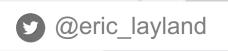
Geo-Spatial Network Mapping of HIV Prevention among Men who have Sex with Men (MSM)

ERIC K. LAYLAND | Lik Sam Chan, Elija Cassidy, Joshua G. Rosenberger









HIV Risk Higher among MSM



- MSM comprise
 majority of current &
 new cases of HIV
- PrEP provides
 pharmaceutical HIV
 prevention

Preventative Care is Not Always Accessible



- Inequitable access to care underlies health inequality
- Culturally competent care is central to reducing barriers

Innovative Tech can Identify Health Inequities



- Geo-spatial networking apps
- Mapping users & HIV prevention resources
- Identify inequitable distribution of resources & prevention "deserts"

Turning App Use into Public Health Data



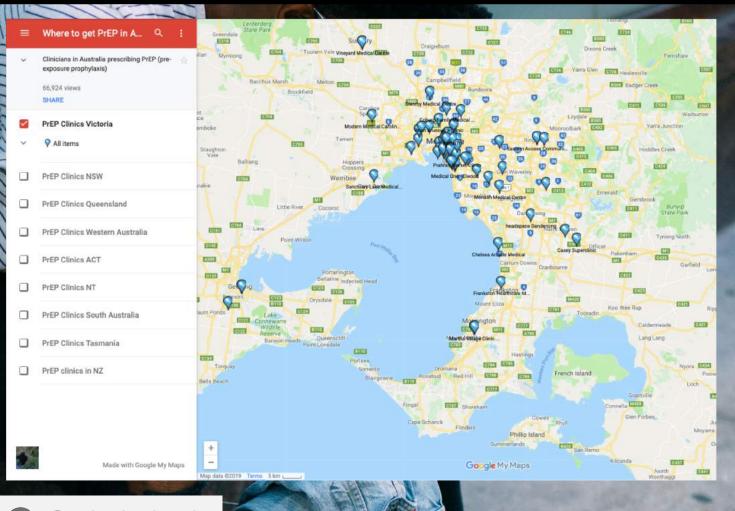
- 4 cities:
 - Los Angeles
 - New York
 - Sydney
 - Melbourne
- 4,912 men, age 18-65
- Map by ethnoracial group and age

Identifying Best HIV Prevention Providers

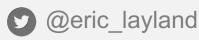


- PrEP Access Now
 - Competent care
 - Existing patients
- PrEP Locator
 - Specialized staff
 - Uninsured resources

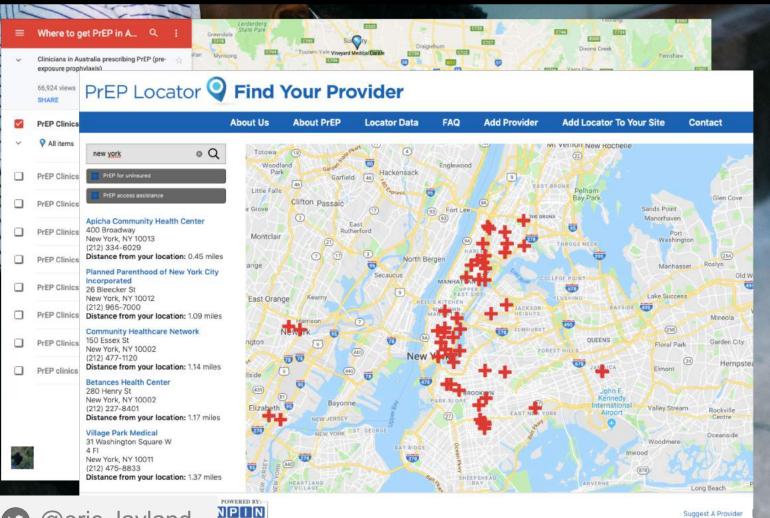
Identifying Best HIV Prevention Providers



- PrEP Access Now
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- PrEP Locator
 - Specialized staff
 - Uninsured resources



