

Promoting Readiness of Minors in SSI (PROMISE): Medicaid Expenditure Patterns and Impacts with a Focus on Youth with High Medical Needs

January 11, 2023

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Submitted to:

Social Security Administration
Office of Research, Demonstration, and
Employment Support
6401 Security Blvd., 4303 Annex Building
Baltimore, MD 21235
Project Officer: Jeffrey Hemmeter
Contract Number: SS00-13-60044

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Acknowledgements

The findings of this report are part of the Promoting Readiness of Minors in Supplemental Security Income (PROMISE) national evaluation. The authors would like to thank the many people who made the PROMISE evaluation possible and contributed to this report. We are especially grateful to the youth, parents, and guardians who enrolled in the evaluation and provided information about their experiences. The evaluation would not have been possible without the support of staff at the U.S. Department of Education and the six PROMISE programs. We also thank the PROMISE project officer at the Social Security Administration, Jeffrey Hemmeter, who contributed his sharp understanding and counsel to the evaluation and development of this report.

To the Mathematica team, thank you for the remarkable assistance. McCayla June Sica and Dean Miller provided excellent programming support. Karen CyBulski and Holly Matulewicz directed the youth and parent surveys that collected the data on which this report is based, with support from Forest Crigler, Ced Moise, Alexandra Saunders, and Brianna Sullivan. Eric Grau and Cathy Lu generated the survey nonresponse and sampling weights. Karen Katz and Imani Williams provided operations support. Allison Pinckney, Gwyneth Olson, and Jacqueline Phan created the graphics, Donovan Griffin provided editorial assistance, and Felita Buckner, Colleen Fitts, and Jill Miller provided production support. This report benefited greatly from careful review by Ankita Patnaik and Sheena McConnell.

We thank everyone for their gainful input and support. The opinions and conclusions expressed in this report are solely those of the authors and do not represent the opinions or policy of any state agency or the federal government.

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Acronyms and Abbreviations

ASPIRE	Achieving Success by Promoting Readiness for Education and Employment
BHO	Behavioral health organization
CaPROMISE	California PROMISE
CMS	Centers for Medicare & Medicaid Services
ED	U.S. Department of Education
FFS	Fee for service
GED	General Educational Development
IDD	Intellectual or developmental disability
MCO	Managed care organization
MD	Maryland
MLTSS	Managed long-term services and supports
N	Sample size
n.a.	Not applicable
NYS	New York State
OASDI	Old-Age, Survivors, and Disability Insurance
PAHP	Prepaid ambulatory health plan
PCCM	Primary care case management
PROMISE	Promoting Readiness of Minors in Supplemental Security Income
RA	Random assignment
SSA	Social Security Administration
SSI	Supplemental Security Income
WI	Wisconsin

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Executive Summary

The Promoting Readiness of Minors in Supplemental Security Income (PROMISE) demonstration sought to improve the outcomes of youth receiving Supplemental Security Income (SSI) and their families related to employment; education; income and earnings; and participation in SSI and other public assistance programs, including Medicaid. This report focuses on the impact of PROMISE on youth's Medicaid expenditure patterns for specific services and subgroups and PROMISE's impacts for youth with high medical needs.

A. Study context and research questions

Medicaid is an important source of support for youth with disabilities and can help people with disabilities find and keep jobs by covering certain health and long-term care services that facilitate employment. PROMISE services had the potential to affect the Medicaid expenditures of youth through several ways. On the one hand, Medicaid expenditure might increase if PROMISE services connected youth and families to Medicaid waiver programs that they did not know about. Also, even though most SSI recipients automatically receive Medicaid benefits, PROMISE staff may have helped youth respond to documentation requirements to retain their Medicaid coverage. On the other hand, Medicaid expenditures might decrease if the employment-promoting services offered to youth and parents improved families' earnings and the likelihood of having employer-sponsored health insurance. Even if families retained Medicaid along with private insurance, Medicaid expenditures would likely decline because Medicaid is generally the payor of last resort. Medicaid enrollment and expenditures would also decline if PROMISE services improved the employment of youth or parents such that their incomes were too high to qualify for Medicaid, either through SSI eligibility or otherwise.

Because health outcomes and employment are interrelated, youth's health care needs might have moderated PROMISE's impacts. Youth with disabilities are historically less likely to seek or maintain employment because of their health needs. Moreover, the medical needs of youth might affect parental employment because caregiving for children with disabilities can interfere with paid employment.

To better understand how PROMISE services affected employment and benefit receipt, we examined three research questions:

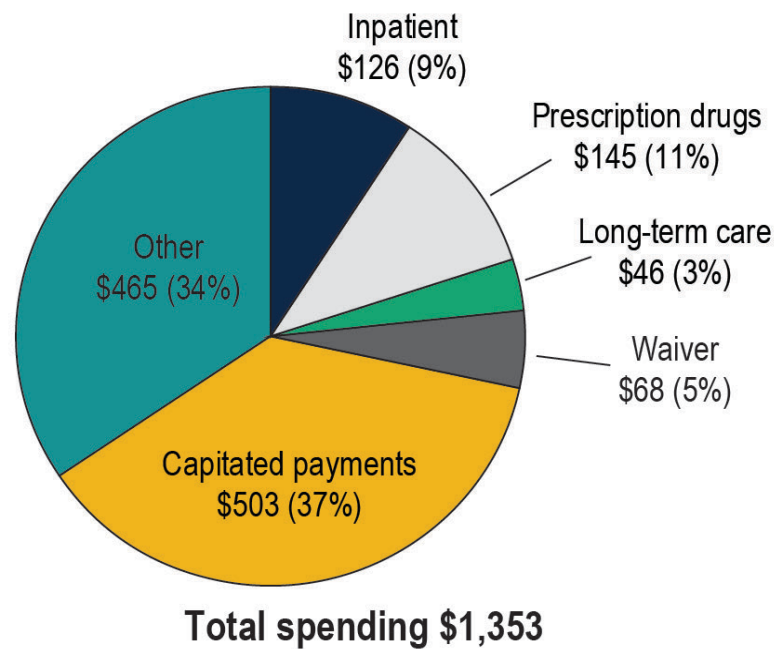
1. What were the Medicaid spending patterns of PROMISE youth?
2. What were PROMISE's impacts on the major types of Medicaid expenditures (that is, inpatient services, prescription drugs, long-term care, waiver services, capitated payments, and "other" services)? How did impacts on health care expenditures vary for youth with different primary impairments?
3. Do PROMISE programs' impacts on youth and parental outcomes (that is, education, employment, earnings, SSA payments, health insurance, and youth expectations and self-determination) differ for youth with high medical needs, as measured by youth's Medicaid expenditures in the year before random assignment, relative to other youth?

B. Findings

Average annual Medicaid expenditures for PROMISE youth in the year before they enrolled in the study (\$16,236) were lower than those for all youth under age 18 with disabilities participating in Medicaid (\$19,339), potentially because the program attracted relatively healthy youth who were interested in

receiving employment-related services. Most PROMISE youth (92 percent) had at least some services covered under managed care plans, and capitated payments represented 37 percent of total expenditures (Figure ES.1). In terms of specific services, Medicaid expenditures were highest for prescription drugs (11 percent of total Medicaid spending) followed by inpatient services (9 percent of total spending), waiver services (5 percent), and long-term care (3 percent). Spending for other services comprised 34 percent of total spending; this category includes payments for a variety of commonly used services, including outpatient services, physician and clinic services, laboratory tests, and diagnostic imaging.

Figure ES.1. Average Medicaid spending per month per PROMISE youth during the year before RA



Source: CMS administrative records and PROMISE RA system.

Note: Medicaid expenditures are in 2020 dollars. "Other services" include physician services, outpatient hospital services, laboratory tests and imaging, clinic services, home health, and hospice care. See Appendix Table A.3 for details.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Consistent with the findings of the five-year impact evaluation, PROMISE's impacts were limited for particular subgroups and specific types of Medicaid expenditures. The most notable finding related to Medicaid expenditures is that PROMISE reduced prescription drug expenditures for youth with intellectual or developmental disabilities by about \$21 per person per month (or 28 percent) over five years.

PROMISE had different impacts on employment for youth with high medical needs (defined as having Medicaid expenditures greater than the 75th percentile of youth in their respective program during the year before PROMISE enrollment) relative to other youth. The pattern across programs, however, was inconsistent. Arkansas PROMISE and WI PROMISE improved employment-related outcomes more for youth with high medical needs than for other youth, whereas MD PROMISE and CaPROMISE improved employment-related outcomes less for youth high medical needs.

On average, PROMISE did not affect the employment rate of parents of youth with high medical needs but increased the employment rate among parents of other youth by about two percentage points. MD PROMISE had larger positive impacts on total payments from SSA (Old-Age, Survivors, and Disability Insurance [OASDI] and SSI) to parents of youth with high medical needs than on the payments to parents of other youth; the other programs did not have differential impacts on this measure.

C. Implications for policy, practice, and future research

PROMISE's limited impacts on Medicaid expenditures overall suggests that it could be difficult for similar programs to appreciably affect public health spending in the short run. Yet PROMISE had notable impacts on one subgroup: for youth with intellectual or developmental disabilities, PROMISE increased parental private insurance coverage and reduced youth's Medicaid expenditures on prescription drugs—perhaps because private insurance paid for drugs that otherwise would have been covered by Medicaid. This type of measurement—how increases in employment affect other public programs, such as Medicaid—is critical to fully capture programs' costs and benefits.

Developing a fuller understanding of the relationship between employment and health expenditures for youth with disabilities and their parents adds to the literature and informs policies looking to improve youth outcomes. The findings for Arkansas PROMISE and WI PROMISE suggest that broad-based efforts to engage all youth in employment-promoting services can generate impacts even for those with high medical needs. But the findings from CaPROMISE and MD PROMISE suggest that the program was more effective for youth *without* high medical needs. MD PROMISE staff were trained on how to refer youth to Maryland's Department of Rehabilitation Services Pre-Employment Transition Services program, which began focusing on youth with less severe disabilities in 2016 (Kauff et al. 2018). It is possible that those referrals contributed to MD PROMISE's impacts on youth without high medical needs. The lack of impacts among youth with high medical needs in CaPROMISE might be due to some CaPROMISE staff believing that some youth had disabilities that were too severe to allow them to work (Matulewicz et al. 2018). Consistent with this, CaPROMISE had smaller impacts on the use of benefits counseling and job-related training among youth with high medical needs than among other youth. When designing future programs, researchers should try to better understand whether programs have different effects on youth with different medical needs.

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I. Introduction

For teenage youth with disabilities, employment and health outcomes can be interrelated. For example, youth with disabilities may have health services needs that prevent them from working or maintaining consistent employment. People with unmet health care and rehabilitative needs are less likely to work (Henry et al. 2011), and teenagers with relatively higher health care costs are less likely to exit the child Supplemental Security Income (SSI) program at age 18 (Layton et al. 2019). Youth's health care needs can also affect their parents' employment and income, as parents are less likely to work when they need to provide substantial care for their children (Rupp and Ressler 2009; Foster et al. 2021).

Medicaid is an important source of support for youth with disabilities, comprising 15 percent of all annual federal spending for children with disabilities (Shenk and Livermore 2019). Importantly, Medicaid can assist people with disabilities in obtaining and maintaining employment by covering health and long-term care services that facilitate employment (Musumeci and Orgera 2021). However, the relationship between Medicaid and employment is not straightforward. While Medicaid is generally available to all SSI recipients, some recipients might fear that they will lose their Medicaid coverage if they return to work (Sevak et al. 2017).

The relationship between use of Medicaid services and youth's education and employment outcomes as they transition to adulthood is unknown, and the Medicaid service-use patterns of children with disabilities are not well documented (Lindren et al. 2021; Krahn et al. 2010). To best design and target programs for youth with disabilities, it is important to understand how effective these programs are for youth with a variety of health care needs. On the one hand, youth with high health care needs may be less likely to participate in services and activities designed to improve their transition outcomes because of the severity of their health conditions and the time and effort required to address their health care needs. On the other hand, youth with high health care needs might benefit more from interventions designed to improve transition outcomes than other youth with disabilities if these youth are more often left out of transition services under the status quo and generally experience poorer outcomes, thereby leaving more room for an intervention to improve their outcomes.

The Promoting Readiness of Minors in SSI (PROMISE) demonstration sought to improve the outcomes of youth receiving SSI and their families related to employment, education, earnings, income, and participation in Social Security, SSI, and other public assistance programs (Emenheiser et al. 2021). PROMISE was a joint initiative of the U.S. Department of Education, the U.S. Social Security Administration (SSA), the U.S. Department of Health and Human Services, and the U.S. Department of Labor to support youth with disabilities receiving SSI in the transition to adulthood. Under cooperative agreements with U.S. Department of Education, six governmental entities across 11 states implemented demonstration programs for SSI recipients who were ages 14 to 16 at enrollment and their families. The programs operated from 2014 to 2019 in Arkansas (Arkansas PROMISE), California (CaPROMISE), Maryland (MD PROMISE), New York State (NYS PROMISE), Wisconsin (WI PROMISE), and a consortium of six states known collectively as Achieving Success by Promoting Readiness for Education and Employment (ASPIRE). Under contract with SSA, Mathematica is conducting the five-year evaluation of the PROMISE programs.

The federal partners intended for the PROMISE programs to address service access challenges and poor adult outcomes experienced by youth receiving SSI (Emenheiser et al. 2021). Based on the literature, input from the public, and consultation with subject matter experts, the federal partners postulated that two key features of the PROMISE programs would make them more effective: (1) strong partnerships

among the federal, state, and local agencies that offer services to youth receiving SSI and their families and (2) an individual- and family-centered approach to case management and service delivery. Each independent program implemented five core components: (1) formal partnerships among state agencies, (2) case management, (3) benefits counseling and financial education, (4) career and work-based learning experiences, and (5) parent training and information. Each of the PROMISE programs established the required partnerships and implemented the core service components through approaches that reflected local experiences with youth receiving SSI, its understanding of best practices for serving youth with disabilities, and its familiarity with youth transition service environments.

PROMISE services had the potential to affect the Medicaid expenditures of youth through several means. On the one hand, the case management and benefits counseling services offered by the programs might have connected youth and families to Medicaid 1915c waiver programs (which fund vocational services, rehabilitation services, and home and community-based services instead of institutional care to children and adults with disabilities) of which they were previously unaware, thereby increasing Medicaid expenditures. Case management and benefits counseling services might also have helped PROMISE youth respond to documentation requirements to retain Medicaid coverage if they lost SSI. On the other hand, the employment-promoting services offered to youth and parents might have improved families' earnings and the likelihood of having employer-sponsored health insurance. This, in turn, might have reduced Medicaid expenditures even if families remained enrolled in Medicaid because Medicaid is generally the payor of last resort. Medicaid enrollment and expenditures would also decline if PROMISE services improved the earnings of youth or parents such that their incomes were too high to qualify for Medicaid through SSI eligibility or otherwise.

Under contract with SSA, Mathematica conducted the five-year evaluation of the PROMISE programs. The five-year evaluation found that some programs had impacts on youth's education, employment, and income five years after random assignment (RA) (Patnaik et al. 2022a). In this report, we examine Medicaid spending patterns in more detail to better understand the impact of PROMISE on Medicaid and the relationship between youth's health care needs and PROMISE's impacts. We begin by reporting the Medicaid spending patterns of PROMISE enrollees. We then examine PROMISE's impacts on the types of Medicaid services used by youth, overall and by type of impairment. Finally, we examine how the impacts on outcomes (education, employment, earnings, total payments from SSA, health insurance, youth expectations, and self-determination) for both youth and parents differed by the level of youth's health care needs at enrollment (as measured by their Medicaid expenditures) to determine if high health care needs moderated the programs' impacts. We address the following research questions:

1. What were the Medicaid expenditure patterns of PROMISE youth?
2. What were PROMISE's impacts on specific types of Medicaid expenditures (inpatient services, prescription drugs, long-term care, waiver, capitated payments, and other)? To what extent did impacts on Medicaid expenditures vary for youth with different types of impairments?
3. To what extent do the characteristics of PROMISE youth with high medical needs (proxied by the youth's Medicaid expenditures in the year before RA) differ from youth without high medical needs? Do the programs' impacts differ for youth with high medical needs, relative to other youth?

II. Study Context, Data, and Methods

We conducted several types of analyses to examine the research questions on the intersections between youth’s health and use of Medicaid services and PROMISE’s impacts. We describe the study context, data, and methods used in these analyses below.

A. Study context

PROMISE used a rigorous study design that enrolled more than 12,000 youth and families and randomly assigned them to a treatment group with access to PROMISE services or a control group with access to existing services in the community but not PROMISE services (Mamun et al. 2019). The evaluation measured a wide range of outcomes related to education; employment; self-determination; expectations about the youth’s future; income; health expenditures; and participation in SSA and other public assistance programs, including Medicaid and Medicare.

In terms of youth’s health care-related outcomes, the five-year impact evaluation examined PROMISE’s effects on Medicaid and Medicare enrollment, overall health insurance coverage, and total Medicaid and Medicare expenditures. Only one program, NYS PROMISE, significantly reduced youth’s average monthly Medicaid expenditures during the five years after RA. Three programs (Arkansas PROMISE, ASPIRE, and WI PROMISE) increased youth enrollment in Medicaid during the first year after RA, potentially because PROMISE case management and benefits counseling services helped families overcome administrative hurdles to maintaining continuous enrollment in this program. By the fifth year after RA, there were no differences between the treatment and control groups for any program in the share of youth who were enrolled in Medicaid, and the only impact on overall insurance coverage was negative (in Arkansas PROMISE). Although the evaluation found limited health insurance-related impacts, it is possible that PROMISE affected the use of specific types of services—for example, by connecting youth with Medicaid long-term care 1915c waiver services that can provide medical and non-medical home or community-based services. The 18-month impact evaluation found that two programs (ASPIRE and MD PROMISE) increased the share of youth enrolled in Medicaid 1915c waiver programs (Mamun et al. 2019). Because families must enroll youth in waiver services separately from general Medicaid, it is likely that PROMISE case management and benefits counseling services contributed to the increased waiver use. Such impacts could be masked in the impact evaluation’s analyses of aggregate Medicaid expenditures.

The five-year impact evaluation also assessed whether impacts differed for youth with different types of impairments. It found that for some programs, PROMISE had larger positive impacts on the employment outcomes of youth with intellectual or developmental disabilities (IDD) or their parents (Patnaik et al. 2022a). This suggests that PROMISE’s impacts on primary outcomes could also vary by youth’s health care needs. For example, the coordination of services provided by PROMISE may have been more valuable to youth with complex medical conditions that require various kinds of support from multiple providers and across different systems of care. Alternatively, having high health care needs might have prevented some youth from participating in employment services. Parental outcomes might also be affected by the youth’s health status. For example, caregiving requirements for youth with complex medical needs might reduce the time that parents can devote to paid employment.

B. Data

We used five data sources: (1) Medicaid claims and enrollment data, (2) surveys of youth and parents conducted 18 months and five years after RA, (3) SSA administrative records on benefits receipt, (4) the PROMISE RA system, and (5) the ASPIRE baseline surveys.

We obtained data on Medicaid and Medicare enrollment and expenditures from the Centers for Medicare & Medicaid Services (CMS). The Medicaid data were for the period from April 2013 through December 2020, capturing the year before RA and up to five years after RA for enrollees. We analyzed data for both fee-for-service claims (which capture the Medicaid expenditure for each payment the beneficiary received) and claims for capitated managed care payments (which capture the payments made for beneficiaries in managed care).¹ We accessed and analyzed these data through CMS's Virtual Research Data Center.

We also used data collected from surveys of youth and their parents (using separate instruments) conducted 18 months and five years after RA. The surveys collected information on youth's education and youth's and parents' employment and economic outcomes. SSA administrative data provided information on SSI and OASDI payments and youth's demographic characteristics (such as age, sex, and primary impairment). The PROMISE RA system captured some additional data, such as the enrolling parent's relationship to the youth. Patnaik et al. (2022b) provides more detailed information about these data sources and the approaches we used to address missing data.

C. Sample

The full sample for the study comprises the 12,584 youth across the six programs who were randomly assigned to the treatment or control group. To avoid selection bias, our analysis of Medicaid expenditures follows this full sample of youth, regardless of their enrollment in Medicaid at different points in time. We include all youth regardless of whether they enrolled in Medicaid fee-for-service or capitated managed care. Similarly, our analyses of Social Security and SSI benefits includes the full sample of youth and parents regardless of their eligibility for benefits.

The analysis samples for the survey-based outcome measures include all respondents to the five-year youth or parent survey, depending on the measure. For analyses based on the youth survey, the main analytic sample includes 9,377 youth across the six programs who completed the PROMISE five-year youth survey, which represents about 83 percent of the PROMISE enrollees who were eligible for the survey. For analyses based on the parent survey, the main analytic sample includes the 9,202 parents across the six programs who completed the PROMISE five-year survey. We used weights to account for survey nonresponse and, in the case of CaPROMISE, survey sampling.

D. Measures

1. Measures used in the analyses of Medicaid expenditures

To address the first two research questions, we developed several measures to capture Medicaid expenditures for different types of services in each of the five years after RA. We also created subgroups of youth defined by their primary impairment. Most of these measures are constructed in the same way

¹ The Medicaid claims data does not record expenditures for particular services that are covered by a managed care plan; instead, the managed care payment is recorded.

for both of our research questions, but we highlight two places where we needed to define the measure differently across research questions.

Medicaid outcome measures. Medicaid outcome measures include the share of youth enrolled in Medicaid and using particular types of services, average total youth Medicaid expenditures per person per month, and average expenditures by type of service per person per month. For each of the monetary measures, we converted expenditures to 2020 dollars using the Consumer Price Index for Urban Wage Earners and Clerical Workers.

We classified expenditures into six major categories: (1) inpatient services, (2) prescription medications, (3) long-term care services, (4) capitated payments, (5) waiver services, and (6) other services. Other services include physician, outpatient hospital, laboratory and imaging, clinic, home health, and hospice services. In most cases, we calculated average monthly expenditures for the year before RA and each of the five years after RA by summing the total dollar amounts in claims that year and then dividing by 12. However, due to the time lags in the availability of Medicaid data, we did not have data for 2021, which represents the fifth year after RA for youth who enrolled in PROMISE in 2016. For those youth, we averaged monthly expenditures during the fifth year over the months for which we have data. For example, if we observed the youth for eight months of the fifth year after RA, we divided their total expenditures in the fifth year by eight (rather than 12).

We also created measures for whether the youth had any spending in each of the service categories. These measures help us understand, for example, how many youth ever had a hospitalization (because those with “inpatient services” must have had at least one hospitalization). We only report these measures through the fourth year after RA. We do this because the share using services in the fifth year after RA is artificially low due to the data truncation issue, and we cannot estimate service usage in the same way we estimated average monthly expenditures.

Primary impairment subgroups. To answer our first research question that analyzes youth’s characteristics, we examined five impairment categories: (1) IDD; (2) other mental impairment; (3) speech, hearing, or visual impairment; (4) physical impairment; (5) other or unknown disability. To increase the sample size of the subgroups used in our Medicaid expenditure impact analysis (our second research question), we collapsed the last three categories together to form three groups: IDD, other mental impairments, and other impairments.

2. Measures used in the analyses of impacts by subgroups defined by medical need at RA

To address the third research question, we classified youth into two subgroups based on their medical needs (as proxied by Medicaid expenditures) during the year before RA and then estimated PROMISE’s impact on outcomes for each of the subgroups.

Medical need subgroups. We defined a variable that is a proxy for youth’s medical needs based on the youth’s Medicaid expenditures in the year before RA.² We classified youth with expenditures at or above the program-specific 75th percentile of Medicaid expenditures in the year before RA as having “high medical needs.” For simplicity, we refer to all other youth with expenditures below the program-specific 75th percentile as other youth. Using the 75th percentile as the threshold for high medical needs ensures that this subgroup will include 25 percent of the sample, which we believe is a large enough sample to

² We did not include youth’s Medicare expenditures in the year before RA because minors are not eligible for Medicare; all PROMISE youth were ages 14 to 16 at RA. Even in the later years of the evaluation when the youth were age 18 or older, fewer than 5 percent were ever enrolled in Medicare.

provide adequate statistical power to test for differences between the two groups. We also conducted a sensitivity test using the 65th percentile as the threshold for high medical needs. We provide a discussion of the strengths and weaknesses of this measure in Section V.A.

Youth and parent five-year outcomes. For the medical need subgroups, we estimated PROMISE impacts on a subset of the youth and parent outcomes that were examined in the five-year impact analysis (Table II.1). We examined only outcomes that were designated as primary for the five-year impact evaluation because they were central to the programs’ goals and target population and were used as the basis for evaluating the PROMISE programs’ effectiveness. We did not analyze employment and earnings outcomes that are based on SSA administrative data because of access restrictions that prevented analyses of these data through the CMS Virtual Research Data Center. The survey outcomes we analyzed are typically measured over the year before the five-year survey (referred to as the past year). Social Security and SSI payment measures were drawn from SSA administrative data and reflect receipt of Social Security and SSI payments and amounts in the fifth year after RA as well as cumulatively over the five years after RA. Although the focus of this report is on Medicaid expenditures, for this specific analysis we estimated subgroup impacts on average Medicare and Medicaid expenditures combined. We included Medicare expenditures to maintain consistency with the outcomes analyzed in the five-year impact evaluation.

Table II.1. Five-year outcomes analyzed by medical need subgroup

Outcome	Description
Youth outcomes	
Enrolled in an educational or training program	Youth was enrolled in any type of school or training program at the time of the five-year survey. Based on youth survey data.
Has a GED, high school diploma, or certificate of completion	Youth had a GED, high school diploma, or high school certificate of completion at the time of the five-year survey. Based on youth survey data.
Employed in a paid job in past year	Youth was ever employed in a paid job during the 12 months before the five-year survey. Based on youth survey data.
Earnings in past year	Total earnings during the year before the five-year survey interview. Based on youth survey data.
Self-determination score	Scores on subdomains of self-determination: autonomy score, psychological empowerment score, self-realization score, agentic action score. Based on youth survey data.
Expects to be financially independent at age 25	Youth expects to be employed in a paid job at age 25. Based on youth survey data.
Covered by any health insurance	Youth had health insurance at the five-year survey interview. Based on youth survey data.
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA	Monthly Medicaid and Medicare expenditures during the five years after RA averaged over the full sample (even those who were not enrolled). Based on CMS administrative data.
Received Social Security or SSI payments in Year 5 after RA	Youth received any Social Security or SSI payments during the fifth year after RA. Based on SSA administrative data.
Social Security and SSI payments in Year 5 after RA	Youth’s total Social Security and SSI payments during the fifth year after RA. Based on SSA administrative data.
Social Security and SSI payments during Years 1–5 after RA	Youth’s total Social Security and SSI payments during the five years after RA. Based on SSA administrative data.

Outcome	Description
Income from earnings and Social Security and SSI payments in the past year	Sum of the youth’s earnings and Social Security and SSI payments in the year before the five-year survey interview. Based on youth survey data and SSA administrative data.
Parent outcomes	
Either parent worked for pay in past year	Parents, or their spouse or partner, were employed for pay at some time during the year before the five-year survey interview. Based on parent survey data.
Earnings in the past year	Total earnings of parents and their spouse or partner during the year before the five-year survey interview. Based on parent survey data.
Either parent received Social Security or SSI payments in Year 5 after RA	Either parent received any type of Social Security or SSI payment during the fifth year after RA. Based on SSA administrative data.
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA	Monthly Medicaid and Medicare expenditures during the five years after RA averaged over the full sample (even those who were not enrolled). Based on CMS administrative data.
Social Security and SSI payments in Year 5 after RA	Parents’ combined total Social Security and SSI payments during the fifth year after RA. Based on SSA administrative data.
Social Security and SSI payments during Years 1–5 after RA	Parents’ combined total Social Security and SSI payments during the five years after RA. Based on SSA administrative data.
Income from earnings and Social Security and SSI payments in the past year	The sum of the monthly Social Security and SSI payments and earnings of parents and their spouse or partner during the year before the five-year survey interview. Based on parent survey data and SSA administrative data.
Either parent is covered by any health insurance	Either parent had health insurance at the five-year survey interview. Based on parent survey data.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; RA = random assignment; SSI = Supplemental Security Income.

E. Methods

In this section, we describe the methods to answer each of our research questions. Because the six programs varied in their implementation of the required services and their five-year impacts on youth outcomes, we conducted each analysis separately for each program. To increase sample size, we also report analyses for the sample that is pooled across all the programs.

