**Table 1. Studies Examining Medicaid Expansion Impact on African American-white Health Care Coverage, Access, and Treatment, 2014-2021**

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| **Author (year)** | **Study Aim** | **Design/Differences Tested** | **Data Source** | **Sample Characteristics** | **Covariates** | **Type of Disparity** | **Un-Insurance Rates/Coverage** | **Treatment/Access to Care** | **Health Status/Outcomes** |
| Menon, Patel, Karmakar, & Tipirneni (2021) | Assessed differential impacts of ME on racial/ethnic and racial/ethnic-sex disparities among HIV testing | Difference-in-Difference (DD) and Triple Difference-in-Difference (DDD)Pre- & post-ACAME & non-MEAA-white disparity | Behavioral Risk Factor Surveillance System (BRFSS), 2011-2018 | Adults (ages 19-64), low-income (less than or equal to 138% FPL), non-pregnant, non-disabled | Age, sex, race, race-sex, percent FPL, education level, employment status | Absolute | N/A | ME associated with significant increase in reports of ever having HIV test; no significant changes in reporting HIV test in last year; no significant changes in AA-white disparities associated with ME in ever having HIV or having an HIV test in previous year | N/A |
| Johnson, Choi, & Herrera (2021) | Compared changes in medication for opioid use disorder (MOUD) post-ACA to determine whether implementation was associated with increased MOUD for African American clients relative to white clients. | Descriptive and logistic regression analyses; associative analysis with interactionsPre- & post-ACAAA-white disparity | Substance Abuse and Mental Health Services Administration’s (SAMHSA) Treatment Episode Dataset-Admissions (TEDS-A), 2007-2018 | White, African American, and Hispanic clients for opioid use disorder treatment, first annual episodes | Age groups, sex, education status, homelessness; client admission setting, heroin use, polysubstance use; geography (rural) | Absolute | N/A | No AA-white disparity changes associated with ME states; disparities increased in criminal justice-referred population in ME states; for Medicaid-covered population, disparities decreased; AA-white disparities in MOUD significantly reduced overall Significance of disparity in change difference between ME and non-ME states not tested | N/A |
| Ji, Castellino, Mertens, Zhao, Nogueira, Jemal, Yabroff, & Han (2021) | Examined association of ME with insurance coverage at diagnosis among young adults newly diagnosed with cancer | Difference-in-Difference (DD); used linear probability modelsPre- & post-ACAME & non-MEExamined both public and private coverage | National Cancer Database (NCDB),2011-2016 | Young adults (ages 18-39) diagnosed with a first primary cancer between January 1, 2011 and December 31, 2016 in U.S.  | Sex, age, group, self-reported race/ethnicity, urban or rural residence, median household income | Absolute | Not examined by race/ethnicity | Stage 1 diagnosis increased more in ME states than non-ME states for white patients and AA patients; increase larger but less significant for AA patients AA-white disparity or changes in disparities associated with ME not tested for significance | N/A |
| Le Blanc, Heller, Friedrich, Lannin, & Park (2020) | Reviewed association of ME with breast cancer state at diagnosis and disparities associated with insurance status, age, and race/ethnicity | Retrospective cohort analysis (XW analysis used, with 1-sided p<0.05; Mann-Whitney U test used to assess significance of state income and employment data with 1-sided p<0.05)Pre- & post-ACADistinguished between Medicaid coverage and un-insurance | National Cancer Database (NCDB) public benchmark reports via the American College of Surgeons, 2007-2016 | Patients with primary breast cancer diagnosed between 2007 and 2016 who were uninsured or had Medicaid, private insurance, or Medicare, and whose race/ethnicity, age, state of residence, and American Commission Joint Cancer summary were recorded | Race, insurance status (uninsured and Medicaid), breast cancer stage (early or late) | Absolute | ACA implementation associated with reduced number of uninsured white and AA patients in ME and non-ME states; reductions greater for all racial groupsSignificance of AA-white disparities not tested; differences between ME and non-ME states not tested for significance | ACA associated with increased rates of cancer diagnosis at earlier stages for AA and white patients in ME states, but not in non-ME states; incidence of advanced disease in AA patients decreased in ME states, and remained approximately the same in non-ME statesSignificance of AA-white disparities not tested; difference between ME and non-ME states not tested for significance | N/A |
