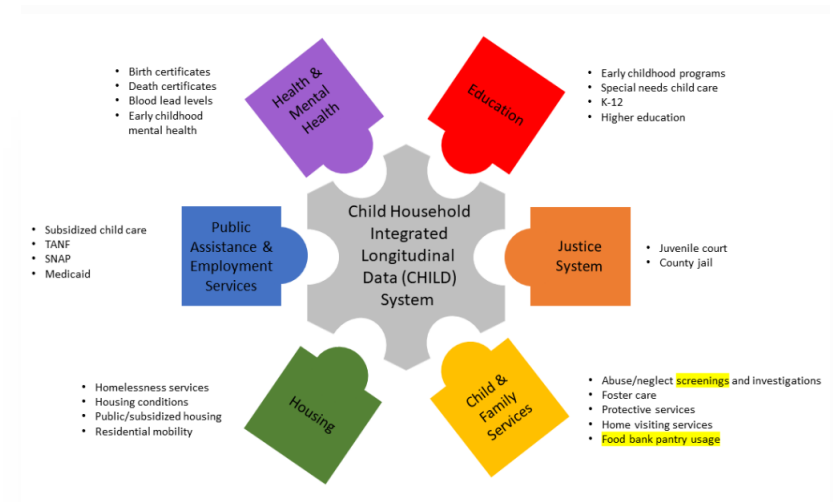


# Homelessness Research using Integrated Data Systems and Stakeholder Knowledge

Francisca G.- C. Richter

Center on Urban Poverty and Community  
Development

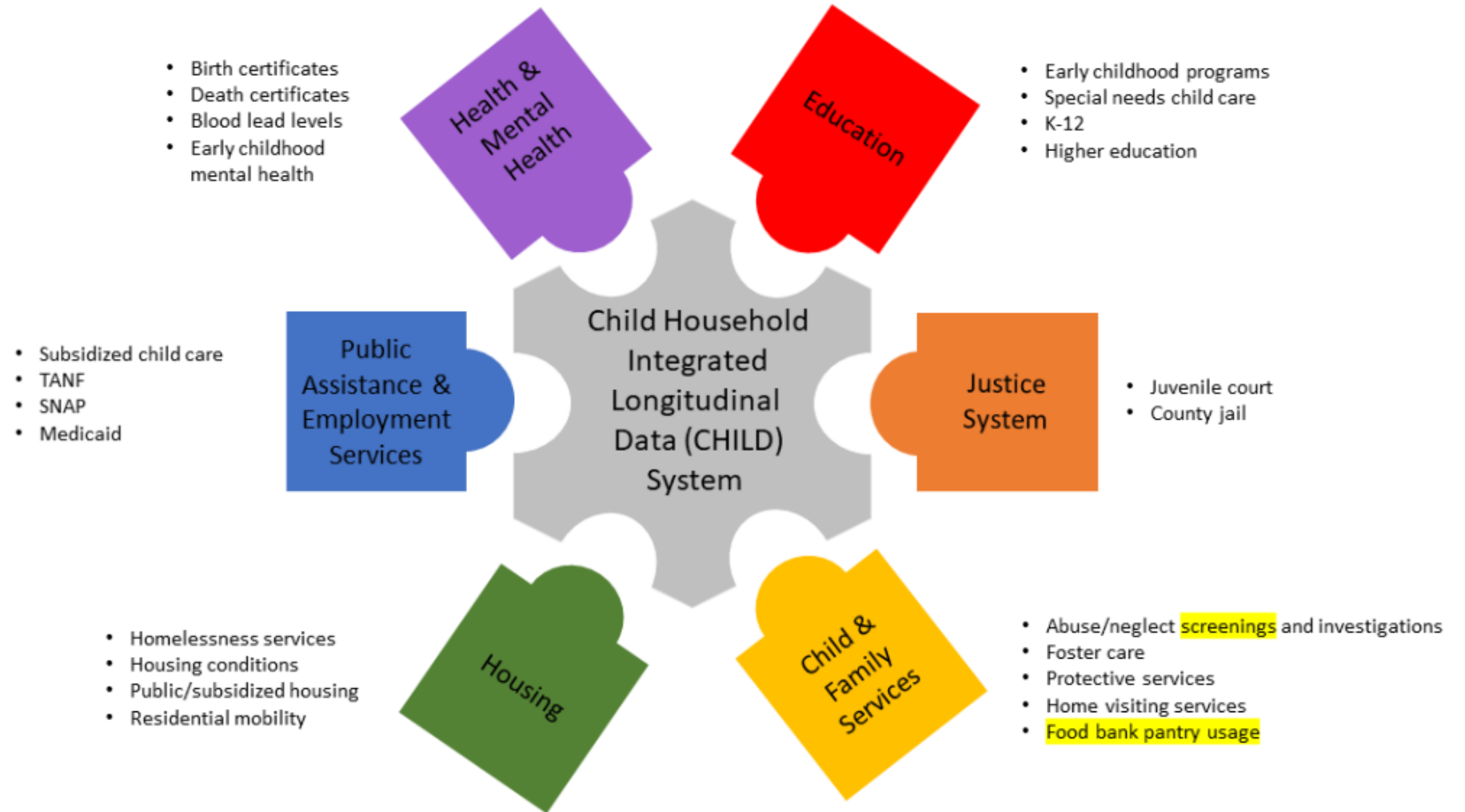
Case Western Reserve University



# Overview

- Recent and current work around homelessness and services
- Leveraging integrated data systems and stakeholder knowledge for research
- Building resources for Certificate in Data Science for Social Impact
  
