# C5G Project: Mapping local beliefs and non-adherence to COVID-19 prevention measures using social media

CINCY
CIVIC TECH LAB

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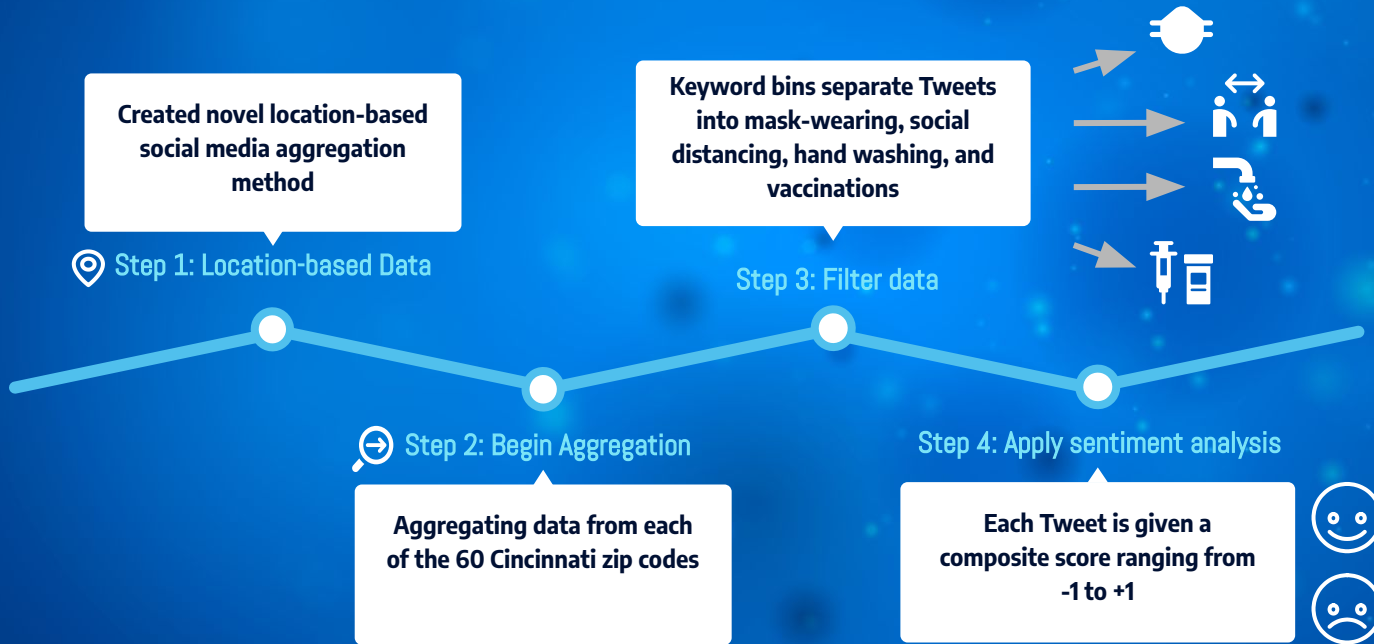Graduate Student Analysts: Monica Katragadda & Izunna Okpala

