

# Literature Review of Affordable Care Act Reforms on Coverage, Access and Utilization, and Outcomes

Summary Table

ACA provision	Coverage effects	Access and utilization effects	Clinical and financial outcomes
<b>Overall ACA effects</b>	<p>People with an array of mental health conditions were more likely to be insured after the ACA. Reductions in uninsured rates generally ranged from 5-17 percentage points.<sup>1 2 3 4 5</sup></p> <p>Uninsured rates decreased for nonelderly black, Hispanic, and white adults with serious psychological distress (SPD).<sup>6</sup></p> <p>Insurance coverage increased for nonelderly adults with SPD who experienced recent justice system involvement.<sup>5</sup></p>	<p>Access problems decreased for mental health patients. This included reductions in forgoing or delaying care, and decreases in cost-related barriers to mental health care and prescription medications.<sup>1 2 4</sup></p> <p>Treatment rates generally increased for mental health patients, though racial and ethnic disparities remained in certain studies;<sup>3</sup> <sup>5 7</sup> treatment rates did not significantly increase for adults with SPD who had recent justice system involvement.<sup>5</sup></p>	
<b>Medicaid expansion vs. nonexpansion states</b>	<p>Living in an expansion state was associated with greater coverage improvements for nonelderly low-income adults with depression in a three-state study.<sup>8</sup></p> <p>In another analysis, nonelderly adults with mental health conditions experienced coverage gains in both expansion and nonexpansion states (greater absolute improvement in nonexpansion; lower uninsured rates in expansion).<sup>1</sup></p>	<p>In a three-state study, adults with depression in expansion states reported a reduction in cost-related access issues (care and medications) compared to those in a nonexpansion state.<sup>8</sup></p> <p>In another analysis, nonelderly adults with mental health conditions reported greater access and fewer cost-related problems in both sets of states. There was a larger decline in unmet need for care because of cost in nonexpansion states.<sup>1</sup></p> <p>Low-income, childless adults in expansion states reported general access improvements compared to nonexpansion states.<sup>9 10 11</sup></p>	<p>Living in a Medicaid expansion state was associated with a reduction in days impacted by poor mental health for low-income, childless adults in multiple studies;<sup>9 11 12</sup> and a reduction in poor mental health days and depression diagnoses among low-income childless adults with chronic conditions in another study.<sup>10</sup> Low-income parents in expansion states experienced a relative decrease in severe psychological stress.<sup>13</sup></p> <p>Other studies did not find statistically-significant changes in mental health outcomes for low-income adults between expansion and nonexpansion states.<sup>14 15 16</sup></p> <p>One study reported a decrease in poor mental health days for nonelderly adults in expansion states, but similar impact in nonexpansion states – which led the authors to suggest that private insurance expansions drove the change.<sup>17</sup> They conducted a similar study a year earlier that did not show changes in either group of states, except for</p>

ACA provision	Coverage effects	Access and utilization effects	Clinical and financial outcomes
			<p>a subsample of low-income adults in expansion states.<sup>18</sup></p> <p>Among Michigan Medicaid expansion enrollees, people with self-reported chronic health conditions were more likely to report improved mental health.<sup>19</sup></p> <p>In the 2008 Oregon Medicaid lottery, Medicaid coverage was associated with improved depression diagnosis, treatment and outcomes.<sup>20</sup></p>
<b>Dependent coverage mandate</b>	<p>The likelihood of having insurance coverage increased for young adults ages 18-25 with psychological distress or alcohol/drug abuse.<sup>21</sup></p> <p>Coverage increased for young adults ages 19-25 with SPD<sup>22</sup> and mental illness<sup>23</sup> relative to comparison groups.</p> <p>The likelihood of not having insurance decreased for black, Latino, and white young adults ages 19-25 with behavioral health conditions; lower-income white young adults appear to have benefited more than black young adults.<sup>24</sup></p>	<p>Mental health treatment has increased for young adults in several studies (typically in comparison to slightly older groups),<sup>23 25 26</sup> additional studies show more mixed results.<sup>21 22</sup></p> <p>Cost-related access problems improved for young adults with moderate-to-severe mental health conditions, relative to a comparison group.<sup>23</sup></p>	<p>Self-reported health and mental health modestly improved for young adults compared to older control groups in a number of studies.<sup>23 27 28</sup></p> <p>One study did not show relative mental health improvement,<sup>29</sup> while an additional analysis found modest improvements in mental health outcomes for both young adults and an older control group (young adults did report a relative increase on one of the measures).<sup>30</sup></p> <p>Young adults with behavioral health conditions became less likely than older groups to have high levels of out-of-pocket spending.<sup>31</sup></p>
<b>Individual and small-group market provisions</b>	<p>Marketplace plans offered similar behavioral health coverage and utilization requirements as non-marketplace, employer-sponsored plans.<sup>32</sup></p> <p>Following the 2014 parity protections and essential benefit mandate, individual and small-group plans covered mental health and substance use services at the same rate and with similar quantitative limitations as medical and surgical services.<sup>33</sup></p>	<p>Mental health networks still have fewer providers compared to primary care networks in marketplace plans.<sup>34</sup></p> <p>Analysis of a metropolitan insurance market (Denver) demonstrated that marketplace network adequacy rules may not be ensuring “sufficient access” to behavioral health providers, as mandated by the ACA.<sup>35</sup></p>	

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## EFFECTS ON COVERAGE

### Overall Coverage

Alexander J. Cowell et al. "Behavioral Health Coverage in the Individual Market Increased After ACA Parity Requirements." *Health Affairs* 37, no. 7 (July 2018): 1153-1159.