1. Assessing the Medicaid expenditure patterns for PROMISE youth

To facilitate comparisons to statistics reported in the literature, we estimated the likelihood of having any expenditures and average Medicaid expenditures by type of service for PROMISE youth in the treatment and control groups. We did not regression-adjust the expenditures as we did when estimating the impacts on expenditures, as benchmarks that use national data are typically drawn straight from the claims data and are not adjusted. We developed statistics for the year before RA and the four (percentages) or five (average expenditure amounts) years after RA. We present statistics for the pooled sample and each program separately.

2. Estimating programs’ impacts on youth’s use of specific types of Medicaid services

To understand whether PROMISE affected youth’s Medicaid expenditures for particular services, we estimated regression models of total Medicaid expenditures and expenditures by type of service (inpatient, prescription drug, long-term care, and other). We used ordinary least-squares regression

models, calculated heteroskedasticity-robust standard errors, and used two-sided t -tests to assess whether the estimated program impact was statistically significantly different from zero. When examining survey-based outcomes, we specified probability weights to account for nonresponse and survey sampling.

Our regression model used the following form:

$$Y_i = \alpha + \beta Treatment_i + \lambda X_i + \epsilon_i,$$

where i denotes the individual observation, $Treatment_i$ denotes the indicator for assignment to the treatment group, X_i denotes the vector of covariates, and ϵ_i denotes the error term. The coefficient β denotes the parameter of primary interest because it is the estimate of the program impact. We estimated this model using ordinary least-squares regression methods.

Each regression model included a core set of control variables for all programs including the youth's sex, race, age, and type of impairment as well as baseline characteristics that we found to differ significantly between the treatment and control groups within each program. Core control variables used in all regressions include age, sex, race and ethnicity, youth primary impairment, duration of SSA payments at RA, youth total disability payment in the 12 months before the month of RA, whether youth household has multiple SSI-eligible children, parent SSA payment status at RA, whether youth had any earnings in year prior to RA (in models of youth outcomes drawn from SSA data), parents' earnings in the year before RA (in models of parent outcomes drawn from SSA data), and average Medicaid and Medicare expenditures for the year before RA (for outcomes drawn from Medicaid and Medicare outcomes). See Appendix Table B.1 in Patnaik et al. (2022b) for more details and for program-specific control variables included in the regressions.³ In addition, we included the pre-RA measure of the outcome as a control variable. For example, we included Medicaid expenditures for inpatient expenditures in the year before RA in models estimating PROMISE's impacts on inpatient expenditures in years after RA. We estimated regressions for each program separately and estimated a regression that used pooled data to estimate the average impacts on outcomes across the six programs. The pooled average weighted each program equally.

To understand whether the PROMISE programs' impacts on Medicaid expenditures differed by youth's impairments, we modified the expenditure regression models to include indicators for subgroups defined by primary impairment as recorded in SSA administrative data (IDD, other mental impairment, and non-mental impairment). We also included variables reflecting interactions between the subgroup indicators and an indicator for treatment status. Then, we conducted a joint Wald test to determine whether the differences in the impact estimates between the subgroups were statistically significant at the $p < 0.10$ level, thereby indicating that impacts for youth with different impairments differed significantly from each other. Although we also estimated and report whether results were statistically significant within subgroups, we generally focus the interpretation of the results on the instances where the interaction term was statistically significant or where there was a pattern across multiple programs. This approach reduces the likelihood of false inferences (that is, erroneously inferring that a program had an impact that was

³ If we found statistically significant differences in baseline characteristics within a particular program, we also used that characteristic as a covariate in all regressions for that program. Additionally, when analyzing ASPIRE's impacts, we included covariates derived from the ASPIRE baseline survey and the intake form administered about race and ethnicity by the program staff. Finally, for ASPIRE and CaPROMISE, all regressions included region fixed effects to account for the fact that we used stratified RA at these sites.

actually due to chance), which can arise when conducting a large number of significance tests (Schochet 2008).

3. Estimating impacts for the medical need subgroups

To understand whether a youth's medical needs at enrollment moderated PROMISE's effects on outcomes five years after RA, we estimated regression models that included indicators for subgroups defined by youth's medical needs at RA (high medical needs versus other). These regression models mirror those estimated for the main five-year impact evaluation (described in Patnaik et al. 2022a, 2022b). Like the expenditure regression models described above, they included the core and program-specific control variables along with a variable interacting treatment status and the high medical needs subgroup indicator. We estimated these models separately for each program as well as for the sample that is pooled across programs. We used the same methods described above for the impairment subgroups to test for differences in impacts among the medical need subgroups. When examining survey-based outcomes, we specified probability weights to account for nonresponse and survey sampling.

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III. Youth’s Medicaid Expenditure Patterns

To provide context for the analyses of PROMISE’s impacts on Medicaid expenditures, we start by documenting the Medicaid services in each PROMISE state and the Medicaid service use and spending patterns of all PROMISE youth in the year before RA. We then examine Medicaid expenditure patterns during the years after RA for the control group (representing the status quo).

A. Medicaid services in PROMISE states

States vary in what Medicaid benefits they cover. They must provide a set of “mandatory” benefits to all Medicaid beneficiaries, including physician services, inpatient and outpatient hospital services, laboratory tests and imaging, and home health care. They may provide additional “optional” benefits either to all beneficiaries or to subsets of beneficiaries through waivers. Each of the 11 states participating in PROMISE had at least one Medicaid waiver during the PROMISE service delivery period, but they differed in the number and types of waivers available (Table III.1).

Additionally, states vary in the type of health care plans that are available for Medicaid youth. While many beneficiaries receive at least some care under fee-for-service plans (where the provider is reimbursed for each service provided), most receive at least some managed care. Under comprehensive managed care plans, a health care plan receives a capitation payment for each beneficiary that covers all acute, primary, and specialty medical services and may also cover long-term care services; under these plans, behavioral health is often carved out and reimbursed on a fee-for-service basis. Another option is a primary care case management plan, where providers receive a small case management fee to manage the care of Medicaid beneficiaries, but beneficiaries also receive fee-for-service care. Finally, beneficiaries may receive some services under prepaid ambulatory health plans, where particular services are covered on a capitated basis. Among the states participating in PROMISE, enrollment in comprehensive managed care ranged from 0 percent of Medicaid beneficiaries in Montana and South Dakota to 85 percent in Arizona and Maryland (Table III.2).

Table III.1. Medicaid waivers in PROMISE states during the PROMISE service delivery period^a

State	Number of waivers (total and by type)	Number of waivers for transition-age youth ^b	Examples of service and service delivery changes implemented in transition-age youth waivers
Arkansas	11 1115 (3) 1915b (3) 1915c (5)	6 1115 (2) 1915b (3) 1915c (1)	<ul style="list-style-type: none"> Services: Assistive technology, home accessibility adaptations, respite care, specialized equipment or supplies, and supported employment for people with autism, intellectual disabilities, or developmental disabilities Service delivery: Care coordination and medical services delivered by managed care organizations for people with high service needs because of mental illness, substance abuse, or intellectual and developmental disability and dental services delivered by prepaid health plans
ASPIRE			
Arizona	1 1115 (1)	1 1115 (1)	<ul style="list-style-type: none"> Service delivery: Medical services delivered by managed care organizations
Colorado	12 1115 (1) 1915c (11)	6 1115 (1) 1915c (5)	<ul style="list-style-type: none"> Services: Assistive technology, day services, home accessibility adaptations, respite care, and specialized equipment and

State	Number of waivers (total and by type)	Number of waivers for transition-age youth ^b	Examples of service and service delivery changes implemented in transition-age youth waivers
			<p>supplies for people with developmental disabilities or brain injuries or who are medically fragile</p> <ul style="list-style-type: none"> • Service delivery: State-subsidized premium assistance for people eligible for the Children's Health Insurance Program
Montana	13 1115 (3) 1915b (4) 1915c (6)	7 1915b (3) 1915c (4)	<ul style="list-style-type: none"> • Services: Case management, day services, family training, home and vehicle accessibility adaptations, nursing, prevocational services, respite care, specialized equipment and supplies, supported employment, and transportation for people with disabilities • Service delivery: Medical services delivered by managed care organizations and a waiver of the freedom of choice of providers for certain services
North Dakota	8 1915b (1) 1915c (7)	4 1915c (4)	<ul style="list-style-type: none"> • Services: Assistive technology, case management, employment supports, home accessibility adaptations, nursing, prevocational training, respite care, specialized equipment or supplies, and transportation for people with autism, intellectual disabilities, or developmental disabilities or who are medically fragile
South Dakota	5 1115 (1) 1915c (4)	2 1915c (2)	<ul style="list-style-type: none"> • Services: Career exploration, case management, day services, home and vehicle accessibility adaptations, nursing, respite care, specialized equipment or supplies, and supported employment for people with intellectual or developmental disabilities
Utah	12 1115 (1) 1915b (3) 1915c (8)	7 1115 (1) 1915b (3) 1915c (3)	<ul style="list-style-type: none"> • Services: Assistive technology, day services, family training, home and vehicle accessibility adaptations, prevocational services, nursing, respite care, specialized equipment and supplies, and transportation for people with autism, intellectual disabilities, or developmental disabilities or who are medically fragile • Service delivery: Medical services delivered by managed care organizations and dental services delivered by prepaid health plans
California	11 1115 (1) 1915b (1) 1915c (9)	8 1115 (1) 1915b (1) 1915c (6)	<ul style="list-style-type: none"> • Services: Case management, family training, nursing, respite care, and specialized medical equipment and supplies for people with autism, intellectual disabilities, developmental disabilities, HIV, or AIDS or who are medically fragile or technologically dependent • Service delivery: Medical services delivered by managed care organizations
Maryland	13 1115 (1) 1915b (3) 1915c (9)	8 1115 (1) 1915b (2) 1915c (5)	<ul style="list-style-type: none"> • Services: Day services, home accessibility adaptations nursing, and respite care for people with developmental disabilities, autism, physical disabilities, or serious emotional disturbance or who are medically fragile • Service delivery: Medical services delivered by managed care organizations and a waiver of the freedom of choice of providers for certain services
New York State	14 1115 (1) 1915b (1)	12 1115 (1) 1915b (1)	<ul style="list-style-type: none"> • Services: Assistive technology, care coordination, day services, home and vehicle accessibility adaptations, prevocational

State	Number of waivers (total and by type)	Number of waivers for transition-age youth ^b	Examples of service and service delivery changes implemented in transition-age youth waivers
	1915c (12)	1915c (10)	training, respite care, supported employment, and transportation for people with disabilities <ul style="list-style-type: none"> • Service delivery: Medical services delivered by managed care organizations and different payment methods for certain services
Wisconsin	13 1115 (2) 1915b (2) 1915c (9)	4 1915b (1) 1915c (3)	<ul style="list-style-type: none"> • Services: Assistive technology, care coordination, career exploration, competitive integrated employment, day services, home and vehicle accessibility adaptations, respite care, self-determination training, specialized equipment and supplies, supported employment, and transportation for people with disabilities • Service delivery: Waiver of the freedom of choice of providers for certain services

Source: CMS 2022a.

^a The PROMISE service delivery period lasted from September 2014-June 2019 in Arkansas PROMISE, October 2014-May 2019 in ASPIRE (service delivery start differed by state), August 2014-June 2019 in CaPROMISE, April 2014-September 2018 in MD PROMISE, October 2014-August 2019 in NYS PROMISE, and April 2014-September 2018 in WI PROMISE.

^b These counts exclude waivers available exclusively to young children or adults. Eligibility for adult waivers generally begins at age 18 or 21.

Table III.2. Characteristics of Medicaid managed care in PROMISE states in 2017

State	Percentage of Medicaid beneficiaries enrolled in comprehensive managed care	Type of managed care program	Enrollment in managed care voluntary, mandatory, or exempt for SSI youth	Managed care covered behavioral health or carve out
Arkansas	4	PCCM	–	Carve-out FFS
ASPIRE				
Arizona	85	MCO	–	MCO
Colorado	10	PCCM	Voluntary	Carve-out BHO
Montana	0	PCCM	–	Carve-Out FFS
North Dakota	23	PAHP for disease management	–	MCO
South Dakota	0	PCCM	Exempt	Carve-out FFS
Utah	80	MCO	–	Carve-out BHO
California	82	MCO + MLTSS	–	MCO
Maryland	85	MCO	Mandatory	Carve-out BHO
New York State	74	MCO	–	MCO
Wisconsin	67	MCO	Mandatory	MCO

Source: Kaiser Family Foundation (2022) and National Academy for State Health Policy (2022).

Note: In the second column, “comprehensive managed care” is a health care plan with a capitation payment that covers all acute, primary, and specialty medical services; some plans may also cover behavioral health and long-term care services and supports. A dash in the fourth column indicates not specified.

BHO = behavioral health organization; FFS = fee for service; MCO = Managed care organization; MLTSS = managed long-term services and supports; PAHP = prepaid ambulatory health plan; PCCM = primary care case management; SSI = Supplemental Security Income.

B. Expenditures of all youth in the year before RA

Nearly all PROMISE youth used some type of Medicaid services during the year before RA (Table III.3). The high use of Medicaid services was expected because all youth in PROMISE were enrolled in SSI (which generally guarantees Medicaid eligibility) and had significant health care needs due to their disabilities. About half (49 percent) of all PROMISE youth used prescription drugs; this percentage was substantially higher among Arkansas PROMISE (83 percent) and WI PROMISE (80 percent) youth than among youth in the other programs, likely because prescription drugs were covered under the capitated payment for many of the youth enrolled in managed care plans in other PROMISE programs.⁴ Waiver service use varied from near zero percent for WI PROMISE to 17 percent for CaPROMISE. Overall, use of inpatient and long-term care services was relatively uncommon, used by about 5 percent or less of all youth; however, like prescription drug use, use of these services also varied across the programs.

With respect to expenditures, capitated payments for managed care were relatively large, at \$503 per month, or 37 percent of total Medicaid spending. Again, this varied greatly by program, ranging from 2 percent of total Medicaid spending for AR PROMISE to 53 percent for NYS PROMISE. Expenditures were also relatively high for prescription drugs (\$145 per person per month or 11 percent of total Medicaid spending), and inpatient services (\$126 per month or 9 percent of total spending). Waiver services comprised 5 percent of spending (\$68 per month) and long-term care services represented about 3 percent of total spending (or \$46 per month). All other types of services represented 34 percent of total spending or \$465 per month. High spending for “other services” is not surprising because the category includes payments for a variety of commonly used services, including outpatient services, physician and clinic services, laboratory tests, and diagnostic imaging.

Overall, total Medicaid expenditures in the year before RA for youth in the PROMISE sample (the combined treatment and control groups) are somewhat lower than national benchmarks for Medicaid beneficiaries with disabilities. Medicaid expenditures for PROMISE youth in the pooled sample averaged \$1,353 per month in 2020 dollars in the year before RA, or \$16,236 annually. In comparison, national estimates indicate that annual Medicaid spending for youth with disabilities averaged \$19,339 in 2020 dollars (Musumeci and Young 2017). The lower expenditures among PROMISE enrollees may be because youth who enrolled in PROMISE were interested in working and, therefore, likely to be healthier than other SSI recipients with disabilities.

Table III.3. Youth's Medicaid expenditures in the year before RA

Expenditure type	Pooled	Arkansas PROMISE	ASPIRE	CaPROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Percentage of youth with expenditure, by type							
Inpatient	5.3	7.1	3.2	3.5	6.4	4.0	7.6
Prescription drugs	48.8	82.5	37.4	22.6	52.4	17.5	80.1
Long-term care	2.2	7.6	0.6	1.8	0.0	3.3	0.1
Waiver services	6.1	1.3	4.0	16.6	2.5	12.2	0.1
Capitated payments	84.6	95.6	60.1	90.2	92.8	74.9	93.8
Other	99.0	98.6	98.3	98.9	99.7	98.6	99.9

⁴ The large variation in expenditures across programs is likely due to variation in the types of services covered in capitated managed care plans. Some managed care plans are “comprehensive” and cover a wide range of services, while others “carve out” some benefits that are provided on a fee-for-service basis.

Expenditure type	Pooled	Arkansas PROMISE	ASPIRE	CaPROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Any Medicaid expenditures	99.1	98.6	98.3	99.1	99.8	98.7	99.9
Average monthly expenditure, by type (2020 \$)							
Inpatient	126	146	45	138	249	83	97
Prescription drugs	145	153	135	176	159	33	213
Long-term care	46	154	27	14	0	77	4
Waiver services	68	23	53	108	74	149	5
Capitated payments	503	15	924	475	550	968	85
Other	465	369	315	571	504	525	504
Total	1,353	861	1,499	1,482	1,535	1,835	903
Number of youth	12,584	1,805	1,953	3,097	1,866	1,967	1,896

Source: CMS administrative records and PROMISE RA system.

Note: This table includes the combined sample of treatment and control youth. "Other" services include physician services, outpatient hospital services, laboratory tests and imaging, clinic services, home health care, and hospice care.

ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; MD = Maryland; NYS = New York State; RA = random assignment; WI = Wisconsin.

C. Expenditures of control group youth in the years after RA

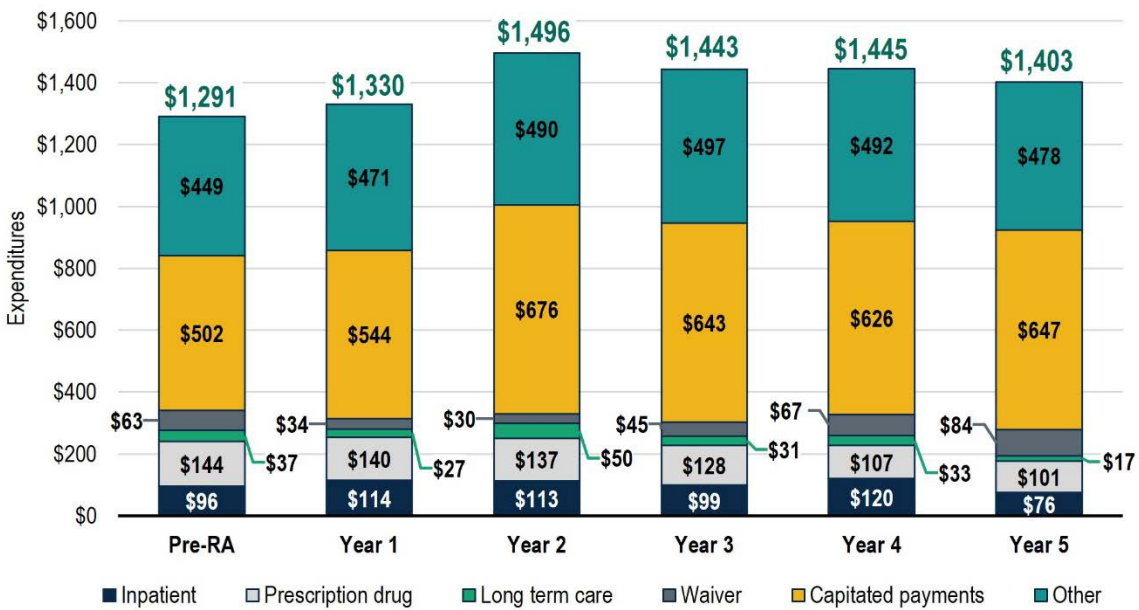
We next turn to examining expenditures for the control group only to understand what would have happened in the absence of PROMISE. In the sample that is pooled across programs, total Medicaid expenditures for the control group increased somewhat but not markedly in the years after RA. Expenditures per person averaged \$1,291 per month in the year before RA. They increased significantly in the years after PROMISE began, peaking at \$1,496 in Year 2 and then remaining around \$1,400 for Years 3 through 5 (Figure III.1 and Table A.2). Most youth (98 percent) remained enrolled in Medicaid by the second year after RA. By the fourth year after RA, this percentage fell to 93 percent, so the decline in Medicaid expenditures per PROMISE control group member is consistent with the decline in Medicaid enrollment over time (Appendix Table A.1). The decline in enrollment is consistent with expectations; some youth lose Medicaid eligibility when they turn age 18 and leave the child SSI program. Relative to the year before RA, expenditures for inpatient services, prescription drugs, and long-term care services were lower, while expenditures on capitated payments increased as youth were more likely to receive services under capitated managed care plans by that time.⁵ Expenditures on waiver services fell in the year after RA,⁶ then returned to their pre-RA level by Year 4. As noted above, the variation in managed care enrollment and the services that are covered by managed care likely explain the large differences in expenditures on particular services across the PROMISE programs.⁷

⁵ The share of beneficiaries enrolled in comprehensive Medicaid managed care plans has increased steadily over time, from 50 percent in 2011 to 70 percent in 2019 (MACPAC 2022).

⁶ The decline is driven by a drop in waiver service use in CaPROMISE and NYS PROMISE, where several waivers designated for youth with disabilities expired between the end of 2015 and early 2017 (CMS 2022b).

⁷ We see some expenditures for services for enrollees who are in managed care because not all services are covered under the capitated payments; the services that are covered under the capitated payment varies depending on the plan in which a beneficiary is enrolled.

Figure III.1. Average monthly Medicaid expenditures for PROMISE control group youth in the pooled sample, by type of expenditure



Source: CMS and SSA administrative records and PROMISE five-year survey.

Note: "Pre-RA" refers to the year before RA. Expenditures are in 2020 dollars. "Other" services include physician services, outpatient hospital services, laboratory tests and imaging, clinic services, home health care, and hospice care.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment; SSA = Social Security Administration.

IV. Impacts on Youth’s Medicaid Expenditures for Specific Services

PROMISE’s impacts on Medicaid expenditures for specific types of services during the five years after RA were limited. When we pooled data across the six programs, there were no impacts on any type of expenditure in any year after RA, on average (Appendix Table A.4).

In most program-specific analyses, there were few statistically significant effects on particular types of expenditures (Table IV.1) As noted earlier, the 18-month impact analysis found that PROMISE treatment group members were more likely than control group members to enroll in waiver programs in ASPIRE and in MD PROMISE. However, PROMISE reduced waiver expenditures in Year 4 for MD PROMISE and had no effect on waiver expenditures for ASPIRE (Table IV.1, Appendix Table A.14, and Appendix Table A.24).⁸ The exception was NYS PROMISE, where the program increased long-term care expenditures in Year 3 and reduced inpatient expenditures (in Year 4 and over the five years after RA), expenditures for capitated services (in Years 1 and 2), and expenditures for other services in Year 5 (Appendix Table A.29). These reductions contributed to the overall decline in Medicaid expenditures in NYS PROMISE described in the five-year impact evaluation reports (Patnaik et al. 2022a, 2022b). In other program-specific analyses, the few statistically significant impacts we found for different service categories did not follow any clear pattern (Table IV.1). It is possible they are spurious findings resulting from the large number of statistical tests we conducted. Across all service types and programs, we conducted 294 tests and just 20 were statistically significant at the 10 percent level, fewer than would be expected by chance alone.

When we analyzed PROMISE impacts on expenditures by subgroups of youth with different types of impairments, we found some consistent patterns across years and PROMISE programs. For youth with IDD, PROMISE reduced expenditures for prescription drugs (Figure IV.1). Across all programs, among youth with IDD, the average impact of the PROMISE programs was to reduce spending for prescription medication by \$21 (or 28 percent relative to the control group mean) over the five years, with impacts starting in Year 2 and continuing through Year 4 after RA (Appendix Table A.5). For many programs, we found prescription drug spending reductions for this group in at least one year after RA: ASPIRE (Year 3, Appendix Table A.15), CaPROMISE (Years 1 and 2, Appendix Table A.20), and MD PROMISE (Year 4, Appendix Tables A.25).⁹

⁸ Consistent with the 18-month impact findings, the analysis for this report found waiver enrollment to be higher for the treatment group than for the control group in these programs in both the year before RA and in the first two years after RA. However, after controlling for expenditures in the year before RA, we did not find impacts on waiver expenditures in these years.

⁹ While the point estimates for all findings reported here are significantly different from zero within the IDD subgroup, the interaction terms were not statistically significant across subgroups for ASPIRE and CaPROMISE, meaning that the impacts for each impairment category were not significantly different from each other.

Table IV.1. Summary of PROMISE's impacts on Medicaid expenditures by type of service

Average monthly expenditures	Pooled	Arkansas PROMISE	ASPIRE	CaPROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Inpatient services							
Year 1							
Year 2							
Year 3							
Year 4						-	
Year 5							
Years 1 to 5						-	
Prescription drugs							
Year 1				-			
Year 2							
Year 3							
Year 4							
Year 5		+					
Years 1 to 5							
Long-term care services							
Year 1							
Year 2							
Year 3						+	
Year 4		+					
Year 5		+					
Years 1 to 5							
Waiver services							
Year 1							
Year 2							
Year 3							
Year 4					-		
Year 5							
Years 1 to 5							
Capitated payments							
Year 1						-	
Year 2						-	
Year 3				+			
Year 4							
Year 5							
Years 1 to 5							
Other							
Year 1		+					
Year 2							
Year 3							

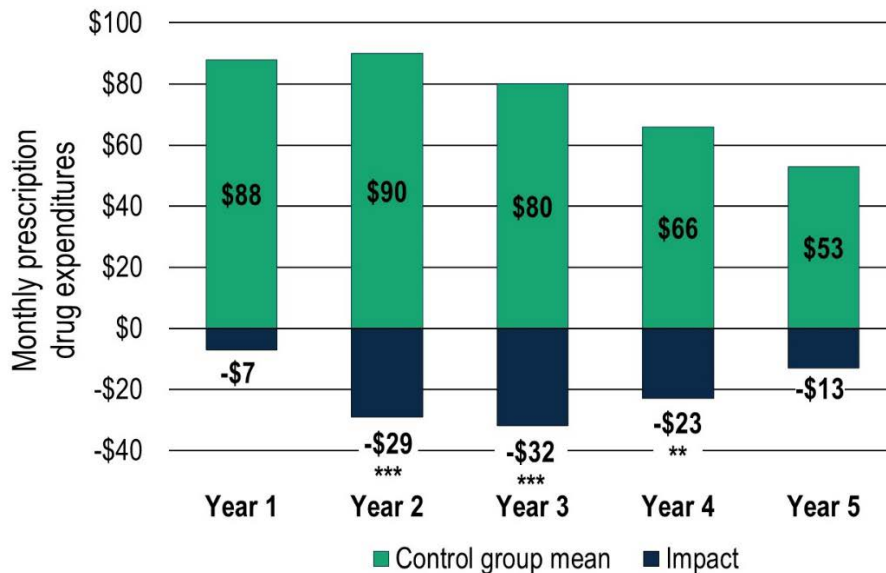
Average monthly expenditures	Pooled	Arkansas PROMISE	ASPIRE	CaPROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Year 4							+
Year 5						-	+
Years 1 to 5							+
Total expenditures							
Year 1							
Year 2							
Year 3							
Year 4						-	+
Year 5	-					-	
Years 1 to 5						-	

Source: CMS administrative records and PROMISE RA system.

Note: Green shading and a "+" indicate that regression-adjusted Medicaid expenditures were significantly larger (at the $p < .10$ level) for the treatment than control group. Red shading and a "-" indicate that regression-adjusted treatment group Medicaid expenditures were significantly smaller (at the $p < .10$ level) for the treatment than control group. Cells are blank if the estimate was not statistically significant at the $p < .10$ level.

CMS = Centers for Medicaid & Medicare Services; RA = random assignment.

Figure IV.1. Average impacts on monthly prescription drug expenditures for PROMISE youth with IDD, by year after RA



Source: CMS administrative records and PROMISE RA system.

Note: The estimates reported in this figure are the regression-adjusted estimates of the control group mean and impact for the pooled sample, expressed in 2020 dollars. See Appendix Table A.5 for details. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicaid & Medicare Services; IDD = intellectual or developmental disability; RA = random assignment.

There is some evidence to suggest that PROMISE might have had different impacts on inpatient spending depending on whether youth had other mental impairments or non-mental impairments. On average, the PROMISE programs reduced inpatient spending for youth with other mental impairments by \$78 in Year 2 (or 60 percent of the control group mean), which was significantly different from the estimates for those with IDD and those with other impairments (Appendix Table A.5). The reductions in inpatient spending for those with other mental impairments in MD PROMISE and NYS PROMISE in Year 2 contributed to this pattern (Appendix Tables A.25 and A.30). It is possible that the case management services offered by these programs connected families to resources that either reduced youth's need for inpatient services or acted as substitutes for hospital care. While there were a few other statistically significant estimates across subgroups, there was no clear pattern.

V. Impacts on Outcomes in Families of Youth with High Medical Needs

To explore whether the impacts of PROMISE were moderated by youth's medical needs at RA, we defined a "high medical needs" subgroup based on a proxy measure defined by whether a youth had Medicaid spending that was greater than the 75th percentile of the sample in their program during the year before RA. In the sections that follow, we first present descriptive statistics to better understand and assess the validity of this measure and then present the subgroup impact estimates for youth and parent outcomes.

