Building Systems to Evaluate Food Insecurity Screening and Diabetes Within an FQHC

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Introduction of Speakers

- **Danielle Lazar**, AM, DrPh candidate, Director of Research and the Center for Discovery and Learning, Access Community Health Network
- **Kathleen Gregory**, MBA, Principal, Kathleen Gregory Consulting, LLC and former Vice President of Strategy and Business Development, Access Community Health Network
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Goals of Today's Webinar

1. Describe innovation in practice within an FQHC that addresses food insecurity
2. Describe the origin, purpose and framework of the evaluation
3. Share lessons learned through system-wide evaluation of the innovation – from initial planning to implementation
4. Understand what it takes to build a culture of research and evaluation within a community health setting

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About Access Community Health Network

- ACCESS operates **36** health centers across Chicago, suburban Cook and DuPage counties
- ACCESS served more than **183,000** low-income individuals annually, including **34,655** uninsured patients in CY'17.
- ACCESS' patient demographics reflect the communities we proudly serve each day:
  - **52%** are Hispanic
  - **30%** are African-American
  - **84%** live at or below the 200 percent of the Federal Poverty Level
- Established evaluation and research department

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Food Insecurity and Impact on Diabetes Care

- Diabetes care accounts for **1** in **5** health dollars in the U.S. with low-income, minority populations disproportionately affected. [1,2]
- Adults with diabetes are **40** percent more likely to have poor glycemic control if they are food insecure due to a lack of continuous food supply and the financial need to prioritize bills over food.[3]
- Diabetics who cannot afford adequate food are likely to have five times more medical encounters than those who can afford adequate food.[4]

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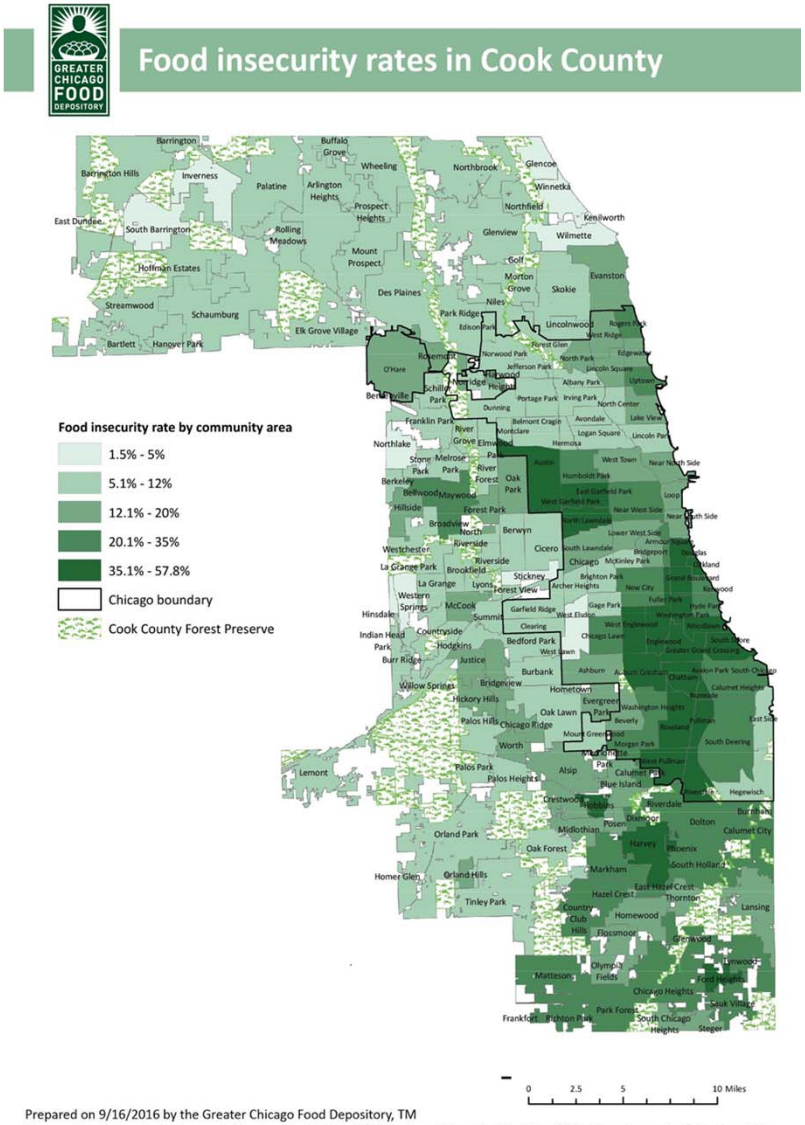
1. American Diabetes Association. Diabetes Care. 2013: 36: 1033-046
2. Brown, A.F., Ettner, S.L., Piette, J., et al. Epidemiol Rev. 2004:26:63-77.
3. Seligman, H.K., Laraia, B.A., Kushel, M.B. J. Nutr. 2010;140:304-310.
4. Nelson, K., Cunningham, W., Anderson, R., et al. J. Gen Intern Med. 2001;16:404-411

Food Insecurity and Diabetes

- The rate of food insecurity in Chicago is **19.2** percent.
- More than **900,000** people in the areas served by ACCESS are living with food insecurity.
- **14** percent of ACCESS' **105,000** adult patients have Type 2 diabetes.
- One-third of ACCESS' patients have poorly controlled diabetes, defined by Hemoglobin A1c (HbA1c) greater than nine.



