

Moving Worcester

Evaluating Fitness in the Parks

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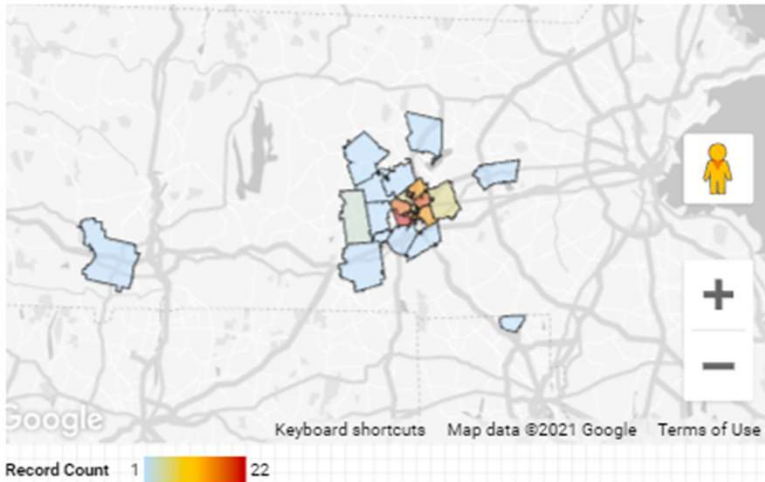
Led by Collin Leibold and Dr. Erban



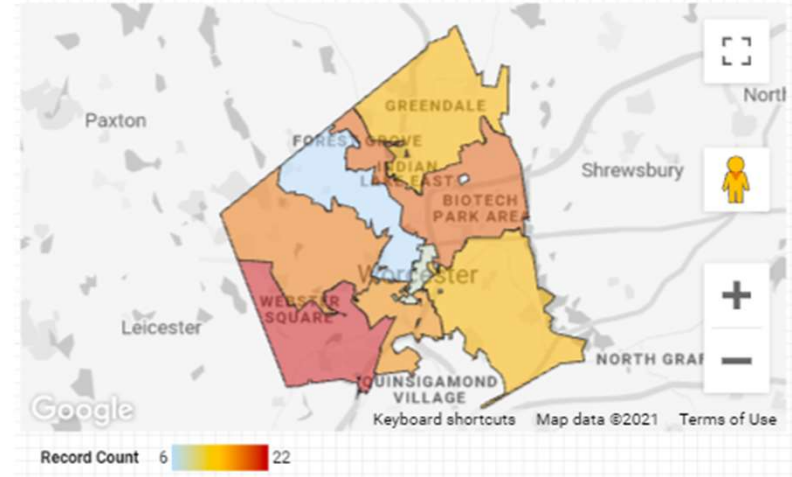


Defining Our Population: Geography

All Participants:



All Participants in Worcester:



Definition Our Population: Age

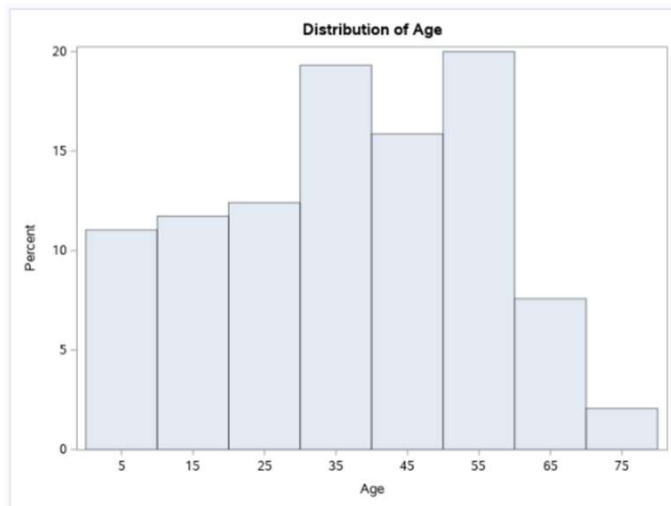


Figure 1: histogram of participant ages. Age approximated a bimodal distribution with peaks in the 30s and 50s.

