

Found in Translation: From Data to Application to improve population health

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Alvin J. Siteman Cancer Center
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Department of Surgery

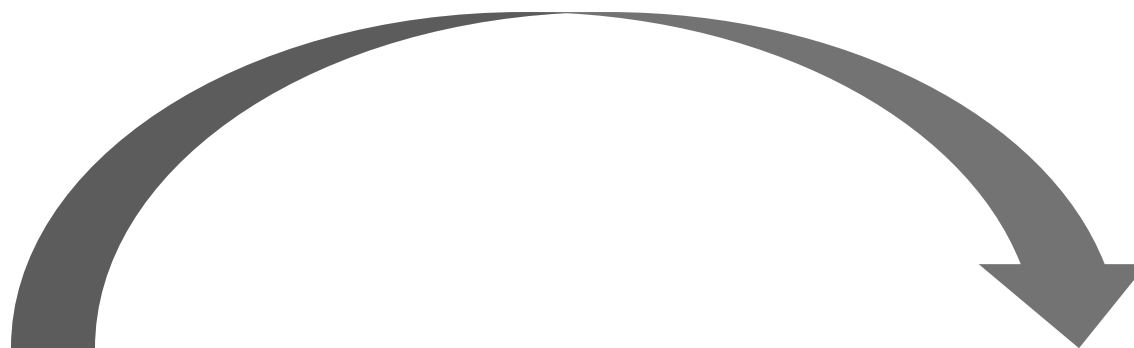


Washington University in St. Louis

SCHOOL OF MEDICINE


**Epidemiologic
Evidence**

**Real World
Application**



**Epidemiologic
Evidence**


**Real World
Application**



**Why bridge the gap between
evidence and application?**

**Epidemiologic
Evidence**

**Real World
Application**




Why bridge the gap between evidence and application?

**Epidemiologic
Evidence**

It's a different research & communication environment than 10 (even 5) years ago.

**Real World
Application**




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**Epidemiologic
Evidence**

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**Real World
Application**

Chance to optimize the dissemination and use of one's research.



Why bridge the gap between evidence and application?

**Epidemiologic
Evidence**

It's a different research & communication environment than 10 (even 5) years ago.

**Real World
Application**

Chance to optimize the dissemination and use of one's research.

Use lessons learned from application to drive research.

**Interagency Breast Cancer & Environmental Research Coordinating
Committee**



February 12, 2013

“Publication is not the final step in the process of sharing research findings...”

Interagency Breast Cancer & Environmental Research Coordinating Committee



February 12, 2013

**Interagency Breast Cancer & Environmental Research Coordinating
Committee**

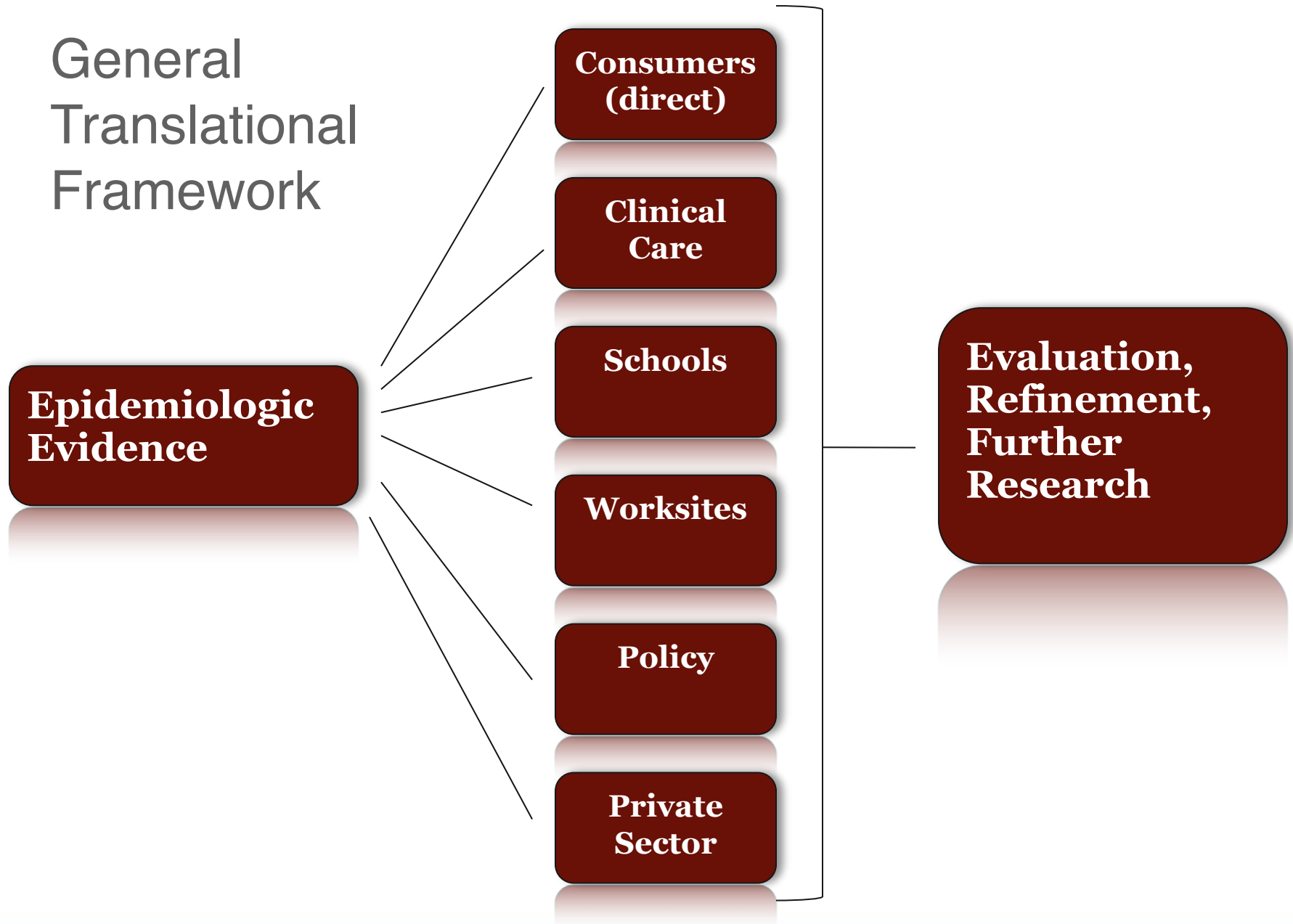


“Modern technology creates the potential to reach wider audiences, both within peer groups of scientists and the population as a whole (Maynard, 2009). Peer-reviewed journals alone usually do not suffice to communicate findings within the scientific community or to lay audiences.”

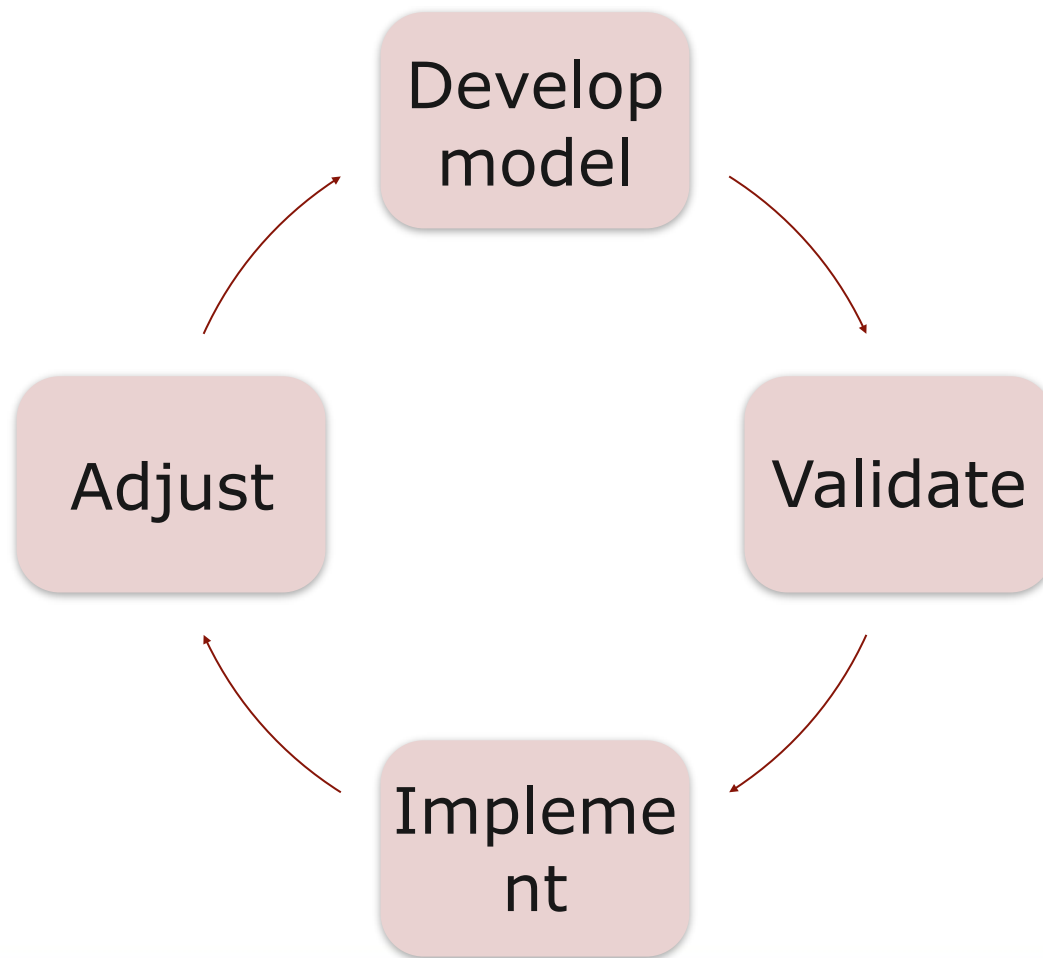
Interagency Breast Cancer & Environmental Research Coordinating Committee



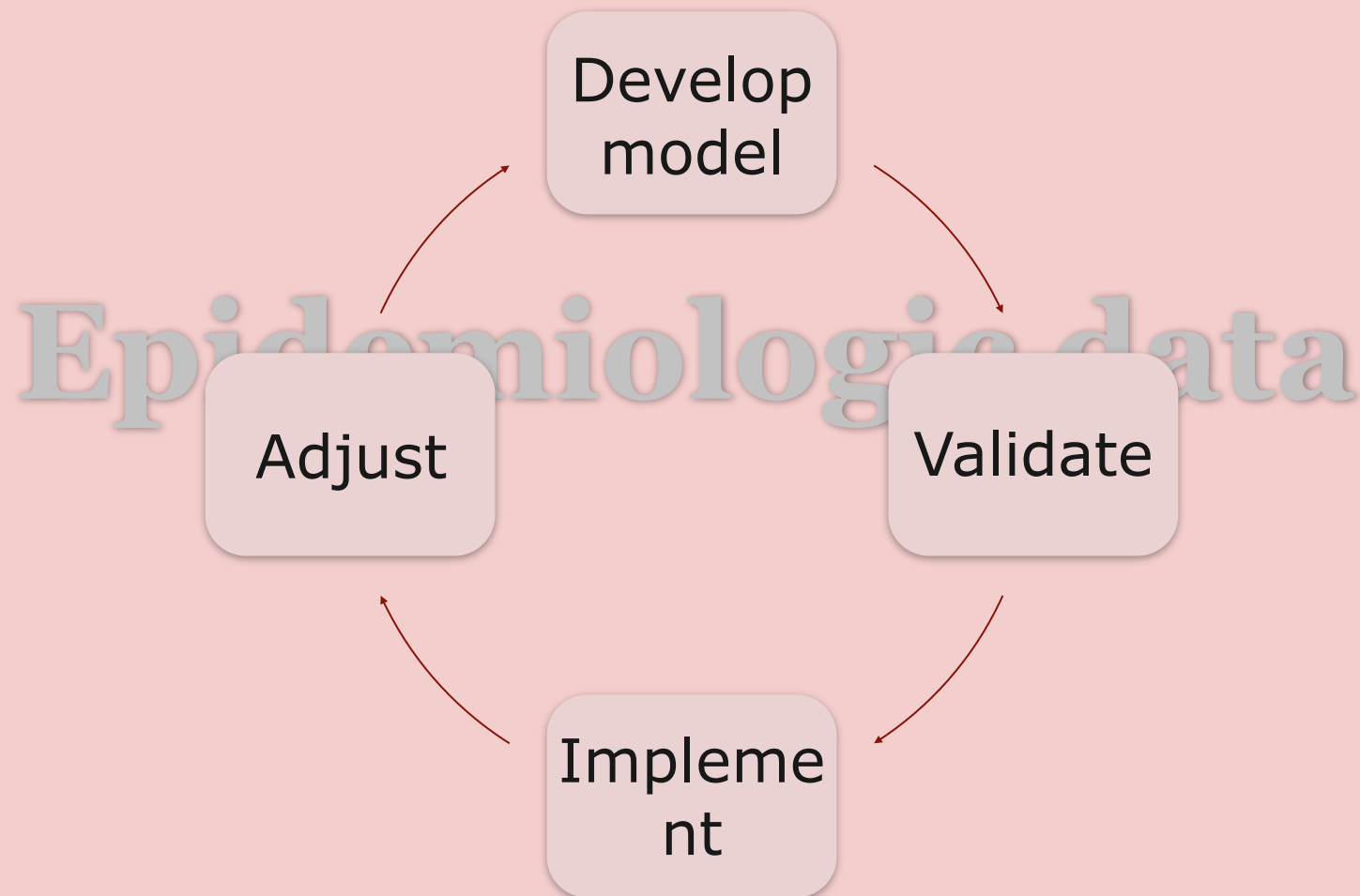
General Translational Framework



Translation framework, risk prediction



Translation framework, risk prediction



Purposes of risk prediction

- Determine study eligibility
- Lifestyle modification – prevention
- Intervention decision
- Understand disease etiology

Risk Prediction – “Your Disease Risk”

Your Disease Risk
THE SOURCE ON PREVENTION

Risk Prediction

**Consumers
(direct)**

**Clinical
Care**

Schools

Worksites

Policy

**Private
Sector**

**Evaluation,
Refinement,
Further
Research**

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Evaluation,
Refinement,
Further
Research

Risk Prediction – “Your Disease Risk”

Your Disease Risk THE SOURCE ON PREVENTION

my results: **No Results Yet** ▼

Abc

Cancer

Diabetes

Heart disease

Osteoporosis

Stroke

8 ways
to prevent
disease

What is...?