| Baumgartner, Collins, Radley, & Hayes (2020) | Examined degree to which racial/ethnic disparities have narrowed post-ACA | Difference-in-Difference (DD)Pre- & post-ACAAA-white disparityDid not distinguish between private and public insurance | American Community Survey Public Use Microdata Sample (ACS PUMS), 2013-2018Behavioral Risk Factor Surveillance System (BRFSS), 2013-2018 | Adults (ages 18-64); white, African American, Hispanic | None reported | Absolute | AA adults living in ME states now less likely to be uninsured than white adults in non-ME statesNo statistics of significance reported | Unmet need due to cost decreased for AA and white; AA-white differences in cost-related access problems have narrowed in ME and non-ME statesNo statistics of significance reportedHaving usual source of care increased for white and for AA; AA adults in ME states now almost as likely as white to have usual source of careNo statistics of significance reported | N/A |
| Buchmueller & Levy (2020) | Considered how the ACA’s insurance coverage expansions have affected racial/ethnic disparities related to access to care | Estimated difference between groups; presented unadjusted mean outcomes and results that controlled for individual characteristicsPre- & post-ACAAA-white disparityDid not distinguish between private and public insurance | Behavioral Risk Factor Surveillance System (BRFSS), 2008-2017 | Adults (ages 19-64); ~ 400,000 adults each year | age, education, employment status, sex, marital status, and interaction between sex and marital status | Absolute | National AA-white un-insurance disparity decreased after ACA implementation Difference in AA-white disparity reductions between ME and non-ME states not tested for statistical significance | National AA-white foregone care due to cost disparity decreased after ACA implementation Difference in AA-white disparity reductions between ME and non-ME states not tested for statistical significance |  N/A |
| Artiga, Orgera, & Damico (2020) | Examined how health coverage by race/ethnicity has changed post-ACA | Difference-in-Difference (DD), stratified by race/ethnicityPre- & post-ACAME & non-MEDid not distinguish between private and public insurance | American Community Survey (ACS), 2010-2018 | Non-elderly population of whites, African Americans, Hispanics, & Alaska Natives (ages 0-64) | National coverage time trends | Absolute | Un-insurance rates for whites and AA decreased in non-ME and ME states, 2010-2018 DDD effect not tested for significance for AA-white disparity change | N/A | N/A |
| Breslau & Gruskin (2020) | Examined impact of ME on use of 4 types of mental health services in nationally representative samples of low-income individuals during first 2 years following implementation | Difference-in-Difference (DD); used survey design-adjusted linear regression models; binary modeled by logistic DD model; continuous modeled by linear DD regression on subsample of service users; impacts of ME within racial/ethnic groups examined by extending original DD models to DDD modelsPre- & post-ACAME & non-ME | Medical Expenditure Panel Survey (MEPS), 2007-2015 | Adults (ages 18 and older) with incomes at or below Medicaid eligibility under expansion rules (138% FPL) | Age, sex, marital status, race/ethnicity, K-6 score category, education level | Absolute | N/A | Change in use of outpatient mental health visits significant among whites and Hispanics, but not AA; no significant changes observed in number of mental health-related hospital stays, emergency department visits, or prescription refillsSignificance in changes in AA-white disparities due to ME implementation not tested for any outcomes | N/A |
