Closing Quality and Relevance Gaps:

Harnessing Technology to Facilitate HIV Care Scale-Up

Reuben Granich, MD, MPH
Vice President and Chief Technical Advisor (IAPAC)

OUTLINE

- Global connectivity
- Open data principles
- Examples of cloud-based data and crowd sourcing for social good
- Fast-Track City Initiative (FTCI)
- FTCI Web portal

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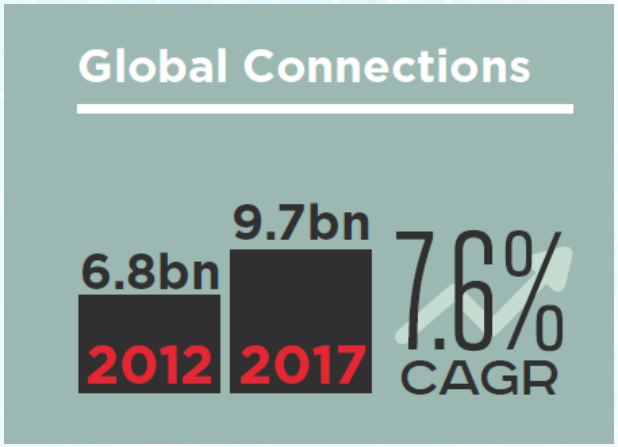
GLOBAL CONNECTIVITY IS INCREASING



- In 2011,
  - 50% of people live on less than $2.50 a day
  - One in nine lack access to an improved water source
- Half the population on the earth now uses mobile communications
- 3.2 billion mobile subscribers
- Roughly one third have Facebook account

* GSMA Wireless Intelligence, A.T. Kearney Analysis
* CAGR – Compound Annual Growth Rate

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"Open data and content can be **freely used, modified, and shared** by **anyone** for **any purpose**"

OPEN DATA PRINCIPLES (SEBASTAPOL, CALIFORNIA 2007)

1) Complete
2) Primary
3) Timely
4) Accessible
5) Machine processable (not image)
6) Non-discriminatory (anyone, anon)
7) Non-proprietary
8) License-free

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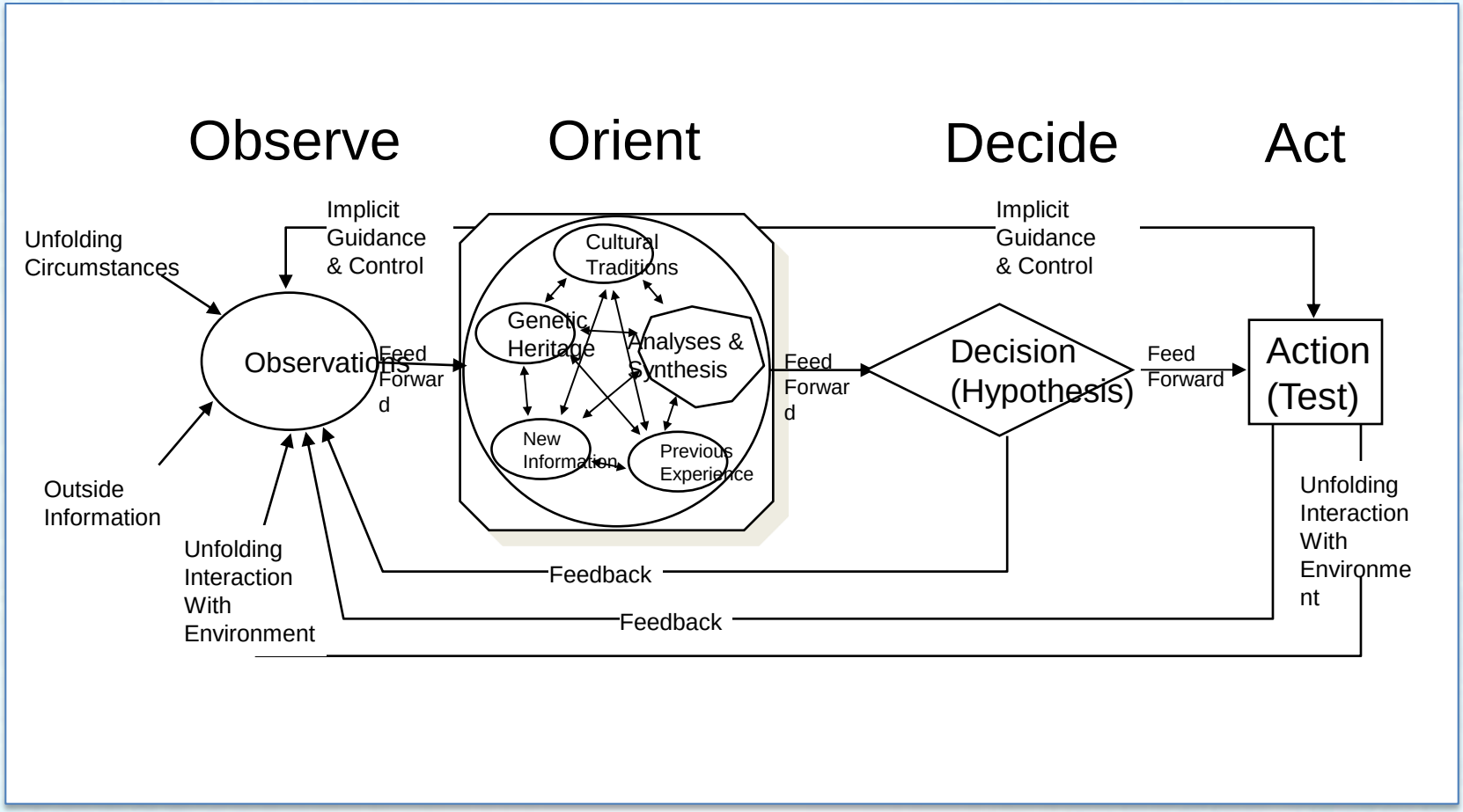
WE NEED DATA TO SHORTEN *OODA* LOOP



Reduce time to positive impact

Community owns the issue and is approach of solution

Moving away from the issue and pact of data access

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EVEN PRIVILEGED CONSUMERS COULD BENEFIT FROM OPEN DATA

Defeating AIDS
Advancing global health

THE UNAIDS AND LANCET COMMISSION

UNAIDS

THE LANCET

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

A UNAIDS–*Lancet* Commission on Defeating AIDS—Advancing Global Health

Figure 2: Number of people receiving antiretroviral therapy, by WHO region, 2003–13

Source: Global AIDS response progress reporting 2015.[15]

its place in the new global health and development agendas. In May, 2013, the UNAIDS–*Lancet* Commission—a diverse group of experts in HIV, health, and development, young people, people living with HIV and affected communities, activists, and political leaders—

effect when used in combinations that are tailored to the needs and contexts of specific populations. In addition, their programmatic effect is greatest when focused on populations at highest risk and in geographical hot spots, as is now policy in countries such as Kenya. However as

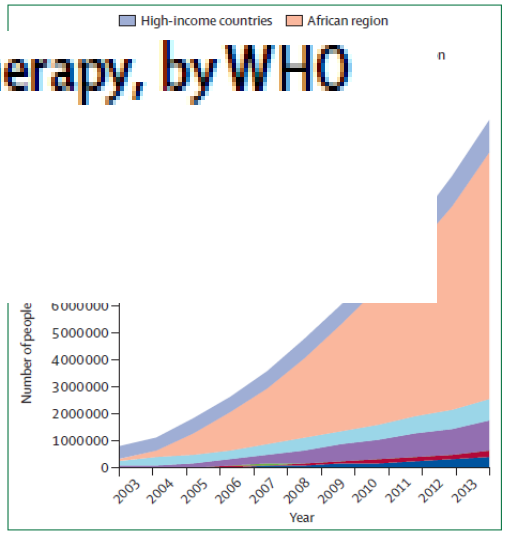

Figure 2: **Number of people receiving antiretroviral therapy, by WHO region, 2003–13**
Source: Global AIDS response progress reporting 2015.[15]

