Supplementary Online Content


eMethods. Detailed Methodology

eAppendix. Stata “do” and “log” Files for Main Analyses

eTable 1. Sensitivity Analyses for Measures of Standardized Expenditures

eTable 2. Sensitivity Analyses for ED Visits, Primary Care Visits, Inpatient Days

eTable 3. Sensitivity Analyses for Inpatient per Diem Multiplier

This supplementary material has been provided by the authors to give readers additional information about their work.
eMethods. Detailed Methodology

Methodology for Repricing Claims

Under managed care payment mechanisms, many claims are recorded as “encounter” or “shadow” claims, in which all elements of the claim are present (e.g., ICD9 code, current procedure terminology [CPT] code, date of service), except the “paid” or “allowed” amount, which is frequently recorded as a “zero” amount. In these cases, visits occur, but providers are paid via capitation or subcapitation. Total capitation amounts – the amounts paid to providers – are not available through claims data. In order to compare expenditures across states, it is necessary to attach prices to these expenditures. Our repricing process involved the following steps.

STEP 1 – Identify services with common & consistent CPT codes across Oregon and Colorado. In the Berenson-Eggers Type of Service (BETOS) typology, these claims include codes that fall into four categories: Evaluation & Management services; procedures; tests, and imaging services.

STEP 2 – Attach prices to these CPT codes using the 2014 Oregon Medicaid fee schedule and repriced claims according to the CPT code and site of service, for both Colorado and Oregon. At the end of step 2, we have created measures of standardized expenditures for these (common) claim types.

STEP 3 – Attach prices to inpatient facility claims using a per diem rate. We note that most inpatient admissions are paid on the prospective rate according to the diagnosis-related group (DRG) system. It would be convenient to attach prices according to the DRG payment rates across both states. Unfortunately, each state used a different DRG payment system, with Oregon using the MS-DRG system and Colorado moving from the plain DRG system to the APR-DRG system in 2014. APR-DRGs are proprietary and there is no straightforward way of crosswalking between APR-DRGs and regular DRGs or MS-DRGs or for obtaining payment weights for these different DRG systems, rendering a simple cross-state comparison extremely difficult, if not impossible. Thus, we opted for a per diem payment mechanism. We calculated a per diem payment rate by dividing actual Oregon payments for inpatient services by the length of stay, topcoding length of stay at 30 days. This produced an estimate of $1,573 per day. We then multiplied total inpatient days by $1,573 to produce a measure of standardized expenditures for inpatient facility payments. (The results of sensitivity analyses around this choice are provided below).

We exclude claims that do not have CPT claims that are common across the states, or those that are used in different formats. Examples of these types of claims include emergency and non-emergency transport, durable medical equipment, residential care, and most mental health services. Thus, our final measure of standardized expenditures focuses on common medical care claims and services. These average of approximately $106 per member per month (PMPM) in the Oregon population. A report for the Oregon Health Authority estimated medical (non-pharmacy) PMPM spending for the 2011 Medicaid population to be $247. Our estimate of total standardized expenditures of $106 suggests that the repricing approach captured approximately 43% of total spending on medical care.
1. Propensity Score Methods

We used propensity score weighting to create a comparison group of Colorado Medicaid beneficiaries similar to the Oregon group, as well as to adjust for any changes in composition in the Oregon group. Our approach follows the approach described by Stuart and colleagues ("Using propensity scores in difference-in-differences models to estimate the effects of a policy change." *Health Serv Outcomes Res Methodol* 2014;1–17)

In this model, we set the Oregon Medicaid group in the fourth quarter (Q4) of 2011 as the reference group. We then ran propensity score models for each group, across each quarter, with covariates that included age, gender, rural residence, and Chronic Illness and Disability Payment System (CDPS) risk indicators. Since our study examined 18 months (6 quarters) of pre-intervention data and 24 months of post-intervention data (8 quarters), we produced 14 (6 + 8) propensity scores for the comparison group (designed to weight the Colorado Medicaid enrollees across all time periods to appear similar to the Oregon Medicaid enrollees in the last quarter of 2011). We also produced 13 (5 + 8) propensity scores for the Oregon Medicaid group, representing propensity scores for all quarters except the reference quarter. These were designed to weight Oregon Medicaid enrollees across all time periods to appear similar to the Oregon Medicaid enrollees in the last quarter of 2011.

The propensity score model can be formalized as

\[
P(y_{it} = 1) = f(age_{it}, gender_{it}, risk_{it}, rurality_{it})
\]

We ran 27 logistic regressions (13 + 14), holding the reference group constant, and changing the quarter or state population, to generate propensity scores (\(\hat{p}\)) across all Colorado Medicaid enrollees and all Oregon Medicaid enrollees.

Propensity weights were then defined as “1” for the reference group and \((\hat{p})/(1-(\hat{p}))\) for the comparison group. As a final step, we trimmed weights at the 99th percentile to avoid instability that can be associated with very large weights. Propensity weights were then applied across Oregon and Colorado populations for all study periods, with each individual in each time period given a weight proportional to the probability of being in the Oregon program just prior to the CCO intervention. This weighting approach adjusted for observable differences between the Medicaid and commercial populations as well as changes in the composition of each population over time.
2. Sensitivity analyses

We conducted a variety of sensitivity analyses, comparing the sensitivity of our results as the specification of the model changed. In particular, we assessed:

1. Sensitivity to propensity score models, including the use of no propensity score, a propensity score that included demographics and clinical characteristics, and a propensity score that included demographics, clinical characteristics, and pre-intervention trends in primary care utilization.

2. Sensitivity to excluding the washout period (2012) vs. analyses that included 2012 and used the July 1, 2012 date as the demarcation for the pre- to post-intervention period.

3. Sensitivity to restricting the population to individuals enrolled in the pre- and post-period vs. no enrollment restrictions on the study population

4. Sensitivity to including a “time trend” variable to capture secular trends unrelated to the intervention.

In addition to our main specification, this creates 14 separate sensitivity analyses. In the table below, we show the coefficients of the difference-in-differences analyses for our three expenditure variables and three utilization variables, denoting significance as * (P<0.05), ** (P<0.01) and *** (P<0.001).

Furthermore, for each of the specifications and outcome variables, we show the results of the P-value for the test for parallel trends (eTable 1)

We also conduct a separate sensitivity analysis to assess the robustness of our findings to different assumptions about the per diem multiplier for hospital expenses (eTable 2).

Results of Sensitivity Analyses

Results of our analyses testing the sensitivity of modeling choices are displayed in eTable 1.

Results are generally robust to specifications, with some exceptions.

1. Pre-intervention trends for primary care visits are not parallel for Colorado and Oregon. When the propensity score is adjusted to include pre-trends (so that the weighted groups have parallel trends), the reduction in primary care visits is no longer statistically significant (models 13 and 14).

2. In some specifications, the increase in inpatient days and inpatient facility expenditures is statistically significant for Oregon relative to Colorado.

Results of our analyses testing the sensitivity of our per diem multiplier ($1,573) are displayed in eTable 2. Results are robust to a range of plausible estimates, and are only affected if we attach a very high per diem rate (e.g., three times our baseline rate, or $4719 per day).
eAppendix. Stata “do” and “log” Files for Main Analyses.

***STATA DO FILE – an_MainTablesAndRegressions***

capture log close
clear
log using "H:\Documents\EX-01_Oregon_CO&CCOs\John Stata Code\Log files\an_MainTablesAndRegressions.log", replace
set more off
display "an_MainTablesAndRegressions.do run on $S_DATE at $S_TIME"
clear

global rhs1 "i.ageCat isFemale i.ageCat#isFemale isPregnant isRural
i.monthsEnrolledPriorQtr"
global rhs2 "CARVH CARM CARL CAREL SKCM SKCL SKCVL CNSH CNSM CNSL PULH
PULM PULL GIH GIM GIL"
global rhs3 "DIA1H DIA1M DIA2M DIA2L SKNH SKNL SKNVL RENEH RENVH RENVM RENL
CANVH CANH CANM CANL DDM DDL"
global rhs4 "GENEL METH METM METVL PRGCMP PRGINC EYEL EYEVL CERL INFH
INFM INFL HEMEH HEMVH HEMM HEML"
global subUse "SUBL SUBVL"
global quarters "q2 q3 q4"

******************************************************************************
******
**BEGIN PROGRAM DEFINITIONS**
******
******************************************************************************

**PROGRAM DEFINITIONS**

*THIS PROGRAM
*stdiff_cont_wt
*RUNS STANDARDIZED DIFFERENCE FOR THE WEIGHTED GROUPS

capture program drop stdiff_cont_wt

program stdiff_cont_wt
    args var treatment
    *Standardized difference for continuous variables
    *100*(mean(tx) - mean(control))/sqrt(((var(tx)+var(control))/2)
    *Should not be more than 10% in absolute value
    qui svy: mean `var', over(`treatment')
estat sd
    matrix mu = r(mean)
    local mean1 = mu[1,1]
    local mean2 = mu[1,2]
    matrix v = r(sd)
    local sd1 = v[1,1]
    local sd2 = v[1,2]
    local mystdiff = 100*(`mean1'-`mean2')/(sqrt((`sd1'*`sd1'+`sd2'*`sd2')/2))
    display "Standardized difference (svy method) = " `mystdiff'
end
*THIS PROGRAM
*genStatsContinuousVar
*CALCULATES SOME BASIC STATISTICS FOR THE WEIGHTED GROUPS
capture program drop genStatsContinuousVar
program define genStatsContinuousVar
    args myVar
    *MEANS *
    di "Treatment Group Weighted Mean"
    mean `myVar' [pweight = wtCE199] if trtGroup == 1
    di "Comparison Group Weighted Mean"
    mean `myVar' [pweight = wtCE199] if trtGroup == 0

