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A Capstone Report

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Chapter I - Introduction

The Farm to Table (F2T) program distributes locally grown produce to participating preschools and out-of-school time programs throughout Seattle. The programs and preschools involved in the F2T program are collectively referred to as childcare centers. The main purpose of the F2T program is to alleviate health disparities among low income, preschool-aged children of color through increased access to fresh, local foods. The F2T program also aims to positively influence local farm businesses, childcare center's ordering and meal preparation, and family engagement in cooking and gardening. This capstone project, developed together by the F2T team and the MPH Capstone student, is a needs assessment to better understand the current use of the F2T program, the strengths of the F2T program, and barriers that farmers and childcare providers face while using the F2T program. Additionally, the MPH Capstone student identified family perceptions of the F2T program and desired foods.

The objectives of this project were to:

- Perform a literature review to describe F2T programs nationwide and inform evidence-based F2T program recommendations.
- Develop a current description of the Seattle F2T program to inform recommended resources for efficiency and growth of the F2T program.
- Conduct a needs assessment to understand the motivations for participation and strengths and barriers to implementation and maintenance of the F2T program for the participating childcare providers, families, and farmers.
- Develop recommendations for the F2T program to support stakeholder engagement and program efficiency. The recommendations will reflect the experiences and needs of the childcare providers, families, and farmers along with the current strengths of the Farm to Table program.

The F2T program can utilize the results and recommendations of this needs assessment to maximize access to fresh, local foods for preschool-aged children.

Chapter II: Description of Population Served by the F2T Program

The F2T program target population is preschool-aged children of color from low income households in Seattle. There are significant economic disparities within the city of Seattle by neighborhood and race/ethnicity. The F2T program aspires to reduce these disparities by providing additional resources and services to low income children of color, focusing on youth programming in neighborhoods where poverty is concentrated. Income levels are not evenly distributed throughout the city of Seattle, with poverty concentrated in the southern areas of the city.¹ In addition to these regional income disparities, there are significant economic disparities by race/ethnicity, with people of color more likely to live in poverty.² Income and race/ethnicity are closely linked to adverse health outcomes such that people living with lower incomes have a higher risk of mental distress, cardiovascular disease, diabetes, and obesity.³⁻⁵ To mitigate these health disparities, the F2T program targets preschool-aged children of color from low income households.

Preschool-aged children

The F2T program is one of many Seattle programs that serve preschool-aged children. The City of Seattle collaborates with Seattle Public Schools to facilitate the Seattle Preschool Program. Twenty Seattle schools participate in the Seattle Preschool Program offering affordable preschool to 3-4 year-old children. Additionally, the Seattle Public Schools facilitates the federally funded Head Start program, which is a half-day or full-day program for children from low income households. Seattle Public Schools also offers Early Childhood Special Education or Developmental Preschool for children who live with a disability that impacts educational performance. Community based providers offer preschool or before and after school programs for a variety of ages including preschool-aged children.⁶ In 2017, about 12,000 children were enrolled in preschool in Seattle, and approximately 10 percent of those children came from a

household with an income below the poverty level.⁷ The F2T program works to augment the benefits of these programs, by providing fresh farm foods to children in some of these programs.

Who are these households?

In 2017, about 11% of Seattleites were living with an income below 100% of the federal poverty level, which is less than \$24,600 per year for a family of four.⁸ About 20% of people living in Seattle were living with an income less than 200% of the federal poverty level, which is less than \$49,200 annually for a family of four.⁹ More specifically, 17% of families with at least one child under 5 years of age were living with income below the poverty level.¹⁰ This 17% of Seattle families with a least one preschool-aged child is who the F2T program hopes to reach. Below, Figure 1 illustrates how this poverty is highly concentrated in the southern areas of Seattle.

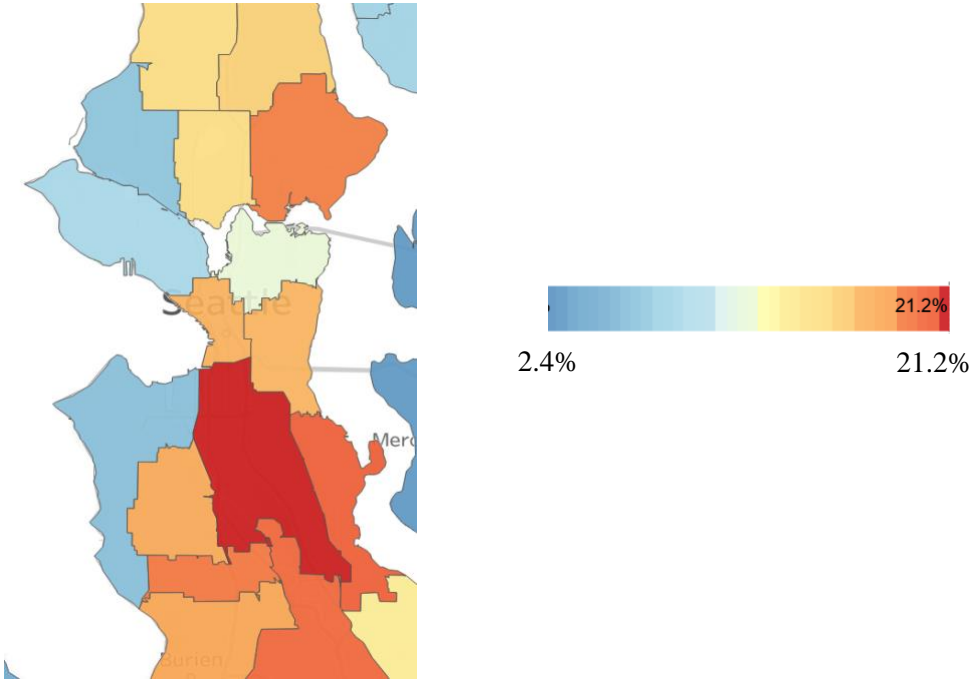


Figure 1. Percentage of individuals with income less than 100% of the federal poverty level by Seattle neighborhood (2012-2016).⁸

Of these individuals and households living in poverty, a disproportionate number are people of color. As shown in Table 1, people of color are more likely to experience any level of poverty compared to non-Hispanic Whites.

Table 1. Percent of individuals in Seattle, WA with individual income below 50%, 100% and 125% of poverty level distributed by race and Hispanic/Latino status.¹¹

Race	<50% of Poverty Level	<100% of Poverty Level	<125% of Poverty Level
Non-Hispanic White	4.3%	8.6%	10.6%
Non-Hispanic Black or African American	14.5%	32.1%	39.0%
Non-Hispanic American Indian or Alaska Native	20.4%	36.7%	38.5%
Non-Hispanic Asian	10.3%	17.1%	20.2%
Non-Hispanic Native Hawaiian and Other Pacific Islander	9.4%	28.6%	35.4%
Hispanic or Latino Origin (of any race)	8.4%	17.5%	21.8%

Bureau USC. American FactFinder - Results.

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_S1703&prodType=table.

Accessed November 11, 2019.

Income and race/ethnicity are associated with health outcomes. Having a lower income or being a person of color is associated with higher rates of mental distress, obesity, cigarette smoking,^{3,4} and chronic diseases such as diabetes or heart disease.^{3,5} Specifically, in King County

from 2011-2015, individuals with an income less than \$15,000 per year were four times more likely to have mental distress, were more likely to be obese, and were four times more likely to be current smokers compared to individuals with an income of \$75,000 per year or more.⁴ Additionally, Hispanic/Latino King County residents were more likely to experience mental distress, Black/African American, Hispanic and American Indian/Alaska Native residents were more likely to have obesity, and Black/African American and American Indian/Alaska Native residents were more likely to smoke when compared to King County residents overall.⁴

In an attempt to alleviate these economic and racial health disparities and address structural inequalities that contribute to these disparities early in the life course, the City of Seattle identified preschools and out-of-school programs with majority preschool-aged students of color from low income households to participate in the F2T program.

Chapter III: Description of Nutrition Issue of Focus

Individuals and families with lower incomes struggle to purchase basic necessities such as food. The inability to purchase adequate food due to limited resources is defined known as food insecurity.¹² By providing access to fresh produce, the F2T program aims to increase food security and decrease health disparities among preschool-aged children. Many factors contribute to food insecurity such as income, neighborhood, and social and cultural norms. Food insecurity is associated with compromised diet quality, specifically fruit intake, in children.¹³ Additionally, evidence shows that food insecurity for children under 18 is associated with adverse health outcomes, and food insecurity for preschool aged children is associated with poor academic performance.^{14–18} Research has shown that free and reduced priced meals in schools, and healthful snacks and meals served to children in schools, significantly reduce food insecurity among children, and significantly increase diet quality.¹⁹ There is some evidence that gardening lessons may benefit child food security.^{20–22} There is limited evidence on specifically preschool-aged children's dietary quality, health outcomes, academic performance, and school meal programs. However, these findings from children aged infancy to 18 include preschool aged children and are still valuable when considering approaches to alleviate the impacts of food insecurity in preschool aged children.

Food insecurity and Diet Quality

High rates of food insecurity exist for Seattle families with children. In 2017, 22% of Seattle families with children of any age struggled to afford food.²³

There are many contributors to food insecurity including the availability of healthy foods, the accessibility of healthy foods, the affordability of healthy foods, the accommodations of food sources in the area, and the acceptability of foods offered.²⁴ An individual's physical, household, and social environments additionally contribute to food insecurity.

The 'availability' of healthy foods is defined as the sufficiency of the amount of healthy foods, while the 'accessibility' of healthy foods refers to the geographic convenience of healthy foods. One's physical environment impacts the accessibility of food. There is some evidence to show that the food environment, such as an individual's proximity to an affordable and acceptable grocery store, is associated with diet quality.²⁵ Research also shows that a concentration of unhealthy food options (or a food swamp) is significantly associated with obesity. ²⁶ One study found that adding a supermarket to an area with limited availability and access to healthy food (or a food desert) resulted in net positive changes in diet quality.²⁷ Healthy food availability and accessibility in Seattle is inequitable. For example, Seattle neighborhoods have disparities on transport time to the nearest grocery stores. Figure 2 demonstrates the travel times to healthy food retailers, such as grocery stores, based on location. The neighborhoods that take longest to commute to a healthy food retailer are predominantly Seattle's lower-income neighborhoods, and align with a greater percentage of individuals with income less than 100% of the federal poverty level shown in Figure 1.

