

Can Subsidized Transportation Options Slow Diabetes Progression?

Mobility Solutions to Better Health Healthcare and Food Access under COVID-19

Strategies to Achieve Alignment, Collaboration, and Synergy Across Delivery and Financing Systems

Research-in-Progress Webinar
December 8, 2021
12-1pm ET

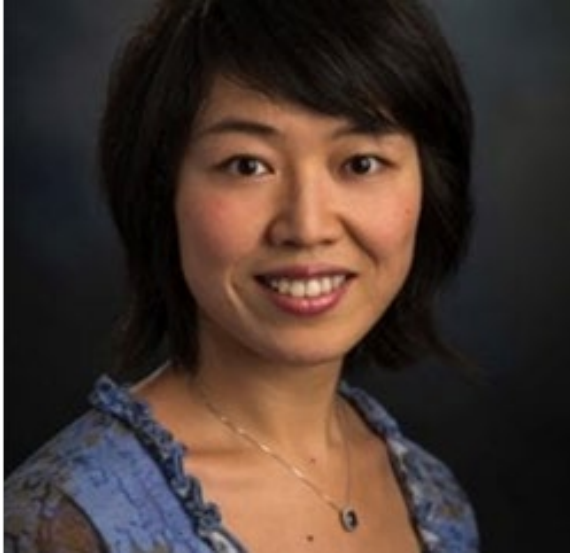
Agenda

Welcome: *S4A Staff*

Presenters: Fei Li, PhD and Christopher Wyczalkowski, PhD
Georgia State University

Commentary: Renee Ogoun
Food As Medicine Partnership

Q&A: *S4A*



Fei Li, PhD



Dr. Li is an Assistant Professor in the Urban Studies Institute. Her research interests include transportation, affordable housing, segregation and inequalities, and the social impacts of technology. Her current work explores 1) transportation as a social determinant of health (SDOH) and potential solutions to accessibility-related health disparities; 2) the role of shared mobility and micromobility (personal mobility devices such as bikes, scooters, skateboards, etc.) in a safe, sustainable, and equitable post-pandemic urban transportation system; and 3) socio-spatial isolation and segregation in individuals' daily lives and activity spaces.



Christopher Wyczalkowski, PhD

Dr. Wyczalkowski is affiliate faculty with the Urban Studies Institute at Georgia State University, adjunct professor in the Department of Public Management and Policy, and Manager of Research and Analysis at the Metropolitan Atlanta Rapid Transit Authority (MARTA). Chris is an urban policy scholar with research interests related to the interaction of society with the evolving urban environment. His current research agenda is focused on the effects of transportation systems on socioeconomic characteristics of neighborhoods.



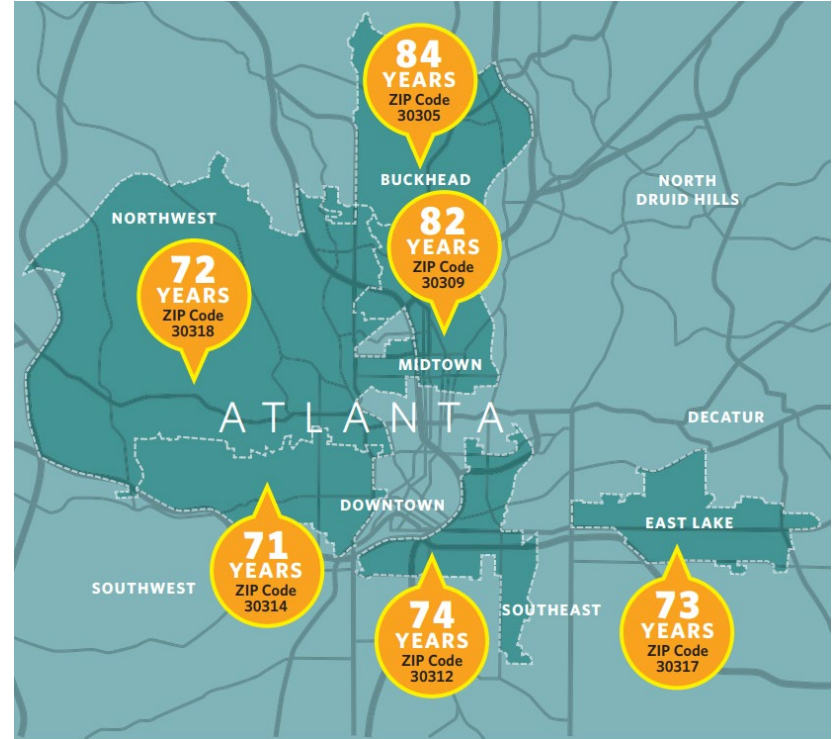
Renee Ogoun

Renee Ogoun has always had a passion for taking care of people. Currently, Renee serves as the Patient Navigator for the Food as Medicine Program. She started her career as a Nurse Assistant with over six years of experience. After graduating from Georgia State University in 2019 with a Bachelors in Public Health, she knew she wanted to continue to help people. She went on to become a Patient Navigator at Grady Memorial Hospital, a position designed to help connect patients to the right care in a timely manner. She loves advocating for her patients and will continue to do so for as long as she can.



- Mobility and accessibility as a social determinant of health (SDOH)
 - Access to medical care
 - Access to healthy food
 - Access to essential services
 - Independent living and social support
- Transportation inequalities could shape health-related behavior and lifestyles, which in turn contribute to health disparities

Life Expectancy at Birth in Atlanta, GA

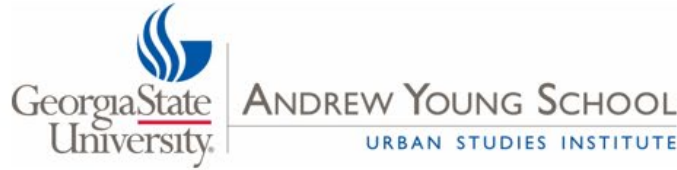


Minyard, K., Lawler, K., Fuller, C., Wilson, M., & Henry, E. (2018). Reducing health disparities in Atlanta. *Stanford Social Innovation Review*, 14(2), 22–23. Data Source: [Mapping Life Expectancy](#), Center on Society and Health, Virginia Commonwealth University

- Transportation barriers can hinder healthcare utilization [1, 3, 5]
- Lack of transportation limits low-income households' access to healthy food [6, 8]
- Public transit services can be absent or inadequate in neighborhoods in need [2, 7]
- Limited mobility of senior, chronically ill individuals [4]
- Little evidence on how reducing transportation barriers or enhancing mobility may affect health outcomes

- Test the causal linkage between transportation barriers and physical & mental health
- Compare alternative solutions to enhance mobility
- Examine the inter-system gaps that impede access and utilization of health care and social services among low-income, chronically ill individuals