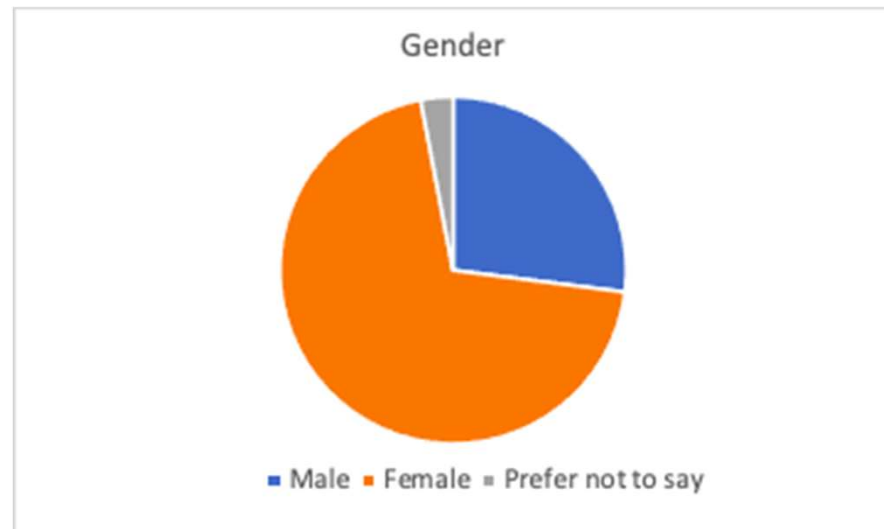
- Median age of our sample: 36
- Range of our sample: 1-77
- Worcester median age: 34.7



Defining Our Population: Gender

Our sample:

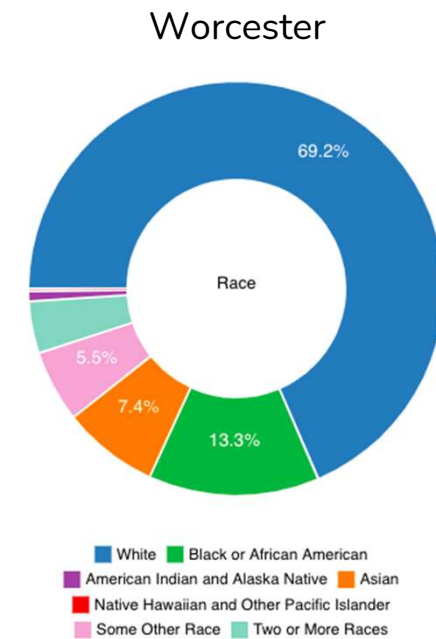
- Male: 27%
- Female: 70%
- Other: 0%
- Prefer not to answer: 3%





Defining Our Population: Race

	Our Sample
White/caucasian	46 (30%)
African/African American/Black	32 (21%)
Latinx/hispanic	33 (21%)
Asian	12 (8%)
Multiple races/ethnicities	2 (1%)
Native American/indiginous	1 (0.5%)
Prefer not to answer	32 (21%)

