ReThink Health

Simulation Models Supporting Local Solutions to a National Problem

Jack Homer, PhD

Homer Consulting

in association with

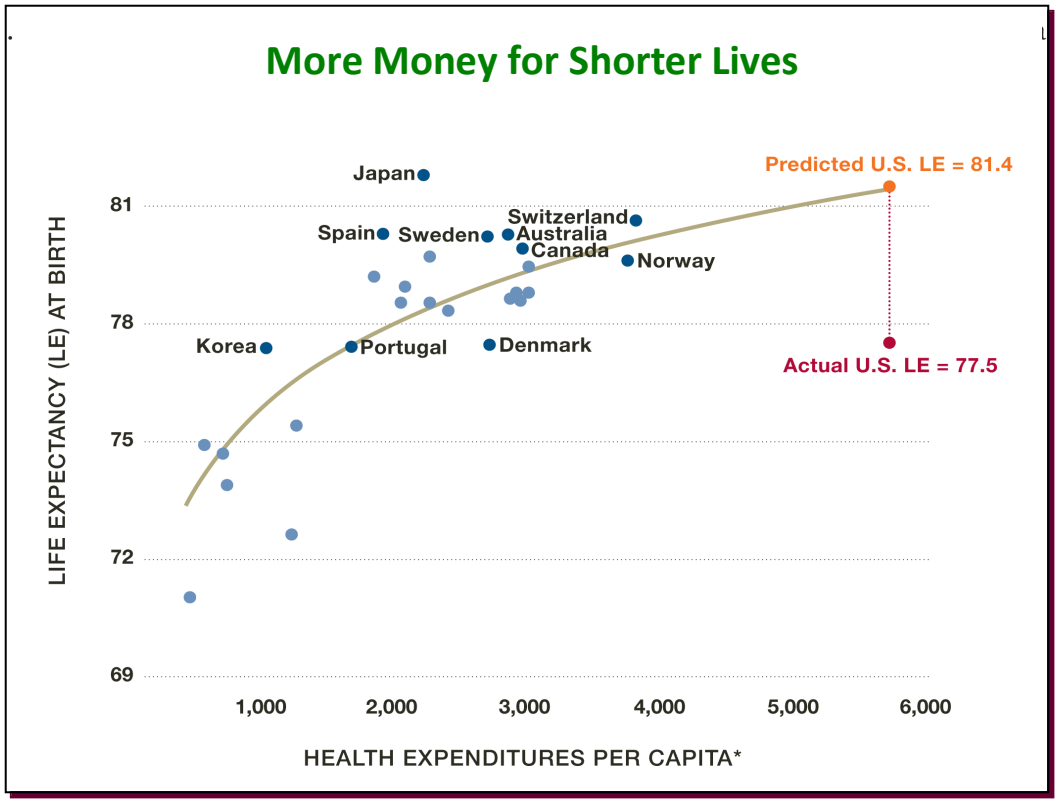
ReThink Health

http://www.rethinkhealth.org

XMILE Webinar #2
October 29, 2013

A National Problem...Needing Local Solution

- **Americans pay the most for health care, yet are not very healthy...especially the economically disadvantaged**
- **Over 75% think the current system needs fundamental change**
- **The Affordable Care Act (ACA) extends health coverage and encourages other good changes**
- **But solution of the problem will require much more...and this transformation will have to come mostly at the local level, where health care and social services are delivered.**



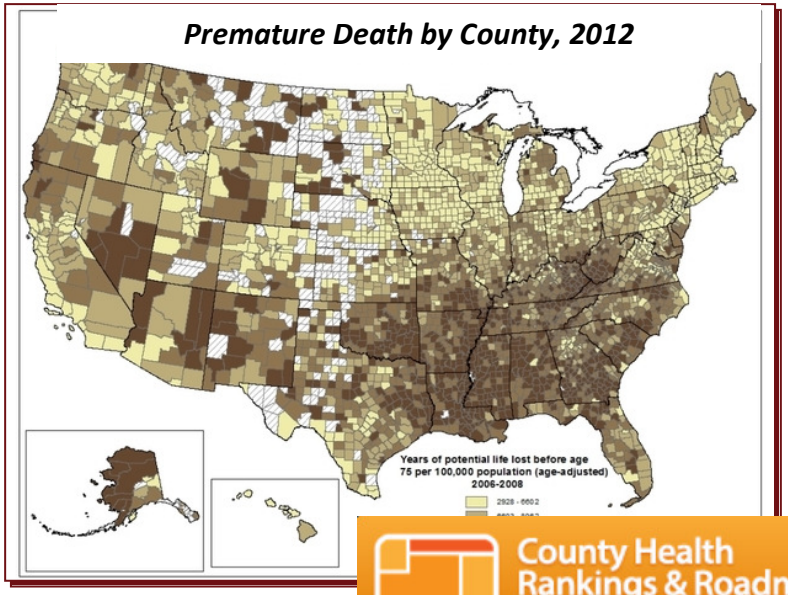
Commission to Build a Healthier America. America is not getting good value for its health dollar. Robert Wood Johnson Foundation 2008.

Institute of Medicine. US Health in International Perspective: Shorter Lives, Poorer Health. Washington, DC. National Academies Press; 2013.