- PC collaborators: Claudia Coulton, Robert Fischer, Nina Lalich, Ashley Hajski, Nicole Coury
- Tech & Human Impact Grant (M. Seikel); Public Interest Technology Grant (New America Foundation); Sisters of Charity Foundation
- Thanks to agency staff for providing insightful feedback: Angela D’Orazio (Sisters of Charity Foundation of Cleveland), Claire Gauntner (Enterprise), Kate Lodge (A Place 4 Me, YWCA of Greater Cleveland), and D’Angela Tanks (FrontLine Service).

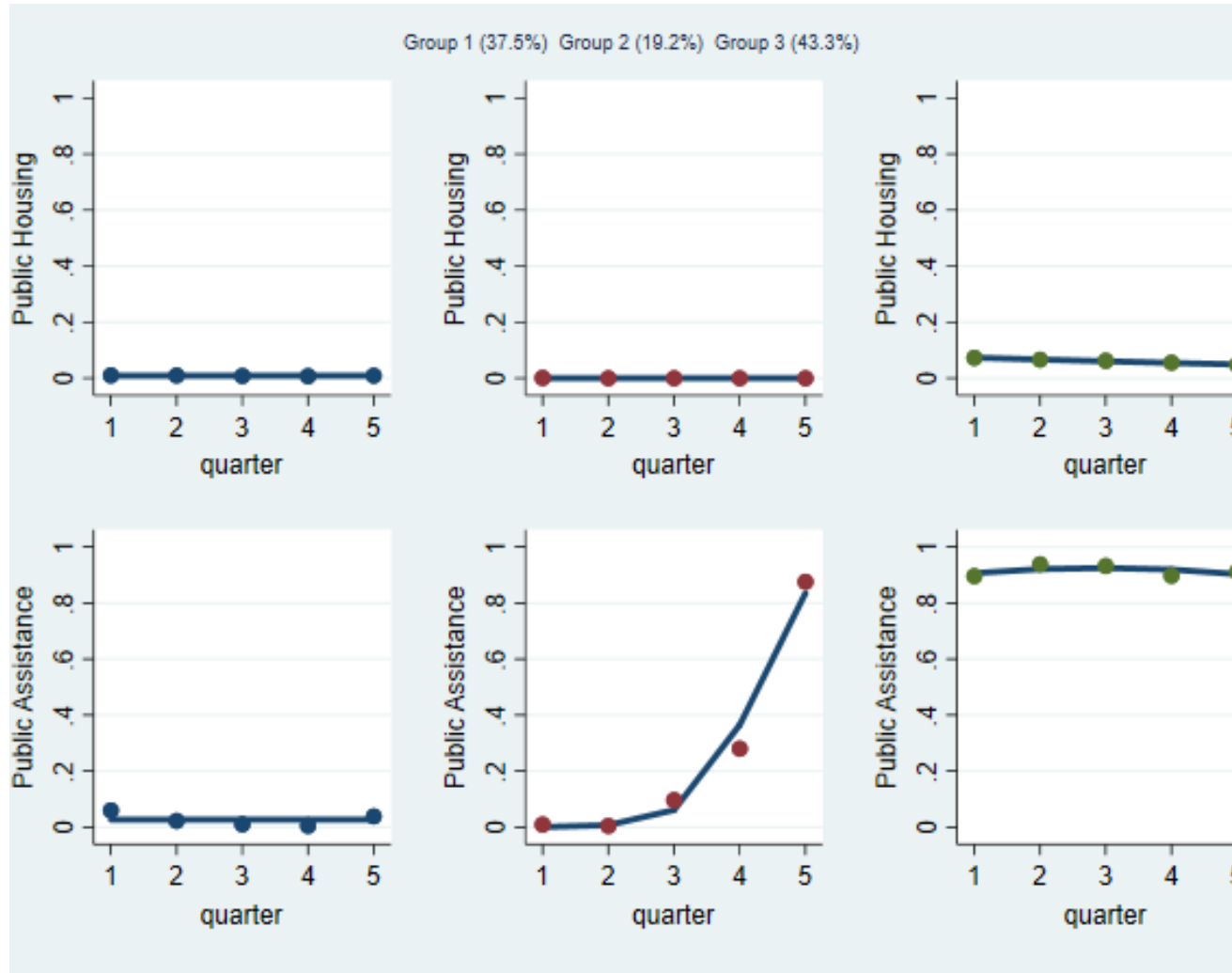
# Poverty Center's Integrated Data System



