Conviction Rates Among Adult Service Recipients in the NYS Public MH System

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The Center for Mental Health Services (CMHS) selected criminal justice contact as a key measure for states to report to them by December 2007. This measure is included in the MH Services Block Grant data tables and is among the ten National Outcome Measures selected by the Substance Abuse and Mental Health Services Administration (SAMHSA) to chart progress in prevention and treatment of substance use and/or mental disorders. In an attempt to develop a source of data for this measure, CMHS is testing new questions for the Mental Health Statistics Improvement Program consumer satisfaction survey, but response rates to the consumer survey may decrease with the addition of these questions and validity is uncertain.

Probabilistic matching of administrative data is one approach for measuring criminal justice contact that offers flexibility for exploring effectiveness of various service interventions. Data for this study come from the NYS Division of Criminal Justice Services (DCJS), the NYS Department of Health (DOH) and the NYS Office of Mental Health (OMH). DCJS provided a unique ID, name, social security number, date and county of arrest, crime severity, sex, race and date of birth for all felony and misdemeanor convictions. DOH provides OMH with regular feeds of Medicaid claims and enrollments. State-provided admissions, discharges and services are regularly entered in the OMH data system. Medicaid and State mental health data each include a unique ID, name, social security number, date and county of service, diagnosis, sex, race and date of birth.

Probabilistic matching techniques were used to determine conviction rates by demographics, location, crime, and diagnosis severity. First we created a mental health population file by combining Medicaid and State mental health records and constructing unique descriptors for each individual. We then matched mental health and conviction records using probabilistic methods that enable “matches” when several identifiers agree closely, but the records do not match exactly. Third, we used two methods to validate the matches.

NYS contracted with The Bristol Observatory (TBO) to prepare estimates and 95% confidence intervals for overlap between sets of records having the same sex, race, and county using Probabilistic Population Estimation (PPE).[1] PPE is based on a formula that relates the number of persons in a group to the number of unique birth dates among them. It has been widely used by states for a variety of purposes, including estimating criminal justice contacts.[2] TBO summed county estimates to provide a statewide estimate of overlap in mental health and convicted populations. Using the same initial requirements, but using probabilistic matching, OMH arrived at a statewide overall estimate that fell within the confidence intervals derived by TBO. In fact, OMH estimates fell within these intervals for males, each age group (18-34, 35-49, 50-64), non-whites, persons with less-severe mental illness and persons convicted of misdemeanors. OMH estimates for females, whites, persons with felonies and persons with major mental illness were lower than TBO estimates.

[1] See http://www.thebristolobservatory.com/PPE1.htm.

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As a second method of validation, researchers selected only the records on both files that included social security number (SSN), a key identifier missing on one-third of the conviction records. Using probabilistic matching but excluding SSN, records were matched once again. The result was compared with the matched set that used only SSN. The probabilistic model successfully matched cases using name, DOB, sex and race alone. It is reasonable to assume that the model's accuracy is greater when SSN is included in the model.

We found that 4.1% of adults in the NYS public mental health system were convicted for a misdemeanor or felony in 2003. Conviction rates were higher for males (7.2%), persons in the 18-34 age group (5.9%), non-whites (4.6%) and for persons with less severe mental illness (4.9%). Eighty-three percent (83%) of the crimes were misdemeanors. The overall conviction rate among service recipients in New York City was also 4.1%. Conviction rates were calculated for the general population and compared with rates among the mental health population. Overall, persons in the mental health population were 4 times more likely than persons in the general population to be convicted of a misdemeanor or felony.

Overall, probabilistic matching produces very good estimates for conviction rates, although the model may underestimate matches due to faulty or missing data. The methodology is promising because it can be used to estimate the decrease or increase in conviction rates for MH service recipients over time, changes in outcomes for individuals, and effectiveness of different service interventions.