



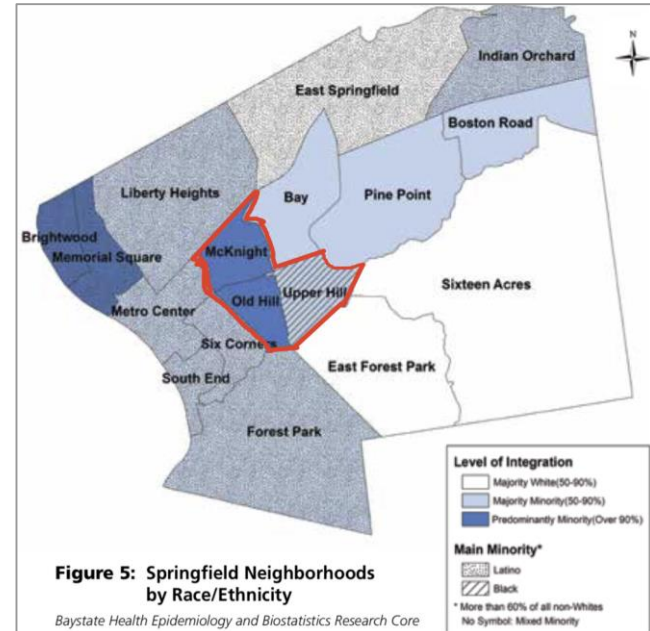
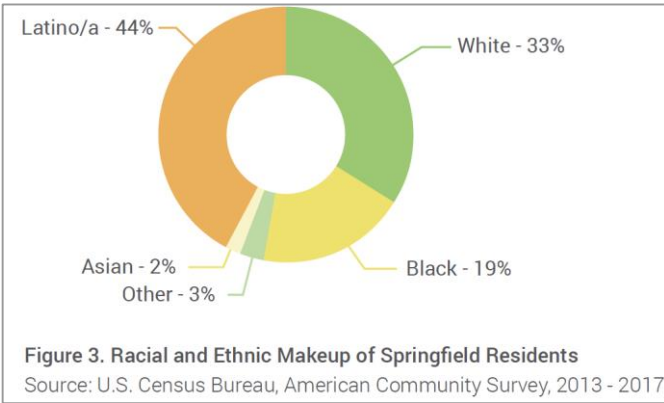
Vitamin Green: Public Perception of the Impact of Trees

Lauren Cralle, Heloise Dubois,
Theodore Medling, Warren Smith

Springfield, MA & McKnight-Hill



- Population estimate: 155,032
 - 53% women
 - 26% are children under 18 y.o.
- Diverse background
 - 10% foreign born
 - 38% over age of 5 primarily speak a non-English at home
 - 32% spanish
 - 3% indo-european
- Economically disadvantaged city
 - 30% live in poverty
 - McKnight-Hill Median income: \$28,197





12th Most Violent City

In America, according to the FBI's 2011 Report

2,800 Residents

Were members of the city's gangs

21% Decrease in Crime

From 2008 to 2014

38% Decrease in Aggravated Assault

From 2008 to 2014

C3 Mason Square Community Meetings



Interprofessional & Intra-community

All united by one shared neighborhood & one goal

Pros:

Transparency

Open Forum → everyone has a voice

Mutual Respect

Cons:

Not all groups are represented at the meetings,
including clinicians

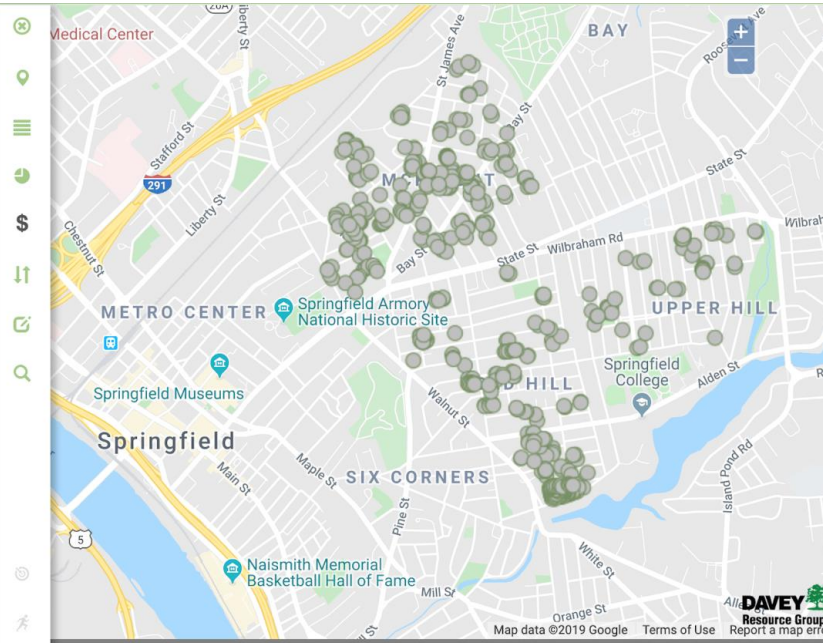




Tree Inequity

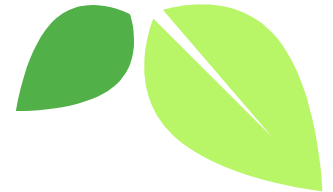
McKnight-Hill is classified as an **Environmental Justice Area** by *minority and income level*

Tree Benefits
GGCP ▾
471 Calculated Trees
Total Yearly Eco Benefits \$9,812.04
Greenhouse Gas Benefits \$20.75 4,635.91 lbs CO ₂ avoided 1,941.90 lbs CO ₂ sequestered
Water Benefits \$122.33 15,291.13 gallons saved
Energy Benefits \$1,397.07 1,644.14 kWh saved 828.64 Therms saved
Air Quality Benefits \$149.45 28.18 lbs pollutants saved



Initial Tree Cover by Neighborhood:

- McKnight- 11.4%
- Old Hill- 15.9%
- Upper Hill- 12%





Health Effects

- A 2019 PHI report states that certain neighborhoods are **disproportionately affected by asthma**
 - Elementary Students with asthma:
 - Rebecca M Johnson: 22.3%
 - William N. DeBerry: 16.9%
 - Due to higher levels of **air pollution**
- AAFA ranked Springfield as **most challenging** place to live with asthma

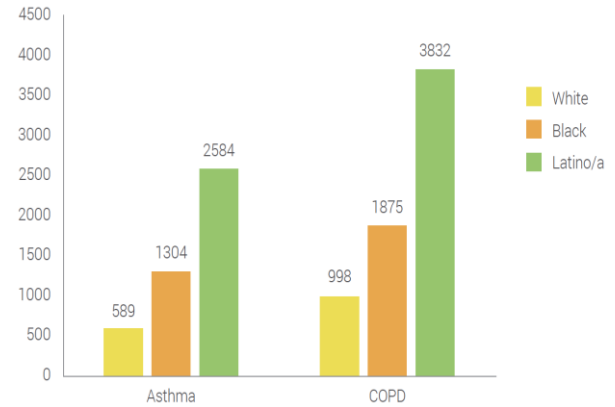
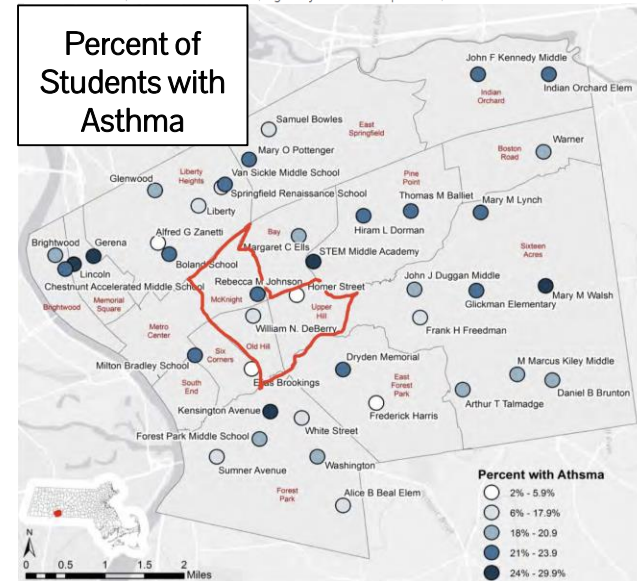


Figure 10. Springfields Asthma and COPD Emergency Room Visit Rates, 2012 - 2015
Source: MDPH, Acute Care Dataset; age-adjusted rates per 100,000



Environmental Justice



2016 BMC Community Health Needs Assessment:
“Climate change is expected to ... **negatively affect the health** of a large number of BMC service area residents... Almost all of Springfield qualifies as an **environmental justice population** -- low income populations, communities of color, and immigrant [groups] that often experience **disproportionate exposure** to the impact of natural disasters, climate change and environmental hazards.”