- *Following enactment of the ACA's mental health coverage parity rules in 2014, the authors reviewed 78 individual and small-group market insurance plans from 2014 and 60 comparison plans from 2013 to analyze how much coverage for mental health and substance use care improved relative to medical and surgical benefits. The results indicate that insurers did follow the ACA essential benefit mandate and parity requirements for these markets. In 2013, a lower percentage of plans (~20% fewer) covered mental health or substance use services, compared to medical and surgical services. But those percentages were the same in 2014 after the provisions took effect. The analysis also showed that plans reported similar quantitative limits for both mental health/substance use and medical/surgical services in 2014, as required under the law (a change from 2013).*

\*Benjamin A. Howell, Emily A. Wang, and Tyler N.A. Winkelman. "Mental Health Treatment Among Individuals Involved in the Criminal Justice System After Implementation of the Affordable Care Act." *Psychiatric Services* 70, no. 9 (Sept. 2019): 765-771.

- *The authors used data from the National Survey on Drug Use and Health (NSDUH) to examine differences under the ACA in health insurance coverage and mental health treatment rates for nonelderly adults (ages 19-64) with serious psychological distress (SPD) who experienced (N = 3,688) or did not experience (N = 33,872) justice system involvement in the past year. Comparing results between 2011-2013 and 2014-2017, the authors found that despite a significant increase in health insurance coverage for SPD individuals with justice system involvement (13.4 percentage points), there was no significant change in mental health treatment. The general population with SPD reported significant insurance coverage gains (8.1 percentage points) and an improvement in receiving mental health treatment (2.2 percentage points).*

\*Priscilla Novak, Andrew C. Anderson, and Jie Chen. "Changes in Health Insurance Coverage and Barriers to Health Care Access Among Individuals with Serious Psychological Distress Following the Affordable Care Act." *Administration and Policy in Mental Health and Mental Health Services Research* 45, no. 6 (Nov. 2018): 924-932.

- *Using 2011-16 data from the National Health Interview Survey (NHIS), the authors examined the effect of the ACA on insurance coverage and access to care for nonelderly adults ages 18-64 with serious psychological stress (SPD). They found that the uninsured rate for respondents with SPD (N = 6,052) decreased from 32% in 2011 to 15% in 2016, along with additional declines in the rates for delaying any necessary care (44% to 31%), forgoing any necessary care (40% to 26%) and not being able to afford any mental health care (28% to 20%). The data did not allow the authors to identify whether respondents were from Medicaid expansion states or not.*

\*Brendan Saloner et al. "Insurance Coverage and Treatment Use Under the Affordable Care Act Among Adults With Mental and Substance Use Disorders." *Psychiatric Services* 68, no. 6 (June 2017): 542-548.

- *The authors analyzed 2011-14 data from the National Survey on Drug Use and Health (NSDUH), specifically nonelderly adults ages 18-64 with a mental health condition (N = 29,962) or substance use condition (N = 19,243). They compared respondents from 2011-2013 to 2014, to identify changes after the ACA's coverage expansions in 2014. They found significant decreases in the uninsured rate for respondents with both mental health conditions and substance use conditions (>5 percentage points for each group). Most of those gains were associated with Medicaid, and lower-income adults (≤200% FPL) experienced larger coverage increases. Mental health treatment increased by more than two percentage points, a significant change.*

\*Elizabeth Sherrill and Gilbert Gonzales. "Recent Changes in Health Insurance Coverage and Access to Care by Mental Health Status." *JAMA Psychiatry* 74, no. 10 (Oct. 2017): 1076-1079.

- *Using 2012, 2013 and 2015 data from the National Health Interview Survey (NHIS), the authors examined changes in insurance coverage and access to care for adults ages 18-64 (N = 77,095), stratified by mental health status. They found that among those adults symptomatic of severe mental illness (SMI), there was a significant decrease in the uninsured rate (9.3 percentage points), the rate of forgoing prescription medications due to cost (6.8 percentage points), and the rate of forgoing mental health care due to cost (8 percentage points). Adults symptomatic of moderate mental illness (MMI) also saw reductions in both uninsured rates and a variety of access measures.*

Maureen T. Stewart et al. "Behavioral health coverage under the Affordable Care Act: What can we learn from marketplace products?" *Psychiatric Services* 69, no. 3 (March 2018): 315-321.

- *The authors used a 2014 nationwide survey of commercial health insurance plans to compare behavioral health services within ACA marketplace plans and non-marketplace employer plans of the same type (N = 106 for each), in order to see if marketplace plans offered less generous coverage. They found that the plans offered similar behavioral health coverage, prior authorization and other utilization requirements. Marketplace plans were more likely to have narrow and tiered provider networks for behavioral health care. The authors concluded that the ACA's provisions had thus far been successful in providing strong coverage for these services.*

\*Judith Weissman et al. "Racial, Ethnic, and Gender Disparities in Health Care Access and Use Among U.S. Adults With Serious Psychological Distress." *Psychiatric Services* 69, no. 5 (May 2018): 517-522.

- *Using 2006-15 data from the National Health Interview Survey (NHIS), the authors examined the effect of the ACA on insurance coverage for nonelderly adults ages 18-64 with serious psychological distress (SPD; N = 8,940), stratified by race/ethnicity. They found that uninsured rates for black, white, and Hispanic adults with SPD increased from 2006-2011, and then decreased from 2012 to 2015. They also found that white respondents were more likely to report certain access problems.*

## **Medicaid Expansion**

\*Carrie E. Fry and Benjamin D. Sommers. "Effect of Medicaid Expansion on Health Insurance Coverage and Access to Care Among Adults With Depression." *Psychiatric Services* 69 no. 11 (Nov. 2018): 1146-1152.