Prevention

Risk

A Screening Test

How to...

Estimate Risk

Community Action

Welcome to *Your Disease Risk*, the source on prevention. Here, you can find out your risk of developing five of the most important diseases in the United States and get personalized tips for preventing them.

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What is your risk?



Cancer: There's much more to it than just smoking and lung cancer.

What's your cancer risk? ➤



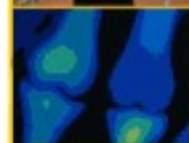
Diabetes: Over 18 million in the U.S. suffer from it. Take steps now to lower your risk.

What's your diabetes risk? ➤



Heart disease: The #1 killer in the U.S. is also one of the most preventable.

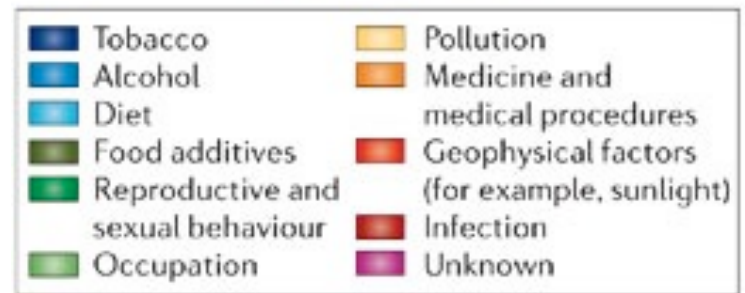
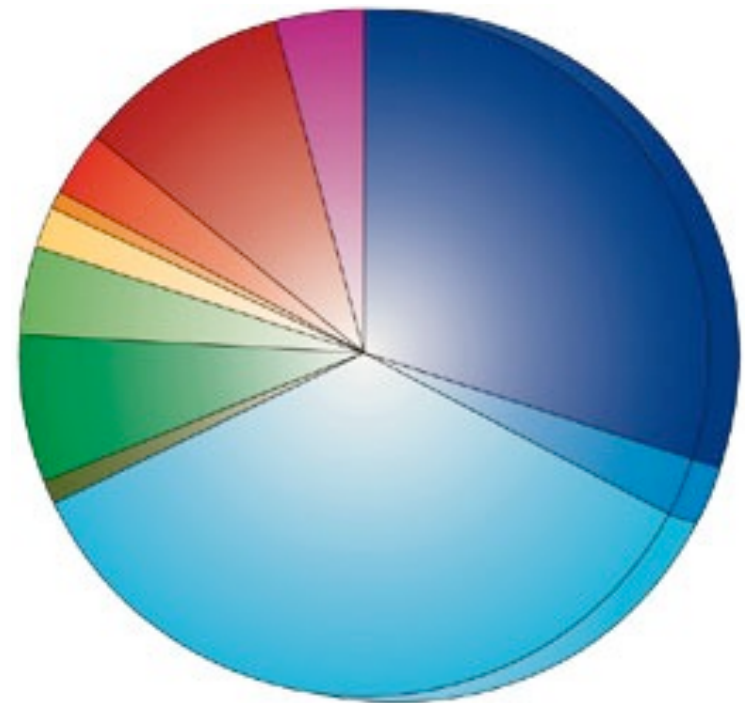
What's your heart disease risk? ➤



Osteoporosis: Calcium isn't the only way (or even the best way) to protect yourself.

What's your osteoporosis risk? ➤

Proportion of cancer deaths attributed to non-genetic factors.



HCCP Harvard Report on Cancer Prevention
Cancer Causes Control, 1996
Colditz GA *et al.* (2006) Epidemiology—
identifying the causes and preventability of
cancer?

Nat. Rev. Cancer. 7: 2–9 doi:10.1038/nrc1784

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Nature Reviews | Cancer

nature
REVIEWS CANCER

Harvard Report on Cancer Prevention Volume 4: Harvard Cancer Risk Index

G.A. Colditz*, K.A. Atwood, K. Emmons, R.R. Monson, W.C. Willett, D. Trichopoulos & D.J. Hunter
for the Risk Index Working Group, Harvard Center for Cancer Prevention
*Channing Laboratory, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School and the
Harvard Center for Cancer Prevention, 677 Huntington Avenue, Boston, MA 02115, USA*

Key words: cancer prevention, risk communication, risk estimation.

Abstract

Objective: Prediction of cancer risk is a minor component of current health risk appraisals. Perception of individual cancer risk is poor. A Cancer Risk Index was developed to predict individual cancer risk for cancers accounting for 80% of the cancer burden in the United States.

Methods: We used group consensus among researchers at the Harvard Medical School and Harvard School of Public Health to identify risk factors as definite, probable and possible causes of cancer. Risk points were allocated

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Methods - Overview

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Methods - Overview

- Formed a working group from among members of the HCCP

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Methods - Overview

- Formed a working group from among members of the HCCP
 - Epidemiologists and risk assessment faculty

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Methods - Overview

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- Defined subset of cancer accounting for 80% of US disease burden
- Defined the definite, probable, and possible causes of these cancers

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Methods - Overview

- Formed a working group from among members of the HCCP
 - Epidemiologists and risk assessment faculty
- Defined subset of cancer accounting for 80% of US disease burden
- Defined the definite, probable, and possible causes of these cancers
- Developed scales to convert risk factor profiles to distinct levels of risk

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Communication science

Computer science

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Communication science

Computer science

Web design

Human factors

Decision science

Psychology

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Weight of Evidence

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Weight of Evidence

Definite Evidence

A relationship has been established between the exposure and outcome. That is, a relationship has been observed between the exposure to the agent and the outcome in which chance, bias and confounding can be ruled out with reasonable confidence.

Probable

An association has been observed between the exposure and outcome. The association is considered credible but chance, bias and confounding cannot be ruled out with sufficient confidence.

Possible

The available studies are of insufficient quality, consistency or statistical power to permit a conclusion of at least probable evidence of an association between the exposure and the outcome

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Results Presentation

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Results Presentation

Based on focus groups and in-depth interviews

- Positive terms and positioning garnered the best response
- “Scary” results garnered criticism
- Unfamiliar terms should be avoided
- Relative verbal and graphic results resonated better than absolute numeric results

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Risk for Individual Cancers

for men age 40 and above

Instructions:



Read each statement. Respond yes or no. Fill in the points for your answer in the space provided. At the bottom of the page, total your points in the red and green columns. Subtract the green column from the red column to get your total risk points. Use your total risk points to assess your risk of developing each cancer.

Example:

When you enter points into the red column, you are increasing your risk of getting cancer. For example, if you smoke 1 or more cigars a day, you are increasing your risk. When you enter points in the green column, you are decreasing your risk of getting cancer. For example, eating 3 or more servings of vegetables a day decreases your risk.

		ENTER YOUR RISK POINTS HERE	
		increase your risk	decrease your risk
1. I have smoked one or more cigars a day for the past year	<input type="text"/>	<input type="text"/>	<input type="text"/>
Yes = 5	No = 0	5	5
2. I eat 3 or more servings of vegetables a day	<input type="text"/>	<input type="text"/>	<input type="text"/>
Yes = 5	No = 0		5

© 1997, Harvard Center for Cancer Prevention

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Your Disease Risk

THE SOURCE ON PREVENTION

my results: **No Results Yet** ▼

[About the Move to Siteman](#)

Cancer

Diabetes

Heart disease

Osteoporosis

Stroke

8 ways to prevent disease

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A Screening Test

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What is your risk?		
	Cancer: There's much more to it than just smoking and lung cancer.	What's your cancer risk?
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www.yourdiseaserisk.wustl.edu

Question Validity

Question Validity

- Smoking

Question Validity

- Smoking
- Weight/Body Mass Index

Question Validity

- Smoking
- Weight/Body Mass Index
- Diet

Question Validity

- Smoking
- Weight/Body Mass Index
- Diet

Concordance between brief diet assessment
(PrimeScreen) and SFFQ

(Public Health Nutrition.1999; 4:249–254)

Question Validity

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- Weight/Body Mass Index
- Diet

Concordance between brief diet assessment (PrimeScreen) and SFFQ

(Public Health Nutrition.1999; 4:249–254)

	Comparability	Reproducibility
Food and Food Groups	$r=0.70$	$r=0.61$
Nutrients	$r=.70$	$r=0.62$

Validation of the Harvard Cancer Risk Index: a prediction tool for individual cancer risk

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^aHarvard Center for Cancer Prevention, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115, USA

^bChanning Laboratory, Department of Medicine, Brigham & Women's Hospital and Harvard Medical School, 181 Longwood Avenue, Boston, MA 02115, USA

^cDepartment of Society, Human Development, and Health, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115, USA

^dDepartment of Epidemiology, CB#7435, School of Public Health, University of North Carolina, Chapel Hill, NC 27599-7435, USA

^eDepartment of Epidemiology, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115, USA

Accepted 9 August 2003

Abstract

Objective: Risk appraisal tools are increasingly being used in the clinical setting to estimate individuals' risks of developing and dying from diseases. The Harvard Cancer Risk Index is one such tool constructed to predict the risks of individuals, aged 40 and above, for developing the leading types of cancer in U.S. men and women relative to the general population. To date, the Risk Index has not been prospectively validated.