    *IQR*
    di "Treatment Group Weighted IQR"
    _pctile `myVar' [pweight = wtCE199] if (washout ==0 & trtGroup == 1), p(25, 50, 75)
    return list
    di "Comparison Group Weighted IQR"
    _pctile `myVar' [pweight = wtCE199] if trtGroup == 0, p(25, 50, 75)
    return list
end

*THIS PROGRAM
*trim99
*TRIMS AT THE 99TH PERCENTILE
capture program drop trim99
program define trim99
    args wt
    *TRIMMING*
    summ `wt' if trtGroup == 0 & washout ==0, detail
    local p99 = r(p99)
    gen `wt'99 = `wt'
    replace `wt'99 = `p99' if `wt'> `p99'
end

*THIS PROGRAM
*runDiffInDiffRegressions
*RUNS DIFF IN DIFF REGRESSIONS
capture program drop runDiffInDiffRegressions
program define runDiffInDiffRegressions
    args weight y
    *M1 checks trend
    di "Regression m1"
    qui reg `y' trendChecker time i.trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4 $subUse [pweight = `weight'] if post == 0, cluster(pcsa)
    estimates store m1
    *M2 is simple DID
    di "Regression m2"
    qui reg `y' i.trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4 $subUse $quarters [pweight = `weight'] if washout ==0, cluster(pcsa)
    estimates store m2
    *M3 is two period DiD
    di "Regression m3"
*THIS PROGRAM
*runDiffInDiffRegressions
*RUNS DIFF IN DIFF REGRESSIONS FOR SUBPOPULATIONS

capture program drop runDiDSubPops
program define runDiDSubPops
args weight y
*SP1 is simple DID
di "Regression m2"
qui reg `y' i.trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4 $subUse $quarters [pweight = `weight'] if washout ==0, cluster(pcsa)
estimates store sp1
*SP2 is two period DiD
di "Regression m3"
qui reg `y' i.trtGroup post1 post2 did1 did2 $rhs1 $rhs2 $rhs3 $rhs4 $subUse $quarters [pweight = `weight'] if washout ==0, cluster(pcsa)
estimates store sp2
estout sp1 sp2, keep(did did1 did2) cells(b(star fmt(2)) ci p) stats(r2 N, fmt(%9.3f %9.0g)) label legend
end

*THIS PROGRAM
*prePostQualityAverages
*GIVES SIMPLE AVERAGES FOR QUALITY METRICS

capture program drop prePostQualityAverages
program define prePostQualityAverages
args measureID
di "Ave Pre Tx"
mean ave if washout ==0 & trtGroup == 1 & year == 2011 & measureID == `measureID' [pw = wtCE199]
di "Ave Post Tx"
mean ave if washout ==0 & trtGroup == 1 & post == 1 & measureID == `measureID' [pw = wtCE199]
di "Ave Pre Comparison"
mean ave if washout ==0 & trtGroup == 0 & year == 2011 & measureID == `measureID' [pw = wtCE199]
di "Ave Post Comparison"
mean ave if washout ==0 & trtGroup == 0 & post == 1 & measureID == `measureID' [pw = wtCE199]
end

*THIS PROGRAM
*qualityRegression
*GIVES D-I-D ESTIMATES FOR QUALITY

capture program drop qualityRegression
program define qualityRegression
args weight measureID
*M1 is one period DiD
di "Regression m1 at $S_TIME"
    qui reg ave trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4 $subUse [pweight = `weight'] if washout ==0 & measureID == `measureID',
        cluster(pcsa)
    estimates store m1
*M2 is two period DiD
    di "Regression m2 at $S_TIME"
    qui reg ave trtGroup post1 post2 did1 did2 $rhs1 $rhs2 $rhs3 $rhs4 $subUse [pweight = `weight'] if washout == 0 & measureID == `measureID',
        cluster(pcsa)
    estimates store m2
    di "End regressions at $S_TIME"
    estout m1 m2, keep(did did1 did2) cells(b(star fmt(2)) ci) stats(r2 N, fmt(%9.3f %9.0g)) label legend
    di "End estout at $S_TIME"
end

**************************************************************************
******
**END PROGRAM DEFINITIONS**
**************************************************************************
******
**************************************************************************
******
**OPEN DATA FILE**
**************************************************************************
******
use "\CHSE\Share\EX-01_Oregon_COsCCOs\Year2Paper\3 Final Stata Data Sets\coor_AnalyticFile3", clear
**************************************************************************
******
**RESTRICT POPULATION TO PRE/POST ENROLLEED**
**************************************************************************
******
keep if inPre & inPost
**************************************************************************
******
**CREATE SOME VARIABLES FOR REGRESSIONS**
**************************************************************************
******
**************************************************************************
******
**GENERATE MEASURES OF SPENDING BY SITE**
**************************************************************************
******
capture drop inpatientFacSpend1
capture drop totalSpend1
gen inpatientFacSpend1 = 1573*IP_TotalDays
gen totalSpend1 = betos_sum + inpatientFacSpend1
gen ipSpending = IP_ProSpend + inpatientFacSpend1
gen opSpending = OP_ProSpend + OP_FacSpend
**************************************************************************
******
**Q2, Q3, Q4 REPRESENT QUARTERS
**************************************************************************
******
capture drop q*
gen q2 = 0
replace q2 = 1 if yearEnding == date("3/31/2010","MDY") | /*
   */ yearEnding == date("3/31/2011","MDY") | /*
   */ yearEnding == date("3/31/2012","MDY") | /*
   */ yearEnding == date("3/31/2013","MDY") | /*
   */ yearEnding == date("3/31/2014","MDY")
gen q3 = 0
replace q3 = 1 if yearEnding == date("6/30/2010","MDY") | /*
   */ yearEnding == date("6/30/2011","MDY") | /*
   */ yearEnding == date("6/30/2012","MDY") | /*
   */ yearEnding == date("6/30/2013","MDY") | /*
   */ yearEnding == date("6/30/2014","MDY")
gen q4 = 0
replace q4 = 1 if yearEnding == date("12/31/2010","MDY") | /*
   */ yearEnding == date("12/31/2011","MDY") | /*
   */ yearEnding == date("12/31/2012","MDY") | /*
   */ yearEnding == date("12/31/2013","MDY") | /*
   */ yearEnding == date("12/31/2014","MDY")
**************************************************************************
******
**DEFINE WASHOUT PERIOD
**************************************************************************
******
gen washout = cond(year(yearEnding)==2012,1,0)
**************************************************************************
******
**DEFINE TIME TREND
**************************************************************************
******
capture drop time
gen time = 0
replace time = 1 if yearEnding ==date("12/31/2010","MDY")
replace time = 2 if yearEnding ==date("3/31/2011","MDY")
replace time = 3 if yearEnding ==date("6/30/2011","MDY")
replace time = 4 if yearEnding ==date("9/30/2011","MDY")
replace time = 5 if yearEnding ==date("12/31/2011","MDY")
replace time = 6 if yearEnding ==date("3/31/2012","MDY")
replace time = 7 if yearEnding ==date("6/30/2012","MDY")
**************************************************************************
******
**COEFFICIENT ON "trendChecker" should be zero - implies parallel trend
gen trendChecker = time*trtGroup

**DEFINE "post" AND "did" (DIFFERENCE IN DIFFERENCE COEFFICIENT FOR TWO YEAR AVERAGE and "post1", "post2", "did1", "did2" TO ASSESS DIFFERENCES ACROSS YEARS**

capture drop post
gen post = 0
replace post = 1 if yearEnding >= date("9/30/2012","MDY")
gen did = post*trtGroup

capture drop year
gen year = year(yearEnding)
gen post1 = cond(year == 2013, 1, 0)
gen post2 = cond(year == 2014, 1, 0)
gen did1 = post1*trtGroup
ngen did2 = post2*trtGroup

**SCALE SO VALUES ARE 1000 MEMBER MONTHS**

replace PCP_TotalVisits = PCP_TotalVisits*1000
replace ED_TotalVisits = ED_TotalVisits*1000
replace IP_TotalDays = IP_TotalDays*1000
replace ED_AvoidableVisits = ED_AvoidableVisits*1000

**TRIM WEIGHT AT 99th PERCENTILE**

trim99 wtCE1
trim99 wtAdultsCE1
trim99 wtKidsCE1

** SET SURVEY WEIGHT**

svyset [pweight = wtCE199]

****TABLE 2 INFORMATION****
bys memberID: gen memberCounter = _n
tab trtGroup if memberCounter == 1

******
***AGE***
******
**MEANS AND IQR**
genStatsContinuousVar age
**CALCULATE STANDARDIZED DIFFERENCE**
preserve
    keep if yearEnding == date("12/31/2011","MDY")
    stdiff_cont_wt age trtGroup
restore

******
***AGE***
******
**MEANS AND IQR**
genStatsContinuousVar age
**CALCULATE STANDARDIZED DIFFERENCE**
preserve
    keep if yearEnding == date("12/31/2011","MDY")
    stdiff_cont_wt age trtGroup
restore

******
***GENDER***
******
**MEAN TREATED**
mean isFemale [pweight = wtCE199] if trtGroup == 1
**MEAN COMPARISON**
mean isFemale [pweight = wtCE199] if trtGroup == 0
**CALCULATE STANDARDIZED DIFFERENCE**
preserve
    keep if yearEnding == date("12/31/2011","MDY")
    stdiff_cont_wt isFemale trtGroup
restore

******
***RISK SCORE***
******
**MEANS AND IQR**
genStatsContinuousVar cdpsRiskScore
**CALCULATE STANDARDIZED DIFFERENCE**
preserve
    keep if yearEnding == date("12/31/2011","MDY")
    stdiff_cont_wt cdpsRiskScore trtGroup
restore
*******
***RURALITY***
*******
**MEAN TREATED**
mean isRural [pweight = wtCE199] if trtGroup == 1
**MEAN COMPARISON**
mean isRural [pweight = wtCE199] if trtGroup == 0
**CALCULATE STANDARDIZED DIFFERENCE**
preserve
  keep if yearEnding == date("12/31/2011","MDY")
  stdiff_cont_wt isRural trtGroup
restore