A. High medical needs measure

While we cannot measure a youth's medical needs, we can measure whether a youth has high Medicaid expenditures. Although Medicaid expenditures are only a proxy for a youth's health care needs, youth with high medical expenditures are likely to be in poor health. Having high medical needs or poor health during the year before enrolling in PROMISE might limit the ability of youth to engage in services and thereby limit the programs' ability to affect outcomes. However, the individualized case management under PROMISE (which varied across programs but could include personalized needs assessments, developing plans that describe goals with youth and their families, connecting families to needed supports and transition services providing intensive person-centered counseling, and crisis management) might have helped youth in poor health achieve better outcomes than under the status quo if the programs were successful in helping such youth overcome barriers to participating in transition services. Here, we discuss some of the features and potential limitations of the measure to keep in mind in interpreting the results.

Having high medical needs during the year before RA does not necessarily mean such youth had high medical needs in all years they were enrolled in PROMISE services. To assess the extent to which pre-RA high medical needs youth continued to have high medical needs, we examined control group youth's Medicaid expenditures in each year after RA (Table V.1). Most control group youth with high medical needs in the year before RA continued to have relatively high Medicaid spending in the years after RA. Overall, about 74 percent of PROMISE control group youth with high pre-RA expenditures had expenditures that continued to exceed the 75th percentile of Medicaid spending for their program in Year 1. The percentage of these youth in the 75th percentile decline in subsequent years after RA. By the fifth year after RA, 54 percent were in the 75th percentile. Just 39 percent of youth with high medical needs at enrollment had high needs in all five years after RA. Thus, the baseline measure of high medical needs we used in the analyses appears to be a good proxy for health and medical needs in the first few years after RA but less so in the later years.

The changes over time in the percentage of youth with high medical needs youth continuing to have high medical needs reflect changes in health and health care utilization, but they also reflect the extent to which the youth remained enrolled in Medicaid. The measure does not capture health care utilization outside of Medicaid, which may have been more prevalent in the later years after RA when Medicaid enrollment declined somewhat among control group youth (from 99 percent at RA to 93 percent in Year 4 after RA). The measure also does not capture the actual spending for high medical needs youth enrolled in comprehensive Medicaid managed care plans; spending for such youth reflects a capitated payment calculated based on their diagnoses and chronic conditions rather than their actual health care utilization during the year before RA.

Despite its potential limitations, we think the measure is a good proxy for youth’s health status at the time they enrolled in PROMISE. At that time, nearly all youth were covered by Medicaid and relatively few had private insurance.

Table V.1. Medicaid expenditures in the top quartile in each year after RA among control group youth with high medical needs pre-RA

Year	Pooled	Arkansas PROMISE	ASPIRE	CaPROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
High medical needs expenditure threshold in the year before RA (2020 \$)	n.a.	813	1,552	1,376	1,498	1,703	991
Among those with high medical needs pre-RA, percentage in the top quartile in the years after RA							
Year before RA	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Year 1 after RA	74.0	66.4	78.0	74.7	72.8	73.7	78.3
Year 2 after RA	65.2	56.2	73.2	71.9	65.3	62.3	61.9
Year 3 after RA	59.8	47.8	69.5	69.2	57.3	56.8	58.0
Year 4 after RA	57.2	46.5	74.4	65.7	53.6	48.7	53.5
Year 5 after RA	54.1	47.3	70.7	62.4	50.6	44.1	48.2
All 5 years after RA	39.2	23.9	59.3	49.9	35.1	32.6	33.2

Source: CMS administrative records and PROMISE RA system.

Note: High medical needs subgroup includes youth with Medicaid expenditures greater than or equal to the 75th percentile among all youth in their respective program during the year before RA.

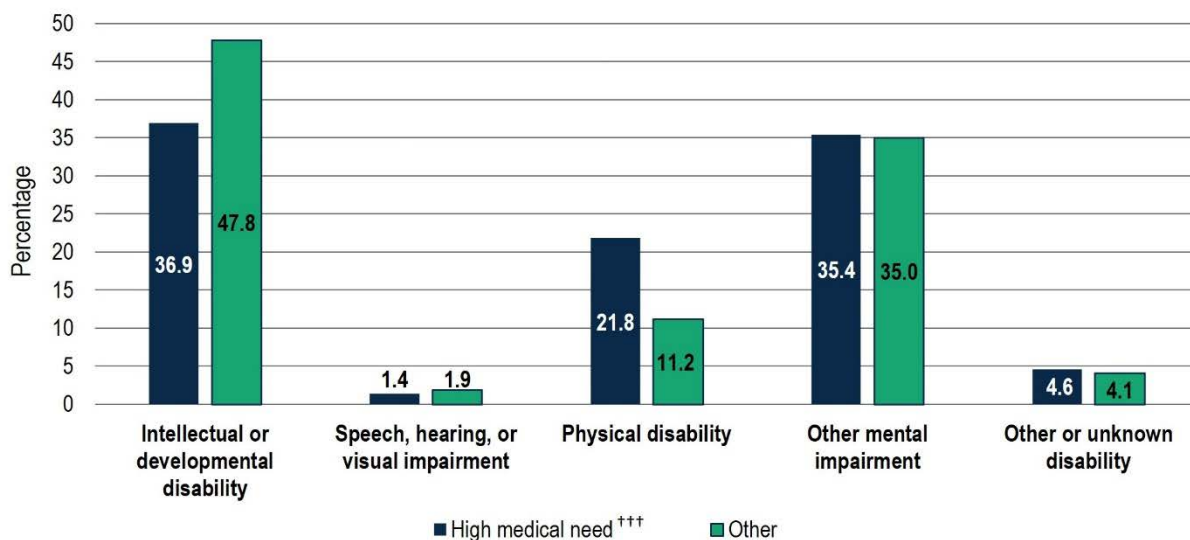
ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; MD = Maryland; n.a. = not applicable (because medical needs threshold was defined separately for each program); NYS = New York State; RA = random assignment; WI = Wisconsin.

B. Characteristics of youth with high medical needs

As might be expected, youth with high medical needs had different characteristics at the time of RA relative to other youth (Appendix Table A.36). We found that youth with high medical needs differed significantly from other youth in terms of their sex, age at most recent SSI application, language, living arrangement, race, primary impairment, receipt of SSA payments, and Medicaid service use patterns in the year before RA; their parent’s age at RA, race, and receipt of SSA payments; and the presence of multiple SSI children in the household. However, most differences were small. Below, we discuss the largest differences.

Impairment. Across all programs, youth with high medical needs were less likely to have IDD than other youth (37 percent versus 48 percent) and more likely to have physical disabilities (22 percent versus 11 percent) (Figure V.1).

Figure V.1. Primary impairment of PROMISE youth, by whether youth had high medical needs in the year before RA



Source: CMS and SSA administrative records and PROMISE five-year survey.

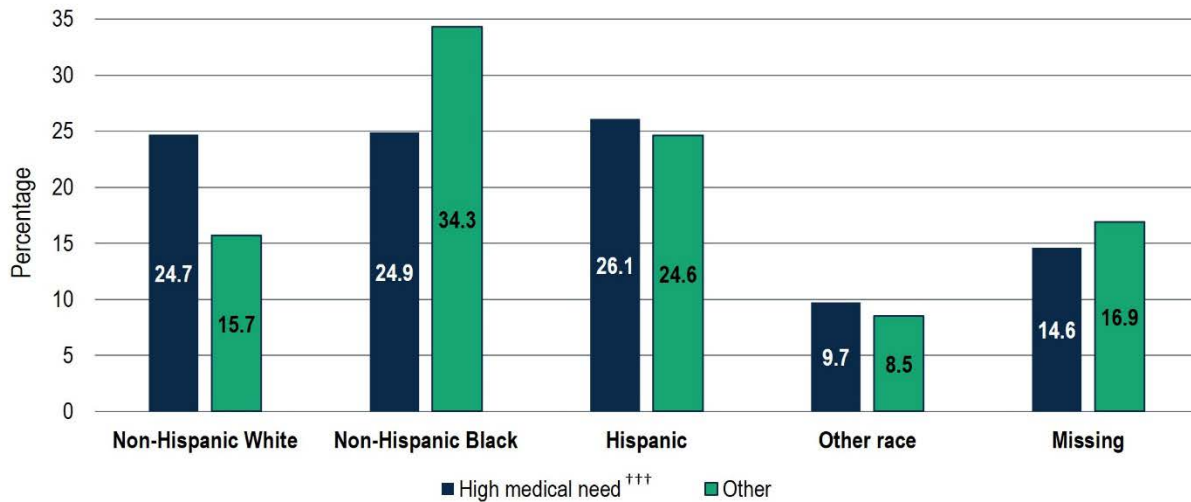
Note: The estimates in this figure are for the pooled sample of youth who completed the five-year survey. The “high medical needs” group includes those with Medicaid expenditures in the year before RA greater than or equal to the program’s 75th percentile of such expenditures. The “other youth” group includes those with pre-RA Medicaid expenditures that are below the program’s 75th percentile. See Appendix Table A.36 for further details.

†/††/††† Distribution for those with high medical needs is significantly different from that of other youth (*p*-value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment; SSA = Social Security Administration.

Race and ethnicity. Youth with high medical needs were less likely to be non-Hispanic Black and more likely to be non-Hispanic White than other youth. For example, 25 percent of youth in the high medical needs group fell into the non-Hispanic White category relative to 16 percent of other youth (Figure V.2). This racial disparity likely reflects differences in access to health care rather than differences in actual needs; due to racial inequalities in access to health care in the United States, non-Hispanic Whites receive more health services—and therefore have higher health care expenditures—than non-Hispanic Blacks (Dickman et al. 2022; Buchmueller et al. 2020).

Figure V.2. Race of PROMISE five-year youth survey respondents, by whether youth had high medical needs in the year before



Source: CMS administrative records and PROMISE five-year survey.

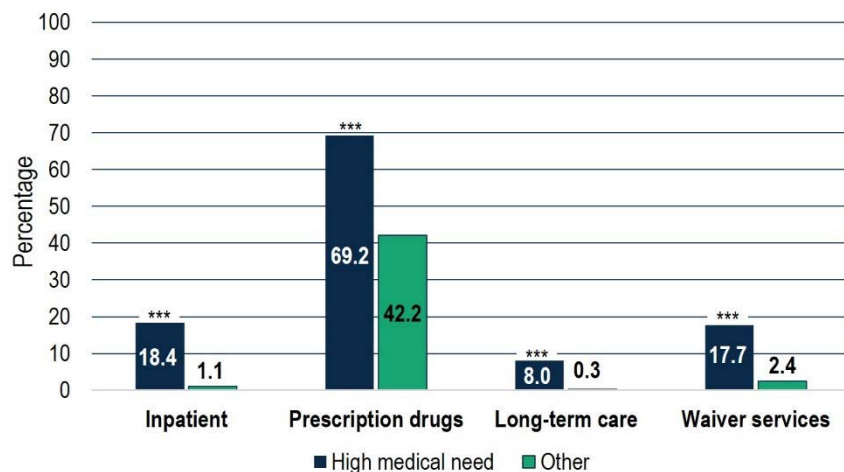
Note: The estimates in this figure are for the pooled sample of youth who completed the five-year survey. The “high medical needs” group includes those with pre-RA Medicaid expenditures greater than or equal to the program’s 75th percentile. The “other youth” group includes those with pre-RA Medicaid expenditures that are below the program’s 75th percentile. See Appendix Table A.36 for further details.

†/††/††† Distribution for those with high medical needs is significantly different from that of other youth (*p*-value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Medicaid service use. By definition, youth with high medical needs had higher medical expenditures in the year before RA than other youth. Consistent with this, they also had much higher health care utilization. For example, of youth in the high medical needs group, 18 percent had any inpatient expenditures relative to 1 percent of other youth (Figure V.3). This means that almost all youth that had a hospitalization prior to RA fell into our high medical needs subgroup. In terms of other services used by youth with high medical needs, 69 percent had prescription drug expenditures (relative to 42 percent of other youth), 18 percent used waiver services (relative to 2 percent of other youth), and 8 percent had long-term care expenditures (relative to 0.3 percent of other youth).

Figure V.3. Use of Medicaid service types in the year before RA, by whether youth had high medical needs in the year before RA



Source: CMS administrative records and PROMISE five-year survey.

Note: The estimates in this figure are for the pooled sample of youth who completed the five-year survey. The “high medical needs” subgroup includes those with pre-RA Medicaid expenditures greater than or equal to the program’s 75th percentile. The “other” subgroup includes youth with pre-RA Medicaid expenditures that a below program’s 75th percentile. See Appendix Table A.36 for further details.

*/**/** Value is significantly different between subgroups using a two-tailed t-test (p -value is less than .10/.05/.01).

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

C. Impacts on youth’s outcomes by whether youth had high medical needs in the year before RA

As noted, it is possible that PROMISE’s impacts could have been moderated by a youth’s health status before they enrolled in the program. When we pooled data across programs, the average impact of the six programs did not differ between youth with high medical needs and other youth across a wide range of outcomes (Table V.2). However, in program-specific analyses, the impacts for the two subgroups sometimes differed—though the pattern was inconsistent across programs (Figure V.4 and Table V.2). In particular, relative to other youth, PROMISE had larger positive impacts on the employment of youth with high medical needs in two programs, had smaller impacts on their employment in two programs, and had no difference in impacts in the remaining two programs. The program-specific findings include the following:

- MD PROMISE and CaPROMISE reduced or had no impact on the likelihood of employment in the fifth year after RA for youth with high medical needs but increased that likelihood for other youth.** MD PROMISE reduced the percentage of youth with high medical needs who were employed in the past year by 9 percentage points (relative to the control group mean of 45 percent) but increased the percentage of other youth employed by 5 percentage points. Though the difference in employment impacts between youth with high medical needs and other youth was statistically significant, the negative impact within the high medical needs group was marginally not significant ($p = 0.12$; see Appendix Table A.45). CaPROMISE had no impact on the employment of youth with high medical needs but increased the percentage of other youth employed by 5 percentage points (relative to a control group mean of 36 percent).

- **Arkansas PROMISE and WI PROMISE improved employment-related outcomes more for youth with high medical needs than for other youth.** Among youth with high medical needs, Arkansas PROMISE increased the percentage employed in the past year by 11 percentage points (relative to the control group mean of 36 percent). Similarly, WI PROMISE increased the percentage of youth with high medical needs employed in the past year by 14 percentage points (relative to the control group mean of 40 percent). WI PROMISE also increased earnings in the past year for youth with high medical needs by \$2,473 (81 percent of the control group mean). For other youth in these programs, the impacts on employment-related outcomes were smaller, though the difference in the impact on employment between the high medical needs group and other youth in WI PROMISE was marginally not significant ($p = 0.11$; see Appendix Table A.49 for details).
- **There were no significant differences in the impacts on employment-related outcomes between youth with high medical needs and other youth in ASPIRE and NYS PROMISE.** See Appendix Tables A.41 and A.47 for further details.

In general, PROMISE's impacts on earnings followed the same pattern as employment, with increases in earnings occurring in the same subgroups as the increases in employment, though the differences between subgroups were generally not statistically significant. The exception is that WI PROMISE increased earnings for youth with high medical needs, as noted above; consistent with this, the impact on income (the sum of earnings and SSA payments) for this subgroup was \$2,610 (or 28 percent relative to the control group mean; see Appendix Table A.49 for details). WI PROMISE had no impacts on earnings or income for other youth.

We explored the sensitivity of these results to using a different threshold to define high needs (the 65th percentile of expenditures rather than the 75th percentile). The findings (not shown) were similar, though the differences in impacts between the high medical needs group and other youth were smaller.

Table V.2. Summary of PROMISE’s impacts on primary outcomes for youth with high medical needs relative to other youth

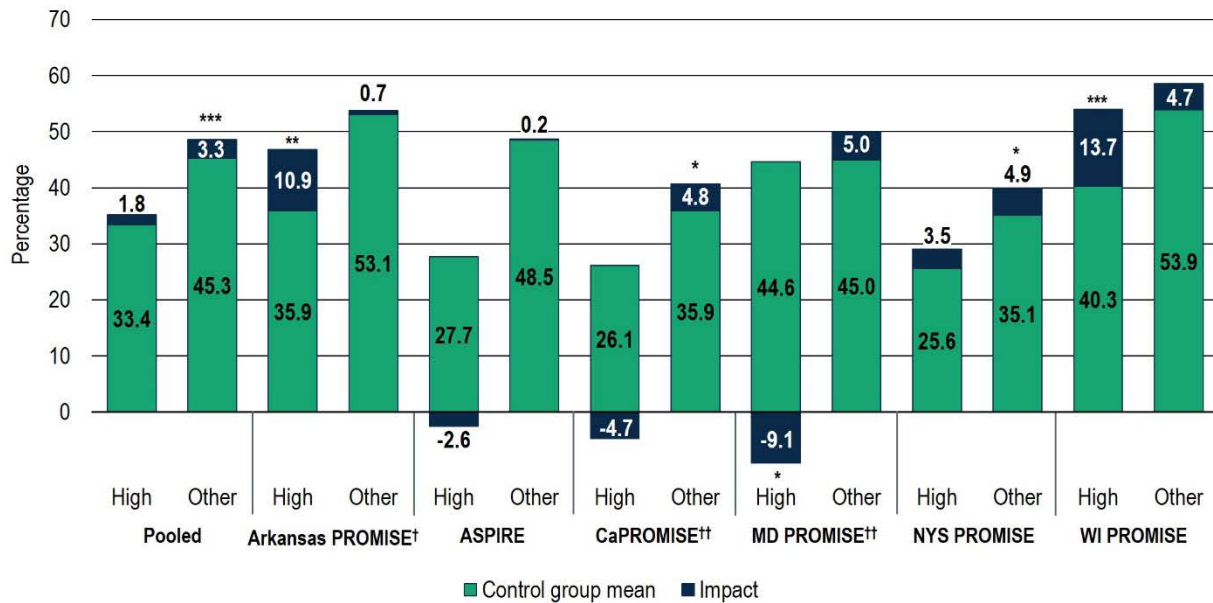
Outcome	Pooled	Arkansas PROMISE	ASPIRE	Ca PROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Enrolled in an educational or training program							
Has a GED, high school diploma, or certificate of completion							
Employed in a paid job in past year		+		-	-		
Earnings in past year (\$)							+
Self-determination score							
Expects to be financially independent at age 25							
Covered by any health insurance							
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)						+	
Received Social Security or SSI payments in Year 5 after RA				+			
Social Security and SSI payments in Year 5 after RA (\$)							
Social Security and SSI payments during Years 1–5 after RA (\$)				+			
Income from earnings and Social Security and SSI payments in the past year							+

Source: CMS and SSA administrative records and PROMISE five-year survey.

Note: Green shading and a “+” sign indicate that impacts of PROMISE were significantly larger (at the $p < .10$ level) for youth with high medical needs than for other youth. Red shading and a “-” sign indicate that impacts of PROMISE were significantly smaller (at the $p < .10$ level) for youth with high medical needs subgroup than for other youth. Blank cells mean that the estimates between subgroups were not significantly different (at the $p < .10$ level). See Appendix Tables A.37, A.39, A.41, A.43, A.45, A.47, and A.49 for the underlying estimates.

ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; MD = Maryland; NYS = New York State; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; WI = Wisconsin.

Figure V.4. Impacts on the percentage of youth employed in the past year, by whether youth had high medical needs in the year before RA



Source: CMS administrative records and PROMISE five-year survey.

Note: The “high medical needs” group includes those with Medicaid expenditures in the year before RA that were greater than or equal to the program’s 75th percentile. The “other” group includes those with Medicaid expenditures in the year before RA that are below the program’s 75th percentile. See Appendix Tables A.37, A.39, A.41, A.43, A.45, A.47, and A.49 for details.

*/**/*** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p -value is less than .10/.05/.01) using an adjusted Wald test.

ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; MD = Maryland; NYS = New York State; RA = random assignment; WI = Wisconsin.

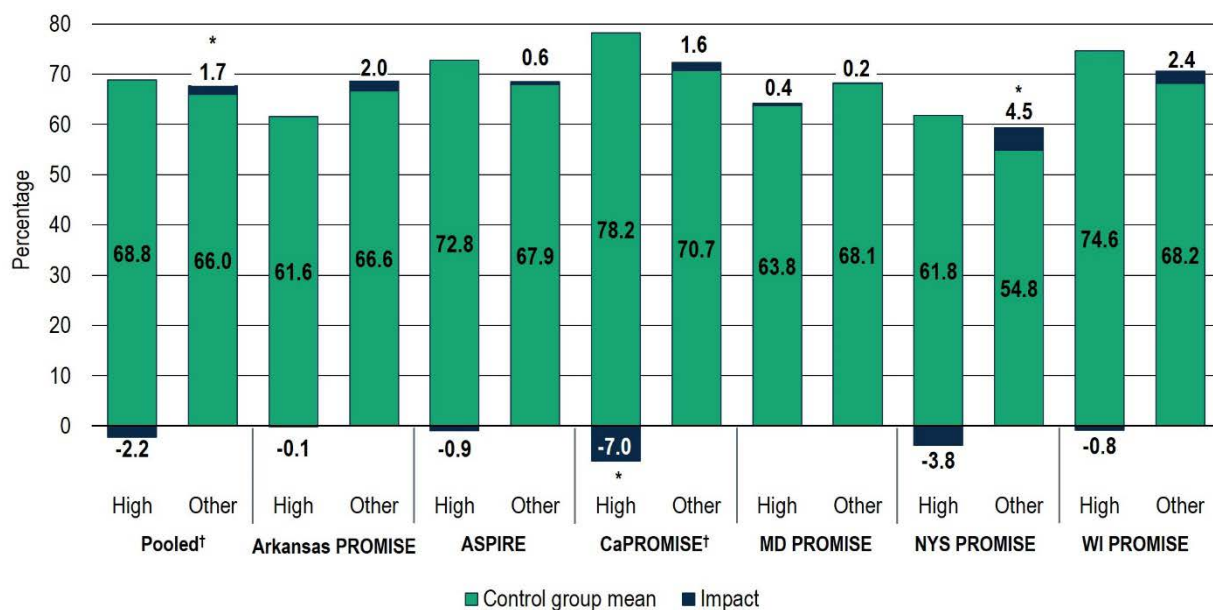
The PROMISE programs’ impacts on other outcomes generally did not differ between youth with and without high medical needs. There were two exceptions. First, CaPROMISE increased payments made by SSA by \$2,326 (or 6 percent relative to the control group mean) over the five years after RA for youth with high medical needs but had no impact among other youth (see Appendix Table A.43). Second, NYS PROMISE had no impact on the Medicaid and Medicare expenditures of youth with high medical needs but reduced those expenditures by \$110 (or 10 percent relative to the control group mean) for other youth (see Appendix Table A.47).

D. Impacts on parents’ outcomes by whether youth had high medical needs in the year before RA

Because caregiving for children with disabilities can interfere with parents’ ability to maintain paid employment, we next examine the PROMISE programs’ impacts on employment outcomes for parents. PROMISE had different effects on whether parents worked for pay in the past year, depending on whether the youth had high medical needs during the year before RA. On average, the PROMISE

programs did not significantly affect the percentage of parents of youth with high medical needs who were employed in the past year but increased that percentage among parents of other youth by about 2 percentage points (relative to a control group mean of 66 percent; Figure V.5). One program (CaPROMISE) had a large negative impact on the employment of parents of youth with high medical needs, reducing it by about 7 percentage points, but had no impact on the parents of other youth. The point estimates for the other programs generally follow this pattern, with negative estimates for the high medical needs group and positive estimates for the other group, though the impacts across subgroups are not statistically significant. The exception to this pattern is MD PROMISE, where the estimates for both youth with high medical needs and for other youth are about zero.

Figure V.5. Impacts on whether either parent worked for pay in the past year, by whether youth had high medical needs in the year before RA



Source: CMS administrative records and PROMISE five-year survey.

Note: The “high medical needs” group includes those with pre-RA Medicaid expenditures greater than or equal to the program’s 75th percentile. The “other youth” group includes those with pre-RA Medicaid expenditures that are below the program’s 75th percentile. See Appendix Tables A.37, A.39, A.41, A.43, A.45, A.47, and A.49 for details.

*/**/*** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p -value is less than .10/.05/.01) using an adjusted Wald test.

ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; MD = Maryland; NYS = New York State; RA = random assignment; WI = Wisconsin.

For most programs, impacts on other parental outcomes did not differ between the youth with high medical needs and other youth. However, MD PROMISE had some differential impacts between subgroups with respect to whether parents received payments from SSA and the amount of those payments. Although MD PROMISE did not affect the employment of parents of youth with high medical needs, it increased the likelihood that either parent received payments from SSA in the fifth year after RA

by 7 percentage points (relative to the control group mean of 26 percent) but decreased that likelihood among parents of other youth by 3 percentage points (relative to the control mean of 24 percent) (Appendix Table A.45). Similarly, over the five years after RA, MD PROMISE increased payments from SSA to parents of youth with high medical needs by \$4,012 (30 percent) but reduced payments by \$1,548 (13 percent) among parents of other youth.

The impacts of PROMISE did not differ for any other outcomes between the parents of youth with and without high medical needs (Table V.3).

Table V.3. Summary of PROMISE’s impacts on outcomes for parents of the high medical needs subgroup relative to parents of other youth

	Pooled	Arkansas PROMISE	ASPIRE	Ca PROMISE	MD PROMISE	NYS PROMISE	WI PROMISE
Either parent worked for pay in past year	-			-			
Parents’ earnings in the past year (\$)							
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)							
Either parent received Social Security or SSI payments in Year 5 after RA					+		
Social Security and SSI payments in Year 5 after RA (\$)					+		
Social Security and SSI payments during Years 1–5 after RA (\$)					+		
Parents’ income from earnings and Social Security and SSI payments in the past year (\$)							
Either parent is covered by any health insurance							

Source: CMS and SSA administrative records and PROMISE five-year survey.

Note: Green shading and a “+” sign indicate that impacts of PROMISE were significantly larger (at the $p < .10$ level) for the parents of youth with high medical needs than for those of the parents of other youth. Red shading and a “-” sign indicate that impacts of PROMISE were significantly smaller (at the $p < .10$ level) for the parents of the high medical need subgroup than for those of the parents of other youth. Blank cells mean that the estimates between subgroups were not significantly different (at the $p < .10$ level). See Appendix Tables A.37, A.39, A.41, A.43, A.45, A.47, and A.49 for details.

ASPIRE = Achieving Success by Promoting Readiness for Education and Employment; CaPROMISE = California PROMISE; CMS = Centers for Medicare & Medicaid Services; MD = Maryland; NYS = New York State; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; WI = Wisconsin.

VI. Conclusion

A. Discussion of findings

Relative to all non-elderly people with disabilities participating in Medicaid, PROMISE youth had lower Medicaid expenditures, likely because the program attracted relatively healthy youth who were interested in receiving employment-based services. Nonetheless, the Medicaid expenditures for PROMISE youth were substantial; overall, they averaged \$1,353 per month in 2020 dollars (or \$16,236 annually) during the year before RA.

PROMISE generally had no impacts on Medicaid expenditures overall or for the broad categories of health services we studied, likely because the programs focused more on connecting youth with employment-based services than on connecting them with health care services. Moreover, the Families First Coronavirus Recovery Act of 2020 might have muted the ability of the programs to impact Medicaid participation because it required state Medicaid programs to keep beneficiaries enrolled until the end of the public health emergency to be eligible for an increased federal match. It is difficult even for interventions that are specifically designed to reduce health care expenditures to move the needle (Caskey et al. 2019), so the findings are not surprising. The exception to the findings of no impacts was the pattern we found across multiple programs and years showing that PROMISE reduced the Medicaid expenditures for prescription drugs among youth with IDD. While we were unable to analyze which prescription drugs PROMISE youth were using, youth with IDD are often prescribed mood stabilizers or anti-psychotic medications to help manage their behavior (Beltz et al., 2015). Other research from the PROMISE evaluation showed an increase in private insurance coverage for the parents of youth in the PROMISE treatment group with IDD (Patnaik et al. 2022a, 2022b), suggesting a possibility that treatment group youth's medications might have shifted more to private insurance expenditures compared with control group youth. It is also possible that private insurance provided treatments (such as cognitive behavioral therapy) that enabled treatment group youth to reduce their reliance on medications.