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Risk Prediction – “Your Disease Risk”



Risk Prediction – “Your Disease Risk”

Risk Prediction

**Consumers
(direct)**

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Risk Prediction – “Your Disease Risk”

**Consumers
(direct)**

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Web

Risk Prediction



Your Disease Risk

THE SOURCE ON PREVENTION

my results: **No Results Yet** ▼

About the Move to Siteman

Cancer

Diabetes

Heart disease

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Stroke

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Risk Prediction

Risk Prediction – “Your Disease Risk”

Risk Prediction

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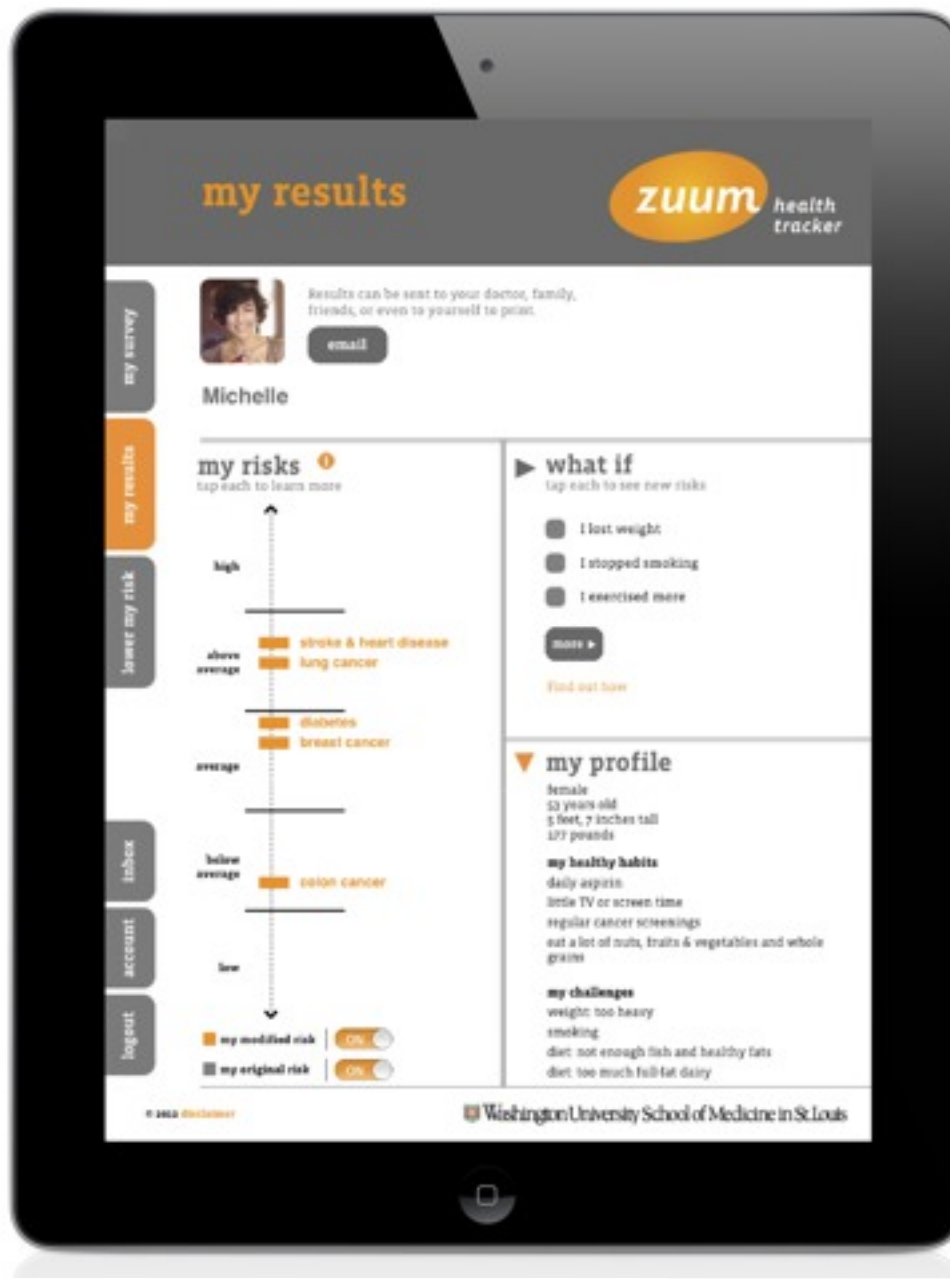
Private
Sector

Web

Mobile

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“Y

Ri



Web
Mobile

Try Our Risk
App for iPad



Risk Prediction – “Your Disease Risk”

Risk Prediction

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Worksites

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Risk Prediction – “Your Disease Risk”

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Worksites

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Sector

Web

Mobile

Print

Risk Prediction

Risk
“You



Web

Mobile

Print

Risk

There's a lot you can do to lower your risk of cancer, heart disease, stroke, and diabetes. Take this quiz to estimate your risk of these diseases and highlight steps you can take to improve your health. For a more detailed estimate of your risk for specific types of cancer and other diseases, please visit www.yourdiseaserisk.wustl.edu

Look at each statement. If it describes you, circle all the numbers in the boxes to the right. If it doesn't describe you, simply leave the row blank. When you're done, add the circled numbers in each column to see which disease risk category you're in.

	Cancer*	Heart Disease	Stroke	Diabetes
Tobacco Use: I smoke - even sometimes.	3	3	3	1
Weight: I have gained 20 lbs or more since age 18.	1	2	1	3
Physical Activity: I get less than 30 minutes of moderate activity (like walking) on most days.	1	1	1	1
Red Meat: I eat 3 or more servings of red meat per week.	1	1	1	
Multivitamins: I do <u>not</u> usually take a multivitamin.	1	1		
Fruits & Vegetables: I eat fewer than 5 servings of fruits & vegetables per day.		1		1
Whole Grains: I eat fewer than 3 servings per day of whole grains (like whole wheat bread, brown rice, oatmeal or whole grain cereal).	1	1	1	1
Mono and Poly-Unsaturated Fats: I eat oil-based salad dressing or use liquid vegetable oil for cooking/dress on fewer days per week.		1		1
Alcohol: I average more than 1 alcoholic drink per day. (One drink is one beer, one glass of wine, or one shot of other alcohol).	1			
Screening AGE 50 AND OVER ONLY: I have <u>not</u> had a colonoscopy in the last 10 years.	1			
FEMALE ONLY: I have <u>not</u> had a Pap test in the last 3 years.	1			
Family History: I have a family history of the following diseases (circle only those that apply)	1	1	1	1
TOTAL				

* including the most common cancers: prostate (men), breast (women), lung, and colon

Your risk, compared to someone your age and sex: Scoring: 0-2 Below average; 3-4 Average; 5+ Above average

Flip the page over to see what your risk means and the important steps you can take to stay healthy.



90C2114

www.siteman.wustl.edu

800-600-3406

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Sector

Web

Mobile

Print

Risk Prediction

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

**Clinical
Care**

Schools

Worksites

Policy

Private
Sector

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

**Clinical
Care**

Schools

Worksites

Policy

Private
Sector

Consumers

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

**Clinical
Care**

Schools

Worksites

Policy

Private
Sector

Consumers
Practitioners

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

**Clinical
Care**

Schools

Worksites

Policy

Private
Sector

Consumers
Practitioners
Insurers/Systems

CAMPAIGN
FOR CANCER
PREVENTION

Initiatives

Take Action

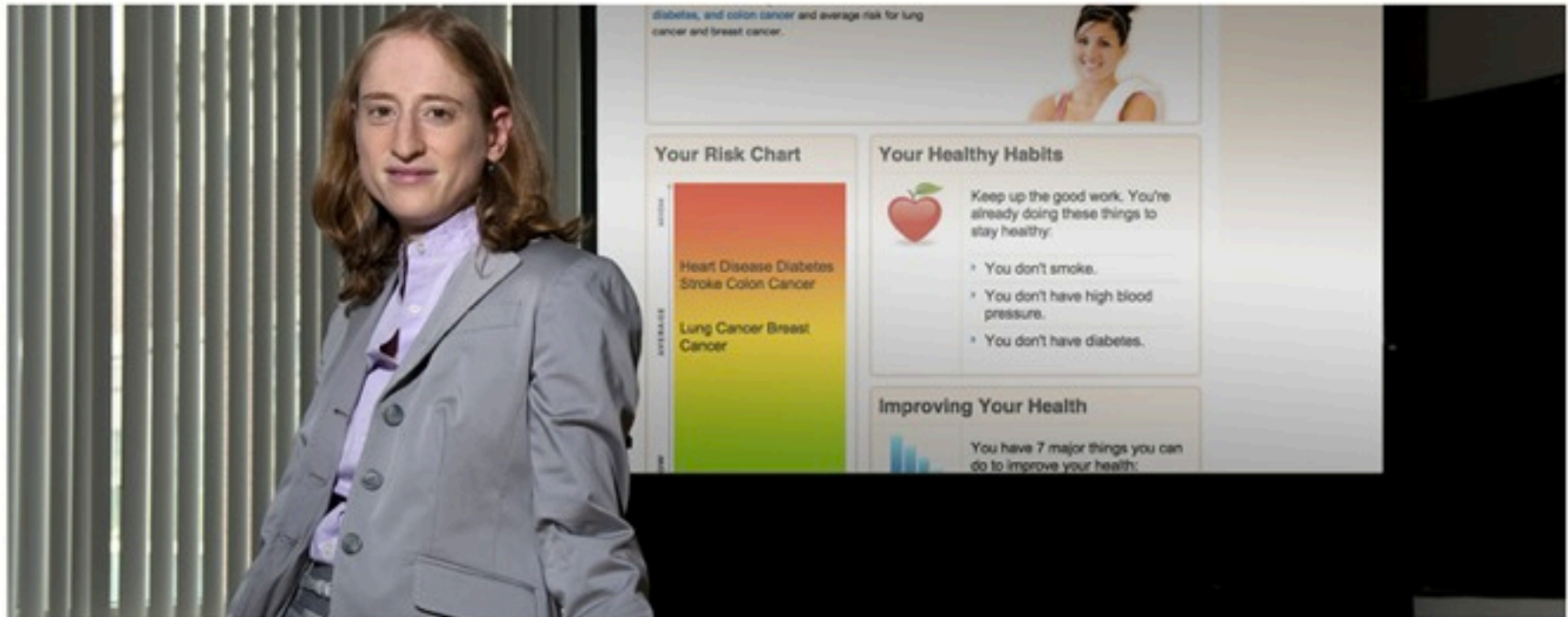
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News

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BRIGHAM AND
WOMEN'S HOSPITAL



Heather J. Baer, ScD and her team at BWH are harnessing the power of web-based technology to predict a patient's risk for developing cancer.

Risk Prediction – “Your Disease Risk”

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Consumers
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**Clinical
Care**

Schools

Worksites

Policy

Private
Sector

Consumers
Practitioners
Insurers/Systems

Risk Prediction – “Your Disease Risk”

Risk Prediction



```
graph TD; A[Consumers (direct)] --- B[Clinical Care]; B --- C[Schools]; C --- D[Worksites]; D --- E[Policy]; E --- F[Private Sector]; G[Risk Prediction] --- C;
```

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Health Education

F
“
Analytics show that:

Middle Schools

High Schools

Colleges

Integrate YDR into
health education curricula

Health Education

Private
Sector

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

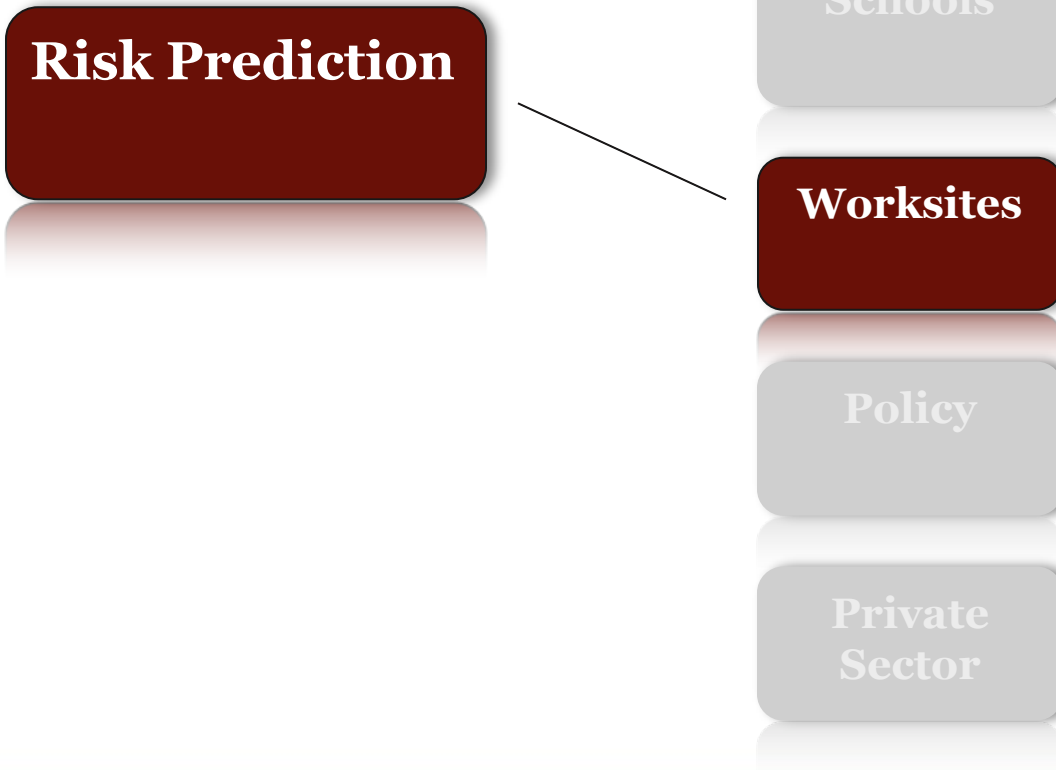
Worksites

Policy

Private
Sector

Health Education

Risk Prediction – “Your Disease Risk”



Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Consumers

Your Health Snapshot

Welcome, Woman No 1 | [Logout](#) | [Print](#)

Home
Logout
Register
Health Snapshot
Wellness Lab
8 Ways to Stay Healthy
What's your risk?
Cancer
Chronic Bronchitis
Diabetes
Emphysema
Heart Disease
Osteoporosis
Stroke
More Info
Alcohol
Blood Pressure
Cholesterol
Depression
Healthy Diet
Physical Activity
Screening
Stress
Tobacco
Weight
What is...
Prevention?
Risk?
A Screening Test?
How to...
Estimate Risk?
Glossary

Snapshot Results

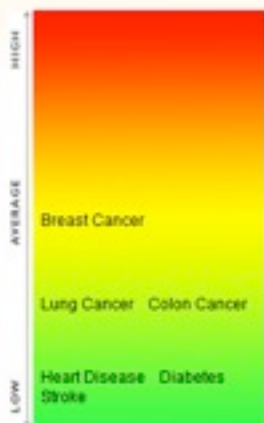
You have **average** risk for **1** disease. Click on a disease in Your Risk Chart below to answer some extra questions and get a more detailed estimate of your risk.