**************************************************************************
******
****TABLE 3 INFORMATION****
**************************************************************************
******
di "Ave Pre Tx"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
IP_TotalDays if washout == 0 & trtGroup == 1 & post == 0 [pw = wtCE199]
di "Ave Post Tx"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
IP_TotalDays if washout == 0 & trtGroup == 1 & post == 1 [pw = wtCE199]
di "Ave Pre Comparison"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
IP_TotalDays if washout == 0 & trtGroup == 0 & post == 0 [pw = wtCE199]
di "Ave Post Comparison"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
IP_TotalDays if washout == 0 & trtGroup == 0 & post == 1 [pw = wtCE199]
runDiffInDiffRegressions wtCE199 totalSpend1
runDiffInDiffRegressions wtCE199 E_MSpend
runDiffInDiffRegressions wtCE199 imageSpend
runDiffInDiffRegressions wtCE199 procSpend
runDiffInDiffRegressions wtCE199 testSpend
runDiffInDiffRegressions wtCE199 inpatientFacSpend1
runDiffInDiffRegressions wtCE199 ipSpending
runDiffInDiffRegressions wtCE199 opSpending
runDiffInDiffRegressions wtCE199 ED_TotalVisits
runDiffInDiffRegressions wtCE199 PCP_TotalVisits
runDiffInDiffRegressions wtCE199 IP_TotalDays

**************************************************************************
******
****TABLE 4 INFORMATION****
**************************************************************************
******

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preserve
  keep if age > 18
  drop inPre inPost
  gen inPreTemp = cond(year == 2010 | year == 2011, 1, 0)
  gen inPostTemp = cond(year > 2012, 1, 0)
  bys memberID: egen inPre = max(inPreTemp)
  bys memberID: egen inPost = max(inPostTemp)
  keep if inPre & inPost
  capture drop memberCounter
  bys memberID: gen memberCounter = _n
  tab trtGroup if memberCounter == 1
  di "Ave Pre Tx"
  mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
  IP_TotalDays if washout == 0 & trtGroup == 1 & post == 0 [pw = wtAdultsCE199]
  di "Ave Post Tx"
  mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
  IP_TotalDays if washout == 0 & trtGroup == 1 & post == 1 [pw = wtAdultsCE199]
  di "Ave Pre Comparison"
  mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
  IP_TotalDays if washout == 0 & trtGroup == 0 & post == 0 [pw = wtAdultsCE199]
  di "Ave Post Comparison"
  mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits
  IP_TotalDays if washout == 0 & trtGroup == 0 & post == 1 [pw = wtAdultsCE199]
  runDiDSubPops wtAdultsCE199 totalSpend1
  runDiDSubPops wtAdultsCE199 E_MSpend
  runDiDSubPops wtAdultsCE199 imageSpend
  runDiDSubPops wtAdultsCE199 procSpend
  runDiDSubPops wtAdultsCE199 testSpend
  runDiDSubPops wtAdultsCE199 inpatientFacSpend1
  runDiDSubPops wtAdultsCE199 ipSpending
  runDiDSubPops wtAdultsCE199 opSpending
  runDiDSubPops wtAdultsCE199 ED_TotalVisits
  runDiDSubPops wtAdultsCE199 PCP_TotalVisits
  runDiDSubPops wtAdultsCE199 IP_TotalDays
restore
preserve
drop if age >18
drop inPre inPost
gen inPreTemp = cond(year == 2010 | year == 2011, 1, 0)
gen inPostTemp = cond(year>2012, 1, 0)
bys memberID: egen inPre = max(inPreTemp)
bys memberID: egen inPost = max(inPostTemp)
keep if inPre & inPost

capture drop memberCounter
bys memberID: gen memberCounter = _n
tab trtGroup if memberCounter == 1

di "Ave Pre Tx"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 1 & post == 0 [pw = wtKidsCE199]
di "Ave Post Tx"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 1 & post == 1 [pw = wtKidsCE199]
di "Ave Pre Comparison"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 0 & post == 0 [pw = wtKidsCE199]
di "Ave Post Comparison"
mean totalSpend1 E_MSpend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_TotalVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 0 & post == 1 [pw = wtKidsCE199]

restore
TABLE 5 [QUALITY] INFORMATION

AVOIDABLE ED VISITS

Ave Pre Tx
\[ \text{mean } \text{ED}_\text{AvoidableVisits} \text{ if } \text{washout} == 0 \& \text{trtGroup} == 1 \& \text{post} == 0 \[\text{pw} = \text{wtKidsCE199}\]

Ave Post Tx
\[ \text{mean } \text{ED}_\text{AvoidableVisits} \text{ if } \text{washout} == 0 \& \text{trtGroup} == 1 \& \text{post} == 1 \[\text{pw} = \text{wtKidsCE199}\]

Ave Pre Comparison
\[ \text{mean } \text{ED}_\text{AvoidableVisits} \text{ if } \text{washout} == 0 \& \text{trtGroup} == 0 \& \text{post} == 0 \[\text{pw} = \text{wtKidsCE199}\]

Ave Post Comparison
\[ \text{mean } \text{ED}_\text{AvoidableVisits} \text{ if } \text{washout} == 0 \& \text{trtGroup} == 0 \& \text{post} == 1 \[\text{pw} = \text{wtKidsCE199}\]

runDiffInDiffRegressions wtCE199 ED_AvoidableVisits

NOW LOAD QUALITY DATABASE

capture drop washout
gen washout = cond(year(yearEnding)==2012,1,0)
drop if washout == 1
capture drop post
gen post = 0
replace post = 1 if yearEnding >= date("9/30/2012","MDY")
gen did = post*trtGroup
gen inPreTemp = cond(post == 0, 1, 0)
gen inPostTemp = cond(post == 1, 1, 0)
bys memberID: egen inPre = max(inPreTemp)
bys memberID: egen inPost = max(inPostTemp)
keep if inPre & inPost

TRIM WEIGHT AT 99th PERCENTILE
trim99 wtCE1

capture drop year
gen year = year(yearEnding)
gen post1 = cond(year == 2013, 1, 0)
gen post2 = cond(year == 2014, 1, 0)
gen did1 = post1*trtGroup
gen did2 = post2*trtGroup

gen month = month(yearEnding)
keep if month == 12
gen ave = num/den
*convert to percentage
replace ave = ave*100 if (measureID <68 | measureID>70)

** ACCESS MEASURES

---

**CHILD/ADOLESCENT ACCESS TO PCP****
**MEASURE 15 *****

prePostQualityAverages 15
qualityRegression wtCE199 15

---

**WELL CHILD VISITS AGES 3-6****
**MEASURE 78 *****

prePostQualityAverages 78
qualityRegression wtCE199 78

---

**ADOLESCENT WELL CARE VISITS****
**MEASURE 13 *****

prePostQualityAverages 13
qualityRegression wtCE199 13

---

**ADULT ACCESS TO PREVENTIVE AMBULATORY CARE, 20-44 ****
di " ****MEASURE 2 *****"
di " "
prePostQualityAverages 2
qualityRegression wtCE199 2

**************************************************************************
******
** OUTCOMES MEASURES
**************************************************************************
******
di " *********************************************** "
di " 

di " ****PQI OVERALL **** "
di " ****MEASURE 68 *****"
di " 
replace ave = ave*1000 if measureID == 68
prePostQualityAverages 68
qualityRegression wtCE199 68

di " *********************************************** "
di " 

di " ****PQI ACUTE **** "
di " ****MEASURE 69 *****"
di " 
replace ave = ave*1000 if measureID == 69
prePostQualityAverages 69
qualityRegression wtCE199 69

di " *********************************************** "
di " 

di " ****PQI CHRONIC **** "
di " ****MEASURE 70 *****"
di " 
replace ave = ave*1000 if measureID == 70
prePostQualityAverages 70
qualityRegression wtCE199 70

**************************************************************************
******
** LVC/APPROPRIATENESS
**************************************************************************
******
di " *********************************************** "
di " 

di " ****APPROPRIATE MEDICATIONS FOR INDIVIDUALS WITH ASTHMA **** "
di " ****MEASURE 11 *****"
di " 
prePostQualityAverages 11
qualityRegression wtCE199 11

di " *********************************************** "
di " 

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di " ****APPROPRIATE TESTING FOR CHILDREN WITH PHARYNGITIS **** "
di " ****MEASURE 23 *****"
di " "
prePostQualityAverages 23
qualityRegression wtCE199 23

di " ************************************** "
di " "
di " ****APPROPRIATE USE OF IMAGING STUDIES FOR LOW BACK PAIN **** "
di " ****MEASURE 27 *****"
di " "
prePostQualityAverages 27
qualityRegression wtCE199 27

di " ************************************** "
di " "
di " ****AVOIDANCE OF HEAD IMAGING FOR UNCOMPLICATED HEADACHE **** "
di " ****MEASURE 26 *****"
di " "
prePostQualityAverages 26
qualityRegression wtCE199 26

log close
exit
*********************
***BEGIN PROGRAM DEFINITIONS***

***PROGRAM DEFINITIONS***

*THIS PROGRAM
*stdiff_cont_wt
*RUNS STANDARDIZED DIFFERENCE FOR THE WEIGHTED GROUPS

capture program drop stdiff_cont_wt

program stdiff_cont_wt
 1.       args var treatment
 2.       *Standardized difference for continuous variables
           *100*(mean(tx) - mean(control))/sqrt((var(tx)+var(control))/2)
*Should not be more than 10% in absolute value

```
*THIS PROGRAM
*genStatsContinuousVar
*CALCULATES SOME BASIC STATISTICS FOR THE WEIGHTED GROUPS
.capture program drop genStatsContinuousVar

. program define genStatsContinuousVar
 1.     args myVar
 2.     *MEANS *
 3.     di "Treatment Group Weighted Mean"
 4.     mean `myVar' [pweight = wtCE199] if trtGroup == 1
 5.     di "Comparison Group Weighted Mean"
 6.     mean `myVar' [pweight = wtCE199] if trtGroup == 0

* IQR *
.     di "Treatment Group Weighted IQR"
 7.     _pctile `myVar' [pweight = wtCE199] if (washout ==0 &
trtGroup == 1), p(25, 50, 75)
 8.     return list
 9.     di "Comparison Group Weighted IQR"
10.    _pctile `myVar' [pweight = wtCE199] if trtGroup == 0, p(25, 50, 75)
11.    return list
12.    end

*THIS PROGRAM
*trim99
*TRIMS AT THE 99TH PERCENTILE
.capture program drop trim99

. program define trim99
 1.     args wt
 2.     *TRIMMING*
 3.     summ `wt' if trtGroup == 0 & washout ==0, detail
 4.     local p99 = r(p99)
 5.     gen `wt'99 = `wt'
 6.     replace `wt'99 = `p99' if `wt'> `p99'
 7.     end
```
. *THIS PROGRAM
. *runDiffInDiffRegressions
. *RUNS DIFF IN DIFF REGRESSIONS
. capture program drop runDiffInDiffRegressions

