

# Square One

## Dr. Yum for all

Abigail Henry, Christine Callahan, Iha Kaul, Olivia Nuelle



# Population of Focus

Low-income urban Springfield families with **children younger than 5 years old**

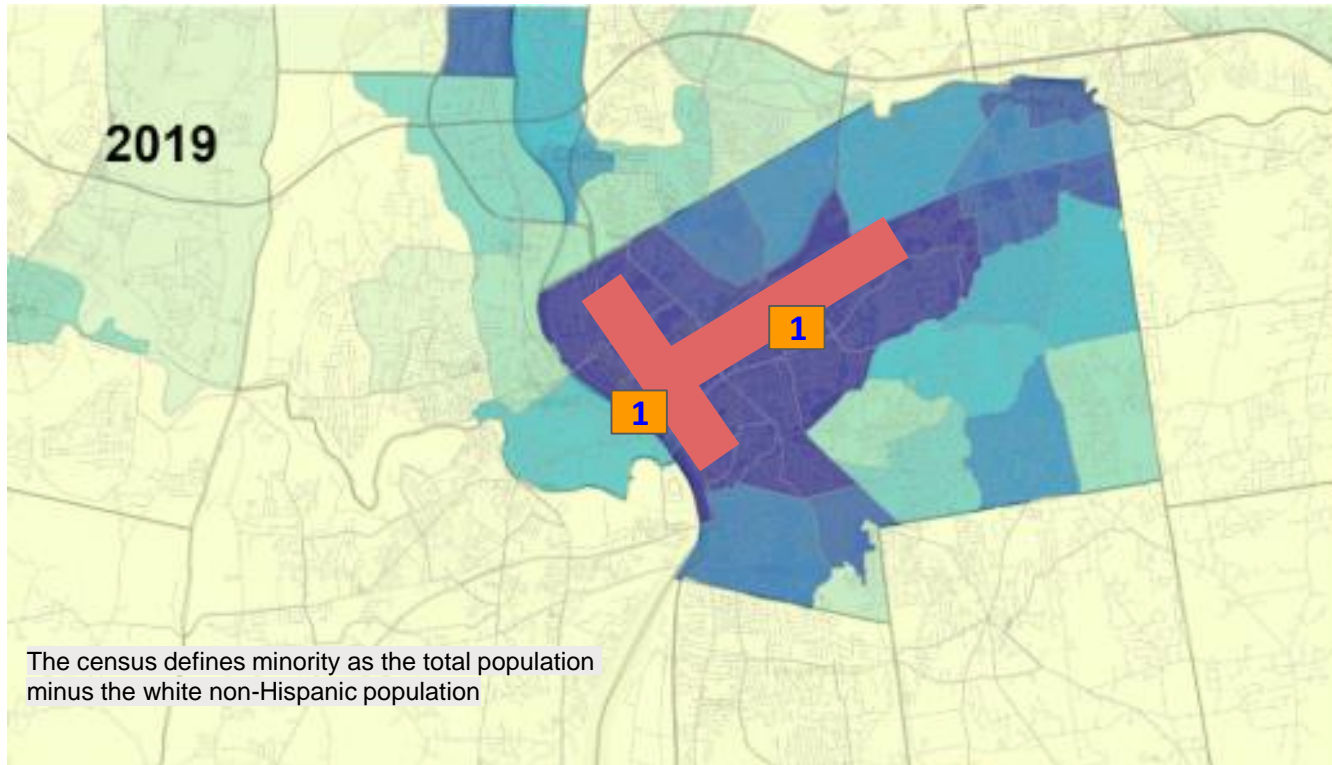


Square One principally serves community populations in **Springfield and Holyoke:**

- **Nearly 90%** of program participants are living at or below the poverty level
- **54%** of parents earn **less than \$15,000** annually
- Provides services to over **800 children** each day