A Cross-Sector Partnership



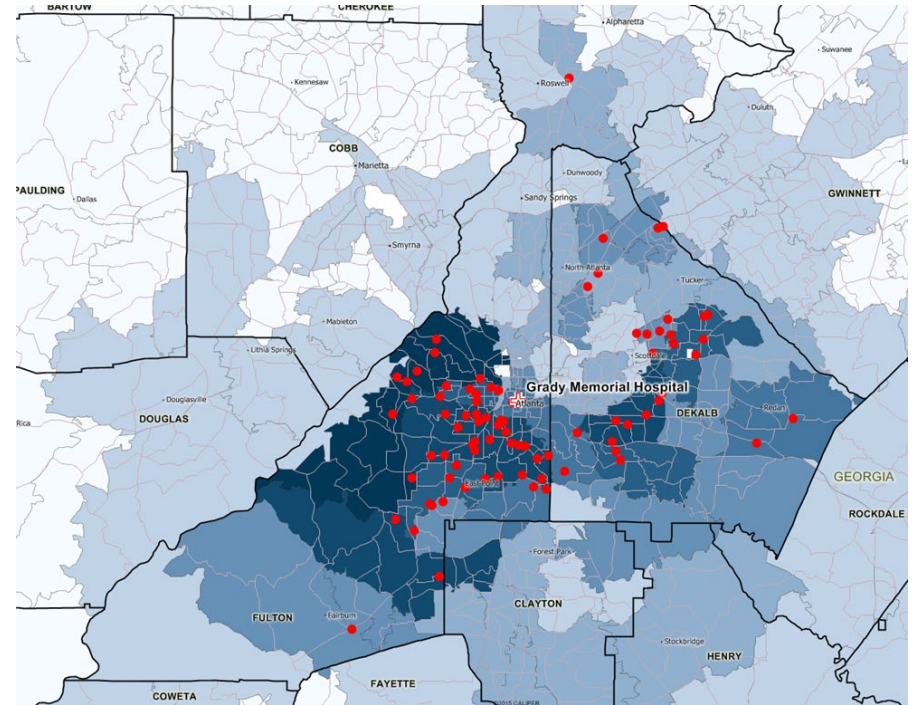
Addressing Food Insecurity & Chronic Disease Management

Spearheaded by **Grady**, Food as Medicine is a collaborative program involving key partners including the **Atlanta Community Food Bank** and **Open Hand Atlanta**. The Food as Medicine Partnership will address both food insecurity and chronic disease among Grady's patients, with benefits that extend to children, families, visitors and staff.



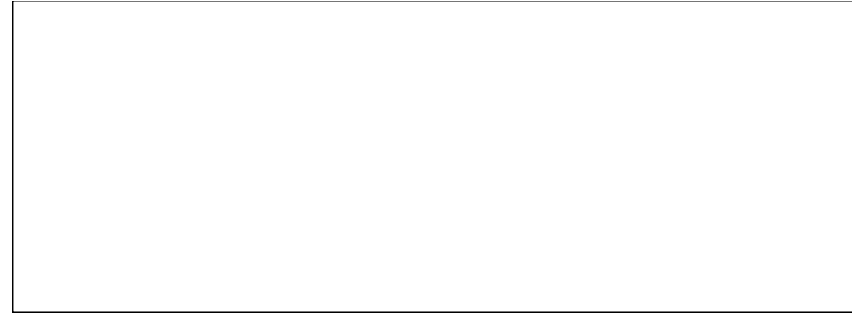
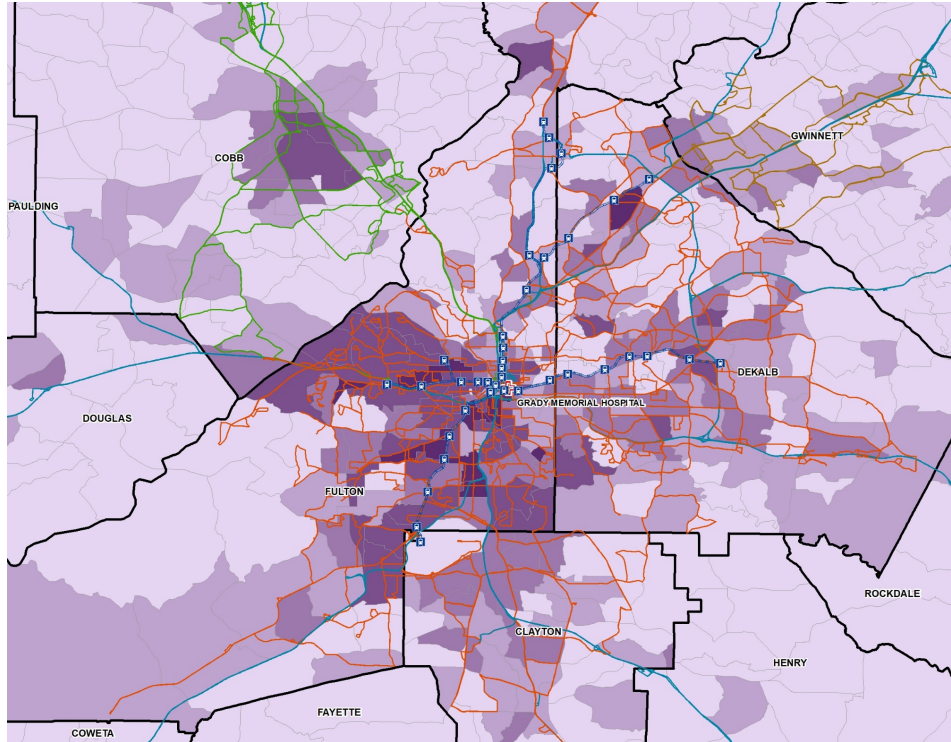
Target Community

- Approximately 80 percent of Grady patients reside in Fulton and DeKalb Counties
- Approximately 60 percent of these patients are uninsured or underinsured
- Many of these patients live in communities defined by the CDC as vulnerable to health problems caused by external stresses (homelessness, etc.)
- High prevalence of chronic diseases (diabetes, hypertension, etc.) that also correlate to areas with high social needs



- Census Tract in Fulton and DeKalb counties with Social Vulnerability Index (SVI) score > 0.8 (top 20% most vulnerable census tracts in GA)