. program define runDiffInDiffRegressions
  1.   args weight y
  2.   *M1 checks trend
  3.       di "Regression m1"
  4.       qui reg `y' trendChecker time i.trtGroup post did $rhs1 $rhs2
  5.       $rhs3 $rhs4 $subUse [pweight = `>
  6.       weight'] if post == 0, cluster(pcsa)
  7.       estimates store m1
  8.       *M2 is simple DID
  9.       di "Regression m2"
 10.      qui reg `y' i.trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4
 11.      $subUse $quarters [pweight = `weight']
 12. > if washout ==0, cluster(pcsa)
 13.      estimates store m2
 14.      *M3 is two period DiD
 15.      di "Regression m3"
 16.      qui reg `y' i.trtGroup post1 post2 did1 did2 $rhs1 $rhs2
 17.      $rhs3 $rhs4 $subUse $quarters [pweight = `weight'
 18. > t = `weight'] if washout ==0, cluster(pcsa)
 19.      estimates store m3
 20.      estout m1 m2 m3, keep(trendChecker did did1 did2)
 21.      cells(b(star fmt(2)) ci) stats(r2 N, fmt(%9.
 22. > 3f %9.0g)) label legend
 23. end

. *THIS PROGRAM
. *runDiffInDiffRegressions
. *RUNS DIFF IN DIFF REGRESSIONS FOR SUBPOPULATIONS
. capture program drop runDiDSubPops

. program define runDiDSubPops
  1.   args weight y
  2.   *SP1 is simple DID
  3.       di "Regression m2"
  4.       qui reg `y' i.trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4
  5.       $subUse $quarters [pweight = `weight']
  6. > if washout ==0, cluster(pcsa)
  7.       estimates store sp1
  8.       *SP2 is two period DiD
  9.       di "Regression m3"
 10.      qui reg `y' i.trtGroup post1 post2 did1 did2 $rhs1 $rhs2
 11.      $rhs3 $rhs4 $subUse $quarters [pweight = `weight'
 12. > t = `weight'] if washout ==0, cluster(pcsa)
 13.      estimates store sp2
 14.      estout sp1 sp2, keep(did did1 did2) cells(b(star fmt(2)) ci
 15.      p) stats(r2 N, fmt(%9.3f %9.0g)) l

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*THIS PROGRAM
*prePostQualityAverages
*GIVES SIMPLE AVERAGES FOR QUALITY METRICS
.capture program drop prePostQualityAverages

.program define prePostQualityAverages
    args measureID
    di "Ave Pre Tx"
    mean ave if washout ==0 & trtGroup == 1 & year == 2011 & measureID == `measureID' [pw = wtCE19
> 9]
    di "Ave Post Tx"
    mean ave if washout ==0 & trtGroup == 1 & post == 1 & measureID == `measureID' [pw = wtCE199]
    di "Ave Pre Comparison"
    mean ave if washout ==0 & trtGroup == 0 & year == 2011 & measureID == `measureID' [pw = wtCE19
> 9]
    di "Ave Post Comparison"
    mean ave if washout ==0 & trtGroup == 0 & post == 1 & measureID == `measureID' [pw = wtCE199]
.end

*THIS PROGRAM
*qualityRegression
*GIVES D-I-D ESTIMATES FOR QUALITY
.capture program drop qualityRegression

.program define qualityRegression
    args weight measureID
    *M1 is one period DiD
    .
    di "Regression m1 at $S_TIME"
    qui reg ave trtGroup post did $rhs1 $rhs2 $rhs3 $rhs4 $subUse [pweight = `weight'] if washout
> ==0 & measureID == `measureID', cluster(pcsa)
    estimates store m1
    *M2 is two period DiD
    .
    di "Regression m2 at $S_TIME"
    qui reg ave trtGroup post1 post2 did1 did2 $rhs1 $rhs2 $rhs3 $rhs4 $subUse [pweight = `weight'
> ] if washout == 0 & measureID == `measureID', cluster(pcsa)
    estimates store m2
    .
    di "End regressions at $S_TIME"
    estout m1 m2, keep(did did1 did2) cells(b(star fmt(2)) ci)
    stats(r2 N, fmt(9.3f 9.0g)) label
    .
    di "End estout at $S_TIME"
.end
******
**OPEN DATA FILE**
******
use "\\CHSE\Share\EX-01_Oregon_Co&CCOs\Year2Paper\3 Final Stata Data Sets\coor_AnalyticFile3", clear

******
**RESTRICT POPULATION TO PRE/POST ENROLLED**
******
keep if inPre & inPost
(3,515,500 observations deleted)

******
**CREATE SOME VARIABLES FOR REGRESSIONS**
******
capture drop inpatientFacSpend1
capture drop totalSpend1
gen inpatientFacSpend1 = 1573*IP_TotalDays
(60,127 missing values generated)
gen totalSpend1 = betos_sum + inpatientFacSpend1
(60,127 missing values generated)

. gen ipSpending = IP_ProSpend + inpatientFacSpend1
(60,127 missing values generated)

. gen opSpending = OP_ProSpend + OP_FacSpend

. **************************************************************************
******/
. **Q2, Q3, Q4 REPRESENT QUARTERS
. **************************************************************************
******/
. capture drop q*

. gen q2 = 0

. replace q2 = 1 if yearEnding == date("3/31/2010", "MDY") | /*
> */ yearEnding == date("3/31/2011", "MDY") | /*
> */ yearEnding == date("3/31/2012", "MDY") | /*
> */ yearEnding == date("3/31/2013", "MDY") | /*
> */ yearEnding == date("3/31/2014", "MDY")
(2,370,845 real changes made)

.  

. gen q3 = 0

. replace q3 = 1 if yearEnding == date("6/30/2010", "MDY") | /*
> */ yearEnding == date("6/30/2011", "MDY") | /*
> */ yearEnding == date("6/30/2012", "MDY") | /*
> */ yearEnding == date("6/30/2013", "MDY") | /*
> */ yearEnding == date("6/30/2014", "MDY")
(2,397,120 real changes made)

.  

. gen q4 = 0

. replace q4 = 1 if yearEnding == date("12/31/2010", "MDY") | /*
> */ yearEnding == date("12/31/2011", "MDY") | /*
> */ yearEnding == date("12/31/2012", "MDY") | /*
> */ yearEnding == date("12/31/2013", "MDY") | /*
> */ yearEnding == date("12/31/2014", "MDY")
(2,978,213 real changes made)

.  

**************************************************************************
******/
. **DEFINE WASHOUT PERIOD
. **************************************************************************
/***/

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. gen washout = cond(year(yearEnding)==2012,1,0)
.
**************************************************************************
******
. **DEFINE TIME TREND
.
**************************************************************************
******
capture drop time
.
gen time = 0
.
replace time = 1 if yearEnding ==date("12/31/2010","MDY")
(565,326 real changes made)
.
replace time = 2 if yearEnding ==date("3/31/2011","MDY")
(592,164 real changes made)
.
replace time = 3 if yearEnding ==date("6/30/2011","MDY")
(603,621 real changes made)
.
replace time = 4 if yearEnding ==date("9/30/2011","MDY")
(615,072 real changes made)
.
replace time = 5 if yearEnding ==date("12/31/2011","MDY")
(634,880 real changes made)
.
replace time = 6 if yearEnding ==date("3/31/2012","MDY")
(631,112 real changes made)
.
replace time = 7 if yearEnding ==date("6/30/2012","MDY")
(601,337 real changes made)
.
**************************************************************************
******
. **COEFFICIENT ON "trendChecker" should be zero - implies parallel trend
.
**************************************************************************
******
gen trendChecker = time*trtGroup
.
**************************************************************************
******
**DEFINE "post" AND "did" (DIFFERENCE IN DIFFERENCE COEFFICIENT FOR TWO YEAR
* AVERAGE and "post1", "post2", "did1", "did2" TO ASSESS DIFFERENCES ACROSS
* YEARS
.  