Identifying Best HIV Prevention Providers

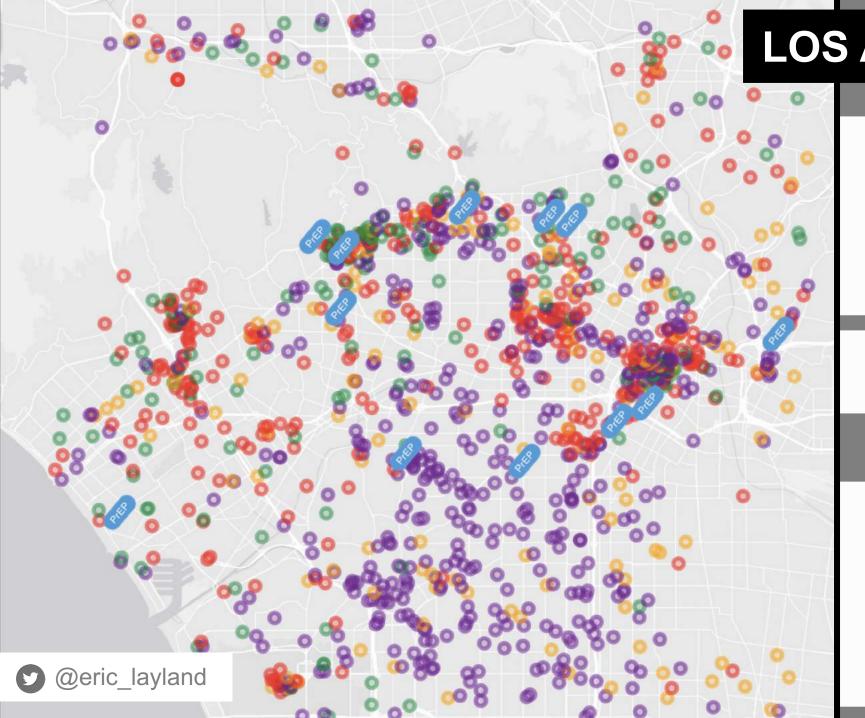


- PrEP Access Now
 - Competent care
 - Existing patients
- PrEP Locator
 - Specialized staff
 - Uninsured resources

Estimating Inequitable Access to Care



- 1. Map users: race & age
- 2. Add provider locations
- 3. Estimate distance to closest provider
- 4. Model inequitable resource distribution by race & age