Public Transit Access

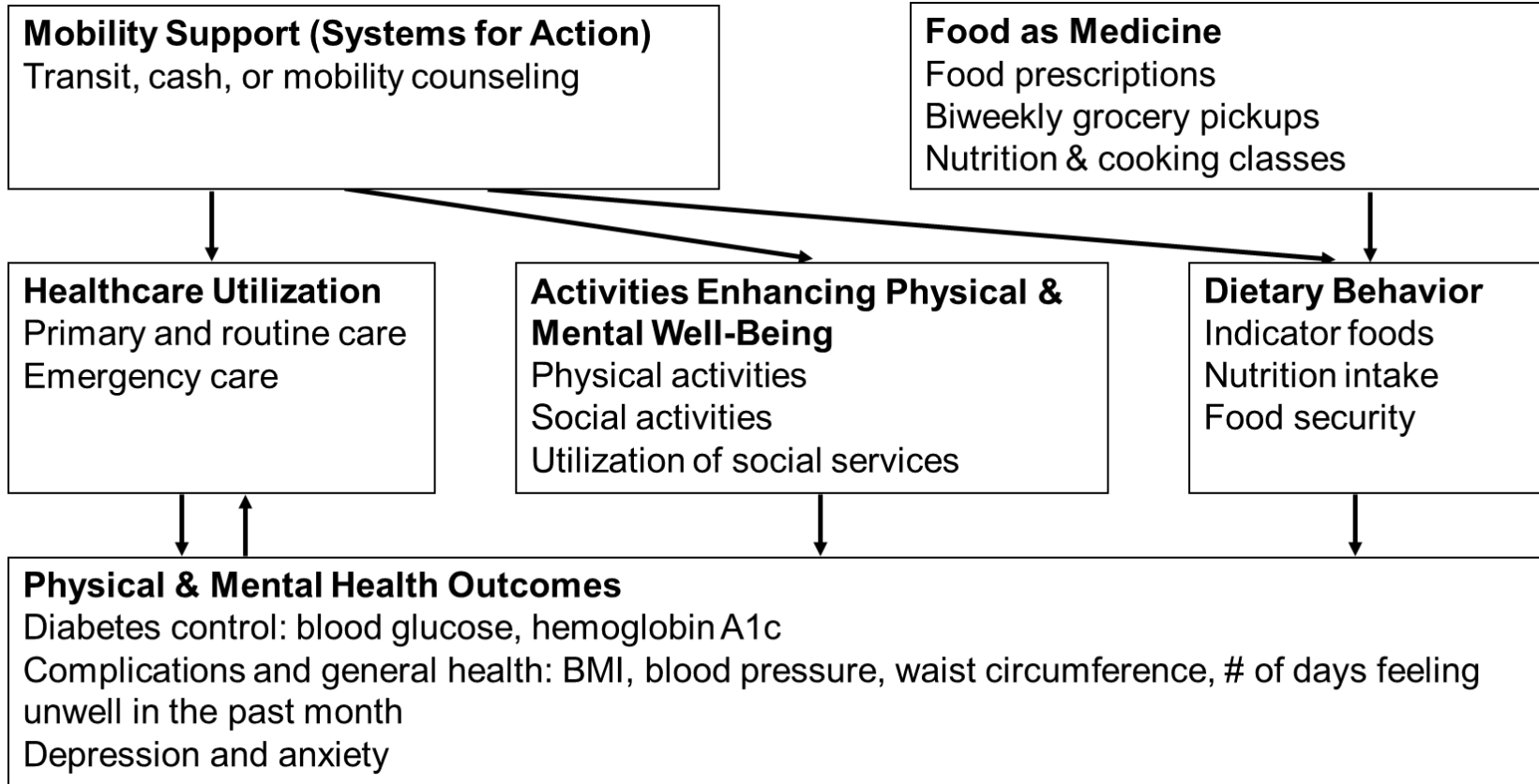


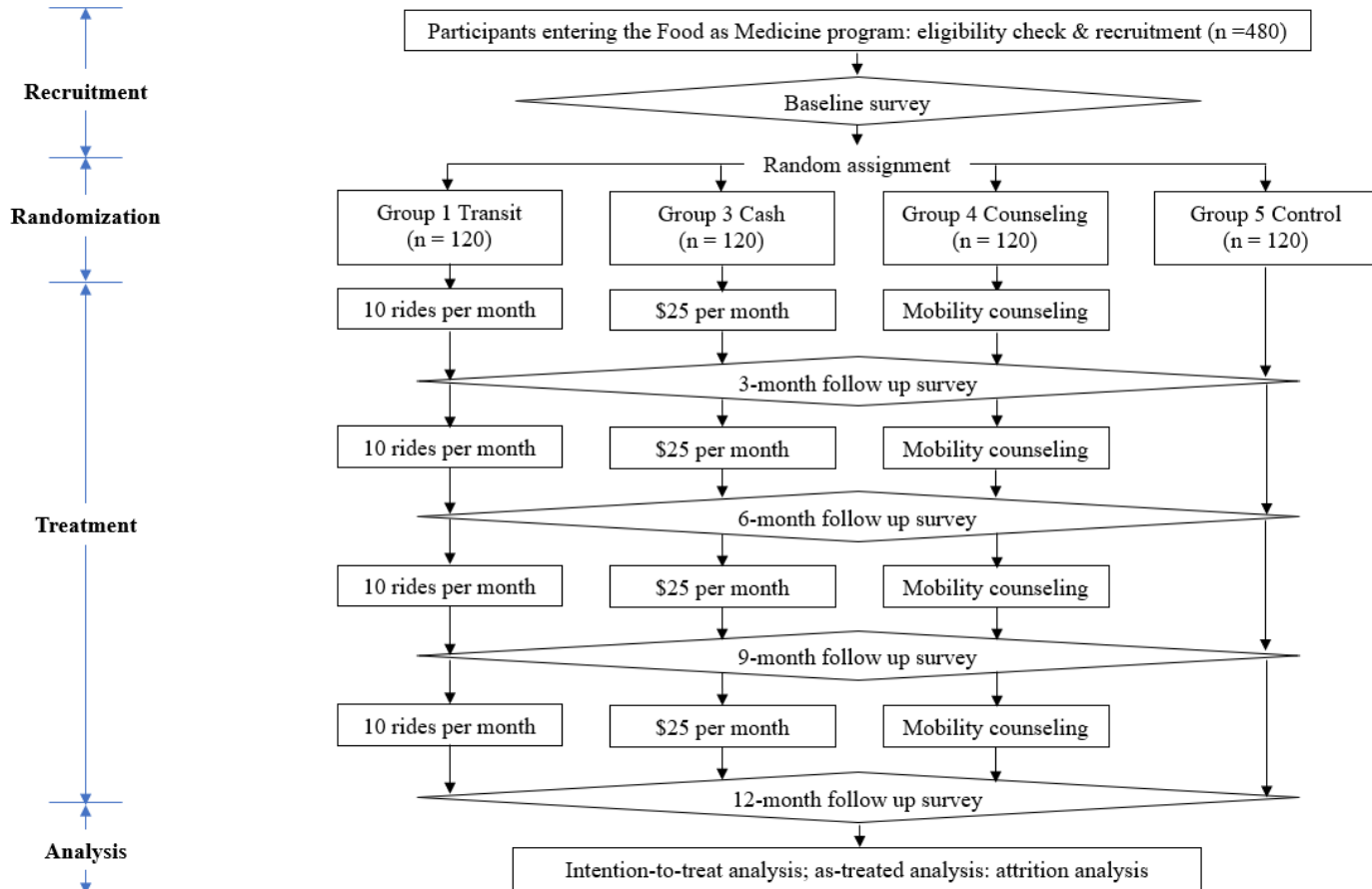
Source: Source: Easy Analytic Software, Inc. (EASI) - Census Database, Enhanced Master Database.