- *Using surveys conducted with low-income nonelderly adults in Texas, Arkansas, and Kentucky from 2013-16, the authors examined a study sample of respondents who screened positive for depression (N = 4,853). They found that living in a Medicaid expansion state (AR/KY) was associated with a significant decrease in the percentage of adults with depression who lacked insurance (23 percentage points), compared to living in a nonexpansion state (TX). Living in an expansion state was also associated with a relative increase in reported Medicaid coverage, and a relative decrease in reporting cost-related access issues for both care and medications.*

\*Kathleen C. Thomas et al. "Impact of ACA Health Reforms for People With Mental Health Conditions." *Psychiatric Services* 69 no. 2 (Feb. 2018): 231-234.

- *Using cross-sectional data from the Health Reform Monitoring Survey, the authors examined insurance coverage and access to care for nonelderly respondents ages 18-64 identified with mental health conditions. The survey covered both pre- (2013) and post-ACA (2016) implementation, and the authors stratified the results by state Medicaid expansion status. The authors found that compared to pre-ACA respondents (N = 1,550), post-ACA respondents (N = 1,439) with mental health conditions were less likely to be uninsured (5% vs 13%), more likely to have a usual source of care, and less likely to have unmet mental health care needs to cost concerns. These effects were seen across both expansion and nonexpansion states. Individuals living in nonexpansion states actually experienced larger drops in uninsured rates and general cost-related access problems (though expansion states had lower absolute uninsured rates).*

## Dependent Coverage Expansion

\*Laura J. Chavez et al. “Mental Health and Substance Use Care Among Young Adults Before and After Affordable Care Act (ACA) Implementation: A Rural and Urban Comparison.” *The Journal of Rural Health* 34, no. 1 (Dec. 2018): 42-47.

- *Using the National Survey on Drug Use and Health (NSDUH) from 2008 to 2014, the authors examined urban-rural differences for mental health and substance use care for young adults (ages 18-25 years) before and after ACA implementation (including the 2010 dependent coverage expansion and 2014 Medicaid expansions). Among young adults with psychological distress or alcohol/drug abuse within the past year (N = 39,482), the adjusted insurance coverage rate increased from 72% to 81.9% during the time period (though a significant rural/urban difference remained). Mental health treatment rates for young adults with psychological distress modestly increased following enactment of the dependent coverage provision, but the gains did not sustain through 2014.*

\*Nicole Kozloff and Benjamin D. Sommers. “Insurance Coverage and Health Outcomes in Young Adults With Mental Illness Following the Affordable Care Act Dependent Coverage Expansion.” *Journal of Clinical Psychiatry* 78, no. 7 (July 2017): e821-e827.

- *Using 2008-2013 data from the National Survey on Drug Use and Health (NSDUH), the authors conducted a difference-in-differences analysis to examine the effect of the ACA’s dependent coverage expansion on young adults with mental illness – specifically insurance coverage, service utilization, and self-reported health. After the dependent expansion went into effect, reported private insurance coverage increased by 11.7 percentage points and the uninsured rate decreased by 8.9 percentage points for 19- to 25-year-olds with mental illness (N = 19,051), compared to a control group of 26- to 34-year-olds (N = 7,958). The study also reported modestly larger relative increases in outpatient mental health treatment among the 19-25 year-old group, as well as a small decrease in reporting overall health as fair or poor. Cost-related mental health access problems dropped more than 12% for young adults with moderate-to-severe mental health conditions relative to the older group, but no effect was detected for those with mild conditions.*

Priscilla Novak, Kester F. Williams-Parry, and Jie Chen. “Racial and Ethnic Disparities Among the Remaining Uninsured Young Adults with Behavioral Health Disorders After the ACA Expansion of Dependent Coverage.” *Journal of Racial and Ethnic Health Disparities* 4, no. 4 (Aug. 2017): 607-614.

- *The authors used 2007-12 data from the Medical Expenditure Panel Survey (MEPS) to compare the characteristics of uninsured young adults ages 19-25 with behavioral health disorders (BHD; mental health or substance use; N = 1,363), before and after the ACA dependent coverage expansion in 2010. They examined racial and ethnic disparities by employing multivariate logistic regressions to estimate the predictors associated with the probability of not having insurance. The estimated likelihood for not having insurance was 0.21 and 0.16 for white young adults with BHDs before and after the ACA expansion. The probabilities were 0.29 and 0.26 for Latinos, 0.19 and 0.17 for African Americans. The data highlights remaining disparities, and the authors suggest that lower-income black young adults did not benefit as much from the dependent coverage expansion as lower-income white young adults.*

\*Mark Olfson et al. “Effects of the Affordable Care Act on Private Insurance Coverage and Treatment of Behavioral Health Conditions in Young Adults.” *American Journal of Public Health*. 108, no. 10 (Oct. 2018): 1352-1354.