EXAMPLES OF CLOUD-BASED DATA AND CROWD SOURCING FOR SOCIAL GOOD

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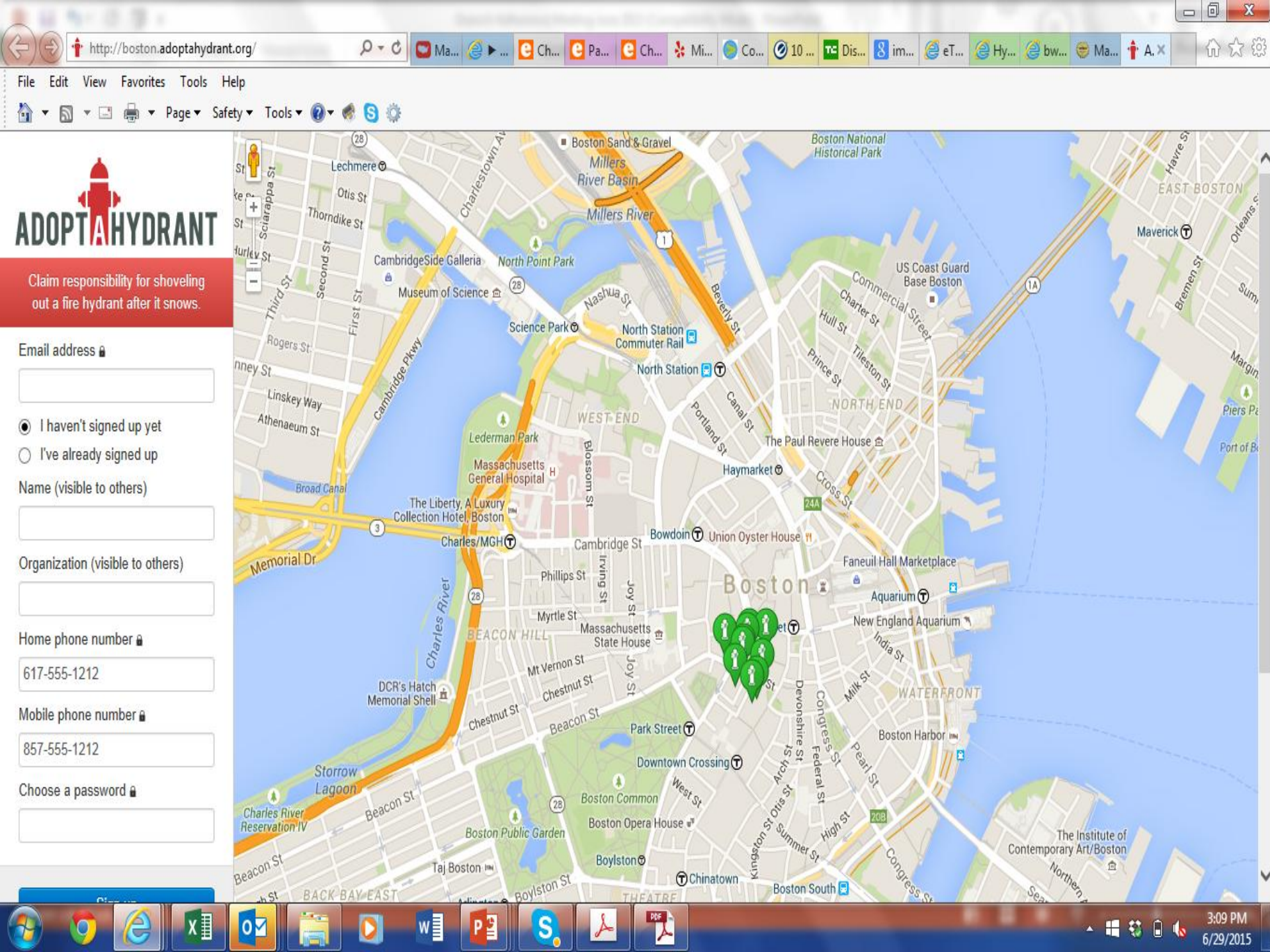
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ADOPTAHYDRANT
Claim responsibility for shoveling out a fire hydrant after it snows.
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I've already signed up
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Organization (visible to others)
Home phone number
617-555-1212
Mobile phone number
857-555-1212
Choose a password
Boston Sand & Gravel
Millers River Basin
Millers River
Boston National Historical Park
EAST BOSTON
Maverick
Lechmere
Otis St
Thorndike St
Sciarappa St
Charlestown Av
CambridgeSide Galleria
North Point Park
Museum of Science
Third St
Second St
First St
Rogers St
Linskey Way
Athenaeum St
Cambridge Pkwy
Nashua St
Science Park
North Station Commuter Rail
North Station
Beverly St
US Coast Guard Base Boston
Commercial Street
Charter St
Hull St
Tileston St
Prince St
Bremen St
NORTH END
WEST END
Lederman Park
Massachusetts General Hospital
Broad Canal
The Liberty, A Luxury Collection Hotel, Boston
Charles/MGH
Blossom St
Canal St
Portland St
The Paul Revere House
Haymarket
Cross St
Memorial Dr
Cambridge St
Bowdoin
Union Oyster House
Faneuil Hall Marketplace
Boston
Aquarium
New England Aquarium
Phillips St
Irving St
Joy St
Myrtle St
Massachusetts State House
BEACON HILL
Charles River
Mt Vernon St
Chestnut St
DCR's Hatch Memorial Shell
India St
Milk St
WATERFRONT
Boston Harbor
Devonshire St
Congress St
Federal St
Pearl St
Park Street
Downtown Crossing
Beacon St
Storrow Lagoon
Charles River Reservation IV
Boston Common
Boston Public Garden
Boston Opera House
West St
Arch St
Kingston St
Otis St
Summer St
High St
The Institute of Contemporary Art/Boston
Taj Boston
Boylston
Chinatown
Boston South
BACK BAY EAST
THEATRE
3:09 PM
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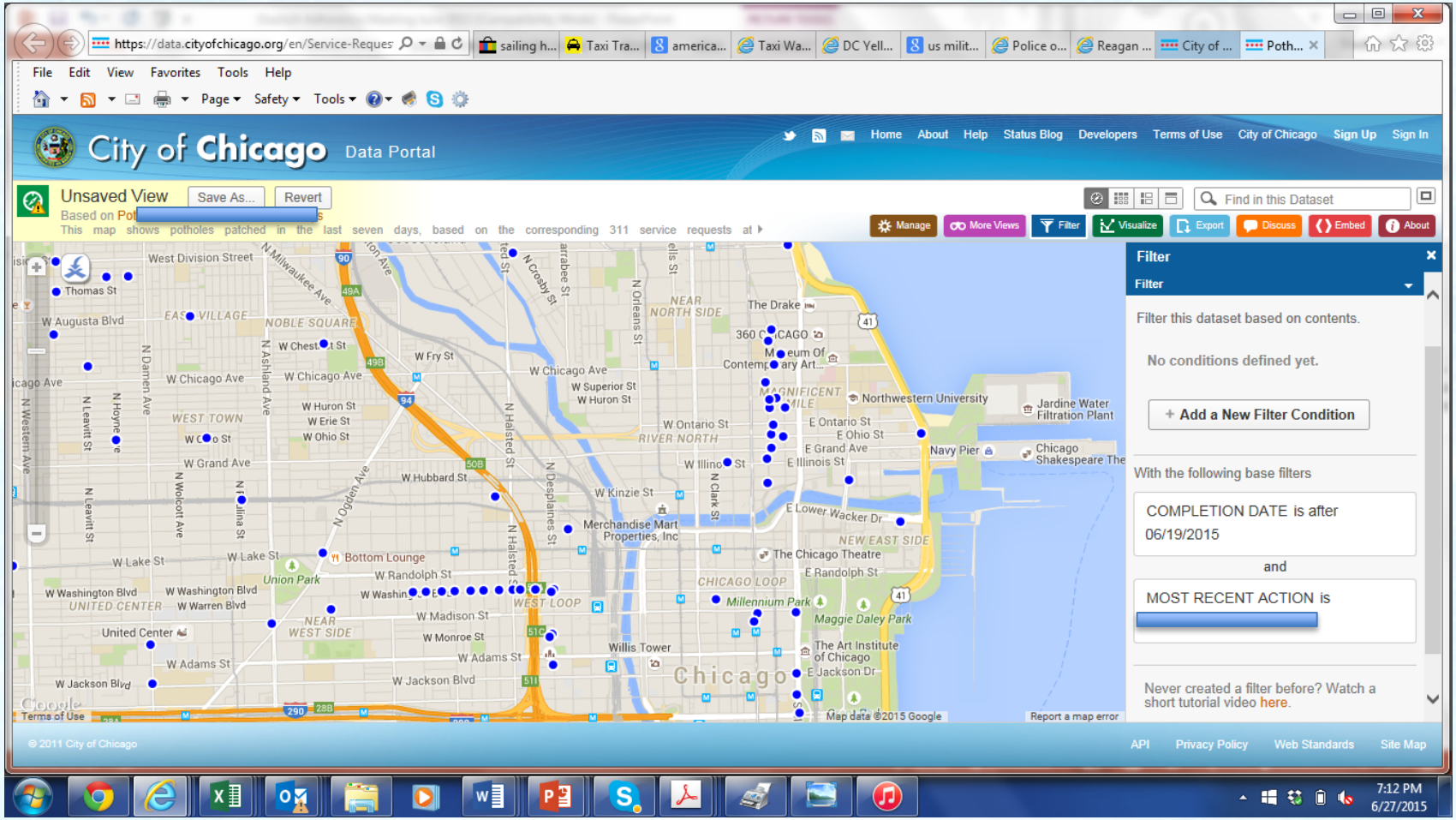
BONUS QUESTION
SECOND BEER OR SOFT DRINK…



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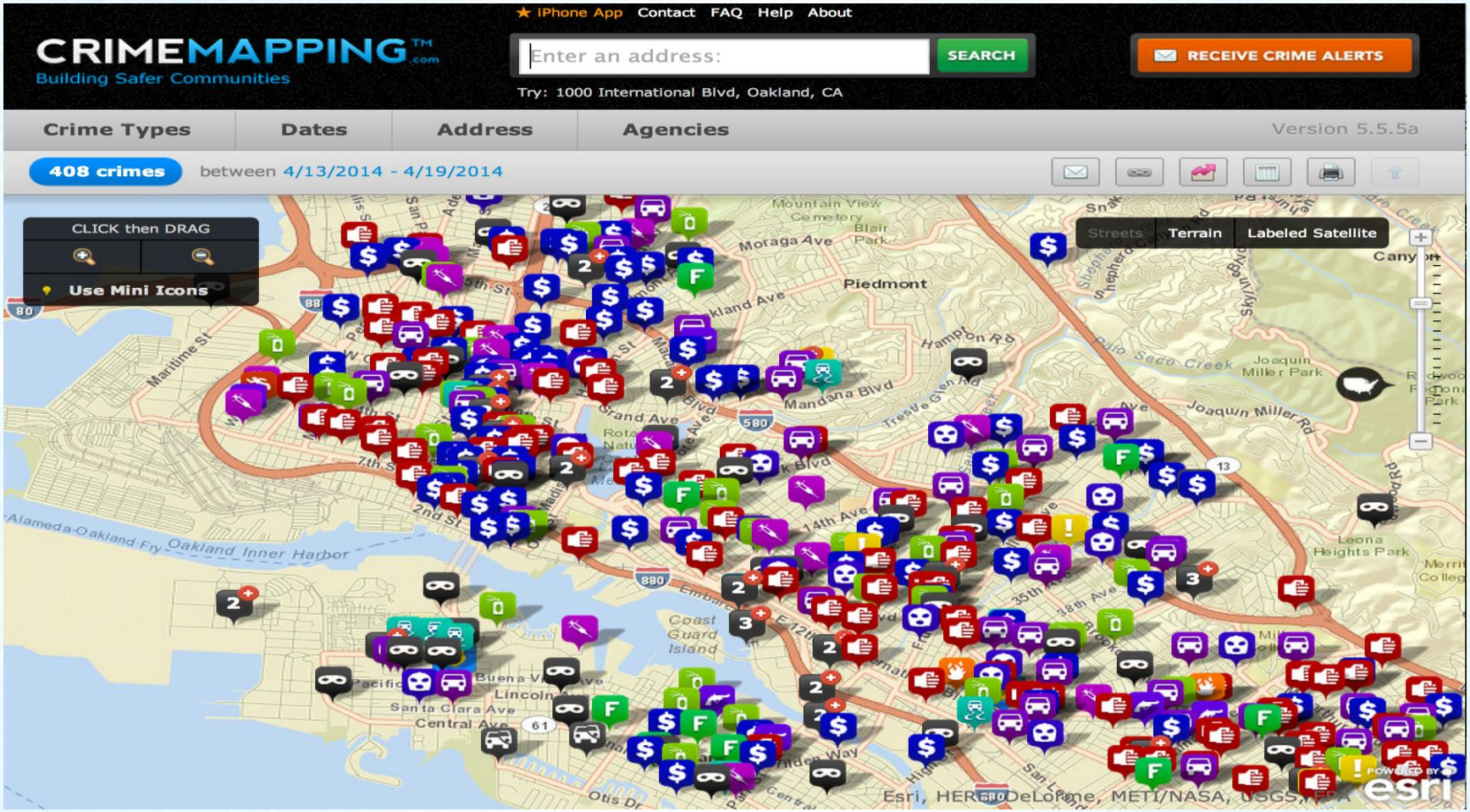
WHAT'S UP IN MY NEIGHBORHOOD?
OAKLAND MOVES FROM CRIME BLOTTER TO INTERNET MAPPING