Regional Differences Show Room for Improvement

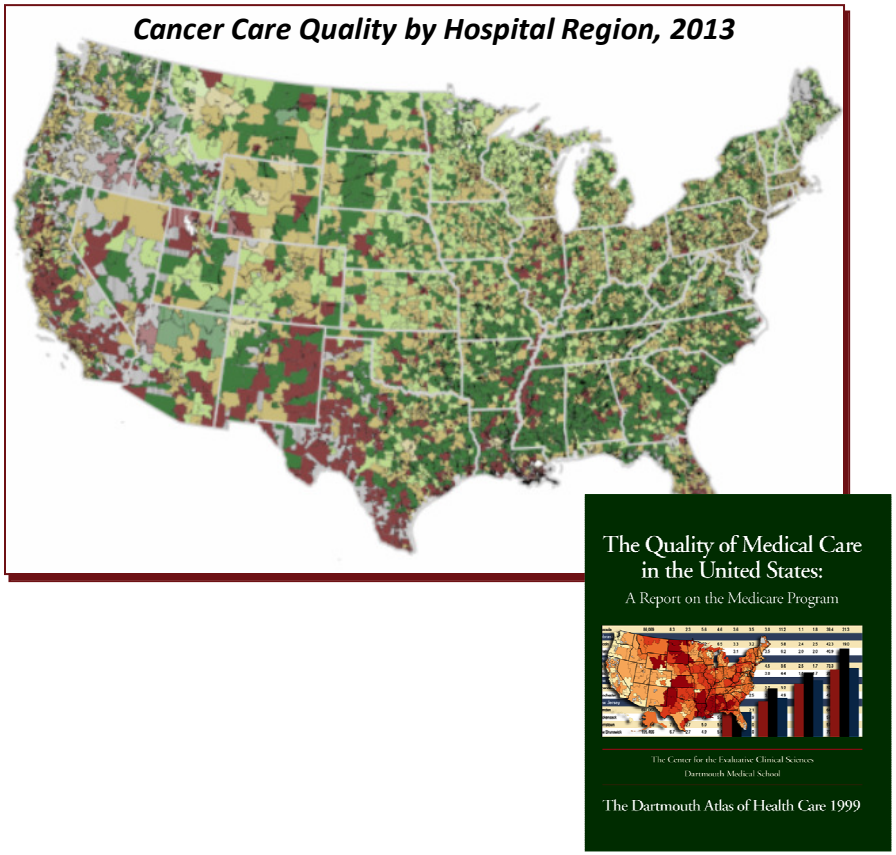
Variations in Health and Risks

The County Health Rankings

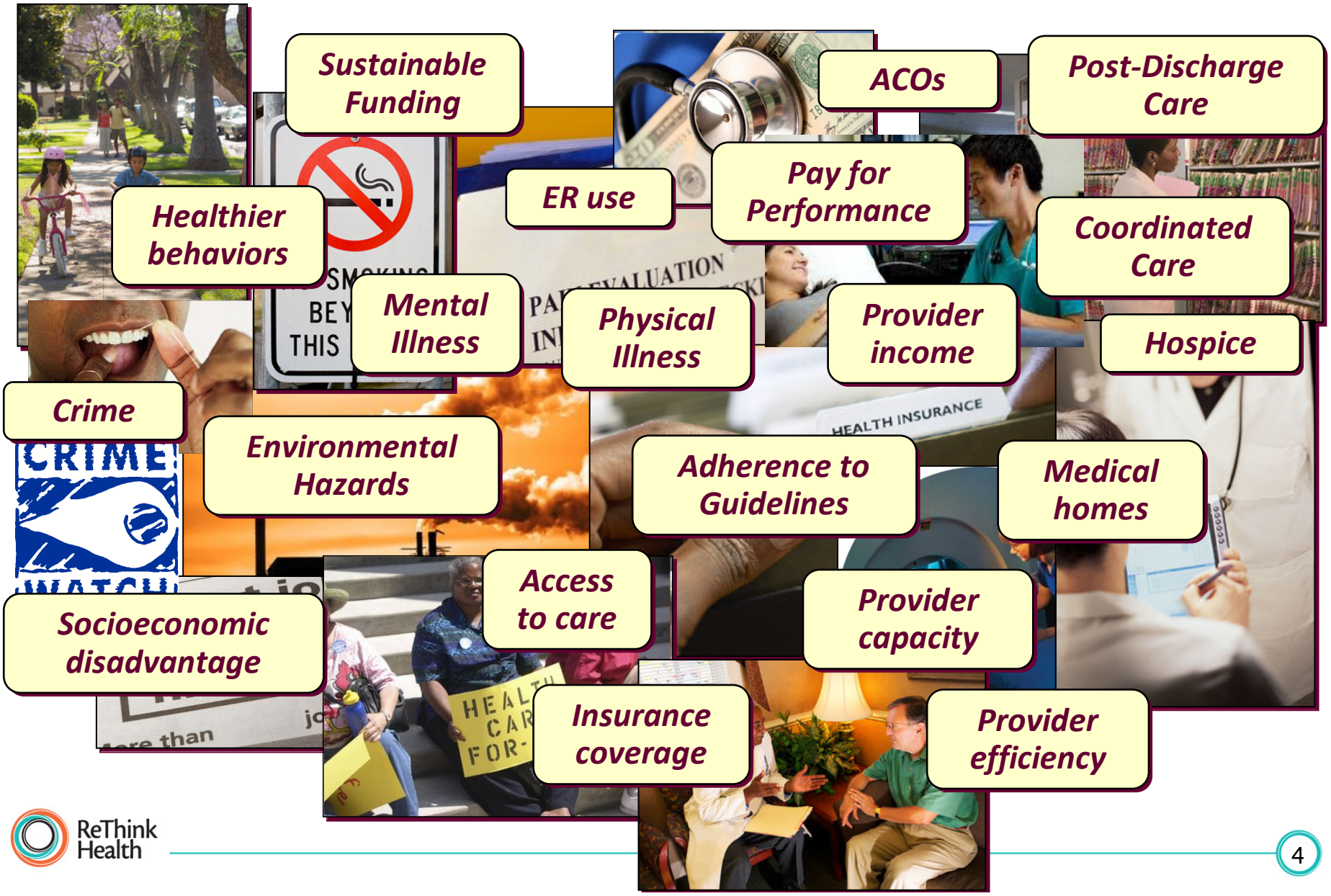


Variations in Practice and Spending

The Dartmouth Atlas of Health Care



Local leaders are beset—and often bewildered—by diverse issues and opportunities



Local Health Collaboratives

ARCHI Steering Committee (partial list)

Atlanta Regional Commission
Carter Center Mental Health Program
Centers for Disease Control
DeKalb County Board of Health
Fulton County Department of Health Services
GA Association for Primary Health Care
Georgia Department of Public Health
Georgia Health Policy Center
Georgia Hospital Association
Grady Health Systems
Kaiser Permanente
Oakhurst Medical

Why is this important, now?

The Atlanta region has a great opportunity to change the culture of healthcare. A number of converging forces encourage providers to take a collaborative approach to health assessments and interventions:

1. Public health departments who seek accreditation must perform community assessments;
2. Local governments are thinking seriously about their investments in health, assessing needs and setting priorities;
3. Foundations are increasingly choosing to invest in collaboratives rather than single agencies;
4. Federally Qualified Health Centers must assess the need for expansion; and
5. Hospitals are pressed to assess, plan, and invest to meet new IRS regulations. It's tempting to approach this work

Great! But what should their priorities should be, given many needs and options but limited resources?

The ReThink Health Initiative

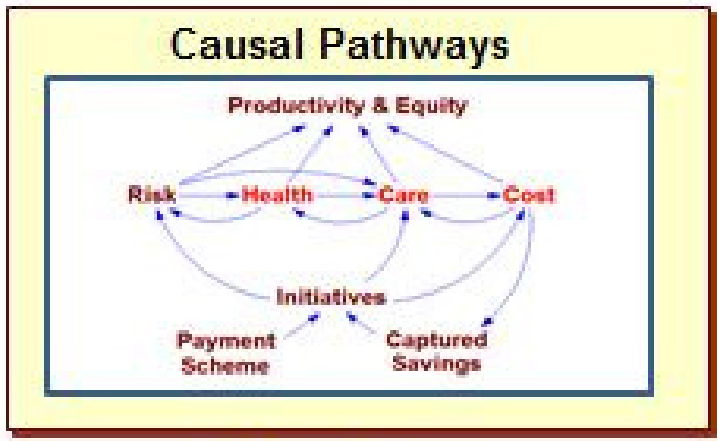
Tools for local health leaders, developed with recognized experts & innovators

1. ***Coaching local teams and organizing constituencies for change***
2. ***Using simulation with local teams to decide on priorities***
3. ***Using simulation with experts and innovators to refine understanding and inspire new ideas***

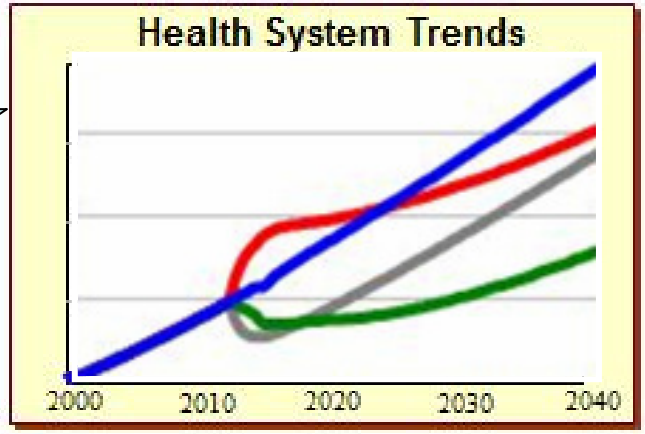
ReThink Health Dynamics Simulation Model

