The ReThink Health Model: Supporting Multi-Stakeholder Collaboration in Local Communities

Gary Hirsch
Senior Modeler, ReThink Health
Consultant, Creator of Learning Environments
Wayland, Massachusetts
GBHirsch@comcast.net; www.GaryBHirsch.com

Innovations in Collaborative Modeling
Michigan State University
June 14-15, 2016
Introduction and Background
The ReThink Health Model: Supporting Multi-Stakeholder Collaboration in Local Communities--Overview

- Background and Introduction to the ReThink Health Model
- Case Studies of How It Has Supported Collaboration Around the US
- Extension Into Social Determinants of Health: Effects of Incarceration
- Modeling Collaborative Capacity
- Next Steps in Its Development and Use
ReThink Health Pioneers Began by Exploring New Ways of Thinking About Health and Health Care—A Unique Collaboration

1. Don Berwick | CMS, IHI
2. Elliott Fisher | The Dartmouth Institute
4. Celinda Lake | Lake Research
5. Laura Landy | Rippel Foundation
6. Amory Lovins | Rocky Mountain Institute
7. Jay Ogilvy | Global Business Network
8. Elinor Ostrom | Nobel Laureate in Economics
9. Peter Senge | MIT, Society for Org. Learning
10. John Sterman | MIT System Dynamics Group
11. David Surrenda | The Leadership Edge
The ReThink Health Model is One Element in a Toolkit to Support Collaboration and Planning in Communities
ReThink Health Dynamics
Model Overview
The ReThink Health Model is Built on a Wealth of Earlier Work in Population Health and Simulation-Based Learning Environments

- **Mastering the Transition to Capitation (1993)**
- **Health Care Microworld (1995-97)**
- **Chronic Illness Modeling (2002-2014)**
  - Whatcom County, WA and El Paso County, CO Diabetes and Heart Disease Modeling
  - Diabetes Model and Action Labs for CDC
  - PRISM Cardiovascular Disease Model for CDC, Use in CPPW
  - Early Childhood Caries Models in CO and NY
- **HealthBound Health Policy Model for the CDC (2007-2009)**
The Model: Population and Health Status

- Population (by Age, Income, and Insurance Status)
- Behavioral Risk Factors (e.g., Smoking, Obesity)
- Chronic Physical Illness (Mild, Severe) and Mental Illness (Treated and Untreated)
- Exposure to Environmental Hazards and Crime
- Acute Episodes
- Deaths

Arrows indicate the flow and interaction between these factors:
- Case Fatality Trends
- Births and Migration
- Economic Trends
- ACA and Other Insurance Legislation and Programs
The Model: Health Care Delivery and Cost

- Deaths
- Exposure to Environmental Hazards and Crime
- Acute Episodes
- Utilization of Care (Primary Care and Specialty Visits, Hospital ER and OPD Visits and Inpatient Admissions, Long-Term Care and Home Care)
- Requirements for Preventive and Chronic Illness Care
- Effects of Costs on Income and Insurance Coverage
- Number of Providers and Adequacy of Care Available
- Provider Incomes

- Population (by Age, Income, and Insurance Status)
- Behavioral Risk Factors (e.g., Smoking, Obesity)
- Chronic Physical Illness (Mild, Severe) and Mental Illness (Treated and Untreated)
- Health Care Costs

- Case Fatality Trends
- Births and Migration
- Economic Trends
- ACA and Other Insurance Legislation and Programs
- Technology Driven Inflation
<table>
<thead>
<tr>
<th>Initiatives Available to Model Users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RISK</strong></td>
</tr>
<tr>
<td>Healthier behaviors</td>
</tr>
<tr>
<td>Environmental hazards</td>
</tr>
<tr>
<td>Crime</td>
</tr>
<tr>
<td>Pathways to advantage (family; student)</td>
</tr>
<tr>
<td><strong>CARE</strong></td>
</tr>
<tr>
<td>Preventive/chronic care</td>
</tr>
<tr>
<td>Mental illness care</td>
</tr>
<tr>
<td>Self care</td>
</tr>
<tr>
<td>Hospital infections</td>
</tr>
<tr>
<td><strong>CAPACITY</strong></td>
</tr>
<tr>
<td>PCP efficiency</td>
</tr>
<tr>
<td>Recruit PCPs (general; FQHC)</td>
</tr>
<tr>
<td>Hospital efficiency</td>
</tr>
<tr>
<td><strong>COST</strong></td>
</tr>
<tr>
<td>Pre-visit consult</td>
</tr>
<tr>
<td>Coordinate care</td>
</tr>
<tr>
<td>Post-discharge care</td>
</tr>
<tr>
<td>Medical home</td>
</tr>
<tr>
<td>Malpractice</td>
</tr>
<tr>
<td>Hospice</td>
</tr>
<tr>
<td><strong>TRENDS</strong></td>
</tr>
<tr>
<td>Uninsurance</td>
</tr>
<tr>
<td>Primary care slots</td>
</tr>
<tr>
<td>Inflation rate</td>
</tr>
<tr>
<td>Local economy</td>
</tr>
<tr>
<td>Hospital occupancy</td>
</tr>
<tr>
<td><strong>FUNDING</strong></td>
</tr>
<tr>
<td>Innovation fund</td>
</tr>
<tr>
<td>Reinvest savings</td>
</tr>
<tr>
<td>Contingent global payment</td>
</tr>
</tbody>
</table>
Model Interface
Some Insights: With Wider Investments to Enable Healthier Behaviors and Environments