We found evidence that PROMISE's impacts on some youth and parent outcomes differed for youth with high medical needs relative to other youth, but the patterns were not consistent across the programs. Arkansas PROMISE and WI PROMISE increased employment-related outcomes more for youth with high medical needs than for other youth. In these programs, control group youth with high medical needs had substantially lower employment rates than other youth, suggesting that the programs may have had more opportunity (or more room for improvement) to help those youth. These programs may have had employment-promoting services that were more effective for youth with high medical needs than other programs; however, in supplementary analyses (not shown), we did not see a pattern in the receipt of employment-related services during the first 18 months of each program that could explain the differences in impacts for the high medical need groups across programs. Other programs had no impact on either group (ASPIRE and NYS PROMISE) or improved the employment outcomes of only youth without high medical needs (CaPROMISE and MD PROMISE). Some findings from an analysis of service use as of 18 months after RA are consistent with CaPROMISE's greater impacts on youth without high medical needs; the program had greater impacts on youth without high medical needs in terms of their use of benefits counseling and job-related training. For MD PROMISE, findings from the process and 18-month evaluations do not offer much to explain why the program had a negative impact on the employment of youth with high medical needs. However, the *positive* impact on other youth (without high medical needs) is consistent with the program's impact on the employment of youth with IDD (Patnaik et al. 2022a, 2022b), a group that was less likely to be among youth with high medical needs. Moreover, findings from

the process evaluation suggest that MD PROMISE staff were trained to refer treatment group youth to the MD Department of Rehabilitation Services Pre-Employment Transition Services program. The MD Department of Rehabilitation Services had historically prioritized children with the most severe disabilities, so there may not have been as large a gap in services for PROMISE to fill among youth with high medical needs.

Results for parents suggest that PROMISE generally did not affect the employment of parents of youth with high medical needs but increased it for parents of other youth. It could be that the parents of youth in the high medical needs group had substantial caregiving obligations and were already working as much as they could, so there was no room for PROMISE to improve their employment. One program (CaPROMISE) reduced the likelihood that parents of youth with high medical needs were employed. CaPROMISE also increased SSA payments for youth in the high medical need subgroup, so it is possible that the program focused on providing benefits counseling to that subgroup, which in turn may have enabled parents to focus on providing for their children's health care needs rather than working.

B. Study context and limitations

We recommend readers not compare the Medicaid expenditures and services used by PROMISE youth to national statistics for two main reasons. First, PROMISE enrollees were volunteers, so they are likely more interested in working—and are possibly healthier—than the average Medicaid beneficiary with a disability. In other work, we found that the PROMISE control group was more likely to be employed in the year that they turned age 18 than youth who were eligible for PROMISE but did not volunteer to participate (Patnaik et al. 2022b). However, because almost all youth transition programs are voluntary, the PROMISE outcomes are relevant to likely future transition programs as well. Second, these statistics include expenditures for many youth who were not enrolled in Medicaid. While nearly all youth were enrolled in Medicaid at RA, this percentage declined over time as some youth lost Medicaid coverage when they turned 18 due to program rules or gained private insurance for other reasons. For these reasons, the appropriate benchmark is the control group youth who also enrolled in PROMISE and for which this study provides internally consistent statistics.

There are several limitations to this study. In particular, the measure of high medical needs we used to create the medical need subgroups is somewhat arbitrary and limited. We explored the sensitivity of the results to using a different threshold to define high needs and found similar results, though the differences in impacts between the high medical needs group and other youth were smaller. As explained above, it may not capture youth with high medical needs in managed care or private insurance plans. Perhaps most importantly, it is an imperfect proxy measure; it is likely to be a better proxy for health and support needs in the years immediately after RA than in later years. It is also important to acknowledge that expenditure itself is not an ideal measure of medical needs. Expenditures are limited by access, which may have been an issue for youth participating in PROMISE for a variety of reasons.

A final factor to acknowledge is that we did not adjust for multiple comparisons. Some differences between groups that appear to be statistically significant may have occurred by chance. We tried to protect against drawing inappropriate conclusions by looking for patterns of results over multiple programs and years and avoiding the interpretation of isolated impacts as meaningful.

C. Implications for policy, practice, and future research

The results suggest that there may be important relationships between employment and health expenditures. PROMISE's limited impacts on Medicaid expenditures overall suggests that it may be difficult for employment programs to appreciably affect public health spending in the short run. Nonetheless, PROMISE had an impact on Medicaid expenditures for one subgroup, youth with IDD, for whom PROMISE increased parental private insurance coverage and decreased youth's expenditures on Medicaid prescription drugs. We hypothesize that this may be driven by the increase in private insurance for at least one program, as reported in Patnaik et al. (2022a, 2022b). Understanding how increases in employment affect other public programs, like Medicaid, is critical to fully capture programs' costs and benefits.

It is important to understand why PROMISE worked better for youth with higher (or lower) medical needs. One possible explanation for the positive impacts on youth employment for the high medical needs subgroup in Arkansas PROMISE and WI PROMISE is that both programs encouraged all youth to participate in employment-related services. Arkansas PROMISE extended invitations to all youth to attend its summer camp (Honeycutt et al. 2018). Likewise, WI PROMISE tried to engage all youth in vocational rehabilitation services, with 94 percent of participants developing individual plans for employment (Selekman et al. 2018). The findings suggest that broad-based efforts to engage all youth in employment-promoting services can be successful in generating impacts even for those with the highest needs. In contrast, findings from the CaPROMISE process evaluation suggest that some CaPROMISE staff did not believe that youth with severe disabilities would be able to work (Matulewicz et al. 2018). If this mindset was widespread, it might have contributed to the lack of impacts on employment among youth with high medical needs in CaPROMISE. While we have no explanation for why MD PROMISE negatively affected the employment rate of youth with high medical needs, we know that MD PROMISE staff were trained on how to refer youth to Maryland's Department of Rehabilitation Services Pre-Employment Transition Services program, which began focusing on youth with less severe disabilities in 2016. It's possible that those referrals contributed to MD PROMISE's impacts on youth without high medical needs if those with high medical needs typically already received such referrals in the absence of PROMISE. The mixed findings across programs suggest that more research is needed to understand which features of programs are effective for different subgroups of youth.

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Technical Appendix

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Appendix Table A.1. All PROMISE programs: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	99.6	n.a.	99.4	n.a.
Year 1 after RA	99.2	0.00	98.7	0.00
Year 2 after RA	97.5	0.00	97.6	0.00
Year 3 after RA	96.0	0.00	95.9	0.00
Year 4 after RA	93.0	0.00	92.7	0.00
Inpatient expenditures				
Year before RA	5.5	n.a.	5.1	n.a.
Year 1 after RA	6.5	0.01	5.4	0.38
Year 2 after RA	5.1	0.26	4.9	0.62
Year 3 after RA	4.8	0.04	4.7	0.22
Year 4 after RA	4.1	0.00	4.1	0.00
Prescription drug expenditures				
Year before RA	49.3	n.a.	48.2	n.a.
Year 1 after RA	48.1	0.01	47.0	0.01
Year 2 after RA	45.3	0.00	45.2	0.00
Year 3 after RA	42.7	0.00	42.2	0.00
Year 4 after RA	38.4	0.00	37.0	0.00
Long-term care expenditures				
Year before RA	2.3	n.a.	2.2	n.a.
Year 1 after RA	1.5	0.00	1.5	0.00
Year 2 after RA	2.2	0.58	1.8	0.12
Year 3 after RA	1.5	0.00	1.3	0.00
Year 4 after RA	1.1	0.00	0.8	0.00
Waiver expenditures				
Year before RA	6.3	n.a.	5.9	n.a.
Year 1 after RA	4.5	0.00	4.2	0.00
Year 2 after RA	2.1	0.00	1.6	0.00
Year 3 after RA	2.0	0.00	1.7	0.00
Year 4 after RA	2.5	0.00	2.3	0.00
Capitated payment expenditures				
Year before RA	92.7	n.a.	92.0	n.a.
Year 1 after RA	89.6	0.00	89.0	0.00
Year 2 after RA	86.5	0.00	86.4	0.00
Year 3 after RA	89.3	0.00	89.3	0.00
Year 4 after RA	86.5	0.00	86.6	0.00

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Year	Treatment	p-value ^a	Control	p-value ^b
Other services				
Year before RA	84.6	n.a.	84.5	n.a.
Year 1 after RA	84.3	0.45	84.1	0.26
Year 2 after RA	81.8	0.00	81.5	0.00
Year 3 after RA	75.7	0.00	76.4	0.00
Year 4 after RA	67.4	0.00	68.4	0.00
Any expenditures				
Year before RA	99.2	n.a.	98.9	n.a.
Year 1 after RA	99.0	0.13	98.5	0.00
Year 2 after RA	97.3	0.00	97.6	0.00
Year 3 after RA	95.9	0.00	96.1	0.00
Year 4 after RA	92.7	0.00	92.8	0.00
Number of youth	6,302		6,282	

Source: CMS administrative records and PROMISE RA system.

Note: "Other services" include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.2. All PROMISE programs: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	156	n.a.	96	n.a.
Year 1 after RA	154	0.93	114	0.22
Year 2 after RA	110	0.04	113	0.31
Year 3 after RA	105	0.03	99	0.85
Year 4 after RA	98	0.02	120	0.26
Year 5 after RA	58	0.00	76	0.23
Years 1–5 after RA	105	0.01	104	0.47
Prescription drugs				
Year before RA	146	n.a.	144	n.a.
Year 1 after RA	144	0.68	140	0.41
Year 2 after RA	143	0.84	137	0.38
Year 3 after RA	129	0.13	128	0.09
Year 4 after RA	117	0.01	107	0.01
Year 5 after RA	102	0.00	101	0.00
Years 1–5 after RA	127	0.04	122	0.02
Long-term care				
Year before RA	55	n.a.	37	n.a.
Year 1 after RA	30	0.01	27	0.14
Year 2 after RA	36	0.06	50	0.26
Year 3 after RA	43	0.28	31	0.52
Year 4 after RA	39	0.19	33	0.69
Year 5 after RA	26	0.01	17	0.03
Years 1–5 after RA	35	0.03	32	0.42
Waiver services				
Year before RA	73	n.a.	63	n.a.
Year 1 after RA	43	0.00	34	0.00
Year 2 after RA	36	0.00	30	0.00
Year 3 after RA	45	0.00	45	0.01
Year 4 after RA	62	0.14	67	0.58
Year 5 after RA	77	0.71	84	0.04
Years 1–5 after RA	53	0.00	52	0.07
Capitated payments				
Year before RA	503	n.a.	502	n.a.
Year 1 after RA	544	0.00	544	0.00
Year 2 after RA	660	0.00	676	0.00
Year 3 after RA	635	0.00	643	0.00
Year 4 after RA	611	0.00	626	0.00
Year 5 after RA	633	0.00	647	0.00
Years 1–5 after RA	617	0.00	627	0.00

Year	Treatment	p-value ^a	Control	p-value ^b
Other services				
Year before RA	480	n.a.	449	n.a.
Year 1 after RA	514	0.00	471	0.01
Year 2 after RA	534	0.00	490	0.00
Year 3 after RA	515	0.03	497	0.00
Year 4 after RA	518	0.03	492	0.01
Year 5 after RA	479	0.93	478	0.12
Years 1–5 after RA	512	0.02	486	0.00
Total				
Year before RA	1,414	n.a.	1,291	n.a.
Year 1 after RA	1,428	0.65	1,329	0.05
Year 2 after RA	1,521	0.00	1,496	0.00
Year 3 after RA	1,473	0.10	1,442	0.00
Year 4 after RA	1,444	0.43	1,445	0.00
Year 5 after RA	1,374	0.29	1,402	0.00
Years 1–5 after RA	1,448	0.26	1,423	0.00
Number of youth	6,302		6,282	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The p-value for a continuous or binary variable is based on a two-tailed t-test.

^a This p-value represents the t-test for whether the treatment group value during the year is different from the year before RA.

^b This p-value represents the t-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.3. All PROMISE programs: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	5.3	5.5	5.1	0.4	0.32
Prescription drugs	48.8	49.3	48.2	1.1	0.21
Long-term care	2.2	2.3	2.2	0.1	0.65
Waiver services	6.1	6.3	5.9	0.4	0.32
Capitated payments	92.4	92.7	92.0	0.7	0.13
Other services	84.6	84.6	84.5	0.1	0.89
Total	99.1	99.2	98.9	0.3*	0.08
Medicaid expenditures (2020 dollars)					
Inpatient services	126	156	96	60***	0.01
Prescription drugs	145	146	144	2	0.88
Long-term care	46	55	37	18*	0.08
Waiver services	68	73	63	10	0.20
Capitated payments	503	503	502	1	0.94
Other services	465	480	449	31	0.15
Total	1,353	1,414	1,291	123***	0.00
Number of youth	12,584	6,302	6,282		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.4. All PROMISE programs: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	130	114	16	0.46
Year 2 after RA	100	113	-14	0.53
Year 3 after RA	98	99	-1	0.96
Year 4 after RA	88	120	-31	0.19
Year 5 after RA	55	76	-21	0.28
Years 1–5 after RA	94	104	-10	0.41
Prescription drug expenditures				
Year 1 after RA	142	140	2	0.80
Year 2 after RA	141	137	4	0.76
Year 3 after RA	127	128	-1	0.93
Year 4 after RA	115	107	8	0.58
Year 5 after RA	100	101	-1	0.96
Years 1–5 after RA	125	122	3	0.82
Long-term care expenditures				
Year 1 after RA	28	27	2	0.85
Year 2 after RA	35	50	-15	0.25
Year 3 after RA	42	31	11	0.33
Year 4 after RA	39	33	6	0.66
Year 5 after RA	26	17	9	0.43
Years 1–5 after RA	34	32	2	0.75
Waiver expenditures				
Year 1 after RA	37	34	3	0.50
Year 2 after RA	31	30	1	0.83
Year 3 after RA	41	45	-4	0.62
Year 4 after RA	57	67	-10	0.34
Year 5 after RA	72	84	-12	0.37
Years 1–5 after RA	48	52	-4	0.52
Capitated payments				
Year 1 after RA	544	544	0	0.97
Year 2 after RA	661	676	-15	0.13
Year 3 after RA	636	643	-7	0.56
Year 4 after RA	611	626	-15	0.29
Year 5 after RA	631	647	-15	0.37
Years 1–5 after RA	617	627	-10	0.26

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	487	471	16	0.18
Year 2 after RA	510	490	20	0.22
Year 3 after RA	492	497	-5	0.78
Year 4 after RA	495	492	2	0.92
Year 5 after RA	456	478	-21	0.37
Years 1–5 after RA	488	486	2	0.87
Total expenditures				
Year 1 after RA	1,343	1,329	14	0.66
Year 2 after RA	1,448	1,496	-48	0.21
Year 3 after RA	1,406	1,442	-36	0.36
Year 4 after RA	1,379	1,445	-67	0.15
Year 5 after RA	1,316	1,402	-86*	0.05
Years 1-5 after RA	1,378	1,423	-45	0.14
Number of youth	6,302	6,282		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates.. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.5. All PROMISE programs: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	72	-2	0.94	132	-24	0.38	174	132*	0.09	0.17
Year 2 after RA	64	-11	0.65	131	-78**	0.01	191	98	0.20	0.06†
Year 3 after RA	36	27	0.28	80	-23	0.34	275	-24	0.73	0.35
Year 4 after RA	83	-26	0.39	65	-40**	0.03	303	-27	0.78	0.91
Year 5 after RA	47	-18	0.43	25	1	0.92	232	-66	0.38	0.52
Years 1-5 after RA	60	-6	0.66	87	-33**	0.01	235	22	0.65	0.26
Prescription drug expenditures										
Year 1 after RA	88	-7	0.47	124	-1	0.87	285	27	0.34	0.51
Year 2 after RA	90	-29***	0.01	95	5	0.54	317	79	0.23	0.01††
Year 3 after RA	80	-32***	0.00	80	13	0.28	323	44	0.46	0.01††
Year 4 after RA	66	-23**	0.01	55	15*	0.07	294	70	0.36	0.01†††
Year 5 after RA	53	-13	0.21	47	12	0.23	310	4	0.96	0.21
Years 1-5 after RA	75	-21**	0.02	80	9	0.25	306	45	0.41	0.02††
Long-term care expenditures										
Year 1 after RA	24	-11	0.38	39	17	0.31	11	3	0.73	0.40
Year 2 after RA	29	-11	0.39	92	-41	0.18	20	25	0.31	0.23
Year 3 after RA	23	22	0.15	42	-1	0.94	30	7	0.81	0.62
Year 4 after RA	31	21	0.38	27	-5	0.71	48	-8	0.83	0.63
Year 5 after RA	10	33**	0.04	16	-15	0.14	35	-1	0.98	0.05††
Years 1-5 after RA	23	11	0.36	43	-9	0.38	29	5	0.81	0.45

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	44	6	0.39	13	4	0.42	52	-6	0.46	0.50
Year 2 after RA	36	14	0.22	13	2	0.79	48	-27***	0.01	0.01††
Year 3 after RA	55	10	0.52	20	-2	0.80	68	-40***	0.01	0.03††
Year 4 after RA	73	-1	0.94	47	-12	0.47	91	-26	0.25	0.68
Year 5 after RA	96	-13	0.53	57	-10	0.63	106	-13	0.68	0.99
Years 1-5 after RA	61	3	0.80	30	-4	0.68	73	-23*	0.10	0.35
Capitated payments										
Year 1 after RA	581	-10	0.24	470	-6	0.55	595	34*	0.08	0.11
Year 2 after RA	726	-16	0.26	550	-20	0.19	792	-4	0.88	0.89
Year 3 after RA	702	-0	0.98	507	-15	0.40	762	-7	0.84	0.85
Year 4 after RA	687	-9	0.66	485	-16	0.44	749	-26	0.49	0.93
Year 5 after RA	712	-7	0.78	489	-15	0.52	788	-34	0.45	0.87
Years 1-5 after RA	682	-9	0.53	500	-14	0.29	737	-8	0.78	0.95
Expenditures on other services										
Year 1 after RA	413	44***	0.00	361	17	0.34	805	-48	0.22	0.07†
Year 2 after RA	461	41*	0.10	333	11	0.58	842	-12	0.81	0.52
Year 3 after RA	510	-14	0.60	276	-14	0.55	872	31	0.61	0.78
Year 4 after RA	530	11	0.73	214	-12	0.60	921	10	0.89	0.82
Year 5 after RA	558	-28	0.45	159	-3	0.88	881	-37	0.63	0.79
Years 1-5 after RA	494	11	0.62	269	-0	0.99	864	-11	0.81	0.88

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	1,221	7	0.86	1,138	-20	0.63	1,922	91	0.41	0.62
Year 2 after RA	1,408	-29	0.53	1,214	-143**	0.01	2,211	85	0.52	0.15
Year 3 after RA	1,405	2	0.97	1,005	-65	0.20	2,330	-68	0.63	0.63
Year 4 after RA	1,470	-39	0.52	892	-93**	0.04	2,406	-78	0.65	0.77
Year 5 after RA	1,476	-56	0.35	793	-54	0.23	2,352	-212	0.19	0.64
Years 1-5 after RA	1,396	-23	0.55	1,008	-75**	0.04	2,244	-37	0.74	0.61
Number of treatment youth	2,847			2,156			1,299			
Number of control youth	2,803			2,182			1,297			

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.6. Arkansas PROMISE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	99.2	n.a.	98.8	n.a.
Year 1 after RA	98.8	0.35	97.6	0.03
Year 2 after RA	94.6	0.00	95.3	0.00
Year 3 after RA	92.5	0.00	91.7	0.00
Year 4 after RA	86.6	0.00	87.8	0.00
Inpatient expenditures				
Year before RA	7.5	n.a.	6.8	n.a.
Year 1 after RA	10.2	0.02	8.5	0.12
Year 2 after RA	6.9	0.54	5.4	0.20
Year 3 after RA	6.2	0.22	4.4	0.02
Year 4 after RA	5.1	0.03	4.8	0.06
Prescription drug expenditures				
Year before RA	83.7	n.a.	81.4	n.a.
Year 1 after RA	80.3	0.01	78.6	0.03
Year 2 after RA	75.7	0.00	75.9	0.00
Year 3 after RA	70.0	0.00	71.4	0.00
Year 4 after RA	55.9	0.00	54.6	0.00
Long-term care expenditures				
Year before RA	8.0	n.a.	7.3	n.a.
Year 1 after RA	4.2	0.00	4.0	0.00
Year 2 after RA	7.0	0.37	6.2	0.29
Year 3 after RA	4.5	0.00	3.9	0.00
Year 4 after RA	2.4	0.00	1.8	0.00
Waiver expenditures				
Year before RA	1.3	n.a.	1.3	n.a.
Year 1 after RA	1.2	0.32	1.0	0.08
Year 2 after RA	1.2	0.32	1.1	0.16
Year 3 after RA	1.7	0.26	1.6	0.41
Year 4 after RA	2.1	0.07	1.9	0.13
Capitated payment expenditures				
Year before RA	98.9	n.a.	98.1	n.a.
Year 1 after RA	81.7	0.00	80.5	0.00
Year 2 after RA	68.7	0.00	68.4	0.00
Year 3 after RA	92.6	0.00	93.2	0.00
Year 4 after RA	89.0	0.00	90.6	0.00

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Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	95.8	n.a.	95.4	n.a.
Year 1 after RA	95.0	0.35	93.9	0.06
Year 2 after RA	90.9	0.00	90.7	0.00
Year 3 after RA	83.3	0.00	84.0	0.00
Year 4 after RA	69.1	0.00	70.5	0.00
Any expenditures				
Year before RA	98.9	n.a.	98.3	n.a.
Year 1 after RA	98.9	1.00	98.1	0.70
Year 2 after RA	94.7	0.00	96.1	0.00
Year 3 after RA	93.9	0.00	94.1	0.00
Year 4 after RA	89.4	0.00	90.8	0.00
Number of youth	904		901	

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.7. Arkansas PROMISE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	204	n.a.	89	n.a.
Year 1 after RA	132	0.15	102	0.61
Year 2 after RA	91	0.01	97	0.86
Year 3 after RA	64	0.01	36	0.02
Year 4 after RA	45	0.01	37	0.02
Year 5 after RA	25	0.00	27	0.00
Years 1–5 after RA	71	0.01	60	0.21
Prescription drugs				
Year before RA	158	n.a.	148	n.a.
Year 1 after RA	116	0.03	115	0.00
Year 2 after RA	93	0.01	102	0.00
Year 3 after RA	81	0.00	84	0.00
Year 4 after RA	54	0.00	40	0.00
Year 5 after RA	36	0.00	18	0.00
Years 1–5 after RA	76	0.00	72	0.00
Long-term care				
Year before RA	194	n.a.	114	n.a.
Year 1 after RA	75	0.00	56	0.01
Year 2 after RA	103	0.01	149	0.36
Year 3 after RA	120	0.09	70	0.16
Year 4 after RA	64	0.00	15	0.00
Year 5 after RA	55	0.00	3	0.00
Years 1–5 after RA	83	0.00	58	0.01
Waiver services				
Year before RA	26	n.a.	20	n.a.
Year 1 after RA	14	0.09	16	0.62
Year 2 after RA	37	0.14	35	0.20
Year 3 after RA	42	0.07	43	0.10
Year 4 after RA	49	0.06	52	0.05
Year 5 after RA	5	0.01	12	0.24
Years 1–5 after RA	30	0.48	32	0.21
Capitated payments				
Year before RA	15	n.a.	16	n.a.
Year 1 after RA	7	0.00	10	0.00
Year 2 after RA	14	0.81	13	0.27
Year 3 after RA	34	0.00	37	0.00
Year 4 after RA	200	0.00	250	0.00
Year 5 after RA	499	0.00	516	0.00
Years 1–5 after RA	151	0.00	165	0.00

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	381	n.a.	357	n.a.
Year 1 after RA	391	0.53	330	0.02
Year 2 after RA	325	0.00	295	0.00
Year 3 after RA	237	0.00	238	0.00
Year 4 after RA	175	0.00	155	0.00
Year 5 after RA	90	0.00	106	0.00
Years 1–5 after RA	244	0.00	225	0.00
Total				
Year before RA	977	n.a.	744	n.a.
Year 1 after RA	736	0.00	629	0.00
Year 2 after RA	664	0.00	691	0.42
Year 3 after RA	577	0.00	508	0.00
Year 4 after RA	588	0.00	549	0.00
Year 5 after RA	710	0.00	681	0.27
Years 1–5 after RA	655	0.00	611	0.00
Number of youth	904		901	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.8. Arkansas PROMISE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	7.1	7.5	6.8	0.8	0.54
Prescription drugs	82.5	83.7	81.4	2.4	0.18
Long-term care	7.6	8.0	7.3	0.6	0.61
Waiver services	1.3	1.3	1.3	-0.0	0.99
Capitated payments	98.5	98.9	98.1	0.8	0.17
Other services	95.6	95.8	95.4	0.3	0.72
Total	98.6	98.9	98.3	0.6	0.31
Medicaid expenditures (2020 dollars)					
Inpatient services	146	204	89	115*	0.06
Prescription drugs	153	158	148	10	0.75
Long-term care	154	194	114	80**	0.04
Waiver services	23	26	20	6	0.63
Capitated payments	15	15	16	-1	0.64
Other services	369	381	357	24	0.41
Total	861	977	744	233**	0.02
Number of youth	1,805	904	901		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.9. Arkansas PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	109	102	7	0.79
Year 2 after RA	62	97	-34	0.45
Year 3 after RA	51	36	15	0.43
Year 4 after RA	41	37	3	0.86
Year 5 after RA	21	27	-6	0.62
Years 1–5 after RA	57	60	-3	0.86
Prescription drug expenditures				
Year 1 after RA	112	115	-3	0.78
Year 2 after RA	92	102	-10	0.58
Year 3 after RA	80	84	-4	0.84
Year 4 after RA	55	40	15	0.20
Year 5 after RA	36	18	18**	0.04
Years 1–5 after RA	75	72	3	0.77
Long-term care expenditures				
Year 1 after RA	65	56	9	0.67
Year 2 after RA	96	149	-52	0.13
Year 3 after RA	107	70	38	0.27
Year 4 after RA	54	15	38*	0.07
Year 5 after RA	43	3	40*	0.06
Years 1–5 after RA	73	58	15	0.42
Waiver expenditures				
Year 1 after RA	12	16	-5	0.52
Year 2 after RA	29	35	-6	0.67
Year 3 after RA	37	43	-6	0.70
Year 4 after RA	47	52	-4	0.83
Year 5 after RA	5	12	-7	0.13
Years 1–5 after RA	26	32	-6	0.57
Capitated payments				
Year 1 after RA	8	10	-2	0.23
Year 2 after RA	15	13	2	0.62
Year 3 after RA	35	37	-3	0.60
Year 4 after RA	206	250	-44	0.22
Year 5 after RA	514	516	-2	0.98
Years 1–5 after RA	155	165	-10	0.57

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	372	330	42**	0.03
Year 2 after RA	316	295	21	0.26
Year 3 after RA	233	238	-5	0.79
Year 4 after RA	169	155	14	0.43
Year 5 after RA	90	106	-15	0.32
Years 1–5 after RA	236	225	12	0.36
Total expenditures				
Year 1 after RA	639	629	9	0.84
Year 2 after RA	575	691	-116	0.13
Year 3 after RA	512	508	4	0.94
Year 4 after RA	543	549	-5	0.92
Year 5 after RA	669	681	-12	0.86
Years 1-5 after RA	587	611	-24	0.59
Number of youth	904	901		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates.. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.10. Arkansas PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	69	13	0.73	132	-12	0.78	106	51	0.43	0.71
Year 2 after RA	137	-96	0.37	26	4	0.83	206	27	0.84	0.67
Year 3 after RA	10	4	0.79	17	-5	0.63	174	108	0.42	0.58
Year 4 after RA	10	16	0.21	29	-21*	0.09	148	36	0.76	0.08†
Year 5 after RA	8	12	0.22	17	-15	0.21	118	-43	0.59	0.20
Years 1-5 after RA	47	-10	0.70	44	-10	0.42	150	36	0.69	0.87
Prescription drug expenditures										
Year 1 after RA	88	10	0.56	112	-2	0.87	210	-54	0.38	0.47
Year 2 after RA	76	-17	0.29	82	3	0.77	248	-32	0.75	0.57
Year 3 after RA	58	-8	0.66	67	0	0.99	220	-11	0.93	0.95
Year 4 after RA	33	12	0.23	31	3	0.63	92	59	0.42	0.55
Year 5 after RA	16	7	0.30	13	3	0.51	36	102*	0.09	0.17
Years 1-5 after RA	54	1	0.95	61	2	0.83	161	13	0.84	0.98
Long-term care expenditures										
Year 1 after RA	35	17	0.59	91	-1	0.98	4	17	0.28	0.90
Year 2 after RA	74	1	0.98	247	-106	0.14	54	-42	0.39	0.46
Year 3 after RA	68	76	0.27	89	17	0.77	14	-14	0.51	0.38
Year 4 after RA	7	90*	0.08	26	-6	0.78	3	23	0.43	0.25
Year 5 after RA	1	120**	0.04	5	-20	0.14	0	-13	0.53	0.09†
Years 1-5 after RA	37	61	0.10	92	-23	0.42	15	-6	0.73	0.25