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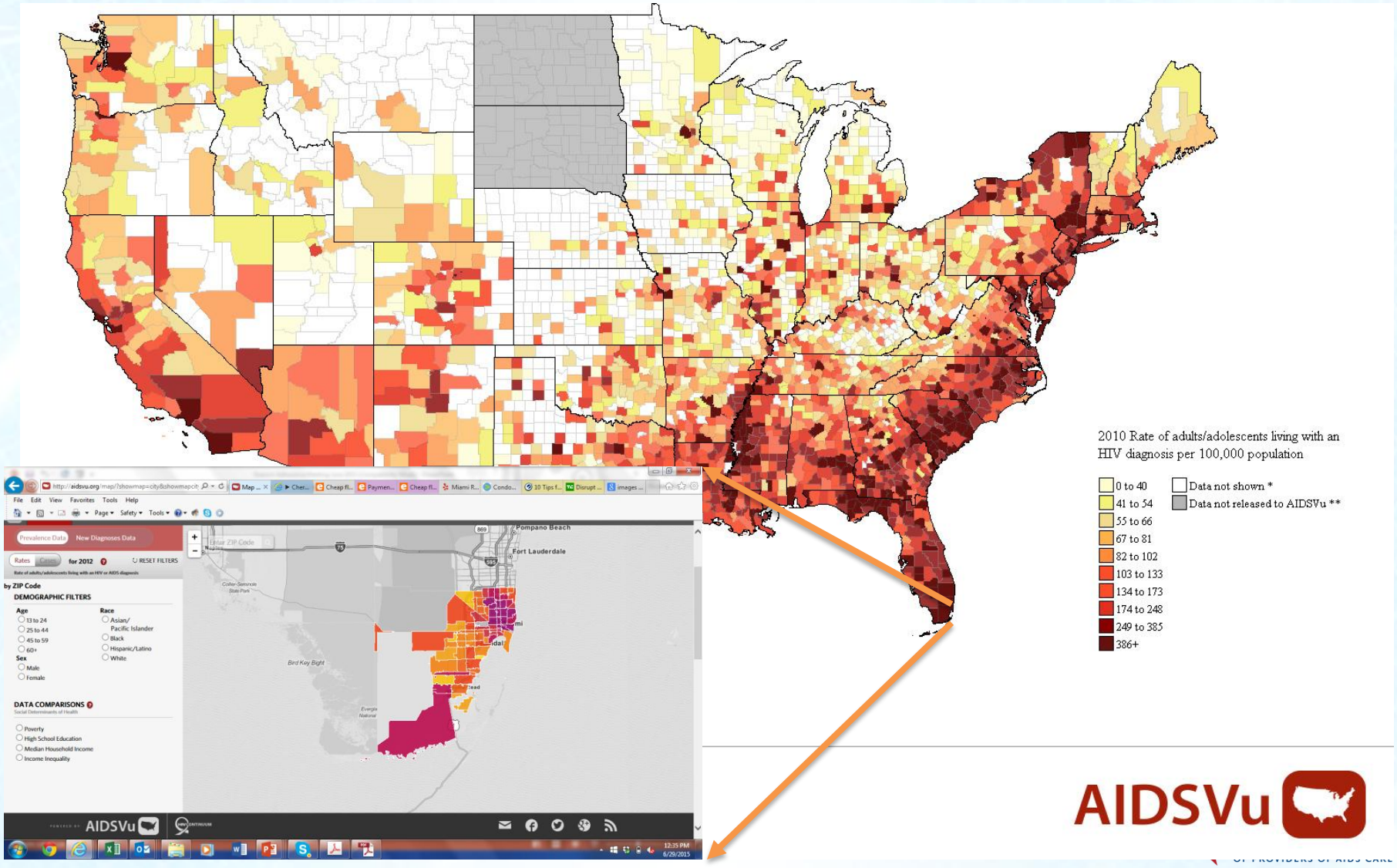
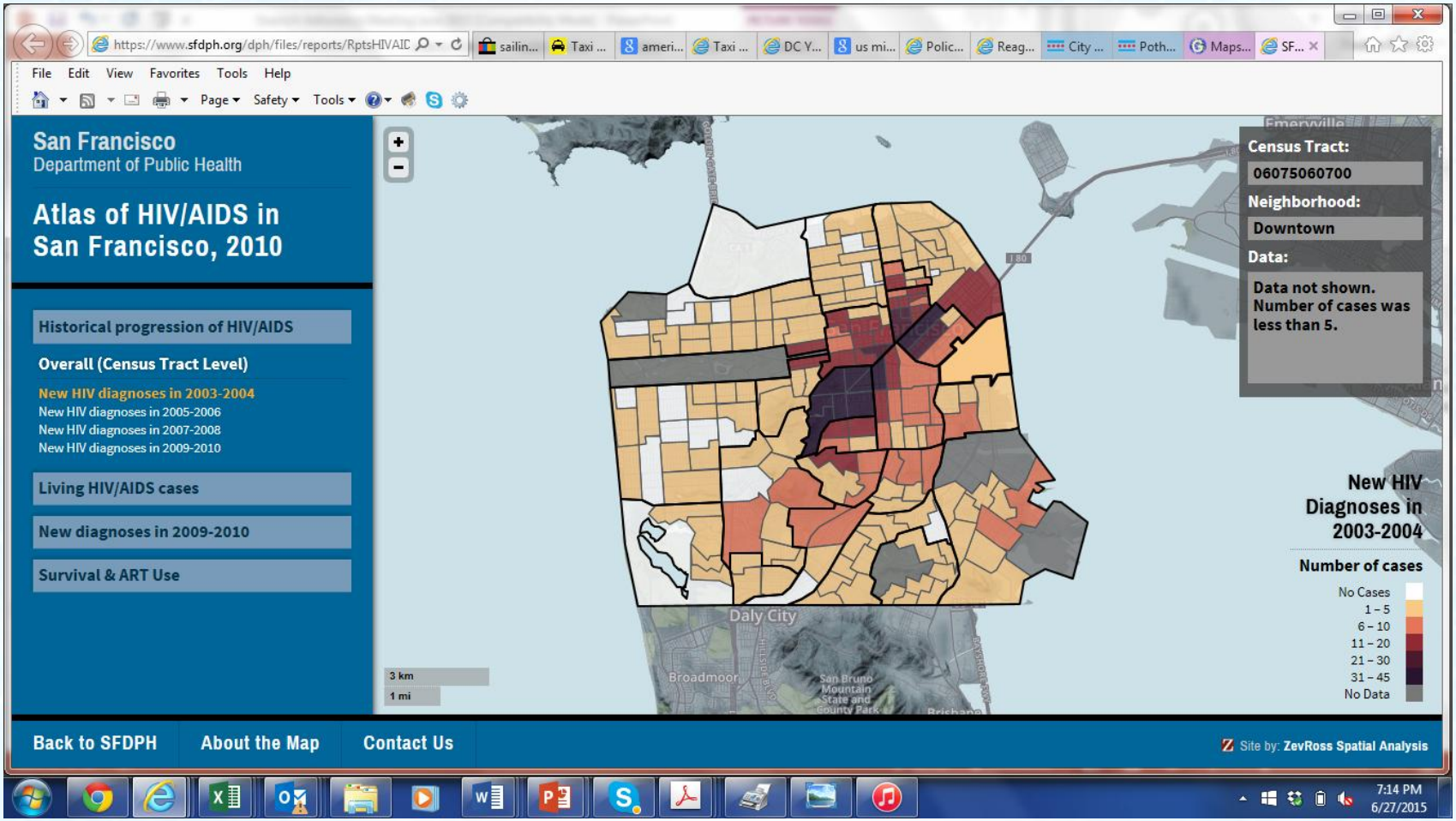
A PICTURE IS WORTH A THOUSAND WORDS: MAPPING THE US EPIDEMIC



URBAN HIV TOPOGRAPHY—SAN FRANCISCO MAPS HIV EPIDEMIC BY CENSUS TRACT



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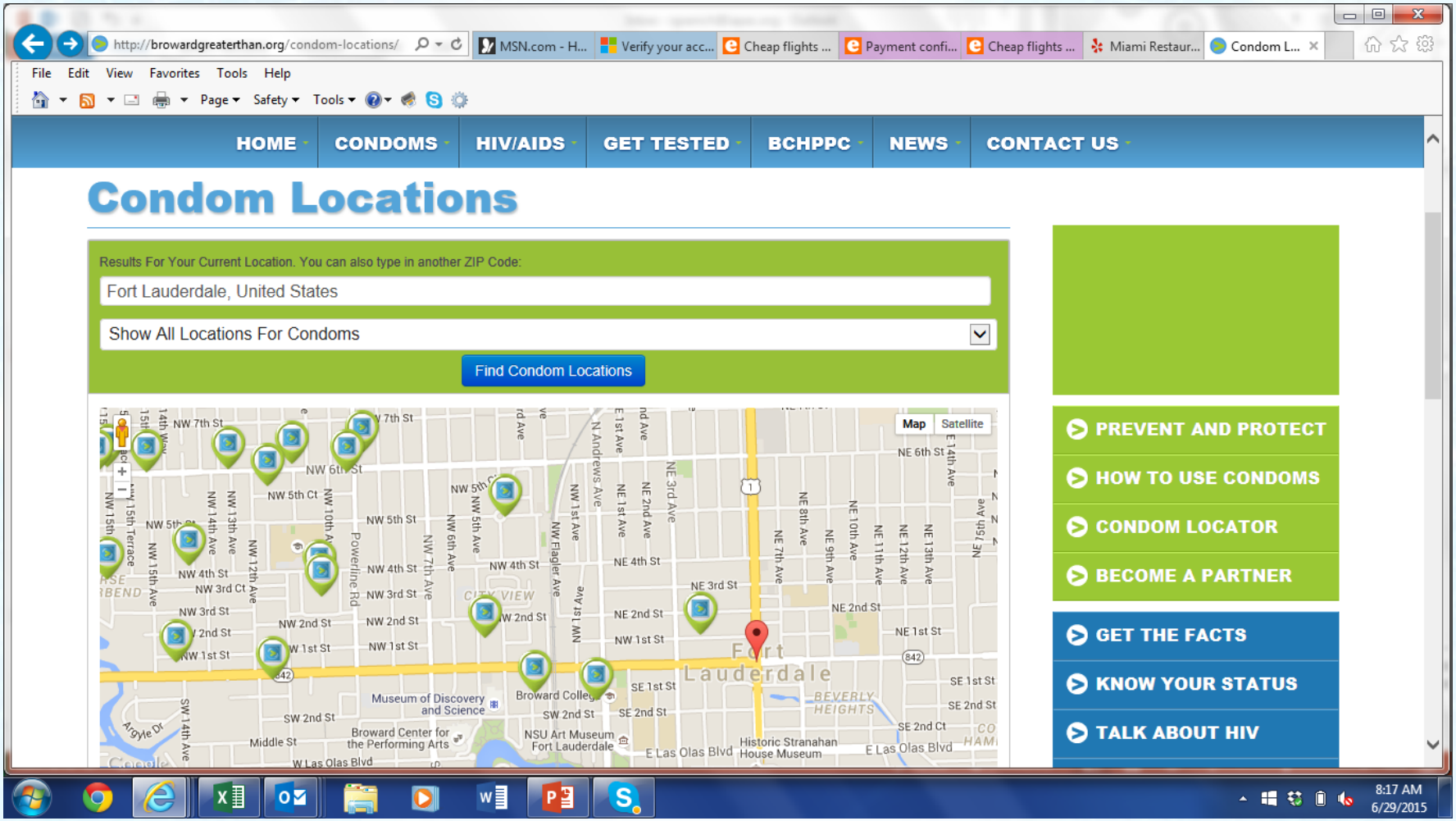
MAPPING RYAN WHITE PREVENTION PROGRAMMES