This project has used social media data aggregation from the City of Cincinnati to learn: **What local beliefs or events discussed on social media appear to be most related to the rising incidence of COVID-19 cases?**
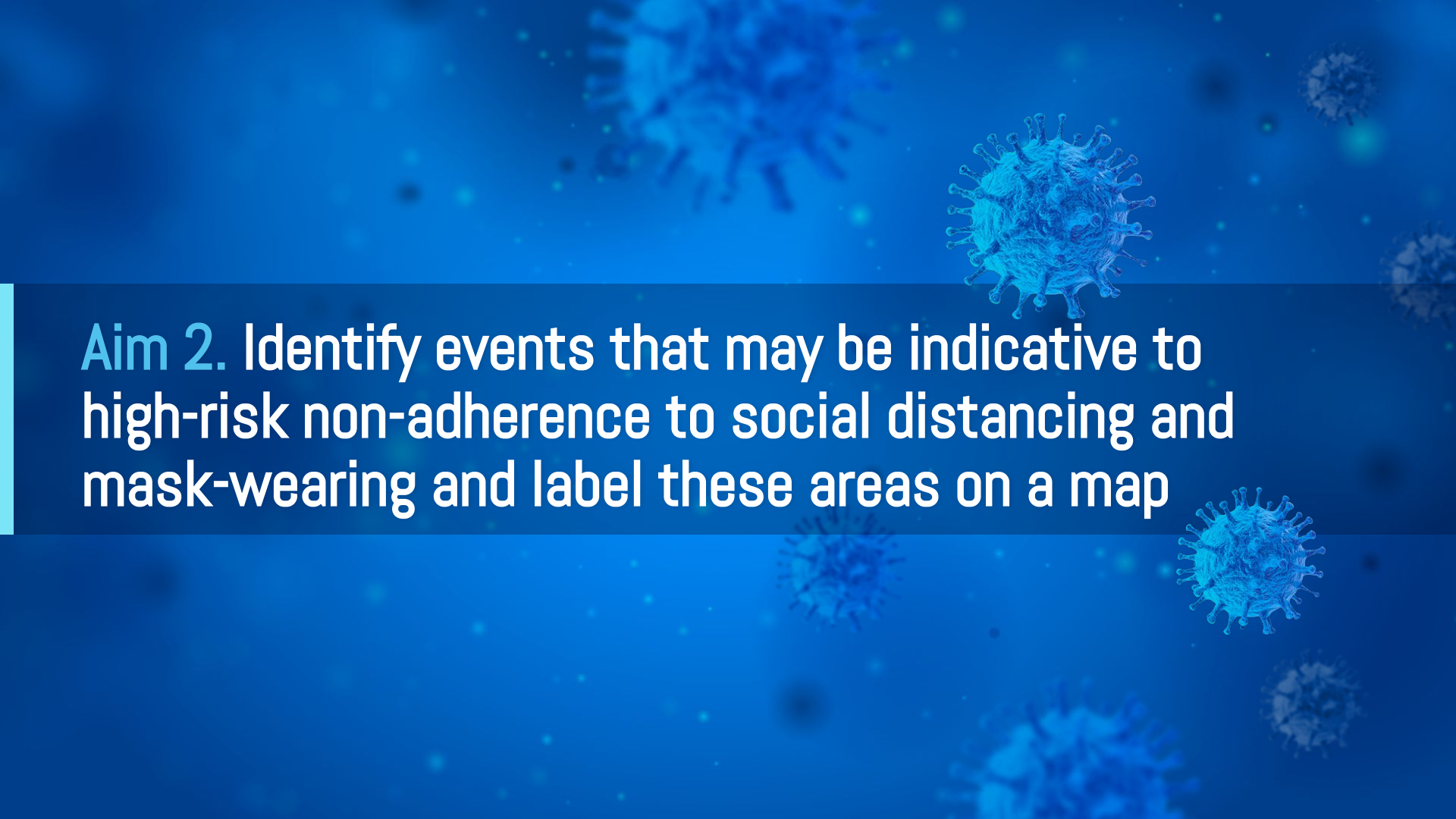
**Aim 1.** Identify public online discussion of cultural beliefs around prevention activities

# Data Collection Process

**Created novel location-based social media aggregation method**

Step 1: Location-based Data

**Keyword bins separate Tweets into mask-wearing, social distancing, hand washing, and vaccinations**

Step 3: Filter data

Step 2: Begin Aggregation

**Aggregating data from each of the 60 Cincinnati zip codes**

Step 4: Apply sentiment analysis

**Each Tweet is given a composite score ranging from -1 to +1**

# Preliminary Data

| Zip Code | Population Total | Median Age | Median Household Income | Total Tweets | Mean Sentiment | Total Tweets about Masks | Mean Sentiment Toward Masks |
|---|---|---|---|---|---|---|---|
| 45203 | 2429 | 29.6 | 19167 | 484 | 0.461 | 7 | 0.533 |
| 45011 | 71451 | 36.8 | 31646 | 33406 | 0.135 | 365 | 0.129 |
| 45111 | 324 | 60.3 | 78750 | 15 | 0.182 | 1 | -0.718 |