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	3	11	0.28	0	-0	0.86	113	-68*	0.09	0.06†
Year 2 after RA	33	1	0.96	0	-2	0.33	159	-40	0.30	0.61
Year 3 after RA	41	-0	1.00	2	-3	0.49	187	-40	0.42	0.75
Year 4 after RA	55	-10	0.78	15	-15	0.28	163	49	0.53	0.71
Year 5 after RA	15	-17*	0.06	0	-1	0.53	40	1	0.94	0.17
Years 1-5 after RA	29	-3	0.88	3	-4	0.24	132	-20	0.53	0.88
Capitated payments										
Year 1 after RA	13	-3	0.49	6	0	0.97	15	-10	0.13	0.26
Year 2 after RA	14	3	0.64	11	4	0.43	14	-8	0.48	0.62
Year 3 after RA	39	-9	0.26	38	3	0.73	28	-1	0.93	0.56
Year 4 after RA	236	-36	0.54	231	-23	0.60	352	-142	0.29	0.69
Year 5 after RA	555	38	0.73	375	-22	0.75	862	-66	0.79	0.87
Years 1-5 after RA	171	-1	0.96	132	-8	0.70	254	-46	0.50	0.83
Expenditures on other services										
Year 1 after RA	273	42*	0.09	321	27	0.30	531	91	0.31	0.75
Year 2 after RA	249	6	0.81	274	10	0.72	507	98	0.24	0.57
Year 3 after RA	199	2	0.94	191	-25	0.23	509	30	0.74	0.62
Year 4 after RA	137	30	0.24	113	-43**	0.03	346	148	0.12	0.02††
Year 5 after RA	125	-57**	0.02	51	-0	0.96	225	59	0.50	0.09†
Years 1-5 after RA	197	5	0.77	190	-6	0.66	424	85	0.23	0.43

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	480	81	0.22	661	-29	0.70	978	-99	0.56	0.42
Year 2 after RA	581	-88	0.52	640	-133	0.14	1,188	-167	0.50	0.95
Year 3 after RA	414	90	0.29	405	-48	0.51	1,132	-129	0.61	0.43
Year 4 after RA	479	116	0.22	444	-132**	0.04	1,104	3	0.99	0.10†
Year 5 after RA	720	79	0.52	462	-88	0.24	1,281	-67	0.80	0.52
Years 1-5 after RA	535	56	0.45	522	-86	0.12	1,137	-92	0.62	0.32
Number of treatment youth			384			402			118	
Number of control youth			373			405			123	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.11. ASPIRE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	98.5	n.a.	97.7	n.a.
Year 1 after RA	97.9	0.11	96.7	0.03
Year 2 after RA	95.9	0.00	95.9	0.00
Year 3 after RA	94.6	0.00	93.6	0.00
Year 4 after RA	90.5	0.00	89.7	0.00
Inpatient expenditures				
Year before RA	3.6	n.a.	2.9	n.a.
Year 1 after RA	3.8	0.78	2.8	0.87
Year 2 after RA	3.4	0.75	2.7	0.72
Year 3 after RA	2.5	0.10	2.2	0.25
Year 4 after RA	3.2	0.58	2.3	0.32
Prescription drug expenditures				
Year before RA	39.0	n.a.	35.8	n.a.
Year 1 after RA	38.0	0.32	35.3	0.60
Year 2 after RA	34.2	0.00	34.7	0.29
Year 3 after RA	33.8	0.00	32.8	0.01
Year 4 after RA	33.3	0.00	29.2	0.00
Long-term care expenditures				
Year before RA	0.6	n.a.	0.5	n.a.
Year 1 after RA	0.5	0.71	0.3	0.41
Year 2 after RA	0.5	0.76	0.5	1.00
Year 3 after RA	0.7	0.76	0.2	0.26
Year 4 after RA	0.6	1.00	0.3	0.48
Waiver expenditures				
Year before RA	4.4	n.a.	3.6	n.a.
Year 1 after RA	4.6	0.41	3.7	0.56
Year 2 after RA	5.6	0.01	4.1	0.13
Year 3 after RA	7.0	0.00	5.7	0.00
Year 4 after RA	9.0	0.00	7.8	0.00
Capitated payment expenditures				
Year before RA	89.4	n.a.	88.9	n.a.
Year 1 after RA	87.7	0.02	88.2	0.30
Year 2 after RA	86.4	0.00	88.0	0.25
Year 3 after RA	85.5	0.00	85.5	0.00
Year 4 after RA	82.9	0.00	83.3	0.00

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Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	59.3	n.a.	60.9	n.a.
Year 1 after RA	57.2	0.05	59.8	0.30
Year 2 after RA	54.6	0.00	56.4	0.00
Year 3 after RA	52.5	0.00	52.4	0.00
Year 4 after RA	45.0	0.00	46.3	0.00
Any expenditures				
Year before RA	98.5	n.a.	98.1	n.a.
Year 1 after RA	97.9	0.13	96.6	0.00
Year 2 after RA	95.7	0.00	96.2	0.00
Year 3 after RA	94.4	0.00	93.0	0.00
Year 4 after RA	89.7	0.00	88.9	0.00
Number of youth	978		975	

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.12. ASPIRE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	41	n.a.	48	n.a.
Year 1 after RA	85	0.11	49	0.98
Year 2 after RA	71	0.26	32	0.37
Year 3 after RA	54	0.50	25	0.16
Year 4 after RA	29	0.24	37	0.59
Year 5 after RA	22	0.12	45	0.84
Years 1–5 after RA	52	0.44	38	0.48
Prescription drugs				
Year before RA	140	n.a.	129	n.a.
Year 1 after RA	140	0.99	120	0.55
Year 2 after RA	133	0.79	115	0.40
Year 3 after RA	113	0.31	99	0.08
Year 4 after RA	113	0.28	83	0.00
Year 5 after RA	97	0.02	99	0.22
Years 1–5 after RA	119	0.28	103	0.11
Long-term care				
Year before RA	21	n.a.	34	n.a.
Year 1 after RA	37	0.53	8	0.08
Year 2 after RA	30	0.70	8	0.09
Year 3 after RA	32	0.56	18	0.49
Year 4 after RA	18	0.90	23	0.61
Year 5 after RA	31	0.63	31	0.90
Years 1–5 after RA	30	0.59	17	0.34
Waiver services				
Year before RA	50	n.a.	56	n.a.
Year 1 after RA	49	0.67	56	0.89
Year 2 after RA	63	0.08	83	0.04
Year 3 after RA	106	0.00	124	0.00
Year 4 after RA	183	0.00	201	0.00
Year 5 after RA	254	0.00	261	0.00
Years 1–5 after RA	131	0.00	145	0.00
Capitated payments				
Year before RA	916	n.a.	932	n.a.
Year 1 after RA	1,162	0.00	1,166	0.00
Year 2 after RA	1,465	0.00	1,525	0.00
Year 3 after RA	1,380	0.00	1,417	0.00
Year 4 after RA	1,143	0.00	1,211	0.00
Year 5 after RA	1,022	0.00	1,067	0.00
Years 1–5 after RA	1,234	0.00	1,277	0.00

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	329	n.a.	301	n.a.
Year 1 after RA	306	0.31	298	0.81
Year 2 after RA	330	0.98	301	0.99
Year 3 after RA	318	0.72	266	0.08
Year 4 after RA	303	0.46	248	0.02
Year 5 after RA	216	0.00	213	0.00
Years 1–5 after RA	295	0.17	265	0.03
Total				
Year before RA	1,497	n.a.	1,501	n.a.
Year 1 after RA	1,779	0.00	1,697	0.00
Year 2 after RA	2,092	0.00	2,065	0.00
Year 3 after RA	2,004	0.00	1,950	0.00
Year 4 after RA	1,789	0.00	1,803	0.00
Year 5 after RA	1,641	0.02	1,714	0.00
Years 1–5 after RA	1,861	0.00	1,846	0.00
Number of youth	978		975	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.13. ASPIRE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	3.2	3.6	2.9	0.7	0.38
Prescription drugs	37.4	39.0	35.8	3.2	0.15
Long-term care	0.6	0.6	0.5	0.1	0.77
Waiver services	4.0	4.4	3.6	0.8	0.36
Capitated payments	89.1	89.4	88.9	0.4	0.75
Other services	60.1	59.3	60.9	-1.6	0.47
Total	98.3	98.5	98.1	0.4	0.48
Medicaid expenditures (2020 dollars)					
Inpatient services	45	41	48	-7	0.70
Prescription drugs	135	140	129	10	0.68
Long-term care	27	21	34	-14	0.50
Waiver services	53	50	56	-5	0.77
Capitated payments	924	916	932	-15	0.77
Other services	315	329	301	27	0.56
Total	1,499	1,497	1,501	-4	0.96
Number of youth	1,953	978	975		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.14. ASPIRE: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	87	49	38	0.19
Year 2 after RA	73	32	41	0.13
Year 3 after RA	54	25	29	0.13
Year 4 after RA	29	37	-8	0.65
Year 5 after RA	21	45	-23	0.14
Years 1–5 after RA	53	38	15	0.23
Prescription drug expenditures				
Year 1 after RA	126	120	5	0.76
Year 2 after RA	122	115	7	0.79
Year 3 after RA	103	99	4	0.89
Year 4 after RA	104	83	21	0.40
Year 5 after RA	89	99	-10	0.73
Years 1–5 after RA	109	103	6	0.80
Long-term care expenditures				
Year 1 after RA	43	8	35	0.19
Year 2 after RA	34	8	27	0.22
Year 3 after RA	39	18	22	0.36
Year 4 after RA	22	23	-0	0.98
Year 5 after RA	36	31	5	0.85
Years 1–5 after RA	35	17	18	0.26
Waiver expenditures				
Year 1 after RA	54	56	-3	0.68
Year 2 after RA	69	83	-15	0.33
Year 3 after RA	111	124	-13	0.63
Year 4 after RA	195	201	-6	0.88
Year 5 after RA	266	261	6	0.91
Years 1–5 after RA	139	145	-6	0.80
Capitated payments				
Year 1 after RA	1,186	1,166	20	0.41
Year 2 after RA	1,496	1,525	-29	0.49
Year 3 after RA	1,414	1,417	-3	0.95
Year 4 after RA	1,166	1,211	-46	0.40
Year 5 after RA	1,040	1,067	-27	0.58
Years 1–5 after RA	1,260	1,277	-17	0.66

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	285	298	-14	0.57
Year 2 after RA	305	301	3	0.91
Year 3 after RA	294	266	28	0.41
Year 4 after RA	281	248	33	0.39
Year 5 after RA	196	213	-16	0.65
Years 1–5 after RA	272	265	7	0.79
Total expenditures				
Year 1 after RA	1,790	1,697	93	0.11
Year 2 after RA	2,104	2,065	40	0.60
Year 3 after RA	2,021	1,950	72	0.41
Year 4 after RA	1,802	1,803	-0	1.00
Year 5 after RA	1,656	1,714	-59	0.53
Years 1-5 after RA	1,875	1,846	29	0.66
Number of youth	978	975		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates.. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.15. ASPIRE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	17	25	0.42	32	53	0.24	122	49	0.57	0.86
Year 2 after RA	29	-1	0.95	27	58	0.33	45	97	0.16	0.28
Year 3 after RA	15	2	0.87	29	-2	0.91	40	110*	0.08	0.21
Year 4 after RA	56	-41	0.23	13	6	0.54	34	36	0.21	0.20
Year 5 after RA	25	-10	0.37	5	1	0.94	125	-69	0.20	0.32
Years 1-5 after RA	28	-5	0.68	21	23	0.27	73	44	0.21	0.27
Prescription drug expenditures										
Year 1 after RA	70	16	0.46	93	-9	0.56	236	9	0.87	0.66
Year 2 after RA	74	-35	0.21	72	-9	0.73	235	102	0.36	0.50
Year 3 after RA	70	-57*	0.07	58	0	0.99	197	116	0.34	0.25
Year 4 after RA	58	-43	0.13	43	6	0.81	171	152	0.17	0.21
Year 5 after RA	59	-18	0.55	39	1	0.96	236	-3	0.98	0.88
Years 1-5 after RA	66	-27	0.27	61	-2	0.91	215	75	0.42	0.53
Long-term care expenditures										
Year 1 after RA	0	5	0.44	24	113	0.22	3	5	0.59	0.45
Year 2 after RA	0	1	0.82	24	82	0.29	1	12	0.19	0.45
Year 3 after RA	1	61	0.13	56	-49	0.34	0	32*	0.06	0.21
Year 4 after RA	6	29	0.39	64	-66	0.20	0	20**	0.04	0.25
Year 5 after RA	0	55	0.17	100	-97	0.17	0	30	0.28	0.16
Years 1-5 after RA	1	30	0.16	53	-3	0.94	1	20**	0.04	0.74

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	59	0	0.99	46	-17	0.34	64	7	0.38	0.44
Year 2 after RA	91	-0	0.98	68	-35	0.31	90	-16	0.42	0.67
Year 3 after RA	133	35	0.43	86	-35	0.44	156	-68	0.10	0.23
Year 4 after RA	195	41	0.51	186	-25	0.79	229	-64	0.33	0.51
Year 5 after RA	297	-10	0.91	184	24	0.80	291	16	0.85	0.96
Years 1-5 after RA	155	13	0.74	114	-17	0.71	166	-25	0.49	0.77
Capitated payments										
Year 1 after RA	1,276	-13	0.66	954	28	0.37	1,233	69	0.31	0.42
Year 2 after RA	1,733	-66	0.23	1,142	-20	0.73	1,635	26	0.82	0.71
Year 3 after RA	1,643	-18	0.81	975	-11	0.89	1,566	37	0.79	0.94
Year 4 after RA	1,394	-42	0.58	765	-53	0.49	1,439	-35	0.79	0.99
Year 5 after RA	1,224	-65	0.33	652	-10	0.89	1,300	29	0.81	0.74
Years 1-5 after RA	1,454	-41	0.42	898	-13	0.80	1,435	25	0.79	0.81
Expenditures on other services										
Year 1 after RA	228	-12	0.65	171	1	0.97	567	-31	0.61	0.91
Year 2 after RA	248	-17	0.65	137	34	0.40	586	9	0.91	0.66
Year 3 after RA	229	-20	0.64	119	47	0.36	505	93	0.26	0.36
Year 4 after RA	207	10	0.84	84	8	0.82	513	103	0.33	0.67
Year 5 after RA	161	-20	0.55	67	-35	0.32	473	12	0.91	0.88
Years 1-5 after RA	215	-12	0.70	115	11	0.72	529	37	0.61	0.76

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	1,650	19	0.76	1,321	189*	0.08	2,226	131	0.40	0.36
Year 2 after RA	2,175	-133	0.13	1,468	141	0.23	2,592	240	0.23	0.07†
Year 3 after RA	2,091	-12	0.92	1,323	-17	0.89	2,464	331	0.13	0.33
Year 4 after RA	1,917	-55	0.68	1,155	-96	0.48	2,386	220	0.29	0.41
Year 5 after RA	1,767	-68	0.58	1,046	-94	0.54	2,425	20	0.93	0.91
Years 1-5 after RA	1,920	-50	0.56	1,263	25	0.80	2,419	188	0.26	0.43
Number of treatment youth			451			263			264	
Number of control youth			422			301			252	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.16. CaPROMISE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	99.9	n.a.	99.9	n.a.
Year 1 after RA	99.9	0.56	99.9	0.56
Year 2 after RA	99.5	0.03	99.5	0.02
Year 3 after RA	98.8	0.00	98.8	0.00
Year 4 after RA	97.1	0.00	97.0	0.00
Inpatient expenditures				
Year before RA	3.5	n.a.	3.5	n.a.
Year 1 after RA	3.4	0.91	3.4	0.80
Year 2 after RA	3.2	0.65	3.9	0.47
Year 3 after RA	3.5	1.00	3.8	0.55
Year 4 after RA	2.9	0.31	3.9	0.43
Prescription drug expenditures				
Year before RA	23.0	n.a.	22.3	n.a.
Year 1 after RA	21.4	0.04	20.9	0.06
Year 2 after RA	20.5	0.01	20.9	0.12
Year 3 after RA	20.6	0.01	21.1	0.23
Year 4 after RA	19.8	0.00	21.0	0.21
Long-term care expenditures				
Year before RA	1.9	n.a.	1.7	n.a.
Year 1 after RA	1.6	0.42	1.4	0.35
Year 2 after RA	1.2	0.07	1.4	0.30
Year 3 after RA	0.9	0.02	1.2	0.14
Year 4 after RA	0.8	0.00	0.8	0.02
Waiver expenditures				
Year before RA	17.4	n.a.	15.8	n.a.
Year 1 after RA	12.5	0.00	11.4	0.00
Year 2 after RA	2.8	0.00	2.5	0.00
Year 3 after RA	-0.0	0.00	0.1	0.00
Year 4 after RA	0.1	0.00	0.2	0.00
Capitated payment expenditures				
Year before RA	92.6	n.a.	91.4	n.a.
Year 1 after RA	93.3	0.03	92.4	0.01
Year 2 after RA	94.1	0.00	93.3	0.00
Year 3 after RA	93.4	0.16	92.2	0.20
Year 4 after RA	91.5	0.15	90.8	0.37

Year	Treatment	p-value ^a	Control	p-value ^b
Other services				
Year before RA	90.2	n.a.	90.1	n.a.
Year 1 after RA	89.2	0.22	87.6	0.00
Year 2 after RA	87.5	0.00	86.6	0.00
Year 3 after RA	81.9	0.00	82.0	0.00
Year 4 after RA	77.2	0.00	77.2	0.00
Any expenditures				
Year before RA	99.3	n.a.	99.0	n.a.
Year 1 after RA	99.3	1.00	99.2	0.25
Year 2 after RA	99.2	0.80	99.1	0.62
Year 3 after RA	98.3	0.00	98.4	0.08
Year 4 after RA	96.2	0.00	96.3	0.00
Number of youth	1,548		1,549	

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This p-value represents the t-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This p-value represents the t-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.17. CaPROMISE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	165	n.a.	110	n.a.
Year 1 after RA	148	0.83	80	0.29
Year 2 after RA	107	0.39	118	0.85
Year 3 after RA	119	0.52	155	0.28
Year 4 after RA	132	0.65	116	0.85
Year 5 after RA	64	0.15	93	0.56
Years 1–5 after RA	114	0.45	112	0.94
Prescription drugs				
Year before RA	144	n.a.	208	n.a.
Year 1 after RA	146	0.84	253	0.01
Year 2 after RA	224	0.17	278	0.04
Year 3 after RA	200	0.15	289	0.04
Year 4 after RA	198	0.20	259	0.42
Year 5 after RA	133	0.77	242	0.60
Years 1–5 after RA	181	0.28	264	0.14
Long-term care				
Year before RA	17	n.a.	11	n.a.
Year 1 after RA	13	0.63	9	0.55
Year 2 after RA	5	0.10	17	0.49
Year 3 after RA	8	0.19	36	0.33
Year 4 after RA	14	0.83	5	0.09
Year 5 after RA	12	0.57	2	0.00
Years 1–5 after RA	10	0.38	14	0.70
Waiver services				
Year before RA	118	n.a.	98	n.a.
Year 1 after RA	51	0.00	47	0.00
Year 2 after RA	3	0.00	4	0.00
Year 3 after RA	-0	0.00	1	0.00
Year 4 after RA	1	0.00	9	0.00
Year 5 after RA	0	0.00	11	0.00
Years 1–5 after RA	11	0.00	15	0.00
Capitated payments				
Year before RA	475	n.a.	475	n.a.
Year 1 after RA	577	0.00	581	0.00
Year 2 after RA	953	0.00	949	0.00
Year 3 after RA	837	0.00	812	0.00
Year 4 after RA	710	0.00	692	0.00
Year 5 after RA	652	0.00	642	0.00
Years 1–5 after RA	746	0.00	735	0.00

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	563	n.a.	580	n.a.
Year 1 after RA	711	0.00	685	0.00
Year 2 after RA	874	0.00	815	0.00
Year 3 after RA	853	0.00	910	0.00
Year 4 after RA	942	0.00	991	0.00
Year 5 after RA	970	0.00	1,031	0.00
Years 1–5 after RA	870	0.00	887	0.00
Total				
Year before RA	1,482	n.a.	1,483	n.a.
Year 1 after RA	1,646	0.10	1,656	0.00
Year 2 after RA	2,166	0.00	2,181	0.00
Year 3 after RA	2,016	0.00	2,203	0.00
Year 4 after RA	1,998	0.00	2,073	0.00
Year 5 after RA	1,831	0.00	2,020	0.00
Years 1–5 after RA	1,932	0.00	2,027	0.00
Number of youth	1,548		1,549	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.18. CaPROMISE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	3.5	3.5	3.5	0.0	1.00
Prescription drugs	22.6	23.0	22.3	0.7	0.63
Long-term care	1.8	1.9	1.7	0.1	0.79
Waiver services	16.6	17.4	15.8	1.6	0.24
Capitated payments	92.0	92.6	91.4	1.2	0.24
Other services	90.2	90.2	90.1	0.1	0.91
Total	99.1	99.3	99.0	0.3	0.33
Medicaid expenditures (2020 dollars)					
Inpatient services	138	165	110	55	0.45
Prescription drugs	176	144	208	-64	0.20
Long-term care	14	17	11	6	0.42
Waiver services	108	118	98	20	0.25
Capitated payments	475	475	475	0	0.96
Other services	571	563	580	-18	0.72
Total	1,482	1,482	1,483	-0	1.00
Number of youth	3,097	1,548	1,549		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.19. CaPROMISE: Impacts on youth's average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	144	80	64	0.18
Year 2 after RA	108	118	-9	0.82
Year 3 after RA	115	155	-40	0.40
Year 4 after RA	137	116	21	0.65
Year 5 after RA	64	93	-29	0.38
Years 1–5 after RA	114	112	1	0.96
Prescription drug expenditures				
Year 1 after RA	210	253	-44**	0.03
Year 2 after RA	291	278	13	0.85
Year 3 after RA	267	289	-21	0.68
Year 4 after RA	259	259	-1	0.99
Year 5 after RA	193	242	-48	0.48
Years 1–5 after RA	244	264	-20	0.67
Long-term care expenditures				
Year 1 after RA	12	9	3	0.62
Year 2 after RA	5	17	-12	0.17
Year 3 after RA	8	36	-28	0.27
Year 4 after RA	16	5	11	0.38
Year 5 after RA	13	2	11	0.12
Years 1–5 after RA	11	14	-3	0.69
Waiver expenditures				
Year 1 after RA	44	47	-3	0.67
Year 2 after RA	2	4	-1	0.44
Year 3 after RA	-0	1	-1	0.18
Year 4 after RA	1	9	-8	0.23
Year 5 after RA	0	11	-11	0.19
Years 1–5 after RA	10	15	-5	0.17
Capitated payments				
Year 1 after RA	576	581	-5	0.71
Year 2 after RA	953	949	4	0.77
Year 3 after RA	838	812	26**	0.05
Year 4 after RA	711	692	20	0.13
Year 5 after RA	654	642	13	0.37
Years 1–5 after RA	747	735	11	0.25

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	732	685	47	0.22
Year 2 after RA	900	815	85	0.15
Year 3 after RA	884	910	-26	0.62
Year 4 after RA	982	991	-9	0.88
Year 5 after RA	1,007	1,031	-25	0.71
Years 1–5 after RA	901	887	14	0.76
Total expenditures				
Year 1 after RA	1,654	1,656	-2	0.98
Year 2 after RA	2,192	2,181	11	0.93
Year 3 after RA	2,041	2,203	-162	0.17
Year 4 after RA	2,044	2,073	-29	0.82
Year 5 after RA	1,869	2,020	-152	0.19
Years 1-5 after RA	1,960	2,027	-67	0.48
Number of youth	1,548	1,549		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates.. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.20. CaPROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	14	14	0.60	42	2	0.96	220	209	0.20	0.45
Year 2 after RA	44	-8	0.80	37	-5	0.85	303	-18	0.89	0.99
Year 3 after RA	41	19	0.69	22	64	0.16	449	-219	0.13	0.16
Year 4 after RA	60	15	0.69	39	-18	0.54	269	63	0.66	0.72
Year 5 after RA	24	6	0.69	60	-34	0.39	233	-78	0.47	0.48
Years 1-5 after RA	37	9	0.66	40	2	0.94	295	-9	0.92	0.96
Prescription drug expenditures										
Year 1 after RA	145	-45*	0.10	159	-40*	0.07	506	-44	0.38	0.99
Year 2 after RA	163	-63*	0.05	113	-14	0.73	600	158	0.51	0.29
Year 3 after RA	138	-28	0.28	126	-17	0.74	666	-19	0.91	0.98
Year 4 after RA	119	-12	0.63	62	57	0.18	648	-36	0.89	0.36
Year 5 after RA	71	10	0.65	41	35	0.41	683	-218	0.39	0.62
Years 1-5 after RA	127	-27	0.18	100	4	0.89	621	-32	0.85	0.67
Long-term care expenditures										
Year 1 after RA	4	2	0.58	18	25	0.22	11	-14*	0.07	0.08†
Year 2 after RA	5	-1	0.70	13	-4	0.55	39	-36	0.20	0.46
Year 3 after RA	8	-1	0.94	20	-14	0.32	95	-88	0.30	0.53
Year 4 after RA	7	-1	0.84	4	3	0.54	3	36	0.35	0.47
Year 5 after RA	2	3	0.34	3	4	0.40	0	30	0.19	0.42
Years 1-5 after RA	5	0	0.91	12	3	0.64	30	-14	0.58	0.76

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	60	-3	0.85	13	-7	0.23	53	-1	0.96	0.87
Year 2 after RA	4	-1	0.79	2	-2**	0.04	4	-1	0.56	0.83
Year 3 after RA	2	-2	0.18	0	0	0.66	0	0	0.57	0.40
Year 4 after RA	20	-18	0.22	0	1	0.55	0	1	0.52	0.38
Year 5 after RA	23	-24	0.19	0	0	0.84	0	1	0.46	0.40
Years 1-5 after RA	22	-9	0.21	3	-2	0.22	11	0	0.98	0.51
Capitated payments										
Year 1 after RA	605	10	0.56	595	-43*	0.07	529	1	0.96	0.19
Year 2 after RA	979	11	0.56	968	-1	0.98	885	-3	0.92	0.90
Year 3 after RA	838	46***	0.01	821	-8	0.81	762	21	0.39	0.29
Year 4 after RA	714	39**	0.02	666	-1	0.98	675	5	0.84	0.36
Year 5 after RA	672	19	0.32	588	5	0.88	635	10	0.70	0.91
Years 1-5 after RA	762	25*	0.06	728	-9	0.67	697	7	0.72	0.38
Expenditures on other services										
Year 1 after RA	574	115**	0.01	489	64	0.27	1,024	-83	0.35	0.12
Year 2 after RA	733	198*	0.05	534	65	0.37	1,173	-91	0.34	0.13
Year 3 after RA	844	77	0.27	532	-84	0.33	1,320	-163	0.16	0.12
Year 4 after RA	930	133*	0.08	551	-143	0.19	1,444	-150	0.29	0.05††
Year 5 after RA	1,090	69	0.50	436	-88	0.30	1,409	-140	0.31	0.35
Years 1-5 after RA	834	118*	0.07	508	-37	0.59	1,274	-125	0.20	0.06†

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	1,402	54	0.48	1,317	25	0.85	2,345	-110	0.69	0.84
Year 2 after RA	1,929	88	0.49	1,668	60	0.63	3,003	-171	0.61	0.77
Year 3 after RA	1,870	61	0.52	1,521	-35	0.83	3,293	-654*	0.05	0.12
Year 4 after RA	1,850	109	0.26	1,321	-70	0.65	3,040	-246	0.54	0.44
Year 5 after RA	1,881	36	0.74	1,128	-58	0.63	2,960	-552	0.12	0.27
Years 1-5 after RA	1,786	69	0.38	1,391	-16	0.90	2,928	-347	0.21	0.32
Number of treatment youth			738			375			435	
Number of control youth			741			358			450	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.21. MD PROMISE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	99.9	n.a.	99.9	n.a.
Year 1 after RA	99.8	0.32	99.7	0.16
Year 2 after RA	98.9	0.00	98.6	0.00
Year 3 after RA	97.6	0.00	97.6	0.00
Year 4 after RA	94.7	0.00	93.7	0.00
Inpatient expenditures				
Year before RA	6.5	n.a.	6.2	n.a.
Year 1 after RA	8.3	0.03	6.0	0.81
Year 2 after RA	5.1	0.14	5.9	0.73
Year 3 after RA	5.3	0.22	5.2	0.29
Year 4 after RA	4.0	0.01	4.0	0.02
Prescription drug expenditures				
Year before RA	52.2	n.a.	52.5	n.a.
Year 1 after RA	49.7	0.04	48.1	0.00
Year 2 after RA	46.2	0.00	45.9	0.00
Year 3 after RA	41.5	0.00	41.3	0.00
Year 4 after RA	36.0	0.00	35.8	0.00
Long-term care expenditures				
Year before RA	0.0	n.a.	0.0	n.a.
Year 1 after RA	0.0	n.a.	0.0	n.a.
Year 2 after RA	0.3	0.08	0.0	n.a.
Year 3 after RA	0.1	0.32	0.1	0.32
Year 4 after RA	0.1	0.32	0.0	n.a.
Waiver expenditures				
Year before RA	3.3	n.a.	1.7	n.a.
Year 1 after RA	3.3	1.00	1.5	0.16
Year 2 after RA	3.0	0.32	1.9	0.41
Year 3 after RA	3.2	0.78	2.7	0.01
Year 4 after RA	3.6	0.49	3.3	0.00
Capitated payment expenditures				
Year before RA	93.9	n.a.	93.2	n.a.
Year 1 after RA	93.8	0.74	92.6	0.08
Year 2 after RA	92.4	0.01	91.4	0.00
Year 3 after RA	91.2	0.00	90.5	0.00
Year 4 after RA	87.1	0.00	86.3	0.00

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Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	93.2	n.a.	92.5	n.a.
Year 1 after RA	92.3	0.37	91.4	0.26
Year 2 after RA	89.1	0.00	87.3	0.00
Year 3 after RA	80.3	0.00	80.2	0.00
Year 4 after RA	72.2	0.00	74.0	0.00
Any expenditures				
Year before RA	99.8	n.a.	99.8	n.a.
Year 1 after RA	99.8	1.00	99.6	0.32
Year 2 after RA	99.0	0.02	98.3	0.00
Year 3 after RA	97.5	0.00	97.3	0.00
Year 4 after RA	93.9	0.00	93.2	0.00
Number of youth	936		930	

Source: CMS administrative records and PROMISE RA system.