Realistic but simplified representation of a local health system

System



Dynamics



- **Use a carefully calibrated model to test scenarios**
- **Address simultaneous goals (and weigh trade-offs): save lives, lower costs, achieve equity, boost productivity**
- **Not a prediction, but a way for diverse stakeholders to see and feel how their local health system could change under different conditions and choices**

Building on Prior Models & Trusted Data Sources

Prior Models

- **"HealthBound" (US health system)**

Am J Pub Health 2010; 100(5):811-819

Health Affairs 2011; 30(5):823-32

→ Winner of AcademyHealth's 2012 Public Health Article of the Year

- **"PRISM" (chronic disease risks & outcomes)**

Preventing Chronic Disease, Jan. 2010; 7(1) (online)

→Winner of System Dynamics Society's 2011 Applications Award

Health Promotion Practice, Jan. 2013, 14(1):53-61

→Winner of Society for Public Health Education's 2013 Paper of the Year

Local Data Sources

- **Surveys**
- **Research reports**
- **Administrative data**

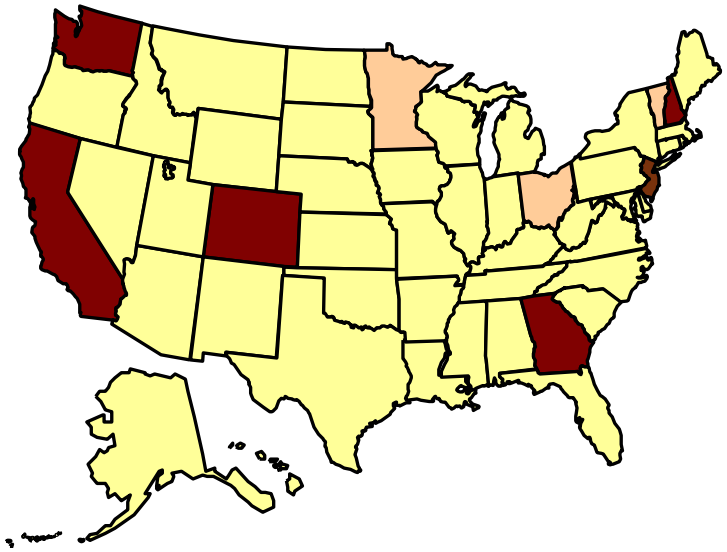
National Data Sources

- **Demographics: Census, Vital Statistics**
- **Behaviors and Conditions: NHIS, NHANES, BRFSS**
- **Costs: NHE, MEPS, CPI**
- **Utilization: NAMCS, NHAMCS, NNHS, NHHCS**
- **Resources: Dartmouth Atlas, AMA Surveys**

Research Literature and Experts

- **Literature on health system performance, policy, and economics**
- **Discussions with experts at Dartmouth, IHI, Kaiser, RWJF, Commonwealth Fund, etc.**

Local Case Studies Lead to Local Models—Online



Models available at
http://www.rethinkhealth.org/dynamics

*We also offer the "Anytown" model, based on US national-level data, scaled down by a factor of 1,000. Some local groups prefer to use the Anytown model rather than commission a customized local model. We also use Anytown with national experts.

Local Case Studies to Date

Phase 1 (2011-12)

- Pueblo, CO
- Manchester, NH
- Alameda, CA
- Contra Costa, CA
- Whatcom, WA

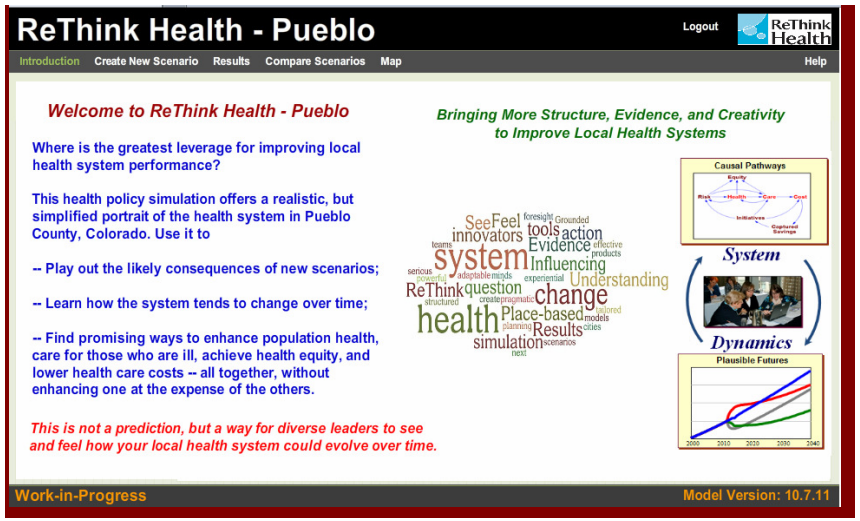
*Phase 2 (2013)**

- Atlanta, GA
- Morris, NJ

under discussion—

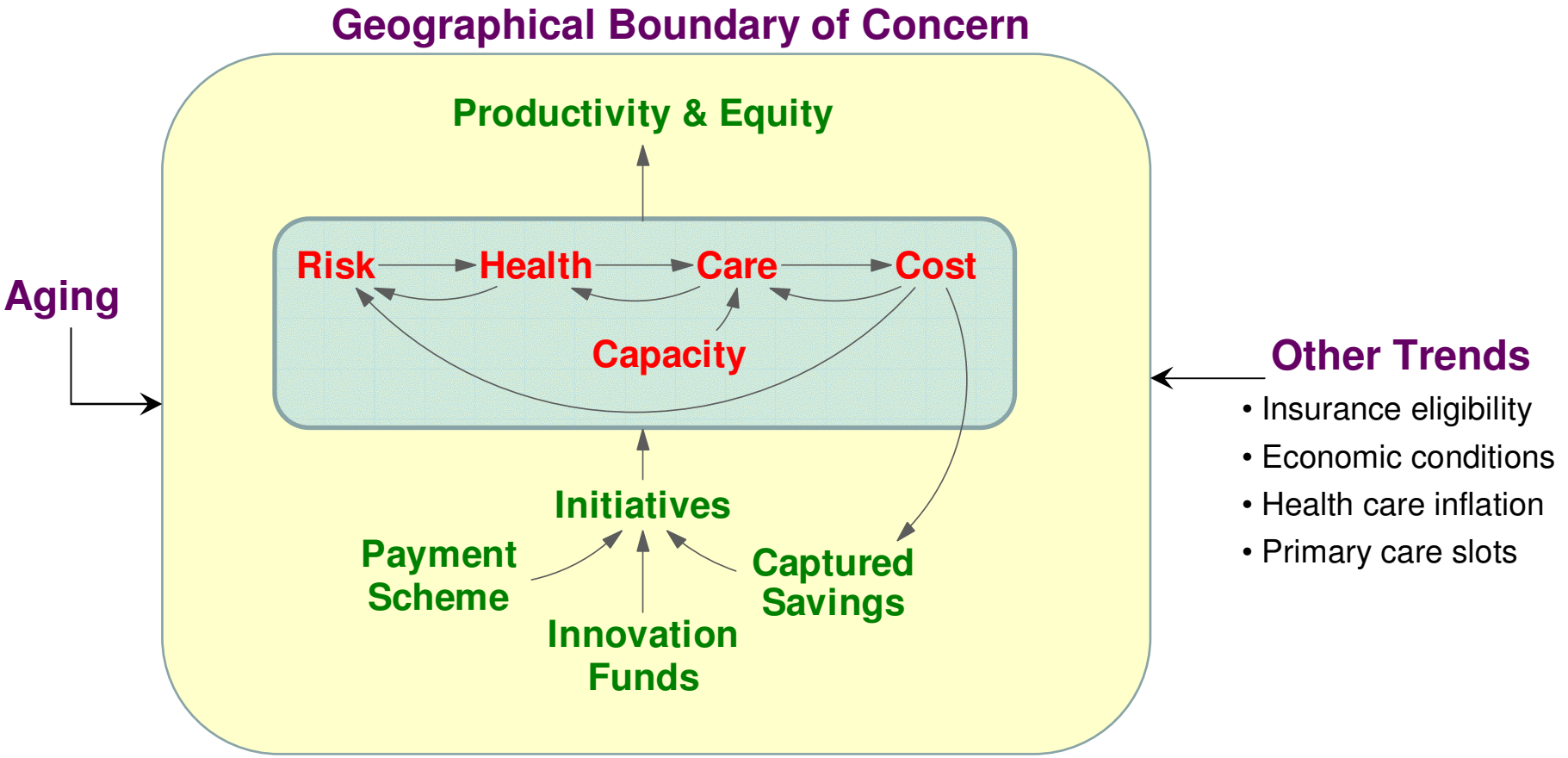
- Upper Valley, NH/VT
- Cincinnati, OH
- State of Minnesota