# Projects on Homelessness and Services

- Research Questions:
  - Are individuals with severe housing instability connected to the social safety net?
  - Do these supports lead to improved housing stability?
- 2013-2017 Cuyahoga County (Cleveland, OH)
  - Dynamic patterns of emergency shelter, SNAP, TANF, public housing subsidies
  - Three groups with patterns of **no use, increasing use, and high use of public assistance prior to shelter entry.**
  - **Increased participation** in public assistance programs following the first observed homeless shelter entry **reduces subsequent shelter use.**
- **Targeted, coordinated efforts to increase connection with safety net.**

# Three distinct groups at shelter entry



G1: no PA

G2: low-increasing PA

G3: high PA

## Group-based MULTI-trajectory modeling

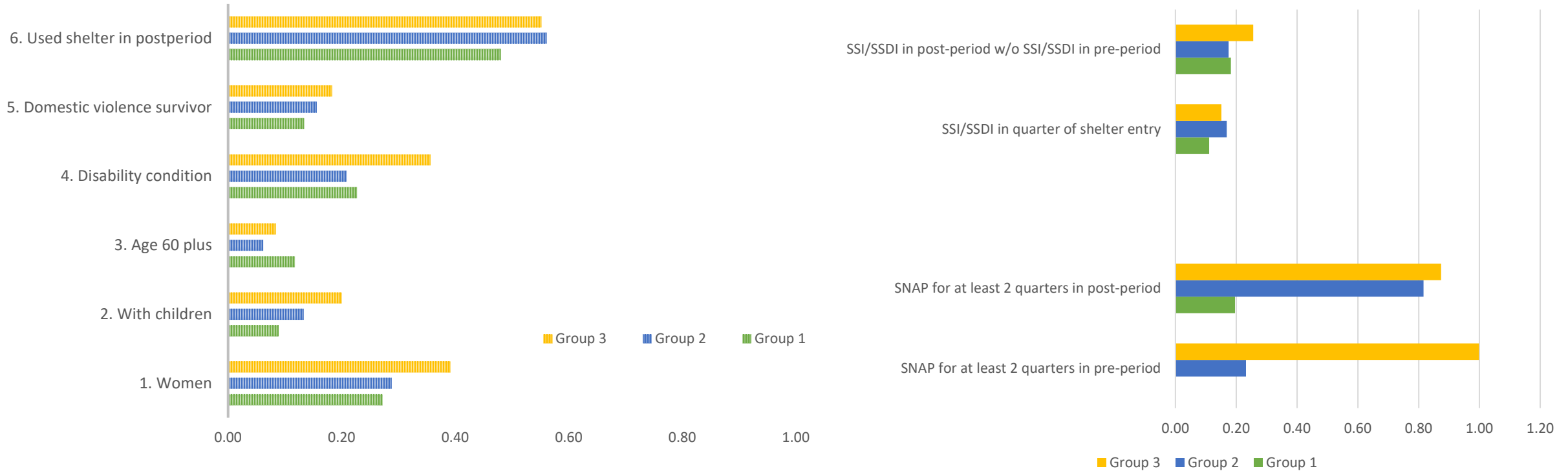
Modeling of JOINT trajectories of SNAP/TANF and Public housing subsidies

UP TO quarter of first observed shelter use: q1-q5

Static vars to estimate group membership probability:

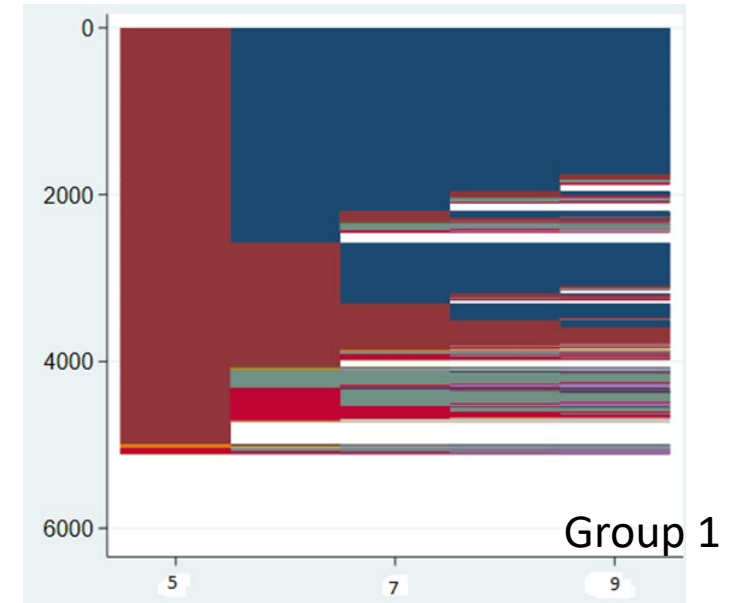
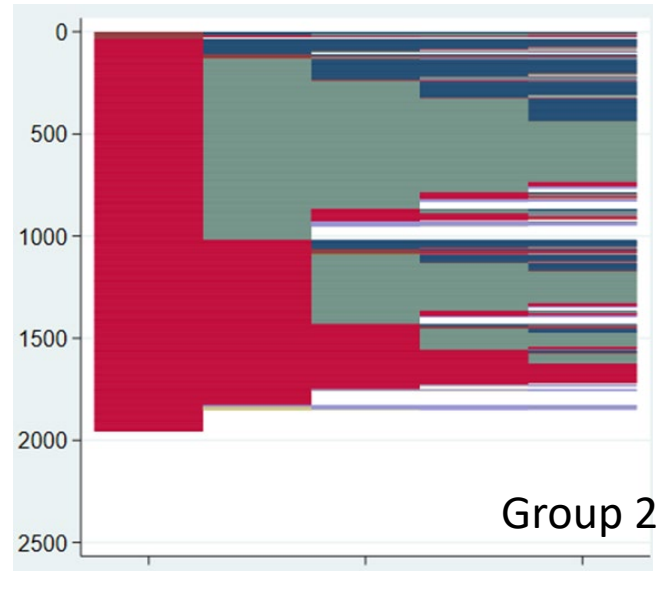
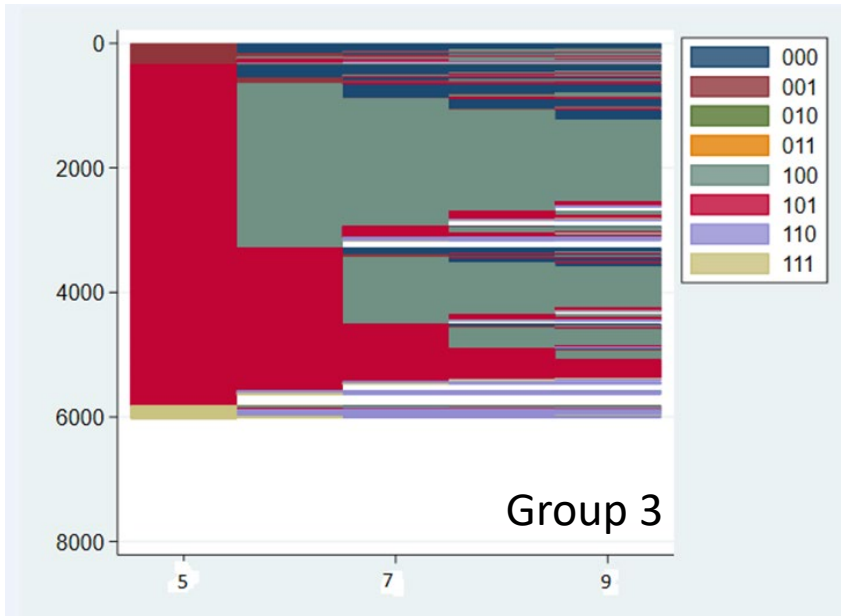
- Sex, age, racial classification
- Disability at shelter entry
- Domestic violence at shelter entry
- Time in previous place (stability)
- No information on previous stay

# Characterization by bi-trajectory group



FE regression model finds that SNAP enrollment in a given quarter is negatively associated with shelter use in the following quarter, suggesting that SNAP can prevent extreme housing instability.