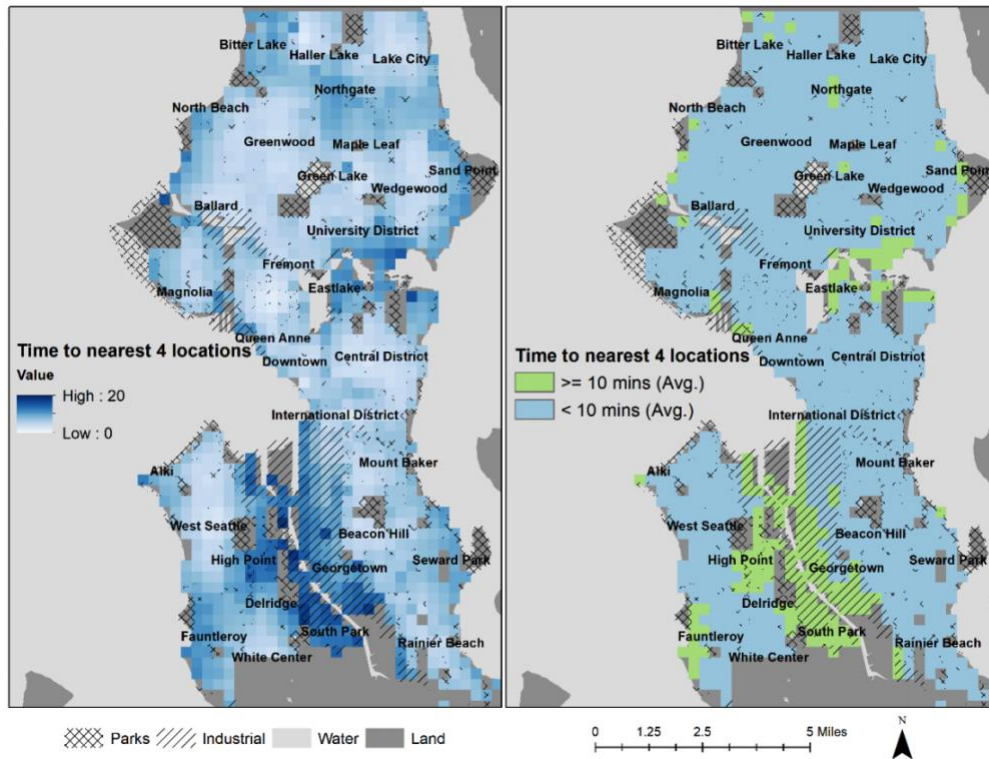


Figure 2. Travel time to the four nearest healthy food retailers in Seattle. The left image shows the longest travel time in minutes to the four nearest healthy retailers, one way. The image on the right shows the areas where it takes less than or greater than ten minutes to travel to the four nearest healthy retailers. Figure from the Healthy Food Availability & Food Bank Network Report 28

The ‘affordability’ of healthy foods is defined as the cost of food and the perceived value of those foods relative to cost. Household income and food budget directly impacts the affordability of food. Children living in households with low incomes are significantly more likely to be food insecure than children living in households with a higher income.²⁹ If individuals or families depend on SNAP or WIC funds, this may also impact the accessibility of foods by requiring use at certain grocery stores and/or affecting the timing that funds are available.²⁴ Furthermore, nutrient-rich foods like fresh vegetables and fruits are generally more expensive than energy-dense foods.³⁰ Energy-dense foods have a high calorie to weight ratio, and often low-cost energy-dense foods contain large amounts of added sugar and provide little nutritional value, such as soda. This disparity in cost directly impacts the affordability of nutrient-dense foods.

The ‘acceptability’ of healthy foods is defined as foods that are culturally important or are familiar. The social and cultural environment determines a level of acceptability of foods. The social and cultural environment can also compromise food acceptability if WIC and/or SNAP products do not meet buyer needs, or if the use of such programs is associated with shame.²⁴

Because healthy foods are less available, accessible, affordable, or acceptable for food insecure individuals or families, food insecurity can compromise dietary quality. While food insecurity in adults is associated with poor diet quality, evidence shows that for children, living in food insecure households food insecurity is associated with a slightly better diet quality than that of adults in food insecure households.¹³ However, evidence shows that these children tend to consume fewer fruits than their food secure counterparts.¹³

Food insecurity is not the only factor affecting dietary intake. Income level, race/ethnicity, and education level also play a role in dietary quality and intake.³¹ Generally, diet quality improves with increasing income and education level.³¹ The disparities among race/ethnicity, income levels, and education levels for dietary intake are widening. Wang et al. noted a steady increase in diet quality for the US population from 1999 to 2010; however, the improvements were greater in those with a higher socioeconomic status, and thus diet quality disparities increased based on income.³²

Health and Academic Outcomes in Preschoolers

Preschool-aged children are particularly vulnerable to the effects of poverty and food insecurity on educational and health outcomes. Miller and Korenman found that among children aged infancy to nine years, living in a household in poverty was associated with low height for age (stunting) and low weight for height groups (wasting).¹⁷ Additional evidence suggests that food insecurity in children under the age of 18 is associated with other adverse health outcomes such as poor oral health, asthma, lower nutrient intake, anemia, and poor general health ¹². Through a systematic review, Shankar et al. found that food insecurity in preschool-aged children was associated with adverse behavioral outcomes and anxious and depressed moods.¹⁸ The poor health outcomes related to food insecurity also contribute to higher healthcare utilization and costs, placing further economic pressure and burden on low income, food insecure families. ^{33,34}

Not only does poverty influence the physical and mental health of preschool-aged children, but poverty and food insecurity are associated with poor academic outcomes in preschool-aged children. Brooks-Gunn and Duncan found that poverty during preschool/early childcare years has the strongest association with low rates of high school completion, when compared to poverty at later ages.¹⁴ Low height for age scores, which are more common for children living in poverty,¹⁷ are associated with less schooling, lower testing performance, and increased probability of living in poverty as an adult.¹⁵

The Role of School Meals in Diet Quality

Schools provide a consistent source of meals to children and play an important role in food access and diet quality for children. Participation in school meal programs such as the National School Lunch Program and Free and Reduced Price Meal Program is associated with improvements in household income and food security for children in pre-kindergarten,³⁵ and decreased risk of food insecurity during the school year.³⁶ Mansfield and Savaiano suggest that increasing access to healthy foods during school meals improves children's diet quality.²⁰ Not only does improvement in diet quality contribute to decreased risk of chronic diseases,³⁷ but improved diet quality also contributes to higher academic performance.³⁸ Other interventions, such as nutrition and gardening education in schools, have shown to improve fruit and vegetable intake and academic outcomes as well.^{21,22} While some evidence on school meal programs does not involve preschool aged children, it is assumed that the evidence in school meal programs has valuable implications for preschool programs.

Chapter IV: Description of F2T Program

The following chapter offers a description of the F2T program in Seattle, WA to explain the F2T program and satisfy the overall objective of:

- Develop a current description of the Farm to Table program in Seattle to inform recommended resources for efficiency and growth of the Farm to Table program.

Purpose of F2T

Knowing that preschool-aged children are particularly susceptible to the effects of poverty and food insecurity on health and educational outcomes, the main purpose of the F2T program is to provide access to local, fresh, culturally important produce to low income preschool-aged children with the goals of reducing health disparities, food insecurity, and boosting the local farm economy. The F2T program is rooted in the following values and principles:

- community connection,
- health equity,
- appreciation for farm workers,
- honor the land our food comes from,
- respect for culture and tradition,
- enjoy and celebrate food, and
- resilient and regenerative practices.

Who participates in F2T programming?

To reach preschool-aged children of color from low income families, the F2T program serves both preschools and out-of-school programs. The F2T preschool and out-of-school programs host children of all ages with the large majority of the programs being preschools. The F2T program refers to these participating preschool and out-of-school programs as childcare sites/centers/programs.

F2T Process

The F2T program works with local farmers to provide locally grown and produced foods including fruits, vegetables, meats, dairy products, grains, and “value-added” products made from local ingredients to childcare centers and offers gardening and cooking education to children and their families. The F2T team is made up of many partners including Farmstand Local Foods, which functions as the main distributor between farms and childcare centers; Tilth Alliance and Solid Ground, which create and implement gardening and cooking lessons with families and children; and Nourishian for Life who provides technical support and training for childcare staff. A visual depiction of the overall F2T program process is shown in Figure 3.

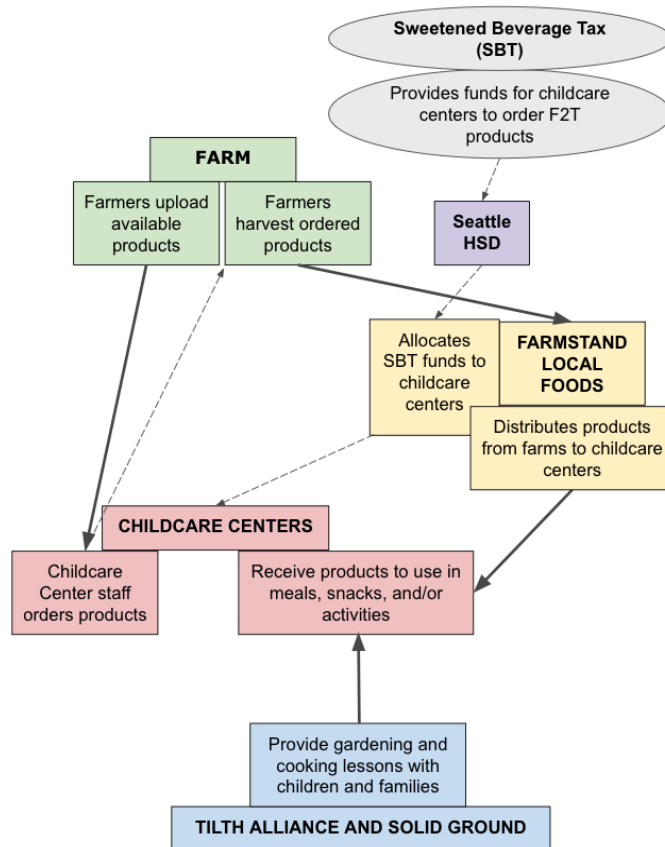


Figure 3. The F2T program process. The processes that involve local products and information are represented by solid arrows. The flow of funds is depicted with dotted arrows.

F2T Farmers

The F2T program works with over 40 small-scale farmers with a focus on King and Snohomish Counties. The farms are selected based on location and size, and the farmers partner with Farmstand Local Foods. The F2T program directly supports local farmers by providing funds to childcare centers to purchase products from local farms. Through Farmstand Local Foods, the F2T program offers local farmers a means to distribute products throughout Seattle so that fresh, local food can reach and support communities that may have limited access otherwise.

F2T Childcare Centers

The City of Seattle currently enrolls 67 childcare centers in the F2T program. The Seattle Human Services Department (HSD) prioritizes preschools and out-of-school time programs which serve low income children. The Seattle HSD provides funding to the F2T program through the Sweetened Beverage Tax (SBT).

F2T Distribution (Farmstand Local Foods)

Once Farmstand Local foods receives the SBT funds from Seattle HSD, Farmstand Local Foods allocates the funds to childcare centers to be used exclusively for food purchasing through the F2T program. The funds are allocated to the childcare centers based on the number of children served. Farmstand Local Foods maintains an online ordering platform for farmers to upload seasonally available products and childcare center staff to place weekly orders. Farmstand Local Foods distributes the ordered products from the farms to the childcare centers.

Cooking and Gardening Activities

The F2T program offers environmental, gardening, and cooking lessons to children and the children's families. Americorp Volunteers with Solid Ground and dedicated nutrition educators with Tilth Alliance create and implement these lesson plans with the children and their families. Childcare centers also have access to the urban farms owned and maintained by Tilth Alliance and Solid Ground. These urban farms, known as Rainier Beach Urban Farm and Wetlands and Marra Farm, provide a means for children to visit farms without leaving the city.