Online Access for Each Local Model



ReThink Health

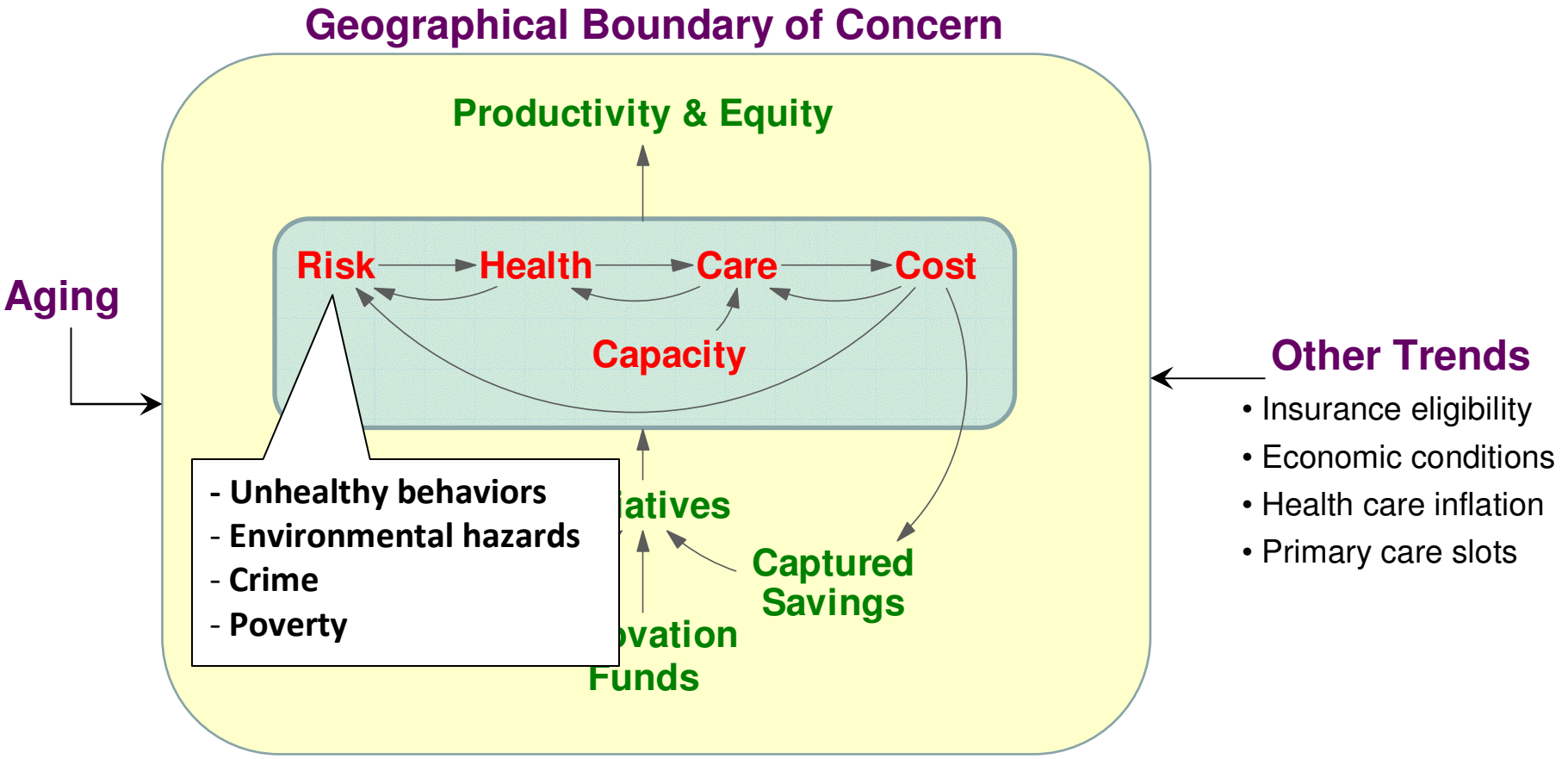
Model Overview



Population variables split out by <u>10 segments</u> determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