BROWARD COUNTY MAPPING



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BIG GOVERNMENT IS BECOMING SMALLER: PEPFAR DASHBOARDS

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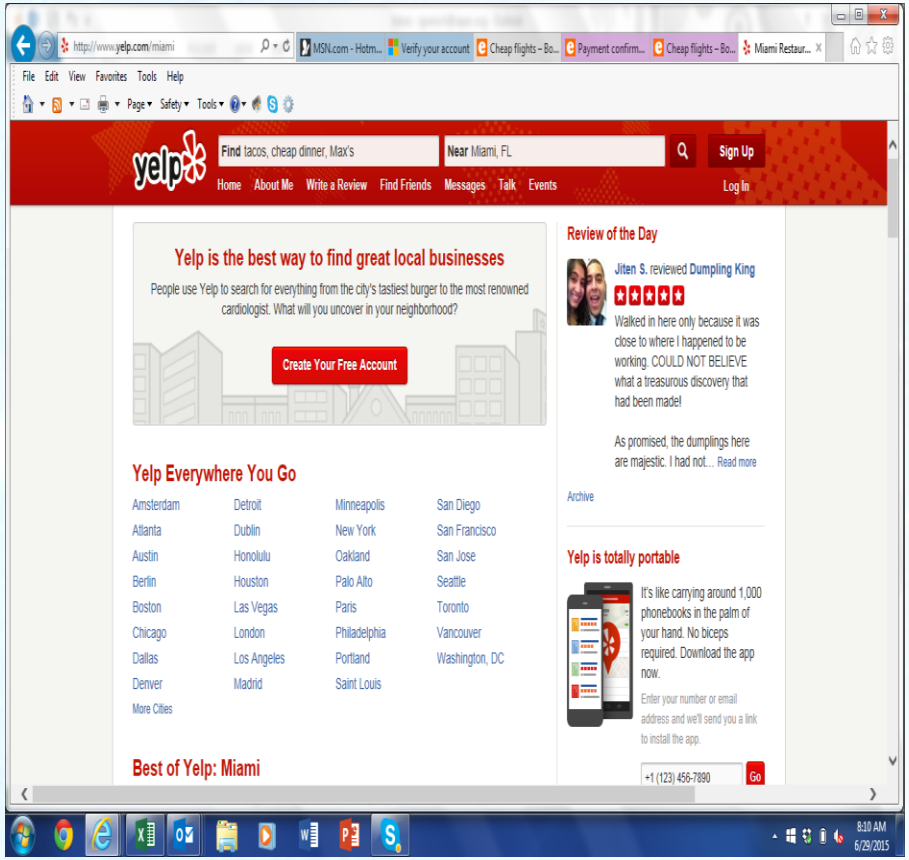
CROWD SOURCING HOLY GRAIL: YELP MODEL—GOOD, BAD AND THE UGLY



- Crowd source real time reviews of restaurants
- Completely subjective
- Hard to separate wheat from chaff
- Very useful when you have no data points
- Direct feedback loop for businesses

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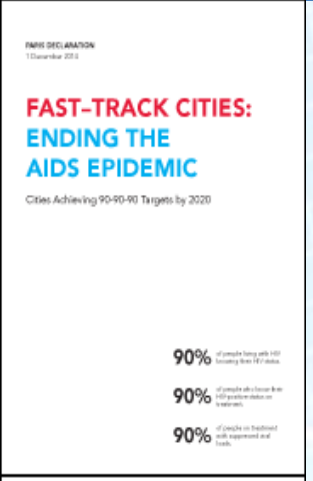

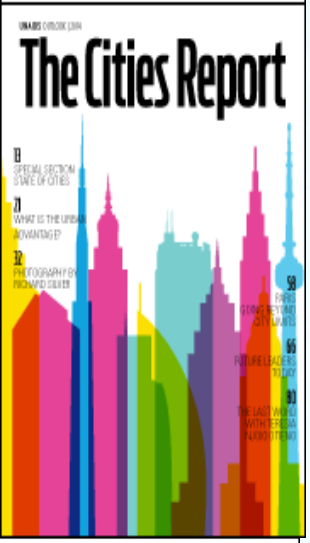

Fast-Track Cities Initiative

- IAPAC-City of Paris-UN HABITAT-UNAIDS initiative
- Cities achieving 90-90-90 targets by 2020
- Cities are pioneers in our response
- Paris Declaration (December 1st 2014)
  - 90-90-90
  - Put people at center
  - Address causes of risk, vulnerability, and transmission
  - Use AIDS response for social transformation
  - Build and accelerate appropriate local response
  - Mobilize resources for public health and development
  - Unite as leaders

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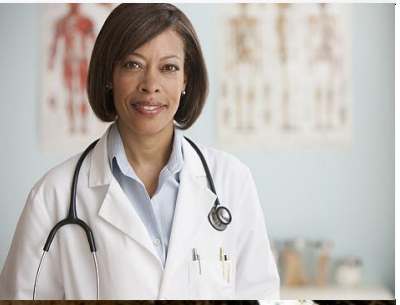

FAST-TRACK TARGETS

90% of people living with HIV knowing their HIV status.

90% of people who know their HIV-positive status on treatment.

90% of people on treatment with suppressed viral loads.

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CURRENT FAST-TRACK CITIES

AFRICA		LATIN AMERICA/CARIBBEAN
1. Abidjan	16. Durban	30. Curitiba
2. Accra	17. Kinshasa	31. Kingston
3. Algiers	18. Lagos	32. Port-au-Prince
4. Atakpamé	19. Libreville	33. Salvador
5. Bamako	20. Lilongwe	34. Santa Fe
6. Bamenda	21. Lomé	35. San Miguelito
7. Bangui	22. Lubumbashi	
8. Blantyre	23. Lusaka	
9. Casablanca	24. Maputo	
10. Cotonou	25. Mbujimayi	
11. Dakar	26. Nairobi	
12. Dar es Salaam	27. Ouesso	
13. Djibouti	28. Windhoek	
14. Djougou	29. Yaounde	
15. Douala		

EUROPE	ASIA	NORTH AMERICA
36. Amsterdam	40. Bangkok	43. San Francisco
37. Bucharest	41. Delhi	44. Miami
38. Geneva	42. Mumbai	
39. Paris		

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IMPLEMENTATION PLAN

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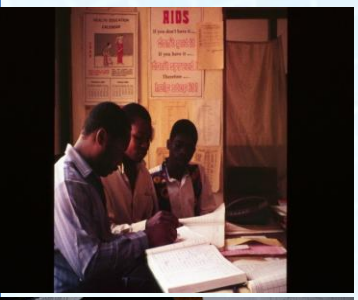
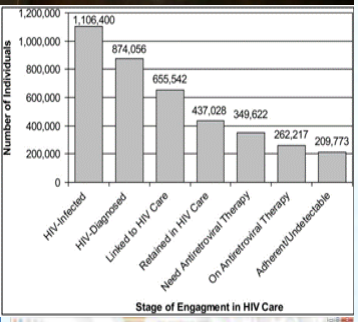
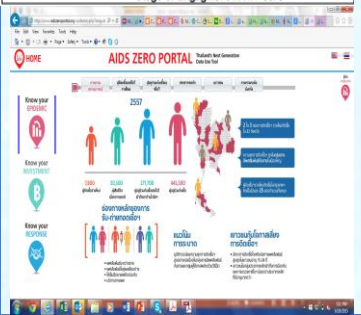
MONITORING AND EVALUATION







- **Establish epidemiology and program baseline**
  - HIV care continuum
  - Basic HIV indicators (focus)
  - 90-90-90
- **Definition of success**
  - Paris Declaration, 90-90-90, End of AIDS, Urban HIV Control
  - AIDS-free certification process
- **Web portal to develop real-time monitoring, including community reporting**