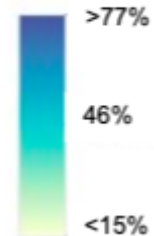
# Springfield's Population of Color has been increasing

Notice the "T" Area that overlaps with with many of these populations. Keep looking out for the "T" in other maps



1 Square One Locations

Minority\* Population

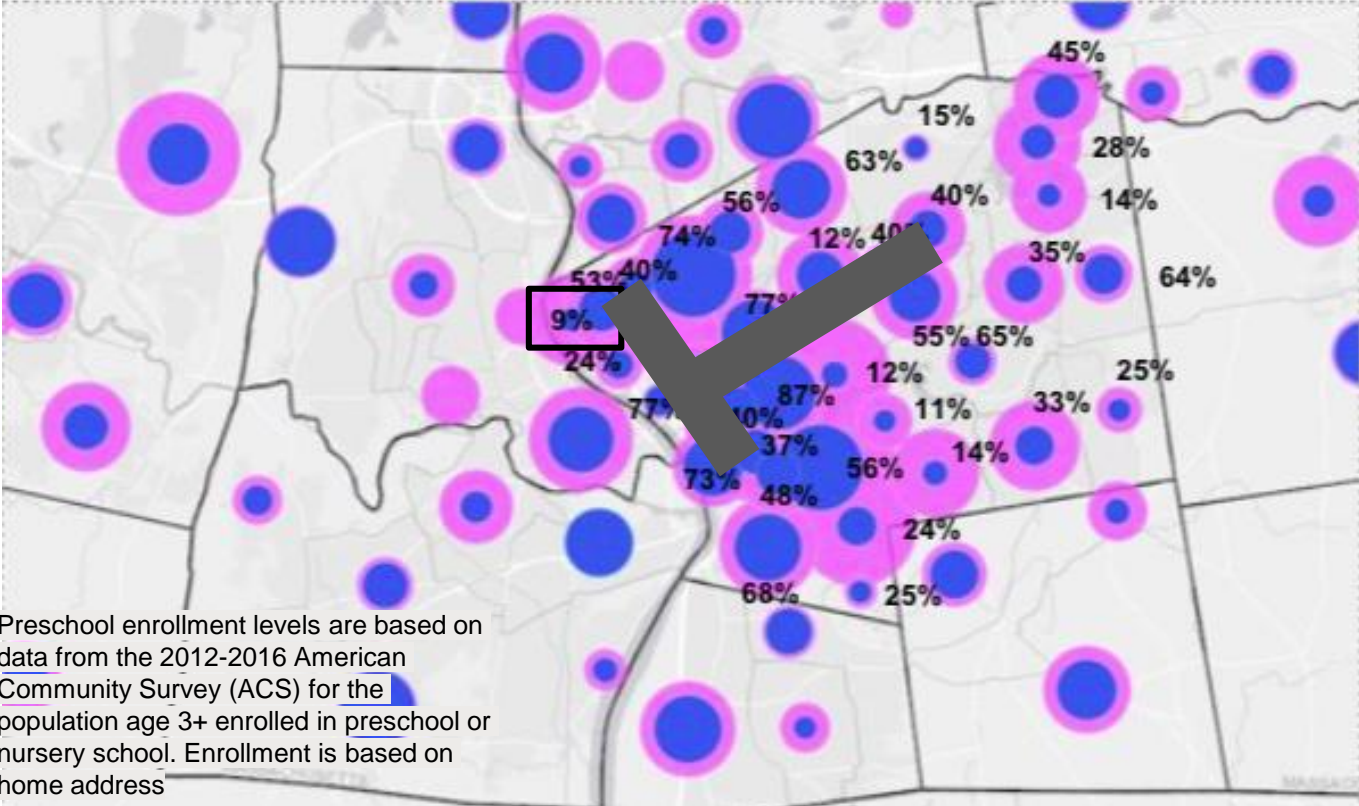


Sources: "USA Tracts" by Esri from U.S. Census, <https://datausa.io/profile/geo/springfield-ma/#demographics>