***********************************************
*****
. capture drop post  
. gen post = 0  
. replace post = 1 if yearEnding >= date("9/30/2012", "MDY")  
(5,907,319 real changes made)  
. gen did = post*trtGroup  
.  
. capture drop year  
. gen year = year(yearEnding)  
. gen post1 = cond(year == 2013, 1, 0)  
. gen post2 = cond(year == 2014, 1, 0)  
. gen did1 = post1*trtGroup  
. gen did2 = post2*trtGroup  
.  
***********************************************
*****  
**SCALE SO VALUES ARE 1000 MEMBER MONTHS**  
.  
***********************************************
*****  
. replace PCP_TotalVisits = PCP_TotalVisits*1000  
(4,491,218 real changes made)  
. replace ED_TotalVisits = ED_TotalVisits*1000  
(1,285,019 real changes made)  
. replace IP_TotalDays = IP_TotalDays*1000  
(171,116 real changes made)  
. replace ED_AvoidableVisits = ED_AvoidableVisits*1000  
(300,845 real changes made)  
.  
***********************************************
*****  
**TRIM WEIGHT AT 99th PERCENTILE**  
.  
***********************************************
*****  
. trim99 wtCE1  

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### wtCE1

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Smallest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>.7410946</td>
</tr>
<tr>
<td>5%</td>
<td>1.015902</td>
</tr>
<tr>
<td>10%</td>
<td>1.102029</td>
</tr>
<tr>
<td>25%</td>
<td>1.233015</td>
</tr>
<tr>
<td>50%</td>
<td>1.441876</td>
</tr>
<tr>
<td>75%</td>
<td>2.032539</td>
</tr>
<tr>
<td>90%</td>
<td>2.997572</td>
</tr>
<tr>
<td>95%</td>
<td>3.707237</td>
</tr>
<tr>
<td>99%</td>
<td>6.390258</td>
</tr>
</tbody>
</table>

(O4,091 real changes made)

### wtAdultsCE1

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Smallest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>.6865267</td>
</tr>
<tr>
<td>5%</td>
<td>.8954393</td>
</tr>
<tr>
<td>10%</td>
<td>1.022067</td>
</tr>
<tr>
<td>25%</td>
<td>1.308732</td>
</tr>
<tr>
<td>50%</td>
<td>1.84816</td>
</tr>
<tr>
<td>75%</td>
<td>3.096649</td>
</tr>
<tr>
<td>90%</td>
<td>5.043231</td>
</tr>
<tr>
<td>95%</td>
<td>7.107763</td>
</tr>
<tr>
<td>99%</td>
<td>13.4758</td>
</tr>
</tbody>
</table>

(7,689,443 missing values generated)

(7,698,087 real changes made)

### wtKidsCE1

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Smallest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>.5534164</td>
</tr>
<tr>
<td>5%</td>
<td>.7307724</td>
</tr>
<tr>
<td>10%</td>
<td>.8716608</td>
</tr>
<tr>
<td>25%</td>
<td>1.084339</td>
</tr>
<tr>
<td>50%</td>
<td>1.392481</td>
</tr>
<tr>
<td>75%</td>
<td>1.80513</td>
</tr>
<tr>
<td>90%</td>
<td>2.570732</td>
</tr>
<tr>
<td>95%</td>
<td>3.139737</td>
</tr>
<tr>
<td>99%</td>
<td>4.252462</td>
</tr>
</tbody>
</table>

(3,312,508 missing values generated)

(3,347,808 real changes made)
**SET SURVEY WEIGHT**

```stata
svyset [pweight = wtCE199]
```

**TABLE 2 INFORMATION**

```stata
bys memberID: gen memberCounter = _n
tab trtGroup if memberCounter == 1
```

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>330,511</td>
<td>42.22</td>
<td>42.22</td>
</tr>
<tr>
<td>1</td>
<td>452,371</td>
<td>57.78</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>782,882</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

**AGE**

```stata
genStatsContinuousVar age
treatment Group Weighted Mean
```

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
<td>17.45568</td>
<td>.0058879</td>
<td>17.44414 17.46722</td>
</tr>
</tbody>
</table>

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Mean estimation                   Number of obs   =  3,841,261

--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
age |   15.99647   .0088499      15.97912    16.01381
--------------------------------------------------------------

Treatment Group Weighted IQR

scalars:
   r(r1) =  6
   r(r2) = 12
   r(r3) = 24

Comparison Group Weighted IQR

scalars:
   r(r1) =  6
   r(r2) = 12
   r(r3) = 25

. **CAlculate Standardized Difference**
. preserve

.         keep if yearEnding ==date("12/31/2011","MDY")
(10,052,567 observations deleted)

.         stdiff_cont_wt age trtGroup
  0: trtGroup = 0
  1: trtGroup = 1

-------------------------------------
|       Mean   Std. Dev. 
-------------+----------------------
age          |
  0 |   15.37443    11.39323
  1 |   17.32691    17.87941
-------------------------------------

Standardized difference (svy method) = -13.02409683522837

. restore

. *********
. ***AGE***
. *********
. **Means AND IQR**
. genStatsContinuousVar age

Treatment Group Weighted Mean

Mean estimation                   Number of obs   =  6,846,186

------------------------------------------------------------------------------
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
<td>17.45568</td>
<td>.0058879</td>
<td>17.44414       17.46722</td>
</tr>
</tbody>
</table>

Comparison Group Weighted Mean

Mean estimation  Number of obs  =  3,841,261

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>age</td>
<td>15.99647</td>
<td>.0088499</td>
<td>15.97912       16.01381</td>
</tr>
</tbody>
</table>

Treatment Group Weighted IQR

scalars:

```
r(r1) =  6
r(r2) =  12
r(r3) =  24
```

Comparison Group Weighted IQR

scalars:

```
r(r1) =  6
r(r2) =  12
r(r3) =  25
```

. **CACPULATE STANDARDIZED DIFFERENCE**

. preserve

.         keep if yearEnding ==date("12/31/2011","MDY")
(10,052,567 observations deleted)

.         stdiff_cont_wt age trtGroup

0: trtGroup = 0
1: trtGroup = 1

-------------------------------------
Over |       Mean   Std. Dev.
|-----------------------
| age                    |
| 0 | 15.37443    11.39323 |
| 1 | 17.32691    17.87941 |

-------------------------------------
Standardized difference (svy method) = -13.02409683522837

. restore

.

.  

. ****GENDER**

. ****MEAN TREATED**

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Mean estimation                   Number of obs   =  6,846,186

|       Mean   Std. Err.     [95% Conf. Interval] |
|-------------------------------+-------------------------|
|isFemale |  0.5453466   0.0001931       .5449682     .545725     |

**MEAN COMPARISON**

Mean estimation                   Number of obs   =  3,841,261

|       Mean   Std. Err.     [95% Conf. Interval] |
|-------------------------------+-------------------------|
|isFemale |  0.5543179   0.0002877       .553754    .5548817     |

**CACLULATE STANDARDIZED DIFFERENCE**

preserve
.
keep if yearEnding ==date("12/31/2011","MDY")
(10,052,567 observations deleted)
.
stdiff_cont_wt isFemale trtGroup

0: trtGroup = 0
1: trtGroup = 1

|         Over |       Mean   Std. Dev. |
|-------------+-----------------------|
|isFemale     |  Over |               |
|             |    0 |  0.5602306   0.4232088 |
|             |    1 |  0.5450513   0.5590033 |

Standardized difference (svy method) = 3.061701420028924
.
restore
.

********
**RISK SCORE**
********

**MEANS AND IQR**
genStatsContinuousVar cdpsRiskScore

Treatment Group Weighted Mean

Mean estimation                   Number of obs   =  6,846,186

---------------------------------------------
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>cdpsRiskScore</td>
<td>1.04942</td>
<td>0.0006189</td>
<td>1.048207 1.050633</td>
</tr>
</tbody>
</table>

Comparison Group Weighted Mean

Mean estimation

Number of obs = 3,841,261

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>cdpsRiskScore</td>
<td>1.008081</td>
<td>0.0011454</td>
<td>1.005836 1.010326</td>
</tr>
</tbody>
</table>

Treatment Group Weighted IQR

scalars:

r(r1) = .501999742507935
r(r2) = .6140000224113464
r(r3) = 1.031000018119812

Comparison Group Weighted IQR

scalars:

r(r1) = .501999742507935
r(r2) = .6140000224113464
r(r3) = .9990000128746033

. **CALCULATE STANDARDIZED DIFFERENCE**
. preserve
.         keep if yearEnding == date("12/31/2011","MDY")
(10,052,567 observations deleted)
.         stdiff_cont_wt cdpsRiskScore trtGroup
0: trtGroup = 0
1: trtGroup = 1

-------------------------------------
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>cdpsRiskScore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>.9821406</td>
<td>1.248491</td>
</tr>
<tr>
<td>1</td>
<td>1.045698</td>
<td>1.729436</td>
</tr>
</tbody>
</table>

Standardized difference (svy method) = -4.213935463933985

. restore

.