- *Using 2008-2016 data from the National Survey on Drug Use and Health (NSDUH), the authors conducted a difference-in-differences analysis to examine insurance coverage changes under the ACA for 19-25 year olds compared to 26-35 year olds, as well subgroup analyses to identify changes in coverage and treatment for young adults with serious psychological distress (SPD) or substance use conditions. The authors found significantly greater increases in overall insurance coverage for the 19-25 group compared to the 26-35 group, and those gains were focused on the earlier part of the period (2008-10 to 2011-13). This trend was similar for young adults with SPD and substance use conditions, with greater coverage increases for the younger group compared to the older group. There was no significant difference between the two age groups in terms of treatment rate increases, for either condition.*

## EFFECTS ON ACCESS AND UTILIZATION

### Overall Access

Timothy B. Creedon and Benjamin Lê Cook. “Access To Mental Health Care Increased But Not For Substance Use, While Disparities Remain.” *Health Affairs*. 35, no. 6 (June 2016): 1017-21.

- *Using data from the 2005-2014 National Survey on Drug Use and Health (NSDUH), the authors found that 18-64 year-old respondents with serious psychological distress (N = 54,575) were significantly more likely to report receiving mental health treatment in 2014 after the main ACA coverage expansions took effect. However, this was mainly driven by white adults, and racial and ethnic disparities were not significantly reduced.*

\*Benjamin A. Howell, Emily A. Wang, and Tyler N.A. Winkelman. “Mental Health Treatment Among Individuals Involved in the Criminal Justice System After Implementation of the Affordable Care Act.” *Psychiatric Services* 70, no. 9 (Sept. 2019): 765-771.

- *The authors used data from the National Survey on Drug Use and Health (NSDUH) to examine differences under the ACA in health insurance coverage and mental health treatment rates for nonelderly adults (ages 19-64) with serious psychological distress (SPD) who experienced (N = 3,688) or did not experience (N = 33,872) justice system involvement in the past year. Comparing results between 2011-2013 and 2014-2017, the authors found that despite a significant increase in health insurance coverage for SPD individuals with justice system involvement (13.4 percentage points), there was no significant change in mental health treatment. The general population with SPD reported significant insurance coverage gains (8.1 percentage points) and an improvement in receiving mental health treatment (2.2 percentage points).*

\*Priscilla Novak, Andrew C. Anderson, and Jie Chen. “Changes in Health Insurance Coverage and Barriers to Health Care Access Among Individuals with Serious Psychological Distress Following the Affordable Care Act.” *Administration and Policy in Mental Health and Mental Health Services Research* 45, no. 6 (Nov. 2018): 924-932.

- *Using 2011-16 data from the National Health Interview Survey (NHIS), the authors examined the effect of the ACA on insurance coverage and access to care for nonelderly adults ages 18-64 with serious psychological stress (SPD). They found that the uninsured rate for respondents with SPD (N = 6,052) decreased from 32% in 2011 to 15% in 2016, along with additional declines in the rates for delaying any necessary care (44% to 31%), forgoing any necessary care (40% to 26%) and not being able to afford any mental health care (28% to 20%). The data did not allow the authors to identify whether respondents were from Medicaid expansion states or not.*

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- *The authors analyzed 2011-14 data from the National Survey on Drug Use and Health (NSDUH), specifically nonelderly adults ages 18-64 with a mental health condition (N = 29,962) or substance use condition (N = 19,243). They compared respondents from 2011-2013 to 2014, to identify changes after the ACA’s coverage expansions in 2014. They found significant decreases in the uninsured rate for respondents with both mental health conditions and substance use conditions (>5 percentage points for each group). Most of those gains were associated with Medicaid, and lower-income adults (≤200% FPL) experienced larger coverage increases. Mental health treatment increased by more than two percentage points, a significant change.*

\*Elizabeth Sherrill and Gilbert Gonzales. “Recent Changes in Health Insurance Coverage and Access to Care by Mental Health Status.” *JAMA Psychiatry* 74, no. 10 (Oct. 2017): 1076-1079.

- *Using 2012, 2013 and 2015 data from the National Health Interview Survey (NHIS), the authors examined changes in insurance coverage and access to care for adults ages 18-64 (N = 77,095), stratified by mental health status. They found that among those adults symptomatic of severe mental illness (SMI), there was a significant decrease in the uninsured rate (9.3 percentage points), the rate of forgoing prescription medications due to cost (6.8 percentage points),*



and the rate of forgoing mental health care due to cost (8 percentage points). Adults symptomatic of moderate mental illness (MMI) also saw reductions in both uninsured rates and a variety of access measures.

\*Judith Weissman et al. "Racial, Ethnic, and Gender Disparities in Health Care Access and Use Among U.S. Adults With Serious Psychological Distress." *Psychiatric Services* 69, no. 5 (May 2018): 517-522.

- *Using 2006-15 data from the National Health Interview Survey (NHIS), the authors examined the effect of the ACA on insurance coverage for nonelderly adults ages 18-64 with serious psychological distress (SPD; N = 8,940), stratified by race/ethnicity. They found that uninsured rates for black, white, and Hispanic adults with SPD increased from 2006-2011, and then decreased from 2012 to 2015. They also found that white respondents were more likely to report certain access problems.*

MariaElena O. Williams et al. "Challenges for Insured Patients in Accessing Behavioral Health Care." *Annals of Family Medicine* 15, no. 4 (July 2017): 363–65.

- *The authors used a secret shopper methodology to examine the mental health provider network adequacy for three large insurance companies within the Denver metropolitan region that offer PPO plans through Colorado's individual ACA marketplace. They called behavioral health providers within the networks and found that 9.8% to 59% of providers could offer a new patient appointment slot (psychiatry visits were especially challenging). The results suggest that outpatient behavioral care networks still offer limited access to patients despite ACA regulations.*

Jane M. Zhu, Yuehan Zhang, and Daniel Polsky. "Networks In ACA Marketplaces Are Narrower For Mental Health Care Than For Primary Care." *Health Affairs* 36, no. 9 (Sept. 2017): 1624-1631.