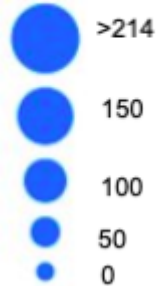
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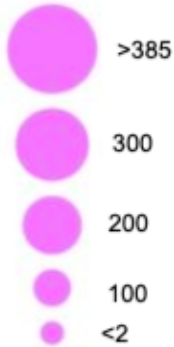
# Springfield has varying levels of Preschool Enrollment



Preschool Enrollment



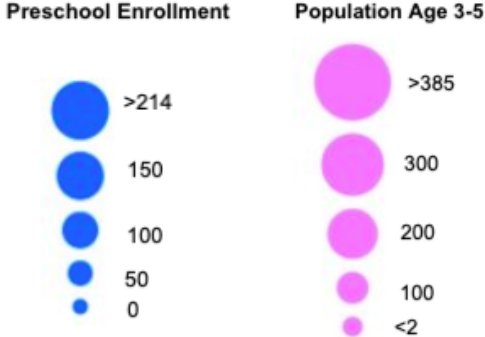
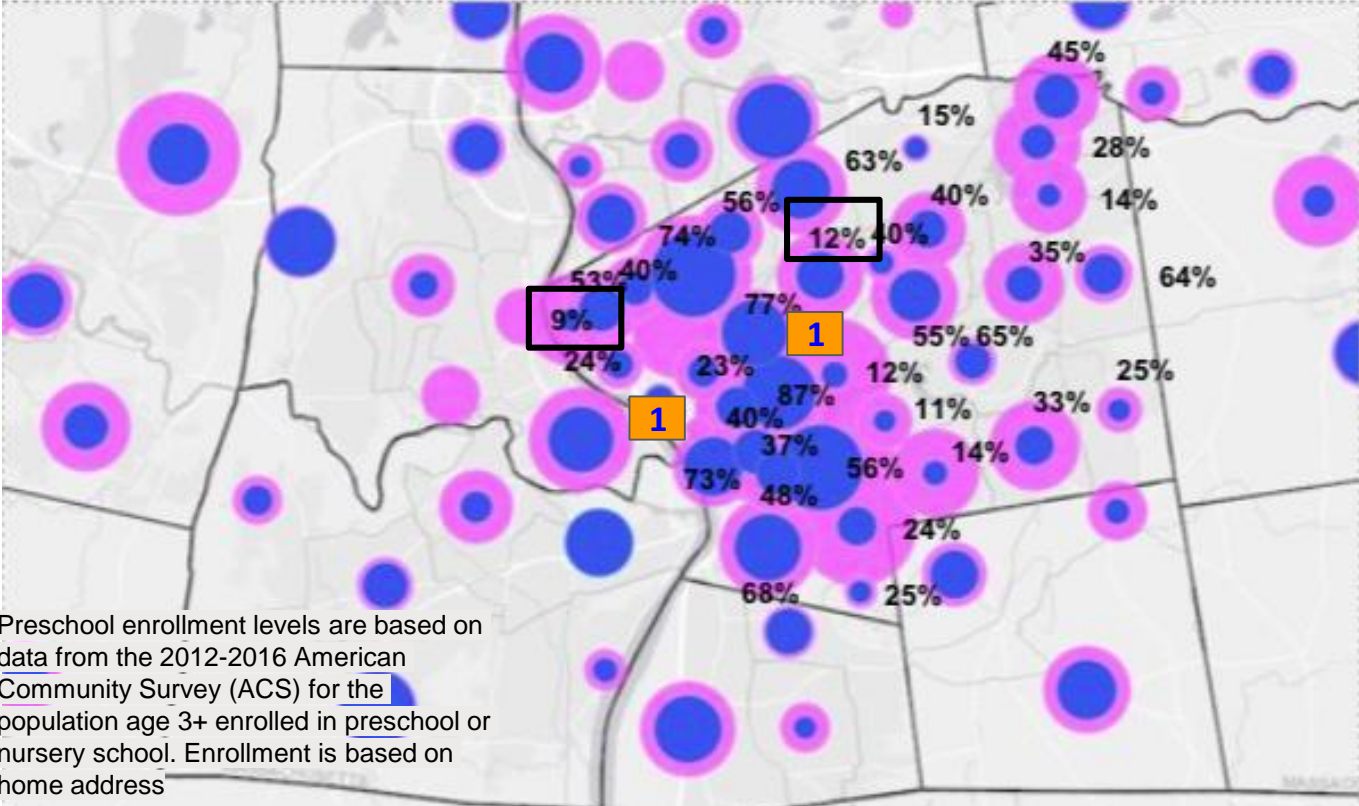
Population Age 3-5