Prepared on 9/16/2016 by the Greater Chicago Food Depository, TM
Source: Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity Estimates at the County Level. Feeding America, 2016.

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Social Medical Approaches are Needed

- Institute of Medicine report advocates that interventions targeted within community-based settings are critical for implementing optimal chronic disease management.
- Standard practice continues to use a solely clinical approach to diabetes care.

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Institute of Medicine. Committee on Living Well with Chronic Disease: Public Health Action to Reduce Disability and Improve Functioning and Quality of Life, 2012

Approach to Innovation

- Promotes a culture of health, providing patients the means and opportunity to make choices that lead to the healthiest lives possible
- Incorporates screening for social determinants into primary care practice
- Creates deliberate connection to community resources
- Requires providers to acknowledge that food insecure patients frequently face tough choices between affording food, medications, and household bills that negatively impact health.

Hypothesis: Improved quality of care/knowledge of social determinants and increased access to a more stable supply of food, translates to improved patient satisfaction and health outcomes.

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Food Insecurity Intervention

- Patients are screened at every primary care visit by an ACCESS Medical Assistant using the validated USDA food insecurity two-question tool.
- If a patient screens positive, the provider gives basic nutrition education, and an onsite Benefits Specialist assists with SNAP enrollment.
- Patients are also referred to local food pantries and, if available, a mobile FRESHTruck that visits the health center.
- Screening results and referral information are documented and tracked in the patient's care plan in the electronic health record (EHR), and the patient receives the referral via the After Visit Summary.
- "Eat Right When Money's Tight" education collateral is shared with all patients.

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Goal of the Evaluation

Our goal is to determine whether an innovation that integrates food insecurity screening into a health center setting improves diabetes control.

Primary Evaluation Question:

Do food insecure diabetic patients provided with access to food resources (e.g., SNAP benefits and food pantries) achieve improved glycemic control compared with food secure diabetic patients?

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Secondary Evaluation Questions

Secondary Evaluation Questions:

- Does the innovation reduce the proportion of low-income diabetic patients who experience food insecurity?
- Do patients access food resources more frequently after exposure to the innovation?
- Does the innovation improve patients' quality of life (e.g., reduction in the number of tough choices)?
- What is the financial return on investment?

Evaluation Design

- Prospective Case-Control Study
  - Cases = Food insecure patients with diabetes
  - Controls = Food secure patients with diabetes

- Repeated measures design
  - Convenience sample of participants
  - Statistical models will assess change over time among cases relative to change over time among controls

- Sample size (anticipated)
  - **456** Food secure patients
  - **228** Food insecure patients

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Participant Selection/Inclusion Criteria

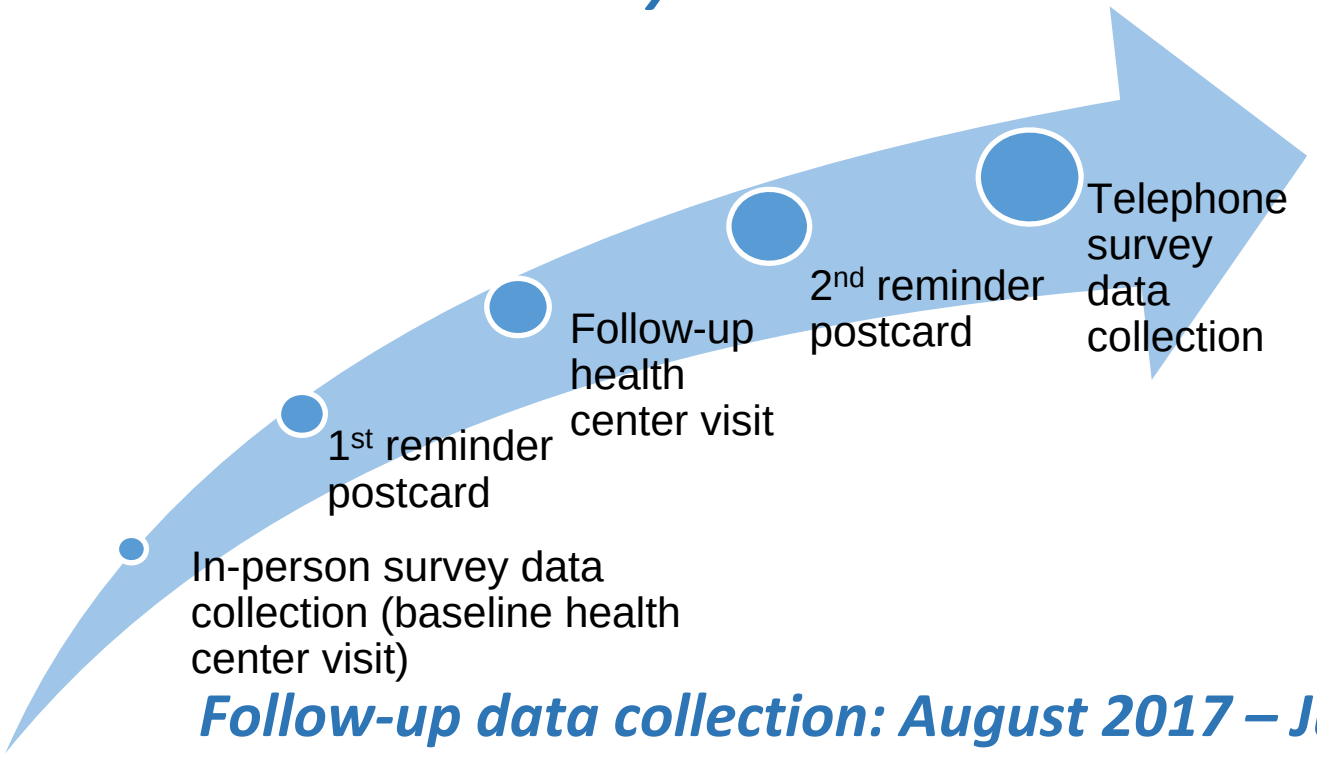
- Recruitment plan
  - Posters
  - Referrals (phone referral, in-person referral)

