Exploratory Evaluation of Food Insecurity Programs Initiated by Health Care Organizations

A Summary Report of Tackling Hunger Consultative Group Recommendations

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Executive Summary and Consultative Group Recommendations

The Tackling Hunger Project exploratory evaluation uses the Systematic Screening and Assessment Method (SSA) [1] to assess promising practices to identify and address the needs of food insecure patients[2] with chronic health conditions. The project aims to identify food insecurity interventions in which health care organizations play a substantive role – by identifying food insecure patients and connecting them with outside resources or by providing interventions themselves.

The SSA method engages an expert Consultative Group (CG) to review, score, and rank innovative programs on their readiness and capacity to undergo a comprehensive, vigorous impact evaluation. Programs are ranked high, mid, and low priority. Recommended programs undergo an onsite evaluability assessment (EA) with the intent of positioning a select number of programs for a robust full-scale evaluation. The SSA method allows researchers to identify innovative programs and build the practice-based evidence in emerging fields while providing real-time feedback to program practitioners.

High priority programs generally had a number of key program elements:

- They are multi-faceted and integrate wrap-around services to complement the primary intervention;
- They address upstream factors that result in food insecurity (such as financial insecurity and poverty) in addition to providing temporary emergency food resources;
- They represent innovative health care models with high capacity, reach, and generalizability that hold promise for being effectively scaled and replicated across the country.
- They use promising data collection methods, such as integration of program metrics on the EHR or alternative tracking systems;
- They have the ability to collect and share information across partner sites while complying with patient privacy regulations;
- They include intensive referral processes with protocols to insure services were not just recommended to patients but were received.

Mid ranked programs also held some unique and promising characteristics, but were generally not prioritized because they served unique populations, or were otherwise deemed not to be generalizable or transferable. These programs were also characterized by a lack of clarity around essential program components, with reviewers often unable to assess food insecurity screening and referral protocols. In some cases, reviewers were intrigued by the unique target population served by a program and argued

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[1] Tackling Hunger followed the SSA methodology described in: Leviton, L.C., Kettel Khan, L., & Dawkins, N. (Eds.). (2010). *The Systematic Screening and Assessment Method: Finding Innovations Worth Evaluating. New Directions in Evaluation,* 125.

[2] By patients we mean individuals who have interfaced with the health care system through acute, primary, or preventative care

[2] By patients we mean individuals who have interfaced with the health care system through acute, primary, or preventative care inpatient or outpatient settings, regardless of health insurance coverage status including former and discharged patients.

that it would be worth investigating further, but did caution that the program was likely not replicable in other populations and therefore did not put the program in the high priority tier. Reviewers also acknowledged that it could prove worthwhile to further investigate the program elements that lacked clarity through a site visit if resources allowed after conducting EAs on the priority interventions.

Low priority programs were generally thought to hold great promise, but were too new to have established data to make them evaluable. Reviewers also expressed concerns about sustainability of these programs and of investing in EAs for programs might not continue. The CG recommended checking back in six months with several programs in this tier to reconsider conducting an EA if data and capacity have been developed. The CG also suggested that, if conducting an EA on these very new programs, evaluators should consider assisting with the development of program evaluation strategies and methodologies to support program development.

Because all elements of health care and community based organization partnerships to address food insecurity are evolving at a rapid pace, the CG recommended providing evaluation resources for all 22 programs. This would ultimately provide more value to the field than conducting in-depth onsite evaluations on a small number of programs. Specifically, the CG recommended Tackling Hunger provide programs with resources on evaluation and other key program elements, provide learning and peer-to-peer sharing opportunities through webinars, and develop guidelines on program development.

PHI is exploring opportunities to fulfill the CG recommendation to provide support and resources to the larger cohort of programs identified through the SSA process by developing a Community of Practice that would provide resources, technical assistance, and facilitate peer-to-peer information sharing to build capacity of health care and community based organizations to address food insecurity and improve health.

Tackling Hunger Project Background

The Tackling Hunger to Improve Health in Older Americans (Tackling Hunger) Project is a collaboration of the Public Health Institute (PHI), the Centers for Disease Control and Prevention (CDC) and the CDC Foundation, with funding from ProMedica and the AARP Foundation. The Tackling Hunger Project seeks to find and disseminate effective strategies to address food insecurity in people with chronic health conditions. Our initial focus is on adults aged 50 years and older. The project has three interrelated components: a study on the relationship between food insecurity and health care utilization and costs; an exploratory evaluation of promising practices utilized by health care organizations[3]—often in collaboration with community partners—to identify and address the needs of food insecure patients; and development of tools to support the advancement of promising practices and policy solutions to improve food security and health outcomes.

Hunger is a health issue: 15.8 million, or 12.7 percent, of households were food insecure in 2015, according to the United States Department of Agriculture.[4] A growing body of literature illustrates how food insecurity perpetuates a cycle of poor chronic disease management and increased spending on health care.[5][6][7] Individuals who have specific dietary requirements due to their chronic disease are often forced to make tradeoffs between diet and medication, and to rely on calorie-dense, low-nutrient foods that are readily available and relatively affordable. Avoidable hospitalizations result from the inability of individuals to eat the healthy diet that would allow them to keep their conditions in check. Seven out of 10 deaths annually and 86% of health care costs are attributed to chronic disease by the Centers for Disease Control and Prevention.[8]

As a result, a growing number of hospitals, health care systems, and clinics are beginning to screen for and address the needs of food insecurity in patients with chronic disease. They are referring patients to food pantries and enrolling them in federal nutrition benefit programs, providing patients with healthy food prescriptions, delivering healthy food boxes into patient homes, and putting food pantries, farms, and gardens on hospital property and in communities. Tackling Hunger is researching and assessing these health care driven food insecurity initiatives to identify emerging best practices.

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[3] A health care organization is may be a hospital, clinic, Federally Qualified Health Center, health system, or other health care entity.

[4] Coleman-Jensen A, Rabbitt MP, Gregory CA, Singh A. Household Food Security in the United States in 2015. ERR-215 September 2016.

[5] Seligman, Hilary, Barbara A. Laraia, and Margot B. Kushel. 2009. "Food Insecurity Is Associated with Chronic Disease among Low-Income NHANES Participants." Journal of Nutrition, 140:304 -310.

[6] Laraia BA. Food Insecurity and Chronic Disease. Adv. Nutr. 4: 203–212, 2013. Presented at the symposium "Food Insecurity and Health Across the Lifespan," held at the Experimental Biology 2012 meeting, April 22, 2012, in San Diego, CA.

[7] Berkowitz S, Seligman H, Choudhry N. Treat or Eat: Food Insecurity, Cost-related Medication Underuse, and Unmet Needs. The American Journal of Medicine (2014) 127, 303-310.

[8] http://www.cdc.gov/chronicdisease/

This report describes the progress of the exploratory evaluation of these promising practices. It describes the methods that we used and the findings and recommendations of the Consultative Group (CG). The CG was comprised of a group of experts who reviewed a selected set of programs, determined which were appropriate for the next step of the exploratory evaluation, and made recommendation in general for the development and evaluation of this growing field. The findings and recommendations provided in this report will guide the next steps of the Tackling Hunger Project. The Tackling Hunger collaborative partners are currently working to secure the resources to conduct the site visit EAs and the other final steps in the SSA process (which are detailed in this report).

