ReThink Health

Simulation Models Supporting Local Solutions to a National Problem

Jack Homer, PhD
Homer Consulting
in association with

http://www.rethinkhealth.org

XMILE Webinar #2
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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.

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*

Premature Death by County, 2012

Cancer Care Quality by Hospital Region, 2013
Local leaders are beset—and often bewildered—by diverse issues and opportunities
Great! But what should their priorities 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

- 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
  → 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

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

Online Access for Each Local Model

Models available at [http://www.rethinkhealth.org/dynamics](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.*
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

Geographical Boundary of Concern

Productivity & Equity

Risk → Health → Care → Cost

Capacity

Aging
- Unhealthy behaviors
- Environmental hazards
- Crime
- Poverty

Other Trends
- Insurance eligibility
- Economic conditions
- Health care inflation
- Primary care slots

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Initiation

Initial

Payment Scheme

Other Trends
- Insurance eligibility
- Economic conditions
- Health care inflation
- Primary care slots

Initiative

Innovation

Funds

- Care type: preventive, chronic, non-urgent, urgent, extended
- Care locus: primary care office, specialist office, hospital outpatient, inpatient, freestanding lab/surgicenter, nursing facility, home care, hospice

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Payment Scheme

In

In

All NHE patient care cost categories:
- Hospital facility services
- Physician services
- Extended care services
- Dental & other professional services
- Drugs & other self-care products

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## Intervention Options

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<tr>
<th>RISK</th>
<th>Behaviors</th>
<th>Crime</th>
<th>Pathways – Family</th>
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<th>PCP efficiency</th>
<th>Recruit PCPs: Gen</th>
<th>Hospital efficiency</th>
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<th>Coordinate care</th>
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<td>Generic drugs</td>
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<td>Hospice</td>
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<th>FUNDING</th>
<th>Innovation fund</th>
<th>Capture &amp; Reinvest</th>
<th>Contingent Global Payment</th>
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<td>$22M per year for 5 years ($110M total)</td>
<td>□ Yes □ No</td>
<td>% Medicare  % Medicaid  % Commercial</td>
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Example scenario: Enabling healthier behaviors
Funding the initiative in the usual way

Establish an Innovation Fund
$22 mill/yr x 5 yrs
($22m = 1% of healthcare costs in year 2010)

Move to Contingent Global Payments

Capture & Reinvest a Negotiated Split of Health Care Cost Savings

Work-in-Progress
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?

Less risky behavior leads to improvement along all health and cost metrics...but the progress reverses...why?
Savings Capture*: a new potential funding stream

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


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