Aim 2. Identify events that may be indicative to high-risk non-adherence to social distancing and mask-wearing and label these areas on a map

# Real-time Query Tools

PIVOT

PORTAL FOR INTERMEDIA
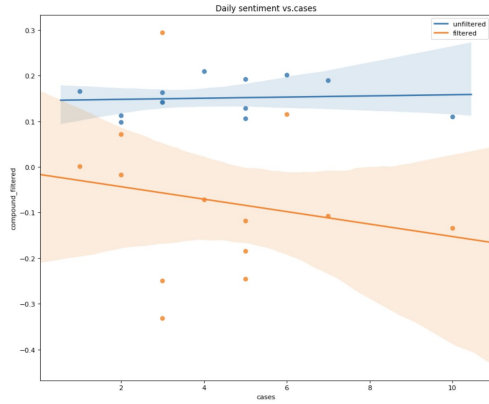VISUALIZATION, OVERLAY
&TRIANGULATION

Using common operational picture
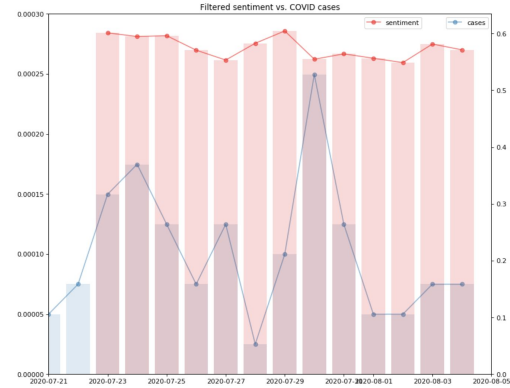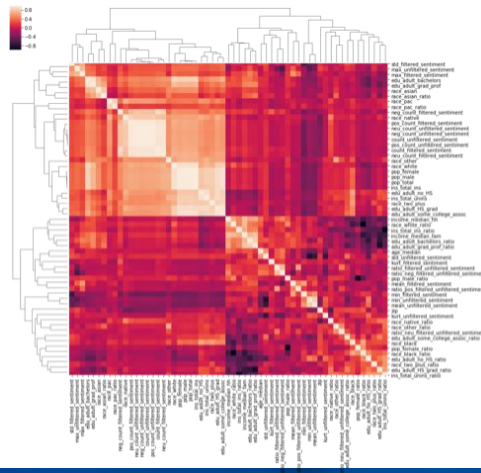tool as a method to identify live
events in a local area
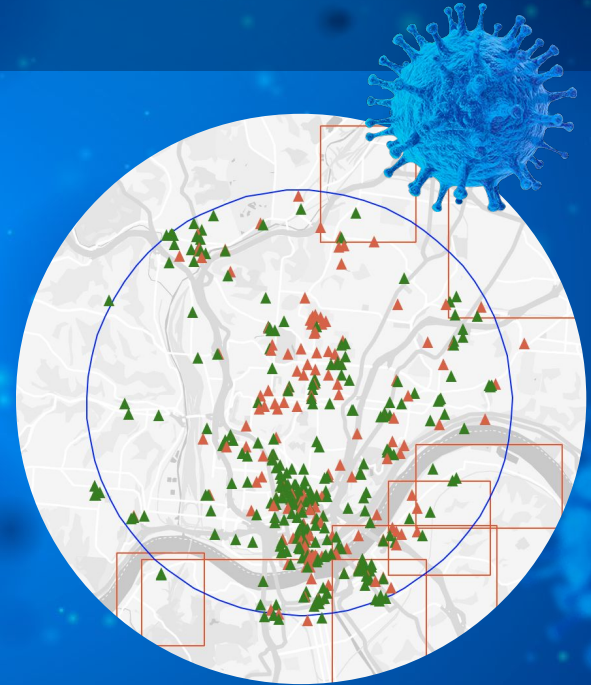
**Aim 3.** Correlate sentiments towards preventative measures with the incidence of confirmed COVID-19 cases

# Exploring the data



Daily sentiment vs.cases

**Correlating Daily Sentiment with Cases**

**Correlating All Zip Code Attributes**

Filtered sentiment vs. COVID cases

**Comparing count of daily sentiment with cases**

Questions? Email us:

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