- Randomized Controlled Trial (RCT)
 - Four groups testing three mobility solutions
 - Five waves of data collection over 12 months
 - Surveys on travel patterns, health-related behavior, and self-reported health
 - Health outcomes measured by Grady
- Mixed methods
- Enrollment criteria: Food As Medicine participants
 - Grady patients
 - Food insecure
 - Uncontrolled diabetes (hemoglobin A1c > 9)

Alternative Solutions to Enhance Mobility

- Public transit rides (10 rides per month)
- Cash subsidies (\$25 per month)
- Mobility counseling
 - **Solution-Focused Therapy (SFT)**: help individuals frame their own **goals**, identify possible **steps** towards the goals and take **actions**
 - Improve the utilization of existing services and resources
 - May alleviate anxiety and improve mental health
 - Qualitative data on transportation barriers and how different systems can better work together to meet mobility needs

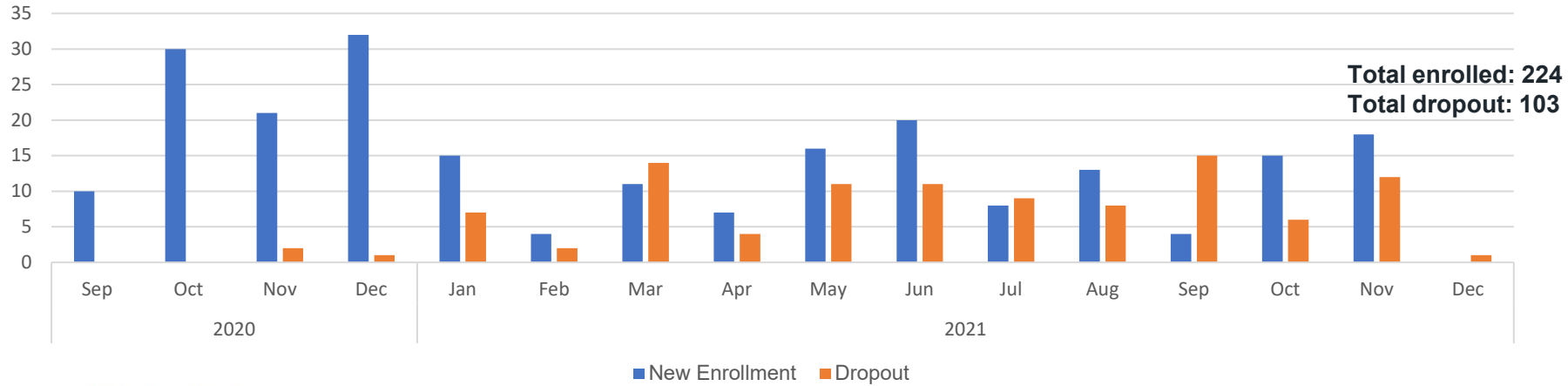




- Mobility solutions
 - Public transit
 - Rideshare
 - Mobility counseling
- Data collection
 - Pre-COVID and post-COVID behavior
 - Telephone surveys
- Time frame
- Eligibility Expansion: Stage 2 hypertension (BP above 140/90)

- Mobility and accessibility needs
- Healthcare and service utilization
- Confounding factors affecting health and other outcomes
- Facility and protocols
- Slow recruitment and high dropout rate

New Enrollment and Dropout of Participants

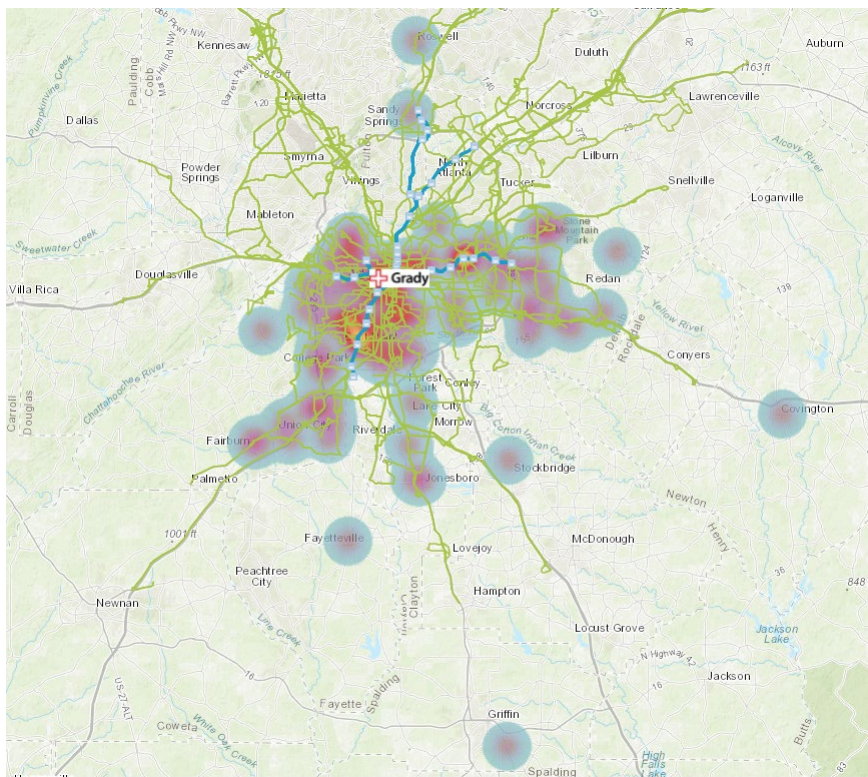


New cases Deaths

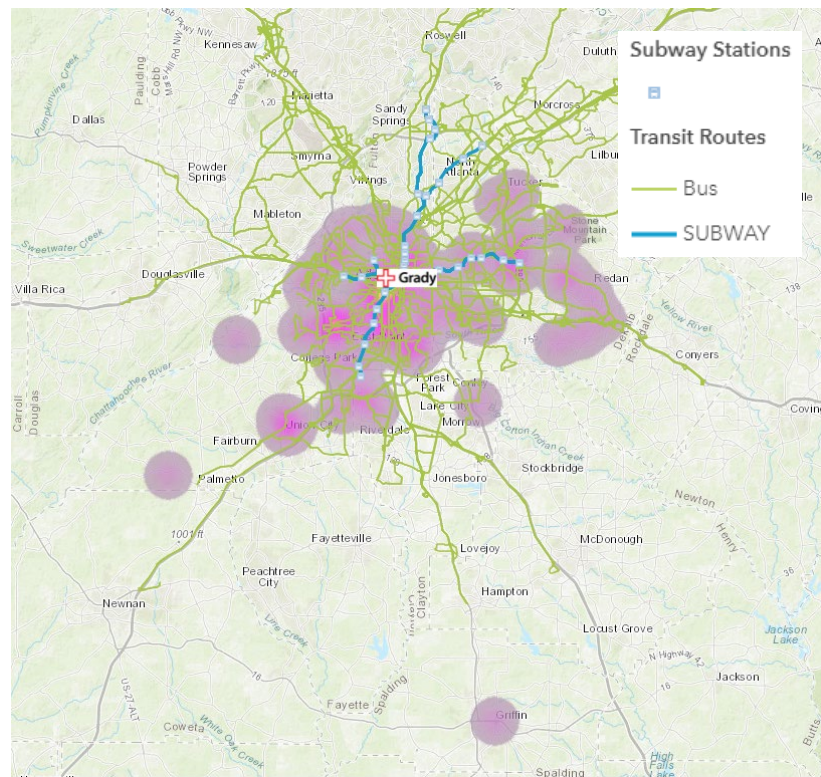
From [The New York Times](#) · Last updated: 4 days ago