. ********
. **RURALITY***
. ********
. **MEAN TREATED**
. mean isRural [pweight = wtCE199] if trtGroup == 1
Mean estimation Number of obs   = 6,846,186

-------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
isRural |   .2785701   .0001737      .2782296    .2789106
-------------------------------------------------------------

. **MEAN COMPARISON**
. mean isRural [pweight = wtCE199] if trtGroup == 0
Mean estimation Number of obs   = 3,841,261

-------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
isRural |   .2724727   .0002951      .2718944     .273051
-------------------------------------------------------------

. **CACULATE STANDARDIZED DIFFERENCE**
. preserve
.   keep if yearEnding == date("12/31/2011","MDY")
(10,052,567 observations deleted)
.   stdiff_cont_wt isRural trtGroup
0: trtGroup = 0
1: trtGroup = 1

-------------------------------------
Over |       Mean   Std. Dev.
-------------+-----------------------
isRural     |
  0 |   .2733032    .3799774
    1 |   .2785292    .5032216
-------------------------------------
Standardized difference (svy method) = -1.172074302723203
. restore
.
.
**************************************************************************
******
****TABLE 3 INFORMATION****
.
**************************************************************************
******
. di "Ave Pre Tx"
Ave Pre Tx
. mean totalSpend1 E_M Spend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_Tota > lVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup == 1 & post == 0 [pw = wtCE199]

Mean estimation Number of obs = 2,173,765

<table>
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<tr>
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<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
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<tbody>
<tr>
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<td>102.5806</td>
<td>0.4649291</td>
<td>101.6693  103.4918</td>
</tr>
<tr>
<td>E_MSpend</td>
<td>30.01459</td>
<td>0.0469716</td>
<td>29.92253   30.10666</td>
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<tr>
<td>imageSpend</td>
<td>6.868117</td>
<td>0.0217657</td>
<td>6.825457   6.910777</td>
</tr>
<tr>
<td>procSpend</td>
<td>14.75631</td>
<td>0.0611154</td>
<td>14.63652   14.87609</td>
</tr>
<tr>
<td>testSpend</td>
<td>6.648998</td>
<td>0.0154724</td>
<td>6.618673   6.679324</td>
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<td>inpatientFacSpend1</td>
<td>44.29257</td>
<td>0.4051301</td>
<td>43.49853   45.08661</td>
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<tr>
<td>ipSpending</td>
<td>52.20308</td>
<td>0.4432578</td>
<td>51.33431   53.07185</td>
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<tr>
<td>opSpending</td>
<td>50.3775</td>
<td>0.0788947</td>
<td>50.22287   50.53213</td>
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<td>ED_TotalVisits</td>
<td>57.90746</td>
<td>0.1403778</td>
<td>57.63233   58.1826</td>
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<tr>
<td>PCP_TotalVisits</td>
<td>313.7606</td>
<td>0.3434454</td>
<td>313.0874   314.4337</td>
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<tr>
<td>IP_TotalDays</td>
<td>28.15802</td>
<td>0.2575525</td>
<td>27.65323   28.66282</td>
</tr>
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</table>

. di "Ave Post Tx"
Ave Post Tx

. mean totalSpend1 E_M Spend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending ED_Tota > lVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup == 1 & post == 1 [pw = wtCE199]

Mean estimation Number of obs = 3,030,827

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<td>96.10191   97.81783</td>
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<tr>
<td>imageSpend</td>
<td>6.835753</td>
<td>0.0213605</td>
<td>6.793888   6.877619</td>
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<tr>
<td>procSpend</td>
<td>13.73673</td>
<td>0.05371</td>
<td>13.63146   13.842</td>
</tr>
<tr>
<td>testSpend</td>
<td>6.971821</td>
<td>0.0156377</td>
<td>6.941172   7.00247</td>
</tr>
<tr>
<td>inpatientFacSpend1</td>
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<td>IP_TotalDays</td>
<td>26.01827</td>
<td>0.2443324</td>
<td>25.53939   26.49716</td>
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. di "Ave Pre Comparison"
Ave Pre Comparison
```
. mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits
> lVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 0 &
post == 0 [pw = wtCE199]

Mean estimation                   Number of obs =  1,349,888

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<td>24.72037   24.97147</td>
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<td>imageSpend</td>
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<td>0.1072747</td>
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<td>testSpend</td>
<td>5.7916</td>
<td>0.0263021</td>
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<tr>
<td>inpatientFacSpend1</td>
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<td>35.4576    37.55148</td>
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<tr>
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<td>0.594532</td>
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<tr>
<td>opSpending</td>
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<td>0.4912502</td>
<td>269.1288   271.0544</td>
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<tr>
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<td>23.20695</td>
<td>0.3395816</td>
<td>22.54139   23.87252</td>
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</table>

. di "Ave Post Comparison"
Ave Post Comparison

. mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending ED_TotalVisits
> lVisits PCP_TotalVisits IP_TotalDays  if washout ==0 & trtGroup == 0 &
post == 1 [pw = wtCE199]

Mean estimation                   Number of obs =  1,731,968

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<th>[95% Conf. Interval]</th>
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<td>0.0686282</td>
<td>25.06473   25.33375</td>
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<tr>
<td>imageSpend</td>
<td>7.053925</td>
<td>0.0371095</td>
<td>6.981191  7.126658</td>
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<td>0.0954269</td>
<td>12.76102   13.13509</td>
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<tr>
<td>testSpend</td>
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. runDiffInDiffRegressions wtCE199 totalSpend1
Regression m1
Regression m2
Regression m3
```
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<tr>
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<th>m2</th>
<th>m3</th>
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<tbody>
<tr>
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<td>-0.32</td>
<td>-0.97, 0.33</td>
<td>-0.79, 4.78</td>
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<td>2.00</td>
<td>0.00, 0.00</td>
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</tr>
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<td>0.151</td>
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<td>8286448</td>
<td>8286448</td>
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</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001

.runDiffInDiffRegressions wtCE199 E_MSpend Regression m1 Regression m2 Regression m3

<table>
<thead>
<tr>
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</thead>
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<tr>
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<td></td>
<td>0.32***</td>
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<tr>
<td>did1</td>
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<td></td>
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</tr>
<tr>
<td>did2</td>
<td></td>
<td></td>
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<tr>
<td>r2</td>
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<tr>
<td>N</td>
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<td>8329501</td>
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* p<0.05, ** p<0.01, *** p<0.001

.runDiffInDiffRegressions wtCE199 imageSpend Regression m1 Regression m2 Regression m3

<table>
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<td>did1</td>
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<td>m2</td>
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<tr>
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* p<0.05, ** p<0.01, *** p<0.001
* p<0.05, ** p<0.01, *** p<0.001

```
. runDiffInDiffRegressions wtCE199 inpatientFacSpend1
Regression m1
Regression m2
Regression m3

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```
. runDiffInDiffRegressions wtCE199 ipSpending
Regression m1
Regression m2
Regression m3

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```
. runDiffInDiffRegressions wtCE199 opSpending
Regression m1
Regression m2
Regression m3

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<td>-0.78,0.49</td>
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<td>0.01,8.73</td>
<td>0.01,8.73</td>
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<tr>
<td>r2</td>
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<td>0.112</td>
<td>0.112</td>
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<tr>
<td>N</td>
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<td>8286448</td>
<td>8286448</td>
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</table>
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<th>m3</th>
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* p<0.05, ** p<0.01, *** p<0.001

.runDiffInDiffRegressions wtCE199 ED_TotalVisits
Regression m1
Regression m2
Regression m3

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* p<0.05, ** p<0.01, *** p<0.001

.runDiffInDiffRegressions wtCE199 PCP_TotalVisits
Regression m1
Regression m2
Regression m3

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<td>-26.57,0.00</td>
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did1                          -9.43
                                -21.83, 2.98
did2                          -20.70***
                                -31.75, -9.65
--------------------------------------------------------------------
 r2                          0.239           0.245           0.245
N                        4747304         8286448         8286448
--------------------------------------------------------------------
* p<0.05, ** p<0.01, *** p<0.001

. runDiffInDiffRegressions wtCE199 IP_TotalDays
Regression m1
Regression m2
Regression m3

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--------------------------------------------------------------------
r2                          0.090           0.092           0.092
N                        4747304         8286448         8286448
--------------------------------------------------------------------
* p<0.05, ** p<0.01, *** p<0.001

. preserve
.         keep if age >18
(7,515,743 observations deleted)
drop inPre inPost

gen inPreTemp = cond(year == 2010 | year == 2011, 1, 0)
gen inPostTemp = cond(year>2012, 1, 0)
bys memberID: egen inPre = max(inPreTemp)
bys memberID: egen inPost = max(inPostTemp)

keep if inPre & inPost
(173,699 observations deleted)
capture drop memberCounter
bys memberID: gen memberCounter = _n
tab trtGroup if memberCounter == 1

|----------+--------+---------+--------|
|          |        |         |        |
| 0        | 77,720 | 33.32   | 33.32  |
| 1        | 155,507| 66.68   | 100.00 |
|          |        |         |        |
| Total    | 233,227| 100.00  |        |

di "Ave Pre Tx"

Ave Pre Tx

mean totalSpend1 E_MSpend imageSpend procSpend testSpend inpatientFacSpend1 ipSpending opSpending > ED_TotalVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup == 1 & post == 0 [pw = wtAdultsCE > 199]

Mean estimation

<table>
<thead>
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<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
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<td>212.9252</td>
<td>1.169773</td>
<td>210.6325  215.218</td>
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<td>.1076574</td>
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<td>procSpend</td>
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<td>testSpend</td>
<td>15.04916</td>
<td>.0416381</td>
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<td>inpatientFacSpend1</td>
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<td>1.019826</td>
<td>96.8989   100.8966</td>
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<td>ipSpending</td>
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<td>opSpending</td>
<td>93.61806</td>
<td>.2119377</td>
<td>93.20266  94.03345</td>
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### Ave Post Tx

**Mean estimation**  
Number of obs = 968,145

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### Ave Pre Comparison

**Mean estimation**  
Number of obs = 266,009

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</table>
. di "Ave Post Comparison"
Ave Post Comparison

. mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending
> ED_TotalVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup
== 0 & post == 1 [pw = wtAdultsC
> E199]

Mean estimation
Number of obs = 394,636

--------------------------------------------------------------------
| Mean   Std. Err.   [95% Conf. Interval]
-------------------+------------------------------------------------
totalSpend1 | 196.7597   2.968235   190.9421    202.5774
E_MSpend | 39.25224   .2349812   38.79168    39.71279
imageSpend | 17.88587   .1363173   17.61869    18.15305
procSpend | 33.2314    .3085743   32.6266    33.83619
testSpend | 16.02781   .0956053   15.84043    16.21519
inpatientFacSpend1 | 90.36242   2.625054   85.21739    95.50745
ipSpending | 113.9918   2.877954   108.3511    119.6325
opSpending | 82.76791   .3893212   82.00485    83.53096
ED_TotalVisits | 119.2307    .7424794   117.7755   120.6859
PCP_TotalVisits | 378.8314    1.336043   376.2127    381.45
IP_TotalDays | 57.44591    1.66882    54.17507    60.71675
--------------------------------------------------------------------

. runDiDSubPops wtAdultsCE199 totalSpend1
Regression m2
Regression m3

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did | -4.27 | -12.65,4.11 |
| 0.32 | | |
did1 | -11.18* | -20.90,-1.46 |
| 0.02 | | |
did2 | 2.57 | -9.70,14.84 |
| 0.68 | | |
r2 | 0.168 | 0.168 |
N | 2299884 | 2299884 |

* p<0.05, ** p<0.01, *** p<0.001

. runDiDSubPops wtAdultsCE199 E_MSpend
Regression m2
Regression m3

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* p<0.05, ** p<0.01, *** p<0.001

runDiDSubPops wtAdultsCE199 imageSpend
Regression m2
Regression m3

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* p<0.05, ** p<0.01, *** p<0.001

runDiDSubPops wtAdultsCE199 procSpend
Regression m2
Regression m3

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<td>-1.37, 0.08</td>
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* p<0.05, ** p<0.01, *** p<0.001
r2                          0.108           0.108
N                         2299884         2299884

* p<0.05, ** p<0.01, *** p<0.001

.        runDiDSubPops wtAdultsCE199 ipSpending Regression m2 Regression m3

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<td>-13.20**</td>
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r2                          0.133           0.133
N                         2299884         2299884

* p<0.05, ** p<0.01, *** p<0.001

.        runDiDSubPops wtAdultsCE199 opSpending Regression m2 Regression m3

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r2                          0.268           0.268
N                         2315965         2315965

* p<0.05, ** p<0.01, *** p<0.001

.        runDiDSubPops wtAdultsCE199 ED_TotalVisits Regression m2

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Regression m3

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<td></td>
</tr>
<tr>
<td>did</td>
<td>-11.63***</td>
<td>-17.85,-5.42 0.00</td>
</tr>
<tr>
<td>did1</td>
<td>-8.86*</td>
<td>-15.70,-2.02 0.01</td>
</tr>
<tr>
<td>did2</td>
<td>-14.45***</td>
<td>-20.60,-8.30 0.00</td>
</tr>
<tr>
<td>r2</td>
<td>0.137</td>
<td>0.137</td>
</tr>
<tr>
<td>N</td>
<td>2299884</td>
<td>2299884</td>
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</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001