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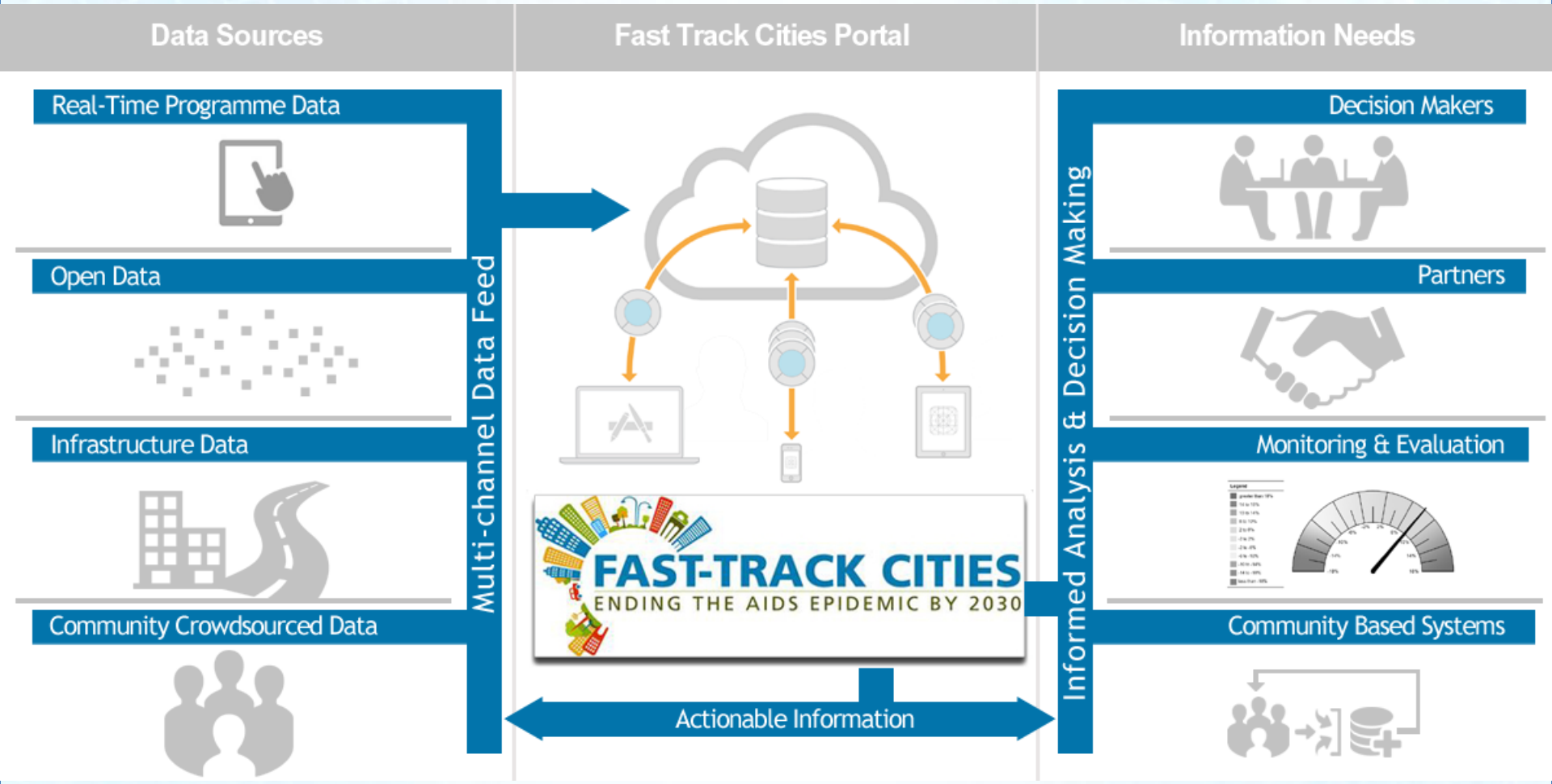
FAST-TRACK CITIES INITIATIVE WEB PORTAL:

REAL-TIME M&E



Dure Technologies
UNLOCKING REAL VALUE OF DATA

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URBAN DATA SET:
BASIC BENCHMARKING

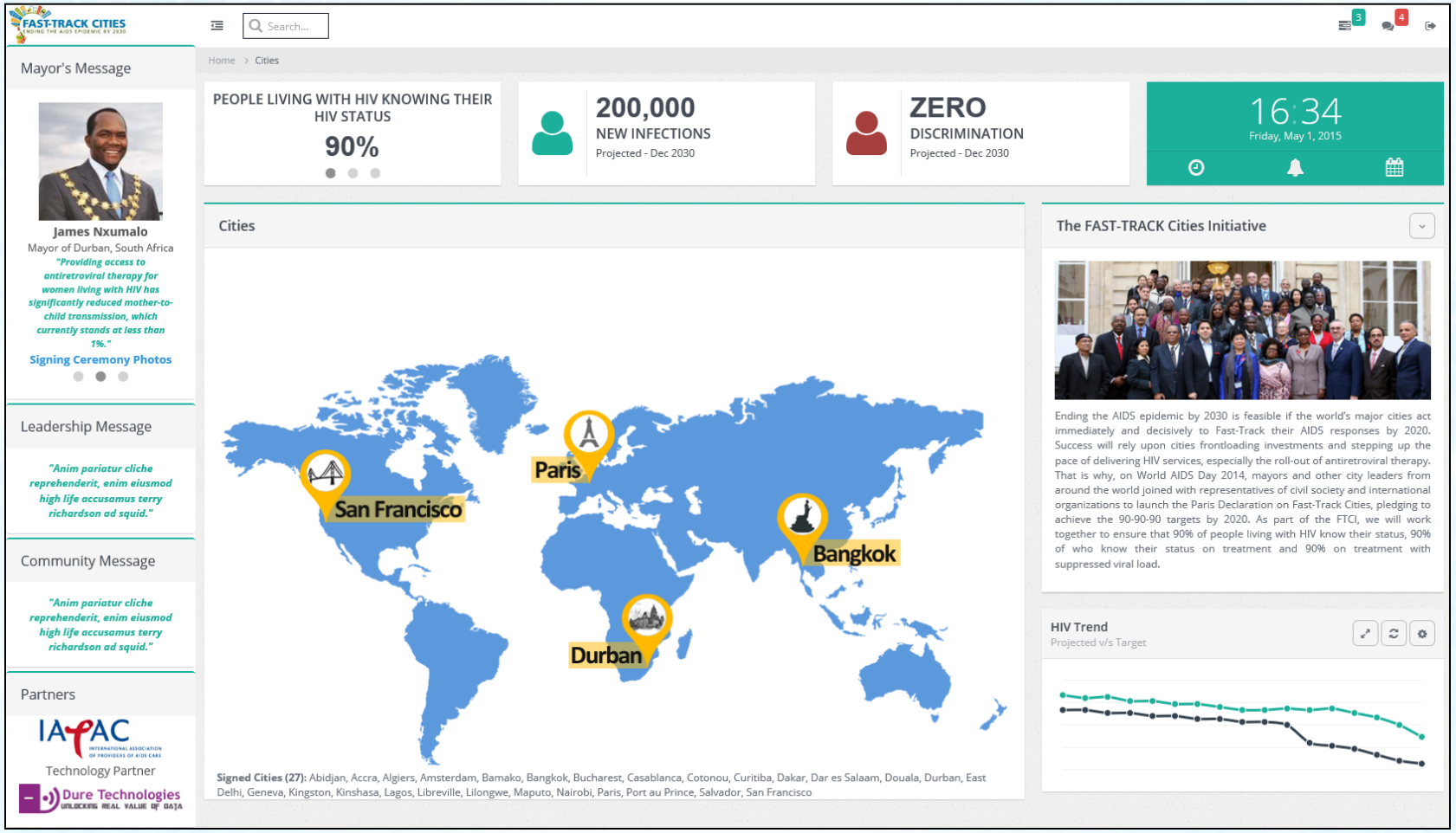
Key indicators that the Fast-Track City dashboards and maps will track include:

- Number of PLHIV (estimated)
- Number of PLHIV diagnosed
- Number of PLHIV on ART
- Number of PLHIV on ART who are virally suppressed
- Number of AIDS cases (e.g., HIV/TB)
- Number of AIDS-related deaths
- Number of new HIV infections
- Key population data for the above

URBAN DATA SET:
USER DRIVEN MASH-UPS

Political	○ **Administration**
Demographic	○ Population (by age, race, etc. where available) ○ Density ○ Literacy rates
Economic	○ GDP and per capita income ○ Economic disparity – below poverty line ○ Labor force and unemployment
Geographic	○ Land area
Stigma and Discrimination	○ HIV prevalence in relevant key populations (i.e., MSM, PWID) ○ Key populations (by group) on ART ○ Key populations (by group) with undetectable VL ○ Facilities providing specific support to particular key populations ○ Community groups addressing HIV human rights issues ○ Legislation protecting the rights of PLHW ○ Legislation protecting the rights of key populations
Health and HIV	○ Health facilities providing HIV-related services ○ Country recommendations on ART, PMTCT, TB, VL monitoring, etc. ○ People who utilize one or more combination prevention services ○ People tested for HIV; PLWH who know their HIV status ○ Estimated PLHW (demographic, geographic, sub-population distribution) ○ People on ART; people on ART with undetectable VL ○ New HIV infections ○ AIDS-related morbidity and mortality

FAST-TRACK CITIES WEB PORTAL



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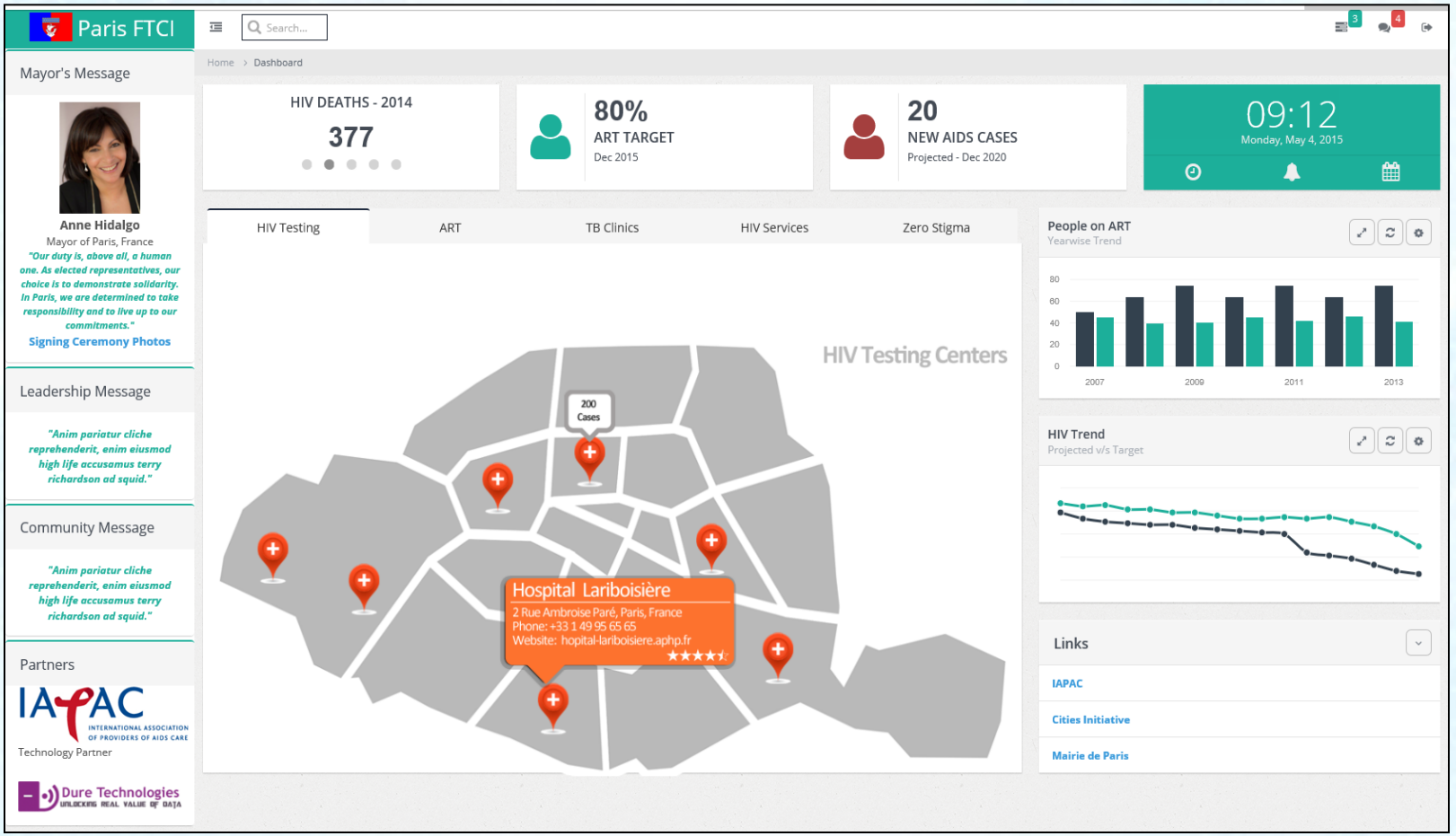
FAST-TRACK CITY DASH BOARD



