Lessons Learned From Needs Assessments on Medicaid Rational Service Areas (RSAs) in New York

Shen Wang, MPH, MPA, Nafin Harun, MA, Robert Martiniano, DrPH, MPA
Center for Health Workforce Studies, School of Public Health, University at Albany, SUNY

ABSTRACT

Objective: This project is to understand the challenges of needs assessments on Medicaid rational service areas (RSAs) in New York. This is becoming more important as states are now required to develop and assess statewide sets of RSAs for primary care, dental health, and mental health.

Study Design: RSAs are geographic areas in which most area residents could seek their health care services. New York State Medicaid claims data from 2014 to 2016 were used to develop RSAs for primary care, dental health, and mental health subsequently on an annual basis.

Based on literature reviews, different indicators were selected to assess needs for each set of RSAs. Composite indicator (CI) methods were used by aggregating individual indicators to rank RSAs and identify those with greater health needs. As a tool for ranking, CI is useful as it illustrates a comprehensive view on a phenomenon that cannot be captured by a single indicator. The CI methods were reviewed and revised to improve needs assessments during projects.

Population Studied: Medical services for over 3,000 zip codes were analyzed.

Conclusions: A robust needs assessment on RSAs serve as a solid foundation for state to design health professional shortage areas regulated by HRSA.

LESSONS LEARNED

INTRODUCTION

RSAs are geographic areas that represent how and where the population residing within that area “reasonably” could or do seek certain health services.

HRSA requires all states to have Health Professional Shortage Area (HPSA) designations based on RSAs for:

- Primary Care
- Dental Health
- Mental Health

RSAs Projects in NY:

- Over 4 million NY Medicaid patients
- Over 4 million NY Medicaid patients
- Mapped based on patients’ commuting patterns pairing patients zip codes and providers zip codes

LESSONS LEARNED

Comprehensive literature reviews (LRs) are important.

- Determine what has been done
- Identify needs (primary care, dental, mental)
- Consider multi-dimensional aspects (socioeconomic, patient, provider)
- Set your boundaries (goal/focus/timeline)

Indicator selection is crucial.

- Rationalize your selection (LRs, social norms, regulations)
- Data availability (resources, data source, zip code level)

Test Indicators on correlation & compensability issue.

- 2+ indicators measure the same dimension of need % single female headed vs % household below 200% FPL
- A surplus in one dimension can offset a deficit in another % covered by private insurance vs % Medicaid coverage

The construction of CI involves stages where subjective judgement has to be made.

- Selection of indicators
- Treatment of missing values
- Choice of aggregation model
- Weights of the indicators, etc.

Weighting should be minimized to maximize objectivity.

- Use equal weighting
- Principle components analysis (PCA)/factor analysis
  - Assign statistical weights
  - Summarize a set of indicators while preserving the maximum possible proportion of the total variation in the original data set

Scientific data preparation is required.

- Outlier detection and handling
  - “0” value on certain indicator(s) for less populated RSAs
- Skewness of data
  - Square root, cube root, or log (eg, Population Density)
- Data transformation
  - Normalization methods (Min-max, Z-score)

Rank after aggregating normalized indicators is more unbiased, compared to rank each indicator beforehand.

- Mental/Dental RSA ranking (4 normalized ranks)
- PC RSA ranking (rank each indicator first, then combine)

CONTACT

Center for Health Workforce Studies
518-402-0250
info@chwsny.org
www.chwsny.org

REFERENCES