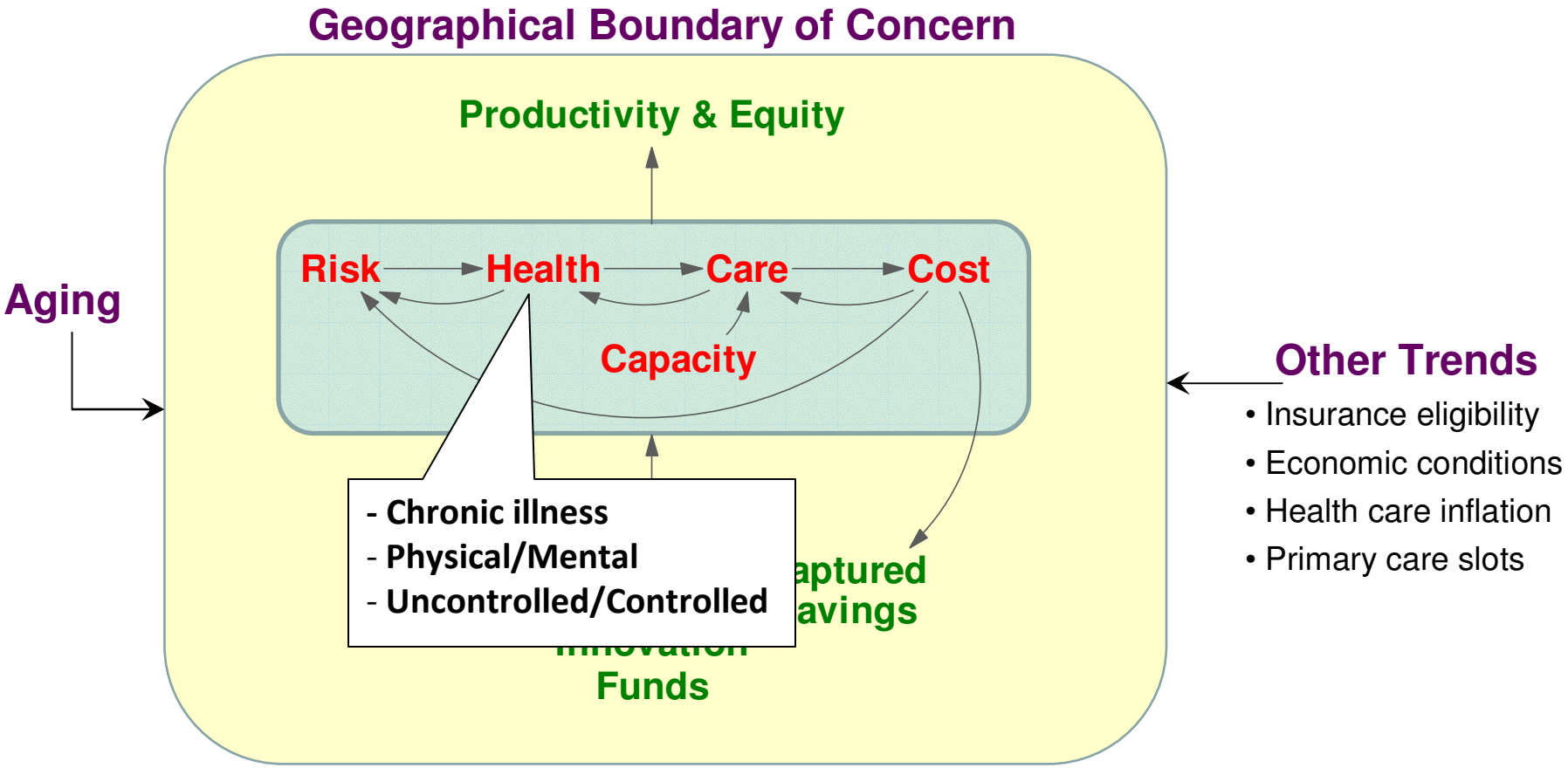
Model Overview



Population variables split out by <u>10 segments</u> determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

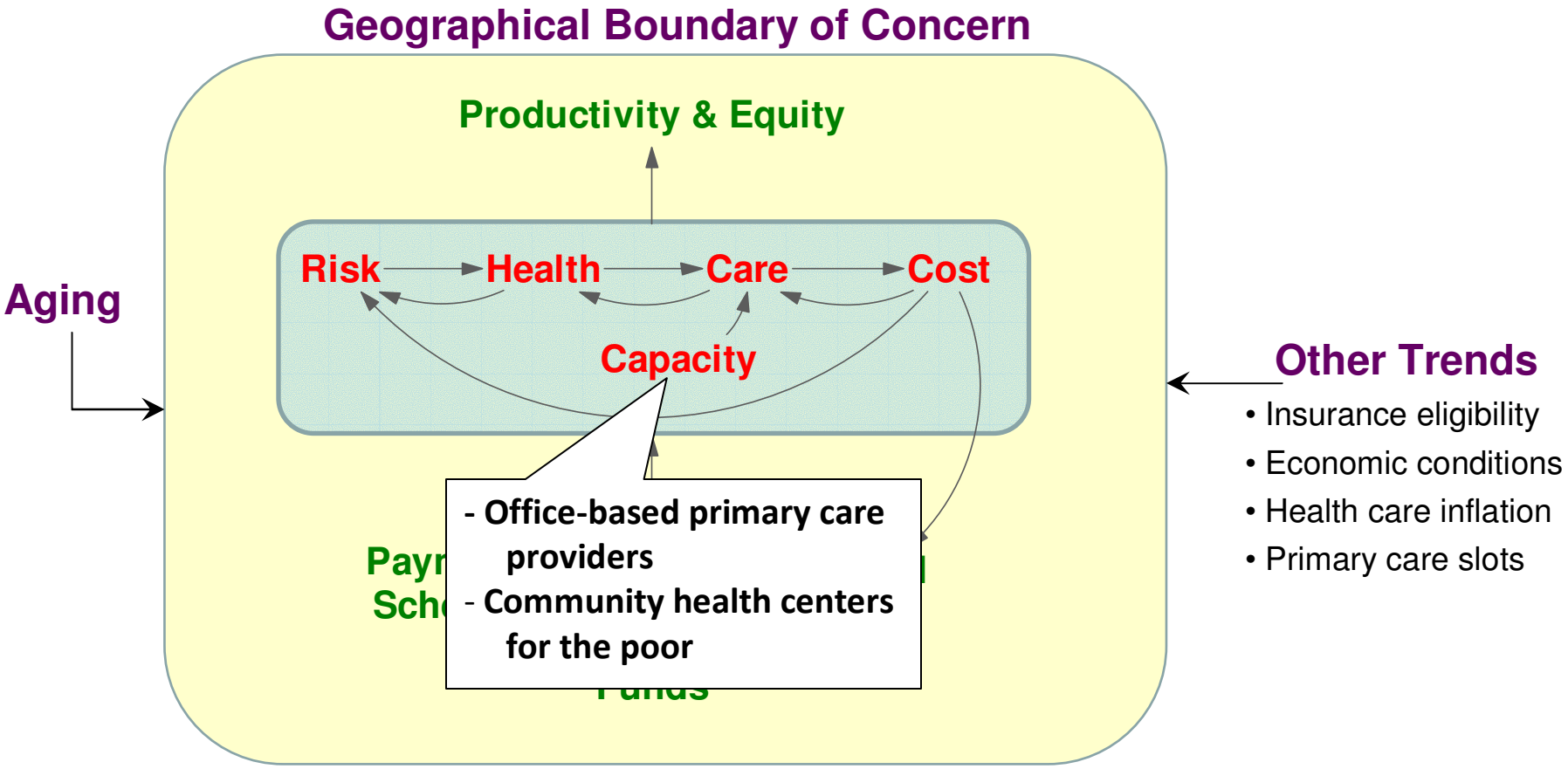
Model Overview



Population variables split out by <u>10 segments</u> determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

