiple diseases
- Multiple sub-populations
- Behavioral/biological responsiveness
- Multiple outcomes (survival, health, costs)
- Resource intensive
- Fragmentation of care
- Multiple stakeholder perspectives

## The Business of Health Care in 2007... Chronic Health Conditions Increasingly Underlie the Bulk of Health Care Costs



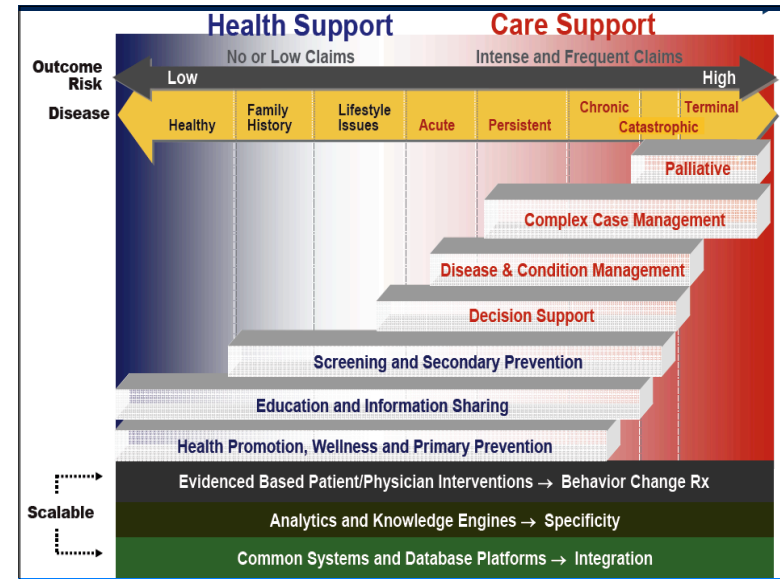
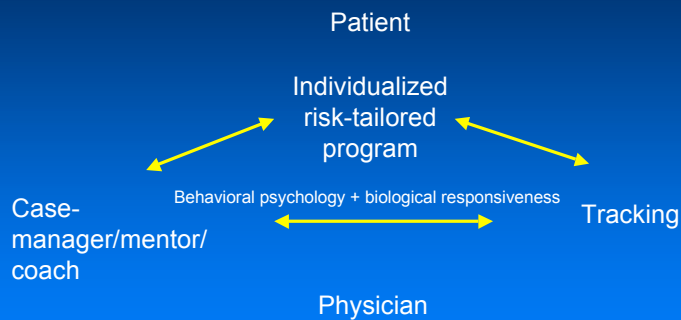
## What is chronic disease management? Traditional care model

Patient

Treatment/management

Physician

## What is chronic disease management? Integrated care model



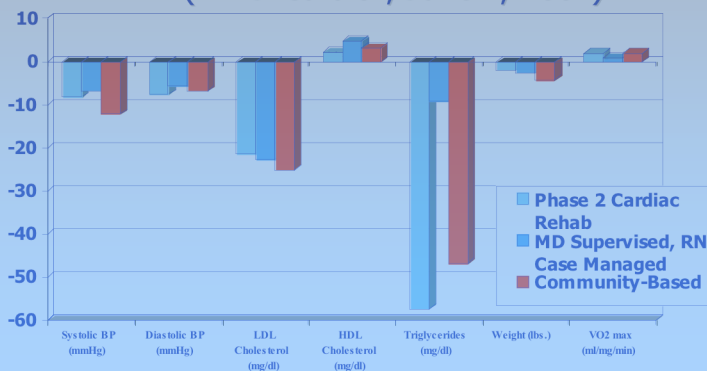
## What is the efficacy?

## Survival & integrated-care for secondary prevention

	Total mortality	Recurrent MI
Overall	0.85 (0.77-0.94)	0.83 (0.74-0.94)
Risk factors/counseling + exercise	0.88 (0.74-1.04)	0.62 (0.44-0.87)
Risk factors/counseling - exercise	0.87 (0.76-0.99)	0.86 (0.72-1.03)
Exercise only	0.72 (0.54-0.95)	0.76 (0.57-1.01)

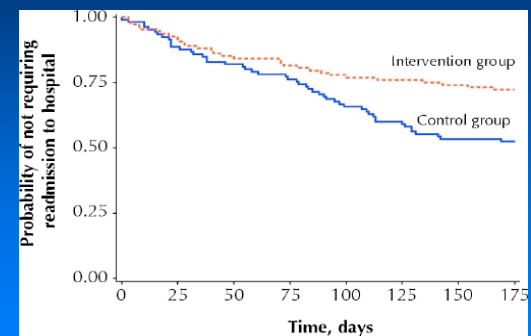
Clark AM, et al: Ann Intern Med, 2005;143(9):659-72

## Comparative Effectiveness of Three Models for CVD Risk Reduction (Am J Cardiol, June 1, 2002)



Slide 13

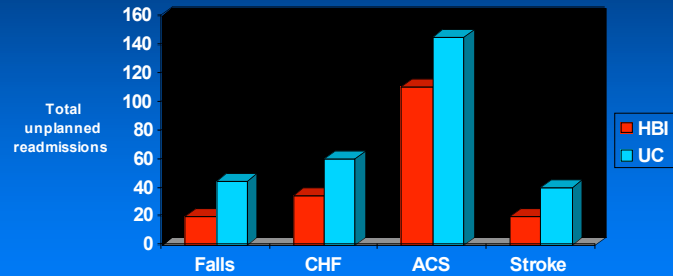
## Multidisciplinary care and hospitalizations: CHF clinics