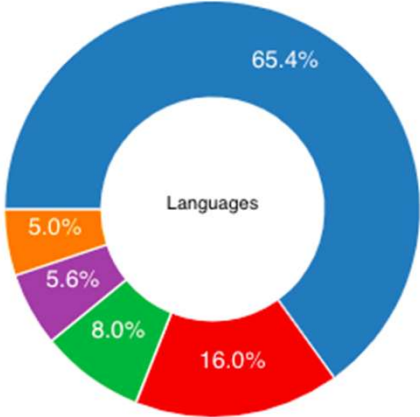


World Population Review 2021



Defining Our Population: Language

Worcester



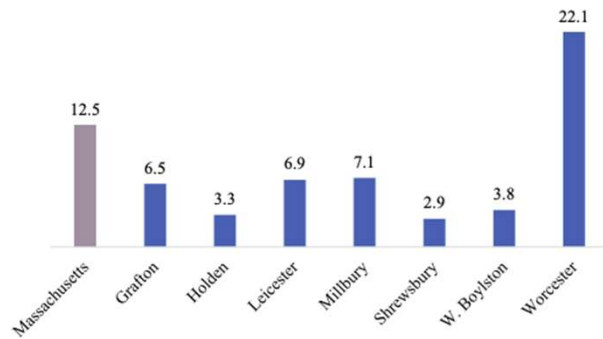
■ Only English ■ Spanish ■ Other Indo-European Languages
■ Asian and Pacific Island Languages ■ Other Languages

World Population Review 2021



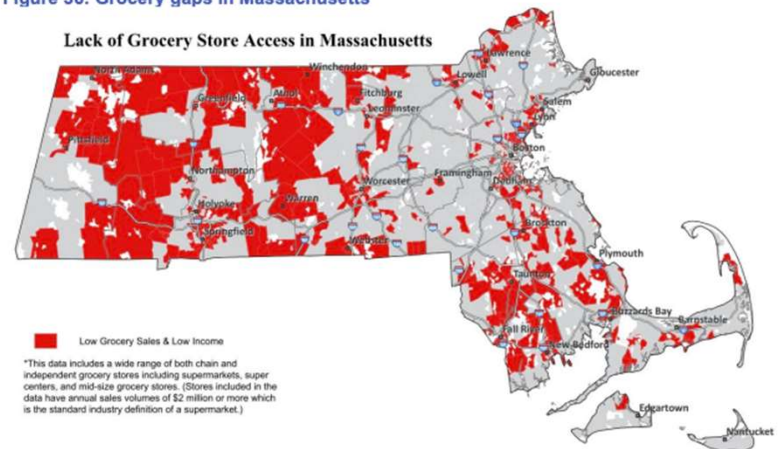
Needs and Trends: Food Security

Figure 33: Percent of Population Receiving Food Stamp/SNAP Benefits (Service Area), 2012-2016



Source: U.S. Census Bureau, 2016 5-Year American Community Survey.

Figure 36: Grocery gaps in Massachusetts



Source: Massachusetts Public Health Association



Needs and Trends: Smoking

Figure 41: Percent of Adult Population Who Smokes (Service Area), 2011-2015 Estimates

	MA	Grafton	Holden	Leicester	Millbury	Shrewsbury	W.Boylston	Worcester
Adult Smoking (%)	15.5	11.7	11.8	15.8	18.7	11.2	13.1	18.8

Source: 2011-2015 Behavioral Risk Factor Surveillance System (Analysis by Massachusetts Association of Health Boards)



Needs and Trends: Alcohol consumption

Figure 42: Alcohol (Service Area)

	MA	Grafton	Holden	Leicester	Millbury	Shrewsbury	W.Boylston	Worcester
Total Number in BSAS Licensed Facilities (2014)*	85,823	161	101	126	223	253	0-100	4,915
Alcohol as Primary Drug of Use (%)	31.9	34.2	26.7	30.2	27.8	35.2	35.1	24.8
Alcohol/Sub. Use Related Hospitalizations (Age-adjusted per 100,000), 2008-2012**	337.56	136.93	145.54	194.7	198	122.01	164.72	338.82
Alcohol/Sub. Use Related ED Discharges (Age-adjusted per 100,000), 2008-2012	858.83	426.62	389.64	426.34	649.24	372.32	488.09	1209.27