Consultative Group Meeting Overview

The Tackling Hunger Project Team is comprised of staff from PHI, CDC Division of Diabetes Translation (DDT) and Division of Nutrition, Physical Activity and Obesity (DNPAO), and the CDC Foundation. The project team convened a CG comprised of nine leaders in the fields of food insecurity, geriatric medicine, and health, with expertise in research, policy and programs. The CG was charged with assisting to identify promising health system interventions that address food insecurity in patient populations that are suitable for evaluability assessments[9] (EAs). The CG reviewed, scored, ranked and recommended programs for evaluability assessment in the Tackling Hunger exploratory evaluation to identify health care organizations that identify food insecure patients with chronic disease and address the needs of those patients. CG members were convened in two separate two-hour calls, with four members meeting on 23 September 2016 and five members meeting on 26 September 2016. Each meeting was convened via teleconference. In advance of the teleconference, the CG was tasked with reviewing and scoring 22 program summaries (3-5 pages in length), submitting scores on 16 indicators using an online form, submitting comments on programs and identifying questions to address during evaluability assessment. CG members reviewed each of the 22 programs and discussed them during two teleconferences. CG members discussed their assessment and ranking of programs, program strengths and weakness, and agreed on final recommendations of programs for evaluability assessment that would include site visits.

In addition to discussing program evaluability and finalizing priority rankings for evaluability assessment, the CG was tasked with identify research gaps, generating a broader evaluation agenda for the field, and identifying additional tools and resources needed by program practitioners.

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[9] An evaluability assessment is a pre-evaluation conducted to determine program readiness for evaluation based on existing data, capacity, goals, and other factors.

MEETING PARTICIPANTS – CALL #1

The first CG call on 23 September 2016 included the following CG and Tackling Hunger Project Team:

Consultative Group Members

- Steve Cook, M.D., M.P.H., Associate Professor of Pediatrics, Golisano Children's Hospital at University of Rochester Medical Center

- Jeremy Everett, M.Div., Executive Director, Texas Hunger Initiative, Baylor University School of Social Work

- Hilary Seligman, M.D., Associate Professor of Medicine and of Epidemiology and Biostatistics, University of California San Francisco School of Medicine, and Senior Medical Advisor and Lead Scientist, Feeding America

- Jung Sun Lee, Ph.D., R.D., Associate Professor and Faculty of Gerontology, University of Georgia College of Family and Consumer Sciences

Project Team

- Kevin Barnett, Dr.P.H., M.C.P., Principal Investigator, Public Health Institute

- Captain Heidi Blanck, Ph.D., Chief, Obesity Prevention and Control Branch, DNPAO, CDC

- Holly Calhoun, Project Manager, Public Health Institute

- Sandra Garcia, Ph.D., Research Scientist, Public Health Institute

- Anne Haddix, Ph.D., Principal Investigator, CDC Foundation, and Managing Partner and Senior Economist, Minga Analytics LLC

- Diane Harris, Ph.D., M.P.H., C.H.E.S, Health Scientist and Team Lead—Healthy Food Environments, Obesity Prevention and Control Branch, DNPAO, CDC

- Laura Kettel Khan, Ph.D., Senior Scientist, Obesity Prevention and Control Branch, DNPAO, CDC

- Sonia Kim, Ph.D., Epidemiologist, Obesity Prevention and Control Branch, DNPAO, CDC

- Elizabeth Lundeen, Ph.D., Epidemic Intelligence Service Officer, Obesity Prevention and Control Branch, DNPAO, CDC

- Karen Siegel, Ph.D., Epidemiologist, Epidemiology and Statistics Branch, DDT, CDC

MEETING PARTICIPANTS – CALL #2

The second CG call on 26 September 2016 included the following CG and Tackling Hunger Project Team:

Consultative Group Members

- John Cook, Ph.D., M.A,Ed., Associate Professor of Pediatrics, Boston University School of Medicine, and Senior Research Scientist and Principal Investigator, Children's HealthWatch, Boston Medical Center

- Deborah A. Frank, M.D., Director, Grow Clinic for Children and Principal Investigator, Children's HealthWatch, Boston Medical Center, and Professor, Boston University School of Medicine

- Richard A. Goodman, M.D., M.P.H., J.D., Director, Preventive Medicine Residency Program, Professor, Department of Family and Preventive Medicine, Emory University School of Medicine

- Jean Terranova, J.D., Director of Food and Health Policy, Community Servings

- Aliza Wasserman, M.S., M.P.H., Policy and Advocacy Manager, Wholesome Wave

Tackling Hunger Project Team

- Kevin Barnett, Dr.P.H., M.C.P., Principal Investigator, Public Health Institute

- Holly Calhoun, Project Manager, Public Health Institute

- Sandra Garcia, Ph.D., Research Scientist, Public Health Institute

- Anne Haddix, Ph.D., Principal Investigator, CDC Foundation, and Managing Partner and Senior Economist, Minga Analytics LLC

- Laura Kettel Khan, Ph.D., Senior Scientist, Obesity Prevention and Control Branch, DNPAO, CDC

- Elizabeth Lundeen, Ph.D., Epidemic Intelligence Service Officer, Obesity Prevention and Control Branch, DNPAO, CDC

- Bryce Smith, Ph.D., Translation, Chief, Health Education and Evaluation Branch, DDT, CDC

SSA Methodology – Steps to Consultative Group Meeting

The Tackling Hunger exploratory evaluation used the SSA methodology. CDC and others have used the SSA methods to expand practice-based evidence and conduct efficient, cost-effective, pre-evaluation of emerging innovations to identify promising practices and provide real time feedback to the field.

SSA is a six-step methodology:

1. Choose Priority Topics for Tackling Hunger SSA
2. Conduct Program Nomination Outreach and Apply Inclusion Criteria
3. Consultative Group Program Review and Rating for Evaluability Assessment
4. Conduct Evaluability Assessments
5. Consultative Group Program Review and Rating for Full Evaluation
6. Position Programs for Rigorous Evaluation, Synthesize and Disseminate Findings

This report summarizes steps 1-3 of the Tackling Hunger Project SSA, and the CG recommendations both on programs suitable for EA and on next steps to contribute to program development in the field that were made at the meetings which concluded step three of the SSA.

STEP 1: CHOOSE PRIORITY TOPICS FOR TACKLING HUNGER SSA

The two priority topics selected for the SSA, based on a review of the existing literature and in consultation with project funders and experts in the field were:

- Identifying food insecure patients with chronic disease; and
- Addressing the needs of food insecure patients with chronic disease.

Health care organization-based interventions that focus on older patients (≥50 years) and patients with chronic disease were identified as areas of particular interest. A detailed protocol to guide the steps of the SSA was developed.

