Data and Information Tools to Tackle Population Health Challenges in Your Community
Katharine H. McVeigh, PhD, MPH

Name of project or collaborative
NYC Macroscope

Geography
New York

Brief description
By 2013, uptake of electronic health records (EHRs) by office-based physicians in the United States had reached 78%.[i] Data about patient health that was previously stored in paper records is now electronically accessible, offering new opportunities to improve health for both patients and populations. Aggregated data from EHRs can be used within practices to improve the quality of care by providing an overall view of the patients being served, their health status, services received and the impact of those services. When aggregated across practices, EHR data can be used to describe and monitor the health of entire communities. The use of EHR data for community health monitoring, otherwise known as population health surveillance, is in its early stages. In New York City, the New York City Department of Health and Mental Hygiene is developing and validating a new mechanism for monitoring population health called the NYC Macroscope Electronic Health Record Surveillance System.

The NYC Macroscope uses aggregate data from primary care providers at about 700 ambulatory practices located throughout New York City to estimate the prevalence of selected health conditions in New York City adults who visited a doctor in the past year. If valid, those estimates can efficiently and cost-effectively characterize the burden of disease in New York City and changes in that burden over time.

We are currently evaluating the validity of NYC Macroscope data across 10 outcomes in 7 domains by comparing them to a gold-standard data source: the 2013-2014 New York City Health and Nutrition Examination Survey (NYC HANES), a population-based examination survey that was jointly carried out by the New York City Department of Health and Mental Hygiene and the City University of New York School of Public Health in 2013-2014. The health outcomes that we are currently evaluating include:
- Prevalence, treatment and control of hypertension, high cholesterol and diabetes
- Prevalence of obesity, depression and smoking
- Uptake of vaccination against influenza

Results/outcomes
Results of pilot evaluation studies carried out using 2012 data on hypertension and obesity suggest that NYC Macroscope can provide acceptable estimates of disease prevalence. We are looking forward to the results of our 2013-2014 validation studies to inform which measures to monitor over time and to provide general guidance about the qualities of a valid measure.

Funding
The NYC Macroscope and NYC HANES are being carried out by the New York City Department of Health and Mental Hygiene and the City University of New York School of Public Health with funding from the deBeaumont Foundation, the Robert Wood Johnson Foundation, the Robin

Hood Foundation, the Doris Duke Foundation, the New York State Health Foundation, and the Centers for Disease Control and Prevention.

Contact
For more information about the NYC Macroscope, contact us at nycmacroscope@health.nyc.gov or visit our website and download our strategic plan at
http://www.nyc.gov/html/doh/html/data/nycmacroscope.shtml

---

[i] Reference: Hsiao C-J, Hing E. Use and characteristics of electronic health record systems among office-based physician practices: United States, 2001–2013. NCHS data brief, no 143. Hyattsville, MD: National Center for Health Statistics. 2014.