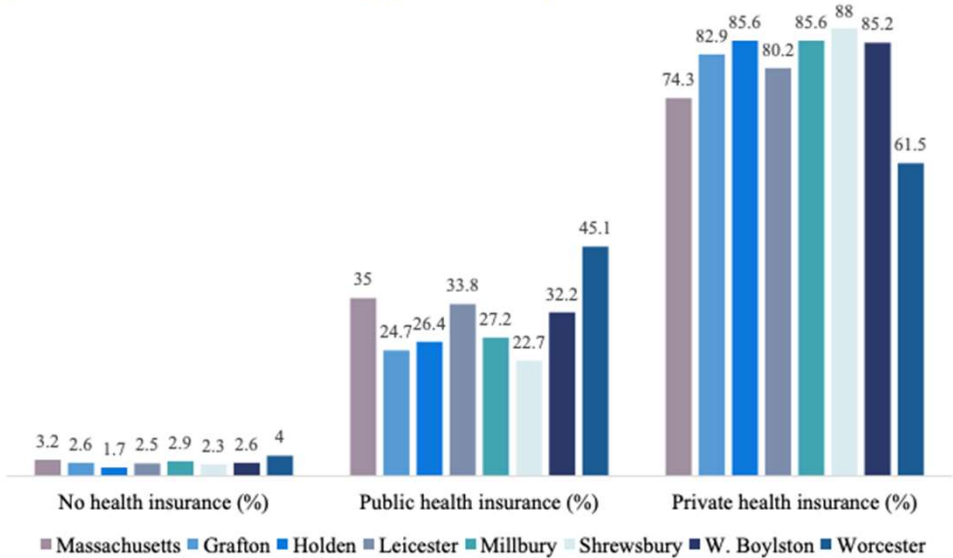
*Source is the Massachusetts Bureau of Substance Abuse Services (BSAS), 2014

**Source is Massachusetts Hospital Inpatient and Emergency Visit Discharges, 2008-2012 (Accessed through MassCHIP)
 Shading represents statistical significance compared to the Commonwealth. Figures highlighted in red are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.



Needs and Trends: Health Insurance

Figure 45: Health Insurance Coverage (Service Area), 2012-2016



Source: US Census Bureau, American Community Survey



Needs and Trends: Diabetes

Figure 47: Diabetes (Service Area)

	MA	Grafton	Holden	Leicester	Millbury	Shrewsbury	W.Boylston	Worcester
Hospitalizations (Age-adjusted rates per 100,000) (2008-2012)	135.0	71	79.0	155.1	123.2	89.6	96.4	180.1
Related Hospitalizations (Age-adjusted rates per 100,000) (2008-2012)	1,845	1,144.2	1,1288.7	1,922.5	1,662.0	1,391.8	1,362.2	2,450.6
ED Discharges (Age-adjusted rates per 100,000) (2008-2012)	133.4	48.8	69.1	107.7	85.0	84.9	102.4	185.4
Mortality (Age-adjusted rates per 100,000) (2015)*	16.8	--1	--1	--1	0	16.4	--1	26.1

Source: Massachusetts Hospital Inpatient and Emergency Visit Discharges, 2008-2012 (Accessed through MassCHIP)

*Source is Massachusetts Vital Records, 2015 || A value of --1 means data is suppressed due to low counts

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in red are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

Needs and Trends: Cardiovascular disease

Figure 48: Cardiovascular Disease (Age-adjusted rates per 100,000) (Service Area)