| Wiggins et al. (2020) | Determined association between ME and infant mortality rates (IMR) in U.S.  | Difference-in-Difference (DD); multiple linear regression models using DD estimation and Huber-White robust standard errorsPre- & post-ACAME & non-ME | CDC’s Wide-ranging Online Data for Epidemiologic Research (WONDER), 2019-2017 | State-level aggregate data on U.S. IMR and population count | Sex, race/ethnicity | Absolute | N/A | N/A | No association between ME states and change in national IMR, 2010-2017; ME associated with reduction in IMR among Hispanics; ME not associated with IMR reduction in ME states relative to non-ME states for whites and AASignificance of AA-white disparity changes related to ME or ACA not tested |
| Barrington, Simmot, Calo, Cohn, Cosgrove, & Felix (2020) | Determined associations between ME adoption and changes in insurance status, early-stage diagnosis, and cancer survival among women with endometrial carcinoma  | Difference-in-Difference (DD); overall survival was fit with Cox proportional hazards models; logistical regression compared epidemiological, hospital, tumor, and treatment characteristics of women according to dichotomized ME statusPre- & post-ACAME & non-MEExamined a variety of insurance sources | National Cancer Database, Participant User Files (PUF), 2004-2015 | Patients diagnosed with invasive endometrial carcinoma (ages 40-64) | Facility location, ME category of patient ZIP code; year (grouped into pairs); age, race, comorbities, hospital type, hospital location, rurality, educational attainment, household income, year of diagnosis | Absolute | Statistically significant improvement of changes in percent insured associated with ME implementation in ME states among white, but not African American.DDD effect not tested for significance for AA-white disparity change  | No significant changes observed in early-stage diagnosis associated with ME for any race.DDD effect not tested for significance for AA-white disparity change | Significant increases in overall survival rates observed to be associated with ME for whites; no significant changes in survival rates observed for AA women.DDD effect not tested for significance for AA-white disparity change |
| Eliason, 2020 | Examined the effect of Medicaid expansion under the Affordable Care Act on state-level maternal mortalityratios in the United States. | Difference-in-Difference (DD)Pre- & post-ACAME & non-MEStratified by race | Underlying Cause ofDeath 2006–2017 data files from the National Center for HealthStatistics; Centers for Disease Control and Prevention, National Center for Health Statistics Natality data files, CDC WONDER Online Database | 50 states and DC, from 2006 to 2017, for a total of 612 state-year observations | State-wide pregnancy checkbox adoption and state-level women’s unemployment ratio | Absolute | N/A | N/A | ME was significantly associated with lower maternal mortality; ME effects were concentrated among non-Hispanic Black mothers.AA-white disparity or changes in disparities associated with ME not tested for significance |
| Brown, Moore, Felix, Stewart, & Tilford (2020) | Identified association of ME with changes in county-level geographic variation in rates of low birthweight and preterm births, overall stratified by race/ethnicity | Compared changes in coefficient of variation and ratio of 80th to 20th percentiles using bootstrap samples (n=1,000) of counties drawn for all births and for white, African American, and Hispanic births, separatelyPre- & post-ACAME & non-MEAA-white disparity | National Center for Health Statistics (NCHS) Vital Statistics Birth Data Files, 2011-2016 | County-level rates of low birthweight and preterm birth outcomes; 3,145 counties in contiguous U.S., excluding counties in U.S. territories; sample counties (n=372) in 6 contiguous states that expanded Medicaid after January 1, 2014, and 9 independent cities, leaving 2,728 counties; county-level rates in included counties among 19,454,243 singleton births to women (ages 19 and older at time of birth) | None reported | Absolute | N/A | N/A | County-level variation for low birthweight and preterm births among all racial/ethnic categories declined in ME states; in non-ME states, geographic variation reduced for both outcomes among Hispanic births and low birthweight white births, but increased in both outcomes among AA birthsSignificance in changes in AA-white disparities not tested for either outcome |