STEP 2: CONDUCT PROGRAM NOMINATION OUTREACH AND APPLY INCLUSION CRITERIA

A. Nomination Outreach

Program nominations were solicited from leaders, researchers, practitioners, and other stakeholders working in the fields of health care and food insecurity via an online Survey Monkey nomination form. Requests for nominations were widely distributed through e-newsletters and electronic mailing list announcements to a variety of professional networks involved in the areas of health care and food insecurity, in addition to direct outreach to known programs, health care, and food insecurity leaders. Targeted outreach was conducted through the following networks:

- **Health care organization leaders**: America's Essential Hospitals, American Hospital Association/Association for Community Health Improvement, Catholic Health Association, The Root Cause Coalition, Stakeholder Health, Strategic Health Care
- **Nutrition and Obesity Policy Research and Evaluation Network (NOPREN) Hunger Safety Net Workgroup**

- **Government agencies and grantees**: CDC's Division of Nutrition, Physical Activity, and Obesity (DNPAO) project officers, CDC's DNPAO grantees (1416 and 1422/1305 grantees), CDC's Division of Diabetes Translation (DDT) grantees (NEXT-D Network)
- **Advocacy organization networks:** John's Hopkins Center for a Livable Future Food Policy Council Network, COMFOOD
- **Nonprofit organizations**: Feeding America, Public Health Institute, Trust for America's Health, Wholesome Wave
- **Leading researchers and practitioners** in hunger and social determinants of health
- **Health care organizations** (e.g., Ascension Health, Presbyterian Healthcare Services, Loma Linda University Health, Kaiser Permanente, Trinity Health, Dignity Health)
- **State and community organizations** implementing food insecurity programs (Oregon Food Bank)

Fifty-seven program nominations were received from 17 March to through 30 June 2016. Programs nominated themselves or were nominated by others. Inclusion criteria were applied to ensure that programs included a component that was linked to a health care organization, and that programs addressed food insecurity. Additional information and documentation was solicited from those nominated programs that met the preliminary inclusion criteria. The Tackling Hunger Project Team requested additional documentation better understand:

- The role of the health care organization in food insecurity screening and intervention;
- The screening process and tools used;
- The roles of all organizations and stakeholders involved in the program;
- How the intervention addresses the needs of food insecure patients;
- How the intervention targets people with chronic disease (if applicable);
- The target populations for the intervention (e.g. age, income, or other demographic information), the population reached or affected by the intervention, and how the intervention meets the specific needs of the populations; and
- The metrics and monitoring systems used to document outcomes associated with the intervention.

B. Application of Inclusion Criteria

Team members from PHI and CDC reviewed the program documentation. Three team members reviewed each program. Reviewers independently determined whether programs met each of three inclusion criteria:

1. Health care organization conducts screening to identify food insecure patients
2. Health care organization links the patient to a food security service or program

3. Target patient population can include adults ≥ 50 years old

The reviewers reached consensus on whether the program met each of the three criteria via discussion. If consensus was not reached, at least one additional member of the Project Team reviewed the program. When necessary, team members contacted programs for clarification if the program met inclusion criteria. Twenty-five programs met all three inclusion criteria and moved forward to the interview stage of the SSA.

C. Phone Interviews and Program Summaries

In August 2016, team members conducted one-hour phone interviews with the 25 programs that met all inclusion criteria. They used a structured interview guide that was pre-populated with previously collected documentation. The interview guide was shared with program staff in advance of the interview allowing them time to review and verify the accuracy of the pre-populated information, and to prepare responses to additional questions.

Interviews were structured to gather specific information pertaining to:

- Program objectives and activities
- Role of the health care organization in food insecurity screening and program implementation
- Target population and reach
- Food insecurity screening tools and processes
- Program stakeholders and partners
- Funding and sustainability
- Program evaluation and data collection

Team members used information from the interviews and documents provided by the programs to produce three- to five-page program summaries for review by the CG. During the interview process three of the 25 programs were determined not to meet the first inclusion criterion and were excluded from the SSA.

STEP 3: CONSULTATIVE GROUP PROGRAM REVIEW AND RATING FOR EVALUABILITY ASSESSMENT

Members of the CG were provided with blinded program summaries to review and score based on criteria below. Each program was scored by at least two members of the CG, with each member independently determining a score for each criterion. CG members rated programs on:

- Potential impact
- Reach to the target population

- Acceptability to stakeholders
- Feasibility of adoption
- Transportability/generalizability
- Initiative sustainability
- Sustainability of health effect
- Data availability and evaluation capacity
- Staff and organizational capacity to participate in an evaluability assessment
- Overall recommendation

The Tackling Hunger Project Team developed a conceptual framework to provide context and assist with determining the potential effectiveness and impact of interventions.[10] This framework provides visual overview of the negative cycle of impacts that food insecurity has on health and the types of interventions that can reverse the cycle.

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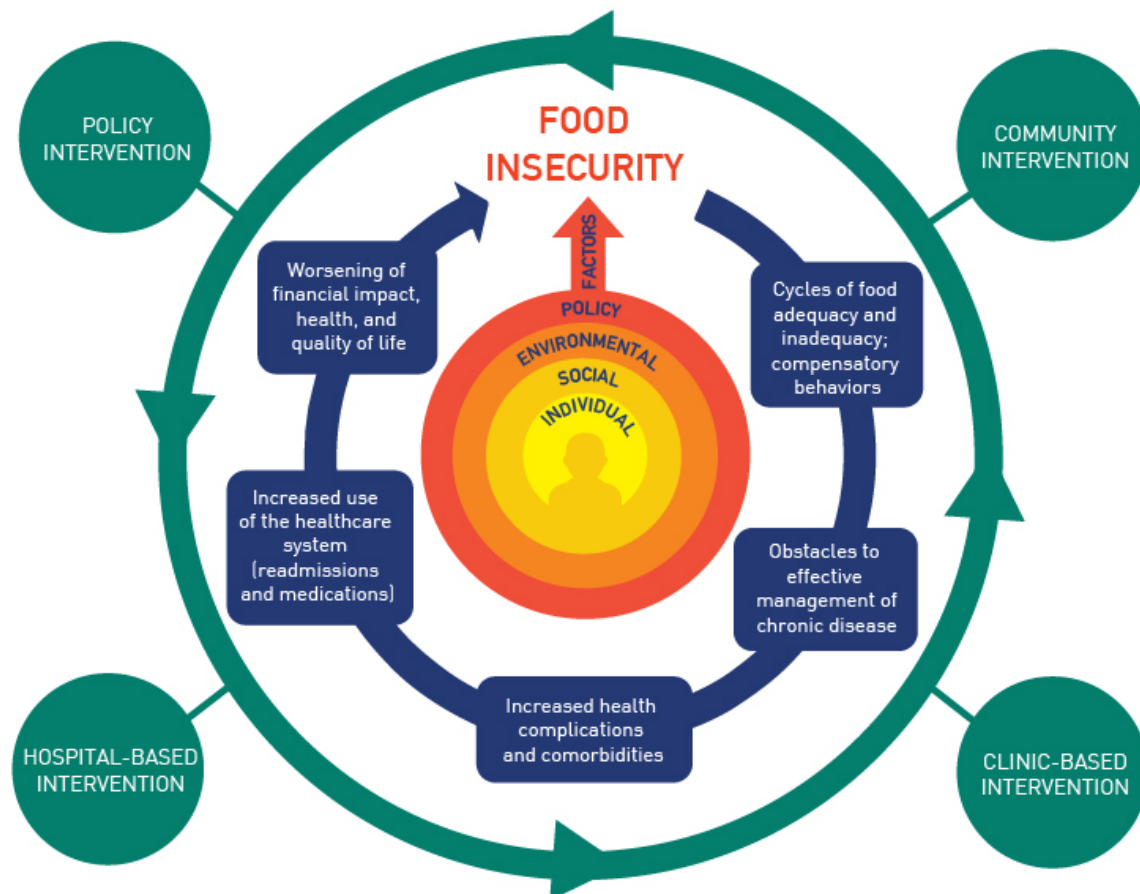
[10] The conceptual framework was adapted from a similar model developed by Hilary Seligman and Feeding America: http://www.feedingamerica.org/hunger-in-america/our-research/intervention-for-health-diabetes.

