FOOD INSECURITY, FOOD BANKS, & HEALTH CARE:
A JOURNEY
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FEEDING AMERICA
Triple Aim of Health Care

Lower Costs

Improve Patient Care

Improve Health at A Population Level

Better care for the whole population at the lowest cost

Source: See Donald M. Berwick et al. The Triple Aim: Care, Health and Cost, 27 Health Affairs 759-769 (2008); Institute for Health Care Improvement
Health Disparities: Life Expectancy by Income

Inequality in life expectancy widens for men

Wealthier men can expect to live longer than their parents did, while life expectancies for the poor have not changed.

Life expectancy for 50-year-olds in a given year, by quintile of income over the previous 10 years

Source: National Academies of Science, Engineering and Medicine

Source: WashingtonPost.com
Health Disparities: Life Expectancy by Income and Race/Ethnicity

Source: Health Affairs, 2011
Prevalence of obesity among adults aged 20 and over, by sex and race and Hispanic origin: United States, 2011-2012

http://www.cdc.gov/nchs/data/factsheets/factsheet_disparities.htm
Health Disparities: Diabetes Rates by Race/Ethnicity

Age-adjusted* percentage of people aged 20 years or older with diagnosed diabetes, by race/ethnicity, United States, 2010–2012

- Non-Hispanic whites: 7.6%
- Asian Americans: 9.0%
- Hispanics: 12.8%
- Non-Hispanic blacks: 13.2%
- American Indians/Alaska Natives: 15.9%

A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease

- Food Insecurity
- Coping Strategies: Dietary Quality Eating Behaviors, Bandwidth
- Stress
- Household Income (↓)
- Spending Tradeoffs (↑)
- Health Care Expenditures (↑)
- Employability (↓)
- Chronic Disease
Across the lifespan, food insecurity is associated with:

- Poorer dietary intake
- Poorer physical, psychological, and behavioral health
- Poorer disease management

Improving food security results in:

- Better dietary intake & lower weight (SNAP)
- Improved disease management (FA Diabetes Pilot)
- Lower health care costs
- Stability (broadly): better health
A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease

**FOOD INSECURITY**

- **HOUSEHOLD INCOME** ↓
- **SPENDING TRADEOFFS** ↑
- **HEALTH CARE EXPENDITURES** ↑
- **EMPLOYABILITY** ↓

**STRESS**

**COPING STRATEGIES:**
- Dietary Quality
- Eating Behaviors
- Bandwidth

**CHRONIC DISEASE**

**HEALTH CARE INTERVENTION**
A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease

FOOD INSECURITY

UPSTREAM COMMUNITY INTERVENTION

COPING STRATEGIES:
- Dietary Quality
- Eating Behaviors
- Bandwidth

STRESS

- HOUSEHOLD INCOME
- SPENDING TRADEOFFS
- HEALTH CARE EXPENDITURES
- EMPLOYABILITY

CHRONIC DISEASE
Health Care vs. Health Promotion

Health Care
- Providing direct medical services

Health Promotion
- Activities that support health education, access to care, and healthy behaviors
A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease

- **Household Income**
- **Spending Tradeoffs**
- **Health Care Expenditures**
- **Employability**

**Coping Strategies:**
- Dietary Quality
- Eating Behaviors
- Bandwidth

**Chronic Disease**

**Health Care**

**Health Promotion**

**Food Insecurity**
What would it take for food insecurity interventions to successfully address poor health?

Food Insecurity

Dietary Intake
Stress
Self-Efficacy
Bandwidth
Competing Demands
Binge-Fast Cycles
Employability
Stability

Poor Health
What Would it Take for These Interventions to be Successful?

