

Coalition for a Healthy Greater Worcester:

Improving Food Security through Systems Thinking and Community Collaboration



It is estimated that 1 out of 5 residents in Worcester is food insecure. Food insecurity makes it harder to eat foods that support healthy weights, and puts families at risk for diet-related diseases like type 2 diabetes and heart disease.

Many people believe that lack of access to healthy food is the biggest driver of food security. **In reality, the problem is much more complex.**

To develop a deeper understanding of food security in Worcester, a diverse and multisector groups of 11 residents and professionals formed the **Healthy Greater Worcester Stakeholder Committee**. Together with the Catalyzing Communities project at Tufts University, they:

- Built strong cross-sector partnerships to advance food security
- Mapped the complex system surrounding food security in Worcester, with an intentional focus on racial and health equity
- Identified ways to meaningfully impact food security among disproportionately affected and marginalized communities

The community of Worcester is committed to achieving food security for all its residents, so now the Stakeholder Committee is turning this understanding into evidence-based action, focusing on:

**Increasing
Affordable
Housing**

**Reducing the
Cliff Effect**

**Promoting Equity
in Funding
Distribution**

Spring 2023

Understanding the system of food insecurity in Worcester

The Stakeholder Committee worked with Catalyzing Communities to better understand the complex system of food insecurity in Worcester using [Community Based System Dynamics](#), a unique approach that uses feedback thinking to visually show the structures that shape communities, and illuminates new opportunities for meaningful systems change.

Together, the Committee generated three systems maps that depict how food insecurity is impacted by issues far beyond food access, like economic opportunity, higher education, and stress-alleviating supports.

Specifically, these maps show how food insecurity is impacted by:

- **financial resources**
- **access to benefits**
- **demands on families' time**

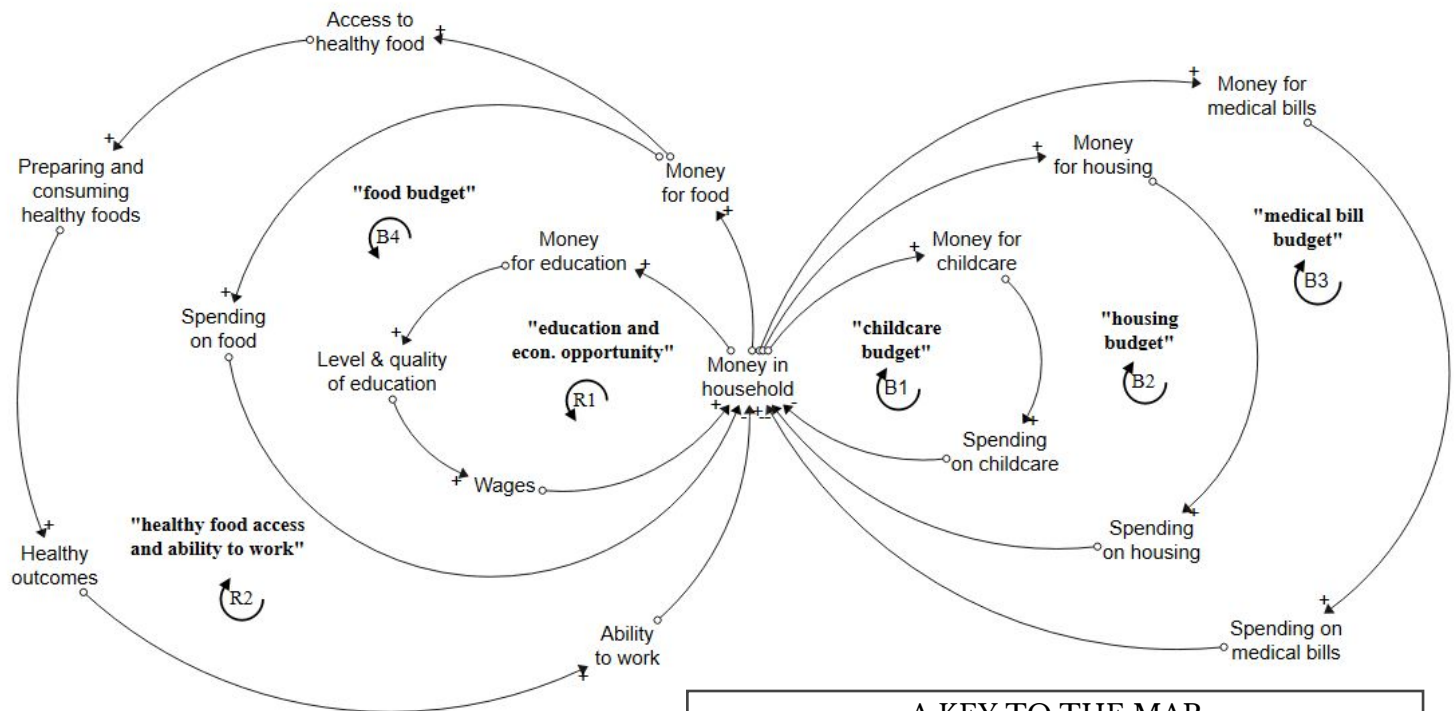
These maps also show how Worcester residents experience systems differently depending on the power they hold and the oppression they experience. For those whose needs are being met, the system can continue to fuel success and wellbeing. For residents whose needs are not being met, the system can continue to make things worse.



