



**Forum for
Collaborative HIV Research**

Using Twitter as a Survey of Alcohol Use in the S.F. Bay Area

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Focus on HIV and HCV

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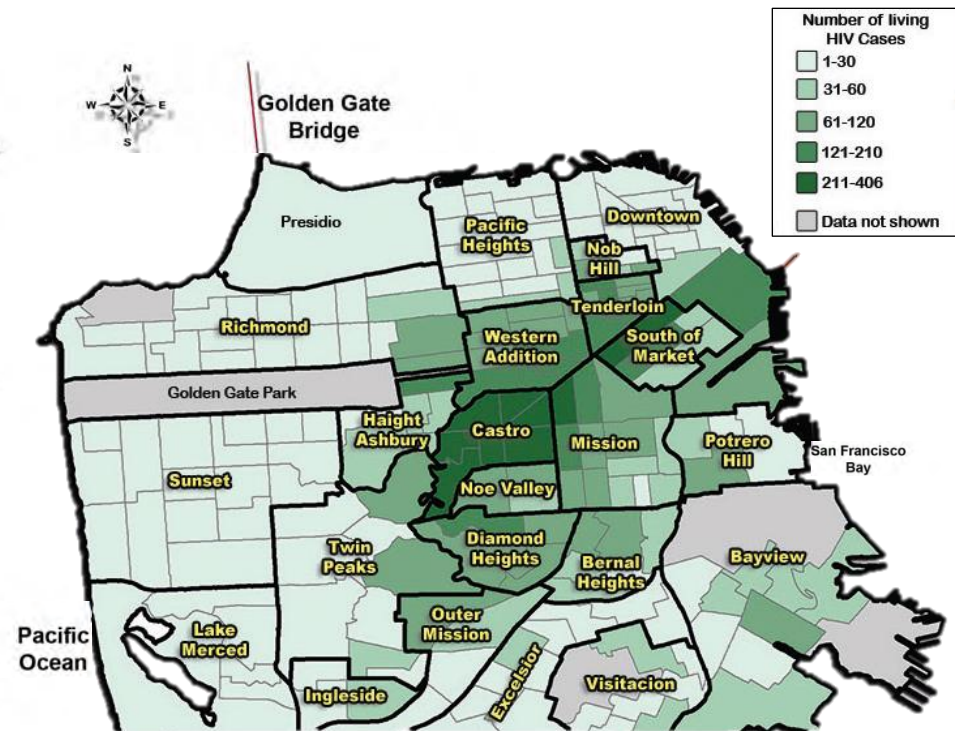
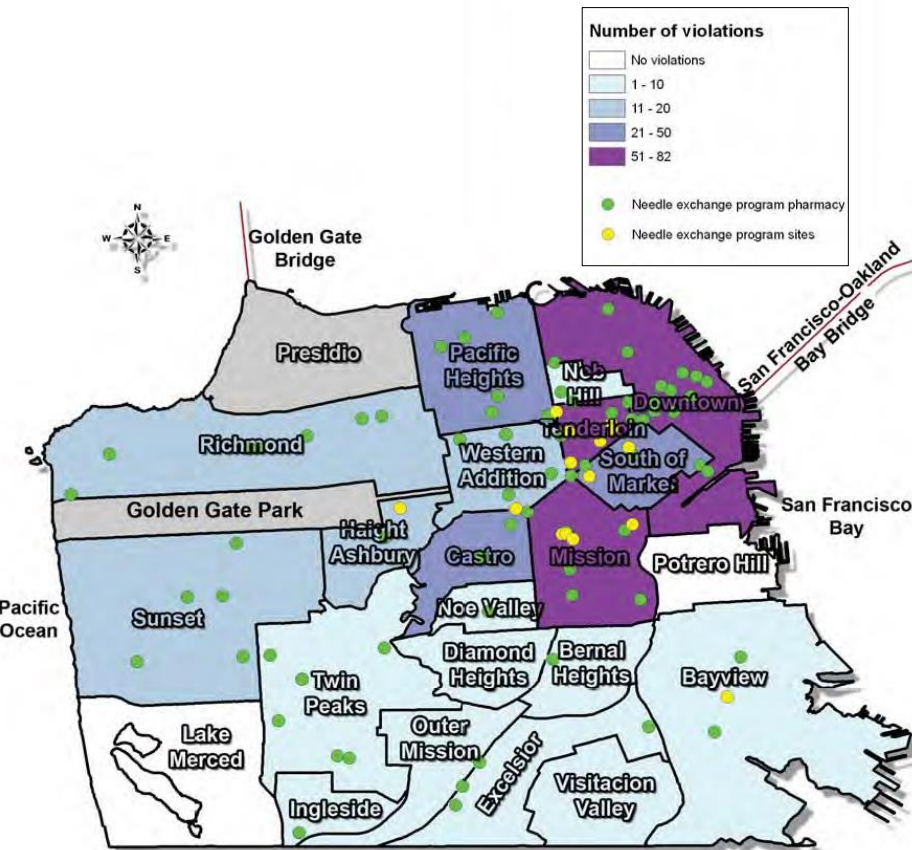
- 1 There are geographic disparities in alcohol use (a key driver of HIV transmission & HCV morbidity) in the S.F. Bay Area^{1,2}
- 2 Understanding spatial and temporal trends in alcohol use could help target public health interventions
- 3 There is currently no real-time, population-based surveillance for alcohol use