Preschool enrollment levels are based on data from the 2012-2016 American Community Survey (ACS) for the population age 3+ enrolled in preschool or nursery school. Enrollment is based on home address

Sources: "USA Tracts" by Esri from U.S. Census, Pre-K enrollment from the ACS 2012-2016 Survey

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# Springfield has many areas with income below the national median

The census defines minority\* as the total population minus the white non-Hispanic population

Nationally, median household income is \$57,617  
 In Massachusetts, the median household income is \$74,167  
 In Springfield, median household income is \$35,742

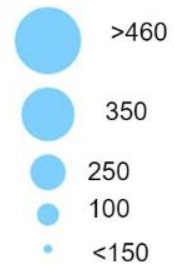
### Median Household Income



### Minority Population Under 4



### Population Under 4



Sources: "USA Tracts" by Esri from U.S. Census, US Census Bureau, <https://www.census.gov/content/dam/Census/library/publications/2017/acs/acsbr16-02.pdf>, <https://www.census.gov/quickfacts/fact/table/springfieldcitymassachusetts/IN160316>

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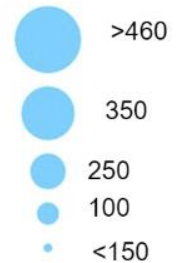
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## Population Under 4



Sources: "USA Tracts" by Esri from U.S. Census, US Census Bureau, <https://www.census.gov/content/dam/Census/library/publications/2017/acs/acsbr16-02.pdf>, <https://www.census.gov/quickfacts/fact/table/springfieldcitymassachusetts/IN160316>