Looking for a physician? Call the Washington University Physician Network at 314-935-0600 or visit its [website](#).

Enter the **Your Health Snapshot** prize drawing for a chance to win \$300. [Enter](#)

Your Risk Chart



▶ [View a full list of disease questionnaires](#)

Your Healthy Habits



Keep up the good work. You're already doing these things to stay healthy:

- ▶ You don't smoke.
- ▶ You aren't overweight. [\[Track your weight\]](#)
- ▶ You exercise regularly. [\[Track your activity\]](#)
- ▶ You don't have high blood cholesterol.
- ▶ You don't have diabetes.
- ▶ You've had a Pap test recently.

Improving Your Health



You have 5 major things you can do to improve your health:

- ▶ Eat a healthy diet rich in fruits, vegetables, and whole grains; and low in red meat, saturated fats and trans fats.
- ▶ Take a multivitamin with folate most days.
- ▶ Get a colonoscopy or other colon cancer screening test.

Consumers

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
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Care

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Worksites

Policy

Private
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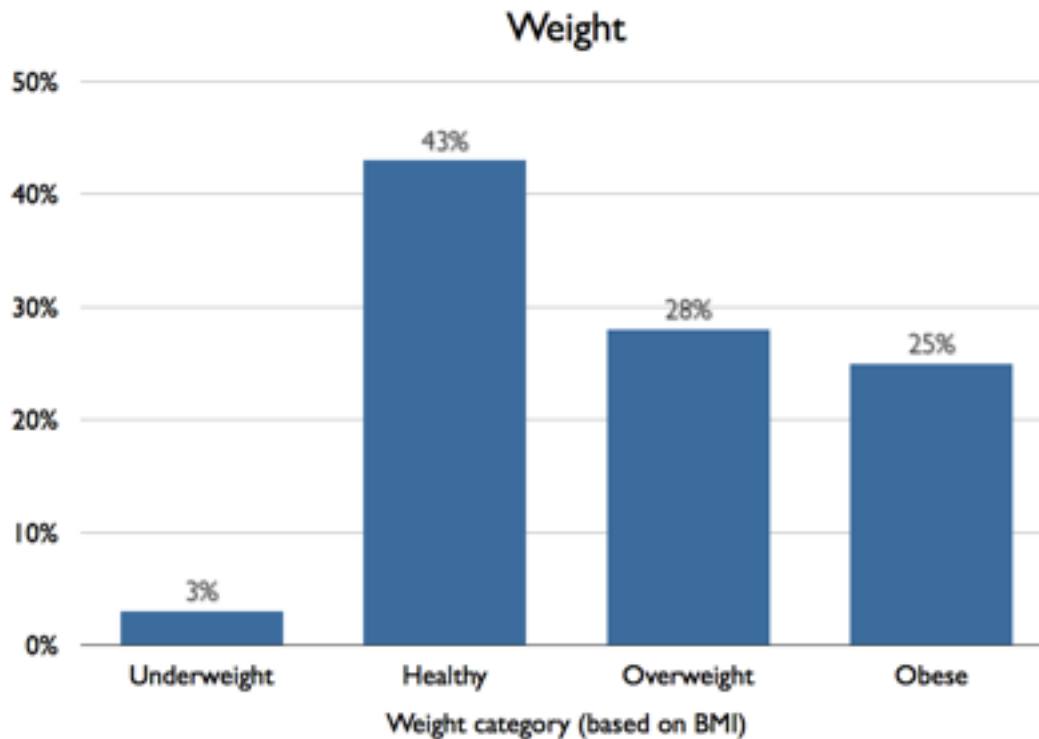
Private
Sector

Consumers
Wellness Policy

Risk Prediction –

Consumers
(direct)

2012



Consumers
Wellness Policy

Private
Sector

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
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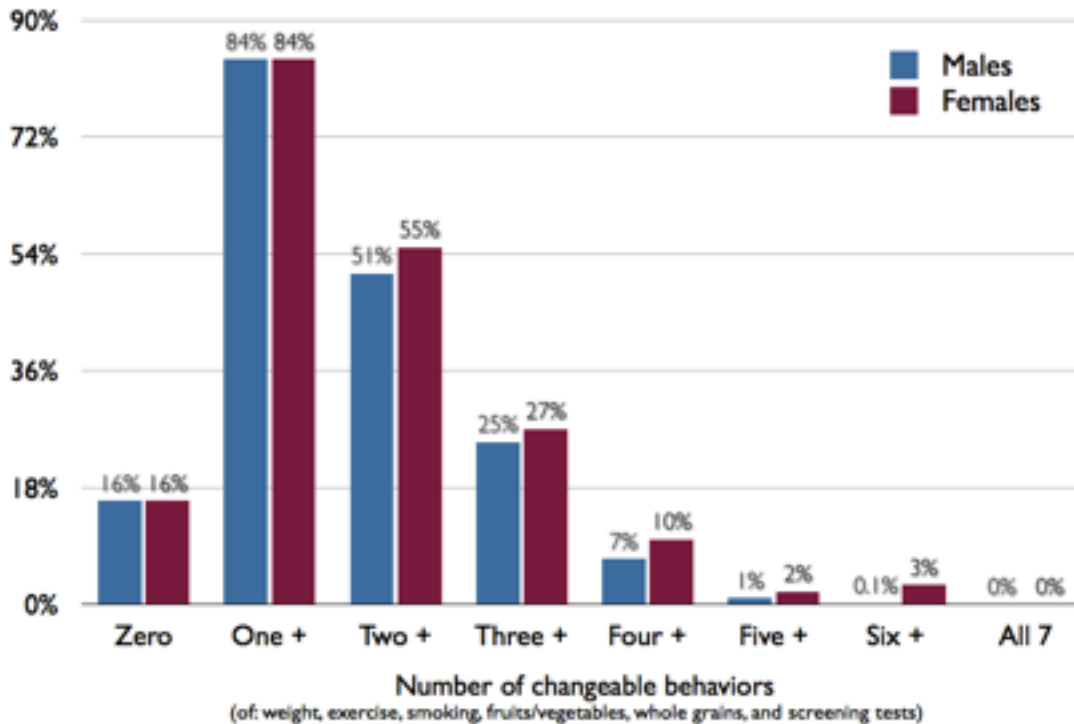
Consumers
Wellness Policy

Risk Prediction –

Consumers
(direct)

2012

Potential for Behavior Change



Consumers
Wellness Policy

Private
Sector

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Schools

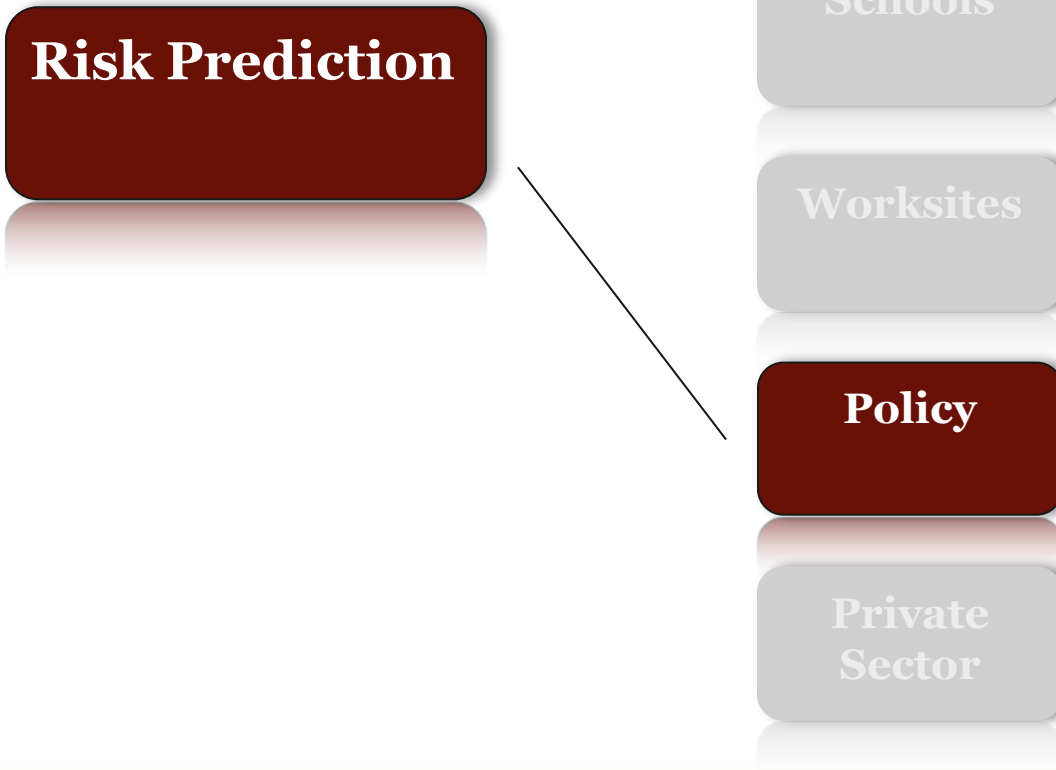
Worksites

Policy

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Sector

Consumers
Wellness Policy

Risk Prediction – “Your Disease Risk”



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Policy

Private
Sector

Federal

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Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

Federal
International

Kanker voorkomen

Wat is risico

Hoe wordt uw risico
berekend

Betrouwbaarheid

Verantwoording

Cijfers over kanker

Begrippenlijst

Privacy

Disclaimer

zoek resultaten

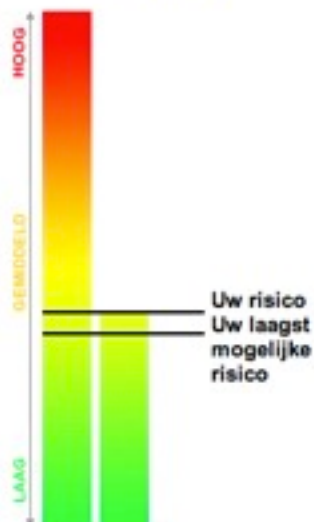
Mijn resultaten: Longkanker | [Startpagina](#)

Longkanker

Resultaten: Long
Vergeleken met een
gemiddelde man van uw leeftijd, is
uw risico **lager dan gemiddeld**
[\[Meer\]](#)

Bevolkingsonderzoek
Momenteel is er in Nederland geen
bevolkingsonderzoek
naar longkanker. [\[Meer\]](#)

Uw risico is
lager dan gemiddeld



Laat zelf uw risico dalen

U kunt zelf 1 ding doen om uw risico te verlagen.
Vink onderstaande optie uit om te zien wat uw
risico zou kunnen zijn en kijk in de grafiek hiernaast
hoeveel uw risico dan daalt.