- *The authors used 2016 data from 531 provider networks within the ACA marketplaces to assess how network size and provider participation differed between mental health and primary care providers. They found that that mental health provider participation was very low compared to primary care, with only 42.7% of psychiatrists and 19.3% of nonphysician mental health care providers participating in any network. An average single-plan network had 24.3% of the primary care providers in that market, compared to just 11.3% of the mental health providers. The findings raise some warning flags about network adequacy and potential barriers to meeting the ACA's mental health parity requirements.*

## **Medicaid Expansion**

\*John Cawley, Aparna Soni, and Kosali Simon. "Third Year of Survey Data Shows Continuing Benefits of Medicaid Expansions for Low-Income Childless Adults in the U.S." *Journal of General Internal Medicine* 33, no. 9 (Sept. 2018): 1495–1497.

- *With 2010-16 data from the Behavioral Risk Factor Surveillance System (BRFSS), the authors used a difference-in-differences model to examine the impact of Medicaid expansion on low-income (<100% FPL) childless adults ages 19-64. Mirroring their previous results, they found that compared to nonexpansion states, living in an expansion state was associated with improvements in access measures, preventive care services, and self-assessed health measures (including a reduction in days of poor mental health experienced in the past month).*

\*Carrie E. Fry and Benjamin D. Sommers. "Effect of Medicaid Expansion on Health Insurance Coverage and Access to Care Among Adults With Depression." *Psychiatric Services* 69 no. 11 (Nov. 2018): 1146-1152.

- *Using surveys conducted with low-income nonelderly adults in Texas, Arkansas, and Kentucky from 2013-16, the authors examined a study sample of respondents who screened positive for depression (N = 4,853). They found that living in a Medicaid expansion state (AR/KY) was associated with a significant decrease in the percentage of adults with depression who lacked insurance (23 percentage points), compared to living in a nonexpansion state (TX). Living in an expansion state was also associated with a relative increase in reported Medicaid coverage, and a relative decrease in reporting cost-related access issues for both care and medications.*

\*Kathleen C. Thomas et al. "Impact of ACA Health Reforms for People With Mental Health Conditions." *Psychiatric Services* 69 no. 2 (Feb. 2018): 231-234.

- *Using cross-sectional data from the Health Reform Monitoring Survey, the authors examined insurance coverage and access to care for nonelderly respondents ages 18-64 identified with mental health conditions. The survey covered both pre- (2013) and post-ACA (2016) implementation, and the authors stratified the results by state Medicaid expansion status. The authors found that compared to pre-ACA respondents (N = 1,550), post-ACA respondents (N = 1,439) with mental health conditions were less likely to be uninsured (5% vs 13%), more likely to have a usual source of care, and less likely to have unmet mental health care needs to cost concerns. These effects were seen across both expansion and nonexpansion states. Individuals living in nonexpansion states actually experienced larger drops in uninsured rates and general cost-related access problems (though expansion states had lower absolute uninsured rates).*

\*Tyler N.A. Winkelman, and Virginia W. Chang. "Medicaid Expansion, Mental Health, and Access to Care Among Childless Adults With and Without Chronic Conditions." *Journal of General Internal Medicine* 33, no. 3 (March 2018): 376-383.

- *The authors examined childless adults ages 18-64 with incomes <138% FPL using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-15. They used a difference-in-differences analysis to compare respondents living in Medicaid expansion states (N = 69,620) and nonexpansion states (N = 57,628). Expansion was not associated with significant differences for any of the health outcomes for adults without chronic conditions. For those with chronic conditions, expansion was associated with significant reductions of poor health or days limited by poor health, compared to nonexpansion states. Those trends appear to be driven by decreasing the number of poor mental health days (1.1 days). Medicaid expansion was also associated with a relative reduction in depression diagnoses for adults who had chronic conditions, and increased access to care for all adults regardless of chronic conditions.*

## **Dependent Coverage Expansion**

\*Laura J. Chavez et al. "Mental Health and Substance Use Care Among Young Adults Before and After Affordable Care Act (ACA) Implementation: A Rural and Urban Comparison." *The Journal of Rural Health* 34, no. 1 (Dec. 2018): 42-47.

- *Using the National Survey on Drug Use and Health (NSDUH) from 2008 to 2014, the authors examined urban-rural differences for mental health and substance use care for young adults (ages 18-25 years) before and after ACA implementation (including the 2010 dependent coverage expansion and 2014 Medicaid expansions). Among young adults with psychological distress or alcohol/drug abuse within the past year (N = 39,482), the adjusted insurance coverage rate increased from 72% to 81.9% during the time period (though a significant rural/urban difference remained). Mental health treatment rates for young adults with psychological distress modestly increased following enactment of the dependent coverage provision, but the gains did not sustain through 2014.*

\*Nicole Kozloff and Benjamin D. Sommers. "Insurance Coverage and Health Outcomes in Young Adults With Mental Illness Following the Affordable Care Act Dependent Coverage Expansion." *Journal of Clinical Psychiatry* 78, no. 7 (July 2017): e821-e827.