```
. runDiDSubPops wtAdultsCE199 PCP_TotalVisits
Regression m2
Regression m3
```

Regression m3

<table>
<thead>
<tr>
<th></th>
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<tr>
<td><strong>b/ci95/p</strong></td>
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<tr>
<td>did</td>
<td>-16.79*</td>
<td>-33.57,-0.00 0.05</td>
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<td>did1</td>
<td>-1.13</td>
<td>-18.88,16.63 0.90</td>
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<td>did2</td>
<td>-32.27***</td>
<td>-49.16,-15.38 0.00</td>
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<td>r2</td>
<td>0.268</td>
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<td>N</td>
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* p<0.05, ** p<0.01, *** p<0.001

```
. runDiDSubPops wtAdultsCE199 IP_TotalDays
Regression m2
Regression m3
```

Regression m3

<table>
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<tr>
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<tr>
<td><strong>b/ci95/p</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>did</td>
<td>-2.72</td>
<td>-7.71,2.28</td>
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</tbody>
</table>

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0.28

did1                                        -7.69**
    -13.11,-2.27
    0.01

did2                                         2.23
    -5.26,9.72
    0.56

----------------------------------------------------
  r2                          0.108           0.108
  N                         2299884         2299884
-----------------------------------------------------------------
* p<0.05, ** p<0.01, *** p<0.001

. restore

.

**************************************************************************
******
. ****CHILDREN****
.
**************************************************************************
******

. preserve
.
.
         drop if age >18
(3,171,704 observations deleted)
.
         drop inPre inPost
.
         gen inPreTemp = cond(year == 2010 | year == 2011, 1, 0)
.
         gen inPostTemp = cond(year>2012, 1, 0)
.
         bys memberID: egen inPre = max(inPreTemp)
.
         bys memberID: egen inPost = max(inPostTemp)
.
         keep if inPre & inPost
(140,804 observations deleted)
.
         capture drop memberCounter
.
         bys memberID: gen memberCounter = _n
.
         tab trtGroup if memberCounter == 1


+-----------------+-------+---------+--------+
<table>
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<td>247,215</td>
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<td>1</td>
<td>283,816</td>
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<td>100.00</td>
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+-----------------+-------+---------+--------+
| Total        | 531,031 | 100.00  |        |
+-----------------+-------+---------+--------+
di "Ave Pre Tx"

Ave Pre Tx

. mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending
  > ED_TotalVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup
  == 1 & post == 0 [pw = wtKidsCE19
  > 9]

Mean estimation Number of obs  = 1,418,642

<table>
<thead>
<tr>
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<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
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</thead>
<tbody>
<tr>
<td>totalSpend1</td>
<td>48.72429</td>
<td>.4054165</td>
<td>47.92969  49.5189</td>
</tr>
<tr>
<td>imageSpend</td>
<td>2.16065</td>
<td>.0138148</td>
<td>2.132988  2.187141</td>
</tr>
<tr>
<td>procSpend</td>
<td>4.458122</td>
<td>.0320423</td>
<td>4.39532   4.520924</td>
</tr>
<tr>
<td>testSpend</td>
<td>2.498732</td>
<td>.0102354</td>
<td>2.478671  2.518793</td>
</tr>
<tr>
<td>inpatientFacSpend1</td>
<td>17.71518</td>
<td>.3556136</td>
<td>17.01819  18.41217</td>
</tr>
<tr>
<td>ipSpending</td>
<td>19.52782</td>
<td>.3921742</td>
<td>18.75918  20.29647</td>
</tr>
<tr>
<td>opSpending</td>
<td>29.19647</td>
<td>.0523859</td>
<td>29.0938   29.29915</td>
</tr>
<tr>
<td>ED_TotalVisits</td>
<td>36.64783</td>
<td>.1100805</td>
<td>36.43208  36.86359</td>
</tr>
<tr>
<td>PCP_TotalVisits</td>
<td>241.7056</td>
<td>.322402</td>
<td>241.0737  242.3375</td>
</tr>
<tr>
<td>IP_TotalDays</td>
<td>11.26203</td>
<td>.2260735</td>
<td>10.81894  11.70513</td>
</tr>
</tbody>
</table>

. di "Ave Post Tx"

Ave Post Tx

. mean totalSpend1 E_MSpend imageSpend procSpend testSpend
  inpatientFacSpend1 ipSpending opSpending
  > ED_TotalVisits PCP_TotalVisits IP_TotalDays if washout ==0 & trtGroup
  == 1 & post == 1 [pw = wtKidsCE19
  > 99]

Mean estimation Number of obs  = 1,940,689

<table>
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<tbody>
<tr>
<td>totalSpend1</td>
<td>39.32137</td>
<td>.3540833</td>
<td>38.62738  40.01536</td>
</tr>
<tr>
<td>E_MSpend</td>
<td>19.76044</td>
<td>.0385063</td>
<td>19.68497  19.83591</td>
</tr>
<tr>
<td>imageSpend</td>
<td>1.972681</td>
<td>.0147357</td>
<td>1.9438    2.001563</td>
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<tr>
<td>procSpend</td>
<td>4.284724</td>
<td>.0286309</td>
<td>4.228609  4.34084</td>
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<tr>
<td>testSpend</td>
<td>2.44647</td>
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<td>2.3938    2.49915</td>
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<tr>
<td>inpatientFacSpend1</td>
<td>10.85702</td>
<td>.3082664</td>
<td>10.2583   11.46121</td>
</tr>
<tr>
<td>ipSpending</td>
<td>12.10925</td>
<td>.322402</td>
<td>11.44721  12.7713</td>
</tr>
<tr>
<td>opSpending</td>
<td>27.21212</td>
<td>.05163</td>
<td>27.11093  27.31331</td>
</tr>
<tr>
<td>ED_TotalVisits</td>
<td>33.52376</td>
<td>.0988042</td>
<td>33.33011  33.71741</td>
</tr>
<tr>
<td>PCP_TotalVisits</td>
<td>202.9236</td>
<td>.2699713</td>
<td>202.3945  203.4527</td>
</tr>
<tr>
<td>IP_TotalDays</td>
<td>6.902109</td>
<td>.1959735</td>
<td>6.518007  7.28621</td>
</tr>
</tbody>
</table>
di "Ave Pre Comparison"
Ave Pre Comparison

mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending
> ED_TotVisits PCP_TotVisits IP_TotDays if washout ==0 & trtGroup
== 0 & post == 0 [pw = wtKidsCE19
> 9]
Mean estimation Number of obs = 1,057,017

<table>
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<th>[95% Conf. Interval]</th>
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<tbody>
<tr>
<td>totalSpend1</td>
<td>45.38</td>
<td>0.46</td>
<td>44.48 to 46.27</td>
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<tr>
<td>E_MSpend</td>
<td>19.85</td>
<td>0.05</td>
<td>19.76 to 19.95</td>
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<tr>
<td>imageSpend</td>
<td>2.29</td>
<td>0.02</td>
<td>2.26 to 2.33</td>
</tr>
<tr>
<td>procSpend</td>
<td>4.33</td>
<td>0.06</td>
<td>4.21 to 4.46</td>
</tr>
<tr>
<td>testSpend</td>
<td>2.03</td>
<td>0.02</td>
<td>2.01 to 2.05</td>
</tr>
<tr>
<td>inpatientFacSpend1</td>
<td>16.87</td>
<td>0.41</td>
<td>16.07 to 17.68</td>
</tr>
<tr>
<td>ipSpending</td>
<td>18.53</td>
<td>0.44</td>
<td>17.68 to 19.39</td>
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<tr>
<td>opSpending</td>
<td>26.84</td>
<td>0.09</td>
<td>26.67 to 27.02</td>
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<tr>
<td>ED_TotVisits</td>
<td>48.0</td>
<td>.16</td>
<td>47.71 to 48.32</td>
</tr>
<tr>
<td>PCP_TotVisits</td>
<td>231.08</td>
<td>.39</td>
<td>230.31 to 231.86</td>
</tr>
<tr>
<td>IP_TotDays</td>
<td>10.72</td>
<td>.26</td>
<td>10.22 to 11.23</td>
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</tbody>
</table>

di "Ave Post Comparison"
Ave Post Comparison

mean totalSpend1 E_MSpend imageSpend procSpend testSpend
inpatientFacSpend1 ipSpending opSpending
> ED_TotVisits PCP_TotVisits IP_TotDays if washout ==0 & trtGroup
== 0 & post == 1 [pw = wtKidsCE1
> 99]
Mean estimation Number of obs = 1,307,671

<table>
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<tbody>
<tr>
<td>totalSpend1</td>
<td>35.72</td>
<td>0.42</td>
<td>34.81 to 36.53</td>
</tr>
<tr>
<td>E_MSpend</td>
<td>18.47</td>
<td>0.05</td>
<td>18.38 to 18.56</td>
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<tr>
<td>imageSpend</td>
<td>1.99</td>
<td>0.02</td>
<td>1.96 to 2.03</td>
</tr>
<tr>