	MA	Grafton	Holden	Leicester	Millbury	Shrewsbury	W.Boylston	Worcester
Hypertension								
Related Hospitalizations (2008-2012)	4,025.1	2,959.6	3,171.6	3,813.0	3,901.8	3,568.9	3,362.1	4,766.2
ED Discharge (2008-2012)	121.4	66.3	71.2	81.3	78.5	81.9	56.7	141.7
Mortality (2015)*	6.9	--1	--1	--1	--1	--1	0	10.1
Heart Disease								
Hospitalizations (2008-2012)	980.3	771.8	859.1	1,015.2	930.5	933.8	869.3	1,022.3
ED Discharge (2008-2012)	214.9	138.6	126.3	187.9	145.2	179.1	168.1	152.1
Mortality (2015)*	138.7	170.9	121.5	149.6	173.6	146.5	106.3	161.5
Major Cardiovascular Disease								
Hospitalizations (2008-2012)	1,343.9	1,053.1	1,154.2	1,366.7	1,367.2	1,215.5	1,134.6	1,420.7
ED Discharge (2008-2012)	402.1	228.9	216	302.1	258.2	283.8	263.4	323.6
Mortality (2015)*	180.8	210.1	151	215.6	253.9	188.4	145.4	208.1
Heart Failure								
Hospitalizations (2008-2012)	273.0	147.0	196.2	251.8	223.1	258.1	237.1	313.5
Related Hospitalizations (2008-2012)	1,191.5	757.6	1,008.8	1,341.8	1,096.4	1,139.2	1,011.7	1,452.0
Cerebrovascular Disease								
Hospitalizations (2008-2012)	227.6	165.5	200.3	222.4	269.0	170.2	172.75	236.4
Mortality (2015)*	28.4	--1	--1	--1	57.8	29.6	33.6	31.7

Source: Massachusetts Hospital Inpatient and Emergency Visit Discharges (Accessed through MassCHIP)

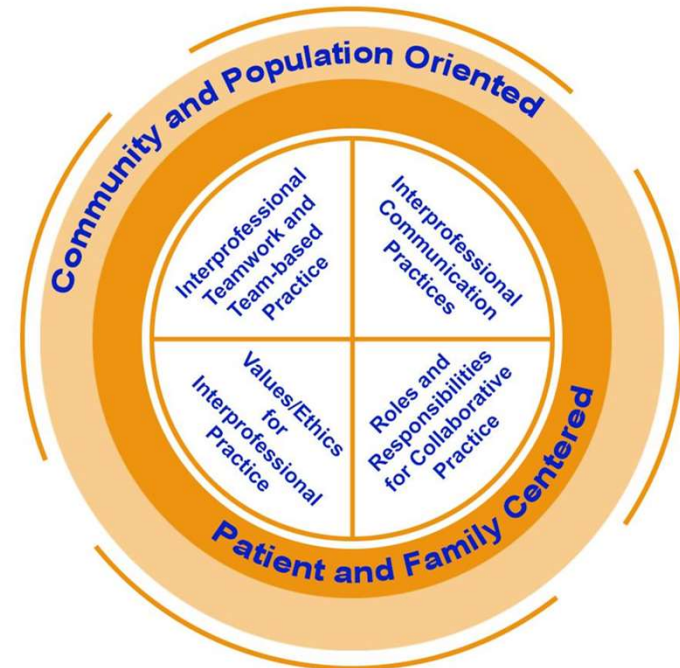
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Interprofessional

The scope of the needs of the community and those that participate in helping those needs is wide and variable for each community. Here in Worcester, there are several programs and members of the community that serve to lead population-oriented physical activity leadership.




The Learning Continuum pre-licensure through practice trajectory



Interprofessional

Healthcare Providers

- Doctor, NP, PA, etc...
- Holistic healthcare
- Strength: Medical Ethos
- Limitations: Following up



YWCA/ YMCA/ Medicine in Motion

- Population/Community Health
- **Strength: Program offering**
 - Summer Fitness
- Limitations: Who can attend





Interprofessional

The City

- Parks & Rec, Schools (WPI)
- Locations and equipment
- Be in direct contact often



Volunteers!

- Instructors, Maintenance
- Program leadership, continuity
- They're here cause they want to be!