Food Insecurity ↓  Health & Wellbeing ↓ Costs
Food Insecurity and Health Care Costs
### Food Insecurity and Health Care Costs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds of health care expenditure*</th>
<th>Total health care costs per person†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted OR (95% CI)</td>
<td>Adjusted‡ OR (95% CI)</td>
</tr>
<tr>
<td>Food insecurity status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food secure</td>
<td>1.00 (ref)</td>
<td>1.00 (ref)</td>
</tr>
<tr>
<td>Marginally food insecure</td>
<td>1.03 (0.90–1.17)</td>
<td>1.13 (0.99–1.29)</td>
</tr>
<tr>
<td>Moderately food insecure</td>
<td>1.21 (1.08–1.36)</td>
<td>1.33 (1.18–1.50)</td>
</tr>
<tr>
<td>Severely food insecure</td>
<td>1.54 (1.30–1.81)</td>
<td>1.71 (1.44–2.04)</td>
</tr>
</tbody>
</table>

*Odds ratio (OR) indicates the likelihood of health care expenditure for different levels of food insecurity compared to food secure.

†Total health care costs per person adjusted for various factors.

Source: Tarasuk, CMAJ, 2015.
Admissions Attributable To Low Blood Sugar Among Patients Ages 19 And Older To Accredited California Hospitals On Each Day Of The Month, By Income Level, 2000–08.

Source: Seligman H K et al. Health Aff 2014;33:116-123

27% increase in low blood sugar admissions during 4th week of month (compared to 1st week of month) for low-income group only
Cost of A Health Care Visit for Low Blood Sugar vs. Food

- **INPATIENT ADMISSION**: $17,564
- **EMERGENCY VISIT**: $1,387
- **OUTPATIENT VISIT**: $394
- **MONTHLY FOOD COST (FAMILY OF 4)**: $657*

*Thrifty Food Plan

American Journal of Managed Care, 2011.
Temporary 13.6% increase in SNAP benefit starting in 2009

Examined changes in healthcare costs to Medicaid

6 conditions thought sensitive to food insecurity
- Sickle cell disease
- Diabetes
- Malnutrition
- Cystic Fibrosis
- Asthma
- Inflammatory Bowel Disease
Found decrease in spending trend attributable to increased SNAP benefit.
That’s It!
New Developments over the Last 12 Months

• Food insecurity entering the ‘mainstream’ of healthcare
• Recognizing the financial interconnection of food insecurity and health
• Emergence of food insecurity interventions to promote health
American Association of Pediatrics Recommends Universal Screening

POLICY STATEMENT
Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Promoting Food Security for All Children

COUNCIL ON COMMUNITY PEDIATRICS, COMMITTEE ON NUTRITION

Available at: http://pediatrics.aappublications.org/content/pediatrics/136/5/e1431.full.pdf
Key Points in AAP Policy Statement

• Recognizes importance of food insecurity for children’s physical and mental health, behavior, and developmental outcomes

• Recommendations
  – 2-item screening tool (with yes/no response options) “at scheduled health maintenance visits”
  – Pediatricians should familiarize themselves with community resources
  – Pediatricians should learn how food insecurity impacts health outcomes
  – Pediatricians should be advocates for increasing access/funding to nutrition programs
Resources Suggested to Clinicians

- 2-item screen
- Sparse resources
  - 2-1-1
  - Healthy Food Bank Hub
  - MyPlate

**TABLE 2** Screening for Food Insecurity

1. Within the past 12 mo, we worried whether our food would run out before we got money to buy more. (Yes or No)
2. Within the past 12 mo, the food we bought just didn’t last and we didn’t have money to get more. (Yes or No)

Adapted from Hager et al.\textsuperscript{35} Although an affirmative response to both questions increases the likelihood of food insecurity existing in the household, an affirmative response to only 1 question is often an indication of food insecurity and should prompt additional questioning.
Only Very Early Data on Clinical Screening Programs Available


- Passive referrals are much less efficient than active referrals
For the 1\textsuperscript{st} time, advises providers to:

- “Evaluate hyper and hypoglycemia in the context of food insecurity”
- “Propose solutions accordingly”
• Offers suggestions re: medication management
• Proposes linkage to community resources
• Defines “hunger” as VLFS
• Recognizes impact of food insecurity on health (at all ages) and the health care system
• Focus on people with disabilities as highly vulnerable group
Some Specific, Health-Related Recommendations

- SSB’s should be excluded from SNAP benefits
- SNAP vendors should comply with standards consistent with health and nutrition (e.g. shelf space, product standards)
- SNAP-Ed should track improvements in participant health (not just dietary intake)
- Medicare/Medicaid managed care plans should include coverage for meal delivery (with physician recommendation) for seniors and those at serious medical risk or with disability
- Pilot projects should determine how nutrition education impacts health
Major new CMS Program for social needs screening
- Highlights food security as a key social need
- 5 year grants
Community Benefits: A Good Entry Point!?