Chapter V - Existing Resources for the F2T Program and Population

Resources for the F2T Program

There are several resources available to the F2T Program to promote nutrition education and increase access to affordable, local foods for low income families and children in Seattle. Some resources directly influence the F2T program process such as the Child and Adult Care Food Program, the National Farm to Table Network, Washington State Department of Agriculture and the Sweetened Beverage Tax.

Child and Adult Care Food Program (CACFP)

The CACFP is a federal program within the U.S. Department of Agriculture (USDA) that provides reimbursement for meals and snacks to participating childcare centers, day care homes, and adult care homes.³⁹ The CACFP develops and enforces regulations for reimbursable snacks and meals including locally sourced foods. In addition to creating regulations for local food procurement in childcare programs, the CACFP also offers many resources for starting and implementing local food procurement in programming.³⁹ Many of the F2T childcare sites participate in CACFP.

National Farm to School Network

The National Farm to School Network houses information and networking opportunities for all farm to school programs nationwide with the mission “to increase access to local food and nutrition education to improve children’s health, strengthen family farms, and cultivate vibrant communities.”⁴⁰ These programs include elementary, middle, and high schools, after school programs, and early child education programs that participate in farm to school activities. The National Farm to School Network provides resources for beginner and experienced farm to school programs across the United States.⁴⁰ In addition to classroom education and local procurement strategies, the National Farm to School Network offers consultation services to strengthen Farm to School programs through training, technical assistance or program evaluations.⁴¹ Additionally, the National Farm to School Network has started an initiative, Seed

Change, that supports the growth and long term sustainability of farm to school programs nationwide. ⁴² The National Farm to School Network provides many resources for local procurement, in-class education, and consultation services as desired.

Washington State Department of Agriculture (WSDA) Farm to Preschool Program

The Washington State Department of Agriculture (WSDA) Farm to Preschool Program exists as the state level resource hub for Farm to School programs in Washington state. The WSDA Farm to Preschool Program encourages childcare and preschool programs to incorporate nutrition and gardening education and to improve the quality of foods served for snacks and meals. The WSDA Farm to Preschool Program offers resources for local food procurement in Washington state, in-class curriculum, potential cooking activities, menu planning with seasonal foods, and food safety.⁴³

Sweetened Beverage Tax (SBT)

The City of Seattle imposed a sweetened beverage tax (SBT) in 2018. Distributors are responsible for paying an extra \$0.0175 per ounce on sweetened beverages for retail sale in Seattle.⁴⁴ The purpose of the sweetened beverage tax revenue raised is to increase access to healthy, affordable foods, close the food security gap, help high school students enter college, and expand public services to the birth to five population. To achieve these goals, the proceeds from this tax are allocated to programs involved in public health, nutrition education, alleviating food security gap, and improving access to affordable, healthy foods.⁴⁵ The SBT is the main source of funding for the F2T program.

Resources for families and children who participate in the F2T program

Other resources offer local food access to low income children and families alongside the F2T program. These programs include the Good Food Bag Program, the Supplemental Nutrition Assistance Program, and the Supplemental Nutrition Assistance Program for Women Infants and Children, among others.^{46,47}

Good Food Bag Program

Tilth Alliance coordinates the City of Seattle Good Food Bag program. This program provides a weekly or biweekly bag of produce to low income families or families with limited access to fresh produce. Families purchase the ten dollar bag of local produce for five dollars with cash, credit card, or EBT card. The participants pick up the bag at one of the 20 designated locations. Not only does the Good Food Bag program provide local, fresh produce at an affordable price, but also the Good Food Bag program supports local farm business.⁴⁸ Many families of children in the F2T program also participate in the Good Food Bag program.

Supplemental Nutrition Assistance Program (SNAP)

The Supplemental Nutrition Assistance Program (SNAP) is a federal program administered through the United States Department of Agriculture. SNAP provides monthly food purchasing funds to low income individuals and families to reduce food insecurity and improve diet quality. Program eligibility and allocations depend on household income and work status, family size, and citizenship status.⁴⁹ In 2016, there were 190,799 SNAP benefit recipients in King County, Washington.⁵⁰ In addition to receiving a monthly food stipend, individuals and families who participate in SNAP are also eligible to receive nutrition and cooking education through SNAP-Ed.⁵¹

Supplemental Nutrition Assistance Program for Women Infants and Children (WIC)

The Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC) is a federal program administered through the US Department of Agriculture. WIC provides funds to low income, nutritionally at risk pregnant women, breastfeeding women, and children under five. Program eligibility depends on household income, residency, and nutritional risk. Like SNAP, WIC provides a monthly stipend that is meant to supplement their diets. WIC also provides breastfeeding support, and for those mothers who are unable to breastfeed, WIC provides iron fortified infant formula.⁵² If deemed of nutritional risk, preschool-aged children in the F2T program are eligible to receive benefits from WIC.

These are only a selection of food resources available to low income families and children in Seattle. Many other resources exist for this population in addition to those listed here.^{46,47}

Chapter VI - Needs Assessment of the Seattle F2T Program

The following chapter describes the needs assessment performed by the MPH Capstone student. This chapter consists of three sections, Methods, Results, and Literature Review to satisfy the following two overarching goals of this project:

- Perform a literature review to describe Farm to Table programs nationwide and inform evidence-based recommendations.
- Conduct a needs assessment to understand the motivations for participation and strengths and barriers to implementation and maintenance of the Farm to Table program for the participating childcare providers, families, and farmers.

Methods

The MPH capstone student conducted a needs assessment of the F2T program in Seattle, Washington. A needs assessment is “a systematic approach to identifying community needs and determining program capacity to address the needs of the population being served.”⁵³ The F2T team requested a needs assessment to better understand the strengths and barriers to program use for participants. This needs assessment provides insight into assets and areas of improvement of the program, which may inform future action.

Goals and objectives of the needs assessment were created in collaboration with F2T team. The overarching goal of the needs assessment was to understand the motivations for participation and strengths and barriers to implementation and maintenance of the Farm to Table program for the participating childcare providers, families, and farmers.

The study objectives include:

1. *Develop an inventory of the current resources available for, activities used for, and engagement in the Farm to Table program.*
2. *Ascertain motivations and goals of farmers and childcare partners who participate in the Farm to Table program.*

- 3. Determine strengths and successes to implementing the Farm to Table program for the farmers and childcare partners.*
- 4. Determine barriers to implementing Farm to Table activities for the farmers and childcare partners.*
- 5. Determine the importance and knowledge of the Farm to Table program for the parents/guardians.*
- 6. Assess the parent/guardian satisfaction with the availability of culturally relevant foods in childcare centers.*

Interviews with F2T Childcare Partners

Participant Sample

Interview participants included program directors, executive directors, and cooks at the F2T childcare programs. The F2T team introduced the interview participants to the MPH capstone student via email. After the introductory email that stated the purpose of the interviews, the MPH Capstone student sent a follow-up email to schedule a telephone or in-person interview. The MPH Capstone student sent another follow up invitation to those who had not responded after one week and again after two weeks.

Data Collection

The MPH Capstone student created a childcare partner interview guide with the F2T team to reflect the needs assessment goals 1-4. These goals were:

- 1. Develop an inventory of the current resources available for, activities used for, and engagement in the Farm to Table program.*
- 2. Ascertain motivations and goals of farmers and childcare partners who participate in the Farm to Table program.*
- 3. Determine strengths and successes to implementing the Farm to Table program for the farmers and childcare partners.*
- 4. Determine barriers to implementing Farm to Table activities for the farmers and childcare partners.*

The MPH Capstone student conducted all interviews. The MPH Capstone student took notes, audio recorded and transcribed all interviews.

Variables

The MPH Capstone student asked questions to reflect the goals of the needs assessment. The interview guide included questions about program size, current uses of the F2T program, current and needed resources to implement and use the F2T program, support for and benefits of participating in the program, and successes and challenges of program participation.

Family Events

The MPH capstone student participated in two types of family events, the Farm Fest Family Events and the Childcare Site Family Event, totaling three events to achieve the needs assessment goals 5 and 6:

5. Determine the importance and knowledge of the Farm to Table program for the parents/guardians.
6. Assess the parent/guardian satisfaction with the availability of culturally relevant foods in childcare centers.

Farm Fest Family Events

Location

Two family events were held at “Farm Fests” hosted by Tilth Alliance and Solid Ground. These events were celebrations of urban farms and included many activities for community members. Tilth Alliance and Solid Ground invited the MPH Capstone student to set up a table at these events.

Participant Sample

These events were open to the public, and therefore were not specific to the F2T program. The Farm Fest events were advertised by Tilth Alliance and Solid ground both online and in the areas surrounding the urban farms. The MPH Capstone student talked to any individuals who were willing to stop at the table. Families and individual community members attended the Farm Fest events with the majority being families and children.

Data collection

To understand culturally relevant foods for these families, the MPH capstone student and the F2T team created a list of 48 vegetables including pictures and translation into five languages (English, Spanish, Russian, Vietnamese, and Chinese). The MPH Capstone student used the vegetable list to ask families to “vote for vegetables you wish to see at your child’s school.” The MPH capstone student provided stickers for the families and individuals to “vote” next to the vegetables. The MPH Capstone student took notes from conversations with family and community members

Variables

The primary analysis variable is the sum of votes for each vegetable. Additionally, themes were generated from conversations with families and community members.

Childcare Site Family Event

Location

The second type of family event was held at a participating F2T childcare center.

Participant Sample

The MPH Capstone student spoke with families about the F2T program as they picked up their children from the childcare center.

Data collection

The MPH Capstone student used the vegetable list to ask families to “vote for vegetables you wish to see at your child’s school.” Additionally, the capstone student asked the family members about their knowledge of the F2T program and the importance of the program. A staff member at the childcare site translated for some of the family members who did not speak English during the interviews. The MPH Capstone student took notes about the family responses.

Variables

The primary analysis variable is the sum of votes for each vegetable. Themes from conversations with family members were determined from the responses of the following questions.

- What do you know about the F2T program at your child's school?
- Do you have any questions about the F2T program?
- How important is it that your child attends a school that is a part of the F2T program?
- If it is, why is it important to you?

Interviews with Farmers

The MPH Capstone student created a farmer interview guide with the F2T team. One section of the farmer interview guide included questions about preliminary results from childcare partner interviews and family events, and the other sections of the interview guide reflected the needs assessment goals 1-4. These goals were:

1. *Develop an inventory of the current resources available for, activities used for, and engagement in the Farm to Table program.*
2. *Ascertain motivations and goals of farmers and childcare partners who participate in the Farm to Table program.*
3. *Determine strengths and successes to implementing the Farm to Table program for the farmers and childcare partners.*
4. *Determine barriers to implementing Farm to Table activities for the farmers and childcare partners.*

Participant Sample

The interview participants were farmers who sell products through the F2T program. The F2T team introduced five farmers to the MPH Capstone student via email. After the introductory email that stated the purpose of the interviews, the MPH Capstone student sent a follow-up email to schedule a telephone or in-person interview. The MPH Capstone student sent another follow up invitation to those who had not responded after one week.

Data Collection

The MPH Capstone student conducted all interviews over the phone, and in English. The MPH Capstone student took notes, audio-recorded, and transcribed all interviews.