CG members submitted program review scores through an online form in advance of the meeting. Project staff prepared slides and graphs for discussion during the meeting, illustrating scores for all indicators, average scores, and highlighting any significant variance in scores for discussion during the meeting.

Consultative Group Meeting Recommendations

OVERVIEW OF PROGRAMS REVIEWED

The 22 programs reviewed by the Consultative Group (CG) included seven programs from the Northeast region[11], five from the Western region, four from the Midwestern region, three from the Southwestern region, one from the Mountain Plains region, one from the Mid-Atlantic region, one from the Southeast region.

Seventeen programs worked with nonprofit health care organizations. These included three county systems (including health systems, public health, and health services agencies), seven Federally Qualified Health Centers (FQHCs), seven academic health centers, and one community mental health center[12].

The general types of programs reviewed included:

- Onsite food pantries and food pharmacies, which may provide medically tailored
- Referral to offsite food pantries
- Fruit and Vegetable prescription programs
- Patient navigator programs to help patients access food and social service resources
- Subsidized (or free) Community Supported Agriculture (CSA) boxes
- Home delivered meals, which may be medically tailored
- Diabetes Wellness Programs that provide diabetic patients with medically tailored food boxes

Programs within each category varied significantly in operation, does size and frequency, and level of rigor. The CG considered strengths and weaknesses of programs within each category.

Programs often combined interventions or provide different services to different target populations. Many also included complementary secondary or wrap-around services including:

- Supplemental Nutrition Assistance Program (SNAP) enrollment

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[11] For the purposes of this report, we are using geographic regions as defined by the United States Department of Agriculture Food and Nutrition Service: http://www.fns.usda.gov/fns-regional-offices.

[12] Note that some programs reviewed work across or with multiple health care entities, thus the total number of health systems identified here exceeds 22.

- Financial counseling services
- Cooking classes
- Nutrition education
- Summer meals distribution
- Medicaid and/or Medicare enrollment
- Onsite farm with produce distribution

Fifteen programs used Electronic Health Records (EHRs) to screen for food insecurity, track referrals to programs and services, and track utilization of referred services. Other tracking systems that showed some promise and merit further exploration include *Efforts to Outcomes*[13] tracking software and Pathways "*Bridges to Health*"[14] screening model. Reviewers noted that the alternative tracking software holds promise for programs using EHRs that do not include food insecurity questions and have challenges with information sharing between the health care organizations and community based.

Fourteen programs have integrated food insecurity screening into their workflow (at least in some settings, populations, and/or departments).

Eleven programs used the *Hunger Vital Sign™* screening questions. Three programs used a modified version of the *Hunger Vital Sign™*, two relied on self-reporting, one used a social determinants of health survey, one used a one-question validated screener, and one program used a six-question food insecurity screener with pediatric populations.

Most of the programs began recently: four started as recently as 2016, six started in 2015, and five started in 2014. Six programs began from 2009 through 2013. One program has been in operation for approximately 10 years, one for 15 years, and one dated back to 1927.

OVERALL CONSIDERATIONS OF THE CONSULTATIVE GROUP

For determining recommendations for EAs, the CG considered several factors. These included:

- availability of data and metrics for evaluation (including information on program longevity, history and tracking processes)
- the use of food insecurity screening protocols (routine screening and validated questions)
- the use of program referral protocols (active follow up to ensure services received vs. passive referral without follow up)
- use of EHRs to integrate clinical and community components and track patients
- integration of wrap-around services and connecting with existing community resources

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[13] http://www.socialsolutions.com/case-management-software/

[14] Pathways Building a Community Production Model. Community Health Access Project. Mansfield, OH. 2016. Retrieved from: http://orsolutions.org/wp-content/uploads/2013/10/Pathways-Manual-CHAP.pdf.

- program sustainability, scalability and replicability
- leadership buy-in.

The CG expressed some concern that although the target population were adults age 50 and older with chronic health conditions, the study had been expanded to look at programs that included other age groups. It was noted that this had been done because none of the nominated programs specifically targeted older adults. One CG member pointed out that many of the programs focus on populations that include but are not limited to the older adult population. Another CG member expressed concern that the focus on older adults would rule out programs worth further examination. The CG also pointed out the importance of early interventions that are sustained throughout the lifespan in preventing chronic conditions.

The CG emphasized that there is a deep systematic association of food insecurity and negative health outcomes. Thus, while many of the programs may be beneficial and have a short term impact on food insecurity, health, and health care utilization, they are unlikely to have a significant impact on long term health outcomes. The CG recognized that food insecurity—and other social factors—need to be addressed through comprehensive policy and systems solutions. The CG urged that realistic expectations about program outcomes be set before conducting evaluations so not to discourage programs from continuing their good work. CG members felt that evaluations should illustrate the program's capacity to address food insecurity and associated health issues in their patient population while recognizing their limits. The CG called for major policy changes to address the root causes of food insecurity.

The CG also acknowledged that programs have expressed the difficulty of evaluating intervention-related health outcomes, as food insecurity is not an isolated issue, and programs alone do not provide long-term solutions to meeting food and nutritional needs. For example, programs that distribute food twice a month recognize that patients obtain most of their food elsewhere and may not be nutritionally dense or medically appropriate. CG members ranked highly those programs that offered services that addressed food insecurity including financial counseling services and the use of health navigators to connect patients to programs and longer-term support networks. The CG urged health systems to make long-term commitments to patient support programs.

The CG suggested that every program would likely show positive impacts if evaluated, and that evaluations could get more leadership support for programs. Currently it is not possible to evaluate most community-based programs because they lack appropriate metrics or baseline date. Most programs expressed an interest in better tracking metrics for evaluation, but wanted assistance determining what metrics to track and what methodologies to use. The CG also recommended evaluation resources and other technical assistance be provided to all 22 programs reviewed. They stressed the benefit of

providing these resources directly to all programs to develop the practice-based evidence base, rather than only focusing on in-depth EAs of a small number of programs.

The CG also recognized the value of the EA process. They noted several instances in which the EAs themselves could improve program design and implementation, recommending that EAs provide real time feedback to practitioners for quality improvement. Better evaluation is a topic of interest for most of the programs, particularly because evaluation is perceived as important for fundraising, program sustainability, and improving health outcomes. Some programs expressed concern that the evaluation might impose a burden on vulnerable patient populations. Resources and technical assistance for programs should take this into account and offer the maximum evaluation benefit with minimal impact on the community, program staff, and program beneficiaries.

The CG was also interested in the role the Community Health Needs Assessment (CHNA) could play in identifying the need for food insecurity programs, getting leadership and community buy-in, and funding their development. Several of the highest ranked programs had originally been created because of needs identified through the CHNA process. The CG expressed interest in learning how CHNA was used as a mechanism to facilitate program development. The CG recommended developing guidelines for food insecurity program design for hospitals that have identified food insecurity issues through their CHNA.

PROGRAM RANKINGS FOR EA

The CG were convened for two teleconferences to discuss and rank the 22 programs. On each call, the CG was presented with a graph of the overall scores of the 11 programs reviewed and a table detailing scores for each program by individual criterion, average and overall scores. CG members discussed the programs' strengths and weaknesses, and components of interest to determine their suitability for an EA. Discussion focused particularly on points of discrepancy in scores among reviewers. After discussing all programs, the CG had the opportunity to change their individual program scores, and to re-order program rankings. Instead of giving each program a precise score, the CG assigned programs to one of three tiers (high, medium, and low). Ranking programs in clusters addressed concerns about scoring and comparing complex, multi-component programs.

