

***Neighborhood Transformation Game:
Making the Most of Temporary Assistance¹***

Picture a situation where...

Residents in a relatively disadvantaged and disorganized neighborhood are beset with multiple health problems and adverse living conditions. Although local leaders have employed various strategies to keep things from getting worse, the problems are also not getting any better.

Outside allies (e.g., government agencies, foundations) could help by offering three broad types of assistance. They could

- Enhance efforts to respond one by one to the most prevalent or burdensome afflictions by developing services that reduce rates of incidence, boost rates of recovery, and lessen the severity of symptoms.
- Improve the adverse living conditions that leave people vulnerable to multiple afflictions.
- Build greater public strength, perhaps through leadership development and citizen organizing, so that the residents themselves have a greater capacity to work across their differences and, in turn, act more effectively across a wide range of issues.

The allies have made a commitment to assist for a period of 12 years, after which the assistance will be concluded. The total budget for the 12 years is set, but they may decide every four years (at Time 0, Time 4, and Time 8) how to allocate the assistance among the three types available. For instance, they may change the proportions, combinations, or sequence of investments.

The entire venture will be monitored continuously to chart progress and inform assistance decisions. All stakeholders can observe how the neighborhood changes during the 12 years of assistance, and also during a post-assistance follow-up period of 8 years.

The goal is to reduce, as much as possible, the average affliction burden (measured by the average number of unhealthy days per person per month) both during and after assistance, recognizing that adverse living conditions and public strength are closely linked to that goal and may undermine it if left unaddressed.

¹ Adapted from: Homer J, Milstein B. Optimal decision making in a dynamic model of poor community health. 37th Hawaii International Conference on System Science; Big Island, HI; January 5-8, 2004. Available at <<http://csdl.computer.org/comp/proceedings/hicss/2004/2056/03/205630085a.pdf>>.

Homer J, Milstein B. Syndemic simulation. Forio Business Simulations, 2003. Available at <<http://broadcast.forio.com/sims/syndemic2003/>>.

Milstein B. Hygeia's constellation: navigating health futures in a dynamic and democratic world. [Dissertation]. Cincinnati, OH: Union Institute and University; 2006 (April 11, draft).

Hypotheses About the Forces of Change (labels refer to the causal diagram below)

Syndemic (R1)

Each affliction increases vulnerability to other afflictions, thereby amplifying the effect of increases or decreases in the prevalence of individual diseases. Also contributing to the population's vulnerability in a syndemic are adverse living conditions.

Citizen Response (B1, B2)

Area residents make efforts to alleviate afflictions and improve adverse living conditions in response to their prevalence, and to build greater public strength when it is perceived as low. Outside assistance may bolster such efforts.

Social Disparity and Public Strength (R2)

Response efforts, especially those to improve adverse living conditions, are greater in magnitude when citizens are strong and unified through democratic institutions (e.g., citizen organizations, labor unions, progressive faith-based groups). But public strength is hindered by social disparity (i.e., differences among groups in health status or living conditions), which, in turn, is made worse by the concentration of those problems among a subset of society that is often feared, distrusted, or blamed. Because the prevalence of these problems can undermine the public unity needed to address them, the problems may go unchecked and spread further than they would otherwise.

Public Strength and Public Work (R3)

Public strength is also affected by the character of the response efforts themselves. When problems spread in an area with strong democratic institutions, the response tends to be more multi-faceted and elicit greater contributions from ordinary citizens in the form of "public work," a united process that reinforces public strength. Conversely, when problems spread in an area with weaker democratic institutions, problem-fighting efforts tend to be taken over by small groups of professionals who specialize in those problem areas, a divided process that ends up reinforcing the public's weakness.

