New York State (NYS) had the highest prevalence and the 4th highest number of diagnosed HIV infection in 2017 among other states in the U.S. and was thus selected as the target state of the present project. The objectives of this project will be to: 1) Identify the geographic area with the highest number of new diagnosed cases of HIV in NYS, 2) Exploit the geospatial relationship between new diagnosed cases of HIV and health care facilities that provide PrEP, 3) As well as the association between the number of PrEP users with the geospatial distribution of PrEP providers within the previously identified area.

METHODS

Data Sources:
Data on new diagnosed cases of HIV and PrEP users were retrieved from AIDSvu. The 2015 County and 2017 NYC New Diagnoses Dataset was used to assess the new diagnosed cases of HIV in NYS. The 2017 ZIP3 PrEP dataset was used to assess the number of PrEP users in the identified area. The addresses of PrEP providers were extracted from the online service finder (https://npin.cdc.gov/search/organizations/map) on CDC’s National Prevention Information Network website. Data on NYS including state, county and city boundaries came from NYS Civil-Boundaries dataset retrieved from NYS GIS Clearinghouse. Additional data sources used in this project include: New York City Zip code boundaries retrieved from Data.gov, USA-3-digit Zip Code areas retrieved from ArcGIS.com.

GIS Procedures:
Data were coded as “<1” in the datasets from AIDSvu when number of persons living with diagnosed HIV infection is less than 5. Therefore, all data from AIDSvu with a value of “<1” were recoded to “2” as an estimation for values less than 5. The data on new diagnoses cases in NYS were extracted from the original dataset and joined with NYS county data by county names after recoding. The data on new diagnoses cases in NYC were extracted from the original dataset and joined with NYC zip code data by zip code numbers after recoding. The addresses of PrEP providers were translated to XY coordinates using the address geocoder services provided on the NYS GIS clearing house website and geocoded into the NYC zip code map. Geographic buffering was used to assess the spatial access to PrEP services. Four choropleth maps were generated to show the geospatial distribution of new diagnosed cases of HIV, PrEP providers and PrEP users, with one map showing the distance of 0.25, 0.5 and 1 miles to PrEP services in NYC.

RESULTS & DISCUSSION

In conclusion, the present project discovered a spatial relationship between the distribution of PrEP services and PrEP users as well as NYS new diagnosed cases. However, effort still needs to be made to improve the access to PrEP in NYC.

REFERENCES & ACKNOWLEDGEMENT