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CITY DEEPER DIVE:
REAL-TIME VIRTUOUS DATA CIRCLE

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COMMUNITY INFORMATION SYSTEM

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CONCLUSIONS

- Connectivity is growing and could represent a critical tool
- We all need to lean forward on liberating data
- Using crowd sourcing for public good: why not us?
- Fast-Track City Initiative will harness technology and open data principles

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However beautiful the strategy, you should occasionally look at the results

--Winston Churchill

THANK YOU

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FINANCE

- Support cities to maximize return on current budget (internal/external)
- Support cities with guidance templates to set targets, assess local resources, mobilize local/international resources, and improve efficiency
- Provide proposal templates for fundraising

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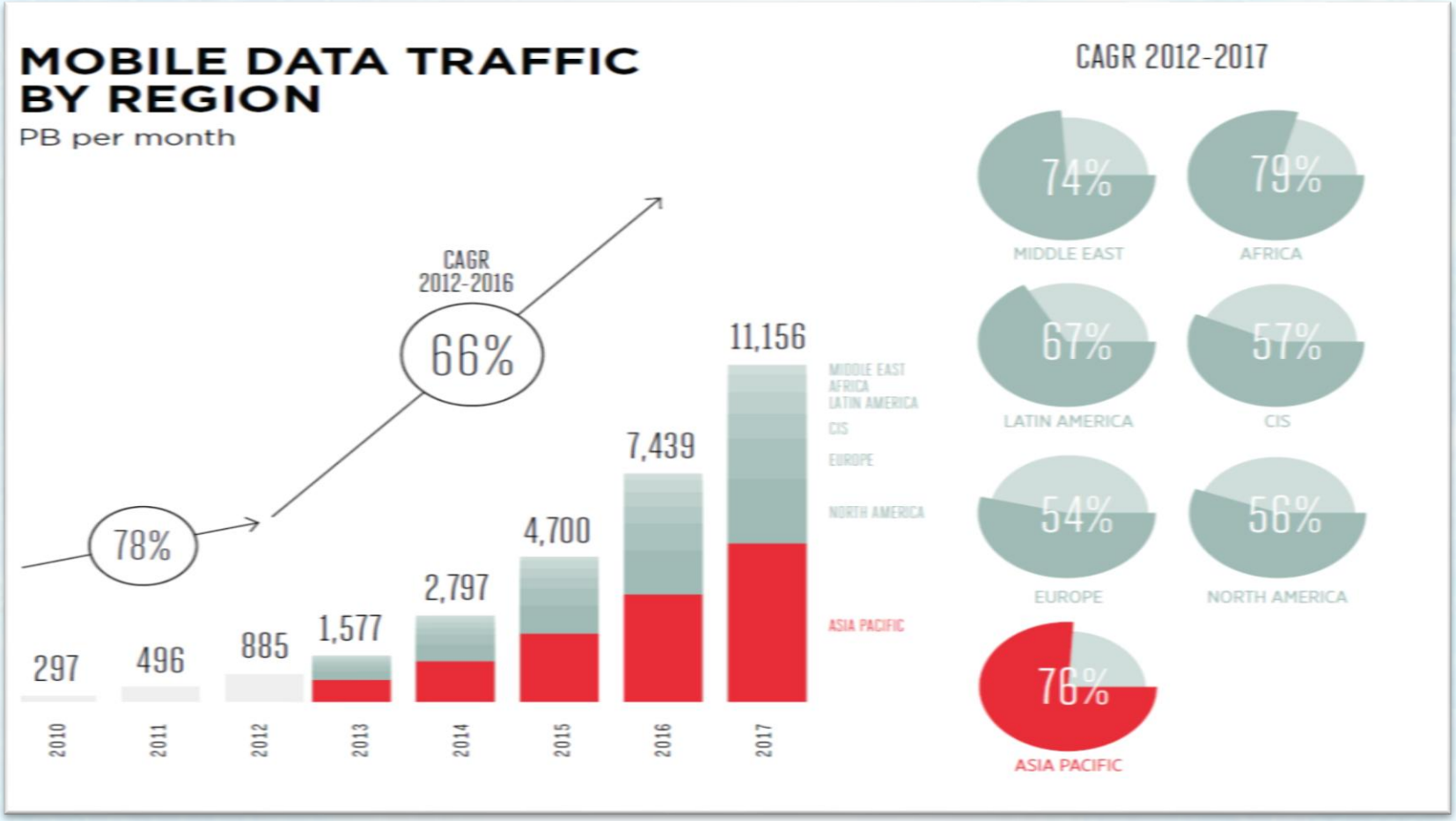
THE FUTURE WILL INCLUDE GROWING MOBILE DATA ACCESS



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COMMUNICATIONS

FTCI includes a communications strategy:

- Initial launch
- Quarterly/semi-annual reports
- Annual external reports
- Web portal
- Press releases, media advisories
- Mayoral visits to key clinics
- High-level political visits
- Scientific literature publications and conference presentations
- Cities conferences and meetings

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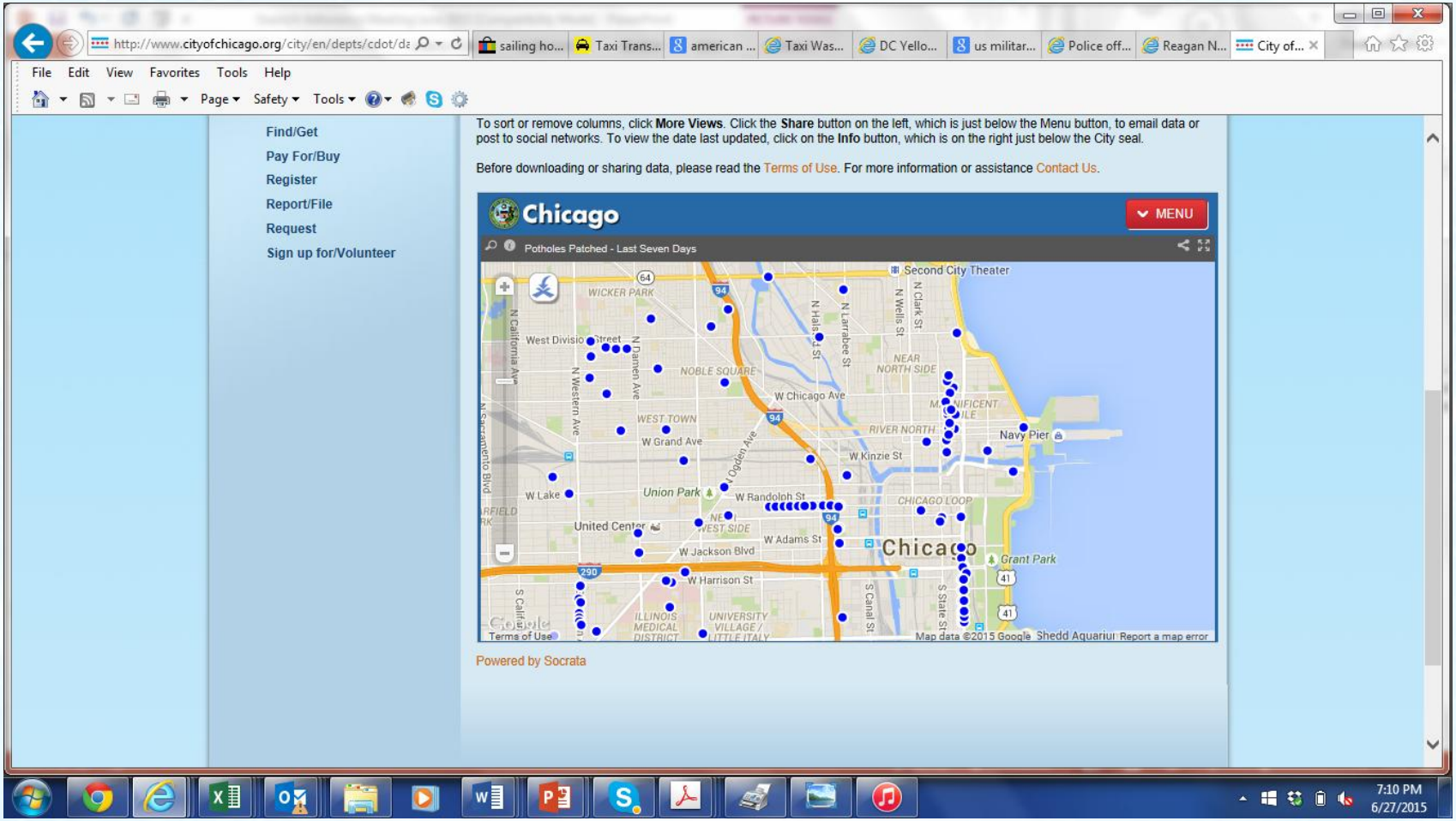

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MAIRIE DE PARIS

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UNAIDS JOINT UNITED NATIONS PROGRAMME ON HIV/AIDS

UN HABITAT FOR A BETTER URBAN FUTURE

We call on major cities to fast-track their AIDS responses by 2020:

- Frontloading investments and stepping up the pace of service delivery
- Strengthening and leveraging existing HIV programming for greater impact
- Scaling up HIV services, especially HIV testing and treatment

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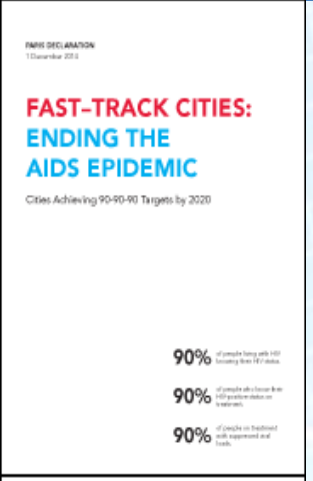

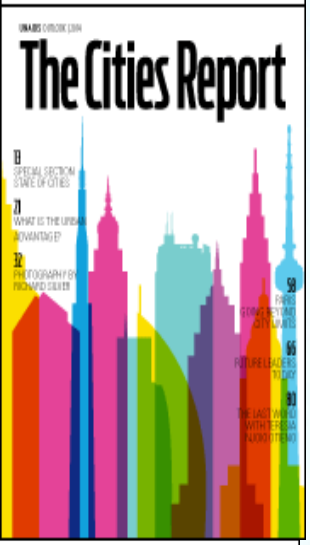

FTCI PARTNERSHIPS

- **FTCI Leadership:** IAPAC, City of Paris, UN-Habitat, UNAIDS
- **Partnerships:**
  - Civil society organizations
  - Human rights-based organizations
  - Professional associations
  - Implementing agencies
  - Research institutions
  - Academic institutions
  - UN agencies
  - Financing institutions
  - Corporate sector entities

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A CITY-FOCUSED APPROACH

- More than 50% of the globe's population lives in cities
- In many countries, cities are home to more than 50% of all PLHIV
- In sub-Saharan Africa, an estimated 45% of PLHIV reside in cities
- Urban leadership is needed to accelerate the AIDS response
- Cities are pioneers in the AIDS response

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INTERNATIONAL COLLABORATION

FTCI is a platform for thinking and partnering globally and locally to leverage cities' existing programs and resources.