| Glance, Thirukumaran, Shippey, Lustik, & Dick (2020) | Determined whether ME was associated with reduction in revascularization disparities in patients with acute myocardial infarction | Retrospective analysis study; comparative interrupted time series analysisPre- & post-ACAME & non-MEAA-white disparityDid not distinguish between private and public insurance | Vizient Clinical Database/Resource (CDB/RM), 2010-2018 | White and African American patients (ages 18-64) hospitalized with ST-segment elevation (STEMI) or non-ST-segment elevation acute myocardial infarction (NSTEMI) after ME | Patient characteristics, pre-ACA temporal trends, hospital effects | Absolute | Among patients with STEMI and NSTEMI, AA-white un-insurance rate disparity reductions in ME vs. non-ME states before and after ACA (DDD) is significant at p<0.001. | N/A | Differences in AA-white revascularization rates for patients with STEMI decreased by 2.09 percentage points per year in ME vs. non-ME states; 7.24 percentage point increase for AA patients hospitalized with STEMI in non-ME states  |
| Semprini & Olopade (2020) | Evaluated impact of ME on disparity between African American-white breast cancer mortality rates | Difference-in-Difference (DD) fixed effects regression model with AA-white mortality ratio as outcomePre- & post-ACAME & non-MEAA-white disparity | CDC All-Cause Mortality Database, 2012-2016 | State-level breast cancer mortality data; no additional inclusion or exclusion criteria reported | Age | Absolute | N/A | N/A | ME did not lower disparity in breast cancer mortality; AA-white mortality ratio increased in ME states for all Medicaid-eligible age groups with significant effects in younger age groups  |
| Chaudry, Jackson, & Glied (2019) | Determined the extent to which the ACA has reduced disparities in insurance coverage among different racial/ethnic groups | Difference-in-Difference (DD)Pre- & post-ACA; estimates adjustedExamined public, private, and no coverage separately | American Community Survey (ACS), 2013-2017 | Adults (ages 19-64); white, African American, Hispanic (any race); grouped by income relative to federal poverty guidelines;  | Stratified by income level | Absolute | Among all income levels, white un-insurance rates declined in non-ME and ME states; AA and non-Hispanic un-insurance rates decreased in non-ME and ME statesRates unadjusted and no significance testing conducted | N/A | N/A |
| Singh & Wilk (2019) | Examined changes in access to primary care, measured by insurance status, having usual source of care, and delaying care due to cost, following ACA ME | Difference-in-Difference (DD); logistic regression modelsPre- & post-ACAME & non-MEAA-white disparityDid not distinguish between private and public insurance | Behavioral Risk Factor Surveillance System (BRFSS), 2011-2016 | Adults (ages 25-64); white, African American, and Hispanic; other non-Hispanic adults (ages 25-64) with incomes below 100% FPL | Age, education status, marital status, gender, self-rated health status; race/ethnicity, income | Absolute | No significant AA-white disparity changes in insurance rates due to ME  | No significant AA-white disparity changes due to ME status in unmet need due to cost or having a usual source of care  | N/A |
| Lipton, Decker, & Sommers (2019) | Examined changes related to racial/ethnic disparities in health insurance coverage and access to care after implementation of dependent coverage provision and full ACA limitation in 2014, respectively, separate from preexisting trends | Interrupted time series approach with 2 distinct intervention periods: October 2010 to December 2013 and January 2014 to December 2014Pre- & post-ACAME & non-MEAA-white disparityExamined public, private, and any coverage | National Health Interview Survey (NHIS), 2000-2014 | 48,358 young adults (ages 19-25) | Age, sex, marital status, education, employment status, family income, region of residence; models included linear quarterly trend to control for trends in each outcome prior to ACA implementation | Absolute | ME associated with significantly greater increases in rates of having health coverage and having Medicaid coverage compared to gains for whites; rates of reporting any type of health insurance increased at significantly greater rates than for whites in ME states | ME associated with significantly greater increases in reporting a usual source of health care for AA compared to gains for whites; cumulative changes for ACA associated with significantly greater increases in reporting at least one doctor’s visit for AA compared to gains for whites | N/A |