Variables

The MPH Capstone student asked questions to reflect the goals of the needs assessment. The interview guide included questions about farm size, products grown or produced at the farm, typical sales through the F2T program, current and needed resources to sell through the F2T program, motivations and goals to selling products through the F2T program, and strengths and barriers to selling through the F2T program. To invite responses to questions and concerns of childcare providers and families, the interview guide included four questions about preliminary results from childcare partner interviews and family events.

Data Analysis

Farmer and Childcare Interviews

The MPH Capstone student coded each interview transcription to identify key themes using both inductive and deductive coding. The MPH Capstone student created pre-set codes based on the needs assessment goals and interview questions. Pre-set codes were designed to capture childcare sites' use of the F2T program, childcare staff and farmer motivations to participate in the F2T program, and challenges in using the F2T program. The childcare partner interviews and the farmer interviews had separate, but similar pre-set codes. The MPH Capstone student applied the pre-set codes to the interview transcripts during the first coding process, and then the MPH Capstone student added codes and modified pre-set codes based on the data to produce the final code book. All transcripts were then coded using this final codebook.

The MPH Capstone student identified key themes for childcare partner interviews and farmer interviews based on the respective final coding. The MPH Capstone student stratified the childcare provider interviews by number of students that attended each site. Small sites were sites that consisted of fewer than 50 students, and large sites were programs that consisted of more than 50 students. The MPH Capstone student determined themes within these two groups. The MPH Capstone student selected quotations to illustrate the identified themes.

Family Events

The total votes per vegetable were summed from the vegetable list data. The results were calculated for a total average vote per vegetable. Qualitative notes from the childcare site family event were summarized into key themes.

Results

The results from childcare interviews, family events, and farmer interviews are presented below.

Childcare interviews

A total of eight childcare interviews representing seven childcare partner programs were conducted between July and August 2019. Three interviews were conducted over the phone, and five interviews were conducted in-person. This was a response rate of 57%.

Five of the interviewees were program coordinators, one was a nutrition coordinator, one was in an administration role, and another was a cook. The number of students reported to attend the sites ranged from 32 to 200 with the majority ranging between 40 and 80 students. The number of staff employed by the site ranged from four to 100 people with the majority of the sites reporting employing four to 28 people. The childcare sites reported serving between one and four meals per day, with the most common response being three meals per day. The childcare centers have participated in the F2T program for one to six years.

As discussed in Chapter V, the Good Food Bag (GFB) is a weekly produce distribution program for low income and/or food insecure families. The GFB and F2T program have similar goals of providing access to fresh, local produce for children and/or families. Interviews with childcare partners and conversations with families revealed that many providers and families considered the GFB a part of the F2T program.

The childcare interview findings demonstrate the perceptions, uses, successes, and challenges of the F2T program according to the childcare staff. The interview findings are organized by key themes, and the nine key themes are:

- Childcare centers reported using the F2T program in a variety of ways.
- Children, staff, and families were supportive of the F2T program.

- There were many benefits of and motivations to use the F2T program.
- The F2T program was successful for children and staff, in projects and classes, and in communication between childcare staff and the F2T team.
- Meal planning, consistent ordering, and logistical ease were common methods for childcare sites to successfully maintain use of the F2T program.
- Childcare providers reported a variety of challenges to using the F2T program.
- The childcare providers hope to use the F2T program more, grow more food, positively impact the health of the children, and provide continued support for local farmers.
- Childcare sites successes and barriers varied by size.
- The childcare site providers were receptive to the F2T 2019 values and guiding principles.

Childcare centers reported using the F2T program in a variety of ways.

The childcare staff reported differing strategies for ordering and incorporating the F2T produce into meals and snacks. Additionally, participation in F2T activities such as family nights, cooking classes, and gardening classes varied by site. The main uses of the program varied by purchasing strategies, use of produce, and involvement in F2T activities.

In terms of purchasing strategies, **some childcare centers purchased produce regularly while other childcare staff reported never ordering F2T produce.** Some of those who ordered regularly reported spreading out the funds over the year and others reported ordering frequently until the funds were depleted. One site reported ordering based on seasonality, with more orders placed in the summertime because there were more products available. One site had a nutrition coordinator role to develop menus based on previous F2T orders, which ensured regular purchasing. The main reasons for rarely or never ordering included apprehension with large quantities of produce, preparation, and menu planning. One site reported that the staff was unaware of the funds available for ordering, which prevented purchasing.

The use of produce also varied across sites. A few staff reported **using the F2T produce in meals and snacks.** A couple of childcare providers stated that they **sent all or leftover produce home with families.** The staff at one childcare site reported only purchasing unfamiliar produce

to so that the children could try something new, while another childcare staff only purchased familiar produce to more easily prepare and incorporate produce into meals. One childcare site mentioned that they have used the F2T produce in canning, pickling, and gardening projects with children.

Most childcare staff reported participating in family nights, cooking classes, and/or gardening lessons with Tilth Alliance and Solid Ground.

Children, staff, and families were supportive of the F2T program

In general, the childcare staff reported support for the F2T program from the staff, children, and families.

Childcare staff reported children's excitement to try new foods from the F2T program, to learn about where the food is from, and to grow food in the garden. One childcare staff expressed the children's support for the F2T program, stating, **"They love it. The kids love to partake and see what's coming in and taste it and to be introduced to new foods. There's a lot of support, I would say 100%."**

When the parents and caregivers were aware of the F2T program, they were supportive. Some program staff mentioned that the **families were not involved in or aware of the F2T program** because the produce is only incorporated into meals and snacks for the children. Most other sites mentioned that the **families were excited about the F2T program**. One site stated that the F2T program and the Good Food Bag were a draw for families to enroll their child in that program due to the access to local, healthy produce. Some families at one childcare site were inspired to start a garden at home after their child participated in the F2T activities.

The childcare staff expressed that **the staff enjoy the program as well. The staff enjoyed learning about and trying new produce with the children**. On a few occasions the wrong or additional produce was sent to childcare site, and the staff took the produce home. The provider reported this as a way for those staff to experiment with new produce, which they appreciated.

There were many benefits of and motivations to use the F2T program.

The primary benefits of and motivations to use the F2T program included exposure and access to fresh produce, connections among families, support for local farmers, money saved by the childcare centers, and ease of program use.

Most of the childcare staff reported that a benefit of and motivation to use the F2T program was the **increased exposure to fresh, local produce for children and their families**. The access to produce taught the children how to use and try new products and improved the health of the children. Some staff reported that these products improved the taste and nutritional quality of the foods served at childcare centers. One childcare provider mentioned, “Having fresh produce, there is really nothing better than that, especially for kids who are growing and learning. It’s just great to have the resource to be able to provide good food.” Not only were the children exposed to fresh, local produce, but also the F2T program taught children about the local food system and nutrition. Children were excited about the local foods offered, which was a motivating factor for some childcare providers.

According to childcare providers, the F2T program **benefited the families of children through increased access to fresh, local produce and increased knowledge about preparing foods**.

The increased access to local produce for families was frequently in reference to the GFB program. The F2T program equipped parents with useful cooking skills from cooking classes. One site mentioned that such classes through the F2T program promoted relationships between children and families.

Some childcare providers mentioned that they are motivated to use the F2T program because **the program supports local farmers and provides a bridge between local communities and farms**.

A frequently mentioned benefit and motivating factor for using the F2T program **was the money saved by childcare sites**. The F2T program provides childcare sites a stipend funded by SBT revenue for the purchasing of local foods with no cost to the childcare sites. Many childcare

providers reported that the F2T program saves the childcare site money. One interviewee stated, “It’s going beautiful for me. It saves my budget.”

One childcare provider expressed that the **ease of use and comprehensive programming** was a benefit of using the F2T program. For example, this staff member enjoys inviting Tilth Alliance and Solid Ground for cooking lessons because these teams bring all the equipment and curriculum with them. This alleviates the pressure from the childcare staff to create curriculum or find equipment. The ease of this programming was viewed as a benefit for this childcare provider.

The F2T program was successful for children and staff, in projects and classes, and in communication between childcare staff and the F2T team.

Successes within the F2T program included children and childcare exposure to new foods, children enjoyment in classes and projects with the F2T produce, and effective communication with the F2T team.

A frequently mentioned benefit of the F2T program was that **children and childcare staff were exposed to a variety of foods through the F2T program**. Childcare staff mentioned that the children enjoyed trying and eating different foods. Children are exposed to many new foods, and they are willing to try those foods. Some childcare staff mentioned that the children “are exposed to so many [foods], so it’s normal to them when there are different foods. They are willing to try and experiment.” Additionally, another staff highlighted the impact of the F2T program foods on childcare staff:

“A couple of weeks ago we did an order and [Farmstand Local Foods] brought us this sample bag of random things that the farm gave us that we didn’t order. And there was this fennel...And then one of my staff got really excited about it because they saw some spaghetti recipe with fennel, so I let them take it home so they could make a meal with something different and experiment a little bit.”

This sentiment was echoed by other childcare providers as staff were able to taste, cook with, and introduce new foods.

In addition to enjoying the foods offered, **the children enjoyed the classes hosted by the F2T team.** The childcare providers reported that the children enjoyed the F2T gardening and cooking classes.

Childcare staff reported **success in using F2T produce in projects with children.** Childcare sites used F2T produce to pickle, can, and make jam. One childcare site planted leftover potatoes in the garden and then harvested potatoes with the children. Some childcare sites allowed the children to decide what to plant in the gardens. Specifically, one site encouraged children to draw their “dream garden” and then discussed how to incorporate those foods into the on-site garden, “so they have a voice about what we grow in our community garden.” The childcare staff expressed that children enjoyed and were excited about the use of the F2T produce in projects.

Effective communication and clear processes between the F2T team and the childcare staff was a success for the F2T program. Childcare staff reported that communication regarding funds available, technical assistance, and ordering support was helpful and valued. Childcare sites reported that the new website was easy to use and provided helpful information. One childcare provider stated, “the team is fairly easy. It’s great to know that when we do want an event, people are involved and they are really on board.”

Meal planning, consistent ordering, and logistical ease were common methods for childcare sites to successfully maintain use of the F2T program.

Childcare providers mentioned that consistent ordering, menu planning along with logistical components such as funding, communication and information promoted continued use of the F2T program.

Some childcare providers reported that **consistent ordering, menu planning, and flexibility with seasonality helped childcare sites maintain the use of the F2T program.** Incorporating ordering into a routine or position helped the childcare partners to consistently order from the

F2T program. One site hired a nutrition coordinator to plan meals, order produce and coordinate preparation, which helped to ensure consistent ordering. One provider plans the menu based on prior knowledge of seasonal produce and what grows in the garden, another provider plans the menu based on previous year's F2T orders, and another site includes a "seasonal vegetable" on the menu that changes with the seasons. One childcare provider had a volunteer chop and prepare F2T produce weekly, which significantly reduced the barrier of time and preparation knowledge for the cook.