☒ U eet onvoldoende groente en fruit [\[Tips\]](#)

Dit doet u goed:

U doet al onderstaande zaken om uw risico te
verlagen:

- U rookt geen sigaren [\[Meer\]](#)
- U rookt geen sigaretten [\[Meer\]](#)
- U heeft niet het grootste deel van uw leven met
een roker samengewoond [\[Meer\]](#)

Federal
International

Private
Sector

Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

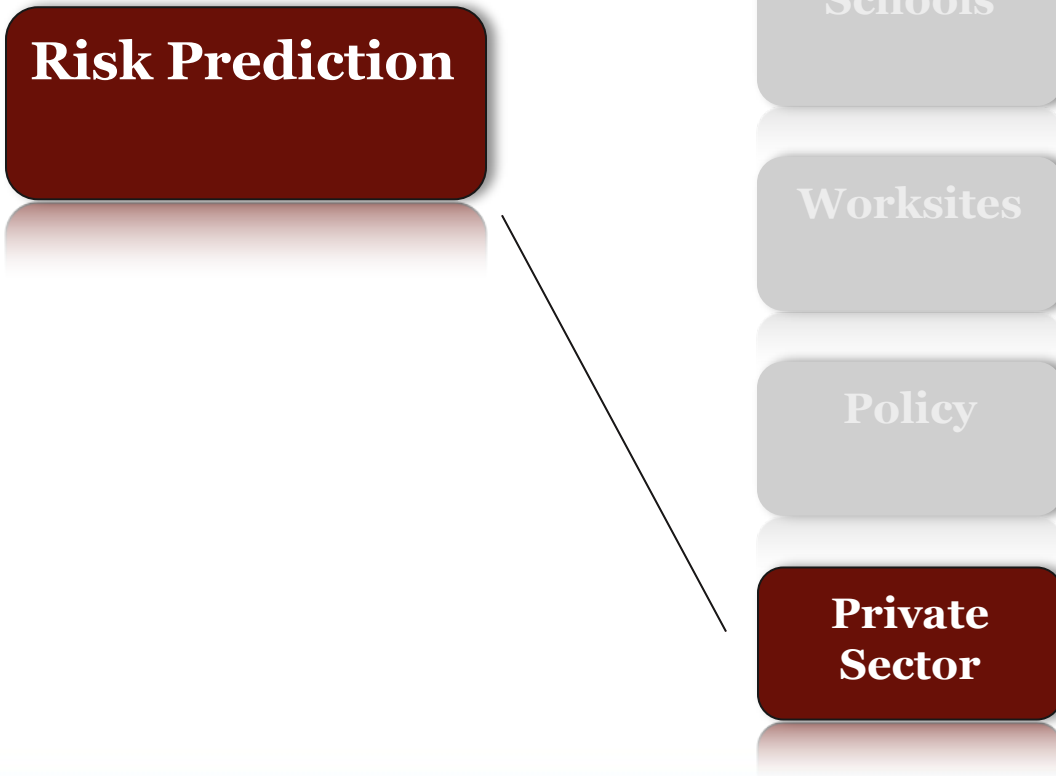
Worksites

Policy

Private
Sector

Federal
International

Risk Prediction – “Your Disease Risk”



Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

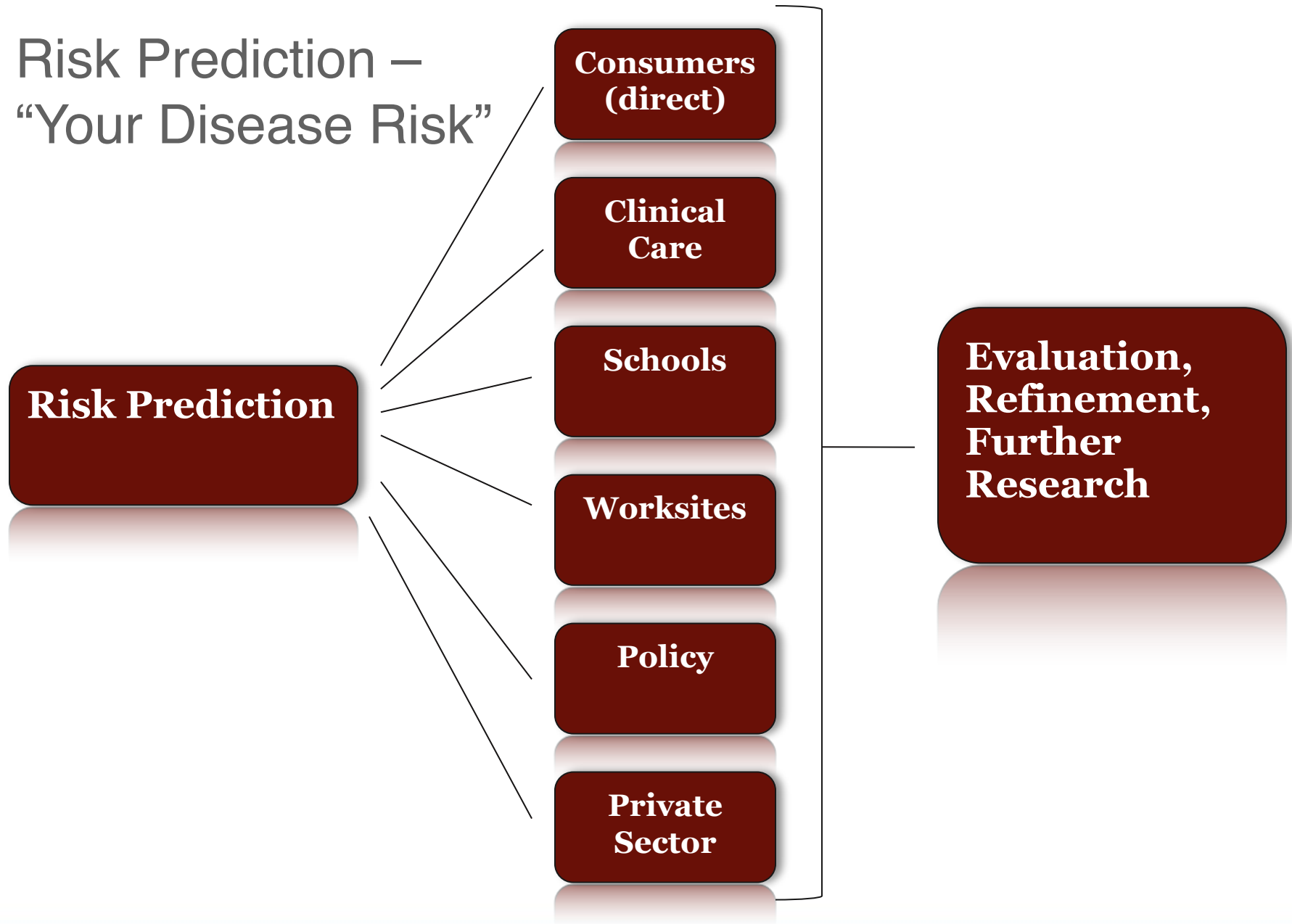
Worksites

Policy

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Sector**

Vendors

Risk Prediction – “Your Disease Risk”



Risk Prediction – “Your Disease Risk”

Risk Prediction

Consumers
(direct)

Clinical
Care

Schools

Worksites

Policy

Private
Sector

**Evaluation,
Refinement,
Further
Research**

Traffic Sources Overview

Jan 6, 2013 - Feb 5, 2013

Advanced Segments

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Export

Add to Dashboard

Shortcut

% of visits: 100.00%

Overview

Hourly

Day

Week

Month

Visits



28,045 people visited this site



38.84% Search Traffic

10,894 Visits

16.54% Referral Traffic

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Risk Prediction

Consumers
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Clinical
Care

Schools

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**Evaluation,
Refinement,
Further
Research**

Risk Prediction —

Journal of General Internal Medicine
January 2013

Use of a Web-based Risk Appraisal Tool for Assessing Family History and Lifestyle Factors in Primary Care

Heather J. Baer SD, Louise I. Schneider MD, Graham A. Colditz MD, DrPH, Hank Dart SM, Analisa Andry SM, Deborah H. Williams MHA, E. John Orav PhD, Jennifer S. Haas MD, MSPH, George Getty BS, Elizabeth Whittemore MSW, MPH, ... [show all 11](#)



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ABSTRACT

BACKGROUND

Primary care clinicians can play an important role in identifying individuals at increased risk of cancer, but often do not obtain detailed information on family history or lifestyle factors from their patients.

OBJECTIVE

We evaluated the feasibility and effectiveness of using a web-based risk appraisal tool in the primary care setting.

DESIGN

Five primary care practices within an academic care network were assigned to the intervention or control group.

PARTICIPANTS



SGIM
Society of General
Internal Medicine

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Within this Article

- INTRODUCTION
- METHODS
- RESULTS
- DISCUSSION
- REFERENCES
- REFERENCES

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Care

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**Evaluation,
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Further
Research**

Risk Prediction – “Your Disease Risk”

Consumers
(direct)

Journal of Health Communication: International Perspectives

Volume 9, Issue 2, 2004



Tailored Computer-Based Cancer Risk Communication: Correcting Colorectal Cancer Risk Perception

DOI: 10.1080/10810730490425295

KAREN M. EMMONS^a, MEI WONG^b, ELAINE PULEO^c, NEIL
WEINSTEIN^d, ROBERT FLETCHER^e & GRAHAM COLDITZ^f
pages 127-141



Preview

Access options

Publishing models and article dates explained

Version of record first published: 17 Aug 2010

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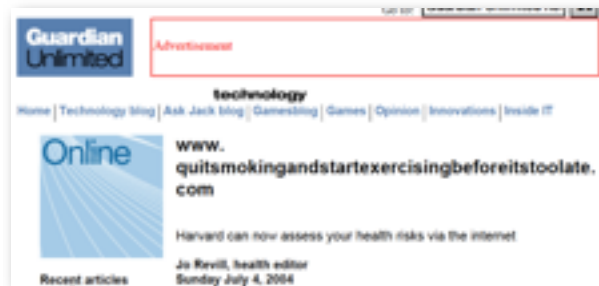
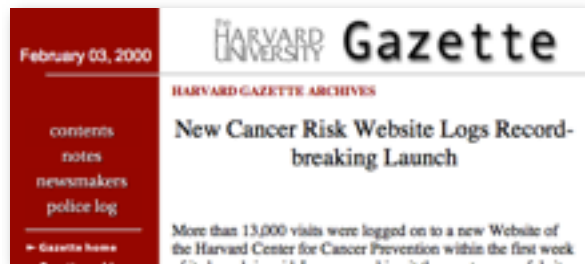
Worksites

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**Evaluation,
Refinement,
Further
Research**

“Your Disease Risk”– Media Reach



2000

2004

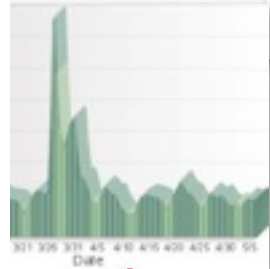
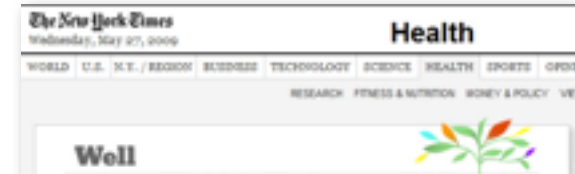
2006

2008

2009



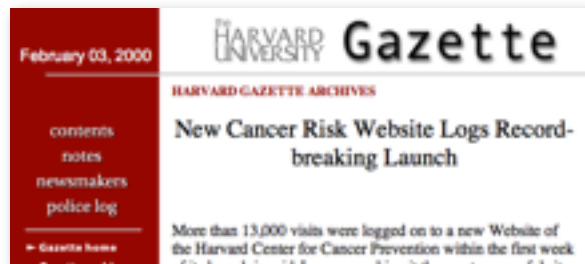
“Your Disease Risk”– Media Reach



Department of Surgery
Division of Public Health Sciences

Thursday, March 7, 2013

“Your Disease Risk”– Media Reach



2000

2004

2006

2008

2009



“Your Disease Risk”– Media Reach



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www.
quitsmokingandstartexercisingbeforeitstoolate.
com

Harvard can now assess your health risks via the internet

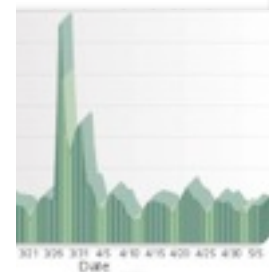
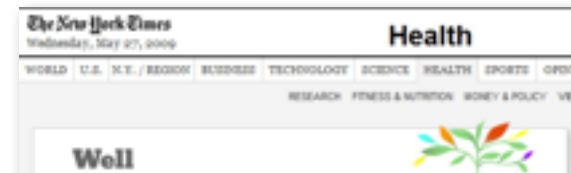
Jo Revill, health editor
Sunday July 4, 2004
[The Observer](#)

It is a hypochondriac's dream come true. Harvard, the Ivy League

Recent articles
[Students marked on writing in Wikipedia](#)

(October 21, 2000; Page D1)

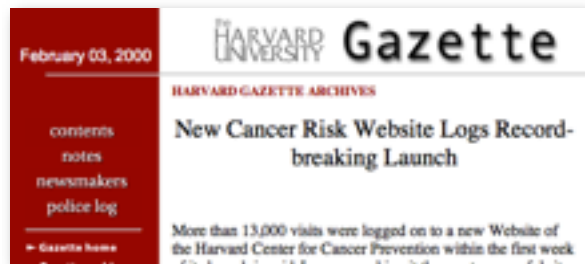
Everybody worries about cancer, heart disease and other illnesses, but



3 2009



“Your Disease Risk”– Media Reach



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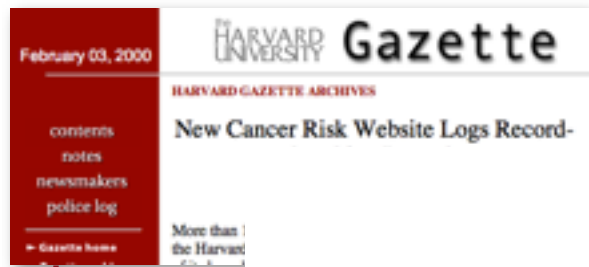
2006

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“Your Disease Risk”– Media Reach



October 31, 2006

HEALTH JOURNAL
By TARA PARKER-POPE



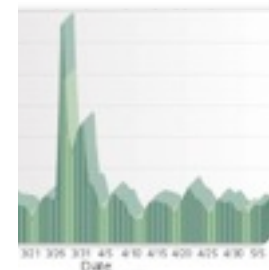
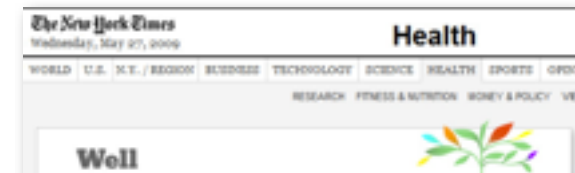
Web Site Tallies Your Risk Of Disease And Tells You What You Can Do About It

October 31, 2006; Page D1

Everybody worries about cancer, heart disease and other illnesses, but most people don't have any idea what their long-term risk for developing a serious health problem really is.