To prevent bias and protect programs, pseudonyms using names of national parks were assigned to each program. National park names for programs are maintained throughout this report. Program names and locations were revealed at the end of the call.

Summary of Highest Ranked Programs – Call 1

The four highest ranked programs discussed on the 1st CG call incorporated an onsite food pantry as a core component of the intervention. The models of partnering with the local food bank varied:

1. "Sequoia": Food pharmacy providing medically-tailored food onsite or nearby primary care offices serves patients referred through primary care;

2. "Rocky Mountain": Onsite food shelf and EHR generated referral to regional food bank for federal food benefit enrollment;

3. "Grand Teton": Food bank located adjacent to hospital functions as department of hospital while maintaining independent nonprofit 501c3 status;

4. "Carlsbad Caverns": Mobile food pantry serves patients referred at clinics, and provides food to community members as availability permits.

CG members were intrigued by the relationship between the food bank and health system in "Grand Teton", where an independent food bank functions as a department of the hospital and receives funding, administrative, communications and information technology support. The CG was also interested in how the relationship between the food bank and hospital could be replicated elsewhere. "Carlsbad Caverns" was noted for its ability to be replicated in a variety of settings. It also included many of the components of interest to reviewers – integration with EHR, investment by leadership, range of services for different patient needs, comprehensive screening (in some facilities), and utilizing existing community resources.

The CG did flag potential sustainability issues with three of the programs reliant on outside funding. The sustainability of these programs depends upon the regional food bank to supply food to the point of distribution, thereby dependent on the food banks resources and budget. The "Carlsbad Caverns" intervention was led by the food bank that received Community Benefit funding from the hospital (among other funding sources). Two of the four health care organizations are FQHCs; three were nonprofit health systems and one was a county health system.

Wrap-around services at "Sequoia" and "Grand Teton" included financial services counseling. The CG saw this as a strength because such services address causes of food insecurity in addition to treating the symptoms by providing emergency food. The CG favorably reviewed the "Grand Teton" and "Sequoia" Diabetes Wellness Program pilots that provide home-delivered, medically-tailored food boxes to patients with diabetes. Additional wrap-around services provided by Carlsbad Caverns included cooking classes and summer meals distribution, also seen by the CG as positive complements to the primary intervention.

Three of the four programs incorporated food insecurity screening on the EHR. Some of the clinics/settings conducted *Hunger Vital Sign™* screening as routine patient care. "Grand Teton's" health system is transitioning to a new EHR system and plans to incorporate screening as part of the roll out. The CG cautioned that the process of transitioning to a new EHR system could set the project back

beyond the anticipated roll out, based on experience with other health systems. The current screening protocols at "Grand Teton" – self-identification, observation at home visits, or identification during Medicaid enrollment – were thought to be weak.

Three programs were located in the Midwest Region, while one was located in the Western Region. Two programs – "Grand Teton" and "Rocky Mountain" – had relatively established elements with the "Grand Teton" food bank dating back to 1927 and the food shelf at Rocky Mountain beginning in 2009. Both continue to develop new interventions. Their Diabetes Wellness Programs are in the pilot stage, and "Rocky Mountain" developed an electronic referral system in 2015. The other two programs were newly established in 2015.

Key considerations and characteristics of the highest ranked programs to explore through EA include:

- Integrated models of food bank collaboration with the health care organization;
- Scalability of providing a range of wrap-around services through county health and hospital system;
- Integration of financial counseling services;
- Capacity and the potential for evaluation to build leadership support, generate funding, and build capacity;
- Sustainability, reliance on outside funding sources and food banks to provide food.

Summary of Highest Ranked Programs – Call 2

Two of the programs that ranked highest on the second CG call were fruit and vegetable prescription programs ("Biscayne" and "Redwood"). Two programs ("Great Smoky Mountains" and "Acadia") included food pantries at the health care organization. Three of the programs included patient navigator services:

1. "Biscayne": Medical Student Advocates and Social Workers connect patients with services related to social factors, including resources to address food insecurity and nutritional needs.

2. "Great Smoky Mountains": Program Coordinator connects patients to food resources including an onsite food pantry and provides SNAP enrollment assistance.

3. "Acadia": Patient navigators connect families to community resources.

The CG considered the patient navigator model to have the best ability to improve health outcomes and address food insecurity, because it connects patients to long-term resources, rather than only focusing on emergency food relief. The CG recommended further exploration of the role of the navigators and their relationship with the health system through the EA process. The CG also noted that in the case of

"Great Smoky Mountains", the program coordinator position was a strength of the program but also a vulnerability because of the reliance on one individual.

The four highly ranked programs all used strong data tracking systems. All programs used the EHR to collect data. "Great Smoky Mountains" tracked referrals to the program coordinator through the EHR, but then tracked specific patient services through the software: *Efforts to Outcomes*. The CG was particularly intrigued by the *Efforts to Outcomes* data tracking system and thought that it could serve as an interesting model for other programs, especially because many programs struggle with information sharing between the health care organization and community partners in part because of concerns over privacy and HIPPA requirements. "Biscayne" and "Redwood" also used promising systems of data tracking for fresh fruit and vegetable prescriptions redeemed at farmers markets. "Biscayne" tracked redemption of coupons on patient EHRs, allowing them to add additional services (such as cooking demonstrations) at farmers' markets with high redemption rates. "Acadia" is currently conducting an evaluation that includes rescreening patients for food insecurity. The CG thought that data from the re-screening would be particularly valuable in informing the field. The robust data tracking systems seemed to make the programs particularly evaluable to the CG, though it was noted that while some programs tracked a lot of data, they were not evaluating health outcomes.

Three programs conduct routine screening for food insecurity. "Biscayne" conducts a *Social Determinants of Health* survey, "Great Smoky Mountains" uses one screening question, which has been validated by their Chief of Pediatrics, "Acadia" uses the *Hunger Vital Sign™*, and "Redwood" verifies patient income as part of the program enrollment process after that patient has been referred by their medical provider. There was some question about how the screening question for "Great Smoky Mountains" was validated, and the level provider support for routine screening.

Two of the programs were located in the Northeast region, one in the Western region, and one in the Southeast region. Three were run by nonprofit community hospitals, and one was run by a FQHC. One program has been in operation for approximately 10 years, one started in 2012 (as an expansion of an existing program), others began in 2014, 2015, and 2016[15].

The CG expressed concern about program sustainability, particularly for programs that rely on grant funding. Programs that utilize funding through the hospital operating budget or that are reimbursed for services through Medicaid were identified as interesting models to explore further in EAs. As was the case with the onsite food pantries reviewed on the first CG call, sustainability of the programs were reliant on food banks continuing ability to obtain and supply food distributed to patients. "Biscayne" produces food for distribution to patients at an onsite farm.

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[15] Five dates are started to describe four reviewed programs because the Acadia program includes two complementary interventions that began in different years.

Key considerations and characteristics of the highest ranking programs included:

- Different screening protocols and tools;
- Data tracking methods (through EHR and other software);
- Results of existing evaluations;
- Different patient navigator models, and relationship of navigators with health care organizations;
- Funding models and program sustainability.

