Co-benefits of promoting healthy eating where children live, learn, and play: An exploration of existing literature (Preliminary findings)

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Background

- Childhood obesity intersects with eating patterns
- PSE strategies a critical ingredient
- “Co-benefits” beyond promoting healthy eating
  - Multiple benefits or synergies are terms to characterize the added benefits we get when we act to promote a specific behavior (often used in the climate change literature), above and beyond direct, intended, benefits
In 2015, Sallis et al. explored the evidence on co-benefits of activity-friendly environments and found substantial evidence that designing community environments that make physical activity attractive and convenient is likely to produce additional important benefits.
This review aims to explore the literature across the following four settings and sectors:

- Early care and education (ECE),
- School and after school (including summer months),
- Community-at-large, and
- Health care;

For eight potential co-benefits: (1) academic (including child development related outcomes), (2) behavioral (focusing on dietary intake), (3) economics (at the individual level such as poverty alleviation and at the community level such as economic development and job creation), (4) environmental sustainability (or planetary health), (5) food insecurity, (6) health (focusing on weight status or BMI), (7) health equity and (8) social emotional benefits.

We discuss knowledge gaps and opportunities, along with implications for research, policy, and practice.
Methods

- Informed by the ecological principles of multiple levels of influence on behavior and interactions across levels as put forth by Story et al. (*Annu Rev Public Health*. 2008;29:253-272), thought leader input from academic, government, and advocacy sectors (n=20)
- Sought librarian consultation for exploring the literature
- Reviewed input garnered from an exercise focused on co-benefits led by Healthy Eating Research (HER), a national program of the Robert Wood Johnson Foundation (RWJF), at their 2019 annual grantees meeting
- Used search terms specific to each of the four prioritized settings and sectors were developed
- Conducted searches July through December 2019 and then updated during July and August 2020
- Search engines included: The Cumulative Index to Nursing and Allied Health Literature (CINAHL), Education Resources Information Center (ERIC), PsychINFO, and PubMed
- Google Scholar and Google were also used for more targeted searches in emerging areas such as healthcare where the evidence base was not as extensive
- Using an umbrella review where possible, we focused on systematic reviews, or, if needed, other forms of review of the literature
- Where systematic reviews were not available, we used a narrative review to synthesis available primary literature and, if needed, gray literature, focusing on reports from credible authors such as government agencies, academic centers, and selected advocacy groups
- Data extraction focused on the relevant co-benefit(s) described, PSE strategies used, and implications for research, policy, and practice
- Inter-rater reliability was used for coding ECE (RS, SBN, SF), school (SF, MR), community (WIC) (SF, AM), and healthcare (SF, PP), with high levels of agreement
No direct evidence of the impact of healthy eating interventions in ECE settings on food security was identified.

However, there is some research demonstrating that exposure to federal nutrition assistance programs, such as WIC, may play a protective role against overweight and obesity when food insecurity is present.

There is also evidence that fruit and vegetable intake is lower among food-insecure children, suggesting that ECE settings may play a key role in establishing healthful dietary patterns early in life and reducing negative health outcomes in children experiencing food insecurity.

Future research is needed to determine the potential impact of healthy eating interventions in ECE settings on food security in young children, as well as the long-term impact of food insecurity on obesity.
School – Food Security Findings

- One review focused on the CEP literature found promising evidence for benefits for reducing student food insecurity

- A variety of primary studies and reports have examined the association between food insecurity, federal nutrition assistance, and/or weight status
  - As one example, the USDA Economic Research Service reported most studies of the NSLP, SFSP, and CACFP found the programs were associated with significantly lower rates of food insecurity for households with children

- Strengthening the public health impacts of federal nutrition assistance programs (NSLP, SBP, SFSP/SSO) show great promise, including innovative provisions like CEP
Healthcare

- Behavioral (n=11 reviews)
  - Integrated health & nutrition programs
  - Baby-Friendly Hospital Initiatives
  - Early-feeding interventions
  - Universal cholesterol screening for children

- Health (n=2 reviews) & Economics (n=1)
  - Community Health Benefits Program
  - Growing literature regarding pediatric weight management

- Food insecurity (n=1 review)
  - Increasingly focusing on their role in addressing SDOH

- Environmental sustainability
  - Emerging initiatives
Using PSE approaches to improve healthy eating from early infancy through adolescence within hospitals and the healthcare sector shows promise.