| Crocker, Zeymo, McDermott, Xiao, Watson, DeLeire, Shara, Chan, & A-Refaie (2019) | Examined impact of ME on utilization of cancer surgery for uninsured overall, low-income persons, and racial minorities | Poisson interrupted time series (ITS) analysisPre- & post-ACAME & non-MEAA-white disparityExamined private and public insurance separately | Merged data from State Inpatient Database, American Hospital Association, and Area Resource File, 2012-2015 | 81,000 patients (ages 18-64) who underwent cancer surgery | Adjusting for age, sex, comorbidity score, population-level and provider-level characteristics; quarter of discharge; year of admission; payer type | Absolute | N/A | Medicaid and uninsured population in ME states substantially increased utilization relative to non-ME states in 2014DDD effect not significant for AA-white change and cancer surgery utilization | N/A |
| Wehby & Lyu (2018) | Examined ACA ME effects on Medicaid take-up and private coverage and coverage disparities by age, race/ethnicity, and gender | Stratified Difference-in-Difference (DD) regression with state fixed effects; excluded 14 states that had partial or full expansions prior to 2014Pre- & post-ACAME & non-MEExamined Medicaid coverage, uninsured, individually purchased, employer-sponsored coverage, any private coverage | American Community Survey, 2011-2015 | 3,137,989 low-educated (high school or less) adults (ages 19-64); did not select sample based on household income or poverty level because income is potentially endogenous to insurance | National coverage time trends stratified by age group, stratified by race/ethnicity and gender | Absolute | Slight change in coverage disparities by race/ethnicity DDD effect not tested for AA-white disparity change | N/A | N/A |
| Han, Yabroff, War, Brawley, Jemal (2018) | Examined changes in percent uninsured and percent reporting care unaffordability, pre- & post-ACA ME | Difference-in-Difference (DD)Pre- & post-ACAME & non-MEDid not distinguish between private and public insurance | Behavioral Risk Factor Surveillance System (BRFSS), 2011-2017 | 118,631 cancer survivors (ages 18-64) with no known sex | Gender, age, race/ethnicity, household income, education, employment status, marital status, number of comorbid conditions | Absolute | Percent uninsured and care affordability decreased in all racial groups; disparities between white and Hispanic survivors persisted; greater reductions in un-insurance rates for AA in ME states (not statistically significant)DDD effect not tested for significance for AA-white disparity change | Greater reductions in rates of care affordability reports for AA in ME states (not statistically significant); no significant findings for ME impact on AA-white disparities in unmet need due to costDDD effect not tested for significance for AA-white disparity change | N/A |
| Lee & Porell (2018) | Estimated impacts of ACA ME on racial/ethnic disparities in insurance coverage, access to care, and health status | Difference-in-Difference (DDD) model specification with treatment and comparison groups; linear probability and regression modelsPre- & post-ACAME & non-MEAA-white disparityDid not distinguish between private and public insurance | Behavioral Risk Factor Surveillance System, 2011-2016 | Non-pregnant childless adults (ages 19-64) residing in U.S. state or D.C. with incomes less than 100% FPL | Age, gender, race, marital status, education, employment, chronic disease status, tobacco use; state-year variables including number of hospital beds and physicians per 1,000 population, unemployment rate, per capita income, racial/ethnic composition, Senate voting records | Absolute | DDD effect not significant for AA-white disparity change in un-insurance | No significant findings for ME impact on AA-white disparities in unmet needs due to cost, having a usual source of care, or having annual wellness exam | No significant findings for ME impact on AA-white disparities in reported fair or poor physical health days, number of poor mental health days, and days with health-related activity limitation |