October 31, 2006; Page D1

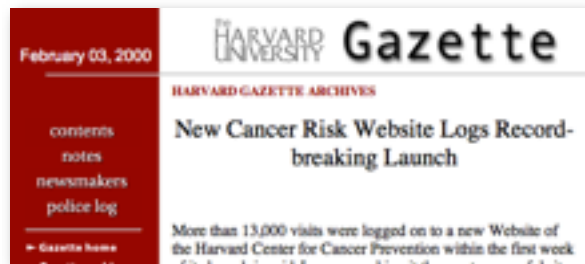
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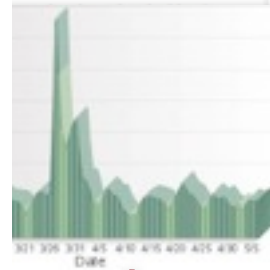
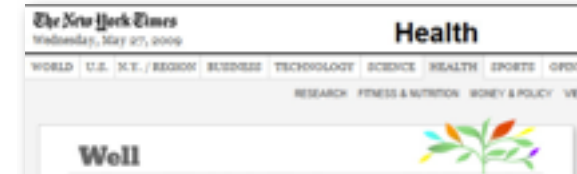
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“Your Disease Risk”— Media Reach



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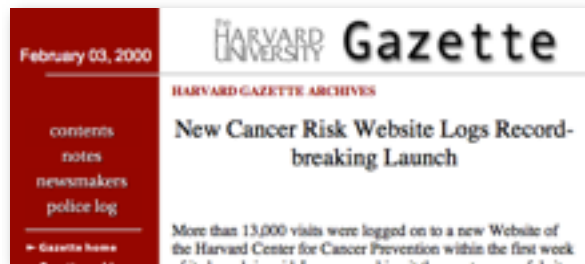
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THE NEW YORK TIMES
(October 23, 2009; Page D1)

Everybody worries about cancer, heart disease and other illnesses, but

“Your Disease Risk”– Media Reach



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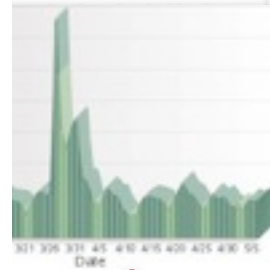
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“Your Disease Risk”– Media Reach



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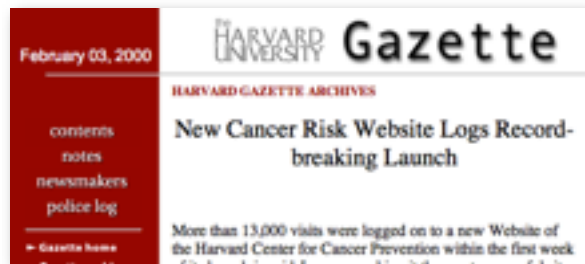
8 2009



October 11, 2006; Page 01

Everybody worries about cancer, heart disease and other illnesses, but

“Your Disease Risk”– Media Reach



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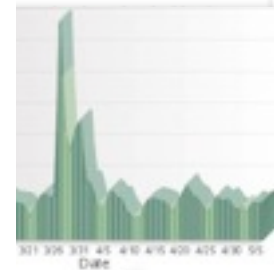
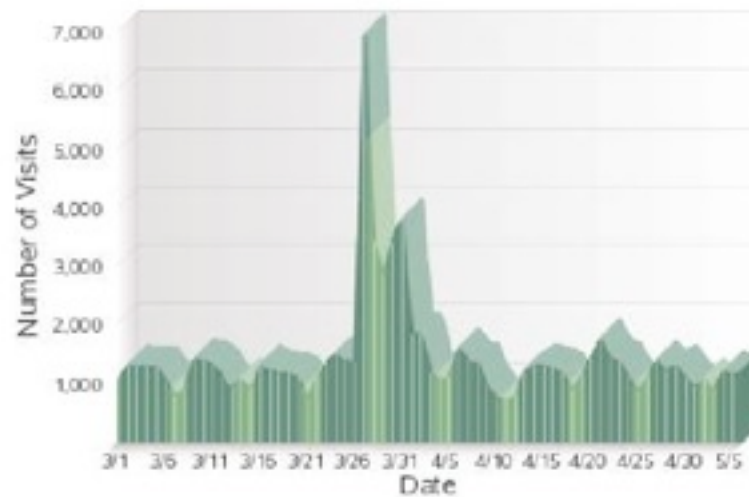
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“Your Disease Risk”– Media Reach



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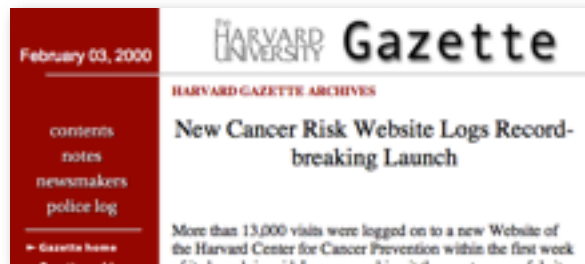
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2006

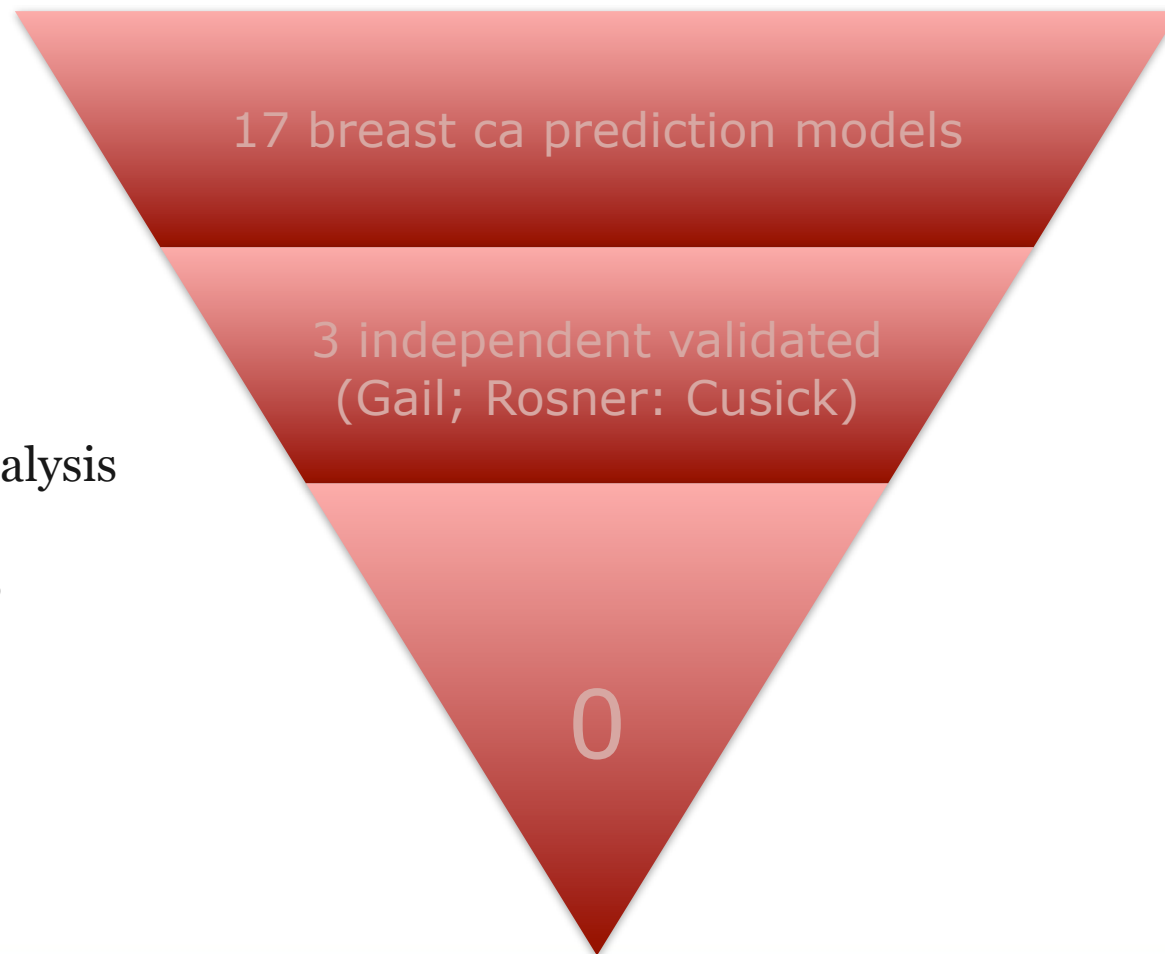
2008

2009



Exploding literature – highlight gaps: Breast cancer risk

(Meads. Br Ca Res Treat 2012, 132:365-77)