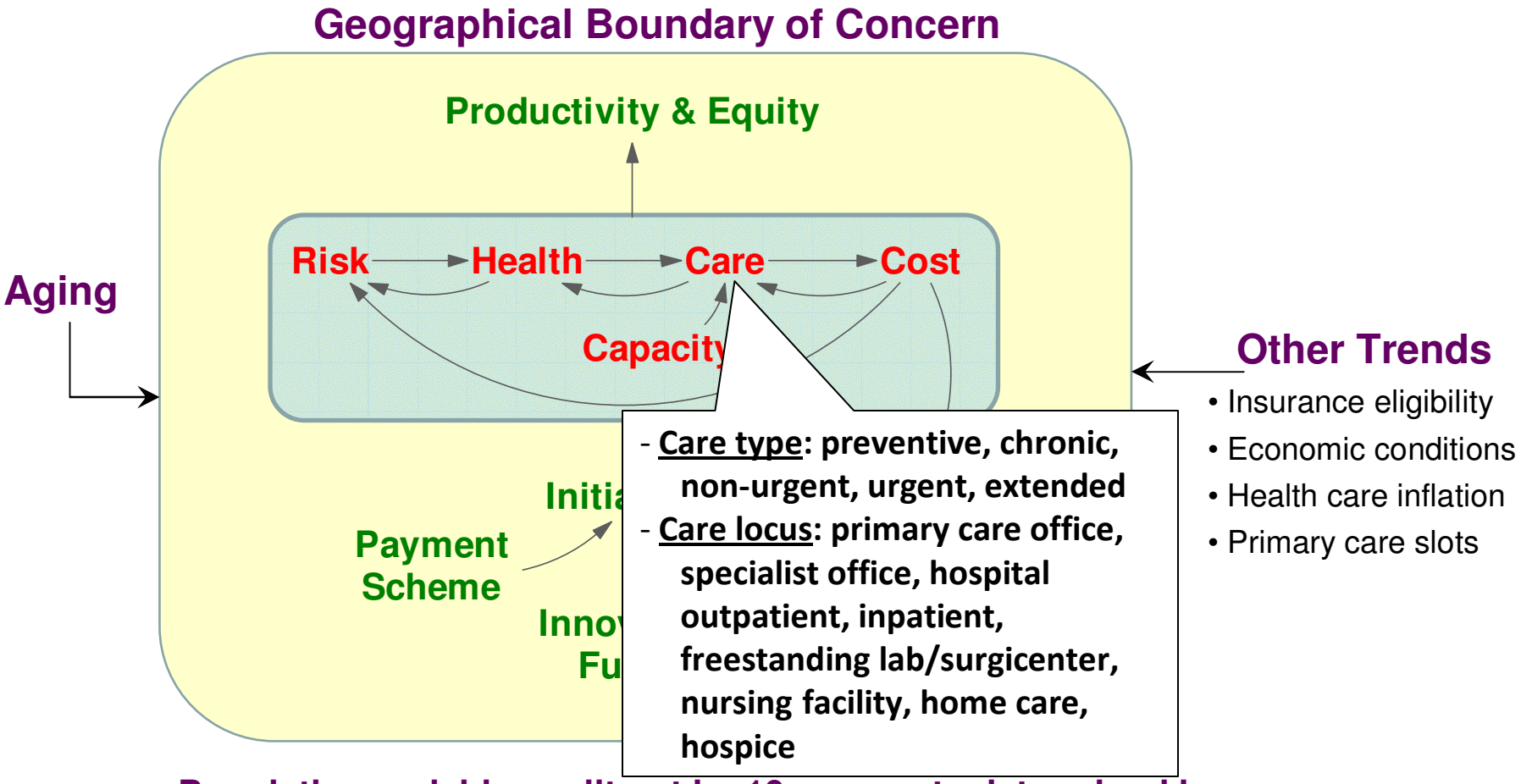
Model Overview



Population variables split out by 10 segments determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

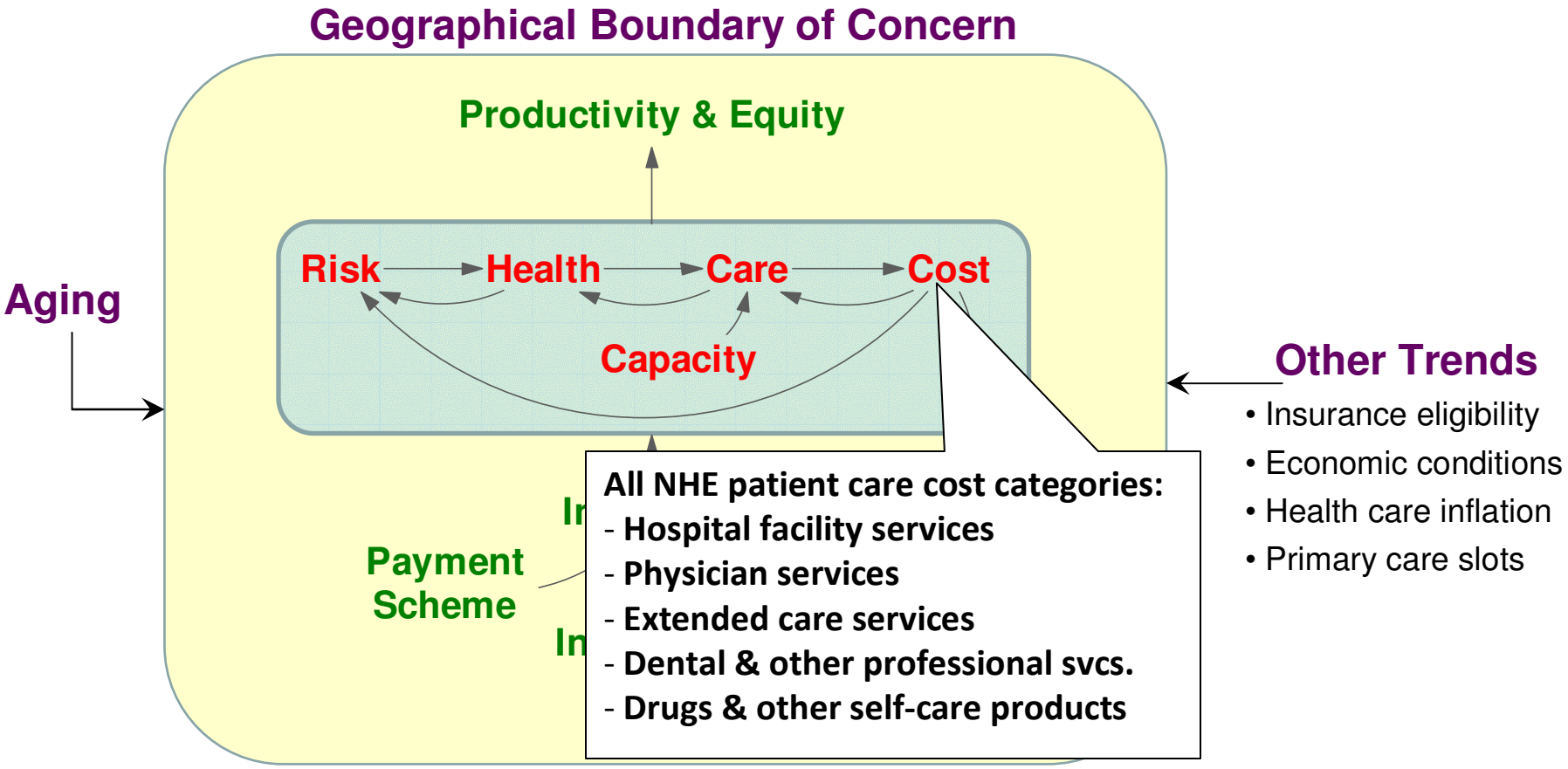
Model Overview



Population variables split out by 10 segments determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