Note: "Other services" include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.22. MD PROMISE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	320	n.a.	177	n.a.
Year 1 after RA	390	0.42	270	0.16
Year 2 after RA	189	0.08	171	0.88
Year 3 after RA	225	0.30	127	0.28
Year 4 after RA	146	0.04	70	0.01
Year 5 after RA	87	0.00	40	0.00
Years 1–5 after RA	207	0.07	135	0.22
Prescription drugs				
Year before RA	178	n.a.	140	n.a.
Year 1 after RA	184	0.69	121	0.00
Year 2 after RA	169	0.64	104	0.00
Year 3 after RA	166	0.65	101	0.00
Year 4 after RA	145	0.19	84	0.00
Year 5 after RA	141	0.31	67	0.00
Years 1–5 after RA	161	0.48	95	0.00
Long-term care				
Year before RA	0	n.a.	0	n.a.
Year 1 after RA	0	n.a.	0	n.a.
Year 2 after RA	3	0.13	0	n.a.
Year 3 after RA	1	0.32	1	0.32
Year 4 after RA	1	0.32	0	n.a.
Year 5 after RA	-0	n.a.	1	0.32
Years 1–5 after RA	1	0.13	0	0.16
Waiver services				
Year before RA	103	n.a.	45	n.a.
Year 1 after RA	107	0.44	50	0.31
Year 2 after RA	114	0.45	59	0.09
Year 3 after RA	120	0.27	99	0.05
Year 4 after RA	134	0.09	137	0.00
Year 5 after RA	191	0.01	203	0.00
Years 1–5 after RA	133	0.03	109	0.00
Capitated payments				
Year before RA	535	n.a.	565	n.a.
Year 1 after RA	585	0.00	578	0.37
Year 2 after RA	606	0.00	624	0.00
Year 3 after RA	566	0.08	602	0.06
Year 4 after RA	489	0.01	501	0.00
Year 5 after RA	443	0.00	486	0.00
Years 1–5 after RA	538	0.82	558	0.63

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	532	n.a.	475	n.a.
Year 1 after RA	506	0.04	446	0.07
Year 2 after RA	463	0.00	411	0.01
Year 3 after RA	452	0.02	415	0.09
Year 4 after RA	410	0.00	385	0.01
Year 5 after RA	410	0.00	376	0.01
Years 1–5 after RA	448	0.00	407	0.01
Total				
Year before RA	1,668	n.a.	1,402	n.a.
Year 1 after RA	1,773	0.27	1,464	0.37
Year 2 after RA	1,543	0.12	1,369	0.54
Year 3 after RA	1,532	0.22	1,345	0.44
Year 4 after RA	1,326	0.00	1,176	0.00
Year 5 after RA	1,272	0.00	1,172	0.00
Years 1–5 after RA	1,489	0.01	1,305	0.07
Number of youth	936		930	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.23. MD PROMISE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	6.4	6.5	6.2	0.3	0.80
Prescription drugs	52.4	52.2	52.5	-0.2	0.92
Long-term care	0.0	0.0	0.0	0.0	n.a.
Waiver services	2.5	3.3	1.7	1.6**	0.03
Capitated payments	93.6	93.9	93.2	0.7	0.55
Other services	92.8	93.2	92.5	0.7	0.56
Total	99.8	99.8	99.8	0.0	0.99
Medicaid expenditures (2020 dollars)					
Inpatient services	249	320	177	143*	0.09
Prescription drugs	159	178	140	37	0.26
Long-term care	0	0	0	0	n.a.
Waiver services	74	103	45	57**	0.04
Capitated payments	550	535	565	-30	0.17
Other services	504	532	475	58	0.34
Total	1,535	1,668	1,402	266**	0.04
Number of youth	1,866	936	930		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.24. MD PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	258	270	-12	0.91
Year 2 after RA	152	171	-18	0.80
Year 3 after RA	209	127	82	0.31
Year 4 after RA	130	70	61	0.20
Year 5 after RA	86	40	46	0.16
Years 1–5 after RA	167	135	32	0.43
Prescription drug expenditures				
Year 1 after RA	146	121	25	0.14
Year 2 after RA	133	104	29	0.12
Year 3 after RA	130	101	29	0.21
Year 4 after RA	109	84	25	0.28
Year 5 after RA	113	67	46	0.17
Years 1–5 after RA	126	95	31	0.15
Long-term care expenditures				
Year 1 after RA	0	0	0	n.a.
Year 2 after RA	3	0	3	0.13
Year 3 after RA	1	1	1	0.56
Year 4 after RA	1	0	1	0.32
Year 5 after RA	-0	1	-1	0.32
Years 1–5 after RA	1	0	1	0.31
Waiver expenditures				
Year 1 after RA	50	50	-0	0.99
Year 2 after RA	61	59	2	0.90
Year 3 after RA	63	99	-36	0.23
Year 4 after RA	74	137	-62*	0.05
Year 5 after RA	138	203	-65	0.21
Years 1–5 after RA	77	109	-32	0.13
Capitated payments				
Year 1 after RA	603	578	25	0.18
Year 2 after RA	619	624	-4	0.86
Year 3 after RA	581	602	-21	0.39
Year 4 after RA	503	501	2	0.93
Year 5 after RA	460	486	-26	0.24
Years 1–5 after RA	553	558	-5	0.78

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	456	446	10	0.63
Year 2 after RA	417	411	6	0.84
Year 3 after RA	409	415	-6	0.89
Year 4 after RA	371	385	-14	0.74
Year 5 after RA	376	376	-0	1.00
Years 1–5 after RA	406	407	-1	0.98
Total expenditures				
Year 1 after RA	1,507	1,464	43	0.69
Year 2 after RA	1,368	1,369	-1	0.99
Year 3 after RA	1,385	1,345	41	0.73
Year 4 after RA	1,199	1,176	23	0.80
Year 5 after RA	1,170	1,172	-1	0.99
Years 1-5 after RA	1,326	1,305	21	0.78
Number of youth	936	930		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.25. MD PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	204	-40	0.83	341	-157	0.16	207	514	0.21	0.27
Year 2 after RA	60	-21	0.66	269	-171**	0.03	130	473	0.15	0.06†
Year 3 after RA	51	102	0.48	111	7	0.91	350	282	0.36	0.52
Year 4 after RA	36	43	0.54	67	-29	0.40	155	389	0.21	0.22
Year 5 after RA	22	-0	0.99	21	62	0.12	138	110	0.48	0.20
Years 1-5 after RA	75	17	0.79	162	-58	0.18	196	354*	0.06	0.07†
Prescription drug expenditures										
Year 1 after RA	64	4	0.73	118	0	0.99	261	155*	0.10	0.18
Year 2 after RA	59	-5	0.70	83	13	0.39	273	161	0.11	0.27
Year 3 after RA	67	-24	0.13	62	24	0.20	294	173	0.17	0.12
Year 4 after RA	69	-35*	0.07	41	25	0.18	251	171	0.17	0.07†
Year 5 after RA	54	-10	0.61	36	30	0.14	186	232	0.22	0.32
Years 1-5 after RA	63	-14	0.30	68	18	0.24	253	178	0.13	0.20
Long-term care expenditures										
Year 1 after RA	0	0	n.a.	0	0	n.a.	0	0	n.a.	n.a.
Year 2 after RA	0	1	0.54	0	-0	0.78	0	17	0.19	0.25
Year 3 after RA	0	0	0.66	1	-1	0.30	0	9	0.31	0.38
Year 4 after RA	0	0	0.75	0	-0	0.80	0	4	0.31	0.59
Year 5 after RA	2	-2	0.31	0	0	1.00	0	-0	0.35	0.60
Years 1-5 after RA	0	-0	0.64	0	-0	0.32	0	6	0.17	0.36

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	95	6	0.74	13	1	0.68	56	-18	0.27	0.50
Year 2 after RA	114	23	0.56	14	1	0.77	66	-47	0.13	0.28
Year 3 after RA	191	-46	0.55	32	-23	0.23	92	-53	0.20	0.75
Year 4 after RA	210	-84	0.18	78	-59	0.13	144	-19	0.83	0.84
Year 5 after RA	292	-65	0.52	138	-88	0.16	191	9	0.95	0.83
Years 1-5 after RA	180	-33	0.49	55	-33	0.13	110	-26	0.62	0.99
Capitated payments										
Year 1 after RA	511	24	0.38	627	-2	0.93	585	119**	0.04	0.16
Year 2 after RA	546	39	0.26	668	-37	0.27	669	4	0.96	0.28
Year 3 after RA	532	41	0.25	636	-60*	0.08	660	-38	0.61	0.11
Year 4 after RA	469	43	0.19	525	-35	0.27	503	24	0.71	0.22
Year 5 after RA	466	30	0.38	486	-54*	0.09	528	-65	0.35	0.15
Years 1-5 after RA	505	35	0.15	589	-38	0.10	589	9	0.87	0.09†
Expenditures on other services										
Year 1 after RA	382	-11	0.65	398	-3	0.89	736	98	0.29	0.52
Year 2 after RA	358	-35	0.24	354	-22	0.40	709	189	0.28	0.43
Year 3 after RA	380	-80*	0.07	281	3	0.91	901	143	0.59	0.24
Year 4 after RA	385	-116**	0.01	229	54	0.13	856	14	0.95	0.01††
Year 5 after RA	396	-88	0.15	204	47	0.20	846	58	0.80	0.16
Years 1-5 after RA	380	-66*	0.05	293	16	0.53	810	100	0.55	0.11

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	1,256	-18	0.92	1,498	-153	0.20	1,844	807*	0.07	0.10
Year 2 after RA	1,138	-4	0.97	1,387	-237**	0.02	1,847	758**	0.04	0.01††
Year 3 after RA	1,222	6	0.98	1,124	-75	0.46	2,296	502	0.34	0.49
Year 4 after RA	1,168	-115	0.38	939	-73	0.42	1,909	658	0.14	0.26
Year 5 after RA	1,233	-117	0.37	887	-34	0.76	1,890	378	0.42	0.59
Years 1-5 after RA	1,203	-49	0.66	1,167	-114	0.15	1,957	621*	0.06	0.08†
Number of treatment youth			342			452			142	
Number of control youth			340			443			147	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.26. NYS PROMISE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	100.0	n.a.	100.0	n.a.
Year 1 after RA	99.3	0.01	99.4	0.01
Year 2 after RA	98.4	0.00	98.8	0.00
Year 3 after RA	97.0	0.00	97.5	0.00
Year 4 after RA	95.8	0.00	95.6	0.00
Inpatient expenditures				
Year before RA	4.0	n.a.	4.0	n.a.
Year 1 after RA	4.6	0.42	4.2	0.78
Year 2 after RA	4.6	0.44	5.1	0.18
Year 3 after RA	4.6	0.44	5.2	0.16
Year 4 after RA	5.0	0.23	5.3	0.14
Prescription drug expenditures				
Year before RA	17.0	n.a.	17.9	n.a.
Year 1 after RA	17.2	0.81	17.8	0.90
Year 2 after RA	17.1	0.92	16.9	0.27
Year 3 after RA	17.4	0.72	17.2	0.49
Year 4 after RA	18.0	0.42	16.6	0.20
Long-term care expenditures				
Year before RA	3.2	n.a.	3.3	n.a.
Year 1 after RA	2.8	0.48	3.1	0.77
Year 2 after RA	4.0	0.37	2.5	0.29
Year 3 after RA	2.6	0.41	2.2	0.13
Year 4 after RA	2.1	0.11	1.8	0.04
Waiver expenditures				
Year before RA	11.5	n.a.	12.8	n.a.
Year 1 after RA	5.5	0.00	7.3	0.00
Year 2 after RA	0.1	0.00	0.2	0.00
Year 3 after RA	0.1	0.00	0.0	0.00
Year 4 after RA	-0.0	0.00	0.1	0.00
Capitated payment expenditures				
Year before RA	81.6	n.a.	80.5	n.a.
Year 1 after RA	81.2	0.52	81.1	0.27
Year 2 after RA	78.8	0.00	79.1	0.07
Year 3 after RA	77.3	0.00	77.8	0.00
Year 4 after RA	75.9	0.00	75.9	0.00

Year	Treatment	p-value ^a	Control	p-value ^b
Other services				
Year before RA	74.7	n.a.	75.1	n.a.
Year 1 after RA	78.1	0.01	77.1	0.12
Year 2 after RA	76.7	0.22	77.8	0.07
Year 3 after RA	72.5	0.18	75.8	0.65
Year 4 after RA	68.6	0.00	71.8	0.05
Any expenditures				
Year before RA	98.9	n.a.	98.5	n.a.
Year 1 after RA	98.5	0.29	98.0	0.17
Year 2 after RA	96.5	0.00	97.3	0.03
Year 3 after RA	94.8	0.00	96.3	0.00
Year 4 after RA	93.7	0.00	94.4	0.00
Number of youth	986		981	

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This p-value represents the t-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This p-value represents the t-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.27. NYS PROMISE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	102	n.a.	63	n.a.
Year 1 after RA	35	0.06	72	0.82
Year 2 after RA	86	0.77	137	0.19
Year 3 after RA	70	0.49	142	0.13
Year 4 after RA	135	0.51	401	0.00
Year 5 after RA	99	0.96	210	0.07
Years 1–5 after RA	85	0.68	192	0.00
Prescription drugs				
Year before RA	31	n.a.	35	n.a.
Year 1 after RA	29	0.44	32	0.54
Year 2 after RA	29	0.69	35	0.95
Year 3 after RA	24	0.20	31	0.71
Year 4 after RA	29	0.76	37	0.90
Year 5 after RA	28	0.57	47	0.53
Years 1–5 after RA	28	0.42	36	0.89
Long-term care				
Year before RA	98	n.a.	55	n.a.
Year 1 after RA	55	0.25	59	0.86
Year 2 after RA	77	0.64	101	0.40
Year 3 after RA	99	0.99	38	0.34
Year 4 after RA	127	0.64	142	0.12
Year 5 after RA	57	0.40	66	0.83
Years 1–5 after RA	83	0.73	81	0.31
Waiver services				
Year before RA	141	n.a.	156	n.a.
Year 1 after RA	34	0.00	35	0.00
Year 2 after RA	0	0.00	0	0.00
Year 3 after RA	1	0.00	0	0.00
Year 4 after RA	0	0.00	4	0.00
Year 5 after RA	-0	0.00	14	0.00
Years 1–5 after RA	7	0.00	10	0.00
Capitated payments				
Year before RA	982	n.a.	955	n.a.
Year 1 after RA	835	0.00	842	0.00
Year 2 after RA	779	0.00	792	0.00
Year 3 after RA	753	0.00	753	0.00
Year 4 after RA	713	0.00	694	0.00
Year 5 after RA	643	0.00	624	0.00
Years 1–5 after RA	745	0.00	741	0.00

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	573	n.a.	477	n.a.
Year 1 after RA	638	0.03	533	0.09
Year 2 after RA	709	0.00	599	0.00
Year 3 after RA	729	0.00	697	0.00
Year 4 after RA	757	0.00	804	0.00
Year 5 after RA	722	0.01	808	0.00
Years 1–5 after RA	711	0.00	688	0.00
Total				
Year before RA	1,927	n.a.	1,743	n.a.
Year 1 after RA	1,627	0.00	1,572	0.00
Year 2 after RA	1,679	0.00	1,664	0.42
Year 3 after RA	1,676	0.00	1,662	0.32
Year 4 after RA	1,761	0.09	2,082	0.03
Year 5 after RA	1,549	0.00	1,769	0.84
Years 1–5 after RA	1,658	0.00	1,750	0.92
Number of youth	986		981	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.28. NYS PROMISE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	4.0	4.0	4.0	-0.0	0.98
Prescription drugs	17.5	17.0	17.9	-0.9	0.60
Long-term care	3.3	3.2	3.3	-0.0	0.98
Waiver services	12.2	11.5	12.8	-1.4	0.35
Capitated payments	81.1	81.6	80.5	1.1	0.53
Other services	74.9	74.7	75.1	-0.4	0.85
Total	98.7	98.9	98.5	0.4	0.42
Medicaid expenditures (2020 dollars)					
Inpatient services	83	102	63	39	0.39
Prescription drugs	33	31	35	-4	0.67
Long-term care	77	98	55	43	0.28
Waiver services	149	141	156	-15	0.60
Capitated payments	968	982	955	27	0.27
Other services	525	573	477	95	0.12
Total	1,835	1,927	1,743	184*	0.06
Number of youth	1,967	986	981		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.29. NYS PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	24	72	-47	0.20
Year 2 after RA	112	137	-25	0.72
Year 3 after RA	78	142	-64	0.16
Year 4 after RA	131	401	-270**	0.02
Year 5 after RA	98	210	-112	0.22
Years 1–5 after RA	89	192	-104**	0.01
Prescription drug expenditures				
Year 1 after RA	32	32	-1	0.89
Year 2 after RA	32	35	-2	0.79
Year 3 after RA	26	31	-6	0.50
Year 4 after RA	30	37	-6	0.56
Year 5 after RA	31	47	-16	0.30
Years 1–5 after RA	30	36	-6	0.39
Long-term care expenditures				
Year 1 after RA	50	59	-9	0.70
Year 2 after RA	73	101	-29	0.62
Year 3 after RA	96	38	58*	0.07
Year 4 after RA	126	142	-16	0.83
Year 5 after RA	52	66	-14	0.82
Years 1–5 after RA	79	81	-2	0.96
Waiver expenditures				
Year 1 after RA	38	35	3	0.69
Year 2 after RA	0	0	-0	0.43
Year 3 after RA	1	0	1	0.32
Year 4 after RA	-0	4	-4	0.32
Year 5 after RA	-2	14	-16	0.32
Years 1–5 after RA	7	10	-3	0.47
Capitated payments				
Year 1 after RA	819	842	-23**	0.04
Year 2 after RA	762	792	-30**	0.05
Year 3 after RA	738	753	-15	0.43
Year 4 after RA	693	694	-1	0.95
Year 5 after RA	627	624	3	0.91
Years 1–5 after RA	728	741	-13	0.39

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	569	533	36	0.39
Year 2 after RA	645	599	45	0.39
Year 3 after RA	654	697	-43	0.51
Year 4 after RA	676	804	-129	0.10
Year 5 after RA	651	808	-157*	0.08
Years 1–5 after RA	639	688	-49	0.38
Total expenditures				
Year 1 after RA	1,532	1,572	-40	0.52
Year 2 after RA	1,632	1,664	-32	0.78
Year 3 after RA	1,609	1,662	-52	0.57
Year 4 after RA	1,663	2,082	-419**	0.02
Year 5 after RA	1,475	1,769	-294*	0.05
Years 1-5 after RA	1,582	1,750	-167**	0.05
Number of youth	986	981		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates.. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.30. NYS PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	80	-73	0.22	20	-30	0.11	120	18	0.68	0.47
Year 2 after RA	35	80	0.34	388	-363*	0.06	110	142	0.14	0.08†
Year 3 after RA	59	-34	0.21	222	-109	0.49	304	-87	0.62	0.87
Year 4 after RA	240	-192*	0.06	260	-188	0.17	1,150	-617	0.25	0.73
Year 5 after RA	138	-87	0.38	27	-31	0.45	720	-385	0.36	0.55
Years 1-5 after RA	110	-61	0.12	183	-144**	0.03	481	-186	0.30	0.46
Prescription drug expenditures										
Year 1 after RA	36	-3	0.63	6	-0	0.99	57	6	0.68	0.82
Year 2 after RA	37	-7	0.40	6	1	0.91	67	9	0.85	0.75
Year 3 after RA	30	-7	0.35	3	6	0.31	77	-18	0.69	0.31
Year 4 after RA	27	-6	0.43	3	4	0.39	117	-20	0.75	0.44
Year 5 after RA	24	-2	0.80	4	6	0.54	188	-92	0.33	0.56
Years 1-5 after RA	31	-5	0.41	4	3	0.37	101	-23	0.57	0.36
Long-term care expenditures										
Year 1 after RA	33	-18	0.34	128	-1	0.99	48	14	0.81	0.84
Year 2 after RA	34	-5	0.87	309	-234	0.23	26	214	0.18	0.19
Year 3 after RA	23	27	0.29	77	60	0.40	31	167	0.27	0.60
Year 4 after RA	129	-14	0.89	52	77	0.32	320	-153	0.53	0.58
Year 5 after RA	41	13	0.81	1	1	0.95	244	-117	0.68	0.88
Years 1-5 after RA	52	1	0.98	113	-19	0.70	134	25	0.87	0.93

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Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	44	-7	0.54	16	12	0.21	31	28	0.19	0.26
Year 2 after RA	0	-0	0.16	0	0	0.34	0	-0	0.83	0.22
Year 3 after RA	0	1	0.32	0	-0	0.47	0	-0	0.56	0.60
Year 4 after RA	0	0	0.92	0	-1	0.39	20	-21	0.32	0.60
Year 5 after RA	0	0	0.92	0	-3	0.39	82	-86	0.32	0.60
Years 1-5 after RA	9	-1	0.63	3	2	0.43	27	-16	0.47	0.39
Capitated payments										
Year 1 after RA	834	-39***	0.01	935	-19	0.40	735	29	0.33	0.12
Year 2 after RA	785	-28	0.13	878	-51	0.12	692	-1	0.97	0.61
Year 3 after RA	768	-20	0.41	805	-44	0.29	626	44	0.36	0.35
Year 4 after RA	718	3	0.91	678	-19	0.68	639	3	0.96	0.92
Year 5 after RA	654	-2	0.95	579	10	0.85	591	3	0.96	0.98
Years 1-5 after RA	752	-17	0.38	775	-25	0.42	657	16	0.70	0.71
Expenditures on other services										
Year 1 after RA	523	62	0.19	342	67	0.44	845	-92	0.40	0.37
Year 2 after RA	630	47	0.47	297	98	0.31	938	-30	0.84	0.74
Year 3 after RA	781	-91	0.28	288	15	0.90	1,014	47	0.80	0.67
Year 4 after RA	920	-165	0.10	170	40	0.71	1,345	-235	0.36	0.31
Year 5 after RA	922	-165	0.16	123	50	0.63	1,425	-418	0.17	0.19
Years 1-5 after RA	755	-62	0.39	244	54	0.52	1,113	-146	0.40	0.42

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Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	1,549	-69	0.41	1,448	-16	0.90	1,836	41	0.78	0.76
Year 2 after RA	1,522	101	0.40	1,877	-581*	0.08	1,834	385	0.12	0.06†
Year 3 after RA	1,662	-98	0.32	1,394	-112	0.65	2,052	229	0.44	0.56
Year 4 after RA	2,033	-366*	0.05	1,162	-117	0.55	3,592	-982	0.19	0.43
Year 5 after RA	1,779	-223	0.21	734	-8	0.94	3,250	-991	0.10	0.18
Years 1-5 after RA	1,709	-131	0.18	1,323	-167	0.22	2,513	-263	0.39	0.90
Number of treatment youth			566			258			162	
Number of control youth			567			246			168	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.31. WI PROMISE: Percentage of youth enrolled in Medicaid and with selected types of expenditures

Year	Treatment	p-value ^a	Control	p-value ^b
Enrolled in Medicaid				
Year before RA	99.9	n.a.	99.8	n.a.
Year 1 after RA	99.8	0.32	99.3	0.03
Year 2 after RA	97.5	0.00	97.5	0.00
Year 3 after RA	95.8	0.00	96.4	0.00
Year 4 after RA	93.2	0.00	92.4	0.00
Inpatient expenditures				
Year before RA	8.0	n.a.	7.3	n.a.
Year 1 after RA	8.4	0.69	7.5	0.84
Year 2 after RA	7.6	0.70	6.7	0.54
Year 3 after RA	6.6	0.21	7.3	1.00
Year 4 after RA	4.6	0.00	4.1	0.00
Prescription drug expenditures				
Year before RA	80.9	n.a.	79.3	n.a.
Year 1 after RA	82.0	0.42	81.5	0.09
Year 2 after RA	78.3	0.07	77.1	0.14
Year 3 after RA	72.7	0.00	69.3	0.00
Year 4 after RA	67.2	0.00	64.8	0.00
Long-term care expenditures				
Year before RA	0.0	n.a.	0.1	n.a.
Year 1 after RA	-0.0	n.a.	0.1	1.00
Year 2 after RA	0.0	n.a.	0.3	0.32
Year 3 after RA	0.0	n.a.	0.3	0.32
Year 4 after RA	0.3	0.08	0.1	1.00
Waiver expenditures				
Year before RA	0.0	n.a.	0.1	n.a.
Year 1 after RA	0.0	n.a.	0.0	0.32
Year 2 after RA	0.0	n.a.	0.0	0.32
Year 3 after RA	0.1	0.32	0.0	0.32
Year 4 after RA	0.3	0.08	0.3	0.32
Capitated payment expenditures				
Year before RA	100.0	n.a.	99.9	n.a.
Year 1 after RA	99.9	0.32	99.2	0.01
Year 2 after RA	98.4	0.00	98.5	0.00
Year 3 after RA	96.1	0.00	96.7	0.00
Year 4 after RA	92.7	0.00	92.5	0.00

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Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	94.5	n.a.	93.1	n.a.
Year 1 after RA	94.1	0.65	94.7	0.10
Year 2 after RA	91.7	0.00	90.2	0.01
Year 3 after RA	83.9	0.00	83.7	0.00
Year 4 after RA	72.5	0.00	70.8	0.00
Any expenditures				
Year before RA	100.0	n.a.	99.9	n.a.
Year 1 after RA	99.9	0.32	99.3	0.01
Year 2 after RA	98.8	0.00	98.7	0.00
Year 3 after RA	96.6	0.00	97.1	0.00
Year 4 after RA	93.2	0.00	93.2	0.00
Number of youth	950		946	

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital, laboratory tests and diagnostic imaging, clinic services, home health, and hospice. Year 5 is not shown because data for that year were not yet available for many PROMISE enrollees.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the value for the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the value for the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.32. WI PROMISE: Youth’s average monthly Medicaid expenditures, by type of service and RA group (2020 dollars)

Year	Treatment	p-value ^a	Control	p-value ^b
Inpatient services				
Year before RA	106	n.a.	88	n.a.
Year 1 after RA	134	0.49	109	0.29
Year 2 after RA	119	0.73	127	0.39
Year 3 after RA	96	0.75	109	0.52
Year 4 after RA	100	0.87	59	0.11
Year 5 after RA	53	0.12	38	0.00
Years 1–5 after RA	100	0.83	89	0.99
Prescription drugs				
Year before RA	225	n.a.	202	n.a.
Year 1 after RA	247	0.12	196	0.64
Year 2 after RA	211	0.41	186	0.31
Year 3 after RA	191	0.13	164	0.05
Year 4 after RA	162	0.00	136	0.00
Year 5 after RA	178	0.10	135	0.00
Years 1–5 after RA	198	0.12	163	0.01
Long-term care				
Year before RA	0	n.a.	7	n.a.
Year 1 after RA	-0	n.a.	28	0.48
Year 2 after RA	-0	n.a.	26	0.48
Year 3 after RA	-0	n.a.	25	0.35
Year 4 after RA	10	0.23	12	0.74
Year 5 after RA	2	0.17	0	0.32
Years 1–5 after RA	2	0.22	18	0.50
Waiver services				
Year before RA	-0	n.a.	0	n.a.
Year 1 after RA	0	n.a.	0	0.32
Year 2 after RA	0	n.a.	0	0.32
Year 3 after RA	2	0.32	0	0.32
Year 4 after RA	4	0.28	2	0.28
Year 5 after RA	9	0.09	4	0.20
Years 1–5 after RA	3	0.14	1	0.18
Capitated payments				
Year before RA	97	n.a.	72	n.a.
Year 1 after RA	95	0.73	85	0.11
Year 2 after RA	146	0.00	150	0.00
Year 3 after RA	243	0.00	236	0.00
Year 4 after RA	410	0.00	409	0.00
Year 5 after RA	537	0.00	544	0.00
Years 1–5 after RA	286	0.00	285	0.00

Year	Treatment	<i>p</i> -value ^a	Control	<i>p</i> -value ^b
Other services				
Year before RA	504	n.a.	504	n.a.
Year 1 after RA	530	0.18	536	0.11
Year 2 after RA	505	0.97	516	0.63
Year 3 after RA	500	0.92	452	0.15
Year 4 after RA	518	0.75	370	0.00
Year 5 after RA	463	0.39	331	0.00
Years 1–5 after RA	503	0.99	441	0.00
Total				
Year before RA	932	n.a.	874	n.a.
Year 1 after RA	1,006	0.17	954	0.08
Year 2 after RA	980	0.42	1,004	0.05
Year 3 after RA	1,031	0.11	986	0.10
Year 4 after RA	1,203	0.00	988	0.06
Year 5 after RA	1,242	0.00	1,052	0.00
Years 1–5 after RA	1,093	0.00	997	0.01
Number of youth	950		946	

Source: CMS administrative records and PROMISE RA system.