Summary of Mid-Ranked Programs – Calls 1 & 2

The middle ranked programs had some compelling elements that were of interest to the CG. These programs were generally characterized by a lack of information about the how various elements and components were actually being carried out. Several of these middle tier programs were of interest to reviewers, but received lower scores because they seemed unlikely to be replicable, scalable, generalizable, or transferrable. "Joshua Tree" worked with a unique target population, "Denali" was run by statewide organizations, "Olympic" was led by a farmer cooperative, "Mesa Verde" had no community partner, and "Everglades" seemed to be financially and logistically intensive. The programs seemed well run and had unique features to explore further, but the CG was cautious about recommending EA if the lessons learned from these programs may not be applied broadly in the field. For the programs that seemed adept at adapting and innovating to overcome challenges ("Denali", "Shenandoah", "Joshua Tree"), the CG recommended that EAs may help to improve some of the perceived shortcomings of the programs. Several of these mid-ranked programs also received low scores because of their lack of integration with the EHR, or a lack of interest in assessing patient health outcomes related to the intervention.

Three of the seven middle ranked programs were led by community based organizations (CBOs) rather than by the health care organizations with which that they partner. These include:

1. "Everglades": fruit and vegetable prescription (FV-RX) program that partners with all eight hospitals in the region, family/internal medicine clinics, FQHCs, the County Health Department, and other social service agencies to distribute prescriptions for fresh fruits and vegetables at 30 farmers markets and grocery stores.

2. "Olympic": health system subsidizes CSA shares through nonprofit farmer cooperative; additional health care clinics participate in the program as CSA pick-up sites, recruiting patients and members into the program and in some cases sponsoring members.

3. "Shenandoah": patients are screened and referred to a healthy food bank for food, nutrition education, SNAP application assistance, and Medicare and Medicaid enrollment.

Reviewers noted that "Everglades" fit in a category of fruit and vegetable prescription programs that were distributed by health centers rather than representing a health care initiative to address food insecurity. While the program seemed a strong example of a fruit and vegetable prescription program, it was not ranked in the top tier. However, "Everglades" represented one of the few rural initiatives reviewed and there was support from the CG that it should merit consideration for an EA for geographic diversity in the study. The CG was intrigued that a cooperative of farmers initiated the "Olympic" program, but were concerned about the lack of protocol on food insecurity screening. General confusion surrounded details about screening and referral processes in the initiatives led by CBOs, often because processes varied across health care partner sites, and because of challenges in information share between the health care entities and CBOs. These programs also generally lacked integration with patient EHRs. Both "Shenandoah" and "Everglades" rely on health councils as advisors. "Shenandoah" stood out to reviewers as having particularly strong partnerships with health care entities. In contrast to the CBO led efforts, "Mesa Verde", an onsite food pantry program at an academic health center and nonprofit safety net hospital stood out to reviewers as being internally focused without linking to community programs.

"Denali" and "Shenandoah" both impressed reviewers with their willingness to try new things and learn from their mistakes. Shenandoah tested a variety of different food insecurity screening mechanisms including verbal screening (questions asked by intake specialist, nurse, or provider), written screening (questions included on intake paperwork), and visual screening (questions on posters in waiting and clinic rooms, prompting patients to talk to their doctor if they experience food insecurity). While the visual screening method was found to be far less effective than the other methods, most reviewers were encouraged that the program was willing to try out different methodologies. "Denali" interested reviewers for its similar capacity to adapt for program improvement and try different screening strategies to better meet their program goals. This was particularly interesting because the program is run by two large, statewide organizations.

"Mesa Verde" and "Shenandoah" both shared transportation issues that were flagged by the CG. The need for patients to pick up food onsite at "Mesa Verde" twice a week, while coming from 5-10 miles away seemed cumbersome. Transportation was an issue flagged in consideration of "Shenandoah", but CG noted that this challenge seemed manageable to address.

"Joshua Tree" was of particular interest to reviewers because it is run through a Community Mental Health Center, serving a population with severe mental health issues. The CG noted that this specific target population could make the program difficult to replicate[16] – but also believed that the uniqueness of the population could make an EA particularly useful. Reviewers were skeptical that the intervention

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[16] The author notes that while this program does serve a unique population, the program contact detailed how aspects of the program could be replicated in other community mental health centers across the country during the interview.

would significantly impact food insecurity, but given the connection between mental health issues and food insecurity, were interested in learning more about the program and believed that it could be adapted to make a more significant impact. This program remained in the mid-ranked tier, but reviewers expressed strong interest in conducting EA if resources allow.

Key considerations and characteristics of mid-ranking programs to explore through EA include:

- Clarify food insecurity screening and referral protocols;
- Compare different food insecurity screening and referral protocols that have been tried;
- Unique program aspects and/or target populations;
- Application of the EA for quality improvement of program design and procedures, particularly in programs that have demonstrated ability to adapt and adjust.

Summary of Lowest Ranked Programs – Call 1

The lowest ranked programs on the first CG call were all farm CSA programs that connected patients with CSA boxes. Two programs were led by nonprofit community farms ("Kings Canyon" and "Grand Canyon"). The other program was led by an academic health center that partners with CBOs including a local farm ("Yosemite"). While each of these programs had compelling components, the CG expressed concern about the replicability and generalizability of programs that relied on local farms, noting that such programs would only thrive in areas with robust local food systems, and that there was a seasonal limitation of such programs to treat food insecurity which is a year-round issue that peaks in winter and early spring when farm based programs are most limited. The CG did note that there are many positive impacts that CSAs have on their communities, but felt that they were unlikely to significantly improve food insecurity and health outcomes in patients. The CG noted that "Yosemite" seemed to have many compelling elements, but that the program was so new (beginning in 2016), many of those elements were still in development. The CG encouraged the project team to check back on the "Yosemite" program in 6 months, but felt that it was too new to be considered for an EA at this time.

Summary of Lowest Ranked Programs – Call 2

Three of the four lowest ranked programs on the second CG call were home-delivery meal programs. "Yellowstone" provided nutritionally tailored home delivery meals for patients who were most vulnerable for hospital readmission within 30 days of discharge. While reviewers stated that it would likely be worth looking at this program more closely if resources allowed, they were concerned about its limited capacity and reach.

Three of these lowest tier programs – "Hot Springs", "Big Bend", and "Mount Rainier" – were led by CBO. "Hot Springs" was led by the local Area Agency on Aging,[17] and the other two programs were led by local food banks. "Hot Springs" received positive marks because it focuses on the elderly population, but was found to be too new for an EA, as it started in 2016. "Mount Rainier" also started in 2016 and while the CG thought the program was very promising and that the food bank had a strong understanding of the communities' needs – it was determined to be too new for an EA. The CG did recommend that assistance be considered to help the program develop an evaluation plan and methodology. The CG felt an EA would be difficult and not recommended for "Big Bend" because of the varying levels of information provided and processes followed by different providers.

Conclusion

The CG called for setting realistic expectations for attaining food insecurity and health outcomes. They stressed the need for major policy change to reduce food insecurity and associated health issues because these are deep-seated systemic issues. It was suggested that, if evaluated, all 22 programs would show some positive impact – and that programs should not be discouraged if evaluation does not show them decreasing food insecurity and long term health outcomes. There was a recommendation to explore ways to provide evaluation support to all programs. The CG suggested that the Tackling Hunger Project develop webinars on evaluation and guidelines on program development to provide support for all programs and position the maximum number for success. Such tools would give newly developing programs the ability to be able to conduct successful evaluations in the future.