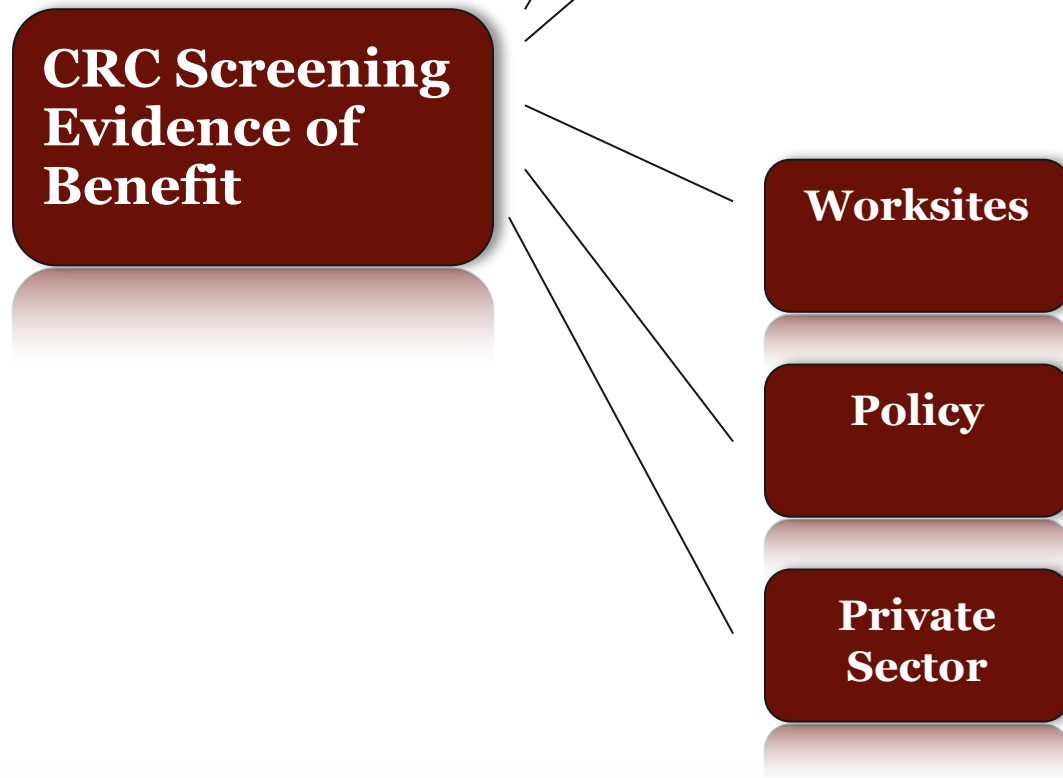


AUC meta-analysis

Gail = 0.63

Rosner = 0.63

Colorectal Cancer Screening - Massachusetts



Colorectal Cancer Screening - Massachusetts

**Consumers
(direct)**

**Clinical
Care**

Worksites

Policy

**Private
Sector**

**CRC Screening
Evidence of
Benefit**

Web

Print

Colorectal Cancer Screening - Massachusetts

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Evidence of
Benefit**

**Consumers
(direct)**

**Clinical
Care**

Worksites

Policy

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Sector**

Web
Print

Consumers
Insurers/Systems
Practitioners

Colorectal Cancer Screening - Massachusetts

**CRC Screening
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Care**

Consumers
Insurers/Systems
Practitioners

Worksites

Consumers
Wellness Policy

Policy

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Evidence of
Benefit**

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(direct)**

Web
Print

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Care**

Consumers
Insurers/Systems
Practitioners

Worksites

Consumers
Wellness Policy

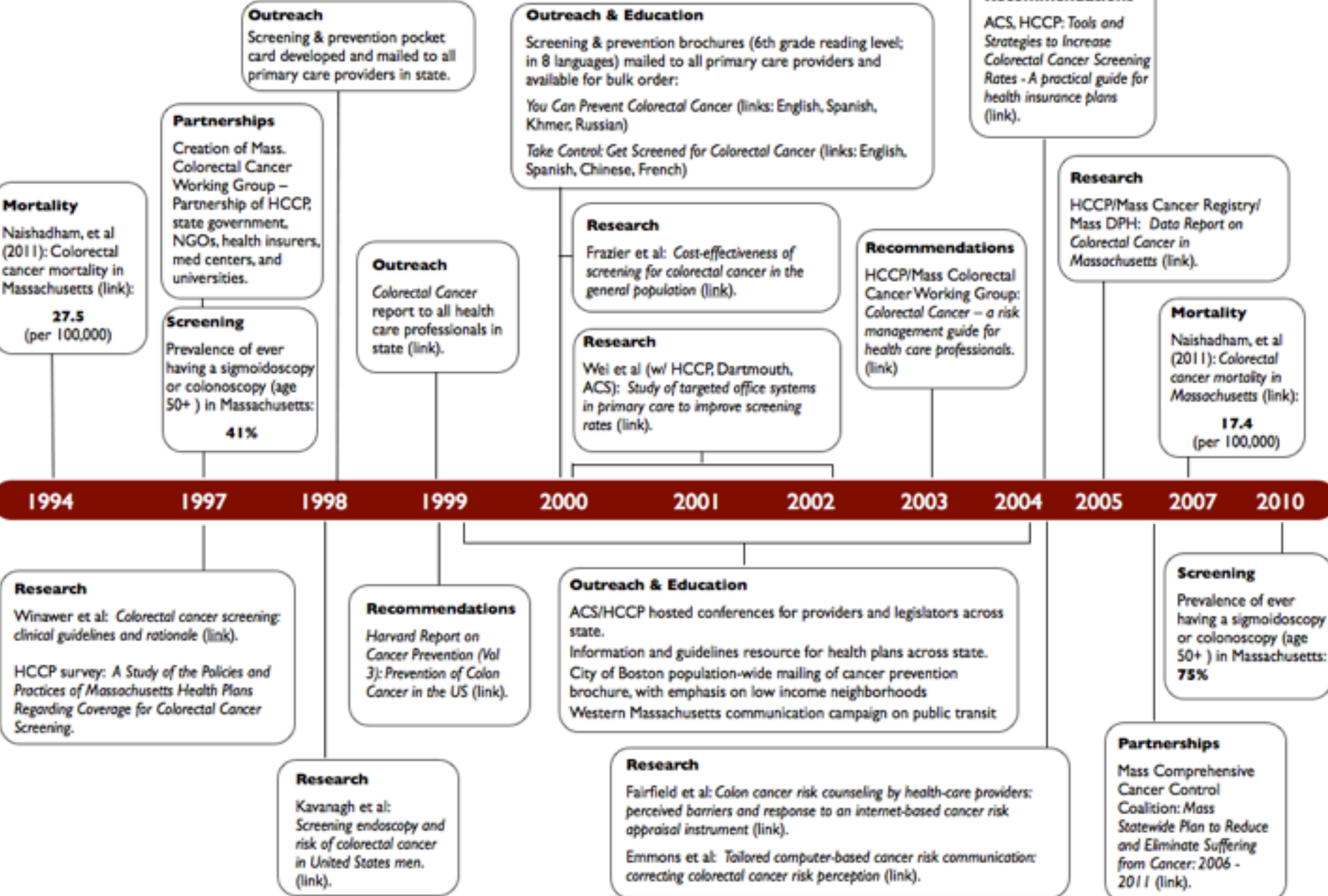
Policy

Federal
State
Local

**Private
Sector**

Colorectal Cancer Screening and Prevention in Massachusetts (1994 – 2010)

Harvard Center for Cancer Prevention Activities



Colorectal Cancer Screening and Prevention in Massachusetts (1994 – 2010)

Harvard Center for Cancer Prevention Activities

Mortality

Naishadham et al (2011): Colorectal cancer mortality in Massachusetts (link):

27.5
(per 100,000)

Research

Winawer et al: *Colorectal cancer screening: clinical guidelines and rationale* (link).

HCCP survey: *A Study of the Policies and Practices of Massachusetts Health Plans Regarding Coverage for Colorectal Cancer Screening.*

Research

Kavanagh et al: *Screening endoscopy and risk of colorectal cancer in United States men* (link).

Outreach

Colorectal Cancer report mailed to all health care providers in state (link).



Screening

Prevalence of ever having a sigmoidoscopy or colonoscopy (age 50+) in Massachusetts:

41%

Partnerships

Creation of Mass. Colorectal Cancer Working Group – Partnership of HCCP, state government, NGOs, health insurers, med centers, and universities.

Outreach

Screening & prevention pocket card developed and mailed to all primary care providers in state.

Recommendations

Harvard Report on Cancer Prevention (Vol 3): Prevention of Colon Cancer in the US (link).

Colorectal Cancer Screening and Prevention in Massachusetts (1994 – 2010)

Harvard Center for Cancer Prevention Activities

Outreach & Education

Screening & prevention brochures (6th grade reading level; in 8 languages) mailed to all primary care providers and available for bulk order:

You Can Prevent Colorectal Cancer (links: English, Spanish, Khmer, Russian)

Take Control: Get Screened for Colorectal Cancer (links: English, Spanish, Chinese, French)

Research

Wei et al (w/ HCCP, Dartmouth, ACS): *Study of targeted office systems in primary care to improve screening rates* (link).

Recommendations

HCCP/Mass Colorectal Cancer Working Group: *Colorectal Cancer – a risk management guide for health care professionals* (link).

2000

2001

2002

2003

Research

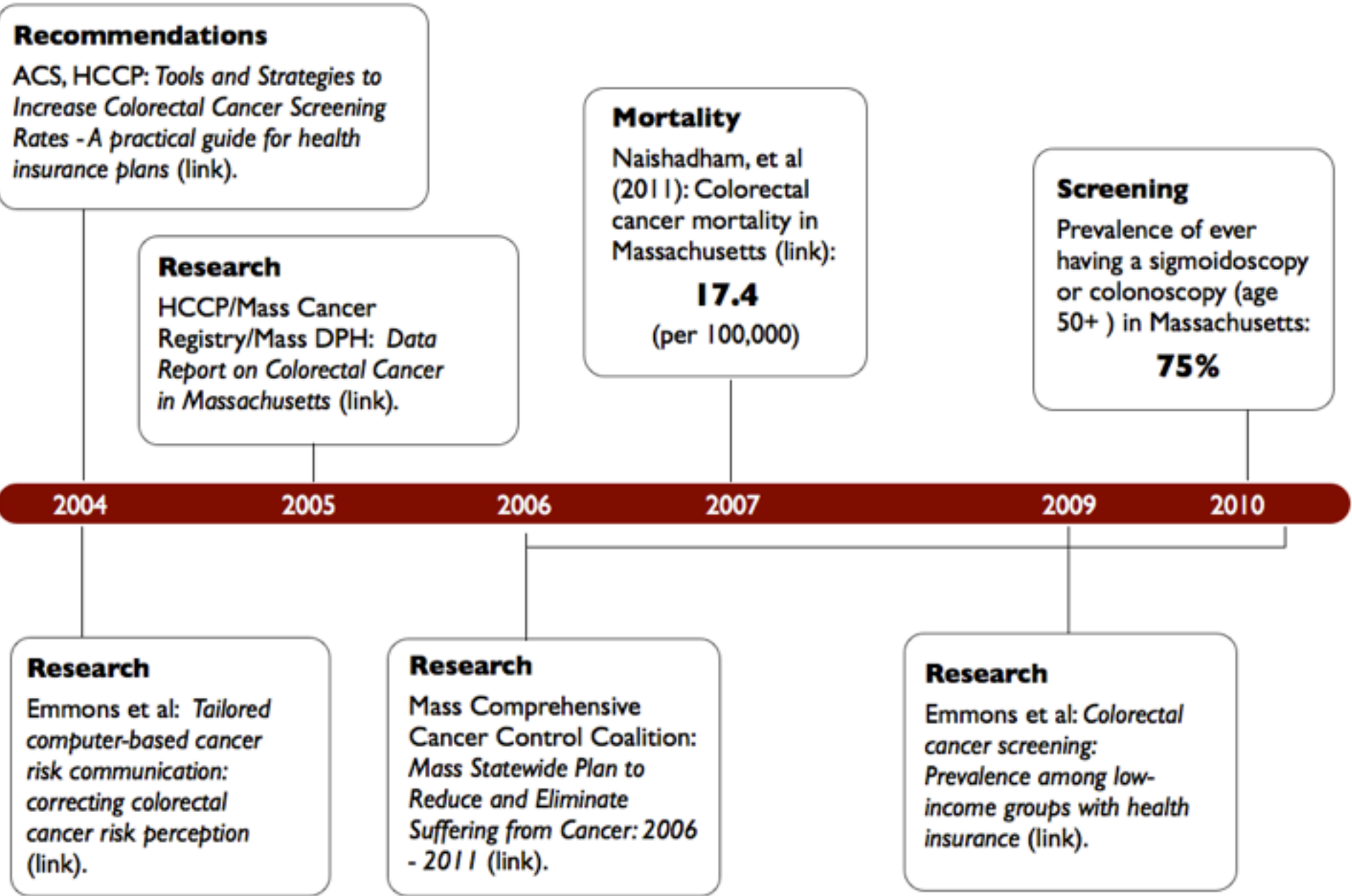
Frazier et al: *Cost-effectiveness of screening for colorectal cancer in the general population* (link).

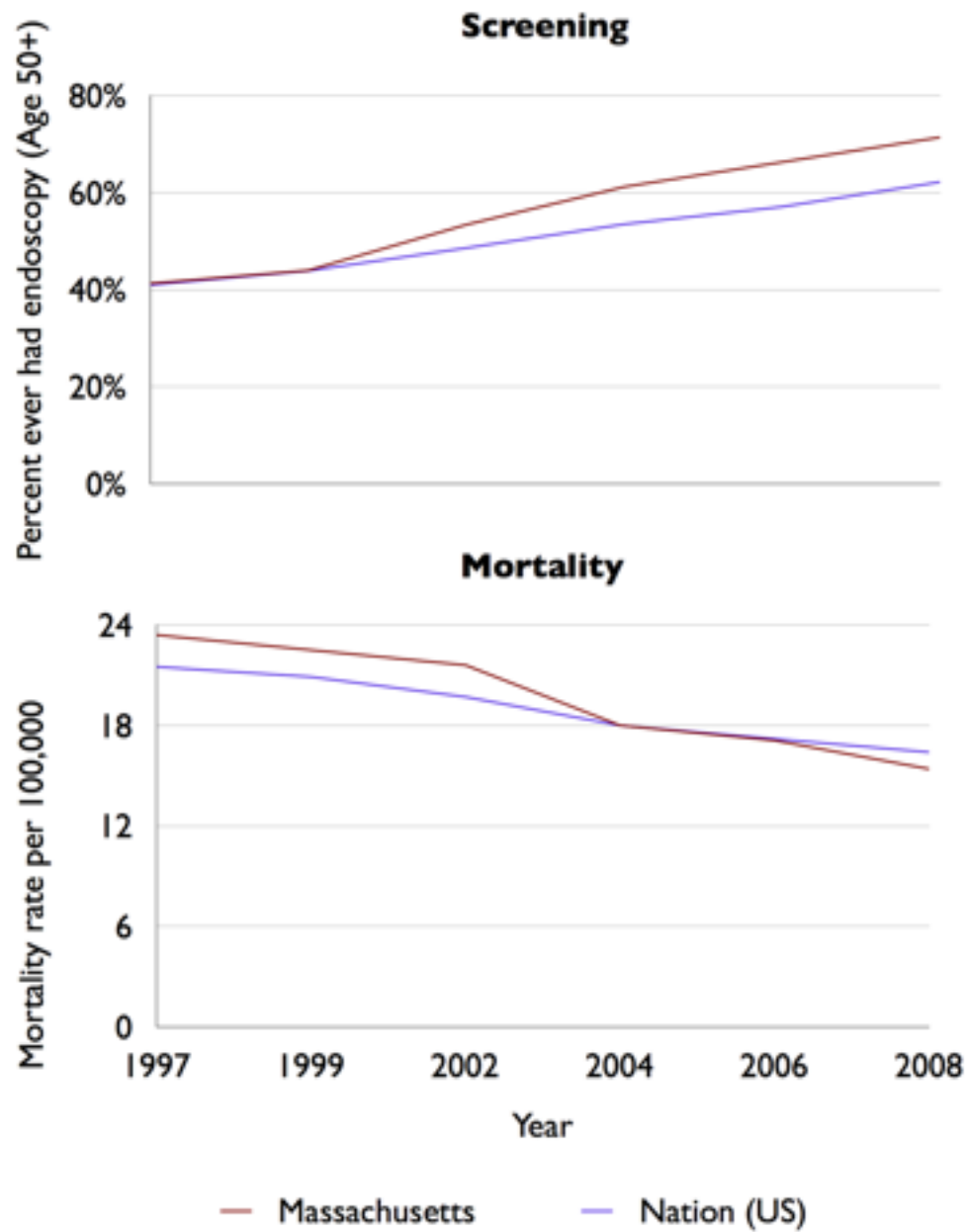
Outreach & Education

- ▶ ACS/HCCP hosted conferences for providers and legislators across state.
- ▶ Information and guidelines resource for health plans across state.
- ▶ City of Boston population wide mailing of cancer prevention brochure, with emphasis on low income neighborhoods.
- ▶ Western Massachusetts communication campaign.