The childcare providers mentioned that **information, delivery, effective communication and funding were all important components to continued use of the F2T program.** Information about the F2T program helped childcare staff plan ahead. Having information about local produce helped childcare staff plan the menus. The website and delivery system made use of the program easy for childcare sites. Online ordering and delivery of the products to the childcare centers was a large draw for use of the F2T program. Effective communication with the F2T team eased the use of the F2T program at childcare sites. Communication regarding funds available, technical support and ordering help aided the continued use of the F2T program. Funding through the F2T program was important for childcare program participation and maintenance. Childcare interviewees also considered these factors as successes to the F2T program.

Childcare providers reported a variety of challenges to using the F2T program.

Challenges to F2T program use included logistics of ordering and menu planning, coordinating classes with Solid Ground and Tilth Alliance, preparation time, knowledge, and limited storage space for F2T products.

The logistics of ordering and menu planning were difficult for some childcare providers.

Many childcare sites have a rotating pre-planned menu, and some staff reported difficulty including or substituting F2T products into those pre-planned menus. Many staff acknowledged that it was difficult to know how much food to order because the quantities and products were often unfamiliar. Some staff expressed that they were unsure how much food and which foods would meet guidelines.

In addition to ordering and menu planning, childcare providers expressed that **limited knowledge about seasonality, quantities, and proper storage of the F2T produce, limited time for preparation and ordering, and limited storage space were all significant barriers to use** of the F2T program. Five of the eight childcare staff struggled to know how to properly store, prepare, and/or create menus for the F2T produce. Lack of knowledge about seasonality made it difficult to order produce because desired items were often unavailable and the available products change quickly. Many sites were unsure how much produce would be appropriate for their site, and most staff mentioned that the quantities offered were too large for their childcare site. However, one staff noted that the quantities offered were not sufficient for that childcare site. In addition to the lack of knowledge, it was difficult for childcare staff to find time to plan menus based on F2T seasonal produce and prepare the products that were ordered. Additionally, childcare sites reported having limited storage space for the F2T products.

The childcare providers hope to use the F2T program more, grow more food, positively impact the health of the children, and provide continued support for local farmers.

Goals for the F2T program, according to childcare providers include more use of the F2T program in both lessons and meals, grow more food on-site, positively impact the health of the children, and provide support for local farmers.

Childcare providers wanted to **expand the menus to include more F2T foods and host more gardening and cooking lessons** in the future. Childcare providers wanted to continue having fresh, local, high quality produce for children. One childcare staff mentioned, “Farm to Table is half or even three fourths of my meals every day. That would be my goal.” They hoped that children will enjoy a variety of foods in snacks and meals through the F2T program. Childcare providers wanted to host more cooking and gardening events for children and families to promote family-child relationships through food, to teach children life skills through gardening and cooking, and to help children better understand how their food grows. Another childcare provider wants “kids to have a new definition of what a strawberry is because its local.”

Childcare partners wanted teachers and staff to be comfortable and confident incorporating F2T information into programming and/or inviting the F2T team to teach these lessons in the future.

Most childcare providers expressed the **goal of growing more food** in on-site or community gardens in the future.

Childcare staff wanted the F2T program to **positively impact the health and knowledge of the children**. One childcare provider wants to “encourage kids to have that healthy eating and healthy lifestyle.”

Additionally, childcare providers wanted to **support local farmers** through the F2T program in the future. Another childcare partner hopes to see “continued support for the farmers, to see that they get benefits from the city.” In addition to support, some childcare providers mentioned the **desire to directly work with the farmers**. Childcare providers hoped that farmers could provide both lessons to children and help childcare sites better understand the seasonality of local produce.

Childcare sites successes and barriers varied by size.

When stratified by site size, additional childcare interview themes emerged. The following themes express the most frequently mentioned successes and barriers identified for childcare providers for both large and small sites.

Generally, the providers at larger childcare sites (>50 students n=5) expressed **success with family and teacher involvement in the F2T program and incorporating local produce into meals and snacks**. The major barriers for F2T program use for the larger sites were **difficulties organizing and working with Tilth Alliance and Solid Ground for cooking and gardening lessons, limited produce preparation knowledge and time, and lack of knowledge about seasonality**. Most of the larger site providers **desired training for staff** about how to prepare and store the F2T produce

Most of the providers at smaller childcare sites (<50 students n=3) reported **ease with incorporating the F2T produce into activities, lessons, and snacks/meals**. Most of the smaller childcare sites **had a garden on site** that was frequently used with children. The most

frequently reported barriers for the small childcare sites were that **quantities offered were too large, providers were unaware of funds available, and limited time to plan activities or snacks.**

[The childcare site providers were receptive to the F2T 2019 values and guiding principles.](#)

In general childcare providers were reflective and appreciative when presented with the F2T 2019 values and guiding principles. One childcare provider reflected on their personal experiences with food, and how these principles and values **helped them see a bigger picture of the food system and where food comes from.** This individual was eager to learn more about **ethical purchasing**, and how to encourage those practices, stating, “it makes a lot of sense and comes from a very respectful perspective - keeping the values of the farmers because they obviously see food in a more profound and intricate way.”

Additionally, **providers valued the principle of “appreciation for farm workers”** because they want children to know who grew the food. This principle along with the value of “honoring the land our food comes from” sparked the interest in one provider to consider planting a garden on site so that the children “learn to appreciate where food comes from and the work that goes into it.”

Although food waste is not mentioned in the values and principles, one provider resonated with the values and principles because they called out the issue of food waste. This provider felt that **minimizing food waste was an important value for the F2T program** because it is very relevant to schools where a lot of food is thrown away.

Family Events

Family event results include the average votes for each vegetable across all family events, themes from conversations at the Family Farm Fest Events, and themes from discussions at the Childcare Site Family Event.

Vegetable Votes

An estimated 170 people voted for the vegetables they would most like to see served to their children in school. Voters were not limited in number of votes. The top 5 voted vegetables across all family events were snap peas, corn, broccoli, cucumbers, and tomatoes. The total votes for each vegetable are shown in Figure 3.

TOTAL VOTES BY VEGETABLE

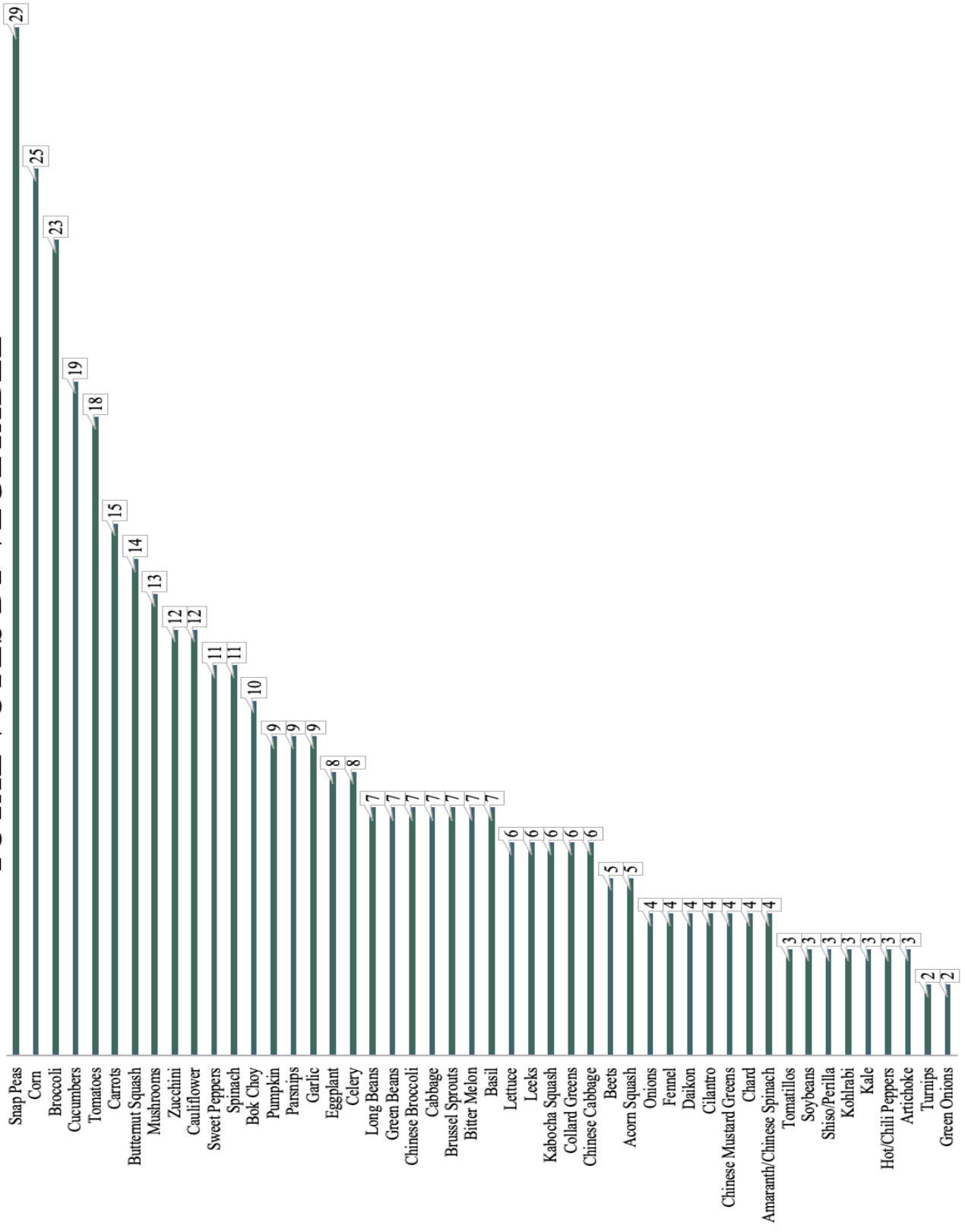


Figure 3. The number of votes for each vegetable from three family events.

Themes from Farm Fest Family Events

The following themes were identified through conversations with approximately 50 families and community members at the **Farm Fest Family Events**. These individuals and families were asked to “vote for vegetables you wish to see in your child’s school” from the list of 48 vegetables created by the MPH Capstone student and the F2T team.

Community members and families showed excitement for adding vegetables to children’s meals at school.

Teachers were interested in **incorporating more vegetables into school meals/snacks**. Additionally, teachers and families were very interested in **learning more ways to incorporate fresh vegetables into meals and snacks** for children.

Community members and families identified a variety of barriers to introducing vegetables into school meals.

One common comment about incorporating fresh vegetables into school meals/snacks was the limited school food budget. Teachers and families **frequently expressed the price of fresh vegetables as a significant barrier**. Additionally, teachers and families reported **difficulty introducing vegetables to children**. They mentioned that they struggled to know how to introduce vegetables to children in an appealing way.

Teachers expressed interest in including farmers or experts to talk with their students.

Teachers were interested in **inviting farmers to schools or visiting farms** with children. They wanted children to have exposure to local farmers, for children to understand where their food comes from, and what the farming profession looks like. Teachers also mentioned that children could learn similar topics from other experts such as horticulture students or master gardeners.

Parents and families wanted to know what vegetables were served in schools.

Parents and families were interested in knowing **what vegetables were being served at their child’s school**. They frequently replied to the “vote for vegetables you wish to see in your child’s school” question by asking “these aren’t already in schools?” Although these vegetables

may be served in their child's school, they were unsure what was being served and expressed an interest in knowing what vegetables were available to their child.