- Particularly for increasing breastfeeding initiation and duration.
- Allied health professionals are key champions in demanding this type of work and in effective implementation.
- Federal policy through the IRS community benefits mandate and the HRRP have encouraged hospitals to explore their role in addressing food insecurity and promoting healthy eating within their building and the broader community they service.

- More work remains to strengthen community engagement at the patient and key community organizational levels.
- This work could potentially include better connections between hospitals and healthcare sectors with local, state, and tribal food policy councils.
Raising the Next Generation

Student reflections on HER NOPREN internship from Pooja Patel, BS Candidate, Temple University

<table>
<thead>
<tr>
<th>Source Name</th>
<th>Title</th>
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<tbody>
<tr>
<td>CINAHL</td>
<td>A systematic review of structured compared with non-structured breastfeeding programmes to support the initiation and duration of exclusive and any breastfeeding in acute and primary health care settings.</td>
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<tr>
<td>CINAHL</td>
<td>A systematic review to evaluate the effectiveness of interventions to promote the initiation of breastfeeding.</td>
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<tr>
<td>CINAHL</td>
<td>Barriers to Breastfeeding in the WIC Population.</td>
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<td>CINAHL</td>
<td>Design of the Massachusetts Child and Obesity Research Demonstration (MA-CORD) Study.</td>
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<tr>
<td>CINAHL</td>
<td>Effect of educational and support interventions on long-term breastfeeding rates in primiparous women: a systematic review and meta-analysis.</td>
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<tr>
<td>CINAHL</td>
<td>Effects of healthcare professional delivered early feeding interventions on feeding practices and dietary intake: A systematic review.</td>
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<tr>
<td>CINAHL</td>
<td>“Going green” in food services: can health care adopt environmentally friendly practices?</td>
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<tr>
<td>CINAHL</td>
<td>Impact of the Baby-Friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review.</td>
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<tr>
<td>CINAHL</td>
<td>Mapping the implementation of evidence-based nutrition management in primary health care settings: a mapping review protocol.</td>
</tr>
<tr>
<td>CINAHL</td>
<td>Measuring the impact and outcomes of Maternal Child Health Federal Programs.</td>
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**Food Security (n=1)**

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<thead>
<tr>
<th>De Marchis et al.</th>
<th>Food insecurity</th>
<th>Health care-based interventions designed to reduce food insecurity</th>
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<td></td>
<td>- Studies of referral-based interventions reported moderate increases in patient food program referrals and resource use.</td>
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<td>- Studies describing interventions providing food or vouchers reported mixed results for actual changes in fruit and vegetable intake, averaging to no impact when pooled.</td>
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<td>- Few studies evaluated health or utilization outcomes but these generally reported small but positive effects.</td>
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<td>- The low number and low quality of studies limit inferences about their effectiveness.</td>
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**Economics (n=1)**

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<tr>
<th>Rozier et al.</th>
<th>Community benefit</th>
<th>Affordable Care Act community health benefits program</th>
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<td></td>
<td>- Literature appeared around several topic areas: governance; CHNA and CHIP process, content, and impact; community programs and their evaluation; spending patterns and spending influences; population health; and policy recommendations.</td>
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<td>- The plurality of literature centered on spending and needs assessments, likely because they can draw upon publicly available data.</td>
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<td>- The vast majority of articles in these areas use spending data from 2009 to 2012 and the first cycle of CHNAs in 2013.</td>
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<td>- Policy recommendations focus on accountability for impact, enhancing collaboration, and incentivizing action in areas other than clinical care.</td>
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<td>- Longitudinal studies on needs assessments and spending patterns would help inform whether organizations have changed and improved operations over time.</td>
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**American Academy of Pediatrics**

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Welcome questions & input!
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