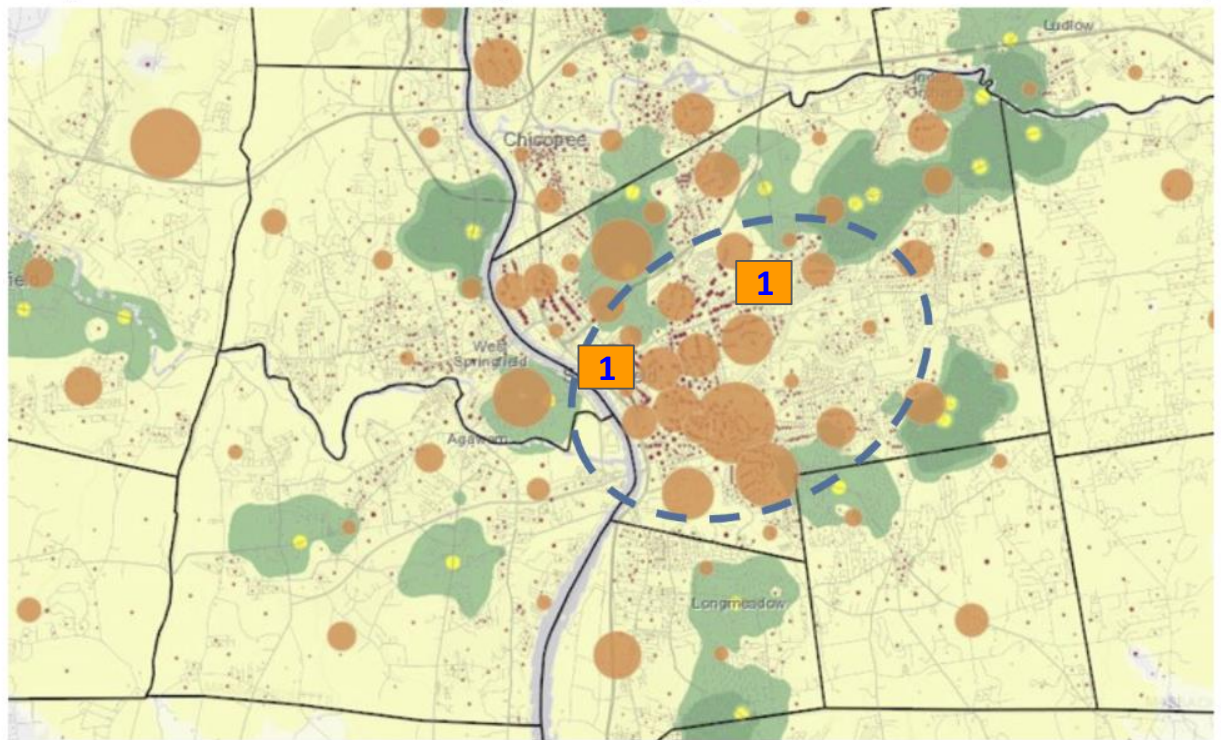
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# Large areas of Springfield have limited access to supermarkets, especially in the southern part of the city

The supermarkets included have annual sales of at least \$1 million



People in Poverty with High Access

- 1-4 people
- 5-10
- 11-50
- 51-100
- >100

People in Poverty with Low Access

- 1-4 people
- 5-10
- 11-50
- 51-100
- >100

Supermarkets within 1 mile walk

- 11 or more
- 3-10
- 2
- 1
- 0

Population Under 5

- > 611
- 500
- 400
- 300
- < 206

Supermarket



Sources: "USA Tracts" by Esri from U.S. Census, "USA Supermarket Access" by Jim Herries from Demographic data from U.S. Census and Esri Business location from infoUSA

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Square One Locations



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# Interprofessional Networks of Care

SquareOne programs and team members aim to provide interdisciplinary education and support services to families.

## The Team:

- Early education and care providers
- Family support specialist/home visitors
- Social workers
- Senior research associates

## Programs tailored to each families needs:

- Group, home visitation, personalized case management, emergency child-care
- Baystate physicians and medical professionals often refer expecting/new parents to Square One for services



- A website to teach patients the benefits of eating healthy
- Experiential learning
- Evidenced based model
- Problem = some ingredients are too hard find
- Piloted in 2 Square One classrooms last year
- Expanding to all Square One classrooms this year

Food Explorers! Give your Yum Score!



Keep trying that new food for a *Super Yum*



“Don’t yuck someone's yum!”



# Recreating Dr. Yum at Home

Recipe sent home to parents

## Green Goblin Hummus

1 10 ounce box frozen baby spinach (or  
2 cups fresh chopped)

2 15 ounce cans chickpeas

4 cloves garlic

¼ cup tahini

¼ cup olive oil

2 tablespoons lemon juice

1 teaspoon salt

¼ teaspoon red pepper flakes

½ teaspoon black pepper



**Spinach** - Only found at Americas (frozen, not fresh)

**Chickpeas** - found at all small and large stores

**Tahini** - Not found anywhere in Mason Square

**Olive Oil** - found at most stores, but expensive

# Our Project: Survey Creation

## Dr. Yum Parent Survey

Your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any question you do not wish to answer for any reason. Thank you for your participation.