Note: For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, and home health services. The *p*-value for a continuous or binary variable is based on a two-tailed *t*-test.

^a This *p*-value represents the *t*-test for whether the treatment group value during the year is different from the year before RA.

^b This *p*-value represents the *t*-test for whether the control group mean during the year is different from the year before RA.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.33. WI PROMISE: Youth’s baseline Medicaid service use and expenditures

Type of expenditure	All	Treatment	Control	Difference	p-value
Percentage with any Medicaid expenditures					
Inpatient services	7.6	8.0	7.3	0.7	0.56
Prescription drugs	80.1	80.9	79.3	1.7	0.36
Long-term care	0.1	0.0	0.1	-0.1	0.32
Waiver services	0.1	0.0	0.1	-0.1	0.32
Capitated payments	99.9	100.0	99.9	0.1	0.32
Other services	93.8	94.5	93.1	1.4	0.21
Total	99.9	100.0	99.9	0.1	0.32
Medicaid expenditures (2020 dollars)					
Inpatient services	97	106	88	18	0.48
Prescription drugs	213	225	202	23	0.39
Long-term care	4	0	7	-7	0.32
Waiver services	0	-0	0	-0	0.32
Capitated payments	85	97	72	25*	0.06
Other services	504	504	504	-0	0.99
Total	903	932	874	58	0.49
Number of youth	1,896	950	946		

Source: CMS administrative records and PROMISE RA system.

Note: “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care. The p-value for a continuous or binary variable is based on a two-tailed t-test.

*/**/** Difference is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment

Appendix Table A.34. WI PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type (2020 dollars)

Year	Treatment	Control	Impact	p-value
Inpatient expenditures				
Year 1 after RA	122	109	13	0.74
Year 2 after RA	102	127	-25	0.69
Year 3 after RA	89	109	-20	0.68
Year 4 after RA	94	59	35	0.33
Year 5 after RA	49	38	11	0.71
Years 1–5 after RA	91	89	3	0.93
Prescription drug expenditures				
Year 1 after RA	225	196	28	0.16
Year 2 after RA	194	186	8	0.72
Year 3 after RA	176	164	12	0.66
Year 4 after RA	145	136	9	0.72
Year 5 after RA	160	135	25	0.42
Years 1–5 after RA	180	163	17	0.43
Long-term care expenditures				
Year 1 after RA	-2	28	-30	0.32
Year 2 after RA	-2	26	-28	0.31
Year 3 after RA	-0	25	-26	0.17
Year 4 after RA	11	12	-1	0.96
Year 5 after RA	2	0	2	0.18
Years 1–5 after RA	2	18	-17	0.28
Waiver expenditures				
Year 1 after RA	0	0	0	n.a.
Year 2 after RA	0	0	0	n.a.
Year 3 after RA	1	0	1	0.32
Year 4 after RA	4	2	2	0.57
Year 5 after RA	8	4	5	0.43
Years 1–5 after RA	3	1	2	0.41
Capitated payments				
Year 1 after RA	75	85	-10	0.34
Year 2 after RA	132	150	-17	0.40
Year 3 after RA	238	236	2	0.95
Year 4 after RA	408	409	-1	0.97
Year 5 after RA	532	544	-12	0.78
Years 1–5 after RA	277	285	-8	0.72

Year	Treatment	Control	Impact	p-value
Expenditures on other services				
Year 1 after RA	529	536	-7	0.80
Year 2 after RA	504	516	-12	0.75
Year 3 after RA	500	452	48	0.26
Year 4 after RA	513	370	143***	0.01
Year 5 after RA	457	331	125**	0.04
Years 1–5 after RA	500	441	59*	0.07
Total expenditures				
Year 1 after RA	940	954	-14	0.83
Year 2 after RA	918	1,004	-86	0.34
Year 3 after RA	995	986	10	0.91
Year 4 after RA	1,167	988	179**	0.03
Year 5 after RA	1,194	1,052	142	0.12
Years 1-5 after RA	1,043	997	46	0.48
Number of youth	950	946		

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.35. WI PROMISE: Impacts on youth’s average monthly Medicaid expenditures, by type of service and primary impairment (2020 dollars)

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Inpatient expenditures										
Year 1 after RA	71	9	0.81	87	4	0.91	257	41	0.84	0.98
Year 2 after RA	98	-39	0.42	67	2	0.92	355	-63	0.86	0.72
Year 3 after RA	32	85	0.20	98	-41	0.13	317	-204	0.41	0.17
Year 4 after RA	31	104	0.20	40	-15	0.48	175	5	0.97	0.38
Year 5 after RA	30	-12	0.59	32	-15	0.30	76	122	0.45	0.66
Years 1-5 after RA	52	29	0.32	65	-13	0.41	236	-20	0.91	0.45
Prescription drug expenditures										
Year 1 after RA	141	-0	0.99	208	17	0.42	291	120	0.18	0.34
Year 2 after RA	144	-6	0.83	176	14	0.56	306	24	0.80	0.84
Year 3 after RA	132	-38	0.14	145	39	0.31	288	53	0.64	0.26
Year 4 after RA	99	-35	0.17	126	6	0.79	253	108	0.36	0.34
Year 5 after RA	103	-32	0.41	123	7	0.84	241	195	0.18	0.34
Years 1-5 after RA	124	-22	0.26	155	17	0.51	276	100	0.28	0.27
Long-term care expenditures										
Year 1 after RA	73	-75	0.32	0	-1	0.68	0	-6	0.41	0.60
Year 2 after RA	67	-68	0.32	2	-3	0.35	0	-5	0.42	0.57
Year 3 after RA	41	-40	0.33	21	-22	0.30	0	-3	0.53	0.36
Year 4 after RA	0	27	0.23	27	-25	0.35	0	0	0.94	0.35
Year 5 after RA	0	3	0.29	0	1	0.34	0	-0	0.48	0.37
Years 1-5 after RA	36	-30	0.41	10	-10	0.31	0	-3	0.46	0.48

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Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Waiver expenditures										
Year 1 after RA	0	0	n.a.	0	0	n.a.	0	0	n.a.	n.a.
Year 2 after RA	0	0	n.a.	0	0	n.a.	0	0	n.a.	n.a.
Year 3 after RA	0	-0	0.40	0	0	0.45	0	8	0.32	0.60
Year 4 after RA	0	-1	0.32	3	-3	0.38	1	21	0.30	0.34
Year 5 after RA	6	-8	0.26	2	3	0.58	0	35	0.17	0.19
Years 1-5 after RA	1	-2	0.22	1	0	0.92	0	13	0.21	0.34
Capitated payments										
Year 1 after RA	61	-24	0.12	116	4	0.85	57	-15	0.27	0.53
Year 2 after RA	120	-5	0.88	164	-2	0.95	178	-83	0.11	0.35
Year 3 after RA	239	9	0.84	192	49	0.22	349	-132	0.10	0.13
Year 4 after RA	502	-41	0.54	306	52	0.24	479	-48	0.62	0.40
Year 5 after RA	678	7	0.93	395	27	0.58	645	-146	0.16	0.31
Years 1-5 after RA	320	-11	0.78	235	26	0.36	342	-85	0.14	0.21
Expenditures on other services										
Year 1 after RA	433	52	0.11	436	-19	0.61	1,042	-106	0.33	0.16
Year 2 after RA	436	36	0.41	420	-47	0.31	962	-31	0.85	0.43
Year 3 after RA	459	94	0.13	325	-51	0.25	782	189	0.28	0.09†
Year 4 after RA	368	262***	0.00	237	-25	0.57	737	294	0.11	0.01†††
Year 5 after RA	416	148	0.21	160	4	0.93	605	370*	0.06	0.13
Years 1-5 after RA	422	118**	0.03	316	-27	0.40	826	143	0.26	0.03††

Year	Intellectual or developmental disabilities			Other mental impairments			Other impairments			p-value for subgroup difference
	Control mean	Impact	p-value	Control mean	Impact	p-value	Control mean	Impact	p-value	
Total expenditures										
Year 1 after RA	780	-37	0.73	847	2	0.97	1,647	-9	0.97	0.95
Year 2 after RA	865	-94	0.39	830	-48	0.52	1,802	-171	0.68	0.90
Year 3 after RA	903	96	0.40	781	-39	0.63	1,735	-75	0.85	0.62
Year 4 after RA	999	312**	0.03	739	-21	0.80	1,645	370	0.22	0.08†
Year 5 after RA	1,233	102	0.50	712	12	0.88	1,568	541	0.11	0.29
Years 1-5 after RA	956	76	0.40	782	-19	0.76	1,679	131	0.64	0.60
Number of treatment youth			366			406			178	
Number of control youth			360			429			157	

Source: CMS administrative records and PROMISE RA system.

Note: This table shows the observed means for the control group, the regression-adjusted treatment group mean, and the regression-adjusted impact estimates. For youth with fewer than 12 months of Medicaid data in Year 5, we averaged expenditures over the Year 5 months observed. “Other services” include physician services, outpatient hospital services, laboratory tests and diagnostic imaging, clinic services, home health care, and hospice care.

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; RA = random assignment.

Appendix Table A.36. All PROMISE programs: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	35.2	32.8	2.4**	0.03
Youth age at RA				0.50
14	36.5	35.7	0.8	
15	29.5	28.9	0.6	
16	34.0	35.3	-1.3	
Average age at RA	15.4	15.5	-0.0	0.27
Youth language preference at SSI application				
Prefers English for written language	86.7	89.2	-2.5***	0.00
Prefers English for spoken language	86.4	89.0	-2.6***	0.00
Youth living arrangement at SSI application			†††	0.00
In parents' household	81.7	85.5	-3.8	
Own household or alone	16.1	12.5	3.5	
Another household and receiving support	2.3	2.0	0.3	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	24.7	15.7	9.0	
Non-Hispanic Black	24.9	34.3	-9.4	
Hispanic	26.1	24.6	1.5	
Non-Hispanic other or mixed race (including American Indian)	9.7	8.5	1.2	
Missing	14.6	16.9	-2.3	
Enrolling parent age at RA	44.5	42.8	1.7***	0.00
Parent race and ethnicity			†††	0.00
Non-Hispanic White	31.4	20.5	10.8	
Non-Hispanic Black	26.8	36.3	-9.6	
Hispanic	24.1	22.6	1.5	
Non-Hispanic other or mixed race (including American Indian)	7.0	7.3	-0.3	
Missing	10.7	13.3	-2.5	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	36.9	47.8	-10.9	
Speech, hearing, or visual impairment	1.4	1.9	-0.6	
Physical disability	21.8	11.2	10.6	
Other mental impairment	35.4	35.0	0.4	
Other or unknown disability	4.6	4.1	0.5	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	95.8	93.7	2.1***	0.00
Received OASDI	12.3	10.4	1.9**	0.01
Years between youth's earliest SSI eligibility and RA	9.3	8.7	0.7***	0.00
Youth age at most recent SSI application	6.7	7.2	-0.5***	0.00
Youth payments in the year before RA (\$)				
SSI	7,191	7,320	-129**	0.02
OASDI	386	284	102***	0.00
Total SSI and OASDI	7,577	7,604	-27	0.57
Household had multiple SSI-eligible children	17.4	20.2	-2.8***	0.00
Enrolling parent provided a valid SSN at RA	75.7	76.8	-1.1	0.26
Parents included in the administrative data			†††	0.00
None	7.5	6.3	1.2	
One parent	56.5	61.2	-4.7	
Two parents	36.0	32.5	3.5	
Parent SSA payment status at RA			†††	0.00
Any parent received SSI only	8.0	9.7	-1.8	
Any parent received OASDI only	10.2	8.2	1.9	
Any parent received both SSI and OASDI	5.5	5.4	0.1	
No parent received any SSA payments	68.9	70.3	-1.4	
No parent was included in the SSA data analyses	7.5	6.3	1.2	
Youth had Medicaid expenditures				
Inpatient expenditures	18.4	1.1	17.3***	0.00
Prescription drug expenditures	69.2	42.2	26.9***	0.00
Long-term care expenditures	8.0	0.3	7.6***	0.00
Waiver expenditures	17.7	2.4	15.4***	0.00
Capitated payment expenditures	94.6	81.8	12.8***	0.00
Expenditures for other services	100.0	98.6	1.4***	0.00
Any Medicaid expenditures	100.0	98.7	1.3***	0.00
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	478	4	474***	0.00
Prescription drug	429	43	386***	0.00
Long-term care	184	1	183***	0.00
Waiver	244	7	237***	0.00
Capitated payments	746	422	324***	0.00
Other services	1,371	154	1,217***	0.00
Total	3,451	631	2,820***	0.00
Number of youth	2,439	6,938		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1323).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1323).

*/**/** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.37. All PROMISE programs: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Youth's outcomes												
Enrolled in an educational or training program	46.9	-0.9	0.65	1,201	1,170	41.5	-1.5	0.20	3,377	3,316	0.78	
Has a GED, high school diploma, or certificate of completion	65.8	-2.2	0.25	1,214	1,194	73.4	-2.0*	0.06	3,469	3,426	0.91	
Employed in a paid job in the past year	33.4	1.8	0.36	1,232	1,207	45.3	3.3***	0.01	3,491	3,447	0.50	
Earnings in the past year (\$)	2,885	253	0.39	1,232	1,207	4,957	319	0.16	3,491	3,447	0.86	
Self-determination score (scale: 0 to 100)	77.5	-0.9	0.29	627	648	78.8	-0.2	0.71	2,334	2,217	0.43	
Expects to be financially independent at age 25	55.0	0.3	0.92	635	670	62.1	3.0**	0.03	2,390	2,273	0.37	
Received SSA payments in Year 5 after RA	75.1	1.4	0.32	1,577	1,572	60.3	1.7*	0.08	4,725	4,710	0.89	
Total SSA payments in Year 5 after RA (\$)	6,307	231*	0.10	1,577	1,572	4,874	55	0.53	4,725	4,710	0.28	
Total SSA payments during Years 1–5 after RA (\$)	35,679	929**	0.03	1,577	1,572	32,409	221	0.40	4,725	4,710	0.16	
Covered by health insurance	92.5	0.0	0.97	1,204	1,188	87.8	-1.3	0.12	3,355	3,337	0.33	
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	2,298	-34	0.41	1,577	1,572	803	-20	0.12	4,725	4,710	0.75	
Total income in the past year (\$)	9,338	516*	0.08	1,232	1,207	10,037	325	0.13	3,491	3,447	0.59	

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Parents' outcomes												
Either parent worked for pay in the past year	68.8	-2.2	0.21	1,197	1,174	66.0	1.7*	0.10	3,444	3,369	0.05†	
Earnings in the past year (\$)	24,321	-663	0.55	1,198	1,175	21,830	694	0.25	3,446	3,372	0.27	
Either parent received SSA payments in Year 5 after RA	30.3	0.2	0.89	1,451	1,444	29.5	-1.1*	0.09	4,393	4,346	0.35	
Total SSA payments received in Year 5 after RA (\$)	3,397	143	0.39	1,451	1,444	3,188	-81	0.36	4,393	4,346	0.24	
Total SSA payments during the five years after RA (\$)	15,921	684	0.26	1,451	1,444	15,005	-292	0.36	4,393	4,346	0.16	
Total income in the past year (\$)	28,112	-714	0.52	1,103	1,099	25,412	666	0.27	3,238	3,131	0.27	
Either parent is covered by health insurance	90.9	1.1	0.31	1,195	1,171	89.5	0.2	0.77	3,414	3,351	0.48	
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	682	29	0.15	1,451	1,444	637	17	0.15	4,393	4,346	0.60	

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of All PROMISE programs. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$1323).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$1323).

*/**/*** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.38. Arkansas PROMISE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	35.7	33.3	2.4	0.41
Youth age at RA				0.23
14	42.4	37.5	4.8	
15	24.6	28.0	-3.4	
16	33.0	34.5	-1.4	
Average age at RA	15.3	15.4	-0.0	0.43
Youth language preference at SSI application				
Prefers English for written language	96.3	98.1	-1.8*	0.08
Prefers English for spoken language	96.0	98.1	-2.0*	0.06
Youth living arrangement at SSI application			†††	0.01
In parents' household	82.1	88.2	-6.1	
Own household or alone	16.2	11.0	5.1	
Another household and receiving support	1.8	0.8	1.0	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	27.2	14.7	12.5	
Non-Hispanic Black	35.5	52.7	-17.2	
Hispanic	8.4	5.9	2.5	
Non-Hispanic other or mixed race (including American Indian)	10.3	6.7	3.6	
Missing	18.5	20.0	-1.4	
Enrolling parent age at RA	44.0	41.7	2.3***	0.00
Parent race and ethnicity			†††	0.00
Non-Hispanic White	34.2	19.0	15.2	
Non-Hispanic Black	39.1	55.1	-16.0	
Hispanic	8.3	4.2	4.0	
Non-Hispanic other or mixed race (including American Indian)	5.7	6.2	-0.5	
Missing	12.7	15.5	-2.8	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	26.2	48.4	-22.2	
Speech, hearing, or visual impairment	1.3	1.1	0.2	
Physical disability	16.7	8.0	8.7	
Other mental impairment	54.7	39.3	15.5	
Other or unknown disability	1.0	3.3	-2.2	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	96.4	93.4	3.0**	0.02
Received OASDI	18.1	13.5	4.5**	0.04
Years between youth's earliest SSI eligibility and RA	8.3	8.9	-0.5**	0.04
Youth age at most recent SSI application	7.6	7.0	0.6**	0.03
Youth payments in the year before RA (\$)				
SSI	6,982	7,300	-319**	0.02
OASDI	528	380	148*	0.07
Total SSI and OASDI	7,510	7,681	-171	0.15
Household had multiple SSI-eligible children	23.7	28.8	-5.1*	0.05
Enrolling parent provided a valid SSN at RA	90.2	90.6	-0.4	0.84
Parents included in the administrative data				0.19
None	3.1	1.5	1.5	
One parent	62.3	63.8	-1.5	
Two parents	34.7	34.7	-0.0	
Parent SSA payment status at RA				0.11
Any parent received SSI only	10.2	9.5	0.7	
Any parent received OASDI only	14.2	10.9	3.3	
Any parent received both SSI and OASDI	7.8	7.4	0.4	
No parent received any SSA payments	64.7	70.7	-5.9	
No parent was included in the SSA data analyses	3.1	1.5	1.5	
Youth had Medicaid expenditures				
Inpatient expenditures	24.4	1.5	22.9***	0.00
Prescription drug expenditures	97.4	78.7	18.7***	0.00
Long-term care expenditures	28.2	1.1	27.1***	0.00
Waiver expenditures	5.4	0.2	5.2***	0.00
Capitated payment expenditures	99.8	94.8	4.9***	0.00
Expenditures for other services	100.0	98.3	1.7***	0.00
Any Medicaid expenditures	100.0	98.3	1.7***	0.00
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	637	3	634***	0.00
Prescription drug	437	61	376***	0.00
Long-term care	632	3	629***	0.00
Waiver	106	0	106***	0.00
Capitated payments	18	13	6	0.15
Other services	989	168	821***	0.00
Total	2,819	248	2,571***	0.00
Number of youth	380	1,061		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$813).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$813).

*/**/*** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.39. Arkansas PROMISE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Youth's outcomes												
Enrolled in an educational or training program	27.0	1.7	0.71	183	181	29.7	-2.9	0.31	519	489	0.39	
Has a GED, high school diploma, or certificate of completion	67.9	1.0	0.84	192	187	82.8	-3.3	0.17	539	519	0.42	
Employed in a paid job in the past year	35.9	10.9**	0.04	192	188	53.1	0.7	0.84	541	520	0.08†	
Earnings in the past year (\$)	3,508	580	0.49	192	188	5,806	-270	0.64	541	520	0.39	
Self-determination score (scale: 0 to 100)	77.0	-0.2	0.92	115	106	79.3	0.2	0.88	364	315	0.88	
Expects to be financially independent at age 25	57.6	-1.6	0.81	121	110	64.3	1.4	0.71	379	329	0.69	
Received SSA payments in Year 5 after RA	61.9	-1.3	0.75	226	226	54.4	-0.1	0.96	678	675	0.81	
Total SSA payments in Year 5 after RA (\$)	4,727	-84	0.82	226	226	4,037	-64	0.77	678	675	0.96	
Total SSA payments during Years 1–5 after RA (\$)	33,171	-861	0.42	226	226	30,468	-347	0.62	678	675	0.68	
Covered by health insurance	80.1	-2.3	0.59	185	180	81.8	-6.7***	0.01	518	498	0.37	
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	874	40	0.53	226	226	295	-9	0.59	678	675	0.46	
Total income in the past year (\$)	8,336	374	0.65	192	188	9,868	-350	0.53	541	520	0.46	

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	61.6	-0.1	0.99	175	181	66.6	2.0	0.44	525	508	0.69
Earnings in the past year (\$)	16,800	845	0.69	175	181	19,423	783	0.56	525	509	0.98
Either parent received SSA payments in Year 5 after RA	39.6	0.7	0.82	217	222	31.9	-0.3	0.83	666	668	0.77
Total SSA payments received in Year 5 after RA (\$)	4,428	217	0.63	217	222	3,538	-148	0.50	666	668	0.47
Total SSA payments during the five years after RA (\$)	20,778	1,805	0.27	217	222	16,463	-167	0.84	666	668	0.28
Total income in the past year (\$)	21,705	1,271	0.55	169	178	23,161	629	0.64	516	502	0.79
Either parent is covered by health insurance	90.9	-1.2	0.71	175	181	90.4	-3.7*	0.06	522	504	0.52
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	379	68*	0.09	217	222	299	25	0.20	666	668	0.34

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of Arkansas PROMISE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$813).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$813).

*/**/*** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.40. ASPIRE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	35.1	31.8	3.3	0.22
Youth age at RA			†	0.09
14	34.2	38.8	-4.6	
15	31.0	31.9	-0.9	
16	34.8	29.2	5.5	
Average age at RA	15.4	15.4	0.1*	0.08
Youth language preference at SSI application				
Prefers English for written language	87.7	93.2	-5.5***	0.00
Prefers English for spoken language	87.2	92.8	-5.5***	0.00
Youth living arrangement at SSI application			††	0.01
In parents' household	79.5	85.0	-5.4	
Own household or alone	17.8	12.1	5.7	
Another household and receiving support	2.6	2.9	-0.3	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	46.1	34.8	11.3	
Non-Hispanic Black	5.9	13.2	-7.3	
Hispanic	36.0	37.9	-1.9	
Non-Hispanic other or mixed race (including American Indian)	11.8	13.9	-2.1	
Missing	0.2	0.3	-0.0	
Enrolling parent age at RA	45.4	43.5	1.9***	0.00
Parent race and ethnicity			†††	0.00
Non-Hispanic White	53.8	42.5	11.3	
Non-Hispanic Black	5.6	13.6	-8.0	
Hispanic	30.8	32.3	-1.5	
Non-Hispanic other or mixed race (including American Indian)	9.1	11.2	-2.0	
Missing	0.7	0.5	0.2	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	43.9	45.4	-1.5	
Speech, hearing, or visual impairment	1.2	2.7	-1.5	
Physical disability	28.3	15.9	12.4	
Other mental impairment	18.7	32.2	-13.5	
Other or unknown disability	7.9	3.8	4.1	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	92.3	90.8	1.6	0.32
Received OASDI	9.3	10.2	-0.9	0.59
Years between youth's earliest SSI eligibility and RA	10.2	8.3	1.9***	0.00
Youth age at most recent SSI application	6.1	7.6	-1.4***	0.00
Youth payments in the year before RA (\$)				
SSI	6,960	7,131	-171	0.20
OASDI	330	287	43	0.53
Total SSI and OASDI	7,290	7,419	-128	0.30
Household had multiple SSI-eligible children	14.9	18.8	-3.9*	0.06
Enrolling parent provided a valid SSN at RA	69.0	72.2	-3.1	0.23
Parents included in the administrative data			†††	0.00
None	10.1	7.4	2.7	
One parent	42.8	51.9	-9.1	
Two parents	47.1	40.7	6.4	
Parent SSA payment status at RA				0.10
Any parent received SSI only	6.6	9.9	-3.3	
Any parent received OASDI only	10.0	9.1	0.9	
Any parent received both SSI and OASDI	3.6	4.8	-1.2	
No parent received any SSA payments	69.8	68.8	0.9	
No parent was included in the SSA data analyses	10.1	7.4	2.7	
Youth had Medicaid expenditures				
Inpatient expenditures	10.8	0.7	10.1***	0.00
Prescription drug expenditures	41.3	35.8	5.5**	0.05
Long-term care expenditures	1.9	0.0	1.9***	0.00
Waiver expenditures	11.0	1.5	9.5***	0.00
Capitated payment expenditures	70.9	57.2	13.7***	0.00
Expenditures for other services	100.0	97.3	2.7***	0.00
Any Medicaid expenditures	100.0	97.3	2.7***	0.00
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	180	3	177***	0.00
Prescription drug	401	48	353***	0.00
Long-term care	93	0	93	n.a.
Waiver	177	6	172***	0.00
Capitated payments	2,036	561	1,474***	0.00
Other services	866	105	761***	0.00
Total	3,754	723	3,031***	0.00
Number of youth	421	1,171		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1552).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1552).