United States ▾ Georgia ▾ Fulton County ▾ All time ▾





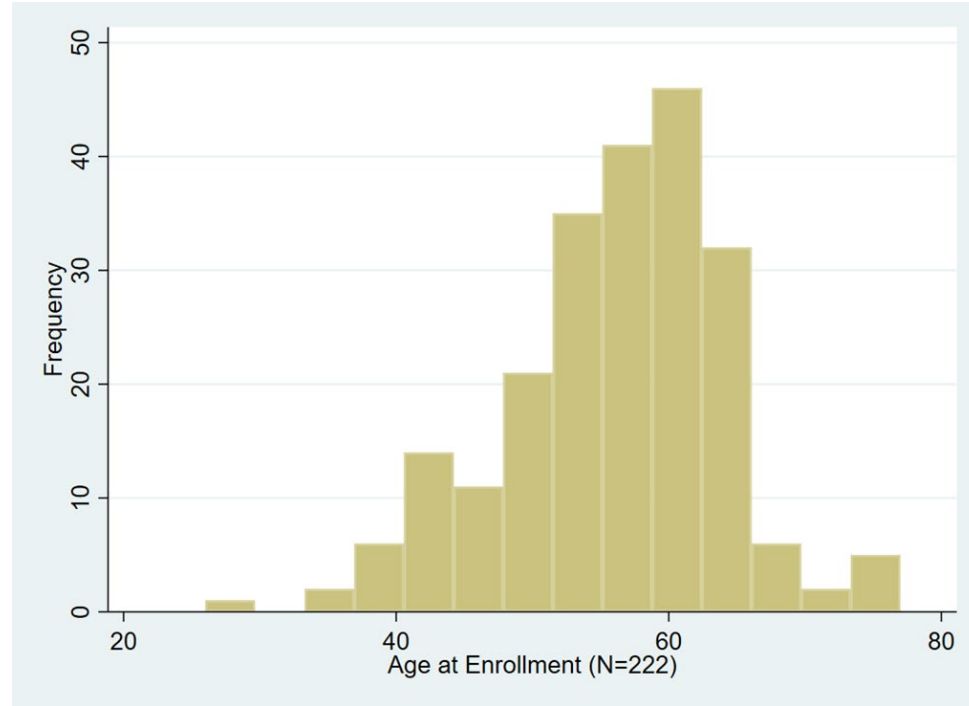
Home locations of active participants (N = 121)



Home locations of terminated participants (N = 103)

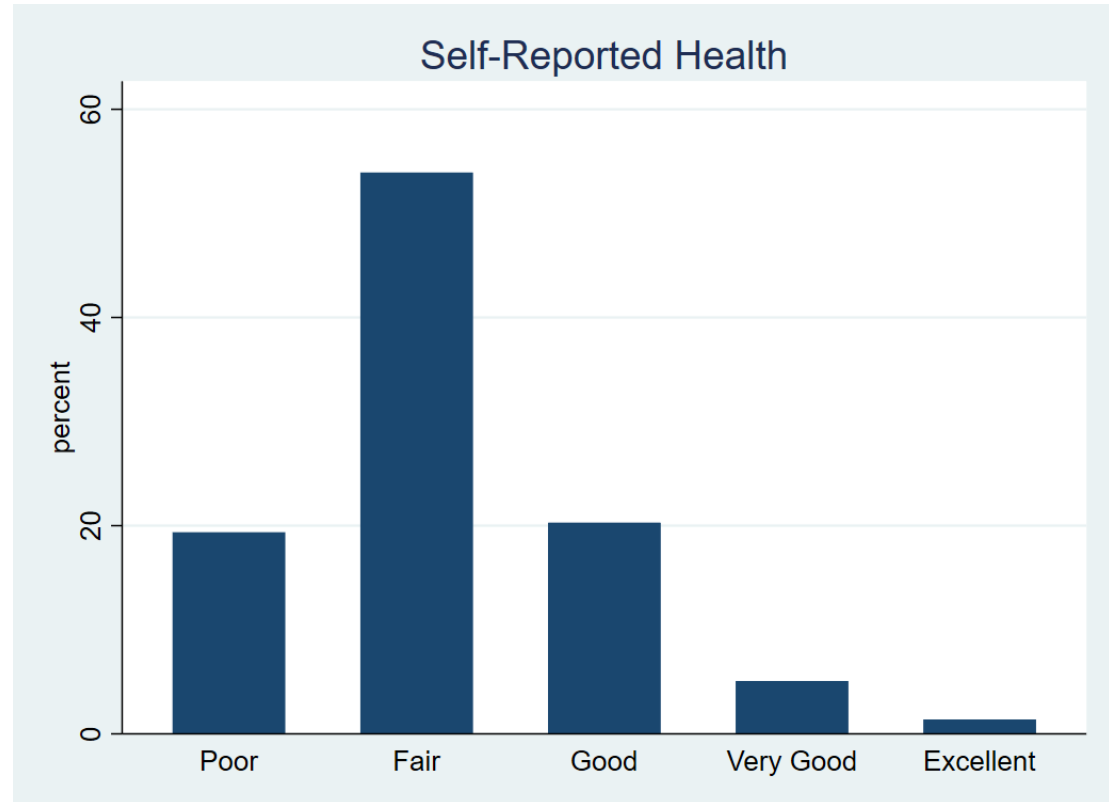
Participants

- 95% Black/African American
- 64% female
- 62% receive food stamps (SNAP)
- 46% receive SSI or SSDI benefits
- 24% Medicaid, 15% Medicare, 20% self-pay
- 48% have no access to a car, 41% unable to drive or only able to drive sometimes