- *Using 2008-2013 data from the National Survey on Drug Use and Health (NSDUH), the authors conducted a difference-in-differences analysis to examine the effect of the ACA's dependent coverage expansion on young adults with mental illness – specifically insurance coverage, service utilization, and self-reported health. After the dependent expansion went into effect, reported private insurance coverage increased by 11.7 percentage points and the uninsured rate decreased by 8.9 percentage points for 19- to 25-year-olds with mental illness (N = 19,051), compared to a control group of 26- to 34-year-olds (N = 7,958). The study also reported modestly larger relative increases in outpatient mental health treatment among the 19-25 year-old group, as well as a small decrease in reporting overall health as fair or poor. Cost-related mental health access problems dropped more than 12% for young adults with moderate-to-severe mental health conditions relative to the older group, but no effect was detected for those with mild conditions.*

Chandler B. McClellan. "The Affordable Care Act's Dependent Care Coverage Expansion and Behavioral Health Care." *The Journal of Mental Health Policy and Economics*. 20, no. 3 (Sept. 2017): 111-130.

- The author used data from the National Survey on Drug Use and Health (NSDUH) and the Medical Expenditure Panel Survey (MEPS) from 2005-2014 to examine the impact of the ACA's extended dependent care provision. Using a difference-in-differences approach, they compared 23-25 year olds with 27-30 year olds across coverage, treatment utilization, and treatment payment source. The results indicated that the expansion provision was associated with increased behavioral health treatment, coverage, and private insurance payment for the younger group, relative to the older group.

\*Mark Olfson et al. "Effects of the Affordable Care Act on Private Insurance Coverage and Treatment of Behavioral Health Conditions in Young Adults." *American Journal of Public Health*. 108, no. 10 (Oct. 2018): 1352-1354.

- Using 2008-2016 data from the National Survey on Drug Use and Health (NSDUH), the authors conducted a difference-in-differences analysis to examine insurance coverage changes under the ACA for 19-25 year olds compared to 26-35 year olds, as well subgroup analyses to identify changes in coverage and treatment for young adults with serious psychological distress (SPD) or substance use conditions. The authors found significantly greater increases in overall insurance coverage for the 19-25 group compared to the 26-35 group, and those gains were focused on the earlier part of the period (2008-10 to 2011-13). This trend was similar for young adults with SPD and substance use conditions, with greater coverage increases for the younger group compared to the older group. There was no significant difference between the two age groups in terms of treatment rate increases, for either condition.

Brendan Saloner and Benjamin Lê Cook. "An ACA provision increased treatment for young adults with possible mental illnesses relative to comparison group." *Health Affairs* 33, no. 8 (Aug. 2014): 1425–34.

- Using 2008-12 data from the National Survey on Drug Use and Health (NSDUH), the authors examined the effect of the ACA dependent coverage provision on mental health treatment for young adults with possible mental health conditions. They found that after the provision took effect in 2010, mental health treatment for 18-25 year olds with possible mental health conditions (N = 13,897) increased by 5.3% relative to a control group of 26-35 year olds not impacted by the provision. Smaller effects were found among all young adults. Compared to the control group, 18-25 year olds receiving mental health treatment also reported a decrease in the percentage of uninsured visits and an increase in the percentage of visits covered by private insurance.

## EFFECTS ON OUTCOMES

### Medicaid Expansion

Katherine Baicker et al. "The Effect of Medicaid on Management of Depression: Evidence From the Oregon Health Insurance Experiment." *Milbank Quarterly* 96, no. 1 (March 2018): 29-56.

- The authors used interview data from the Oregon Medicaid lottery (pre-ACA) in 2008 (N = 12,229) to analyze the effects of expanded Medicaid coverage on mental health care, particularly depression. They found that Medicaid coverage was associated with a nearly 50% reduction in undiagnosed depression, and a decrease in untreated depression of more than 60%. They also reported a 9.2 percentage point decrease in respondents who screened positive for depression, including a 13.1 percentage point decrease among respondents with preexisting depression diagnoses. Though it preceded the ACA, the study offered insight into the potential treatment effect of the ensuing Medicaid expansions in 2014.

\*John Cawley, Aparna Soni, and Kosali Simon. "Third Year of Survey Data Shows Continuing Benefits of Medicaid Expansions for Low-Income Childless Adults in the U.S." *Journal of General Internal Medicine* 33, no. 9 (Sept. 2018): 1495–1497.

- With 2010-16 data from the Behavioral Risk Factor Surveillance System (BRFSS), the authors used a difference-in-differences model to examine the impact of Medicaid expansion on low-income (<100% FPL) childless adults ages 19-64. Mirroring their previous results, they found that compared to nonexpansion states, living in an expansion state was associated with improvements in access measures, preventive care services, and self-assessed health measures (including a reduction in days of poor mental health experienced in the past month).

Charles J. Courtemanche et al. "Early Effects of the Affordable Care Act on Health Care Access, Risky Health Behaviors, and Self-Assessed Health." *Southern Economic Journal* 84, no. 3 (Jan. 2018): 660-691.

- *Using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-15, the authors used a difference-in-difference-in-differences approach to examine the coverage, access, and self-reported health effects of the ACA on nonelderly adults (N = ~1,300,000). The authors did not find a statistically significant change in self-reported mental health in Medicaid expansion or nonexpansion states. A subsample analysis of lower-income adults did find a marginally significant improvement in the mental health outcome within expansion states.*

Charles J. Courtemanche et al. "Effects of the Affordable Care Act on Health Care Access and Self-Assessed Health After 3 Years." *Inquiry* 55 (Sept. 2018): 1-10.

- *Using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-16, the authors built on their previous publication by applying a difference-in-difference-in-differences approach with the additional year of post-ACA data to examine the coverage, access, and self-reported health effects of the law on nonelderly adults (N = ~1,575,000). The authors did find a statistically-significant decrease in the number of poor mental health days reported by adults in expansion states. They also found an impact on mental health in nonexpansion states that was nearly as large but not statistically significant, leading them to conclude that the result was mainly the result of private insurance expansions rather than Medicaid.*

Hyunjung Lee and Frank W. Porell. "The Effect of the Affordable Care Act Medicaid Expansion on Disparities in Access to Care and Health Status." *Medical Care Research and Review* (Oct. 2018): doi: 10.1177/1077558718808709.