Environmental Health Organizations in Springfield



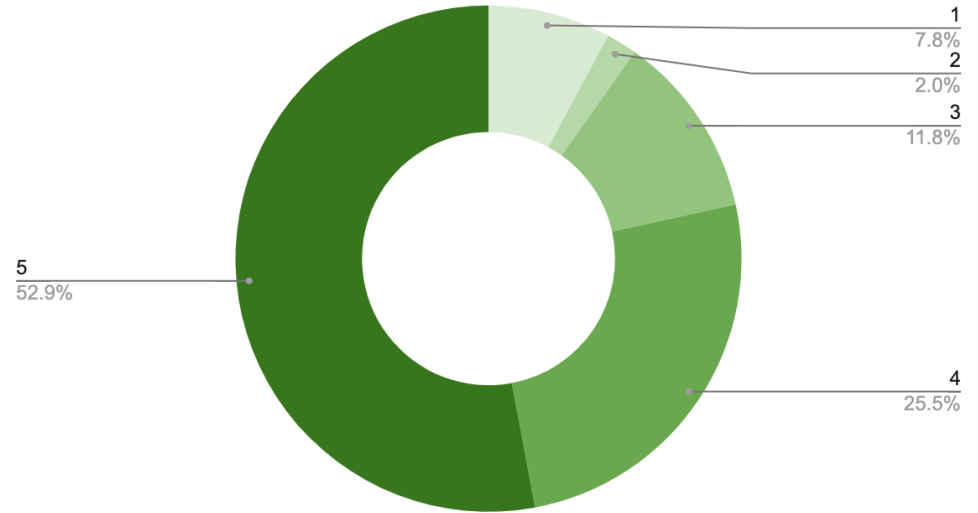


Service to the Community

- Focused on the need to plant more trees in the community - to **improve asthma and pollution rates.**
- Analyzed local asthma rates, spoke with local residents, and examined areas where trees could potentially be planted.
- Conducted a survey with local residents to gather their **general views on trees.**

Survey Results

How do Trees Affect your Mood?



★ Legend

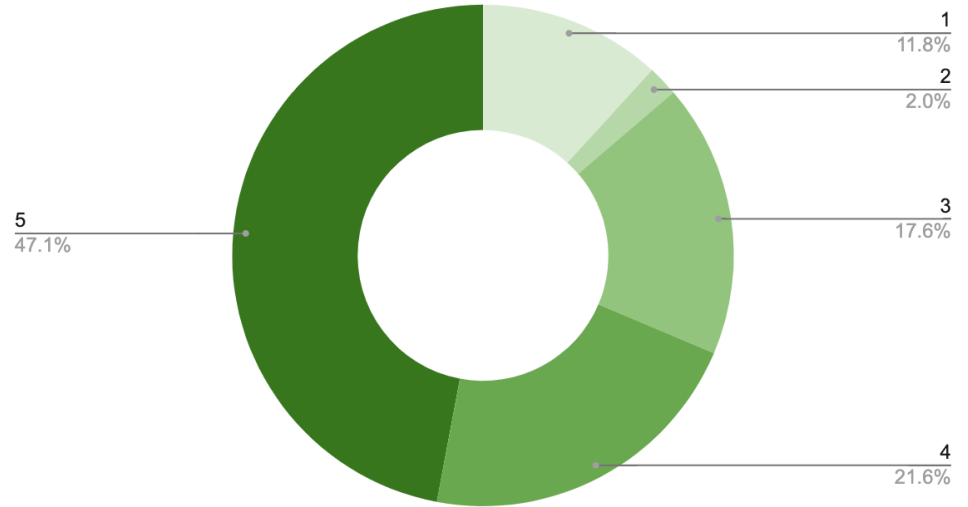
1- Negatively

3-Neutral

5- Positively

Survey Results

How do Trees Affect your Physical Well-Being?