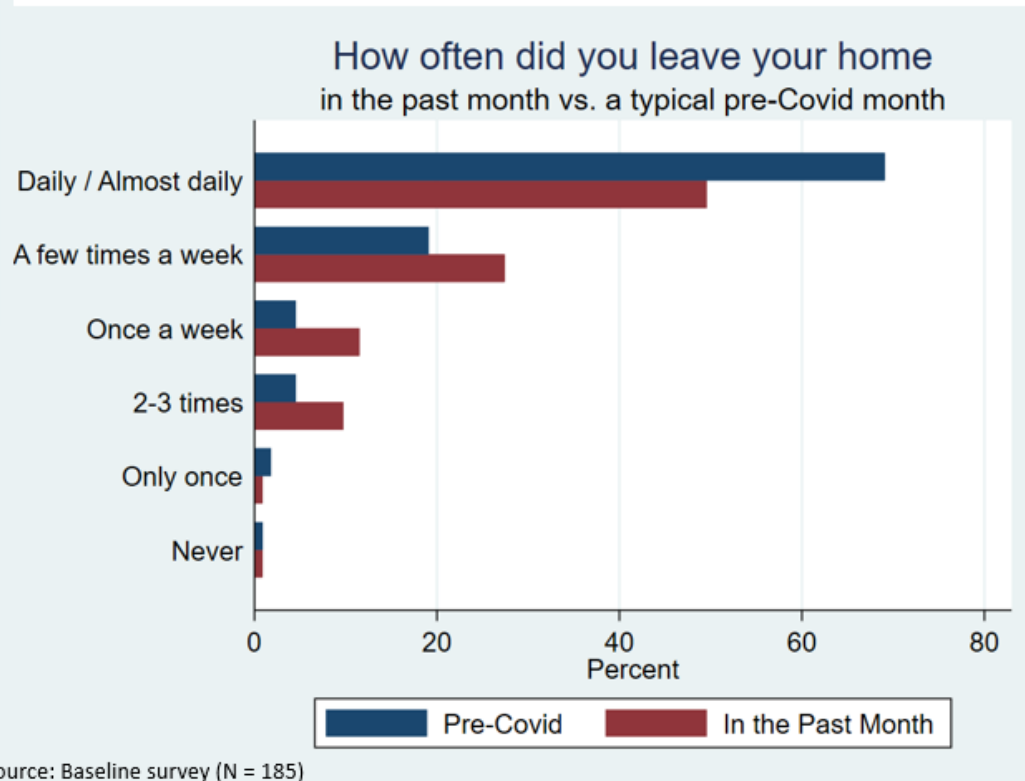
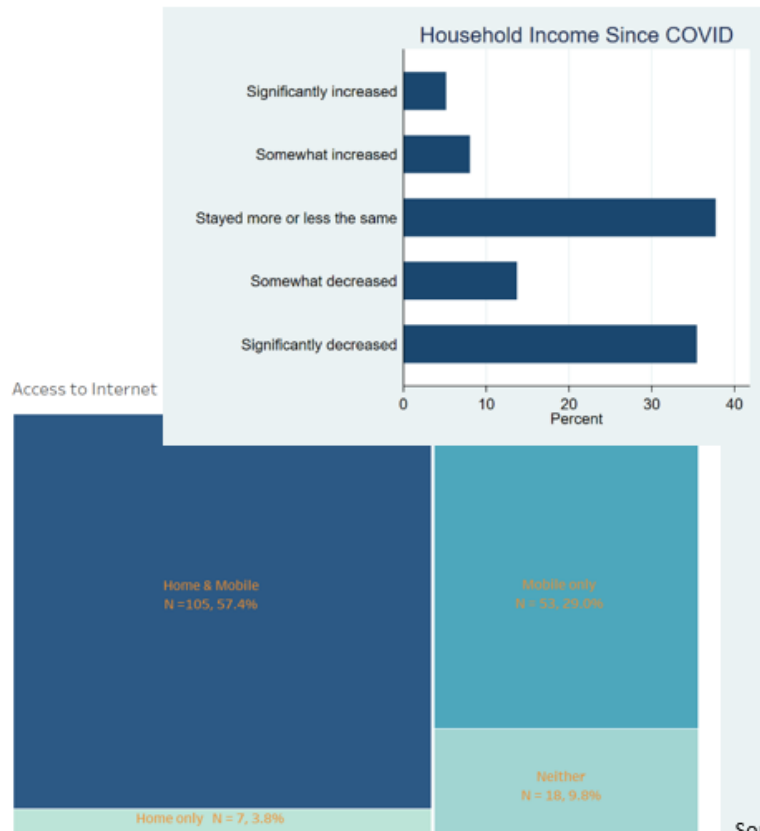


Health Conditions at Enrollment

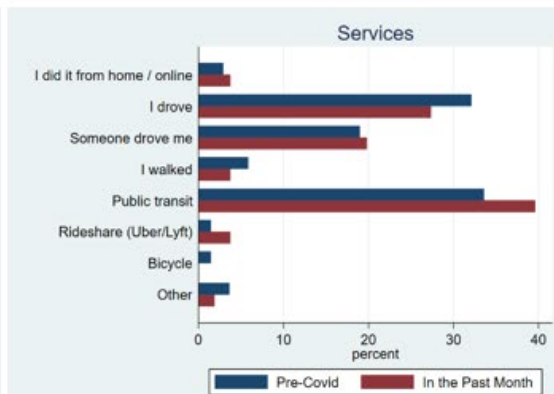
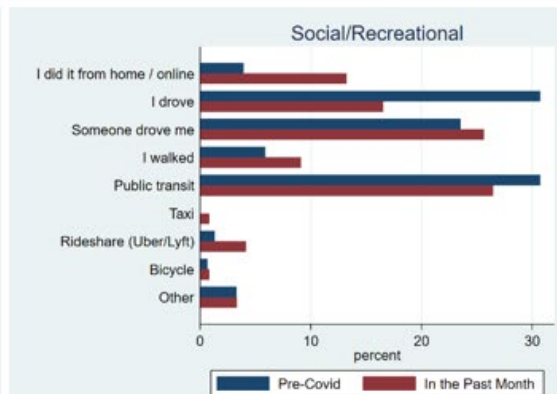
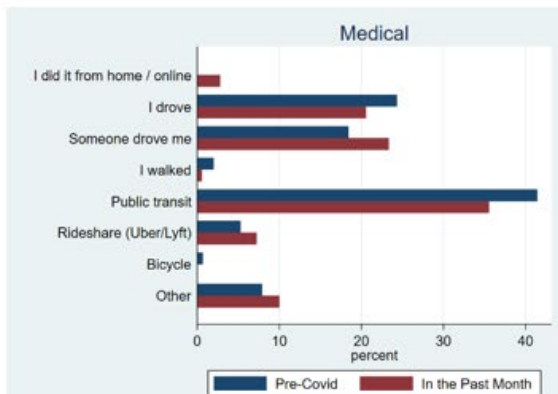
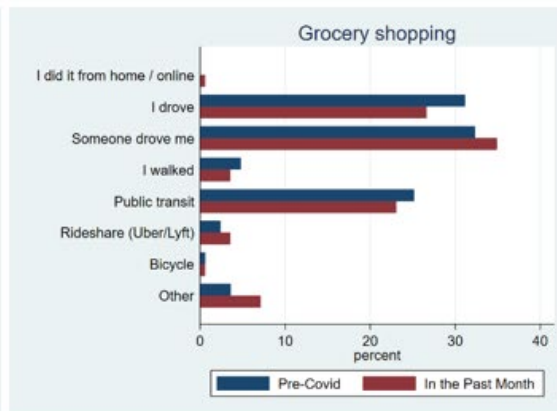
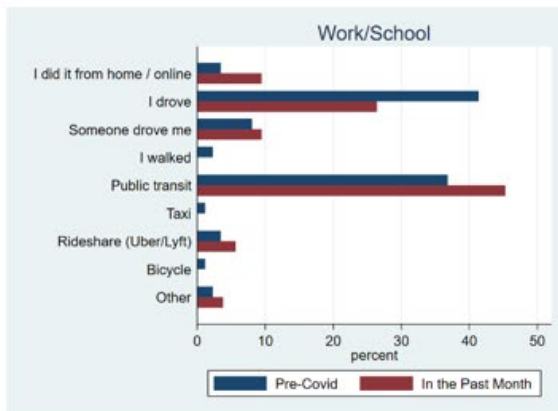
- 78% with uncontrolled diabetes ($A1c \geq 7.0$)
- 52% with stage 2 hypertension ($BP \geq 140/90$)
- 82% with $BMI \geq 25$; 59% with $BMI \geq 30$
- On average, 11.7 out of the past 30 days not in good physical health and 9.8 days not in good mental health