Click [here](#) to see the systems maps!

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Takeaway 1: Households have to make tough decisions about spending



Several balancing feedback loops (**B1, B2, B3**) in this systems map show competing costs for families. Sometimes, households simply cannot afford to cover all their basic needs, such as housing, medical bills, childcare, education costs, and money for food.

A KEY TO THE MAP

(+) positive polarity - increase leads to an increase in a variable or decrease leads to a decrease in a variable

(-) negative polarity - increase leads to a decrease in a variable or decrease leads to an increase in a variable.

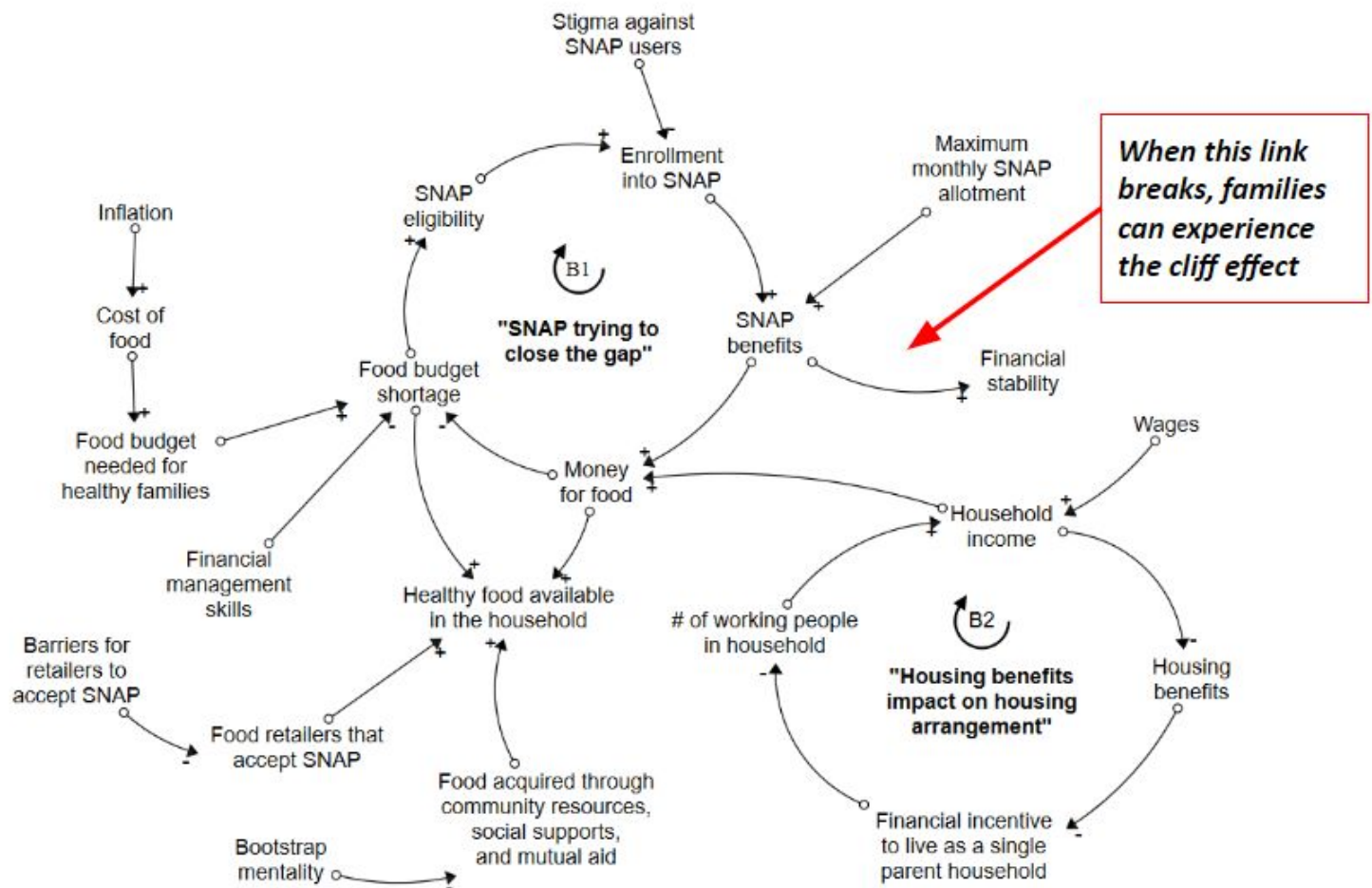
(R) reinforcing feedback loops amplify changes over time. They can lead to more and more or less and less of something.