¹Mutchler, M.G., et al., *Sex drugs, peer connections, and HIV: Use and risk among African American, Latino, and Multiracial young men who have sex with men (YMSM) in Los Angeles and New York.* J Gay Lesbian Soc Serv, 2011. 23(2): p. 271-295.

²<https://www.sfdph.org/dph/files/chip/CommunityHealthStatusAssessment.pdf>

Reports of drug/
alcohol violations, S.F. (2012)¹

Geographic distribution of persons living
with HIV, S.F. (2012)²

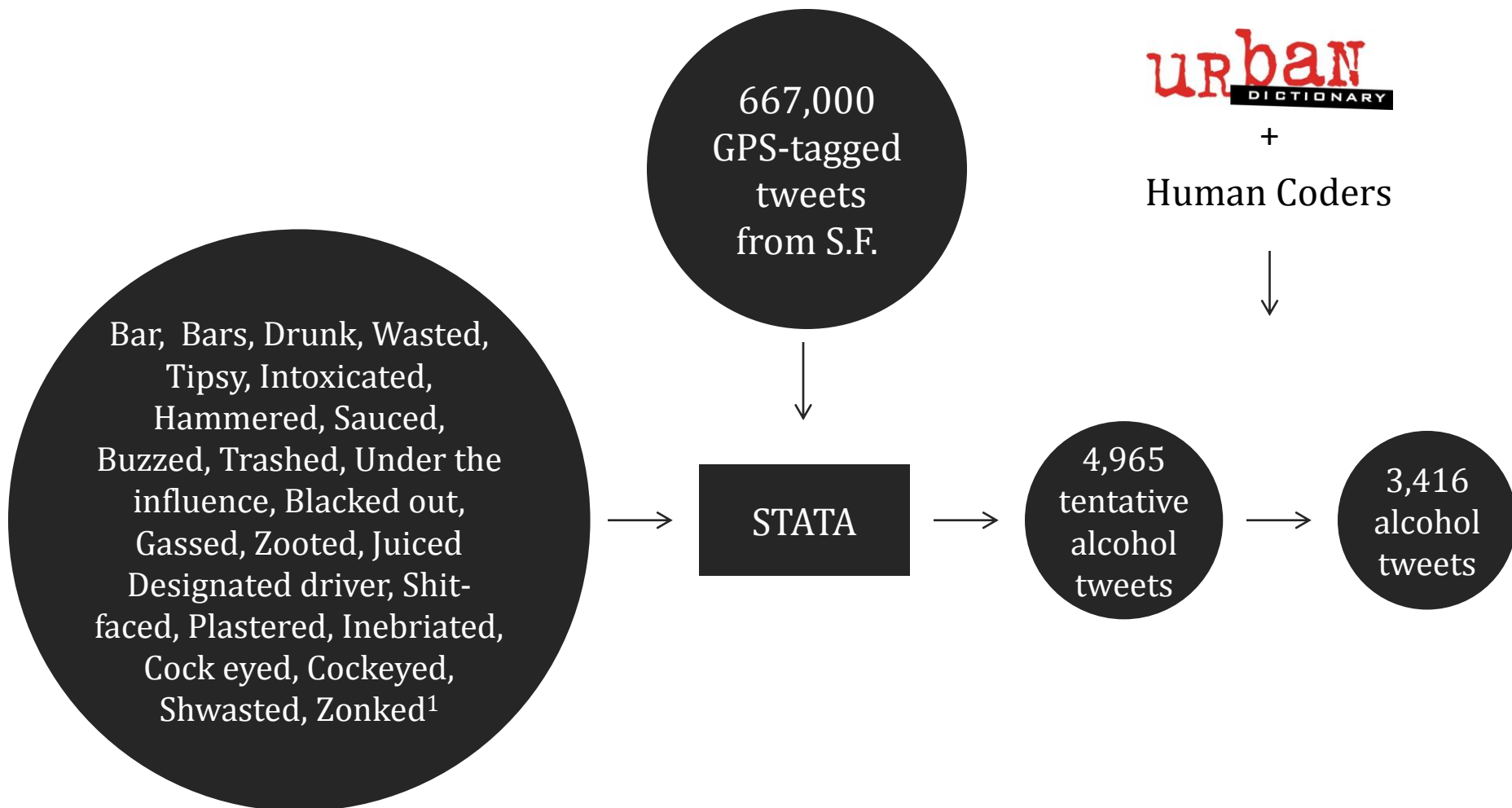


¹<https://www.sfdph.org/dph/files/reports/RptsHIVAIDS/HIVAIDSAtlas2010.pdf>

²<https://www.sfdph.org/dph/files/reports/RptsHIVAIDS/HIVAIDAnnRpt2012.pdf>



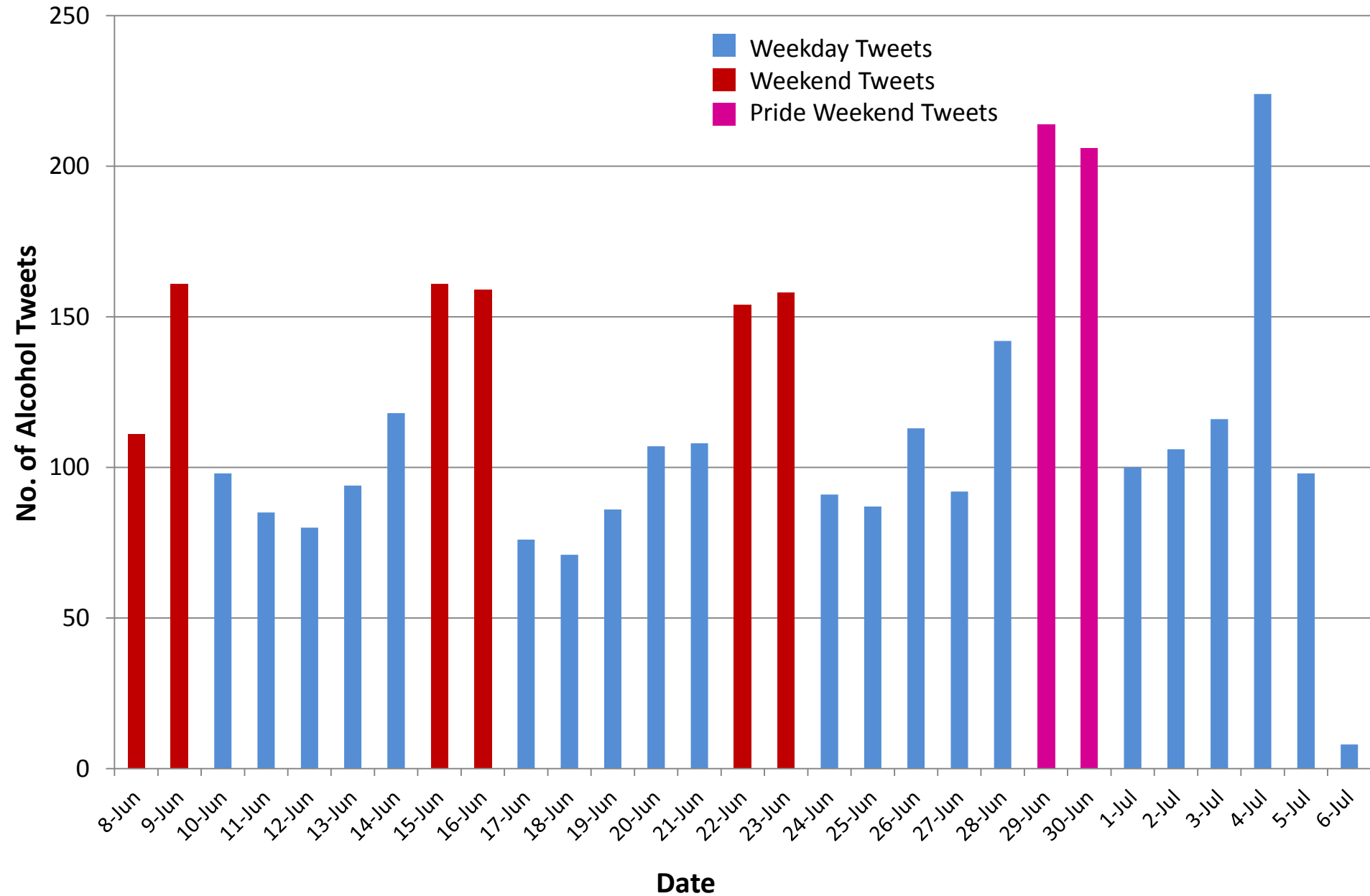
We hypothesize that Twitter could serve as a real-time, population-based approach to examine alcohol use trends in the Bay Area