COVID Impacts: Travel Modes



COVID Impacts: Travel Modes



Source: Baseline survey (N = 185)

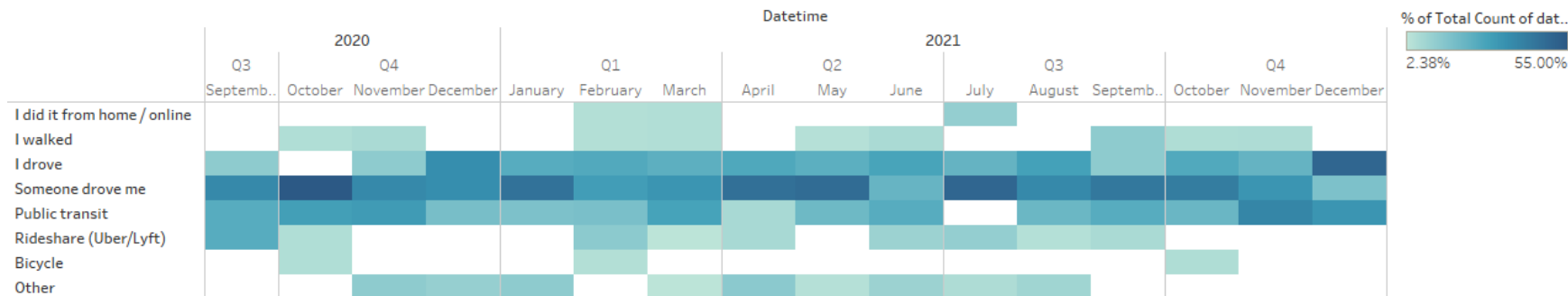
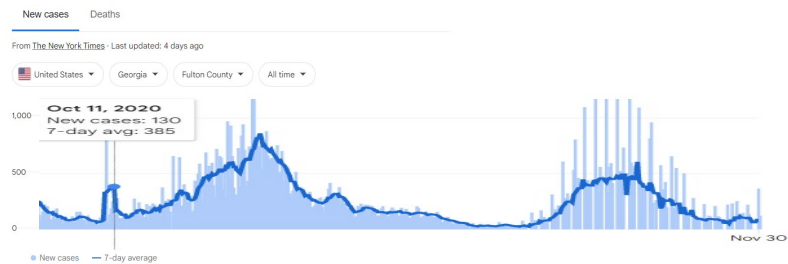
COVID Impacts: Monthly Expenses



Source: Baseline survey (N = 185)

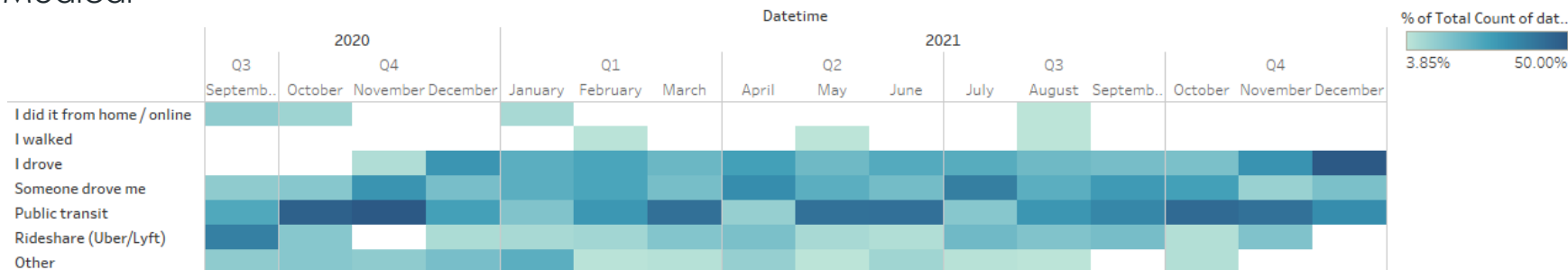
Travel Modes

Grocery shopping



% of Total Count of data.csv (color) broken down by Datetime Year, Datetime Quarter and Datetime Month vs. Mode3. The view is filtered on Mode3, which excludes Null.

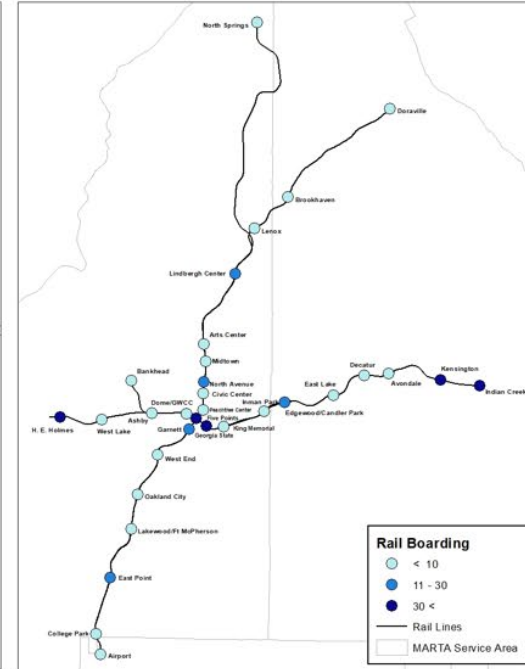
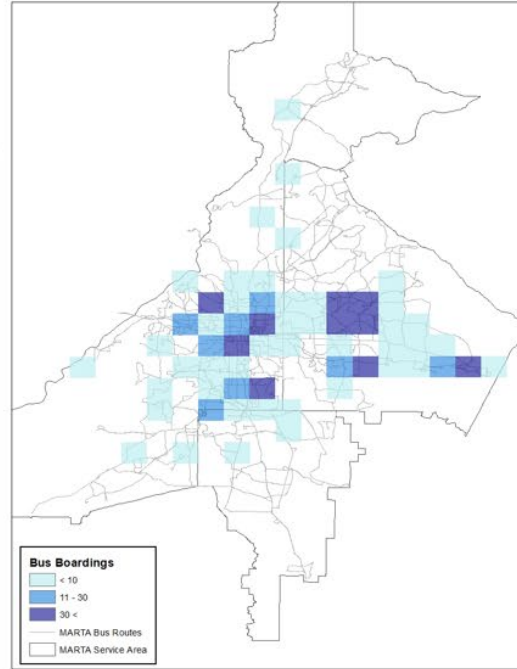
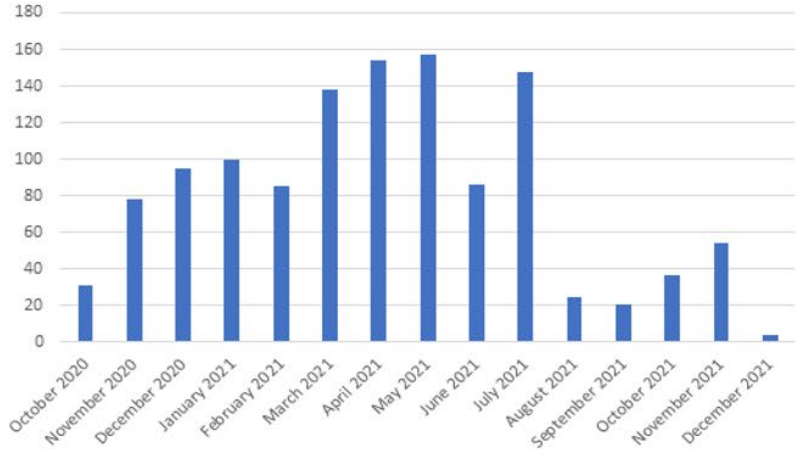
Medical