★ Legend

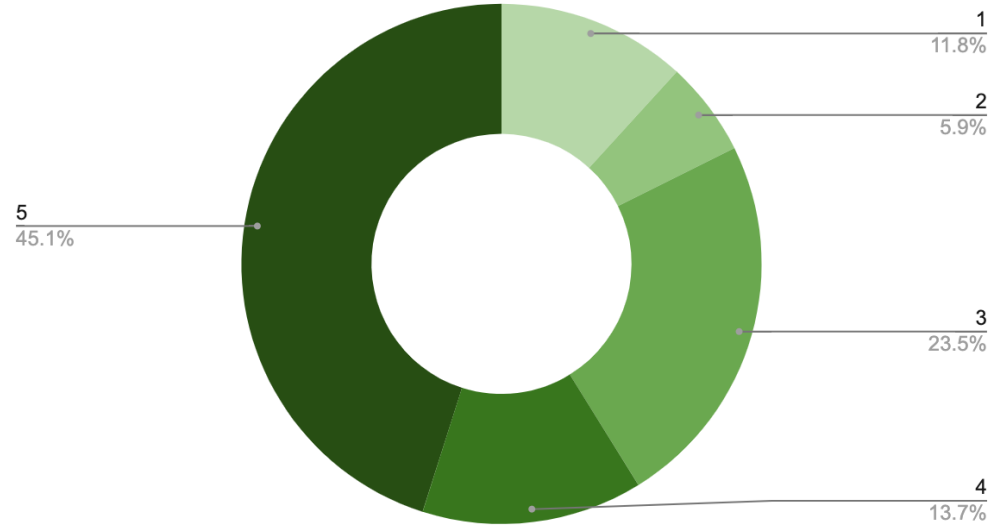
1- Negatively

3-Neutral

5- Positively

Survey Results

How Much do You Think that Trees Lower Energy Costs?



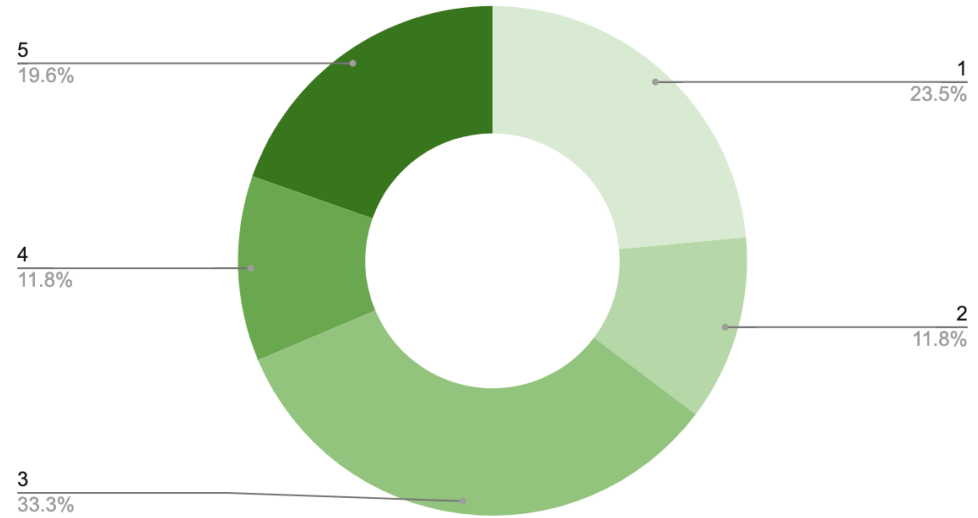
★ Legend

1- Not at all

5- Significantly

Survey Results

How Concerned are You with Tree-Related Damage?



★ Legend

1- Not at all

5- Very Concerned



Population Health Advocacy



Outdoor Rx



- Collaboration between Appalachian Mountain Club's (AMC) and Boston's healthcare providers.
- Outdoors Rx gives healthcare professionals tools for **prescribing outdoor activity**, including a prescription for the outdoors and a map showing local green spaces for families to explore. The program provides an online resource with ideas for nearby outings and offers **local guided programs** which are free.
- Funded by grants since 2013 from Blue Cross Blue Shield of Massachusetts, Boston Medical Center, and others.



Leaders, Bring Outdoor Rx to Springfield!

- We need your help! We ask that Baystate Medical Center, which serves a majority of residents in Springfield, **collaborate** with the environmental groups in the area to **encourage & enable** children as well as adults to **actively explore the outdoors** through the foundation of OutdoorRx.
- *Funding* on the city, state, & federal levels with *community engagement* by clinicians is necessary for the **health of our community.**





What did we learn?



To Summarize...

- Many local organizations work *behind the scenes* to improve aspects that affect **physical** and **psychological well-being** of the residents of Springfield.
- Interacting with residents has helped provide us a sense of **what they need**, what they are **expecting of their community leaders**, and **how to communicate** with them effectively.
- Similarly, identifying social and environmental injustices that these residents and future patients experience provides us with more **empathy and understanding** as clinicians and enable us to **advocate** for them appropriately.
- The ability to interact **interprofessionally** and observe other interprofessional teams has given us a greater sense of the importance of **cooperativity** and **appreciation** for the skills we each bring to the table.



Our Survey

If you're interested in exploring our methods & taking our survey for yourself, scan this QR code with your smartphone camera.



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Thanks!

ANY QUESTIONS?