**Dr. Yum Parent Survey**

Date: \_\_\_\_\_

Last 4 digits of cell phone number: \_\_\_\_\_

	Email	Text	Phone Call	Paper in child's backpack	Other (please explain)
I prefer to get information from Square One through (circle all that apply)					
I have heard about the Dr. Yum Program.	Yes	No			Always
When my child has a Dr. Yum lesson at school, I get a copy of the recipe.	1 Never	2	3 Sometimes	4	5 Always
I will probably make the recipe that my child made at school with them at home.	1 Not at all likely	2	3 Somewhat likely	4	5 Strongly Agree
I can find the food I need to make the Dr. Yum recipes.	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Always
I have my child try fruits and vegetables that I do not like.	1 Never	2	3 Sometimes	4	5

## Staff Survey

**SQUARE ONE STAFF SURVEY**

Last 4 digits of cell phone number \_\_\_\_\_ Date \_\_\_\_\_

	1 Never	2	3 Sometimes	4	5 Always
I eat my lunch in the classroom with students	1	2	3	4	5
I buy fresh or frozen fruits and vegetables for my family	1 Never	2	3 Sometimes	4	5 Always
If you answered 1 or 2, please explain why it is not a 3 or a 4.					
My students try new vegetables	1 Never	2	3 Sometimes	4	5 Always
My students try new fruits	1 Never	2	3 Sometimes	4	5 Always
I eat food cooked at home	1 Never	2	3 Sometimes (3-4 times per week)	4	5 Always
On average, in a week I eat fast food	1 Never	2	3 Sometimes (3-4 times per week)	4	5 Every day
I drink soda	1 Never	2	3 Sometimes (3-4 times per week)	4	5 Every day

TURN PAGE OVER!

## Child Survey


**Child Dr. Yum Survey**

What is your favorite food?

Do you know any **green** foods? What is it?

Do you know any **orange** foods? What is it?

Do you like to drink water?



## Parent Education Survey

**SQUARE ONE PARENT ED SURVEY**





Last 4 digits of cell phone number \_\_\_\_\_ Date \_\_\_\_\_

	1 Email	2 Phone Call	3 Text message	4 Paper in child's backpack	5 Other (please explain)
I prefer to get information from my child's school though (circle all that apply)					
I would be interested in a newsletter with nutrition and recipe information from Square One	1 Not interested	2 Maybe	3 Yes, I prefer a newsletter every 3 months	4 Yes, I prefer a monthly newsletter	5 Yes, I prefer a weekly newsletter
It is important to me that my child eats healthy food at school.	1 Not important at all	2	3 Somewhat important	4	5 Extremely important
It is important to me to know what my child eats at school	1 Not important at all	2	3 Somewhat important	4	5 Extremely important
I am interested in going to cooking classes to learn more about healthy food and how to make it	1 Not interested	2	3 Somewhat interested	4	5 Extremely interested
I feel confident that I know which foods are healthy	1 Not at all confident	2	3 Somewhat Confident	4	5 Extremely confident
I usually get my food from (circle all that apply)	1 Corner store / Bodega	2 Gas station	3 Supermarket / Grocery store	4 Restaurants	5 Food pantry / Mobile food market
I eat food cooked at home	1 Never	2	3 Sometimes (3-4 days per week)	4	5 Every day

TURN PAGE OVER!

# Our Project: Survey Creation

Created **4 surveys** to track metrics for recent Health New England grant that will fund the expansion of Dr. Yum to all Square One classrooms.

1. Increase **preschool children's** observed consumption of fresh/frozen fruits & vegetables by 50%  *Child Survey*
2. Increase **staff, family member and caretaker** knowledge and awareness of health food including fresh fruit and vegetables  *Parent/Caretaker Education Survey*
3. Decrease **staff, family member, and caretaker** self-reported unhealthy  
  1. Increase **staff, family member, and caretaker** self-reported healthy food consumption by 50%  *Staff Survey*
1. Increase **family member and caretaker** advocacy and participation in supporting healthy food in school and home environments by 40%  *Post Dr. Yum Parent Survey*

# Population Specific Advocacy Issues

## In Mason Square:



- **19%** of households are **food insecure** = worse health outcomes
- **60%** of Springfield's K-12 Students are **overweight or obese**
- **Diabetes mortality is higher in Springfield** (52.3 per 100,000) than all of Massachusetts (35.3/100,000)

## A Conceptual Framework: Cycle of Food Insecurity & Chronic Disease



Adapted: Seligman HK, Schillinger D. N Engl J Med. 2010;363:6-9.

