

Economic Analysis of a New Mexico Health Information Exchange

D. van der Goes*, PhD; N. Edwardson, PhD; M. Roberts, PhD; V. Rayamajhee, MA

*Corresponding author: dvandergoes@unm.edu, Assistant Professor, Department of Economics, University of New Mexico

An economic analysis and technical report was commissioned for the NM Health System Innovation (HSI) project. Specifically, a return on investment (ROI) analysis was performed. The analysis was specific to the NM Medicaid beneficiary population in the HSI priority areas of obesity, diabetes, tobacco use, and selected behavioral health conditions (depression and dysthymia).

The ROI model was built with the goal of enabling policymakers and stakeholders to make quantitative-based decision-making for state-level health policy. The model generates estimates for return on investment (ROI), health care utilization changes (in dollars), patient cases avoided, and changes in patient access as a result of state-level health programs such as patient centered medical homes, community health workers, or a state-level health information exchange (HIE). The model relies on patient group-level data to allow the user to conduct analyses for either the global population or for a particular subset as identified by disease area, race/ethnicity, age, geography (metropolitan, small metropolitan, mixed, and rural) and/or gender. Our research used New Mexico Medicaid data to estimate ROI if costs are distributed across either the entire population or across a targeted subpopulation, such as the 95th percentile of health care utilization for diabetic patients. The model also incorporates an "outreach effect" that attempts to capture the variance of a program's effectiveness across different geographies, patient groups, and disease areas. This model can assist policymakers and stakeholders in differentiating between high- and low-value programs and interventions.

Our research suggests that a statewide HIE would cost between \$835k-\$847k annually (IATRIC Systems, 2016). We conducted the analysis with a conservative estimate of a 1 percent savings effect. This savings effect is the gain in efficiency from any reduction in unnecessary emergency department use or admissions, medication errors, and duplicate diagnostics. The savings effect does not include any changes from improved health status, as when a pre-diabetes diagnosis does not progress to one of diabetes. We estimate a positive ROI of 137 percent after the first year of HIE implementation. This ROI percentage grows to over 250 percent by the program's fifth year, and 363 percent by the program's tenth year. This continual growth is largely based on improved participations rates: 20 percent utilization rate in year 1 with gradual improvements annually, but still only assuming 50 percent utilization of the HIE by year 10.