- Sharing International best practices
- International FTCI solidarity priorities
- Cities conferences and meetings
- Scientific literature publications and presentations

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PROCESS AND OVERSIGHT

Cities may choose to host consultations convening city stakeholders to build consensus, develop locally tailored implementation plans, and facilitate local accountability.

Objectives	Citywide Outputs
▪ Build consensus on targets ▪ Establish baselines ▪ Define barriers and opportunities ▪ Identify gaps across HIV continuum ▪ Deploy capacity-building resources ▪ Develop communications strategies ▪ Agree upon indicators and mechanism for real-time monitoring ▪ Design an accountability framework	▪ Consensus on targets ▪ Baseline assessments ▪ Situational analyses ▪ Implementation plans ▪ Capacity-building activities ▪ Communications strategies ▪ Indicators and mechanism to measure success (web portal) ▪ Accountability to stakeholders

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“TEAR DOWN THAT DATA WALL”

- Findable
- Standardized
- Trustworthy
- Narrative (why was the data collected and why it matters)

GET THE RIGHT PEOPLE IN THE ROOM WITH THE RIGHT DATA...

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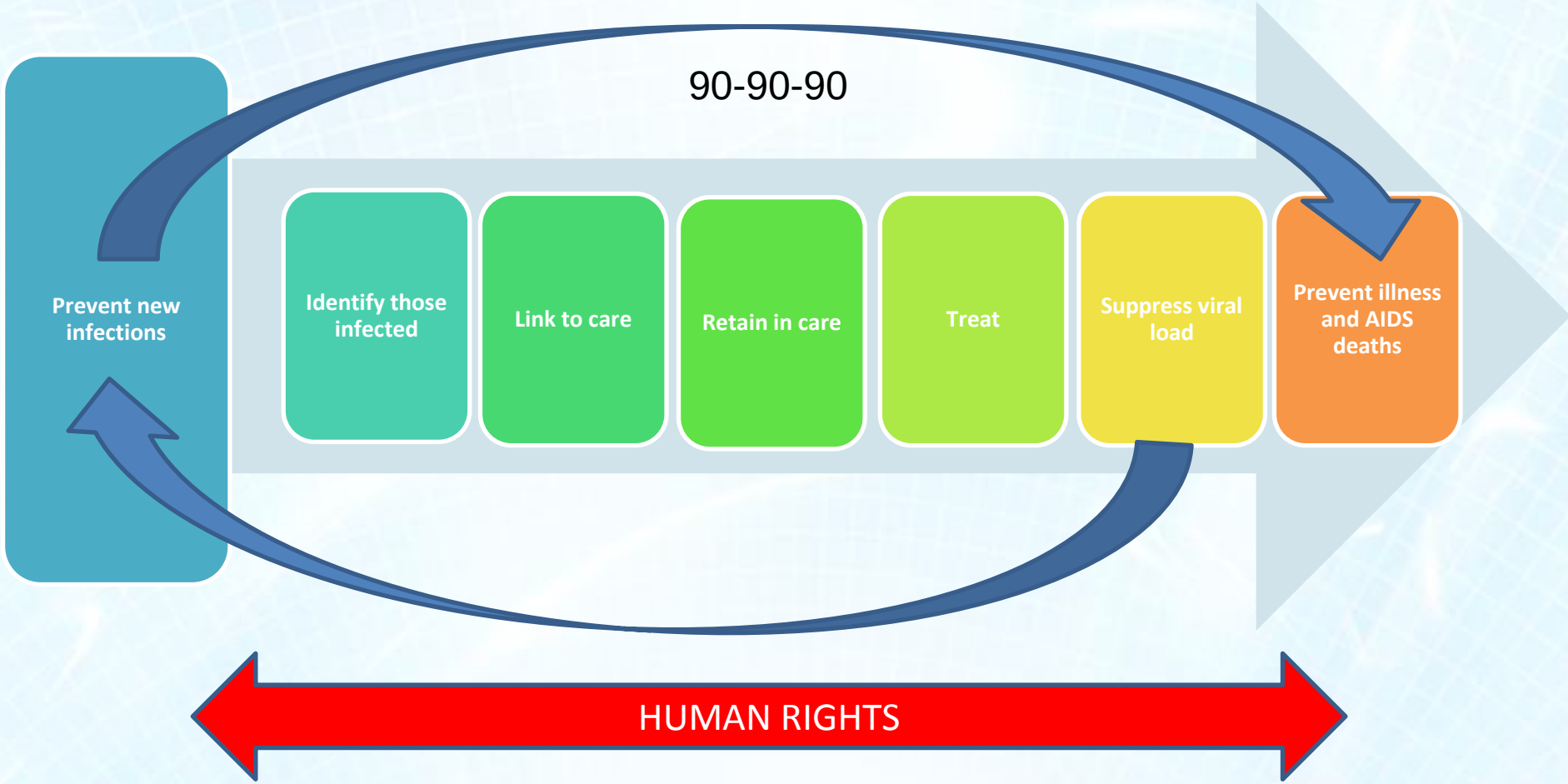
PROMOTING INTERVENTIONS THROUGH THE HIV CARE CONTINUUM



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We should ask ourselves: are expensive PDFs and hard copies endangered species?

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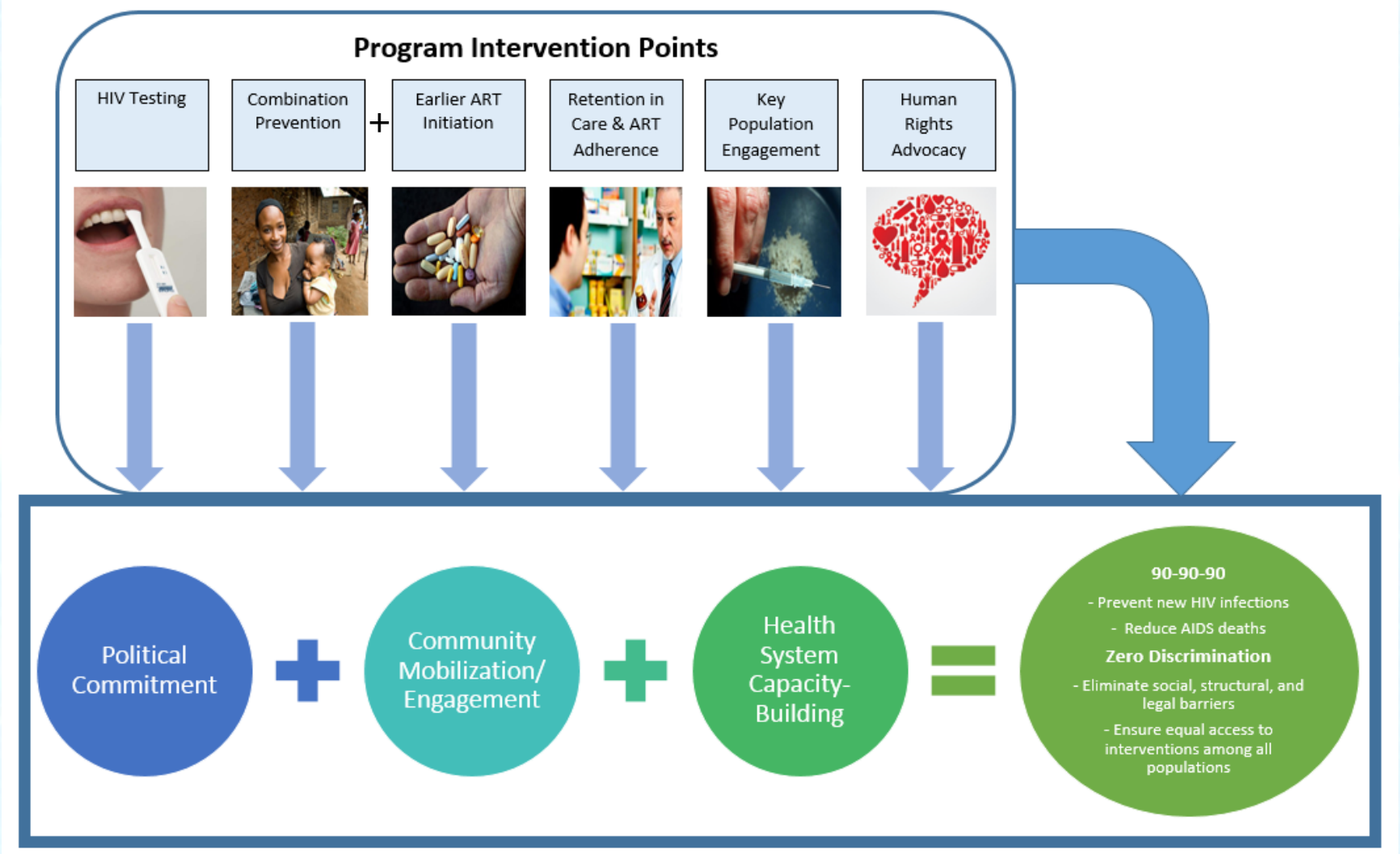
PROGRAM INTERVENTIONS