Model Overview



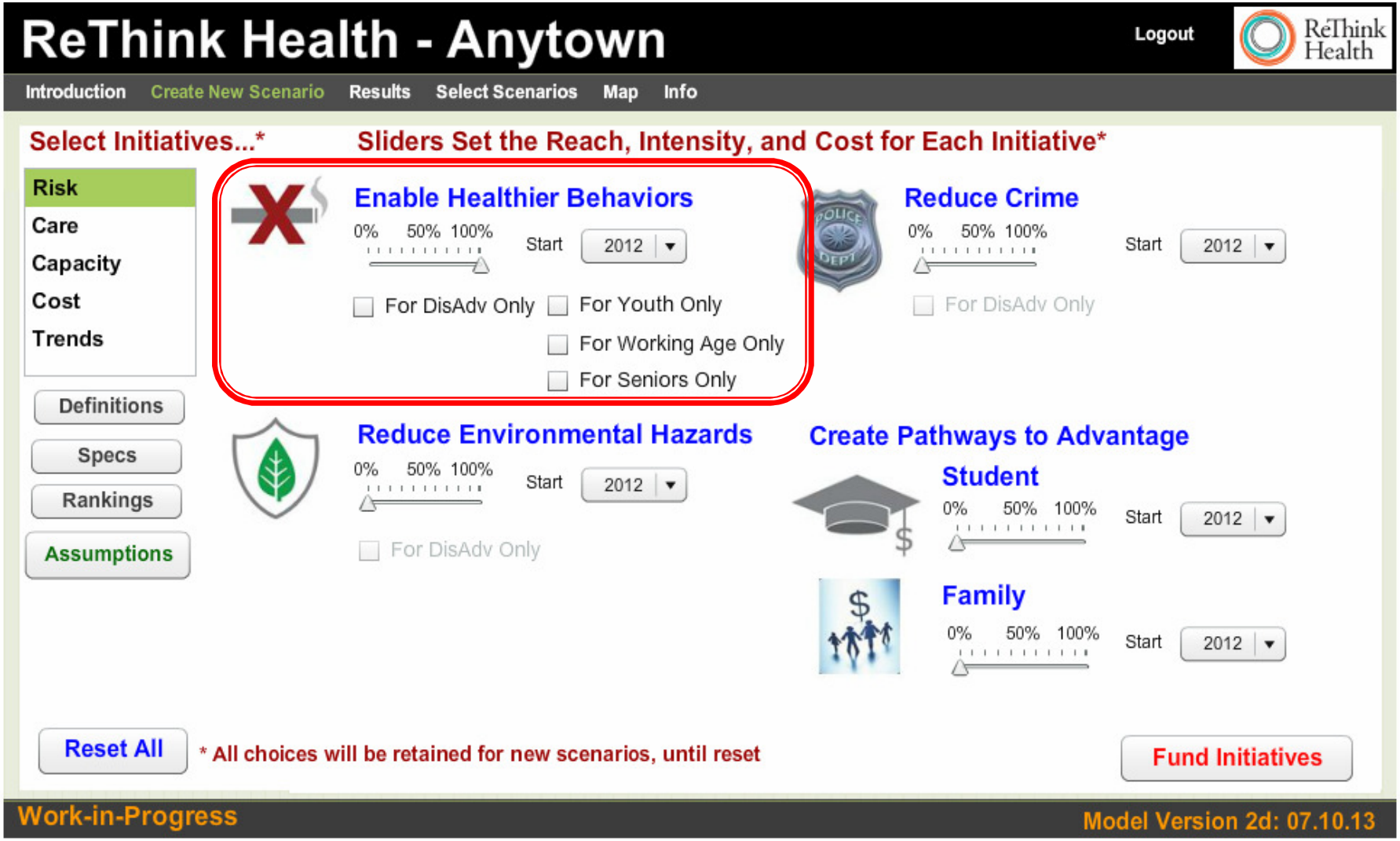
Population variables split out by <u>10 segments</u> determined by:

- ***Age***: Youth 0-17, Working age 18-64, Seniors 65+
- ***Socioeconomic status***: Advantaged, Disadvantaged
- ***Health insurance status***: Insured, Uninsured

Intervention Options

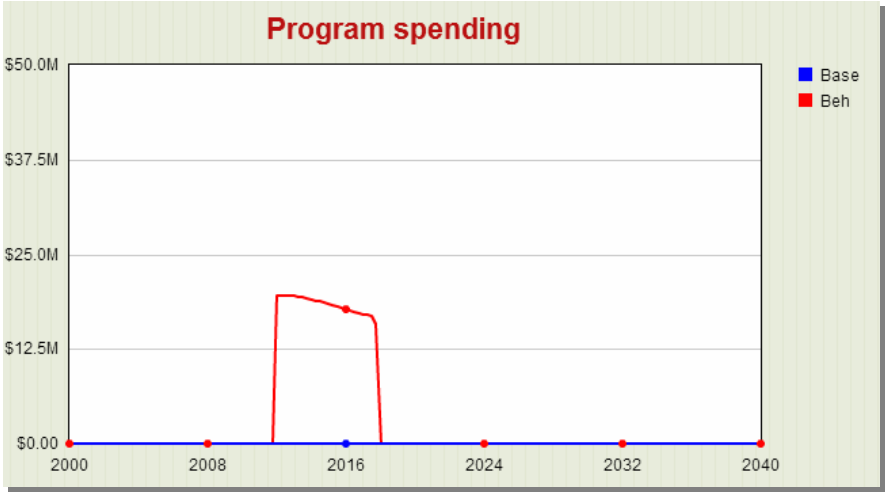
RISK	**Behaviors** Disadv only? ☐ Youth only? ☐ Working age only? ☐ Seniors only? ☐ **Environ hazards** Disadv only? ☐	**Crime** Disadv only? ☐	**Pathways – Family** **Pathways - Student**
CARE	**Prev/chronic** **Mental illness** Disadv only? ☐	**Self-care** Disadv only? ☐	**Hospital infections**
CAPACITY	**PCP efficiency** FQHC only? ☐	**Recruit PCPs: Gen** **Recruit PCPs: FQHC**	**Hospital efficiency**
COST	**Pre-visit consult** **Medical homes**	**Coordinate care** Update? ☐ **Shared decisions** **Generic drugs**	**Post-discharge care** **Malpractice** **Hospice**
FUNDING	**Innovation fund** $22M per year for 5 years ($110M total)	**Capture & Reinvest** ☐ Yes ☐ No	**Contingent Global Payment** ____% Medicare ____% Medicaid ____% Commercial

Example scenario: Enabling healthier behaviors



Funding the initiative in the usual way

Simulated consequences



Out of money! A common predicament for costly investments that must be sustained
(others: anti-pollution, anti-crime, anti-poverty, support for self-care, for mental illness care...)

What to do? Some ideas:

- **Cut the program effort**
- **Find more up-front funding**
- **Another approach to funding?**

Savings Capture*: a new potential funding stream

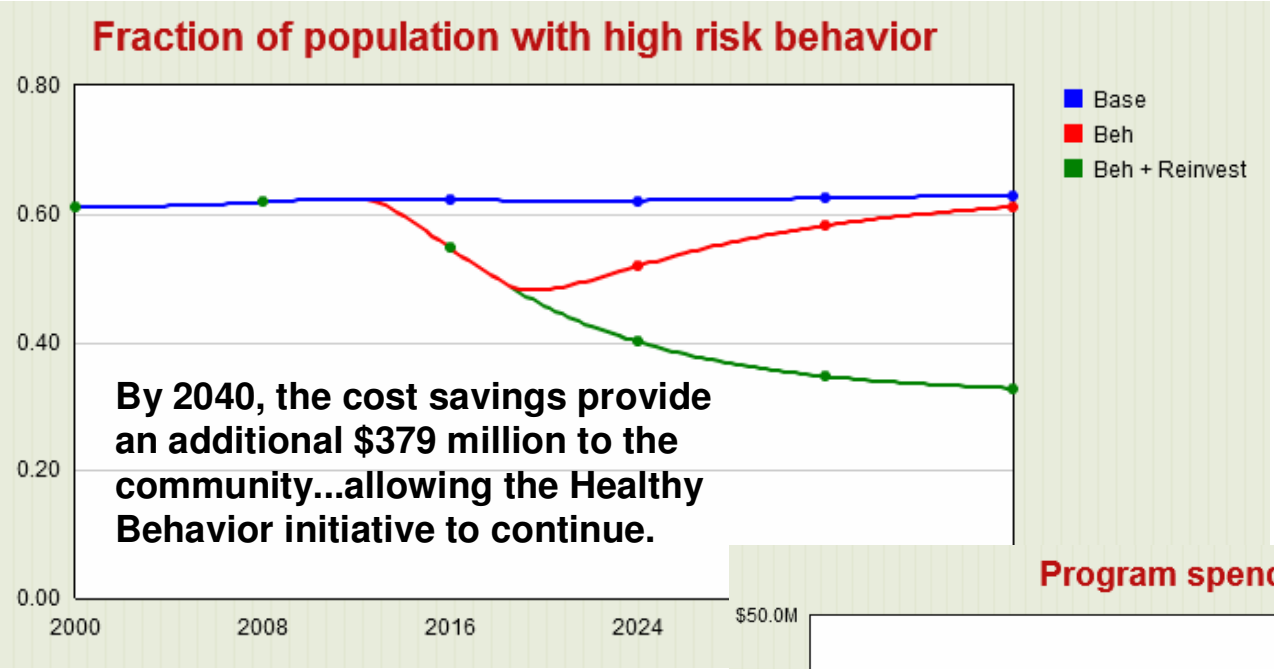
*See the growing literature on Accountable Care financing, including:

Fisher ES, McClellan MB, et al. Fostering accountable health care: moving forward in Medicare. *Health Affairs* 2009; 28(2):w219-w231

Merlis M. Health policy brief: accountable care organizations. *Health Affairs*, July 27, 2010; 1-6.