# Advocacy Pitch



Child care and food insecurity are priorities in the 2016 CHNA

- Square One is reimbursed \$40 per day per child
  - **It costs \$63 per day**

Square One teaches kids to be excited about fruits and vegetables

- There is no major grocery store in Mason Square



## We need to invest money in early childhood education:

- Higher education levels
- Less drug use
- Less violent crime

## We need to stop making excuses about why supermarkets can't open in low-income neighborhoods:

- It lowers food insecurity <sup>1</sup>
- Better diet = better health
- Lower healthcare costs



MASSLIVE.COM

Square One opens Springfield child therapy center with \$125,000 grant from Lego (photos)

Pictured: Jenise and Dawn

*Square One relies on the creativity and hard work of its leaders who **apply for grants** and work for **fundraising** to keep running their Early Childhood Education Programs*

1. Richardson, Katy J., et al. "Food security outcomes under a changing climate: impacts of mitigation and adaptation on vulnerability to food insecurity." *Climatic change* 147.1-2 (2018): 327-341.

## We need to **invest money in early childhood education**:

- Call State Senator Lesser: [\(413\) 526-6501](tel:4135266501)
- Ask for an increase in early education reimbursement rates
- Ask them to contact Senate President Spilka and Chairman Rodrigues in support of the Early Education Workforce

## We need to **stop making excuses** about why supermarkets can't open in low-income neighborhoods:

- Call Mayor Sarno: [\(413\) 784-1200](tel:4137841200)
- Ask for a supermarket in Mason Square



“We’re here to make sure that in America, where a child grows up doesn’t determine whether they have access to a better—healthier—future. By introducing powerful incentives for private investors to take a chance on projects—like a new, healthier grocery store—we can make that difference for America’s children, while creating new jobs and services in their communities.”

*- Former U.S. Treasury Secretary Timothy Geithner*

# Key Takeaways from our Population Health Clerkship

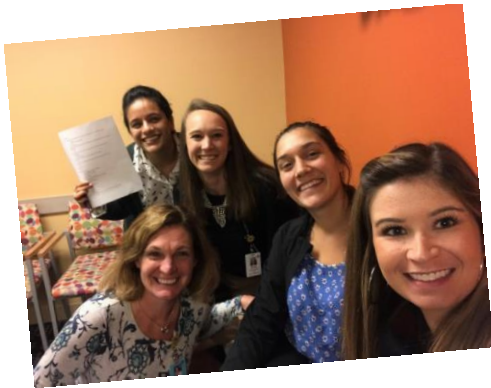
- Square One
  - More than just childcare
  - Implementing Dr. Yum curriculum
- Food insecurity
  - Food desert
  - Lack of money, time, and education
- Lack of funds for early education



# Interprofessional exposure

## We learned:

- Pharmacists and medical doctors have different specialties but rely on one another
- Different professions allow more perspectives to be explored
- As an interprofessional team we are able to teach each other daily and work together to solve problems within our community
- Having an understanding of each profession, respecting each profession and making lifelong friends



What questions do you have?



# THANK YOU



Jenise Katalina, Dawn Distefano (Square One)  
Jessie Gleckel (Public Health Institute-PHI)  
Dr. Chrystal Wittcopp (High Street Clinic)  
Justin Ayala & Dr. Sarah McAdoo (UMMS)  
Dr. Melissa Mattison (WNEU COPHS)



# REFERENCES

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