Children enjoyed gardening.

Generally, **children enjoyed gardening and learning about new foods and the food system.**

Generally children were excited and knowledgeable about gardening. One child shared a story of being able to help out in their garden at home because of the F2T program.

Themes from Childcare Site Family Events

The following themes were identified through conversations with about 8 family members at the **Childcare Site Family Event**. These family members were asked the following questions:

- What do you know about the F2T program at your child's school?
- Do you have any questions about the F2T program?
- How important is it that your child attends a school that is a part of the F2T program?
- If it is, why is it important to you?

Parents valued fresh, organic produce and were glad the F2T program and GFB program provided that to their child and family.

Not only did parents value the access to fresh produce, but parents frequently mentioned that **they valued organic produce.**

The F2T and GFB programs helped children and parents know about vegetables and how to cook the vegetables.

Teachers used a GFB in class to **teach children about the vegetables** in the bag each week.

Parents reported that the children brought this information home to **teach their parents about the vegetables** and how to use them. Additionally, the parents mentioned the **pamphlets about the produce** in the GFB were very helpful for identifying and preparing produce. Parents mentioned that their children were better able to identify organic produce at the stores.

The F2T and GFB programs helped children eat more vegetables.

Parents reported that their children ate more vegetables when they learned about them in the GFB. When the children shared this knowledge with their parents, **the parents and children ate more vegetables.**

[The F2T and GFB programs helped children and families try new foods.](#)

Parents mentioned that the **children and their families were trying new, unfamiliar foods** that were in the GFB or in meals through the F2T program.

Farmer Interviews

Three farmer interviews were conducted over the phone in August 2019. This was a 60% response rate. The farmers had worked on their land for between 4 and 6 years. Two farmers owned their land while one farmer leased their farmland. Two farmers worked on less than 2 acres of land, and the other farmer farmed about 20 acres. A total of five or fewer employees worked on each farm. All farmers reported growing a diverse group of products on their land. One farmer specialized in growing greens in a greenhouse in the winter season. Another reported a specialty in Asian crops and flowers. The other farmer stated they grow the “farmers market mix.”

The farmer interview findings describe farmers experiences with the sales through the F2T program, as well as the successes of and challenges with the F2T program. The interview findings are organized by key themes, and the nine key themes are:

- Sales through the F2T program were unpredictable, but farmers noted that snackable produce sold well to childcare centers.
- Sales and increased product reach were both the main motivators of using and the main benefits of the F2T program for the farmers.
- Farmers expressed a variety of successes within the F2T program.
- Unpredictability of sales, quantities, and limited timing were the main challenges to the F2T program reported by farmers.
- Farmers had a variety of goals for the future of the F2T program.
- Farmers were willing to share the products they planned to list on the F2T ordering platform, but also were interested in knowing what childcare sites wanted.

- Farmers had mixed reactions to community members' "top voted" vegetable list.

Sales through the F2T program were unpredictable, but farmers noted that snackable produce sold well to childcare centers.

Farmer reported that **sales through the F2T program shifted due to the harvesting season and school year schedule**. One farmer mentioned that they were unaware of the school year schedule, and they desired to know the school schedules. The discrepancies in growing seasons and school schedules made sales difficult to predict for farmers. Additionally, one farmer mentioned that they were unsure which sales went to the F2T program rather than other customers because the distributor is the same. However, farmers noticed that **fresh fruits and snackable things like snap peas sold well** through the F2T program.

Sales and increased product reach were both the main motivators for using and the main benefits of the F2T program for the farmers.

Although sales were difficult to predict, some farmers mentioned that **the F2T program provided consistent sales**, and most farmers mentioned that **the F2T program made a positive economic impact on farm business**. One farmer expressed the economic importance of the F2T program by stating, "if the program didn't exist, that would be hard to replace."

In addition to revenue, the F2T program provided a way **for farmers to reach more people with local products**. Farmers viewed the access to a city-wide distributor (Farmstand Local Foods) as a great benefit and motivator for participation in the F2T program. Farmers claimed that the increased reach of their products through the F2T program provided food to people who may not have access otherwise and provided food to children all over the city. Selling to a variety of customers motivated farmers to participate in the F2T program. One farmer expressed the motivation to reach more individuals with local foods; "It's exciting to know that everyone from all different demographics and ages get to enjoy really good produce and not just people spending hundreds of dollars on a plate."

Farmers expressed a variety of successes within the F2T program.

Farmers mentioned strategies that have aided their success in the F2T program such as specializing in winter growing, offering small quantities of foods, and growing a diverse mix of products. Additionally, farmers discussed ways in which the F2T succeeded: the F2T program helped farmers expand their businesses, sales appeared to increase in the summer of 2019, and the F2T team provided effective communication and easy processes.

Some strategies that farmers found successful for selling to the F2T program were specializing in winter growing, offering small quantities of products, and growing diverse mix of products. One farmer reported that **specializing in winter growing boosted sales and consistency of sales** throughout that season. This farmer maintains a greenhouse during this season to grow many salad greens. The farmer stated “It’s encouraging to see everything I’m posting sell out throughout the winter.” Similarly, many farmers mentioned that **offering a diverse mix of products** was beneficial for sales through the F2T program. Additionally, not all farmers were able to offer small quantities, but for those that were able, they found that **offering smaller quantities resulted in more sales through the F2T program**. These farmers offered smaller quantities at a higher price, near retail price. Anecdotally, one farmer mentioned that the sales in the summer of 2019 seemed higher than previous summers and thought, “Maybe because the program has been around long enough and people know more now.”

In addition to increases in sales, the farmers mentioned that the **F2T program helped farmers expand the reach of their business**. Farmers were excited that more people in the Seattle area were receiving their products because of the F2T program and the access to a city-wide distributor (Farmstand Local Foods).

Effective communication and easy processes from the F2T team enabled success for farmers. Farmers reported good communication with the F2T team. The F2T team offered clear recommendations on which products to grow for the farmers. The farmers mentioned that the website/platform was easy to use and that the F2T process was fairly flexible.

Unpredictability of sales, quantities, and limited time for F2T logistics were the main challenges to the F2T program reported by farmers.

Farmers struggled with the unpredictability of sales. Some farmers mentioned that offering small quantities was not economically beneficial for their farm and that they had limited time for F2T logistics.

As previously mentioned, **the sales through the F2T program were unpredictable for farmers.** Farmers found this particularly frustrating because they could not rely on the F2T purchases, and were unsure what products would be beneficial to grow and sell. One farmer summarized this frustration: “I think the hardest part is not having consistent orders and not having a clear idea of what people are going to be buying throughout the year.”

While some farmers reported that offering smaller quantities resulted in more sales, **not all farmers found this to be the case and/or were not able to offer small quantities of food.** Specifically, farmers mentioned that offering smaller quantities was beneficial when many small quantities were purchased; however, harvesting, packaging, and distributing only a few small quantity products was not economically beneficial.

One farmer reported having **limited time for F2T logistics such as time to upload availability and products** to the Farmstand Local website.

Farmers had a variety of goals for the future of the F2T program.

Farmers hoped to keep F2T program as a part of their farm’s business plan, desired to connect with children through lessons or field trips, and hoped to provide culturally relevant foods for children.

Farmers expressed interest in **keeping the F2T program as a part of their farms’ business plans.** Farmers wanted to have a decent portion of their sales through the F2T program, and they hoped that the F2T program would continue to support local farmers. Farmers hoped that the childcare programs could **become primary customers** through the F2T program with consistent, predictable orders.

Farmers expressed the desire to **connect with children through lessons or farm tours**. Farmers mentioned they were interested in going to schools to teach lessons and/or having children come to their farm to give the children a farm tour. Many mentioned that the best time for interactions with the children would be in the fall or winter. One farmer suggested that **farmers should be paid for lessons or tours** to make the time more worthwhile to the farmers. One farmer showed apprehension to participate in lessons with children because they were not an educator and did not feel confident teaching.

Farmers wanted to provide **culturally relevant foods for children** who may not have access to those foods otherwise: “Being able to provide more produce to people who I feel are left out of the food system and support local farmers and be able to provide them with fresh healthy food and culturally relevant foods.”

Farmers were willing to share the products they planned to list on the F2T ordering platform ahead of time, but also were interested in knowing what childcare sites wanted.

In general, **farmers were willing to share the products that they planned to list on the F2T ordering platform ahead of time**. All farmers were willing to share this information without hesitation. Additionally, **farmers wanted to know what foods the childcare sites were interested in** so that they could tailor their plans. Farmers mentioned that with more communication about what was desired, there could be more conversations about seasonality. For example, one farmer stated, “it would be great to know that they want like tomatoes. Okay, well tomatoes won’t be available until July, so that’s when they should start adding those to the menus.”

Farmers had mixed reactions to community members’ “top voted” vegetable list.

Farmers expressed that they thought the **list was likely a result of what is familiar to the parents** rather than foods they thought their child should try. Almost all farmers mentioned that most of the **foods listed in the “top vegetables” list have a very specific season**, and many are grown in the summer. Many farmers mentioned that corn, although listed as a “top vegetable” is

not generally grown by small farmers in this area. One farmers suggested that this list could be a way to inform parent and child education. For example, this list may be a way to describe why corn is not offered or a way to educate about seasonality.

Literature Review

Preschool/Early Child Education Programs

Farm to Preschool/Early Child Education (Farm to ECE) programs are relatively new and understudied. In general, Farm to ECE programs aim to increase access to and understanding of local foods. While programs generally consist of local food procurement, nutrition and/or agriculture education, and/or gardening activities, a wide variety of programs exist. The evidence for how these programs affect child health and wellbeing stems mainly from program evaluations and systematic reviews to identify major benefits and challenges to the programs. A few randomized control trials and quasi-experimental studies have been performed to study interventions containing Farm to ECE program components. These studies most frequently examine the dietary intake of children and observe the children's willingness to try new foods. The following literature review identifies major findings from the current Farm to ECE programs.