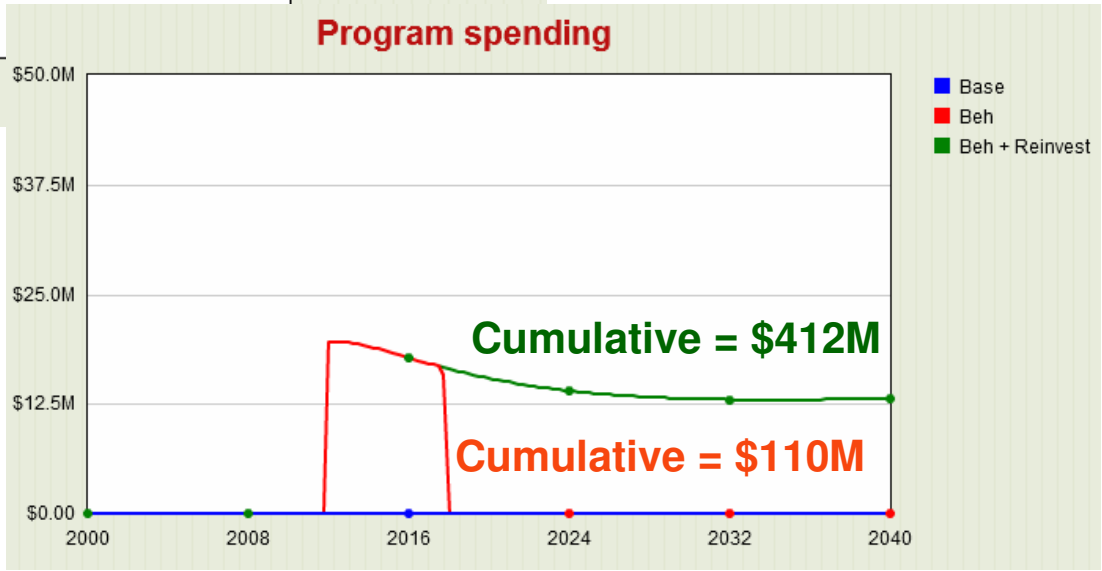
Cantor J, Mikkelsen L, et al. How can we pay for a healthy population? Innovative new ways to redirect funds to community prevention. Prevention Institute: Oakland, CA; 2013.

Simulated consequences with Savings Capture



By 2040, the cost savings provide an additional $379 million to the community...allowing the Healthy Behavior initiative to continue.

By 2040, deaths are down 13%, health care costs down 7%, health inequity down 3%, and economic productivity up 3%.

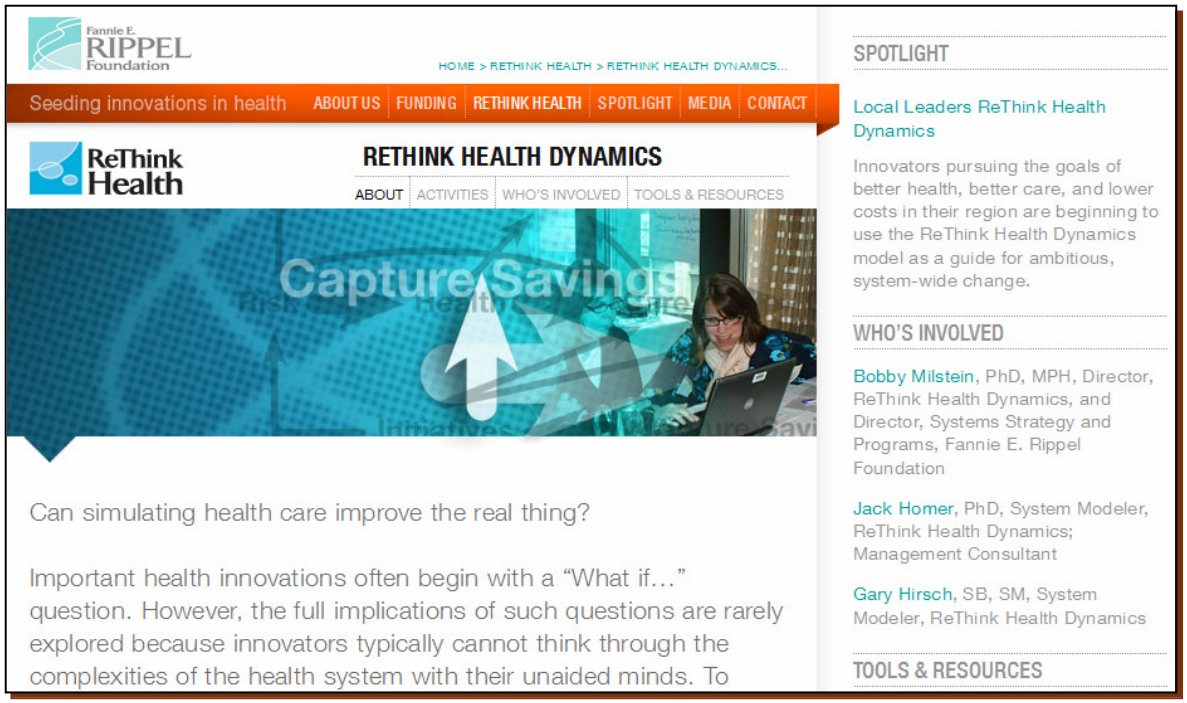


Some Policy Insights from the Model

- **An optimal package of interventions has**
  - **Sustainable financing, probably via Savings Capture**
  - **"Cost" and "Care" initiatives for focused impact, but also "Risk" initiatives for broad progress on health, cost, equity, and productivity**
  - **A global payment scheme, rather than fee-for-service, to ensure provider cooperation with "Cost" and "Care" initiatives**
  - **Broad application of initiatives across the whole population, not targeted only to certain subgroups (e.g., by age or income)**
  - **Selection of "Care" and "Risk" initiatives based on cost-effectiveness, to avoid spreading limited funds too thinly**
  - **Some interventions included based on the particulars of place (e.g., poverty level and environmental hazard and crime levels)**

For More Information

http://www.rethinkhealth.org



Hirsch G, Homer J, Milstein B, et al. ReThink Health Dynamics: understanding and influencing local health system change. *Proceedings of the 30th International System Dynamics Conference*, July 2012; St. Gallen, Switzerland.

Milstein B, Hirsch, G, Minyard, K. County officials embark on new, collective endeavors to rethink their local health systems. *Journal of County Administration*, March/April 2013.