Interprofessional More than Mentioned





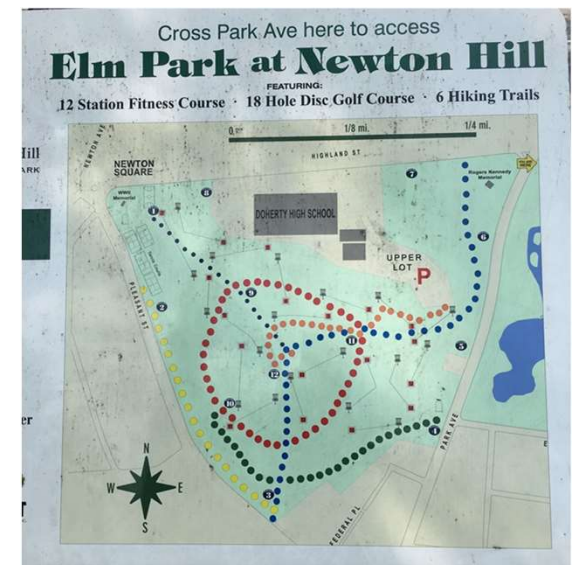
National Advocacy for Physical Activity: PAPREN

- Physical Activity Policy Research And Evaluation Network
- PAPREN's seeks to **advance the evidence base supporting physical activity policy and translation of evidence into practice at local, state, and national levels**
- Physical activity researchers across the country work together to link health-related outcomes to policy
- Advocate for a built-environment that promotes physical activity
- For example, their research includes a nationwide evaluation of zoning codes associated with walking behaviors



Advocacy for Physical Activity in Worcester: Newton Hill Fitness Course

- Created by Dr. Philip Bolduc, a Family Medicine physician
- 12-stations with durable equipment
- Easy-to-follow instructions at each station
- Opportunity to exercise and spend time in nature
- Free → Let's tell Worcester residents about this!



Advocacy for Physical Activity in Worcester: Walk with a Doc

- Grassroots organization started in 2005
- Impacting behavior change in patients outside of the clinical setting
- Doctor leads patients on a local walk
 - Brief health discussion
 - Healthy snacks, optional blood pressure checks
 - Normal, everyday conversation & exercise with community members
- Over 500 chapters internationally
- Dr. Liz Erban @ Lake Park



Advocacy for Physical Activity in Worcester: Walk with a *Future Doc*

- Opportunity for medical students to get involved
- WWAD aims to bring lifestyle medicine education into practice for a new generation of physicians
- How to get started:
 1. Visit site for tools & scholarship opportunity for med students
 2. Fill out contact form for guidance from WWAD admin
 3. Sign up & plan
 4. Walk!