*/**/** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.41. ASPIRE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Youth's outcomes												
Enrolled in an educational or training program	40.8	5.5	0.25	208	202	37.9	-1.4	0.61	567	573	0.20	
Has a GED, high school diploma, or certificate of completion	74.1	-7.2	0.10	208	207	74.1	-2.9	0.26	583	585	0.39	
Employed in a paid job in the past year	27.7	-2.6	0.53	212	209	48.5	0.2	0.95	585	586	0.58	
Earnings in the past year (\$)	2,185	-0	1.00	212	209	5,955	160	0.79	585	586	0.84	
Self-determination score (scale: 0 to 100)	78.1	-0.9	0.61	103	107	79.9	-0.6	0.57	425	410	0.86	
Expects to be financially independent at age 25	45.1	-7.3	0.26	106	113	59.0	1.5	0.65	433	413	0.22	
Received SSA payments in Year 5 after RA	87.4	-1.4	0.67	243	246	59.4	0.2	0.94	735	729	0.70	
Total SSA payments in Year 5 after RA (\$)	7,419	10	0.97	243	246	4,603	67	0.75	735	729	0.88	
Total SSA payments during Years 1–5 after RA (\$)	36,066	240	0.83	243	246	29,962	186	0.79	735	729	0.97	
Covered by health insurance	96.0	1.2	0.53	211	208	86.9	-3.2	0.13	562	569	0.12	
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	4,116	-103	0.44	243	246	965	13	0.77	735	729	0.41	
Total income in the past year (\$)	9,830	-39	0.94	212	209	10,827	137	0.80	585	586	0.82	

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	72.8	-0.9	0.83	207	195	67.9	0.6	0.82	572	570	0.76
Earnings in the past year (\$)	32,918	-26	0.99	207	195	26,712	-618	0.71	572	570	0.87
Either parent received SSA payments in Year 5 after RA	26.1	1.2	0.66	221	218	29.7	-3.1*	0.05	678	670	0.18
Total SSA payments received in Year 5 after RA (\$)	3,085	238	0.59	221	218	3,149	-29	0.90	678	670	0.59
Total SSA payments during the five years after RA (\$)	14,908	241	0.89	221	218	14,641	370	0.65	678	670	0.95
Total income in the past year (\$)	36,208	-540	0.87	188	178	30,595	-294	0.86	527	527	0.95
Either parent is covered by health insurance	87.7	0.7	0.84	207	194	86.8	2.0	0.30	569	567	0.71
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	601	30	0.52	221	218	708	22	0.50	678	670	0.89

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of ASPIRE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$1552).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$1552).

*/**/*** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.42. CaPROMISE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	37.4	31.5	5.9**	0.03
Youth age at RA			††	0.03
14	32.2	35.8	-3.7	
15	36.5	29.3	7.2	
16	31.3	34.9	-3.6	
Average age at RA	15.4	15.4	-0.0	0.94
Youth language preference at SSI application				
Prefers English for written language	59.0	66.4	-7.4***	0.01
Prefers English for spoken language	58.8	66.5	-7.7***	0.01
Youth living arrangement at SSI application				0.76
In parents' household	76.4	76.5	-0.1	
Own household or alone	21.5	20.8	0.8	
Another household and receiving support	2.1	2.8	-0.6	
Youth race and ethnicity				0.22
Non-Hispanic White	6.5	5.0	1.5	
Non-Hispanic Black	13.0	14.9	-1.9	
Hispanic	56.0	53.5	2.5	
Non-Hispanic other or mixed race (including American Indian)	8.3	6.5	1.7	
Missing	16.2	20.0	-3.8	
Enrolling parent age at RA	45.1	43.8	1.3***	0.01
Parent race and ethnicity				0.12
Non-Hispanic White	9.6	6.9	2.7	
Non-Hispanic Black	16.0	16.5	-0.5	
Hispanic	55.1	53.0	2.0	
Non-Hispanic other or mixed race (including American Indian)	6.8	6.2	0.6	
Missing	12.6	17.4	-4.8	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	40.6	51.2	-10.5	
Speech, hearing, or visual impairment	4.0	2.6	1.4	
Physical disability	31.6	14.5	17.1	
Other mental impairment	17.5	24.5	-7.0	
Other or unknown disability	6.2	7.2	-1.0	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	97.1	93.1	4.0***	0.00
Received OASDI	7.0	6.9	0.2	0.91
Years between youth's earliest SSI eligibility and RA	9.9	8.7	1.2***	0.00
Youth age at most recent SSI application	6.1	7.1	-1.0***	0.00
Youth payments in the year before RA (\$)				
SSI	7,423	7,371	52	0.67
OASDI	251	211	40	0.49
Total SSI and OASDI	7,674	7,582	92	0.40
Household had multiple SSI-eligible children	11.9	14.2	-2.3	0.23
Enrolling parent provided a valid SSN at RA	55.4	63.7	-8.3***	0.00
Parents included in the administrative data				0.35
None	13.2	15.2	-2.0	
One parent	49.5	51.1	-1.6	
Two parents	37.3	33.7	3.6	
Parent SSA payment status at RA				0.37
Any parent received SSI only	4.6	6.8	-2.3	
Any parent received OASDI only	6.9	5.9	1.0	
Any parent received both SSI and OASDI	2.8	2.6	0.2	
No parent received any SSA payments	72.5	69.5	3.0	
No parent was included in the SSA data analyses	13.2	15.2	-2.0	
Youth had Medicaid expenditures				
Inpatient expenditures	15.0	0.4	14.6***	0.00
Prescription drug expenditures	55.0	12.1	42.9***	0.00
Long-term care expenditures	6.1	0.7	5.5***	0.00
Waiver expenditures	39.4	9.3	30.1***	0.00
Capitated payment expenditures	100.0	87.3	12.7***	0.00
Expenditures for other services	100.0	98.3	1.7***	0.00
Any Medicaid expenditures	100.0	98.8	1.2***	0.00
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	513	2	511***	0.00
Prescription drug	524	13	510***	0.00
Long-term care	55	2	53**	0.03
Waiver	339	24	315***	0.00
Capitated payments	462	470	-9	0.54
Other services	1,826	157	1,670***	0.00
Total	3,718	669	3,050***	0.00
Number of youth	414	1,191		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse and sample design. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1376).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1376).

*/**/** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.43. CaPROMISE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Youth's outcomes												
Enrolled in an educational or training program	67.2	0.3	0.95	196	207	54.9	3.0	0.30	602	562	0.61	
Has a GED, high school diploma, or certificate of completion	73.1	1.9	0.67	194	213	83.3	-3.2	0.16	611	575	0.30	
Employed in a paid job in the past year	26.1	-4.7	0.26	197	217	35.9	4.8*	0.10	613	578	0.05†	
Earnings in the past year (\$)	1,916	-267	0.63	197	217	4,274	578	0.31	613	578	0.27	
Self-determination score (scale: 0 to 100)	74.9	-0.9	0.68	83	102	78.7	-1.5	0.14	414	368	0.82	
Expects to be financially independent at age 25	45.8	10.1	0.16	85	108	60.0	0.3	0.94	415	375	0.21	
Received SSA payments in Year 5 after RA	78.7	4.5*	0.09	376	399	60.5	0.7	0.71	1,172	1,150	0.25	
Total SSA payments in Year 5 after RA (\$)	7,793	679**	0.03	376	399	5,642	143	0.48	1,172	1,150	0.15	
Total SSA payments during Years 1–5 after RA (\$)	40,957	2,326**	0.01	376	399	35,791	262	0.67	1,172	1,150	0.07†	
Covered by health insurance	99.0	-0.8	0.57	192	214	87.8	2.6	0.17	591	572	0.15	
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	3,102	-40	0.64	376	399	1,119	5	0.86	1,172	1,150	0.62	
Total income in the past year (\$)	9,875	594	0.31	197	217	10,171	728	0.17	613	578	0.86	

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	78.2	-7.0*	0.08	198	216	70.7	1.6	0.52	613	573	0.07†
Earnings in the past year (\$)	27,441	-3,145	0.21	198	217	24,816	689	0.65	614	573	0.18
Either parent received SSA payments in Year 5 after RA	21.6	-0.9	0.65	326	348	21.9	0.1	0.93	985	970	0.67
Total SSA payments received in Year 5 after RA (\$)	2,801	-223	0.44	326	348	2,648	-41	0.83	985	970	0.60
Total SSA payments during the five years after RA (\$)	12,652	-1,347	0.15	326	348	12,172	-144	0.82	985	970	0.29
Total income in the past year (\$)	31,450	-2,791	0.31	163	195	28,364	769	0.65	519	480	0.26
Either parent is covered by health insurance	88.6	1.7	0.59	198	217	84.7	-0.6	0.75	603	573	0.53
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	540	6	0.84	326	348	514	20	0.27	985	970	0.67

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of CaPROMISE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse and sample design. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$1376).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$1376).

*/**/*** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.44. MD PROMISE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	31.0	36.4	-5.3*	0.06
Youth age at RA			†††	0.00
14	32.4	24.0	8.4	
15	25.7	26.6	-0.9	
16	41.9	49.4	-7.5	
Average age at RA	15.6	15.8	-0.2***	0.00
Youth language preference at SSI application				
Prefers English for written language	97.8	96.8	1.0	0.25
Prefers English for spoken language	97.8	96.4	1.4	0.13
Youth living arrangement at SSI application			†	0.06
In parents' household	83.3	87.7	-4.4	
Own household or alone	13.2	9.0	4.2	
Another household and receiving support	3.5	3.3	0.2	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	21.5	12.9	8.6	
Non-Hispanic Black	41.6	52.6	-11.0	
Hispanic	7.6	6.4	1.2	
Non-Hispanic other or mixed race (including American Indian)	9.8	7.1	2.6	
Missing	19.5	21.0	-1.4	
Enrolling parent age at RA	44.4	42.9	1.5***	0.01
Parent race and ethnicity			†††	0.00
Non-Hispanic White	27.3	17.0	10.3	
Non-Hispanic Black	44.8	55.3	-10.5	
Hispanic	6.5	5.5	1.0	
Non-Hispanic other or mixed race (including American Indian)	7.3	5.5	1.8	
Missing	14.2	16.7	-2.6	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	30.8	39.5	-8.7	
Speech, hearing, or visual impairment	1.0	2.0	-1.0	
Physical disability	15.0	9.8	5.3	
Other mental impairment	50.9	45.9	5.0	
Other or unknown disability	2.3	2.9	-0.6	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	95.9	94.1	1.8	0.17
Received OASDI	14.3	10.0	4.3**	0.04
Years between youth's earliest SSI eligibility and RA	8.6	8.2	0.3	0.22
Youth age at most recent SSI application	7.5	8.1	-0.5**	0.04
Youth payments in the year before RA (\$)				
SSI	7,195	7,252	-57	0.68
OASDI	451	296	155*	0.05
Total SSI and OASDI	7,646	7,548	98	0.43
Household had multiple SSI-eligible children	17.0	17.9	-0.9	0.68
Enrolling parent provided a valid SSN at RA	64.2	56.9	7.2**	0.01
Parents included in the administrative data			††	0.04
None	8.0	5.3	2.7	
One parent	64.1	70.7	-6.5	
Two parents	27.9	24.0	3.9	
Parent SSA payment status at RA				0.11
Any parent received SSI only	5.9	7.9	-2.0	
Any parent received OASDI only	9.9	7.6	2.3	
Any parent received both SSI and OASDI	5.3	4.5	0.8	
No parent received any SSA payments	70.9	74.7	-3.8	
No parent was included in the SSA data analyses	8.0	5.3	2.7	
Youth had Medicaid expenditures				
Inpatient expenditures	21.7	1.2	20.5***	0.00
Prescription drug expenditures	88.4	40.2	48.2***	0.00
Long-term care expenditures	0.0	0.0	0.0	n.a.
Waiver expenditures	9.7	0.2	9.5***	0.00
Capitated payment expenditures	98.5	91.5	7.0***	0.00
Expenditures for other services	100.0	99.7	0.3**	0.05
Any Medicaid expenditures	100.0	99.7	0.3**	0.05
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	831	4	827***	0.00
Prescription drug	495	47	448***	0.00
Long-term care	0	0	0	n.a.
Waiver	287	0	286***	0.00
Capitated payments	880	438	442***	0.00
Other services	1,244	230	1,014***	0.00
Total	3,737	719	3,018***	0.00
Number of youth	381	1,105		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1498).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1498).

*/**/** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.45. MD PROMISE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Youth's outcomes											
Enrolled in an educational or training program	43.0	-6.7	0.16	174	196	37.3	-0.9	0.76	536	525	0.30
Has a GED, high school diploma, or certificate of completion	68.4	-9.6*	0.05	180	198	73.0	-1.9	0.47	554	546	0.17
Employed in a paid job in the past year	44.6	-9.1*	0.08	182	199	45.0	5.0	0.12	556	549	0.02††
Earnings in the past year (\$)	4,241	-908	0.28	182	199	5,253	707	0.26	556	549	0.11
Self-determination score (scale: 0 to 100)	78.5	-1.1	0.57	94	114	78.5	0.9	0.37	366	343	0.35
Expects to be financially independent at age 25	59.6	-0.6	0.93	94	114	65.7	3.3	0.35	381	354	0.61
Received SSA payments in Year 5 after RA	69.0	4.9	0.22	228	239	57.6	8.2***	0.00	708	691	0.49
Total SSA payments in Year 5 after RA (\$)	5,481	589	0.12	228	239	4,642	262	0.25	708	691	0.45
Total SSA payments during Years 1–5 after RA (\$)	33,254	2,755**	0.01	228	239	31,254	1,249*	0.07	708	691	0.24
Covered by health insurance	95.1	-3.4	0.20	178	195	90.0	-0.1	0.97	534	524	0.30
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	1,924	-58	0.46	228	239	769	-4	0.89	708	691	0.52
Total income in the past year (\$)	9,851	-115	0.89	182	199	10,183	869	0.14	556	549	0.32

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Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	63.8	0.4	0.93	175	201	68.1	0.2	0.93	555	520	0.98
Earnings in the past year (\$)	23,701	200	0.95	175	201	22,771	1,709	0.30	555	521	0.68
Either parent received SSA payments in Year 5 after RA	25.9	6.9**	0.03	209	220	24.2	-2.8*	0.07	674	650	0.01†††
Total SSA payments received in Year 5 after RA (\$)	2,791	1,080**	0.01	209	220	2,655	-238	0.32	674	650	0.01†††
Total SSA payments during the five years after RA (\$)	13,381	4,012**	0.01	209	220	12,201	-1,548**	0.04	674	650	0.00†††
Total income in the past year (\$)	27,352	-148	0.96	164	185	25,864	1,716	0.30	531	487	0.61
Either parent is covered by health insurance	96.1	1.0	0.59	175	198	93.7	0.1	0.93	550	521	0.71
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	896	74	0.19	209	220	739	-0	0.99	674	650	0.27

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of MD PROMISE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$1498).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$1498).

*/**/** Impact estimate is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p -value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.46. NYS PROMISE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	35.6	31.7	3.9	0.15
Youth age at RA				0.48
14	37.9	38.3	-0.4	
15	34.0	31.1	2.9	
16	28.2	30.6	-2.5	
Average age at RA	15.3	15.4	-0.0	0.56
Youth language preference at SSI application				
Prefers English for written language	84.5	85.3	-0.8	0.69
Prefers English for spoken language	84.1	85.1	-1.0	0.63
Youth living arrangement at SSI application				0.98
In parents' household	85.3	85.7	-0.3	
Own household or alone	12.8	12.5	0.3	
Another household and receiving support	1.8	1.8	0.0	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	10.3	5.4	4.9	
Non-Hispanic Black	31.1	36.9	-5.8	
Hispanic	38.3	32.7	5.7	
Non-Hispanic other or mixed race (including American Indian)	9.3	8.3	1.0	
Missing	11.0	16.7	-5.7	
Enrolling parent age at RA	45.3	43.8	1.5***	0.00
Parent race and ethnicity			†††	0.00
Non-Hispanic White	14.0	9.2	4.8	
Non-Hispanic Black	34.2	39.8	-5.5	
Hispanic	36.3	31.5	4.8	
Non-Hispanic other or mixed race (including American Indian)	7.7	8.1	-0.4	
Missing	7.7	11.4	-3.7	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	50.2	60.7	-10.5	
Speech, hearing, or visual impairment	0.3	1.7	-1.4	
Physical disability	20.0	9.0	10.9	
Other mental impairment	24.6	24.8	-0.3	
Other or unknown disability	5.0	3.8	1.3	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	97.2	95.6	1.6	0.10
Received OASDI	11.2	9.6	1.6	0.34
Years between youth's earliest SSI eligibility and RA	10.4	9.4	1.0***	0.00
Youth age at most recent SSI application	5.5	6.3	-0.7***	0.00
Youth payments in the year before RA (\$)				
SSI	7,441	7,611	-170	0.17
OASDI	357	243	113*	0.08
Total SSI and OASDI	7,798	7,855	-57	0.60
Household had multiple SSI-eligible children	17.8	19.2	-1.3	0.54
Enrolling parent provided a valid SSN at RA	85.8	85.1	0.8	0.70
Parents included in the administrative data				
None	4.9	5.4	-0.5	
One parent	67.7	67.7	0.1	
Two parents	27.4	26.9	0.4	
Parent SSA payment status at RA				0.86
Any parent received SSI only	10.6	12.0	-1.4	
Any parent received OASDI only	9.3	8.4	1.0	
Any parent received both SSI and OASDI	5.4	6.0	-0.5	
No parent received any SSA payments	69.7	68.3	1.4	
No parent was included in the SSA data analyses	4.9	5.4	-0.5	
Youth had Medicaid expenditures				
Inpatient expenditures	11.9	1.4	10.5***	0.00
Prescription drug expenditures	36.3	11.5	24.7***	0.00
Long-term care expenditures	11.1	0.3	10.8***	0.00
Waiver expenditures	41.1	3.0	38.1***	0.00
Capitated payment expenditures	98.6	68.0	30.6***	0.00
Expenditures for other services	100.0	98.2	1.8***	0.00
Any Medicaid expenditures	100.0	98.3	1.7***	0.00
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	328	5	322***	0.00
Prescription drug	106	8	97***	0.00
Long-term care	299	1	297***	0.00
Waiver	556	12	544***	0.00
Capitated payments	824	1,021	-198***	0.00
Other services	1,709	115	1,594***	0.00
Total	3,821	1,164	2,657***	0.00
Number of youth	433	1,229		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1703).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$1703).

*/**/** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.47. NYS PROMISE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Youth's outcomes											
Enrolled in an educational or training program	60.8	-0.9	0.83	230	199	55.9	-6.3**	0.02	596	598	0.28
Has a GED, high school diploma, or certificate of completion	45.4	0.8	0.87	227	197	59.5	-1.3	0.64	603	608	0.70
Employed in a paid job in the past year	25.6	3.5	0.41	233	200	35.1	4.9*	0.09	614	615	0.78
Earnings in the past year (\$)	2,359	-156	0.78	233	200	2,979	583	0.16	614	615	0.27
Self-determination score (scale: 0 to 100)	79.2	-2.0	0.31	106	100	77.7	0.2	0.86	383	387	0.32
Expects to be financially independent at age 25	68.4	-3.8	0.57	103	100	64.8	7.9**	0.02	391	390	0.11
Received SSA payments in Year 5 after RA	77.1	1.0	0.77	256	236	64.8	1.9	0.43	730	745	0.84
Total SSA payments in Year 5 after RA (\$)	6,118	106	0.75	256	236	5,206	-67	0.75	730	745	0.66
Total SSA payments during Years 1–5 after RA (\$)	35,251	-2	1.00	256	236	34,167	-50	0.94	730	745	0.97
Covered by health insurance	95.0	3.0	0.10	229	197	94.2	-0.3	0.82	598	596	0.15
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	1,994	77	0.32	256	236	1,141	-110***	0.00	730	745	0.02††
Total income in the past year (\$)	8,663	-242	0.67	233	200	8,344	365	0.38	614	615	0.37

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	61.8	-3.8	0.38	230	195	54.8	4.5*	0.10	606	610	0.10
Earnings in the past year (\$)	17,628	-397	0.84	230	195	15,650	636	0.59	607	610	0.64
Either parent received SSA payments in Year 5 after RA	32.1	-2.6	0.33	243	224	33.2	-0.8	0.61	708	686	0.56
Total SSA payments received in Year 5 after RA (\$)	3,315	-79	0.83	243	224	3,387	-109	0.60	708	686	0.94
Total SSA payments during the five years after RA (\$)	15,522	142	0.92	243	224	16,414	-512	0.49	708	686	0.66
Total income in the past year (\$)	21,150	-378	0.85	218	185	19,355	497	0.67	589	559	0.69
Either parent is covered by health insurance	93.9	2.1	0.29	228	195	92.1	0.5	0.73	600	607	0.51
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	852	-3	0.96	243	224	860	1	0.96	708	686	0.94

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of NYS PROMISE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$1703).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$1703).

*/**/*** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

Appendix Table A.48. WI PROMISE: Baseline characteristics of youth survey respondents (percentages, unless otherwise noted)

Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth is female	36.5	32.2	4.4	0.11
Youth age at RA				0.80
14	39.9	40.0	-0.1	
15	25.2	26.6	-1.4	
16	34.9	33.4	1.5	
Average age at RA	15.4	15.4	0.0	0.68
Youth language preference at SSI application				
Prefers English for written language	94.4	95.7	-1.3	0.33
Prefers English for spoken language	94.2	95.5	-1.4	0.31
Youth living arrangement at SSI application			†††	0.00
In parents' household	83.3	89.8	-6.5	
Own household or alone	15.0	9.8	5.1	
Another household and receiving support	1.7	0.4	1.3	
Youth race and ethnicity			†††	0.00
Non-Hispanic White	36.1	21.2	14.9	
Non-Hispanic Black	22.1	35.8	-13.7	
Hispanic	10.9	11.2	-0.4	
Non-Hispanic other or mixed race (including American Indian)	8.6	8.5	0.1	
Missing	22.4	23.3	-0.9	
Enrolling parent age at RA	42.6	41.0	1.6***	0.00
Parent race and ethnicity			†††	0.00
Non-Hispanic White	48.9	28.8	20.1	
Non-Hispanic Black	20.9	38.0	-17.1	
Hispanic	7.9	8.6	-0.7	
Non-Hispanic other or mixed race (including American Indian)	5.6	6.7	-1.1	
Missing	16.7	18.0	-1.3	
Youth primary impairment			†††	0.00
Intellectual or developmental disability	29.5	41.5	-12.0	
Speech, hearing, or visual impairment	0.5	1.6	-1.1	
Physical disability	19.3	10.1	9.1	
Other mental impairment	45.7	43.1	2.5	
Other or unknown disability	5.1	3.6	1.4	

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Characteristic	Youth with high medical needs ^a (A)	Other youth ^b (B)	Difference (A – B)	p-value
Youth SSA payment status at RA				
Received SSI	95.9	95.1	0.8	0.53
Received OASDI	13.7	12.0	1.7	0.39
Years between youth's earliest SSI eligibility and RA	8.6	8.4	0.2	0.37
Youth age at most recent SSI application	7.3	7.5	-0.1	0.59
Youth payments in the year before RA (\$)				
SSI	7,151	7,253	-101	0.45
OASDI	397	288	109	0.11
Total SSI and OASDI	7,548	7,541	7	0.95
Household had multiple SSI-eligible children	19.2	22.4	-3.3	0.16
Enrolling parent provided a valid SSN at RA	88.8	92.5	-3.7**	0.04
Parents included in the administrative data				
None	5.7	3.0	2.8	
One parent	52.5	61.9	-9.5	
Two parents	41.8	35.1	6.7	
Parent SSA payment status at RA				
Any parent received SSI only	9.9	12.2	-2.4	
Any parent received OASDI only	10.6	7.6	3.0	
Any parent received both SSI and OASDI	7.8	7.2	0.6	
No parent received any SSA payments	66.0	70.0	-4.0	
No parent was included in the SSA data analyses	5.7	3.0	2.8	
Youth had Medicaid expenditures				
Inpatient expenditures	26.6	1.5	25.0***	0.00
Prescription drug expenditures	96.4	75.4	21.1***	0.00
Long-term care expenditures	0.2	0.0	0.2	0.32
Waiver expenditures	0.2	0.0	0.2	0.32
Capitated payment expenditures	100.0	92.0	8.0***	0.00
Expenditures for other services	100.0	99.9	0.1	0.32
Any Medicaid expenditures	100.0	99.9	0.1	0.32
Average monthly Medicaid expenditures (2020 \$)				
Inpatient	380	6	374***	0.00
Prescription drug	613	80	533***	0.00
Long-term care	16	0	16	n.a.
Waiver	0	0	0	n.a.
Capitated payments	253	29	224***	0.00
Other services	1,607	150	1,457***	0.00
Total	2,869	265	2,604***	0.00
Number of youth	410	1,181		

Source: CMS and SSA administrative records, PROMISE RA system, and PROMISE 18-month surveys (race and ethnicity).

Note: The sample includes all youth who completed the PROMISE five-year youth survey. We weighted the statistics to adjust for survey nonresponse. The p -value for a continuous or binary variable is based on a two-tailed t -test. The p -value for a multinomial categorical variable, which we present in the row for the variable label, is based on a chi-square test across all categories.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$991).

^b Medicaid expenditures in the year before RA were lower than the 75th percentile for the full sample of youth (regardless of whether they responded to the survey) in this program (\$991).

*/**/*** Difference is significantly different from zero (p -value is less than .10/.05/.01) using a two-tailed t -test.

†/††/††† Difference is significantly different from zero (p -value is less than .10/.05/.01) using a chi-square test.

CMS = Centers for Medicare & Medicaid Services; OASDI = Old-Age, Survivors, and Disability Insurance; RA = random assignment; SSA = Social Security Administration; SSI = Supplemental Security Income; SSN = Social Security number.

Appendix Table A.49. WI PROMISE: Impact estimates on primary outcomes, by Medicaid expenditure subgroup (values measured at the time of the survey and shown in percentages, unless otherwise noted)

Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference	
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N		
Youth's outcomes												
Enrolled in an educational or training program	43.3	-4.7	0.32	210	185	32.9	1.2	0.65	557	569	0.28	
Has a GED, high school diploma, or certificate of completion	63.9	-0.7	0.89	213	192	68.2	2.6	0.33	579	593	0.54	
Employed in a paid job in the past year	40.3	13.7***	0.01	216	194	53.9	4.7	0.12	582	599	0.11	
Earnings in the past year (\$)	3,071	2,473***	0.01	216	194	5,494	98	0.86	582	599	0.02††	
Self-determination score (scale: 0 to 100)	77.2	-0.5	0.78	126	119	78.5	-0.3	0.73	382	394	0.93	
Expects to be financially independent at age 25	54.5	2.0	0.76	126	125	59.5	5.2	0.13	391	412	0.65	
Received SSA payments in Year 5 after RA	76.5	-0.7	0.86	248	226	64.7	1.3	0.59	702	720	0.66	
Total SSA payments in Year 5 after RA (\$)	6,263	26	0.94	248	226	5,110	211	0.34	702	720	0.65	
Total SSA payments during Years 1–5 after RA (\$)	35,240	698	0.51	248	226	32,793	761	0.24	702	720	0.96	
Covered by health insurance	89.2	3.4	0.24	209	194	86.0	-0.1	0.96	552	578	0.32	
Average monthly Medicaid and Medicare expenditures in Years 1–5 after RA (\$)	1,710	62	0.49	248	226	533	18	0.58	702	720	0.64	
Total income in the past year (\$)	9,436	2,610***	0.00	216	194	10,833	301	0.56	582	599	0.02††	

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Outcome	Youth with high medical needs ^a					Other youth ^b					p-value for subgroup difference
	Control mean	Impact	p-value	Treatment group N	Control group N	Control mean	Impact	p-value	Treatment group N	Control group N	
Parents' outcomes											
Either parent worked for pay in the past year	74.6	-0.8	0.83	212	186	68.2	2.4	0.33	573	588	0.49
Earnings in the past year (\$)	27,633	-774	0.79	213	186	21,694	1,123	0.45	573	589	0.54
Either parent received SSA payments in Year 5 after RA	35.8	-4.3	0.20	235	212	34.9	-0.1	0.93	682	702	0.26
Total SSA payments received in Year 5 after RA (\$)	3,894	-314	0.47	235	212	3,646	-47	0.82	682	702	0.57
Total SSA payments during the five years after RA (\$)	17,961	-626	0.68	235	212	17,594	-200	0.81	682	702	0.81
Total income in the past year (\$)	31,590	-1,606	0.57	201	178	25,533	816	0.58	556	576	0.43
Either parent is covered by health insurance	88.3	4.2	0.14	212	186	89.4	2.1	0.22	570	579	0.53
Average monthly Medicaid and Medicare expenditures in Years 1-5 after RA (\$)	841	-13	0.82	235	212	706	41	0.19	682	702	0.41

Source: CMS and SSA administrative records and PROMISE five-year surveys.

Note: This table shows the observed means for the control group and the regression-adjusted impact estimates of WI PROMISE. The adjusted mean for the treatment group can be calculated by adding the impact estimate to the observed mean for the control group. For outcomes derived from survey data, we weighted the statistics to adjust for survey nonresponse. All monetary values are in 2020 dollars.

^a Medicaid expenditures in the year before RA were greater than or equal to the 75th percentile for youth in this program (\$991).

^b Medicaid expenditures in the year before RA were below the 75th percentile for youth in this program (\$991).

*/**/** Impact estimate is significantly different from zero (p-value is less than .10/.05/.01) using a two-tailed t-test.

†/††/††† Impact estimates for subgroups are significantly different from each other (p-value is less than .10/.05/.01) using an adjusted Wald test.

CMS = Centers for Medicare & Medicaid Services; GED = General Educational Development; N = sample size; RA = random assignment; SSA = Social Security Administration.

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