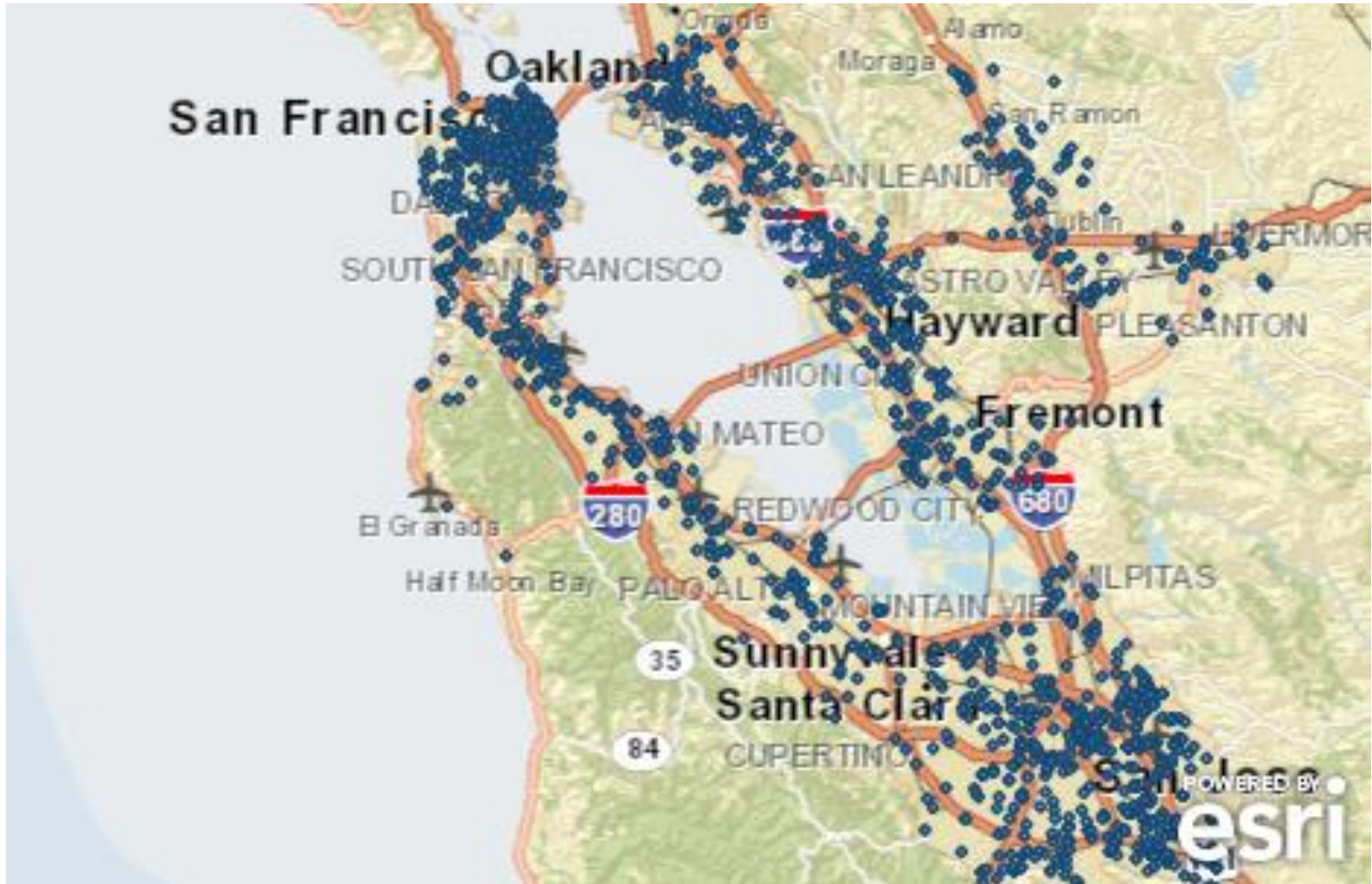


¹West J, Hall P, Hanson C, et al. Temporal variability of problem drinking on Twitter. *Open Journal of Preventive Medicine* 2012;2(1):43-48.

Number of Geo-Located Alcohol Tweets in S.F. (Jun 8 - Jul 6, 2013)