<https://walkwithadoc.org/start-a-walk/walk-with-a-future-doc/>

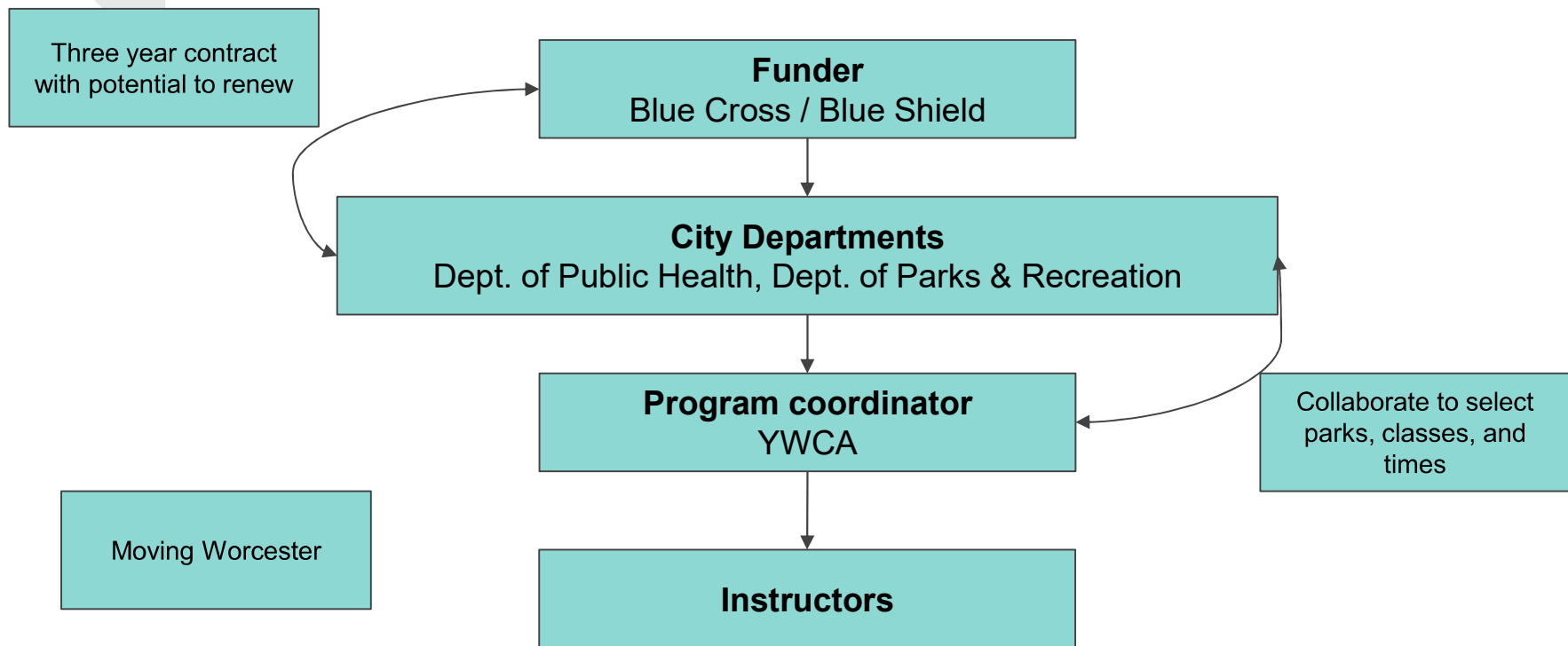


Advocacy for Physical Activity in Worcester: YWCA of Central Massachusetts

- Summer SPLASH Program
 - Swim & Play, Aquatic Safety and Health
 - Free for children ages 7-12
 - Teaching life-saving aquatics skills
 - 2 lessons per week in July
 - Lessen disparity in aquatics education (<https://ywcacm.org/splash/>)
 - *Spread the word!*
- Discounted gym memberships
- **Fitness in the Parks**



Fitness in the Parks: Overview





Fitness in the Parks 2021 Attendance Data

Class (number of classes)	Day/time	Location	Number of participants per class (Median, IQR)	Number of unique participants	Age of participants, years (Median, range)
Boot Camp (9)*	Monday 5:30pm	Worcester Common	9 (8 - 10)	36	37.5 (10 - 66)
Yoga/Pilates (8)	Monday 5:30pm	Beaver Brook Park	5.5 (4 - 11.5)	34	43 (19 - 74)
Tai Chi (11)	Tuesday 5:30pm	Crompton Park	7 (4.5 - 7.5)	24	52.5 (22 - 68)
Groove (11)	Wednesday 5:30pm	Cristoforo Colombo (East) Park	7 (1.5 - 9)	36	35 (3 - 67)
Dance Fit (8)	Thursday 5pm	Oread/Castle Park	2.5 (0.75 - 4.25)	16	35 (5 - 65)
Soccer (9)	Friday 5:30pm	Vernon Hill Park	6 (3 - 9)	29	12 (1 - 61)
Fit Families (10)*	Saturday 9am	Crystal/University Park	3 (1.5 - 4)	12	45 (11 - 77)
Karate (7)	Sunday 10am	Great Brook Valley Playground	1 (0 - 1.5)	6	39.5 (11 - 53)

Summer Fitness in the Parks 2021

Data collection via phone calls/emails

- Participant characteristics and feedback
- Instructor feedback

Data analysis for trends in demographics, exercise and dietary, habits, likes/dislikes/suggestions





How Active Were Our Participants Prior to FITP?

