the incentives to commit crime (a financial channel). We estimate the effects of Medicaid coverage on employment and recidivism for adults released from state prison.

Study Design: We study sequential natural experiments in Wisconsin that expanded Medicaid availability to released prisoners, expansion of Medicaid to childless adults with income below 100% FPL, and the introduction of prison-based Medicaid enrollment assistance. Using person-level longitudinal data that links Corrections, Medicaid, and Unemployment Insurance data, we implemented two-stage least squares instrumental variables (IV) analysis. Three variables comprised the key instruments corresponding to three policy periods: eligibility expansion; a 3-month enrollment assistance implementation period; and the fully operational enrollment assistance program. The key assumption is that timing of release is unrelated to the outcomes, conditional on the other variables in the model. Outcomes included reincarceration within 6- and 12-months, and post-release quarterly employment status and earnings.

Population Studied: The population includes adults ages 19–64 incarcerated by the state who were released to the community between January 2013 – June 2017 (N = 32,846 individuals). The primary sample includes all releases; the secondary sample includes the first release per person.

Principal Findings: The instruments were highly correlated with Medicaid enrollment in the month of release (F-statistic of 7104). Relative to the baseline period, the percentage point (pp) increase in the likelihood of enrollment associated with expanded eligibility, the program implementation period, and the fully operational enrollment assistance program were 30.1, 47.6 and 61.1 respectively (p < 0.05). At baseline, the percentage of the population that was reincarcerated within 6- and 12-months was 17% and 30% respectively. Medicaid coverage was associated with a 2.3 pp relative decrease in the likelihood of reincarceration within 6-months among all releases and a 3.2 pp decease among first-releases (p < 0.05). Coverage was not associated with reduced reincarceration rates at 12-months among all releases. Among first releases, it was associated with a 3.3 pp reduction (p < 0.05). Among all releases, Medicaid coverage was associated with a 5.5 pp increase in employment and a $243 increase in earnings during the quarter of release (p < 0.05) with larger magnitudes observed among first-releases. In the first year post-release, Medicaid coverage was associated with an increase of $1121 and $1615 among all and first-releases respectively (p < 0.05).

Conclusions: Gaining Medicaid coverage within the month of release from state prison is associated with meaningful reductions in the likelihood of reincarceration and improved employment outcomes within the first-year post-incarceration.

Implications for Policy or Practice: Study findings highlight the significance of the Medicaid Re-Entry provision of the U.S. SUPPORT Act of 2018 which encourages Medicaid programs to test strategies that ensure Medicaid enrollment for individuals before they exit the correctional setting.

Primary Funding Source: Office of the UW Vice Chancellor for Research and Graduate Education, the Wisconsin Partnership Program, and the NIH (3UG3DA044826-02S1).

Expanding Medicaid Eligibility for Young Adults: Impact on Coverage in Massachusetts

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Research Objective: The Affordable Care Act (ACA) expanded coverage for young adults by allowing them to remain dependents on their parents' plans until age 26 (in 2010) and expanding Medicaid to childless adults with incomes <138% of the federal poverty level (FPL) (in 2014). However, even post-ACA, uninsured rates by age group were highest among young adults. In 2014, Massachusetts also expanded Medicaid eligibility for children to 19-20-year-olds with incomes up to 150% FPL, which could reduce potential gaps in coverage for those who would otherwise age out of eligibility for Medicaid as children after age 18. We used the Massachusetts All Payer Claims Database to examine changes in coverage for Medicaid enrollees who turned 19 years old before and after the policy change.

Study Design: We used data from the Massachusetts All Payer Claims Database (MA-APCD) from 2012–2016 to examine two cohorts: Medicaid enrollees age 18 as of January 2012 and as of January 2014, who turned 19 years old prior to vs. after Medicaid expansion (pre- and post-expansion cohorts, respectively). Monthly coverage changes for each cohort were examined for 2 years until they turned 21 years old (2012–2014 or 2014–2016). We classified months without insurance enrollment records as uninsured. We used logistic regression models to compare the likelihood of being uninsured for 3 or more months at age 19–20 and 20–21 for the pre- vs. post-expansion cohorts, adjusting for gender, diagnoses of asthma, autism, obesity, mental illness, and intellectual and development disabilities, and ZIP code socioeconomic status (SES).

Population Studied: Medicaid enrollees age 18 in January 2012 (N = 32,832) and January 2014 (N = 31,894) in the MA-APCD.

