EVALUATION OF COVERAGE TO CARE

Appendix E

Case Study: Additional Study Components of Relevance to the C2C Evaluation that do not Require OMB Review

(CMS-10632; 0938-New)

Appendix E. Additional Study Components of Relevance to the C2C Evaluation that do not Require OMB Review

In addition to the four data collection elements under review, the evaluation also includes analyses of existing data, including CMS product ordering reports, national surveys, and claims data. Although these data do not require OMB review and approval, we provide a brief overview of this work below, including information on how we estimate C2C saturation in small geographic areas (the exposure variable). This component of the evaluation answers fundamental questions that are necessary for explaining the impact of C2C in latter tasks of the evaluation and consists of four activities: 1) Prepare existing data for use in the evaluation of C2C dissemination, uptake and impact; 2) Build a geographic information system (GIS) that links existing data from multiple sources by their geographic location; 3) Estimate C2C saturation in communities across the nation, and 4) Estimate the effect of C2C on health care utilization. The estimates of C2C saturation, described briefly below, play an important role throughout all tasks in the evaluation.

Activity 1. Prepare existing data for use in the evaluation

We will obtain, clean and prepare data from existing sources useful to evaluating C2C dissemination, uptake and impact. Data will include information on CMS outreach activities, organizational uptake of C2C and contextual information in small areas that could influence how C2C is used. Contextual information includes demographics (who lives in the area), state and local policies that may influence how C2C is used, enrollment in insurance, and health status of the population. RAND identified three existing data sources that we will use to estimate the impact of C2C saturation on consumer care utilization behaviors: 1) Behavioral Risk Factors Surveillance System survey (BRFSS), 2) Healthcare Cost and Utilization Project (HCUP), and 3) Medicaid (MAX) files. These represent, respectively, population-based survey data, utilization data, and claims data.

Activity 2. Build a geographic information system (GIS) to support the evaluation

RAND will develop a GIS that will connect data from multiple sources by their characteristics of place. The GIS will support geospatial analytic methods to estimate C2C saturation at the ZIP code level, and it will enable analysis and visualization of small area changes in C2C dissemination, C2C uptake activities by communities across the nation, and their impact on healthcare utilization.

Activity 3. Estimate C2C saturation in small geographic areas

To assess the extent to which C2C has an impact on consumer outcomes, it is important first to describe the potential exposure of consumers to C2C. Because C2C was rolled out over time starting in 2014 and without the benefit of randomization, we cannot directly observe consumer exposure to C2C. We can, however, use CMS OMH-collected data to estimate the saturation of C2C's rollout in communities across the nation.

To estimate saturation, we will draw upon maps we have created of all locations in which orders of C2C print materials were placed. While C2C dissemination activities were largely reported at the state, regional or national geographic aggregations, print orders were reported at the address of the person or organization placing the order. We know the contact name, organization name, address, state, city, and zip code of all ordering organizations. We also know the name of product they request, product number, language ordered, quantity ordered, order date, and order ID number. As of May 2016, 2,944 organizations placed 19,374 orders for C2C materials. Print orders ranged from one copy of a C2C document to tens of thousands of copies. Orders were made from all 50 states and approximately 6.9% of all US ZIP code tabulation areas.[1]

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[1] ZIP Code Tabulation Areas (ZCTAs) are generalized area representations of United States Postal Service (USPS) ZIP Code service areas. The USPS ZIP Codes identify the individual post office or metropolitan area delivery station associated with mailing addresses.

Because existing data sources on consumers' care seeking behavior will be available to us at the ZIP code level or larger, we will estimate a ZIP-level C2C saturation estimate. The saturation estimate of an individual ZIP code may be influenced by orders occurring within 30 miles in rural areas (Census Rural-Urban Commuting Area (RUCA) codes 7-10), 20 miles in suburban areas (Census RUCA codes 4-6), and 10 miles in urban areas (Census RUCA codes 1-3).

To arrive at an estimate of saturation, we will group C2C print material orders in bi-monthly aggregations and examine both incremental and cumulative orders in the buffers around each ZIP code. Total order amounts will be summed within the 10-30-mile buffers around a ZIP code centroid and then normalized to 1,000 residents living inside the 10-30 mile buffers. The estimate of saturation will vary over time as C2C dissemination continues. Levels of C2C saturation, standardized per 1,000 residents in the ZIP, will be used to guide efficient sampling of consumers as part of the on-line survey.

Activity 4. Estimate the effect of C2C on health care utilization
Analyses for this component of the study will link geographic estimates of C2C saturation to individual-level measures of health care utilization from survey and claims data. The RAND team will use multivariable regression models to estimate the longitudinal relationships between C2C saturation (primary predictor) and utilization (outcome). We will 'sync' the utilization predictor and reference period for utilization so that they refer to the same period. As described above, our GIS will contain information at the regional, state, and individual level. Regression models will adjust for individual-, ZIP, and state-level characteristics that may confound the relationship between C2C saturation and utilization. For example, potential confounders include concurrent changes to the health insurance and policy landscape such as changes in Medicaid eligibility rules, and changes in the percent of the population with insurance.