

Leveraging Data from CHP and Waze

A Case Study in Public-Private Collaboration

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Three Groups Have Data About Citizens. If They Can Learn to Share, Everyone Wins.

Diaries
Surveys
Digital Behavior
Health Outcomes

- Government Agencies –Mission fulfillment, taxpayer satisfaction.
- Mass and Social Media Technology Platforms – Bigger, *safer* profits.
- Public Health Researchers – Impact.

Public Health and Safety Depends on Fast, Accurate Alerts

- Mass media have historically repeated alerts broadcast by federal, state and local agencies.
- First responders also require inter-agency communication.
- Public health agencies use surveys of hospitals and other emergency service providers to issue reports on a quarterly and annual basis.



The Gold Standard – An Academic Perspective



CDC WONDER

WONDER Search

- Regardless of how the information is assembled, once a government report is published, it is treated as ***the gold standard for a study***.
- Researchers who try to devise new treatments, products or solutions compare their results against what the government has reported.
- For example, Dr. Young and I work together to find new data types that can more quickly predict patient outcomes than government-issued reports.

The First Challenges for Researchers

Gold Standard

- Gold standard data are not universally digitized or accessible – FOIA requests may be necessary.
- Gold standard data are not always compiled with great enough frequency that comparisons can be made to anything else.
- Gold standard data may be unreliable (based on human observation, flawed study design, etc).

Experimental

- Experimental data types that show promise for public health tend to be crowdsourced, geo-located.
- They are controlled by private-sector corporations.
- Their popularity is predicated on protecting end-user privacy.
- Their competitive edge depends on obscuring some aspects that underpin their datasets (ex. Waze UGI's, Google Trends).

The Conflict Between Law Enforcement and Private Companies

- In 2015-2016, Apple unsuccessfully fought actions brought by the FBI to unlock an iPhone 5c in connection with the San Bernardino terrorist attack.
- The FBI decided to rely on a 3rd party hacker to exploit a security vulnerability in the iPhone 5c.
- Apple has an obligation to its shareholders to protect its intellectual property. The FBI has a responsibility to the American people.
- Both had information which may have prevented San Bernardino.



UCIPT as a Neutral Party

- We started by approaching CHP.
- We interviewed CHP officers to learn about their enforcement process.
- CDR Song helped us identify the more usable form of available public data for research.
- We tested several social data types against CHP, including Twitter and Google Trends.
- We approached Waze, after learning about their Connected Citizens Program and identified the needs for CHP's potential participation.
- We offered to share the results of our case study and maintain confidentiality.

Thank You

- Please contact me if your agency or company has a project that requires a neutral data platform for public-private collaboration.
- My UC IPT email is dbychkov@mednet.ucla.edu