(B) balancing feedback loops help stabilize systems by providing negative feedback on a variable.

For a family with fewer economic resources, the more money they need to spend on childcare or rent, the less they have to buy and eat healthy food, which over time, impacts health outcomes (B4, R2). And, when families are forced to live from paycheck to paycheck it becomes difficult to achieve economic stability and build household wealth. **Over time, households that start out with more resources can end up with more, while those with fewer can end up with less (R1).**

“I don’t think people are surviving, I think they are suffering in silence.”

Takeaway 2: “Cliff effects” cause lots of instability and uncertainty

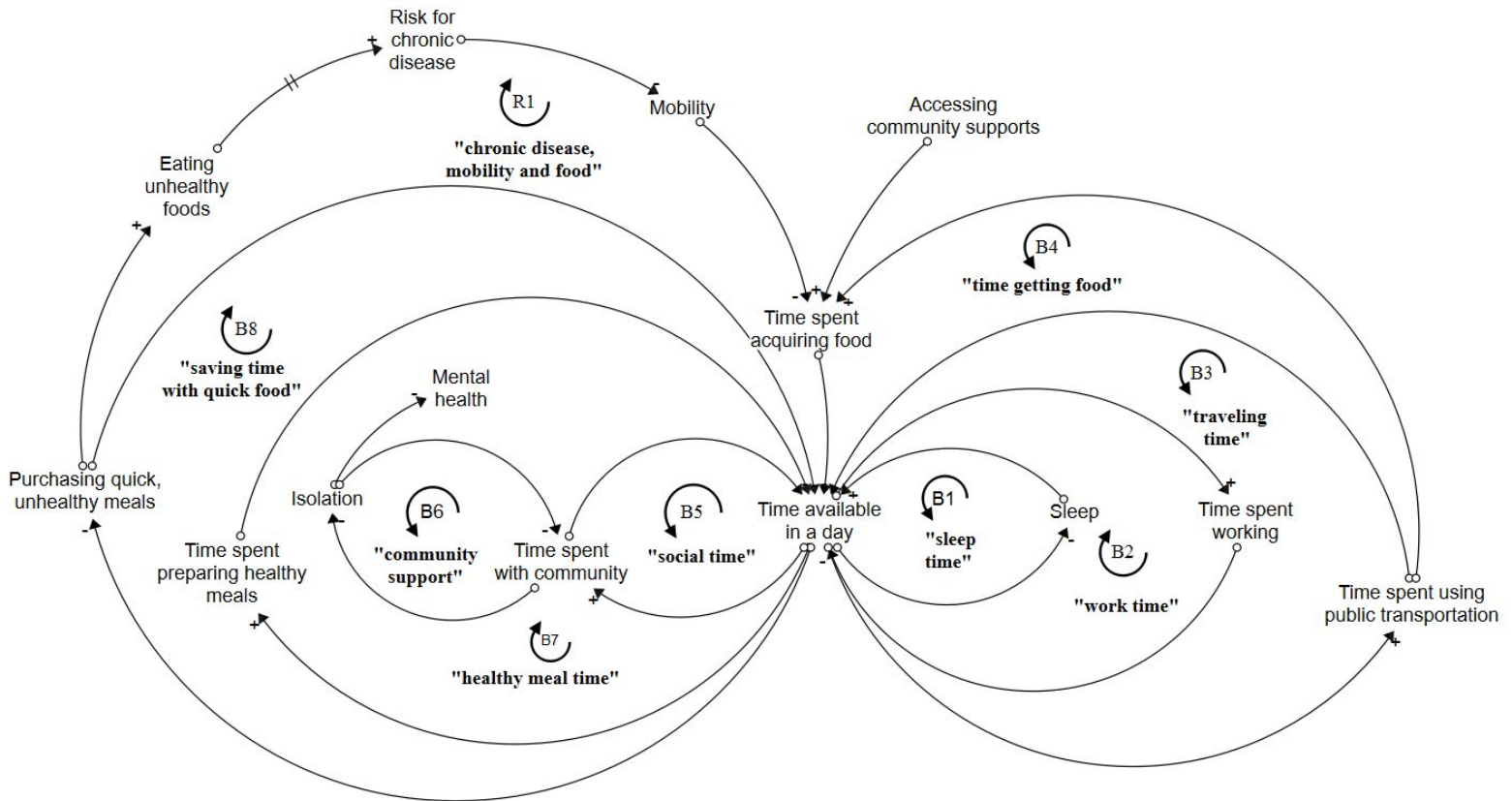


Balancing feedback loop **B1** shows how SNAP benefits can help families buy food. When families are eligible and enroll, SNAP can help. However, if a household's income rises above a certain level they might experience the "cliff effect," when they suddenly lose eligibility for benefits they had before.

When SNAP benefits are predictable they promote financial stability. When they change quickly families can experience instability and uncertainty. **In some cases, people who earn more end up being able to buy less, because their new income is actually less than the benefits they were previously receiving.** This "food gap" can be traumatic for families.

Balancing loop **B2** shows the impact of housing benefits on household resources. This link may encourage people to make decisions they wouldn't otherwise, like choosing to live in a single-parent household instead of with a partner.

Takeaway 3: Demands on time impact diet and health outcomes



Everyone does things that take time, like working, sleeping, eating, and socializing. The balancing feedback loops above (**B1, B2, B3, etc.**) show the many demands on families' time.

People with fewer economic resources, however, may lose more time in their day because they work multiple jobs, have to wait longer for public transportation, need to navigate public benefits and community support systems, and choose to shop in different stores to meet their medical and cultural food needs.

All this extra time takes away from hours that could be dedicated to taking care of one's personal and household needs, or spent with family and community. It forces people to make decisions that can cause negative health outcomes in the long run.

“If my ship is on fire, don’t tell me how healthy food is going to change my life.”

Project Collaborators



The Coalition for a Healthy Greater Worcester is dedicated to promoting shared learning, reflection, and broad engagement that improves community decision-making, health, and wellbeing for residents of Greater Worcester. The Coalition finds solutions to improve quality of life and address health disparities through education, capacity building, resource assessments, initiatives, and advocacy.



Catalyzing Communities, a ChildObesity180 initiative, develops deep and meaningful relationships with community partners, and helps them mobilize a core group of multisector community leaders to improve the health of their community. We use facilitation and evaluation techniques grounded in systems science and help our partner communities visualize the complexities of their unique challenges to identify high-impact opportunities for change.

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