Farm to preschool/early child education programs increases reported vegetable intake

Farm to ECE programs are associated with an increase in vegetable intake among children. In 2013, to determine the impact of these programs on dietary intake, Brouwer and Neelon implemented a garden-based intervention that consisted of a fruit and vegetable garden, curriculum, gardening support and technical assistance for school staff. The sites were encouraged to incorporate the garden grown fruits and vegetables into meals and snacks for the children. Two childcare sites were enrolled in this randomized control trial, two intervention sites and two control sites. Fruit and vegetable consumption were measured before and after the intervention. Dietary assessments were conducted on 3 children at each center to collect the fruit and vegetable consumption measurements. The children at each site were randomized to determine dietary assessment. Over four months, the children exposed to the intervention consumed an additional $\frac{1}{4}$ serving of vegetables per day than before the intervention. In comparison to the control group, the children in the intervention group were served fewer

vegetables but consumed more of the vegetables they were served than the children in the control group. ⁵⁴

Williams et al. found similar positive results with a nutrition education program for preschoolers and their parents. The six to ten-week nutrition education intervention was delivered to both preschoolers and their parents, and the preschoolers' at-home vegetable, fruit, and dairy consumption was reported by parents before and after the intervention. The study found that the average number of cups of vegetables consumed at home by preschool children increased significantly after the intervention.⁵⁵

Bouck et al. piloted a fruit and vegetable program in 24 schools in Northern Ontario, Canada. This program consisted of free fruit and vegetable snacks three times per week in schools, and enhanced nutrition education. Through school faculty surveys, Bouck et al. determined that the faculty overall felt that the fruit and vegetable program had a positive impact. The stakeholders felt that the fruit and vegetable program increased access to fruits and vegetables, and the program encouraged healthy eating. ⁵⁶

Increased child willingness to try new foods

In addition to increased consumption of vegetables, Farm to ECE programs are also associated with children's increased willingness to try new foods. To test willingness to try new foods, Farfan-Ramirez et al. developed and evaluated the Nutrition Matters! curriculum that consisted of nutrition education, gardening activities, and physical activity tasks. Children's eating behaviors were measured before and after the intervention through surveys and observations. The authors found that the children's willingness to try 3 of the 4 pre-selected fruits/vegetables increased after the Nutrition Matters! curriculum. ⁵⁷

Similarly, Izumi et al. performed a quasi-experimental study to assess the association between exposure to a farm to preschool intervention and willingness to try fruits and vegetables. The intervention included Harvest to Healthy Kids curriculum which consisted of cooking lessons, tasting activities, and incorporation of fruits and vegetables into other curriculum. There were two intervention groups, a low and a high intervention group, and one control group that did not receive any intervention. Pre- and post- willingness to try and liking of nine target foods were measured. Both groups received the target foods in school meals twice weekly. The high intervention group also received the target foods in classroom activities and the Harvest to

Healthy Kids curriculum. The authors found an association between the intervention and increased willingness to try the target foods. The children in the high intervention group had a significantly higher willingness to try 8 of the target foods after the intervention. 58

Training for childcare staff is a common resource needed

Farm to ECE evaluations consistently demonstrate that staff training is important and needed. Through a program evaluation on a pilot farm to preschool program in New York City, Dannefer et al. found that most of the staff felt that the training on the curriculum was helpful to deliver the lessons. Specifically, staff stated that the most helpful aspect of training was the opportunity to lead a lesson or see the trainer lead a lesson in training. Training was highly regarded; however, most respondents wanted additional training on programming and leading activities. 59

Similarly, Carbone et al. highlighted the importance of staff training in the Farm to ECE setting. These authors evaluated an urban farm to preschool program. The authors found that staff training was an integral part of program success, effective communication, and ongoing support for the farm to preschool program. 60

While training is deemed important, it is often overlooked in Farm to ECE programming. Davis and Brann examined the barriers and benefits of a preschool gardening program. They found that lack of staff support and knowledge were major barriers for the program's success, and offered the recommendation to provide childcare staff with the knowledge and resources to implement gardens and programming. 61

Similar to David and Brann's results, the National Farm to ECE Survey in 2018 found that limited staff knowledge about gardening, local foods, and how to order food were major barriers to the Farm to ECE programs. Trainings for staff on the Farm to ECE program were recommended to overcome such barriers.62

Training for childcare staff on Farm to ECE can vary greatly; however, Hollar et al. determined that early childcare sites that had providers trained in evidenced based nutrition strategies had improved nutrition policies and practices.63 Not all sites with evidence-based training for providers noted this improvement, and so more research is needed to determine the best approach to nutrition and gardening training for childcare providers.

Family and community involvement is difficult but important

Many Farm to ECE program evaluations have demonstrated the challenges with establishing and maintaining community support and family involvement. Dannefer et al. found engaging and recruiting parents for nutrition education challenging.⁵⁹ Results from 20 interviews with childcare providers involved in a gardening program showed that parental involvement and community support were identified as resources needed.⁶¹ The 2018 National Farm to ECE Survey found that limited parent interest and engagement was a barrier to Farm to ECE engagement and participation.⁶²

While establishing this support appears to be difficult, many programs also identified the importance of community and family involvement. For example, the same 20 interviews with childcare providers identified a benefit of the gardening program to be “sharing the gardening experience with families of the children.”⁶¹ Similarly, the 2018 National Farm to ECE Survey determined engaging parents and families in the program was a very important motivator for childcare staff.⁶² Additionally, Dannefer et al provided several recommendations to improve family engagement including tasting opportunities, newsletters, offering translations during family engagement, providing clear, simple marketing for events.⁵⁹

Organizational support is important

In addition to family and community support, another frequently cited resource needed for program success throughout Farm to ECE programs was organizational support. This includes adequate staffing, space, equipment, storage, and funding to sustain a Farm to ECE program. Bouck et al. reported that the participation of everyone in the school from the food preparers to the principal made the program possible, and teachers appeared to be important role models for students.⁵⁶ Carbone et al. found that engagement and encouragement were the most cited ways to increase fruit and vegetable intake for children,⁶⁰ and so every participant who engages in the program has an influential role in the program.

Funding is a benefit

Funding was identified as both a benefit and a resource needed to the Farm to ECE programs. Bouck et al. and Carbone et al. demonstrated the importance of funding for Farm to ECE programs, finding that key facilitators to success were sufficient funding for supplies and

staffing.^{56,60} Carbone et al. determined that one of the major benefits to the farm to preschool program was the cost-saving aspect for preschools. Because of adequate funding, on average the schools were able to save 32% monthly.⁶⁰

Insufficient funding is a barrier and additional funding resources are needed

While having funding is a benefit and can save food costs for facilities, insufficient funding was often identified as a barrier for programs. The 2018 National Farm to ECE Survey identified funding as the most frequently mentioned barrier to Farm to ECE participation and food purchasing.⁶² Davis and Brann identified funding and gardening supplies as resources needed. Various program types such as public preschools and family run childcare sites receive funding in a variety of ways from federal grants to personal funds. Most staff were interested in knowing ways to obtain funding and supplies for this type of programming.⁶¹ Similarly Dannefer et al. claimed that additional funding and supplies could facilitate more gardening activities in schools.⁵⁹

Farm to Preschool/ECE Programs Nationwide

As the various names suggest, the Farm to ECE programs are difficult to define. In general, the programs include some combination of the following activities:

- local produce in meals and/or snacks,
- nutrition, cooking, agriculture education, and
- gardening activities and education.

However, some programs include all activities while others include only one. There is a need for a common definition for Farm to ECE programs. In a systematic review of 14 studies, less than half of the articles identified were called “Farm to Preschool” or “Farm to Childcare,” demonstrating the variety of definitions for such programs. ⁶⁴ Without a common definition, it is difficult to research, search for, and survey these types of programs, which in turn presents barriers to program collaboration and growth.

In addition to a variety of activities, programs range in size and scope. Some Farm to ECE programs are established and run by one childcare site, while other programs manage 50 or more sites. Some Farm to ECE programs have established statewide resources and programming. The National Farm to School Network has developed a nationwide Farm to ECE working group

that hosts resources for programs nationwide and performed a nationwide survey of all childcare providers in 2018.

While a comprehensive list of nationwide Farm to ECE programs does not exist, in 2018 the Farm to ECE working group surveyed 2030 childcare providers and 49% of respondents in 46 states participated in Farm to ECE activities at that time.⁶² The survey further demonstrated the variety in Farm to ECE program sizes and activities used throughout Farm to ECE programs.⁶² A comprehensive list of nationwide Farm to ECE programs is needed to best understand the number of programs that exist throughout the nation.

To identify Farm to ECE programs across the nation, the MPH Capstone student utilized the National Farm to School website and literature with piloted Farm to ECE programs. The MPH Capstone student performed general searches based on states and communities identified in either the National Farm to School website or Farm to ECE literature. The MPH Capstone student identified a total of 18 Farm to ECE programs through online searches. The following criteria were applied to these 18 programs to identify Farm to ECE programs most similar to the Seattle F2T program. The program serves children aged infant to 5 years old with at least one of the following criteria:

- The target population is
 - low income children/families and/or
 - children/families of color and/or
 - children/families experiencing food insecurity
- The program is established by the local community (city or county level)
- The program is not a statewide or nationwide Farm to ECE program

The program also includes at least one of the following:

- Local produce in meals and/or snacks
- Nutrition, cooking, agriculture education
- Gardening activities and education

These criteria were chosen to find and describe programs that most resemble the F2T program in Seattle, WA. Describing programs with a similar target population and scope provides an appropriate comparison to the F2T program in Seattle, WA, and offers potential resources,

program ideas, recommendations or collaborations. Six of these 18 Farm to ECE programs best compare to the Seattle F2T program in target population, scope, and activities. The six selected programs include: Feed Communities, Hand in Hand Learning Center, Little Ones Childcare, Healthy Sprouts, Farm to Childcare (Headstart), Farm to Childcare. These programs are summarized in Table 2 below, and a full table is provided in Appendix A.

Organization	Location	Size	Activities Used
Feed Communities	Arkansas	Approximately 75 students, 2 locations	School garden maintenance, weekly or biweekly gardening activities (planting, weeding, harvesting, cooking, tasting), education materials and produce sent home for parents
Hand in Hand Learning Center	Colusa on the Cachil DeHe Wintun Indian Reservation, California	Approximately 48 children, 1 location	Local procurement, work with community members to develop and maintain school gardens, freeze or can items that are in abundance, utilize Harvest of the Month nutrition and gardening curriculum in the classroom, invite parents to help with gardening and provide recipes for parents to take home, ask families for favorite recipes and adapt based on seasonality and CACFP guidelines
Little Ones Childcare	Forest Park, Georgia	Unknown	Incorporate locally sourced foods into meals, community garden for lessons and sharing with the community
Healthy Sprouts	Lawrence, Kansas	Approximately 1000 children	Nutrition, physical activity, cooking and gardening curriculum developed (Root for Food), gardening on-site, community supported agriculture (CSAs) for families and childcare staff, trainings for childcare staff
Farm to Childcare (Head Start): Institute for Agriculture and Trade Policy	Minneapolis/St Paul, Minnesota	62 Childcare sites	Incorporate local produce into meals and snacks, developed curriculum to implement nutrition and food system lessons for children and encourage parent participation, support local farming economy
Farm to Childcare	Wake County, North Carolina	Unknown	Incorporate local foods into meals and snacks, connect children to local foods through lessons, taste testing, farmer visits, hands-on cooking, gardening, and parent/family engagement

The size of these programs range from one childcare site to 62 childcare sites served. The missions and activities of the programs also vary, but all sites include similar themes and activities: providing access to nutritious foods and nutrition/gardening education to children.

One program, the Feed Communities program, only provides gardening education and activities. Three of the programs, the Hand in Hand Learning Center, Little Ones Childcare and Farm to Childcare programs, provide all three of the Farm to ECE activities. The classroom activities differed from site to site with varying curriculum. The curriculum used by the childcare sites included Harvest of the Month nutrition and gardening curriculum, Root for Food curriculum, and Farm to Early Care IATP curriculum. Four of the six childcare sites utilize and maintain an on-site garden to grow and harvest food with children. Two programs strongly encourage parent and family participation and engagement in maintaining the garden.