Principal Findings: In both cohorts, 49% were female and 29% lived in low SES ZIP codes; those who turned 19 prior to vs. after Medicaid expansion were less likely to have a baseline diagnosis of asthma (12.1% vs. 12.9%, p < 0.05), obesity (7.6% vs. 8.7%, p < 0.05), and mental illness (17.4% vs. 18.8%, p < 0.05). Enrollees who turned 19 prior to vs. after Medicaid expansion were more likely to have ≥3 months of commercial insurance at age 19–20 (8.5% vs. 3.6%; OR = 1.85, 95% CI 1.7, 2.0) and ≥ 3 months without insurance (17.0% vs. 1.2%; OR = 20.3, 95% CI 17.4, 23.6). Differences persisted at age 20–21, although both cohorts had access to Medicaid expansion for low-income adults in these years (7.6% vs. 4.9%, OR = 1.4, 95% CI 1.3,1.6 for ≥3 months of commercial insurance; 11.5% vs. 0.9%, OR = 16.4, 95% CI 13.7, 19.5 for ≥3 months without insurance).

Conclusions: Disruptions in insurance coverage for young adults aging out of Medicaid were substantially reduced in Massachusetts after the state expanded Medicaid for children to cover 19–20-year-olds and expanded coverage for low-income adults. Commercial insurance

coverage was also less likely for young adults after Medicaid expansion. Medicaid enrollees that entered adulthood prior to vs. after Medicaid expansion were more likely to be uninsured in years after Medicaid expansion.

Implications for Policy or Practice: Expanding Medicaid eligibility for children to those ages 19–20 could substantially reduce the risk of becoming uninsured for low-income children entering young adulthood.

Primary Funding Source: Agency for Healthcare Research and Quality.

DIGITAL TECHNOLOGIES, DATA, AND ANALYTICS

Using National Synthetic Data to Conduct Health Services Research

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Research Objective: Existing administrative health datasets, such as state-level all-payer claims datasets and the Healthcare Cost and Utilization Project (HCUP), are useful resources for researchers but have crucial limitations, such as a lack of national representativeness and the inability to track patients across payers (e.g., Medicare, Medicaid, and commercial) and claim types (inpatient, outpatient, and emergency department) with national data. To overcome some of these limitations and to address important use cases for administrative health data, we developed the Synthetic Healthcare Data for Research (SyH-DR), a nationally representative, partially synthetic, multi-payer, administrative health dataset.

Study Design: We drew a representative sample of about 20 million beneficiaries covered by Medicare, Medicaid, and a commercial payer. Our source data included hospital-based services received by these beneficiaries, as well as filled prescriptions for individuals that received hospital services. After harmonizing the data, we constructed person-level weights with iterative proportional fitting using control totals from the American Community Survey data for population counts by key demographic domains at geographic granularity and HCUP claims data for claims counts by key demographic group and diagnosis. We then employed machine learning methods to create a synthetic version of this dataset, in order to balance analytic utility with patient privacy and to respect constraints imposed by data use agreements.

Population Studied: SyH-DR is a nationally representative sample of persons who were insured either by a government program (Medicare, Medicaid, or CHIP) or commercial health insurance at any point during 2016.

Principal Findings: We developed a nationally representative, multi-payer, synthetic claims dataset. The synthetization methodology that we implemented produced synthetic values for claims-level variables that were similar to the distributions of the variables from the source data. We confirmed that weighted person-level estimates were similar in the SyH-DR and benchmark nationally representative surveys, and that distributions of the variables were similar in the de-identified and source files. The database has a wide variety of uses including tracking patients over time, comparison of demographic and clinical information across granular geographic areas and payers, and analyzing prescription drug and hospital service usage for the same individuals.

Conclusions: Datasets developed in recent years have led to advances in researchers' understanding of population health, care experiences, and healthcare costs in the United States, but there does not currently exist a nationally representative all-payer claims dataset. SyH-DR complements existing claims datasets by allowing researchers to track patient experiences over claim types using a nationally representative sample of individuals from Medicare, Medicaid, and commercial payers. As the first nationally representative all-payer claims database, this database will be able to answer many questions regarding public health and healthcare quality which were previously unanswerable or very difficult to answer.

Implications for Policy or Practice: A de-identified version of the SyH-DR will be made available to health researchers. In addition, SyH-DR provides a blueprint for how a representative multi-payer administrative health dataset can be constructed in a way that balances the needs of various stakeholders, including researchers, patients, and data providers.

Primary Funding Source: Agency for Healthcare Research and Quality.

A Learning Health Systems Approach to Frailty Prediction Using EHR Data

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Research Objective: To predict occurrence of preventable patient safety events using only data elements that are almost universally supported in EHR systems.

Study Design: We drew a random sample was drawn from the EHR records of adult patients *not* restricted to any particular age range or diagnosis and therefore representative of a real-world health system