Initially, the 22 programs reviewed by the CG was selected based on a focus on food insecurity in older adults with chronic health conditions. After conducting the a review, the Tackling Hunger Project Team recommended a review of the full list of 57 identified programs to assess common elements and develop learning opportunities for a larger cohort. In addition, many new programs that did not submit nominations have inquired about participation in the project. Given the interest in this field, rapid innovation, and the large number of programs that began in the last three years, we suggest soliciting further programs to participate in such a learning community, and to make information and technical assistance widely available to those developing new programs.

The project staff also recommends a review of the proposed evaluation methods. While there are strengths to the SSA methodology, because of the rapid pace of development and the large number of programs, it would be beneficial to evaluate project components in addition to conducting site EAs of full programs. Of particular interest are the components that provide the linkage between health care

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[17] The Older Americans Act established Area Agencies on Aging in 1973 to provide community-based services to adults 60 years and older including nutrition and health promotion programs with the goal of helping seniors to age independently in their homes. For additional information see: www.n4a.org.

organizations and community partners. These includes screening protocols, integration with the EHR, partnering and information sharing with community based organizations, and active program referral and follow-up processes. This would help to share practices across programs and promote new health care strategies to address underlying social factors that affect health and health care costs.

The project staff also recommends that a Community of Practice should not be limited to programs focused only on older adults. Because many programs address mixed demographics including age groups, a Community of Practice should instead focus on how strong programs elements can be effectively adapted to meet the needs of different age groups and target populations. The CG also recommended providing guidance to programs on how to utilize the CHNA as a tool for obtaining leadership and community support. The CG also recommended an evaluation of food insecurity screening and referral protocols, a review of unique program aspects and target populations, and identification of opportunities for program improvement through evaluation. Policy change and continued research on the larger systemic issues that affect food insecurity and health outcomes is also needed.

Appendices

APPENDIX A: CONSULTATIVE GROUP MEETING AGENDA

Agenda:

- Opening Remarks

- Introductions

- Project Background

- Review and Discussion of Nominated Programs

- Program Reveal/Final Selection and Recommendations

- Closing and Next Steps

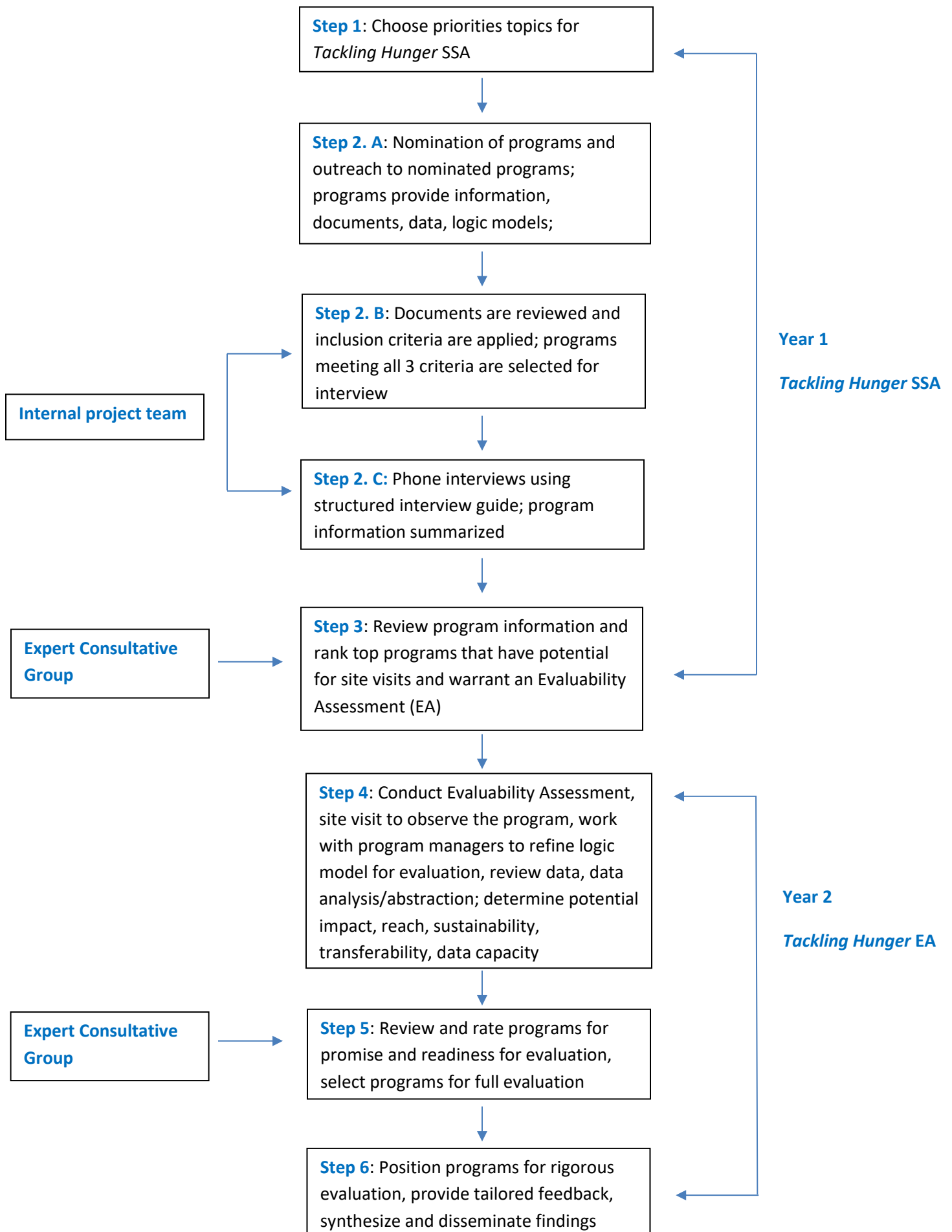## APPENDIX B: CONSULTATIVE GROUP MEMBER BIOGRAPHIES

Member Bios

Stephen R. Cook, M.D., M.P.H., is dual trained in pediatric and adult-internal medicine. After completing his residency and a chief resident year in Buffalo NY, he joined the Golisano Children's Hospital at URMC in 2001. He completed an academic pediatric fellowship there, during which time he focused on his research and clinical aspects on nutrition, physical activity, obesity and the metabolic complications that arise. He currently sees patients as part of the general pediatric practice at strong, where he also teaches medical student and residents. He also serves as an attending on the inpatient service at the Golisano Children's Hospital at URMC. Dr. Cook's research focuses on childhood and adolescent obesity from the perspective of epidemiologic research on cardiovascular risk factors to clinical studies on approaches to prevention and intervention. The first area of research is focused on Metabolic Syndrome: a cluster of metabolic and cardiovascular complications of obesity involving excess abdominal fat, elevated cholesterols, high blood pressure, insulin resistance and high blood glucose. The other area of focus is Community and Health Services Research: involving identification, screening, prevention, and management of childhood obesity.