Characteristic	Value
Access to a gym (Number, %)	18 / 33 (54%)
Physical activity (Number, %)	
Any regular aerobic exercise	22 / 33 (66%)
>= 150 min/wk aerobic exercise	13 / 33 (39%)
Any regular strength training	14 / 33 (42%)
>= 2 days/wk strength training	14 / 33 (42%)
>= 5 servings fruits/vegetables per day (Number, %)	18 / 33 (54%)



Learning Through Service

Participant/Instructor Feedback

Ideal timing of classes:

Start time ~6pm weekdays, early mornings
~7am, or weekend afternoons

Favorite part of the program:

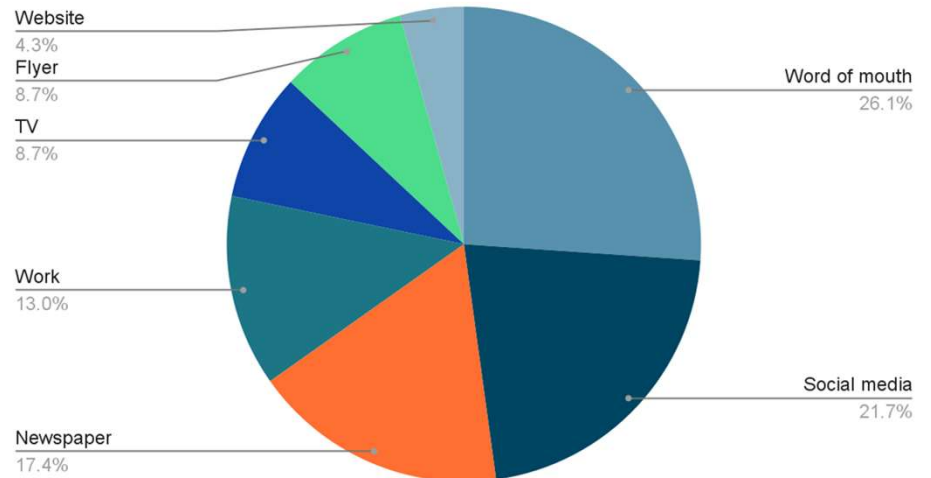
Community building, excellent instructors,
spending time outdoors

Suggestions:

Improve advertising, clarify location and
transportation/parking, add more class offerings
and times, provide mats/equipment, make this
program available year round

How did participants hear about FITP

Points scored





Learning Through Service: Key Takeaways

Getting people active is about more than just an Rx for exercise!

Critical SDOH to consider:

Socioeconomic Status - Access to exercise classes/facilities needs to be affordable and available year-round

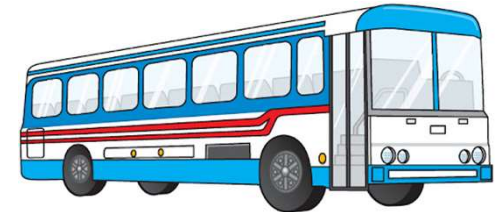
Access to Transportation/Parking - People need to be able to be able to get to a safe space to exercise

Food Access - Exercise is a great start, but access to healthy foods is the other half of the battle for physical fitness

Other Factors:

Community Development - An exercise regimen is easier to stick to with support from family friends, peers, or trainers

Convenience - People have different schedules and routines; classes must be at the right time





Acknowledgements

Dr. Elizabeth Erban - UMMHC Family Medicine, PCHC Team Leadership

Collin Leibold - UMMS, PCHC Team Leadership

Jermoh Kamara and Alfee Westgroves - YWCA of Central Massachusetts

Dr. Philip Bolduc - UMMHC Family Medicine, Friends of Newton Hill Park

Janet Huehls - UMass Memorial Weight Center

Jennifer Misiaszek - Boston Parks and Recreation Department

Blue Cross/Blue Shield

Worcester Parks & Recreation Department

Worcester Department of Health and Human Services

Medicine in Motion

YMCA/LiveStrong Foundation of Central Massachusetts

UMMS Population and Community Health Clerkship Team