% of Total Count of data.csv (color) broken down by Datetime Year, Datetime Quarter and Datetime Month vs. Mode2. The view is filtered on Mode2, which excludes Null.

Use of Transit Cards

Breeze Entries by Month



Attrition Analysis

Group	Total Enrolled	Dropout (%)
1. Transit	49	28 (57%)
2. Cash	56	20 (36%)
3. Counseling	59	30 (51%)
4. Control	60	25 (42%)
Total	224	103 (46%)
Pearson chi2(3) = 5.9858 Pr = 0.112		

# Waves Completed	# Participants (%)
1	117 (53%)
2	49 (22%)
3	26 (12%)
4	30 (14%)
Total	222

	Active	Dropout
Female**	71%	55%
Black	93%	96%
Age	56.8	55.4
SNAP	61%	64%
SSI or SSDI***	56%	34%
BMI	34.0	32.2
A1c***	9.4	10.5
Stage 2 hypertension*	58%	46%
# days physically unwell	12.7	10.6
# days mentally unwell	10.9	8.6
Access to a private vehicle	57%	47%
Able to drive at all times	56%	61%
Monthly Expenses - Transportation	\$149	\$157
Monthly Expenses - Housing**	\$973	\$718
Monthly Expenses - Food	\$285	\$244
Leaving home daily or almost daily	43%	43%
Employed	19%	28%
Use public transit as the primary mode for one or more types of trips	39%	48%
N	119	103
*: p<0.1; **: p<0.05; ***: p<0.01		

What the Participants Told Us

- Many are aware and make use of existing programs providing free or discounted transportation (e.g., Medicaid or insurance companies, healthcare providers, local senior services)
 - However, the experience is often negative. Long wait is typical
 - Even discounted services like “dollar rides” can be unaffordable
 - Some seemingly innocuous requirements, such as having a credit/debit card, can prevent individuals in need from using a service
- Transportation barriers can affect physical and mental health in many ways
 - For example, diabetic patients report having to plan their days around a trip, get up early and pack lunch for the long travel
 - Disruption in medication and meal schedule

- Power and budget analysis: determine a feasible target sample size
- Find alternative controls to enhance statistical power
- Continue to monitor attrition and work with FAM partners to identify effective strategies for outreach and retention
- Collect additional qualitative data to better understand how participants use the mobility subsidies

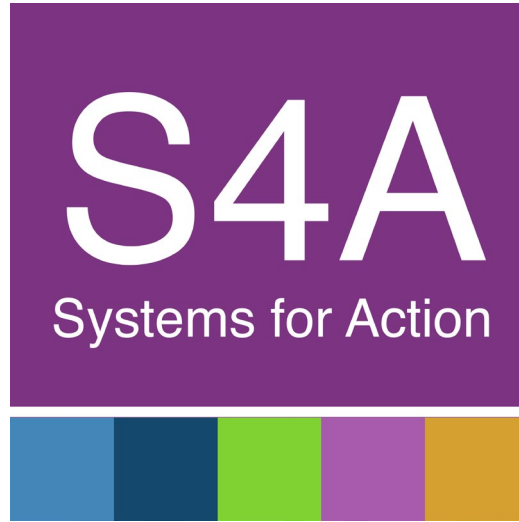
1. Abbott, L. S., & Williams, C. L. (2015). Influences of social determinants of health on African Americans living with HIV in the rural southeast: A qualitative meta-synthesis. *Journal of the Association of Nurses in AIDS Care*, 26(4), 340-356.
2. Jiao, J., & Dillivan, M. (2013). Transit deserts: The gap between demand and supply. *Journal of Public Transportation*, 16(3), 2.
3. Jones, A. P., Haynes, R., Sauerzapf, V., Crawford, S. M., Zhao, H., & Forman, D. (2008). Travel time to hospital and treatment for breast, colon, rectum, lung, ovary and prostate cancer. *European Journal of Cancer*, 44(7), 992-999.
4. Syed, Q., Dubbaka, P., & Okosun, I. (2019). Comorbid conditions and driving status among older low-income African Americans. *Journal of racial and ethnic health disparities*, 1-5.
5. Syed, S. T., Gerber, B. S., & Sharp, L. K. (2013). Traveling towards disease: transportation barriers to health care access. *Journal of community health*, 38(5), 976-993.
6. Walker, R. E., Keane, C. R., & Burke, J. G. (2010). Disparities and access to healthy food in the United States: A review of food deserts literature. *Health & place*, 16(5), 876-884.
7. Wells, K., & Thill, J. C. (2012). Do transit-dependent neighborhoods receive inferior bus access? A neighborhood analysis in four US cities. *Journal of Urban Affairs*, 34(1), 43-63.
8. Widener, M. J., Minaker, L., Farber, S., Allen, J., Vitali, B., Coleman, P. C., & Cook, B. (2017). How do changes in the daily food and transportation environments affect grocery store accessibility?. *Applied geography*, 83, 46-62.

Renee Ogoun

Patient Navigator | Food as Medicine Program



Questions?



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Upcoming Webinar

S4A
Systems for Action



January 12th
12 pm ET

**COVID's Impact on Health Equity &
Access to Health and Social Services**
A Conversation across the RWJF For Action Programs

REGISTER: https://ucdenver.zoom.us/webinar/register/WN_IAXvpiMUSDWSysdDwNJzgQ

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