Ducharme A; et al. CMAJ; 2005;173 (1):40-45

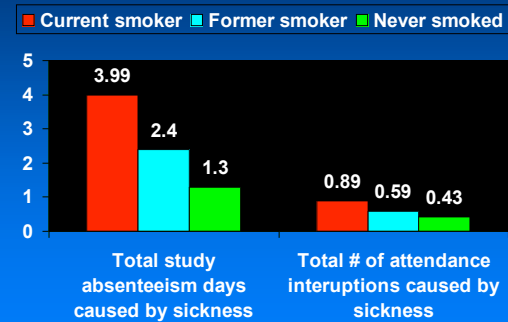
## Multidisciplinary home-based intervention among CHF patients

\$823+/--\$1642 vs. \$960+/--\$1376 per patient per year, P=0.045



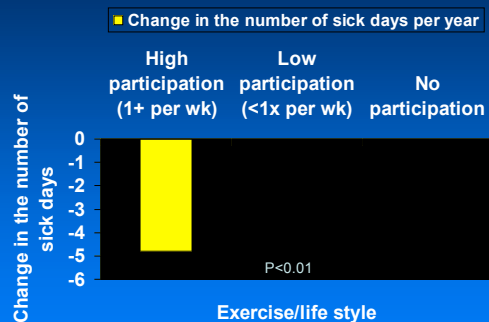
Pearson S, et al; Arch Intern Med 2006; 166:645-650

## Indirect societal benefits



Halpern et al, Tobacco Control 2001; 10:233-238

## Indirect societal benefits

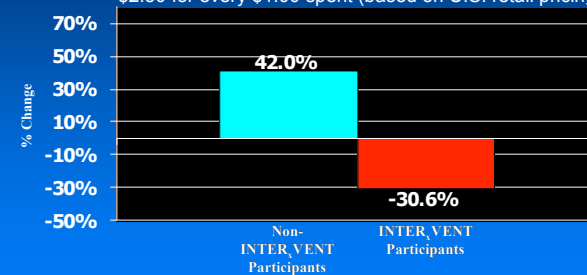


Prospective randomly selected cohort comprising 900 employees (3 corporations/businesses: police, chemistry, banking) given an exercise fitness training program; followed for one-year; each patient's absenteeism in the previous year was used as his/her control

Lechner et al. J Occ & Env Med; 1997; 39: 827-831

## % Change in Average Health Care Claims Per Employee (Oklahoma Employer): 2002 vs. 2003

\$2.30 for every \$1.00 spent (based on U.S. retail pricing)



Notes: INTERVENT Program was implemented in January 2003. Participants enrolled in the INTERVENT Program in 2003 and completed a full year of service and evaluations. Analysis performed by Milliman Consultants and Actuaries

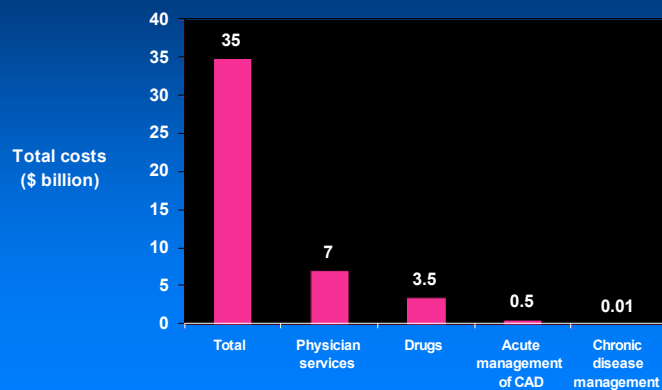
## Who is the investor?

## Cost-effectiveness benchmarks

INTERVENTION	COST PER QALY
Cardiac rehabilitation	\$5,000-25,000
Stents vs. angioplasty	\$18,000
Driver side airbags	\$27,000
Heart transplantation	\$46,000
Routine angiography post-MI, good LV function, negative ETT	>\$55,000 - \$960,000
Lung transplantation	\$190,000
CPR in patients with cardiac arrest	\$240,000

Harvard Centre for risk analysis: [www.hsph.harvard.edu/cearegistry](http://www.hsph.harvard.edu/cearegistry)

## Current Ministry of Ontario investment in chronic disease



## Current resources

**UNMET NEED: 27,986 - 493,600 Ontarians per year**

Patient population	Total eligible population	Funded
Heart disease with cardiac hospitalization	68,772	5120
Heart disease without cardiac hospitalization	(431,228)*	1280
<b>Total</b>	<b>500,000</b>	<b>6,400</b>

Source: CCN pilot project, CIHI discharge abstracts database 2000-01  
 \* estimated prevalence (includes diabetes)

Example:  
INTERVENT/PREVCAN™

## Policy-response

- Cost-constraints
- Resource displacement
  - “Policy Paradox”
- Advocacy: Physician/public-interest
  - Viable Markets

Alternative markets

## The business of chronic disease/life-style management



## Canadian commercialization strategy

- Strategic partnerships and stakeholder alignment
- Third-party payers
  - Corporations – employee/employment
- First-person payers/consumer-market
  - Competitors
    - Obesity/Diet
    - Alternative therapies
    - Exercise/fitness
- Public-payer
  - via “market-for-advocacy”

## Summary

- Chronic disease management and integrated managed care is the future
  - Effects on health
  - Effects on expenditures
  - Effects on societal productivity
- “Market-for-advocacy”
- Payer-model
  - Private, corporate, public
- Intervent<sup>Can</sup>/Prevcan<sup>TM</sup> will be the first-attempt