- *Using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-16, the authors conducted a difference-in-differences analysis to examine the effects of Medicaid expansion on racial and ethnic disparities for nonelderly, childless, low-income adults. Compared to nonexpansion states, adults in expansion states reported a significant decrease in days per month with poor mental health – both black and white adults in expansion states reported significant improvements. Though the Hispanic-white disparity within the self-reported mental health measure decreased in relative terms, racial and ethnic disparities across this measure generally showed modest changes.*

Claire E. Margerison et al. "Impacts of Medicaid Expansion on Health Among Women of Reproductive Age." *American Journal of Preventive Medicine* 58, no. 1 (Jan. 2020): 1-11.

- *Using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-16, the authors used a difference-in-differences approach to estimate the effect of Medicaid expansion on preconception health for low-income women between the ages of 18-44. Outcomes included insurance coverage, care utilization, access issues, self-reported health, and certain behaviors. Comparing expansion to nonexpansion states, the authors did not find a statistically significant change in the rate of reporting mental health distress in the past month.*

Stacey McMorrow et al. "Medicaid Expansion Increased Coverage, Improved Affordability, And Reduced Psychological Distress For Low-Income Parents." *Health Affairs* 36, no. 5 (May 2017): 808-818.

- *With data from the 2010-15 National Health Interview Survey (NHIS), the authors used a difference-in-differences approach to examine the impact of Medicaid expansion on coverage, access/utilization, affordability, and health status for low-income (<138% FPL) parents ages 19-64. Relative to nonexpansion states, Medicaid expansion was associated with coverage increases, lower cost-related access problems, and a decrease in severe psychological stress.*

Ann-Marie Rosland et al. "Diagnosis and Care of Chronic Health Conditions Among Medicaid Expansion Enrollees: a Mixed-Methods Observational Study." *Journal of General Internal Medicine* 34, no. 11 (Nov. 2019): 2549-2558.

- *The authors used a mixed-methods study design with telephone surveys and semi-structured interviews to examine the impact of Michigan’s Medicaid expansion. They received survey data from 4,090 respondents who were among Michigan’s expansion enrollees, and interview data from 67 respondents. They found that enrollees with a self-reported chronic health condition (68% of the sample) were more likely than those without a condition to report improved mental health since enrollment in the program, with that improvement driven in part by increased access to mental health care.*

Kosali Simon, Aparna Soni, and John Cawley. “The Impact of Health Insurance on Preventive Care and Health Behaviors: Evidence from the First Two Years of the ACA Medicaid Expansions.” *Journal of Policy Analysis and Management* 36, no. 2 (Jan. 2017): 390-417.

- *Using 2010-15 data from the Behavioral Risk Factor Surveillance System (BRFSS) for low-income (<100% FPL) adults ages 19-64, the authors used a difference-in-differences model to look at states that did and did not expand Medicaid, and the potential effect on preventive care, risky health behaviors, and self-assessed health. Compared to nonexpansion states, living in a Medicaid expansion state was associated with small improvements in self-rated general health and increased access to care, with larger improvements reported by low-income childless adults. Among low-income childless adults, living in an expansion state was also associated with a relative reduction in the number of days of poor mental health in the past 30 days, as well as an increased usual source of care and reduced cost-related access problems.*

Benjamin D. Sommers et al. “Changes in Utilization and Health Among Low-Income Adults After Medicaid Expansion or Expanded Private Insurance.” *JAMA Internal Medicine* 176, no. 10 (Oct. 2016): 1501-1509.

- *Using 2013-15 survey data for 19-64 year old low-income (<138% FPL) adults in Kentucky, Arkansas, and Texas (N = 8,676), the authors employed a differences-in-differences analysis to look at the impact of Medicaid expansion on access, utilization, and self-reported health (KY/AR expansion; TX nonexpansion). They found that Medicaid expansion was associated with significant improvements in the share of adults reporting excellent health, but not statistically significant changes in depression rates (-6.9 percentage points, p-value=.08), relative to nonexpansion states. In a subgroup analysis of counties containing primary care shortage areas, there was a significant decrease in depression scores.*

Laura R. Wherry and Sarah Miller. “Early Coverage, Access, Utilization, and Health Effects Associated With the Affordable Care Act Medicaid Expansions: A Quasi-experimental Study.” *Annals of Internal Medicine* 164, no. 12 (June 2016): 795-803.

- *Using 2010-14 data from the National Health Interview Surveys (NHIS), the authors analyzed citizens ages 19-64 with incomes below 138% FPL to explore whether Medicaid expansion was associated with differences in coverage, access, utilization, and self-reported health. Expansion was associated with increased insurance coverage and Medicaid coverage compared to adults in nonexpansion states. Among health outcomes, there was no significant relative change for expansion states in measures related to health status or mental health. Both sets of states showed a decrease of around two percentage points in respondents reporting depression as a health problem.*

\*Tyler N.A. Winkelman, and Virginia W. Chang. “Medicaid Expansion, Mental Health, and Access to Care Among Childless Adults With and Without Chronic Conditions.” *Journal of General Internal Medicine* 33, no. 3 (March 2018): 376-383.