Present Strategy and Future Strength (R4, B3)

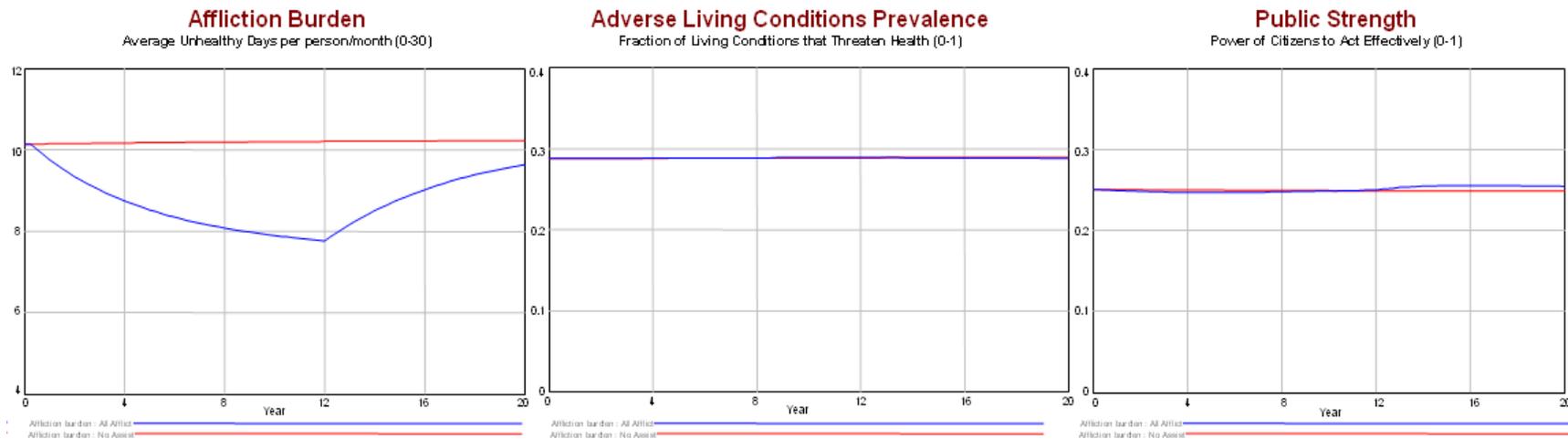
Strategies for fighting afflictions or improving living conditions today may also affect people's ability to mount similar efforts in the future. Outside assistance given to a weaker community for problem fighting may amplify the divided response and undermine the citizen's internal response capability. Outside assistance to build public strength, however, may revitalize democratic institutions and prepare citizens to make a more united response.

Step 1: Define Assistance Scenarios*

| Scenario Name | Fraction of Assistance to...* | | | | | | | | | Average Affliction Burden (T4-T20) | Improvement Over Baseline (%) |
|---------------|-------------------------------|----|----|-------------------|----|----|-----------------|----|----|------------------------------------|-------------------------------|
| | Affliction | | | Living Conditions | | | Public Strength | | | | |
| | T0 | T4 | T8 | T0 | T4 | T8 | T0 | T4 | T8 | | |
| No Assist | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10.20 | -- |
| All Afflict | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8.52 | 16% |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |

* Total for each time period must be 1.0

Step 2: Sketch the Consequences Over Time*



* Draw multiple lines on the same graph by labeling each

Some Additional Assumptions (selected)

| Parameter | Assumption |
|--|------------|
| Affliction | |
| Maximum effect of programs on affliction incidence (program effectiveness) | 60% |
| Maximum effect of programs on affliction recovery (program effectiveness) | 200% |
| Maximum boost in affliction programs from assistance (cost-effectiveness of assistance) | 30% |
| Living Conditions | |
| Living conditions improvement time | 4 years |
| Living conditions erosion time | 8 years |
| Maximum effect of programs on adverse living conditions (program effectiveness) | 50% |
| Maximum effect in living conditions programs from assistance (cost-effectiveness of assistance) | 50% |
| Public Strength | |
| Public strength improvement time | 4 years |
| Public strength erosion time | 8 years |
| Selected Time Constants | |
| Improvement time for living conditions or public strength | 4 years |
| Erosion time for living conditions or public strength | 8 years |
| Maximum boost in public strength from assistance (cost-effectiveness of assistance) | 30% |