| Yue, Rasmussen, & Ponce (2018) | Examined impacts of ME on health insurance coverage, having personal doctor(s), being unable to see doctors because of cost, and receiving a flu shot; tested racial/ethnic differential impacts | Quasi-experimental design with Difference-in-Difference (DDD) analyses; multiple imputations and survey weights used; excluded 14 states that had partial or full ME prior to 2014Pre- & post-ACAME & non-MEAA-white disparityDid not distinguish between private and public insurance | Behavioral Risk Factor Surveillance System (BRFSS); State Physicans Workforce Data Book; Bureau of Labor Statistics, 2013-2015  | Adults (ages 18 or older), low-income, non-elderly based on household income and family size; 18,408 observations in non-ME group and 16,964 in ME group | Age, general health, annual household income, race, education level, employment status, language, number of children in household, number of adults in household | Absolute | DDD effect not significant for AA-white disparity changes in rates of any-health coverage | No significant findings for ME impact on AA-white disparities due to cost, having usual source of care or personal doctor, or having flu shot | N/A |
| Hayes, Riley, Radley, & McCarthy (2017) | Investigated effects of ME on access to health care across three racial/ethnic groupsDid not distinguish between private and public insurance | Stratified analysis; calculated and compared national averages for each indicator pre- & post-ACA, comparing ME and non-ME statesNo statistical tests performed | American Community Survey (ACS), 2013 & 2015Behavioral Risk Factor Surveillance System (BRFSS), 2013 & 2015 | Uninsured adults (ages 19-64); adults (ages and older) who identified unmet heath care need do to cost and lacks usual source of care | None reported | Absolute | AA-white absolute disparity in un-insurance rates decreased in non-ME and ME states No statistics of significance reported | AA-white absolute disparity in rates of unmet health care need due to costs decreased in non-ME and ME statesNo statistics of significance reportedAA-white absolute disparity in rates of lacking a usual source of care decreased in non-ME and ME statesNo statistics of significance reported | N/A |
| Flores & Vargas (2017) | Tested whether ME predicted change in ethnoracial disparities with health insurance coverage at the county level | Fixed-effect regression modelsPre- & post-ACAME & non-MEAA-white disparityDid not distinguish between private and public insurance | American Community Survey, 2012-2014 | U.S. counties with large enough minority population to conduct meaningful cross-race analyses; not a nationally representative study of U.S. counties | County-level immigration-related policy (20112-2014 from National Conference of State Legislatures); state-level racial prejudice (Google); county obesity rates (CDC); annual county median age and ethnoracial composition; baseline insurance coverage levels; annual county unemployment rate | Absolute | Gaps in county any-insurance coverage rates between AA and whites decreased, 2012-2014 DDD effect not significant for AA-white disparity change | N/A | N/A |
| Buchmueller, Levinson, Levy, & Wolfe (2016) | Examined ACA and ME effect on rates of un-insurance, public health coverage, and private health coverage by racial/ethnic groups | Difference-in-Difference (DD) stratified by income group and state ME statusPre- & post-ACAME & non-MEAA-white disparityDistinguished between private and public insurance rates | American Community Survey, 2008-2014 | Adults (ages 19-64), white, African Americans, and Hispanics (any race) | Stratified analysis by income group and state ME status; did not control for sociodemographic or health status factors | Absolute | AA-white coverage gap decreased for both public and private insurance; greater gains for AA adults in non-ME states; greater gains for whites in ME states; AA without health insurance decreased in ME and non-ME statesDDD effect not significant for AA-white disparity change in un-insurance rate | N/A | N/A |
| McMorrow, Long, Kenney, & Anderson (2015) | Examined ME impacts on absolute & relative disparity changes in un-insurance rates for African Americans and whites | Difference-in-Difference (DD)Pre- & post-ACAAA-white disparityDid not distinguish between private and public insurance | National Health Interview Survey (NHIS), 2012-2014 | Adults (ages 18-64); white, AA, Hispanic | Age; sex; did not control for sociodemographic or health status factors | Absolute & Relative | Absolute disparity for AA uninsured adults in ME and non-ME states decreased, 2013-2014DDD effect not tested for significant differences in AA-white disparity in ME vs. non-ME states | N/A | N/A |