All programs attempt to engage families in some form, such as offering families local food through community supported agriculture (CSA), hosting family events, encouraging gardening participation, or education materials. Three programs provide locally grown foods to families via CSAs and the opportunity to purchase or grow food from the community garden. Two programs highlight providing education materials and resources for families. Two other programs include family events that allowed families to taste the locally grown produce or organized field trips for families and children to visit farms.

Three programs noted training support for childcare staff. One training was not described by the program; however, the program provided CSAs for staff as well as families. One training through the Farm to Headstart program included food safety training. This Farm to ECE training was integrated into already scheduled trainings. The Farm to Childcare program in North Carolina trained food preparers on how to purchase and incorporate local foods into meals and snacks and childcare staff on ordering methods in 2016.

The diversity of these programs offers novel approaches to serving underserved communities. These programs utilized many types of curriculum to engage students and their families. Some sites maintain a garden for only the students while others share the produce with families and community members. There is a large variety of approaches to engage families such as offering locally grown produce, organizing opportunities for gardening with their children, hosting events with taste testing, scheduling farm field-trips, and providing consistent education materials. Not only do programs attempt to engage families, but one program provided CSAs for

childcare staff in addition to families. Staff training was not well described by these programs, but two programs offered insight on training for purchasing and/or preparation of local produce. The variety among these six programs demonstrates the diversity of the Farm to ECE programs throughout the nation. Although a common definition of Farm to ECE would establish guidelines and better facilitate research across the board, the current variety offers each program the ability to best serve the individual communities. The description of Farm to ECE programs across the nation provide insight into potential resources, program ideas, recommendations or collaborations for programs such as the Seattle F2T program.

Chapter VII - Discussion and Recommendations

Discussion

In many ways, the findings from this needs assessment aligned with the literature. Many providers interviewed mentioned that the program increased exposure to new foods for families and children. Aligning with the literature, training was requested and needed by the F2T childcare staff. Funding was mentioned as a major benefit to F2T childcare providers. However, there were a few discrepancies in this needs assessment and the literature findings. For example, program evaluations of other Farm to ECE programs reported difficulties with family engagement and recruitment, which was never mentioned by the F2T childcare staff. Additionally, the F2T barriers of lack of seasonality and quantity knowledge among childcare staff did not appear as major barriers throughout the literature. Many program evaluations in the literature do not include the farmer or family perspective of the Farm to ECE programs, which this needs assessment did include.

While this needs assessment did not quantitatively assess the dietary intake or willingness to try new foods, many childcare providers and families mentioned increased exposures to new foods due to the F2T program. Many studies analyzed the effect of Farm to ECE interventions on children's dietary intake and willingness to try new foods. Ideally, through increased access to and knowledge of local produce, children would increase their intake of fruits and vegetables and would be more willing to try new foods. The current literature demonstrates that Farm to ECE programs are associated with increased vegetable intake among children both in schools and at

home, as well as children's increased willingness to try new foods. This needs assessment did not assess children's dietary intake or willingness to try new foods, however, through interviews and conversations, childcare providers and families did describe that the F2T program helped families and children try new foods. Childcare providers frequently discussed the increased exposure to new, local foods due to the F2T program. These perceptions and opinions of childcare providers and families offer a valuable perspective.

Training for childcare staff was a common resource needed for many Farm to ECE programs, including the F2T program in Seattle, WA. When training was offered for childcare staff in Farm to ECE programs nationally, it was considered a critical component for the success of the program. Although training was of high importance, it was often mentioned as a resource needed and recommendations for the future. Typical trainings needed among Farm to ECE programs were about gardening, ordering, and local, seasonal foods. Similar barriers regarding knowledge about ordering, quantities, storage, and seasonality were mentioned by the childcare providers in the Seattle F2T program. The Seattle F2T childcare staff desired training about how to prepare and store local produce to improve the F2T program use. Childcare staff training appears to be universally desired among Farm to ECE programs.

Like in the literature, funding was frequently mentioned as a benefit of the F2T program in Seattle. There are a variety of mechanisms that Farm to ECE programs nationwide use to obtain funding. Some programs obtain funding through federal grants, others use personal funds to pay for local foods. The F2T program in Seattle is funded through the SBT. The F2T sites in Seattle receive funding through the SBT and do not need to use personal funds or apply for grants individually to fund the program, which likely contributes to the positive attitude toward funding of the program. The Seattle F2T program participants frequently mentioned that the program saves money for the childcare programs.

Many program evaluations of Farm to ECE programs reported recruiting and engaging families as a challenge; however, the childcare providers in the Seattle F2T program did not report difficulty with parent or family engagement. Most programs within the literature identified the benefits of engaging families, but many program providers claimed that family engagement and interest were lacking and families were difficult to recruit. The childcare providers within the Seattle F2T program did not identify challenges with family engagement or recruitment. This discrepancy could be because there were not difficulties with family engagement for the Seattle

F2T childcare providers or because the providers simply did not mention this challenge. More research is needed to identify ease or difficulty of family engagement within the F2T program.

Lack of knowledge about seasonality and quantities offered were major barriers mentioned by the F2T childcare providers, but these barriers were not common in the Farm to ECE literature. Many childcare providers in the F2T program reported lack of knowledge about seasonal produce, which made it difficult to order produce. Many times, desired produce was not available due to seasonality. Similar sentiments were expressed about quantities of produce offered by farmers. Most childcare providers were unsure how much produce would be appropriate for their site and were unfamiliar with and intimidated by the quantities offered by local farmers. These themes were major barriers for ordering and participation in the F2T program in Seattle but were not frequently mentioned by other program evaluations.

A strength of this needs assessment is the inclusion of the farmers' and families' perspective. Throughout the literature on Farm to ECE programs, very few program evaluations obtained these perspectives and most evaluations focus on the childcare provider perspective. Including all of the players in the program provides a well-rounded viewpoint of the strengths and challenges in the F2T program.

Although the needs assessment consists of many strengths, there are also limitations to the findings. First, the response rates for the childcare provider and farmer interviews were 57% and 60%, respectively. One large contributor to this low response rate was scheduling. The interviews were conducted in late summer which was peak harvesting season for farmers, and many childcare providers were on vacation. The results of this assessment are not generalizable. As discussed, there are a variety of farm to ECE programs across the nation. This diversity is important for individualization of programs; however, the variety makes it difficult to apply results and recommendations from program to program.

Recommendations

The following section offers recommendations for the Seattle F2T program. These recommendations satisfy the overall goal of:

- Develop recommendations for the Farm to Table program to support stakeholder engagement and program efficiency. The recommendations will reflect the experiences and needs of the childcare providers, families, and farmers along with the current strengths of the Farm to Table program.

Recommendations directly from the childcare provider interviewees

The childcare providers provided the following recommendations for the F2T program during interviews with the MPH Capstone student.

- *Continue to invest in gardening and cooking education for children and families*

Childcare staff wanted the F2T program to invest more in gardening and cooking education. Childcare staff reported that the children enjoyed the cooking and gardening classes offered by the F2T program. One childcare staff suggested that the F2T program should provide seeds and/or starts from local farmers to the childcare sites for their gardens.

- *Trainings for childcare staff*

Many childcare providers suggested that the F2T program offer trainings for childcare staff on how to plan, order, prepare, and store local, seasonal produce. Some partners mentioned offering produce (via the GFB program) to childcare staff so that they can experiment and become familiar with the produce before teaching the children. Many staff requested more information about the harvest cycle and seasonality of produce. Some staff were interested in attending cooking classes with F2T staff to better understand how to use the produce. One childcare site had a volunteer chop and prepare the F2T produce weekly, and that childcare provider suggested that other childcare staff consider utilizing volunteers to help with produce preparation.

- *Connect farmers and children*

Childcare staff frequently mentioned that they would like to connect farmers and children. Childcare staff would like to invite farmers to teach lessons or help with the gardens. Partners

mentioned that exposing the children to the farmers would offer insight into how food grows, and what the career of a farmer looks like. Childcare staff were interested in knowing more about the farmers.

Recommendations directly from the farmer interviewees

The farmers provided the following recommendations for the F2T program during interviews with the MPH Capstone student.

- *The F2T program require a minimum order for products from each farm*

Farmers mentioned that it would be easier to offer small quantities if childcares were required to make a minimum order overall. Requiring a minimum order would make harvesting time more worthwhile for farmers and would allow farmers to offer smaller quantities.

- *Have childcare sites as a primary customer for farmers*

To mitigate the unpredictability of orders from childcare sites, farmers wanted to switch childcare sites to primary customers. As primary customers, childcare sites would have a regular standing order of products from farmers. This switch to primary customers with consistent orders would make growing and harvesting more predictable for farmers.

- *Connect farmers to children and childcare sites*

Farmers mentioned that they would be willing and interested in inviting children to their farms for tours or visiting schools for lessons, provided that they are compensated for their time. Farmers mentioned their interest in knowing more about the childcare sites, what the childcare sites are doing with their produce, and the schedules of the childcare sites.

Overall Program Recommendations

- **Offer education for teachers, staff, and cooks on how to prepare, store, and cook seasonal produce**

Provide produce to teachers, staff, and cooks to experiment at home before preparing and sharing with children. Develop trainings for childcare teachers, staff, and cooks about the F2T program

and produce about how to prepare, store, and cook produce. Include education about seasonality of foods and cooking techniques. Offer cooking events for childcare staff to use F2T produce with the F2T team. Create and distribute education materials about storage and cooking techniques for common F2T produce.

- **Provide organizational support to best guide ordering for the childcare centers**

Provide regular notifications of the funds available. Provide technical support and education on menu planning and produce ordering to incorporate locally grown produce into menus while meeting necessary guidelines. Develop a sizing chart to familiarize childcare staff with available quantities and guide appropriate ordering. Create a seasonality chart so that childcare staff can anticipate products throughout the year. Encourage childcare providers to place standing orders, when possible, to align with rotating menus.

- **Provide more information about the F2T program to the farmers.**

Provide farmers with more information about how the F2T program works from the perspective and experience of the childcare sites. Provide information about the childcare sites and the produce that they desire. Provide the school/childcare schedule to the farmers to better predict sales year-round.

- **Connect farmers to childcare students**

Invite farmers to classrooms to teach children about farming, seasonality, and their business. Prioritize these activities in the winter season. Offer payment to compensate the farmers for their time.

- **Continue to invest in cooking/gardening lessons**

Offer consistent and reliable support for cooking and gardening lessons at childcare sites. Provide resources and education to start and maintain on-site gardens. Offer farming/gardening lessons for children and training for staff at Tilth Alliance and Solid Ground urban farms. Offer cooking lessons for children, families, and childcare staff. Provide sufficient training for cooking/gardening educators. Continue to communicate effectively surrounding planning and coordinating cooking and gardening lessons.

Chapter VIII - Summary

The main purpose of the F2T program is to provide access to local, fresh, culturally relevant produce to low income preschool-aged children with the goals of reducing health disparities and food insecurity, while boosting the local farm economy. The MPH Capstone student performed a needs assessment of the F2T program in Seattle, WA to better understand the strengths, barriers and current use of the F2T program. The MPH Capstone student performed interviews with seven childcare partners and three farmers, spoke to several families, and recorded votes for vegetables that were desired by families. Themes from the interviews and a literature review of farm to preschool/early child education programs informed recommendations for the Seattle F2T program

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