# Forward sequences by bi-trajectory group



Quarterly status of public assistance, housing subsidy use, and shelter use (PA, HS , SH):  $2^3 = 8$  states

From quarter of first observed shelter use (q=5) up until four quarters later (q=9).

- Simultaneous PA/shelter use in Groups 3 & 2 (**RED**) to PA only (**GREY**). **Some return to shelter.**
- Shelter use ONLY in Group 1 (**MAROON**) to no records (**BLUE**).
- **Some transition into PA** for Group 1 and minor HS use in all groups (**LAVANDER**, **KHAKI**, **ORANGE**) .

# Findings + Agency Insights

Increased participation in SNAP following homeless shelter entry reduces the likelihood of subsequent shelter use.

- Targeted, coordinated efforts to increase connection with safety net for people facing housing instability.
- Ease access to programs for clients and funding for agencies
- Revise eligibility requirements to avoid benefit cliffs and provide meaningful support for employment and housing stability.
- Seek feedback from navigators working directly with clients.
- Expand access to emergency rental assistance and affordable housing as primary prevention mechanisms against homelessness and a means to advance racial equity in housing stability with benefits for all.



SASS 471: Introduction to Data Analytics for Social Impact, Spring Y2

DSCI 451: Exploratory Data Science, Spring Y2

DSCI 453 Modeling and Prediction, Fall Y2

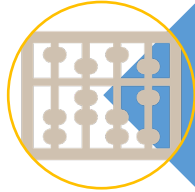
SASS 4YY DSSI Research Project, Fall Y2



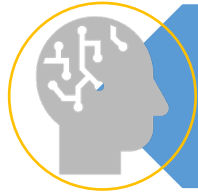
Offered jointly by Jack, Joseph and Morton Mandel School of Applied Social Sciences and Case School of Engineering

- **Help shape how technology can be used to advance social justice** with a Certificate in Data Science for Social Impact from Case Western Reserve University.
- Learn to use **data-driven solutions** to improve social welfare, while critically assessing the human impact of these digital technologies from an ethical perspective.
- With our specialized certificate, you'll be prepared for careers in consulting, philanthropy, journalism, local government, nonprofit management, urban planning and development, and more.

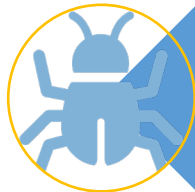
# Online platform with resources for DSSI project with the goal of making it publicly available



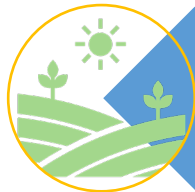
Using Administrative/Public Data



Guide to integrating community knowledge into data science projects.



Identifying/addressing bias in data analysis – C & P modeling.



Ethics and fairness considerations

FAIRification of Data - Metadata  
Findable, **A**ccessible, Interoperable and  
Reusable

How do clients experience the data  
intake process?

What drives them into or away from  
shelter (HMIS)?

How does this knowledge inform our  
analysis of data?

**F**ramed - **A**rticulate – **I**nterpretable - **R**eflective

Case Western Reserve University  
The Center on Poverty and Community Development  
11402 Bellflower Road, Cleveland, OH 44106



**Join us for a Community  
Data Chat on Data Intake for  
Homeless Services!**

“NAMING HOUSING AS A HUMAN RIGHT IS A FIRST STEP TO SOLVING THE HOUSING  
CRISIS”  
-Katherine Fallon, The Urban Institute

We want to hear about your experience  
with the coordinated intake process for  
homeless services in Cuyahoga county

Participation will require two meetings where participants share  
their experiences with the coordinated intake process for  
homeless services and discuss their impressions of information  
shared by researchers. The first meeting will be held in person  
and take about two hours. The second meeting will be virtual and  
take about one hour.

To thank you for your time and effort you will receive a giftcard  
after each session that you attend.

If you would like to participate please contact Alice Jackson Director  
of Thinking CAPP at **216.276.8551** or **thinkingcapp2@gmail.com**  
by **October 21st 2022**



Thinking CAPP is a non-profit organization that focuses on  
Advocacy, Awareness and Education through community  
conversations and engagement.





Questions?  
Thank you!