Colorectal Cancer Screening and Prevention in Massachusetts (1994 – 2010)

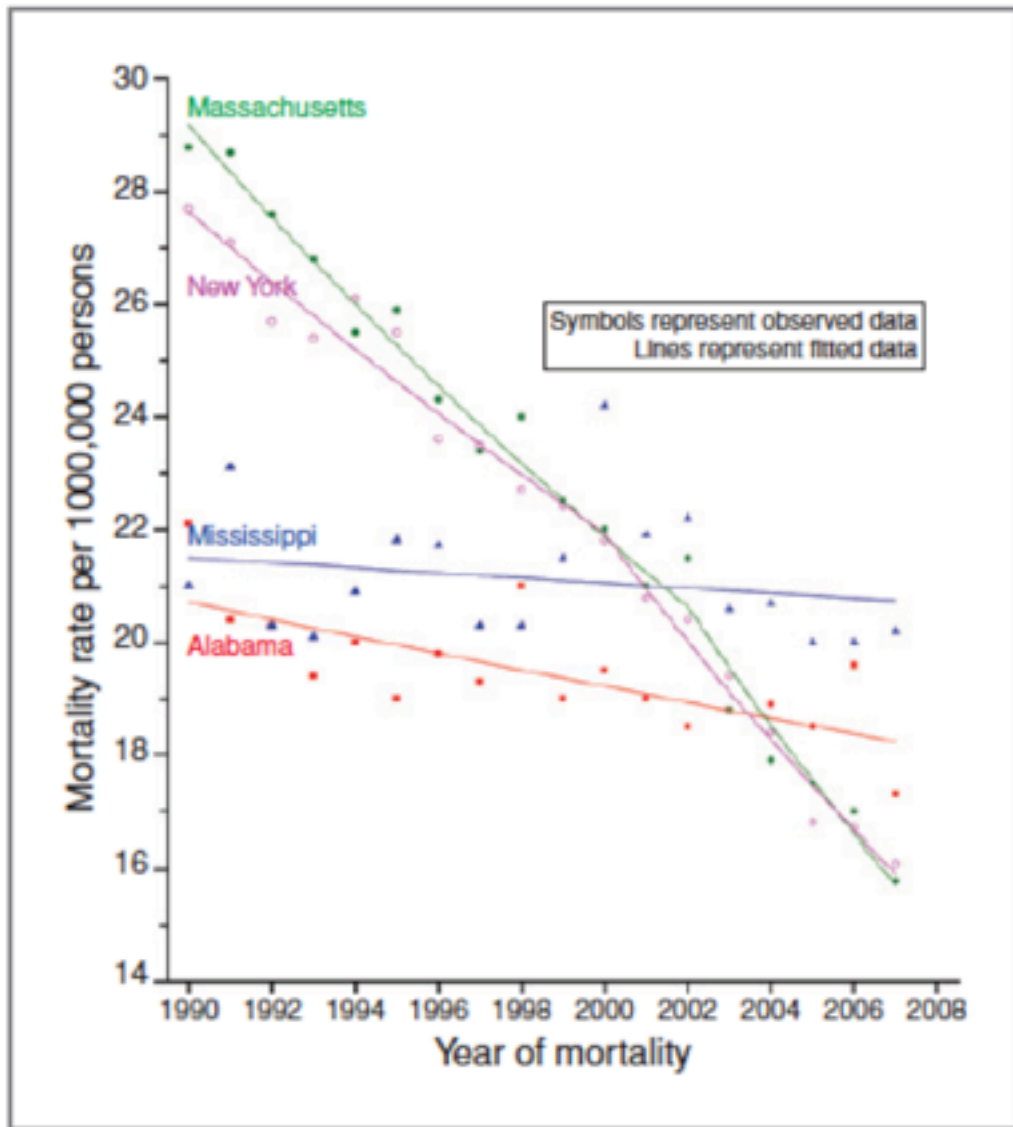
Harvard Center for Cancer Prevention Activities





Sources:
National Vital Statistics System: State Cancer Profiles. Data accessed 2012
BRFSS: Prevalence and Trends Data accessed 2012

Trends: CRC mortality



Naishadham et al
CEBP 2011



**Epidemiologic
Evidence**

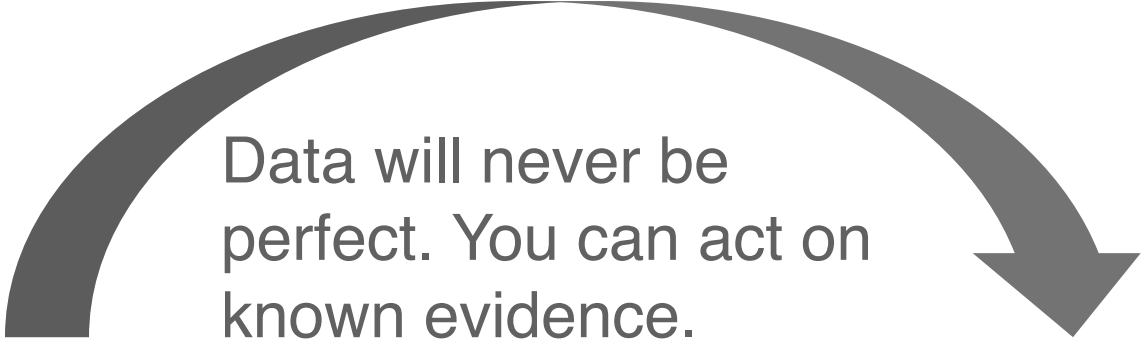
**Real World
Application**

When and How
Do We Bridge the Gap
Between Data and
Application?



**Epidemiologic
Evidence**

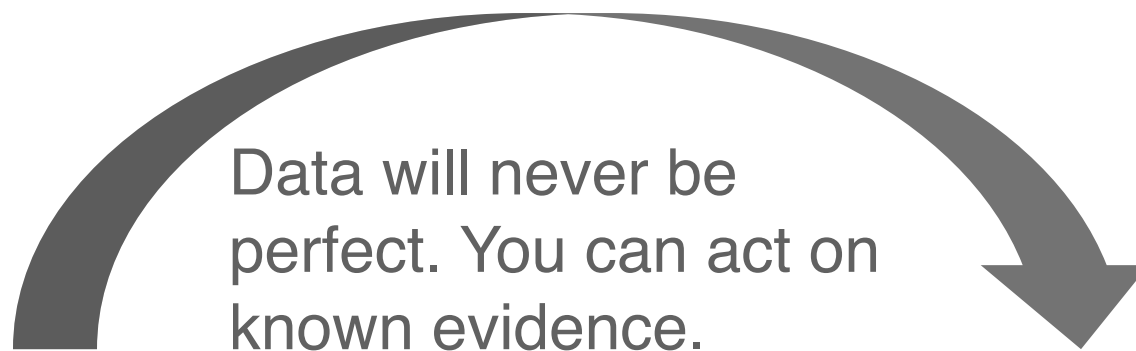
**Real World
Application**



Data will never be perfect. You can act on known evidence.

**Epidemiologic
Evidence**

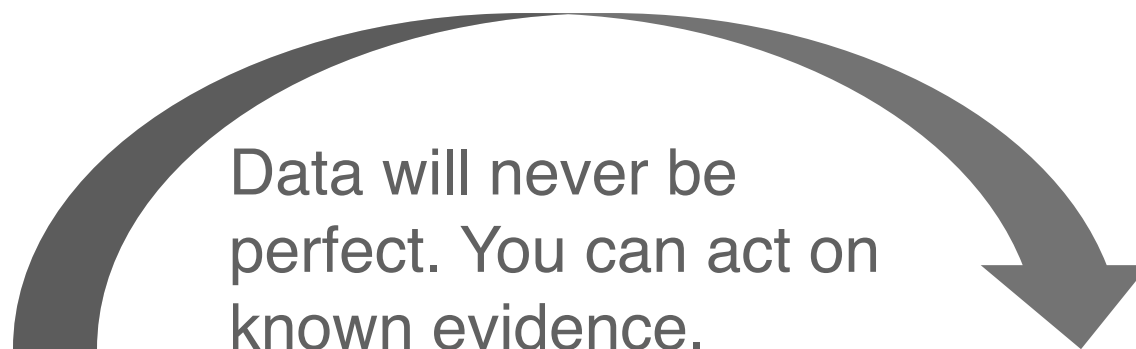
**Real World
Application**



**Epidemiologic
Evidence**

Create cross-discipline
teams

**Real World
Application**

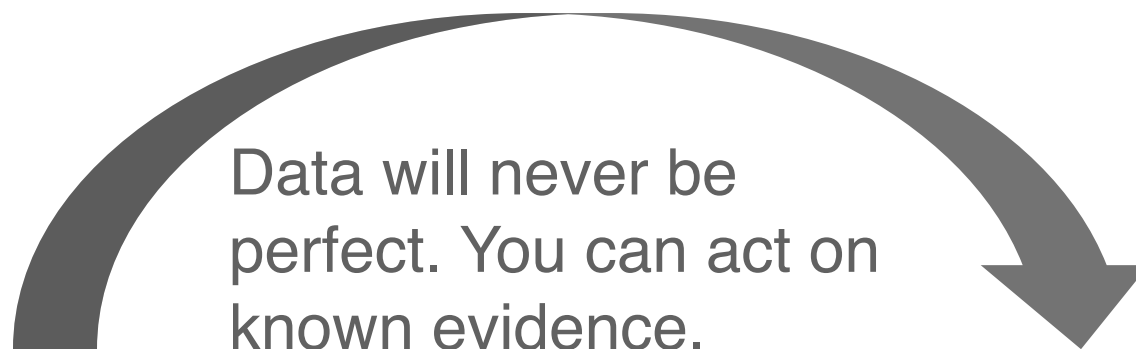


Epidemiologic Evidence

Create cross-discipline teams

Think about end user, even during manuscript development

Real World Application



Epidemiologic Evidence

Create cross-discipline teams

Think about end user, even during manuscript development

Use varied modalities

Real World Application

Using epidemiologic data to guide and sustaining social change

- Common agenda
- Shared measurement system
- Mutually reinforcing activities
- Continuous communication and
- A backbone support organization

Kania et al 2011 Stanford Social Innovation Review

Why are we not preventing cancer now?

Multiple barriers:

- Skepticism that cancer can be prevented
- Short term focus of cancer research
- Interventions deployed too late in life
- Research focused on treatment not prevention
- Debates among scientists
- Societal factors ignored
- Lack of transdisciplinary training
- Complexity of implementation

Colditz et al Sci Transl Med 2012: March 28

Very long term prevention action:

“In the beginning of every enterprise we should know, as distinctly as possible, what we propose to do, and the means of doing it... We desire to lay the foundation and to mature some parts of the plan. Those who come after us must finish the work.”

William Greenleaf Eliot, co-founder
Washington University in St Louis
1854

Resources

www.yourdiseaserisk.wustl.edu

www.yourhealthsnapshot.wustl.edu

www.zuum.wustl.edu

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- Kaphingst, K et al. Accessibility of Web sites containing colorectal cancer information to adults with limited literacy (United States). Cancer Causes and Control. 2006;17: 147-151.
- Dart, H et al. Commentary: eight ways to prevent cancer: a framework for effective cancer prevention messages for the public. 2012;23:601-608.

Thank you

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