6-13-2015


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The Affordable Care Act has created new resources and incentives for hospitals, insurers, public health agencies, and others to contribute to disease prevention and health promotion activities. These policies may shift the structure of public health delivery systems and could expand the implementation of activities that improve population health. The aims of this study are to:

- Identify patterns of geographic variation and longitudinal change in the implementation of core public health activities in local communities across the U.S. during 1998-2014.
- Identify variation and change in the constellation of organizations that contribute to the implementation of core public health activities, which we define as public health system capital.
- Estimate the impact of public health system capital on rates of preventable mortality and on public health resource use.

Methods: Cluster and Network Analysis

The NLSPHS follows a nationally representative cohort of 360 U.S. metropolitan communities over time using survey data collected initially in 1998 and again in 2006, 2012 and 2014. A validated survey instrument asks local public health communities over time using survey data collected initially in 1998 and again in 2006, 2012 and 2014. Multivariate generalized linear and probit models with instrumental-variables (IV) are used to estimate changes in preventable mortality and expenditures that are attributable to changes in system capital, while controlling for both observable and unmeasured confounders that jointly influence system capital and outcomes.

- (1) Pr(Systemijt) = Comprehensive = α + β(Mortalityijt) + δ(Systemijt) + η + εijt
- (2) Ln(Mortalityijt) = α + β(Systemijt) + δ(Systemijt) + η + εijt
- (3) Ln(Expenditures/Capita) = α + β(Systemijt) + δ(Systemijt) + η + εijt


Results: Determinants of High System Capital

Table 2. Predicted Estimates of Factors Influencing the Probability of Comprehensive System Capital

Policy Implications

- Strategies to improve population health and health system efficiency should include initiatives to build public health system capital.
- The ACA’s hospital community benefit provisions and the Institute of Medicine’s call for financing a minimum package of public health services are possible policy mechanisms for building system capital.

Appendix: Public Health Activity Measures


Results: Health and Economic Impact of System Capital

The NLSPHS data are linked with public health agency data from the NACCHO National Profile of Local Health Departments Survey; community characteristics from the HRSA Area Health Resources File; and county-level mortality rates from CDC’s Compressed Mortality File. Limited systems also control for racial composition, unemployment, health insurance coverage, educational attainment, age composition, and state and year fixed effects. Table 2 shows the impact of public health system capital on health and resource use.

This research was supported by the Robert Wood Johnson Foundation (Grants #17147 and #70060) and by the NIH National Center for Advancing Translational Sciences (UL1TR000117).