- Could unlock much greater potential for health and resilience
- The upstream investment yields broader progress on health, cost, equity, and productivity. The effects can be large, but accumulate gradually.
Some Insights: With Wider Investments to Enable Healthier Behaviors and Environments

- Could unlock much greater potential for health and resilience
- The upstream investment yields broader progress on health, cost, equity, and productivity. The effects can be large, but accumulate gradually.
Common Pitfalls for Health System Ventures

Policy Resistance
“The tendency for interventions to be delayed, diluted, or defeated by the response of the system to the intervention itself.”
- Meadows, Richardson & Bruckmann

- Spreading resources over too many initiatives
- Unsustainable program financing
- Lopsided investments downstream or upstream
- Triggering “Specialist Pushback” responses by specialists to counteract declining utilization
- Exacerbating capacity bottlenecks by increasing access and utilization
- Perpetuating inequity by ignoring particular needs of disadvantaged groups
- Neglecting or focusing only on disadvantaged, children, or seniors
- Pursuing narrow goals and short-term impacts
- Concentrating only on small sub-systems
Discovering Pitfalls—Tutorial on Capacity Bottlenecks

Exacerbating Bottlenecks

Some initiatives increase the demand for care (through improvements in access or use). In some cases, it can exceed supply and lead to difficulties in getting appointments. Patients will then increase use of emergency rooms for non-urgent care, thereby driving the cost of health care above what it could potentially achieve. A robust strategy will consider potential impact on demand.

Unsustainable Financing

Sufficiency of PCPs for demand from Medicaid-only population

The sufficiency of PCPs for the Medicaid population has eroded.

[Graph showing sufficiency of PCPs over time]

HB and PI Care vs Baseline

The model has been used widely...

- Anytown, USA (300k, 50k)
- Regional Projects (2010-2015)
- Regional Models (N=9)

Users
- 9
- ~65
- ~2,500
- ~16

Local Configurations
- Strategy Labs
- Leaders
- Universities
Case Studies: ReThink Health Model in Support of Local Collaboration
Pueblo, Colorado—Getting Started

- Community that collaborated with us on the model’s original development; faced a number of economic and health challenges and wanted a way to implement concept of Triple Aim

- HealthBound and other models provided a starting point, but frequent interaction with Pueblo working group assured that the model could be responsive to their concerns

- Intensive use was made of local and Colorado data, gaps were filled with National data adjusted to reflect local demographics

- Pueblo working group used model with basic interface to explore many options and narrow to a smaller number, then used the model to educate a widening circle and build consensus and support for a preferred option
Pueblo, Colorado—Expanding the Circle in Two Stages

Initial Stage: defined where they needed to do the work

• Focused on
  • Support for self-care and improved adherence to chronic illness regimens
  • Reduce teen pregnancy
  • Lower smoking rates
  • Lower hospital readmissions and inappropriate ER use
  • Expanded safety net primary care capacity

• Provided a sense of direction, built a coalition, and provided a basis for a backbone organization to continue the work

• Demonstrated measurable outcomes early
  • Teen pregnancy down by 57%
  • Avoidable readmissions down by 40%
Pueblo, Colorado—Further Expanding the Circle

Second Stage: model as a tool to engage other groups

- Bringing social service and other government agencies and the business community into the conversation
  - Help understand their connection to health
  - Develop joint grant proposals and grants (e.g., with housing agency on built environment related to obesity, with anti-poverty agency to provide social services on community college campus, participate in opioid work group)

- Developing more sustainable sources of funding
  - Getting away from the “bake sale” mentality of short-term grants and working with foundations to help them understand the need for long-term funding cycles
  - Engaging payers to help them understand the ROI of reinvestment of savings

- Maintain model (updated once) to reflect emerging trends and continue to examine various combinations of alternatives to find sources of leverage
“Gathering data and then using the model helped us to **build trust** and to be dedicated and committed ... The model helped us **understand the importance of intervention timing, doing things in the right sequence, and identifying early wins** ... We can get satisfaction out of moving the dial today and knowing how it will contribute to results down the road. It gave us the impetus to stay the course because we could see the possibilities and know how successful we could be.” —Dr. Christine Nevin-Woods, Director of the Pueblo City-County Health Department