Temporal Results

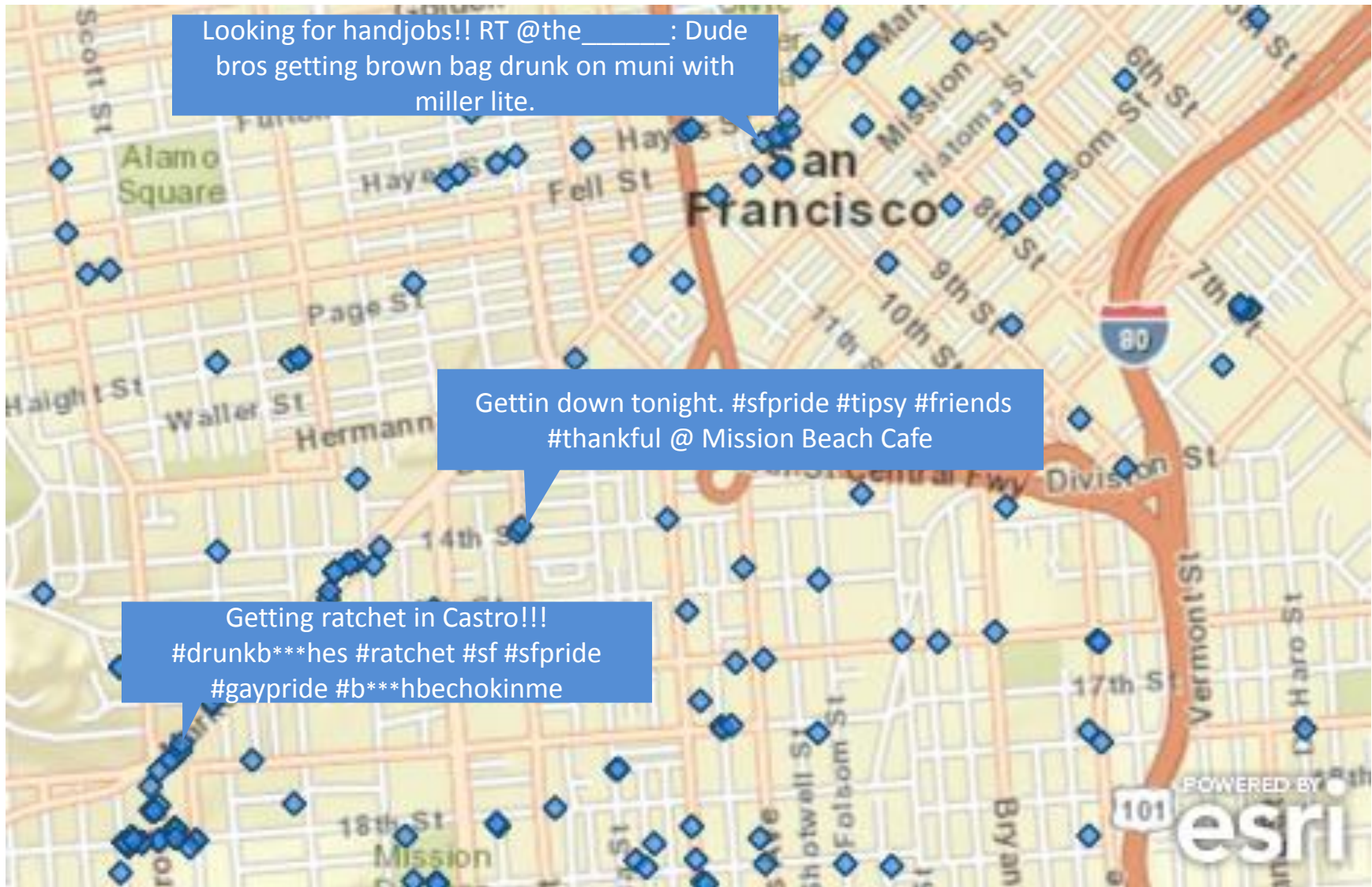






GPS Map of Alcohol Tweets: Bay Area (Jun 8-Jul 6, 2013)

Spatial Results



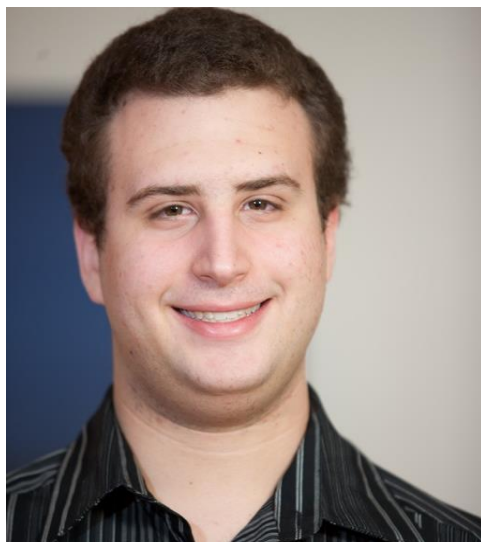
- 1 Human coders can overlook key words & generate false negatives
- 2 Twitter age demographic is not representative of the U.S. population¹
- 3 Only 0.001% of all tweets from Bay Area can be collected

¹ Available at: <http://www.pewinternet.org/Reports/2013/Social-media-users/Social-Networking-Site-Users/Demo-portrait.aspx>. Accessed August 16, 2013.

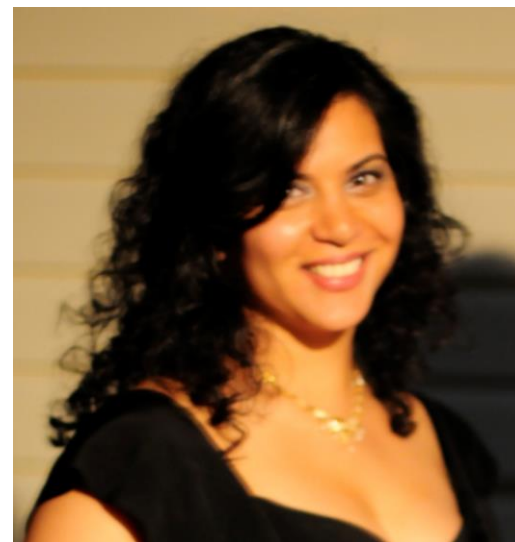
- 1 We can use Twitter to examine temporal & spatial alcohol use trends in the S.F. Bay Area
- 2 Temporal & spatial trends of alcohol tweets were consistent with our hypothesis
- 3 Associations of these trends with alcohol & HIV/HCV related health disparities can help create interventions to disproportionately affected areas



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THANKYOU