- Inclusion criteria
  - Diagnosed with diabetes, 18 years of age or older
  - Completed food insecurity screening within 30 days of enrollment
  - Has HbA1c lab result at ACCESS within 30 days of enrollment or ordered at baseline visit
  - Able to complete survey in English or Spanish, able and willing to give informed consent

- Exclusion criteria – pregnant at time of enrollment

Data Collection Plan

Baseline data collection: February 2017 – October 2017



Follow-up data collection: August 2017 – July 2018

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Data sources and measures

- Patient Survey
  - Community accessibility to healthy foods
  - Use of food assistance programs/resources
  - Food resource management
  - Tough choices
  - Medication adherence

- Electronic Medical Records
  - Demographics (age, race, ethnicity, home zip code, primary language, payor type, and poverty status of uninsured patients)
  - Food security status
  - Prescription for diabetes medications
  - Health outcomes (i.e., HbA1c, blood pressure, and microalbumin ratio)

Launching the Intervention and Evaluation

Intervention

- Approximately **5** months working across departments and health centers to implement and stabilize intervention
- Identified implementation challenges through training and initiation of intervention

Evaluation

- Created evaluation operations plan, coordinated logistics across health centers
- Hired and trained staff
- Applied for IRB Approval
- Negotiated contracts

Communication and stakeholder engagement strategy, plan and implementation
Electronic Health Record set up for intervention, recruitment, monitoring and reporting

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Timeline of Implementation

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Recruitment Results

- Recruited **993** total patients from January 2017 to November 2017
- **840** Food secure vs. **93** food insecure patients
- Slower and fewer than originally anticipated
- Modified inclusion criteria in August to account for variability in keeping appointments and stability of a1c clinical measure
- Determined based on available resources and total study population that much could still be learned

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Participant Demographics at Baseline

Similar to ACCESS patient population

Gender	# pts
Female	599
Male	334
Grand Total	933

Race/Ethnicity	# pts
American Indian and Alaska Native	1
Non-Hispanic	1
Asian	12
Hispanic	1
Non-Hispanic	11
Black or African American	168
Hispanic	4
Non-Hispanic	159
Patient Refused	2
Unknown	3
Declined/Refused	28
Hispanic	23
Non-Hispanic	3
Patient Refused	2
Multiracial	33
Hispanic	33
Native Hawaiian and Other Pacific Islander	2
Non-Hispanic	2
Other	396
Hispanic	375
Non-Hispanic	20
Unknown	1
Unknown	89
Hispanic	69
Non-Hispanic	10
Unknown	10
White	204
Hispanic	154
Non-Hispanic	49
Unknown	1
Grand Total	933

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Next Steps

- Complete follow-up data collection by July 2018
  - As of 3/28/18, **323** patients eligible for follow-up

Follow up survey outcome	# pts	%
Completed Survey	160	53%
Contacted Max Number of Times	79	26%
Refused Survey	63	21%
Grand Total	**302**	

- Conduct Analyses
  - Survey analysis
  - Clinical data analysis
  - Qualitative analysis of focus groups
  - Cost analysis
- Publishing and dissemination

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Lessons Learned

- Collaboration across institutions opens opportunities for evaluation design.
- Planning is critical. Getting “real” is important too.
- Communication must be intentional.
- Training is a process, not a one-time event.
- Practice-based evaluation studies can require significant adaptation of IS infrastructure.

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Lessons Learned

- Recruit, adapt and re-allocate resources to respond to reality on the ground.
- Balance business needs with study aims.
- Celebrate what you have learned, and share your findings.

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Questions?

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