“Working with the model built **consensus around common issues** that will enable us to have collective impact. The work allowed us to develop a common language that made it easier to communicate. It also enabled us to see how the pieces fit together.” —Eileen Dennis, member of the Pueblo County Board of Health
Atlanta Regional Collaborative for Health Improvement (ARChI)

- Formed to meet the needs of its various stakeholders to collaborate with others
- Gathered data and customized the model to reflect the region’s population and health care system
- Workshops used the model to explore options; multiple teams proposed scenarios and evaluated them with the model; consensus formed around a preferred option that became the basis for the “ARChI Playbook” and that guides further work by the collaborative:
  - Healthier Behavior
  - Family Pathways
  - Coordinated Care
  - Global Payment
  - Capture and reinvest savings
  - Expand access to insurance
Atlanta Regional Collaborative for Health Improvement (ARCHI)—
In Their Own Words:

“The model helped us see if we will be getting the results we want. We saw how savings could yield a revenue stream down the road that would sustain the work. It showed that we can achieve the change we want by transition, we don’t need to tear down everything and start over.” – Emil Runge, Health Policy Advisor to John Eaves, Chair of Fulton County Commission

“It helped me think about the capacity to do this work as the county government and how we need to partner to fill in the gaps. The experience made it clear that you can’t only have health care people in the room. You need a broad set of perspectives.” – Joan Garner, Fulton County Commissioner

“The model helped show how we could work toward the goal of a healthier community including for those who can’t afford health care and healthier lifestyles…. Also, having all the people in the room who can make decisions made me want to be involved, made it worth my time.” – Larry Johnson, Dekalb County Commissioner
Other Initiatives in Modeling and Collaboration
Incarceration and Health in Minnesota

• 30 person multi-stakeholder group convened by the Minnesota Department of Public Health including representatives from health care, corrections, and advocacy groups

• Charge was to:
  – Map the linkages between incarceration and health
  – Develop a position paper for the legislature that identifies potential leverage points for breaking the cycle of incarceration that traps many people, especially members of minority groups
Incarceration and Health in Minnesota—Identifying the Issues
Mapping Linkages Between Incarceration and Health in Minnesota

“The incarcerated population bears a disproportionate burden of many diseases.”
– National Research Council
Mapping Linkages Between Incarceration and Health in Minnesota

“Because of the extreme social concentration of incarceration, the most important effects may be systemic, for groups and communities.” – National Research Council
Modeling Collaborative Capacity as a Dynamic Process

• Developed initial causal model based on extensive literature review

• Surveyed 18 regional health care collaboratives with varying trajectories using in-depth phone interviews with key actors

• Refined model to help explain the various trajectories that collaboratives experience
Motivation to Collaborate
Anticipated Rewards
Perceived Rewards Received by Participants
Willingness to See Community Benefit as Own Benefit
Reward Structure
Degree of Collaboration
Trust That Others Will Collaborate
Task Performance
Tensions and Conflicts Created by Task Selection and Task Accomplishment Not Meeting Expectations
Existing Infrastructure
Shared Infrastructure: Coordination, Information, Governance
Shared Values
Willingness to Invest Resources
Willingness to See Community Benefit as Own Benefit
Shared Purpose
R
Modeling Collaborative Capacity as a Dynamic Process—Growth Loops

1. Building of trust among participants and learning that builds quality of collaboration.

2. Resource Investment by collaborators to build infrastructure that supports task performance.


4. Performance of collaborative tasks is enhanced by attracting outside investment and achieving better use of existing resources.

5. Building support through measurable community health improvement and data systems that allow health problems to be identified and task and goal accomplishment to be measured.

6. Perception of problems leading to larger system view (e.g., social determinants of health problems) and motivation to include a more diverse set of participants.
Modeling Collaborative Capacity as a Dynamic Process—Impediments

1. Tensions created by taking on
   • too many or too diverse a set of tasks than collaborative infrastructure can support due to breadth of vision.
   • tasks that require a higher degree of interdependence than can be supported by collaborative infrastructure or participants’ motivation to collaborate.

2. Inability to focus and select tasks due to broad vision and/or diverse set of participants.

3. Selection and/or performance of tasks that have adverse consequences (e.g., reduced revenue) for some participants.

4. Task accomplishment does not match expected level due to poor task performance

5. Failure to develop diverse, sustainable funding flows constrains resources available for programs and infrastructure development.
Next Steps

• Additional sites for customization and taking the model to 9 more sites through the Ventures project, funded in part by the Robert Wood Johnson Foundation, that includes use of the model in support of business plan development

• Closer integration of modeling and strategy work with ReThink Health’s stewardship and financing activities

• Development of products that help communities apply insights from ReThink Health model (e.g., identify specific high leverage Healthy Behavior opportunities based on their populations’ health risks)
Thank you for your attention!

Questions?