LOS ANGELES race

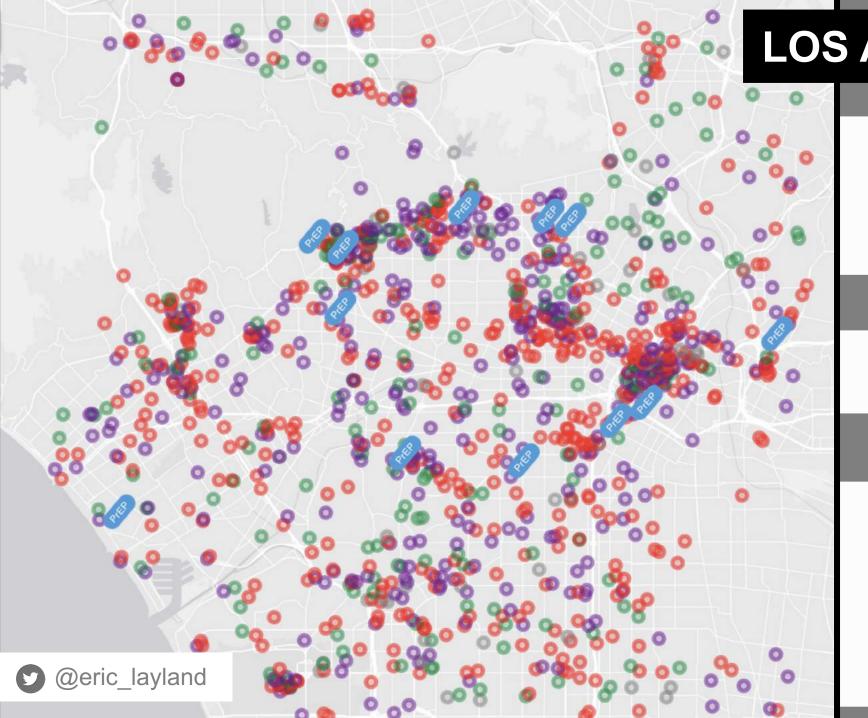




14 locations



White MSM closer to care than Black & Latino men



LOS ANGELES age

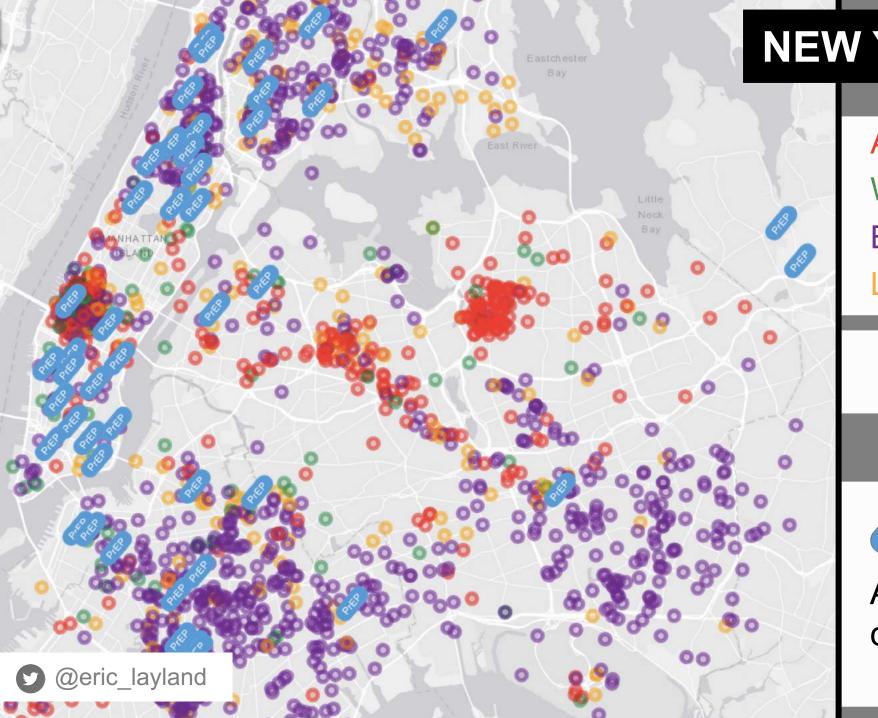




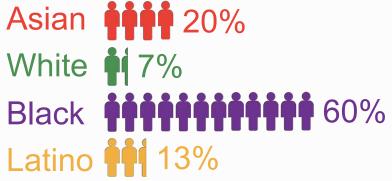
14 locations



Non-white younger & older men are furthest from care



NEW YORK race

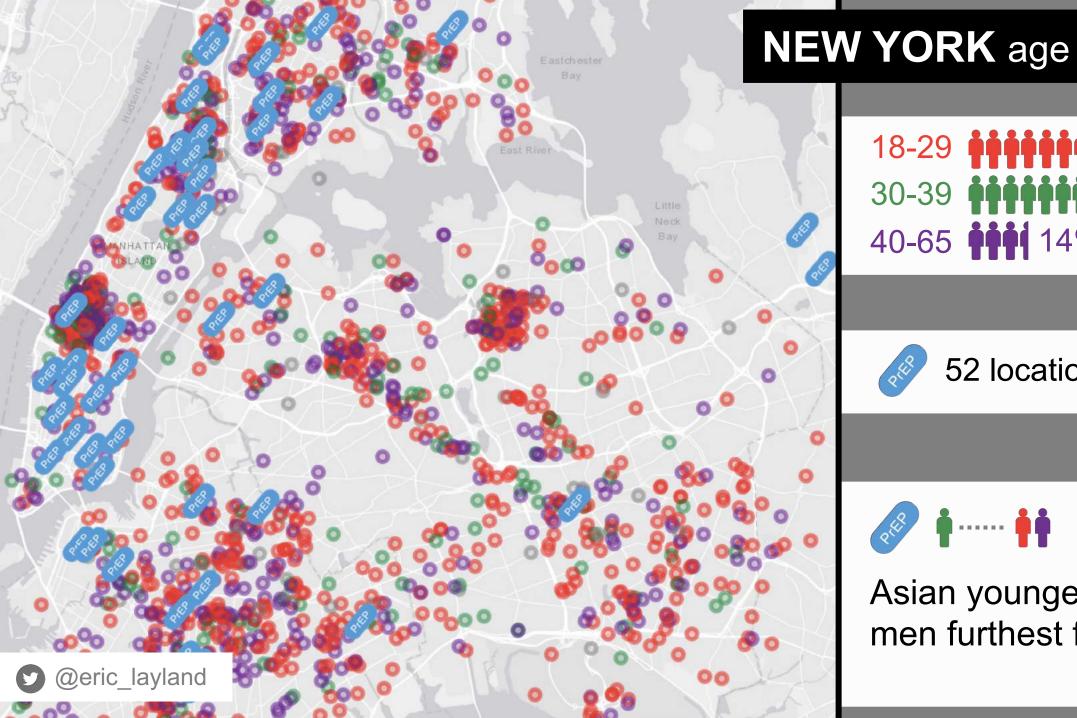




52 locations



Asian MSM further from care than other men



18-29 ********** 51% 30-39 40-65



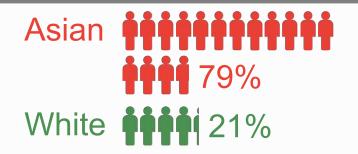
52 locations



Asian younger & older men furthest from care.

@eric_layland

SYDNEY race





22 locations



No differences between White and Asian MSM.