Highlights:
- Non-profit hospital requirement
- Changed in the Affordable Care Act & IRS Ruling
- “…prevent illness, ensure adequate nutrition, or address social, behavioral, and environmental factors that influence community health…”

Two Major Components:
- **Community Health Needs Assessment (CHNA)** – Involve stakeholders to identify, understand and prioritize the health needs of the community
- **Community Health Improvement Plan (CHIP)** – Create a strategy to address those priorities
Community Benefits: Where to Begin

• CHNA & CHIP are publicly available on hospitals’ websites

• Review action plan priorities
  – What health priority areas overlap with food insecurity/food access efforts?
  – Can you support access to food or other services for clients in priority zip codes or demographic groups?
  – Can you join the steering committee for the next CHNA (many hospitals up for renewal in 2016)?
  – Can you provide hospital administrators/community benefit manager with local food insecurity data?
  – Can the food bank help engage clients or other stakeholders?
Food Banks as Partners in Health Promotion: Creating Connections for Client & Community Health

Highlights Include:

• New developments in health care
• Incentives for health systems
• Partnership opportunities for food banks
• Much more…

Feasibility of a 4-component diabetes intervention implemented at 3 FB’s
- Point-of-care testing for diabetes
- Active referral to primary care
- Diabetes self-management support & education
- Diabetes appropriate food (shelf-stable & perishable) 1-2X/month

687 clients with diabetes
## Results: Baseline HbA1c >7.5%

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c, %</td>
<td>9.52</td>
<td>9.04****</td>
</tr>
<tr>
<td>HbA1c &gt;9%, %</td>
<td>52</td>
<td>43****</td>
</tr>
<tr>
<td>F&amp;V intake, servings/day</td>
<td>2.8</td>
<td>3.0**</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>6.7</td>
<td>7.2****</td>
</tr>
<tr>
<td>Diabetes distress</td>
<td>3.3</td>
<td>2.8****</td>
</tr>
<tr>
<td>Medication non-adherence</td>
<td>1.2</td>
<td>1.1*</td>
</tr>
<tr>
<td>Trade-offs between food &amp; medicine/diabetes supplies</td>
<td>51</td>
<td>40****</td>
</tr>
</tbody>
</table>

Pre-post, unadjusted analysis of approximately 396 participants.  
*p*<0.10 **p*<0.05 ***p*<0.01 ****p*<0.001. Results similar for all 687 participants, with pre-post HbA1c reduction from 8.11% to 7.96%.***
Conclusions

• Model for leveraging the charitable food system for health promotion
  – Reach into vulnerable communities
  – Food access & distribution capacity
  – Framework for infrastructure development

• Population level benefits
  – Food reaches the entire household
  – Other diet-sensitive chronic conditions (HIV, cancer, CHF, etc.)
Wrap-up and Future Directions

• Food insecurity entering the ‘mainstream’ of healthcare
  – Expect to see more collaborations with healthcare systems
• Recognizing the financial interconnection of food insecurity and health
• Emergence of food insecurity interventions to promote health
Wrap-up and Future Directions

• Food insecurity entering the ‘mainstream’ of healthcare
• Recognizing the financial interconnection of food insecurity and health
  – Will there be “ROI”
  – Is that what we should be looking for?
• Emergence of food insecurity interventions to promote health
Wrap-up and Future Directions

• Food insecurity entering the ‘mainstream’ of healthcare
• Recognizing the financial interconnection of food insecurity and health
• Emergence of food insecurity interventions to promote health
  – Can we move beyond pilots and demonstrations into sustainable integration into healthcare delivery?
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