Jeremy K. Everett, M.Div., is the founding director of the Texas Hunger Initiative (THI), a capacity-building project within Baylor University and a partner of the United States Department of Agriculture, Texas state agencies, and a number of other anti-hunger and anti-poverty organizations that develops and implements strategies to alleviate hunger through research, policy analysis, education, and community organizing. THI organizes coalitions across the state to ensure access to healthy food for all Texans. With 12 regional offices and nearly 100 staff members working with these coalitions to resource Texas communities, millions of additional meals have been served to Texans since 2009. THI consults with more than 25 other states on implementation strategies. In Jeremy's tenure with THI, he has raised nearly 30 million dollars to support faculty research, programmatic implementation, and policy analysis. Prior to THI, Jeremy worked for international and community development organizations as a teacher, religious leader, community organizer, and organic farmer. He frequently delivers presentations to churches, non-profit organizations, universities, and the government sector on the subjects of poverty, community development and organizing, hunger, and social entrepreneurship. Jeremy regularly writes for the Huffington Post and has been featured on PBS documentaries and talk shows such as Feeding Minds: Texas Takes on Hunger and Obesity. Jeremy is a Next Generation Fellow of the University of Texas LBJ School's Strauss Center for International Security and Law. Jeremy also serves on the Baptist World Alliance's Commission on Social and Economic Justice, the Aspen Institute's dialogue on U.S. Food Security and Healthcare Costs, and was recently appointed by U.S. Congress to serve on the National Commission on Hunger.
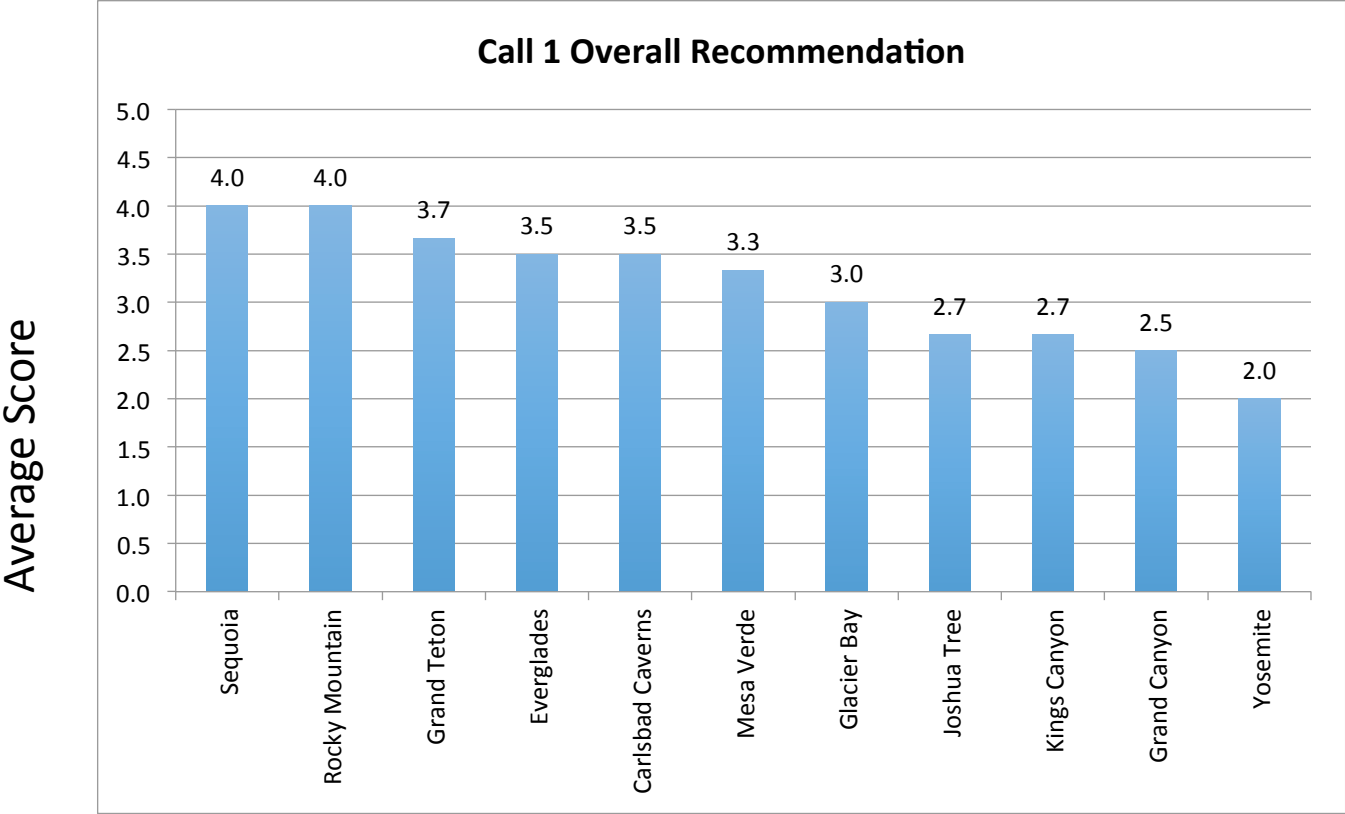
Jung Sun Lee, Ph.D., R.D., is an associate professor in the Department of Foods and Nutrition and faculty of Gerontology at the University of Georgia. She holds a doctoral degree in Community Nutrition from Cornell University, and has received additional training in geriatrics and epidemiology at the University of Pittsburgh and University of North Carolina, Chapel Hill. Dr. Lee is one of the leading researchers in the country working on food insecurity in older adults. Dr. Lee has been conducting research studies to better understand the extent, nature, and prevention of food insecurity and to improve the capacity of food and nutrition assistance programs to meet the needs of low-income older individuals, with a special focus on Supplemental Nutrition Education Program (SNAP) and Older Americans Act Nutrition Program (OAANP). Dr. Lee's work uses multidisciplinary approaches, and both quantitative and qualitative research methods.

Hilary Seligman, M.D., MAS, is Associate Professor at the University of California San Francisco with appointments in the Departments of Medicine and of Epidemiology and Biostatistics and Senior Medical Advisor and Lead Scientist at Feeding America. She directs the Food Policy, Health, and Hunger Research Program at UCSF's Center for Vulnerable Populations at Zuckerberg San Francisco General Hospital and the CDC's Nutrition and Obesity Policy, Research and Evaluation Network (www.nopren.org). Dr. Seligman is an expert in food insecurity, particularly its health implications across the life course. Her policy and advocacy expertise focus on food banking, federal nutrition programs, food affordability and access, and income-related drivers of food choice. Locally, Dr. Seligman directs EatSF, a fruit and vegetable voucher program for low-income residents of San Francisco (www.eatsfvoucher.org). She serves on the Food Security Task Force for the City and County of San Francisco. She is also a Board Member at California Food Policy Advocates and the San Francisco-Marin Food Bank. She is a Fellow of the American College of Physicians.

APPENDIX C: TACKLING HUNGER SYSTEMATIC SCREENING AND ASSESSMENT STEPS

Step 1: Choose priorities topics for *Tackling Hunger* SSA

Step 2. A: Nomination of programs and outreach to nominated programs; programs provide information, documents, data, logic models;

Step 2. B: Documents are reviewed and inclusion criteria are applied; programs meeting all 3 criteria are selected for interview

Internal project team

Step 2. C: Phone interviews using structured interview guide; program information summarized

Year 1

Tackling Hunger SSA

Expert Consultative Group

Step 3: Review program information and rank top programs that have potential for site visits and warrant an Evaluability Assessment (EA)

Step 4: Conduct Evaluability Assessment, site visit to observe the program, work with program managers to refine logic model for evaluation, review data, data analysis/abstraction; determine potential impact, reach, sustainability, transferability, data capacity

Year 2

Tackling Hunger EA

Expert Consultative Group

Step 5: Review and rate programs for promise and readiness for evaluation, select programs for full evaluation

Step 6: Position programs for rigorous evaluation, provide tailored feedback, synthesize and disseminate findings

Call 2 Overall Recommendation