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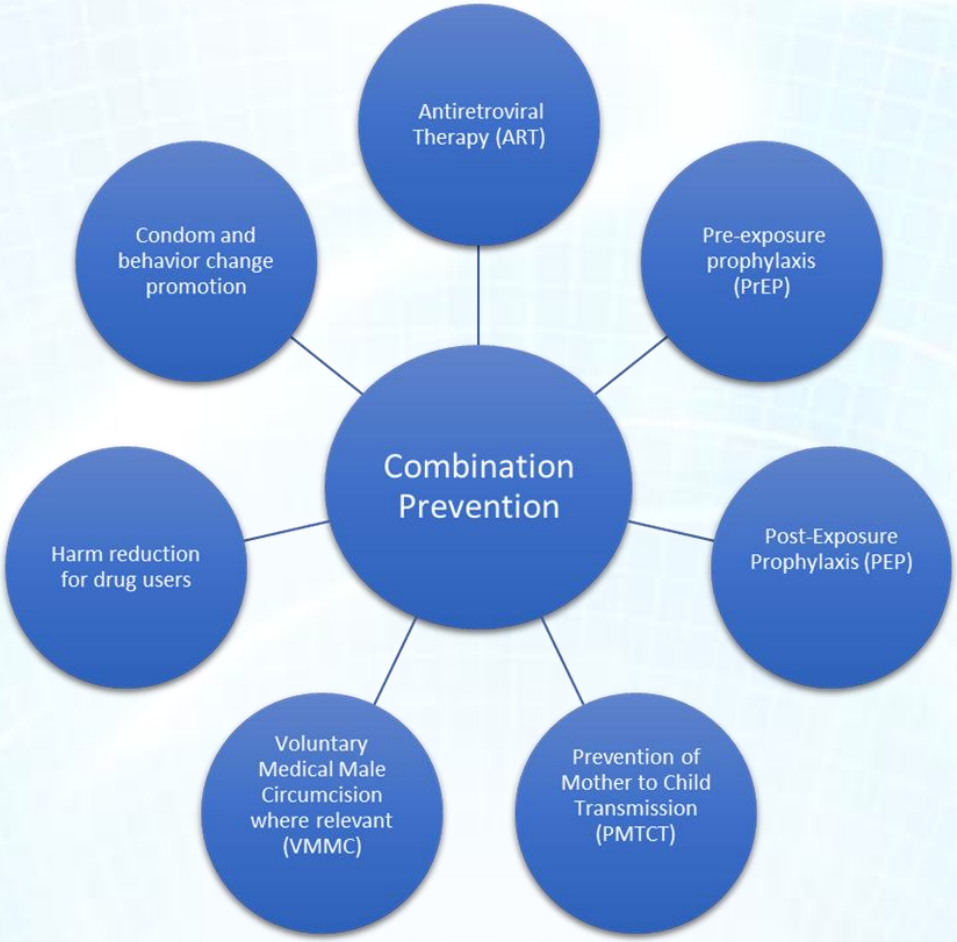
PROGRAM INTERVENTIONS

COMBINATION PREVENTION



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DURBAN PROPERTY MAP

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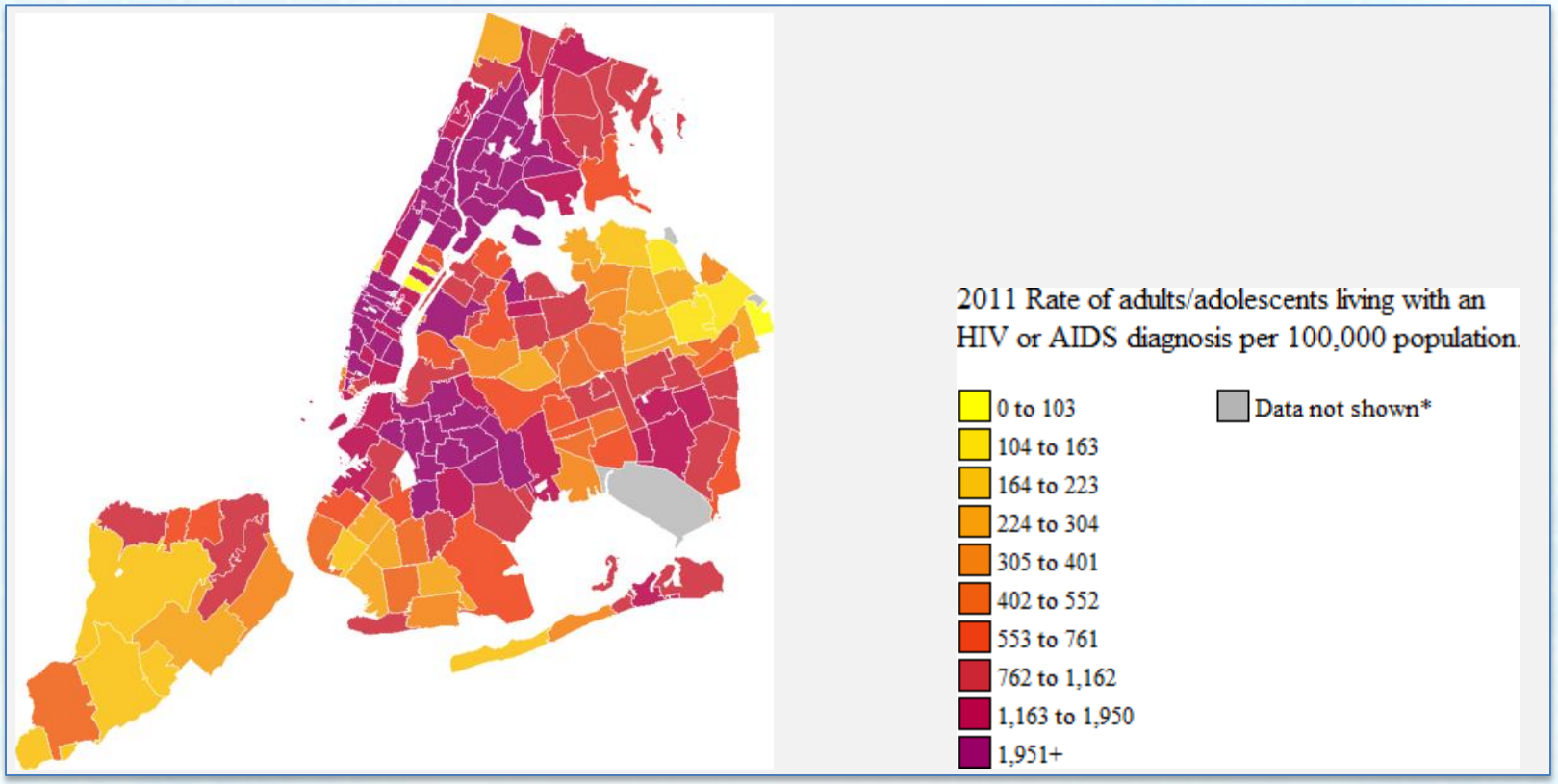
MASH-UP TO DRIVE IMPLEMENTATION AND HEALTH OUTCOMES: 90-90-90



Rates of people living with HIV or AIDS diagnosis by zip code, New York City 2011

AIDSVu http://aidsvu.org/resources/downloadable-maps-and-resources/ Sept 11 2014

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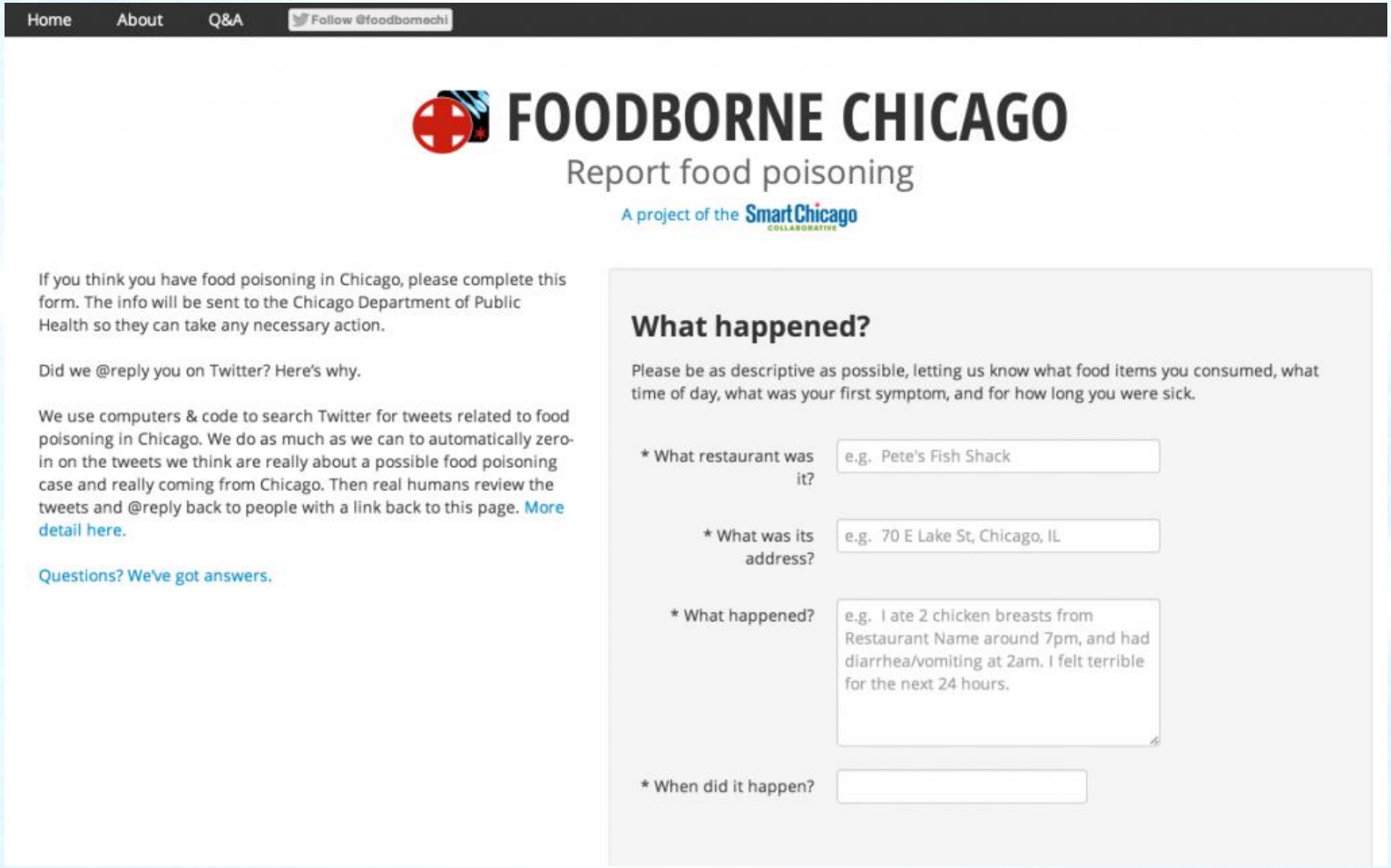
CROWD SOURCING FOR SOCIAL GOOD



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CROWD SOURCING TO MAP POLICE PRESENCE

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