- *The authors examined childless adults ages 18-64 with incomes <138% FPL using Behavioral Risk Factor Surveillance System (BRFSS) data from 2011-15. They used a difference-in-differences analysis to compare respondents living in Medicaid expansion states (N = 69,620) and nonexpansion states (N = 57,628). Expansion was not associated with significant differences for any of the health outcomes for adults without chronic conditions. For those with chronic conditions, expansion was associated with significant reductions of poor health or days limited by poor health, compared to nonexpansion states. Those trends appear to be driven by decreasing the number of poor mental health days (1.1 days). Medicaid expansion was also associated with a relative reduction in depression diagnoses for adults who had chronic conditions, and increased access to care for all adults regardless of chronic conditions.*

## Dependent Coverage Expansion

Mir M. Ali, et al. “The ACA's Dependent Coverage Expansion and Out-of-Pocket Spending by Young Adults With Behavioral Health Conditions.” *Psychiatric Services* 67, no. 9 (Sept. 2016): 977-82.

- *Using data from the Medical Expenditure Panel Survey (MEPS) from 2008-09 and 2011-12, the authors estimated the effect of the ACA's dependent coverage expansion on out-of-pocket (OOP) spending among 19-25 year olds with behavioral health conditions (mental health or substance use). They found that adults ages 19-25 (N = 1,158) were significantly less likely than the comparison group of 27-29 year olds (N = 668) to have high levels of OOP spending after the implementation of the provision. This finding was particularly strong for racial and ethnic minorities.*

Silvia Barbaresco, Charles J. Courtemanche and Yanling Qi. “Impacts of the Affordable Care Act dependent coverage provision on health-related outcomes of young adults.” *Journal of Health Economics* 40 (March 2015): 54-68.

- *Using 2007-2013 data from the Behavioral Risk Factor Surveillance System (BRFSS), the authors used a differences-in-differences model to examine the impact of the ACA's dependent coverage provision on access, utilization, risky behaviors, and self-reported health outcomes. To do this, they compared 23-25 year olds (N = ~52,000) with a control group of 27-29 year olds (N = ~72,000). While the authors found a relative increase in young adults reporting excellent health, they did not find a change in the reporting of days per month with poor mental health.*

Marguerite E. Burns, and Barbara L. Wolfe. “The Effects of the Affordable Care Act Adult Dependent Coverage Expansion on Mental Health.” *Journal of Mental Health Policy and Economics*. 19, no. 1 (March 2016): 3-20.

- *With 2007-11 Medical Expenditure Panel Survey (MEPS) data, the authors used a difference-in-differences approach to analyze the effect of the ACA's 2010 dependent coverage expansion on multiple mental health outcome measurements for young adults ages 23-25 (N = 4,387), compared to ages 27-29 (N = 4,389). They generally found that both age groups reported modest improvements, with the exception being a 1.4-point relative improvement in the SF-12 mental component summary among the 23-25 year old group.*

Kao-Ping Chua and Benjamin D. Sommers. “Changes in Health and Medical Spending Among Young Adults Under Health Reform.” *JAMA* 311, no. 23 (June 2014): 2437-9.

- *Using 2002-11 data from the Medical Expenditure Panel Survey (MEPS), the authors conducted a differences-in-differences analysis to examine the effect of the dependent coverage provision on insurance coverage, health care utilization, spending, and self-reported mental and physical health. The study compared 19-25 year olds (N = 26,453) to a control group of 26-34 year olds (N = 34,052). The authors found that relative to the control group, the dependent coverage expansion was associated with a significant increase (4 percentage points) in the probability of reporting excellent mental health.*

\*Nicole Kozloff and Benjamin D. Sommers. “Insurance Coverage and Health Outcomes in Young Adults With Mental Illness Following the Affordable Care Act Dependent Coverage Expansion.” *Journal of Clinical Psychiatry* 78, no. 7 (July 2017): e821-e827.

- *Using 2008-2013 data from the National Survey on Drug Use and Health (NSDUH), the authors conducted a difference-in-differences analysis to examine the effect of the ACA's dependent coverage expansion on young adults with mental illness – specifically insurance coverage, service utilization, and self-reported health. After the dependent expansion went into effect, reported private insurance coverage increased by 11.7 percentage points and the uninsured rate decreased by 8.9 percentage points for 19- to 25-year-olds with mental illness (N = 19,051), compared to a control group of 26- to 34-year-olds (N = 7,958). The study also reported modestly larger relative increases in outpatient mental health treatment among the 19-25 year-old group, as well as a small decrease in reporting overall health as fair or poor. Cost-related mental health access problems dropped more than 12% for young adults with moderate-to-severe mental health conditions relative to the older group, but no effect was detected for those with mild conditions.*

Dan M. Shane, and George L. Wehby. "Higher Benefit for Greater Need: Understanding Changes in Mental Well-being of Young Adults Following the ACA Dependent Coverage Mandate." *Journal of Mental Health Policy and Economics*. 21, no. 4 (Dec. 2018): 171-180.

- *Using Medical Expenditure Panel Survey (MEPS) data from 2006-2013, the authors conducted a difference-in-differences analysis to compare mental health well-being outcomes (Mental Component Score) before and after enactment of the ACA's dependent coverage provision for young adults ages 23-25 (N = 6,548). The study compared this group to 27-29 year old individuals who were not impacted by the provision (N = 6,698). The authors found significant relative improvements in self-reported mental health for the 0.1 quantile that reported the worst mental health baseline scores, a 6.1% increase after the mandate. Improvement was smaller at the median baseline, and there was no detected effect for the higher baseline levels.*

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\* Indicates that study is referenced more than once.