@eric_layland

SYDNEY age

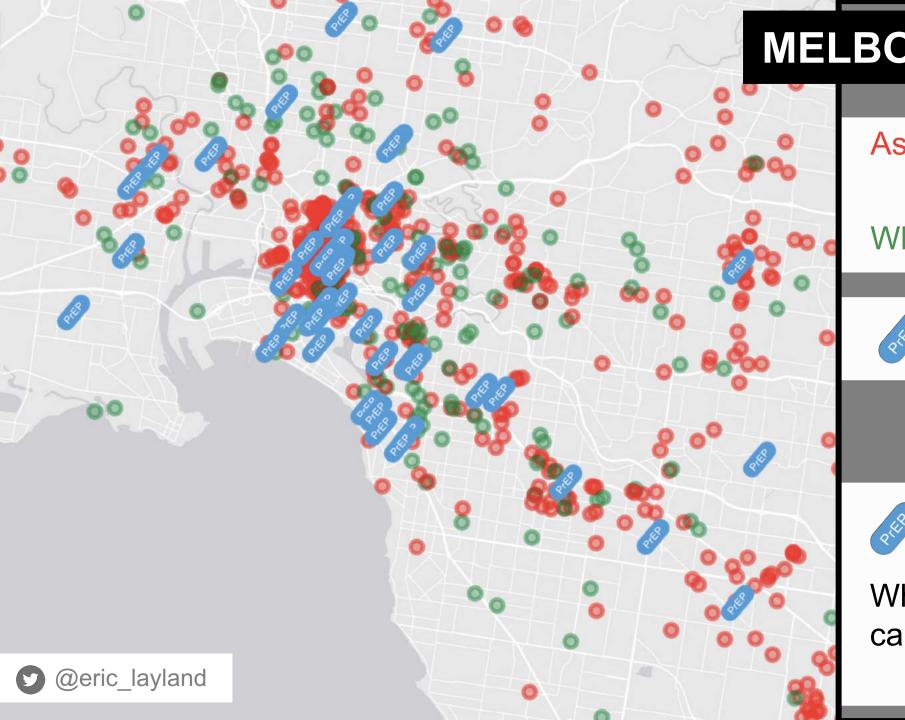




22 locations



No age differences.



MELBOURNE race

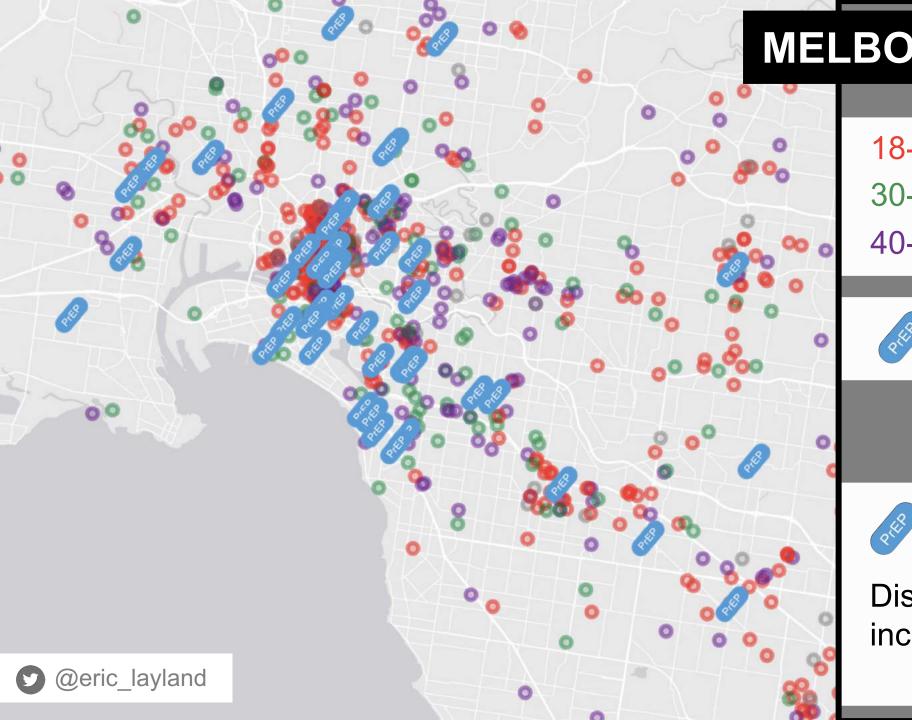




61 locations



White MSM further from care than Asian MSM.



MELBOURNE age





61 locations



Distance is greater as age increases.

HIV Prevention Inequitably Distributed



- By race:
 - Los Angeles, New York, Melbourne
- By age:
 - Los Angeles, New York, Melbourne
- By race + age:
 - Los Angeles, New York

Fusing Health & Tech to Improve Access



- Geo-spatial networking as tool for identifying inequity
- Regional populations inform localized adaptation
- Informs care expansion
- Other inequalities may be identified