<td>procSpend</td>
<td>3.84</td>
<td>0.04</td>
<td>3.75 to 3.94</td>
</tr>
<tr>
<td>testSpend</td>
<td>2.03</td>
<td>0.02</td>
<td>2.01 to 2.05</td>
</tr>
<tr>
<td>inpatientFacSpend1</td>
<td>9.38</td>
<td>0.37</td>
<td>8.66 to 10.10</td>
</tr>
<tr>
<td>ipSpending</td>
<td>10.43</td>
<td>0.41</td>
<td>9.65 to 11.22</td>
</tr>
<tr>
<td>opSpending</td>
<td>25.28</td>
<td>0.08</td>
<td>25.13 to 25.43</td>
</tr>
<tr>
<td>ED_TotVisits</td>
<td>46.67</td>
<td>.14</td>
<td>46.38 to 46.95</td>
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<tr>
<td>PCP_TotVisits</td>
<td>202.41</td>
<td>.34</td>
<td>201.74 to 203.08</td>
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<tr>
<td>IP_TotDays</td>
<td>5.97</td>
<td>0.24</td>
<td>5.51 to 6.43</td>
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</table>

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### runDiDSubPops wtKidsCE199 totalSpend1
Regression m2
Regression m3

<table>
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<tr>
<th></th>
<th>sp1</th>
<th>sp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>did</td>
<td>-0.22</td>
<td>-2.25, 1.82</td>
</tr>
<tr>
<td>did1</td>
<td>0.22</td>
<td>-1.88, 2.31</td>
</tr>
<tr>
<td>did2</td>
<td>-0.65</td>
<td>-3.17, 1.87</td>
</tr>
</tbody>
</table>

| r2 | 0.093 | 0.093 |
| N  | 5724019 | 5724019 |

* p<0.05, ** p<0.01, *** p<0.001

### runDiDSubPops wtKidsCE199 E_MSpend
Regression m2
Regression m3

<table>
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<th>sp1</th>
<th>sp2</th>
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</thead>
<tbody>
<tr>
<td>did</td>
<td>-0.90**</td>
<td>-1.57, -0.24</td>
</tr>
<tr>
<td>did1</td>
<td>-0.39</td>
<td>-1.02, 0.24</td>
</tr>
<tr>
<td>did2</td>
<td>-1.42***</td>
<td>-2.18, -0.66</td>
</tr>
</tbody>
</table>

| r2 | 0.152 | 0.152 |
| N  | 5748857 | 5748857 |

* p<0.05, ** p<0.01, *** p<0.001

### runDiDSubPops wtKidsCE199 imageSpend
Regression m2
Regression m3

<table>
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<th>sp1</th>
<th>sp2</th>
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</thead>
<tbody>
<tr>
<td>did</td>
<td>-0.90**</td>
<td>-1.57, -0.24</td>
</tr>
<tr>
<td>did1</td>
<td>-0.39</td>
<td>-1.02, 0.24</td>
</tr>
<tr>
<td>did2</td>
<td>-1.42***</td>
<td>-2.18, -0.66</td>
</tr>
</tbody>
</table>

| r2 | 0.152 | 0.152 |
| N  | 5748857 | 5748857 |

* p<0.05, ** p<0.01, *** p<0.001
<table>
<thead>
<tr>
<th></th>
<th>spl1</th>
<th>spl2</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b/ci95/p</td>
<td>b/ci95/p</td>
</tr>
<tr>
<td>did</td>
<td>0.12**</td>
<td>0.05, 0.19</td>
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<tr>
<td></td>
<td>0.00</td>
<td></td>
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<tr>
<td>did1</td>
<td>0.07</td>
<td>-0.01, 0.15</td>
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<tr>
<td></td>
<td>0.09</td>
<td></td>
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<tr>
<td>did2</td>
<td>0.17***</td>
<td>0.08, 0.26</td>
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<tr>
<td></td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

|        | 0.106         | 0.106         |
|        | 5748857       | 5748857       |

* p<0.05, ** p<0.01, *** p<0.001

Regression m2
Regression m3

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<th></th>
<th>spl1</th>
<th>spl2</th>
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<tbody>
<tr>
<td></td>
<td>b/ci95/p</td>
<td>b/ci95/p</td>
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<tr>
<td>did</td>
<td>0.30*</td>
<td>0.04, 0.56</td>
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<tr>
<td></td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>did1</td>
<td>-0.11</td>
<td>-0.16, 0.39</td>
</tr>
<tr>
<td></td>
<td>0.42</td>
<td></td>
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<tr>
<td>did2</td>
<td>0.48**</td>
<td>0.18, 0.79</td>
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<tr>
<td></td>
<td>0.00</td>
<td></td>
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</table>

|        | 0.136         | 0.136         |
|        | 5748857       | 5748857       |

* p<0.05, ** p<0.01, *** p<0.001

Regression m2
Regression m3

<table>
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<th>spl1</th>
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<td>b/ci95/p</td>
<td>b/ci95/p</td>
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<tr>
<td>did</td>
<td>-0.04</td>
<td>-0.12, 0.05</td>
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<tr>
<td></td>
<td>0.37</td>
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<td>did1</td>
<td>-0.09*</td>
<td>-0.18, 0.00</td>
</tr>
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### Regression m2

<table>
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<tr>
<th></th>
<th>sp1</th>
<th>sp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>did</td>
<td>0.31</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>-1.39, 2.00</td>
<td>-1.48, 2.16</td>
</tr>
<tr>
<td>did1</td>
<td>0.49</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>-1.21, 2.20</td>
<td>-1.37, 2.31</td>
</tr>
<tr>
<td>did2</td>
<td>0.12</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>-2.07, 2.32</td>
<td>-2.16, 2.58</td>
</tr>
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<td>0.068</td>
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<tr>
<td>N</td>
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</table>

* p<0.05, ** p<0.01, *** p<0.001

### Regression m3

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<th>sp1</th>
<th>sp2</th>
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</thead>
<tbody>
<tr>
<td>did</td>
<td>0.31</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>-1.39, 2.00</td>
<td>-1.48, 2.16</td>
</tr>
<tr>
<td>did1</td>
<td>0.49</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>-1.21, 2.20</td>
<td>-1.37, 2.31</td>
</tr>
<tr>
<td>did2</td>
<td>0.12</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>-2.07, 2.32</td>
<td>-2.16, 2.58</td>
</tr>
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<td>r2</td>
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<td>0.068</td>
</tr>
<tr>
<td>N</td>
<td>5724019</td>
<td>5724019</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001
* p<0.05, ** p<0.01, *** p<0.001

.  runDiDSubPops wtKidsCE199 opSpending
Regression m2
Regression m3

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<td>b/ci95/p</td>
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<tr>
<td>did</td>
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<tr>
<td></td>
<td>-1.29, 0.18</td>
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<tr>
<td></td>
<td>0.14</td>
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<tr>
<td>did1</td>
<td>-0.27</td>
</tr>
<tr>
<td></td>
<td>-1.03, 0.49</td>
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<tr>
<td></td>
<td>0.48</td>
</tr>
<tr>
<td>did2</td>
<td>-0.84</td>
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<tr>
<td></td>
<td>-1.70, 0.01</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
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</tbody>
</table>

| r2          | 0.184       | 0.184       |
| N           | 5748857     | 5748857     |

* p<0.05, ** p<0.01, *** p<0.001

.  runDiDSubPops wtKidsCE199 ED_TotalVisits
Regression m2
Regression m3

<table>
<thead>
<tr>
<th>sp1</th>
<th>sp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95/p</td>
<td>b/ci95/p</td>
</tr>
<tr>
<td>did</td>
<td>-1.94</td>
</tr>
<tr>
<td></td>
<td>-5.48, 1.61</td>
</tr>
<tr>
<td></td>
<td>0.28</td>
</tr>
<tr>
<td>did1</td>
<td>-0.88</td>
</tr>
<tr>
<td></td>
<td>-4.18, 2.41</td>
</tr>
<tr>
<td></td>
<td>0.60</td>
</tr>
<tr>
<td>did2</td>
<td>-2.99</td>
</tr>
<tr>
<td></td>
<td>-6.88, 0.90</td>
</tr>
<tr>
<td></td>
<td>0.13</td>
</tr>
</tbody>
</table>

| r2          | 0.050       | 0.050       |
| N           | 5724019     | 5724019     |

* p<0.05, ** p<0.01, *** p<0.001

.  runDiDSubPops wtKidsCE199 PCP_TotalVisits
Regression m2
Regression m3

<table>
<thead>
<tr>
<th>sp1</th>
<th>sp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95/p</td>
<td>b/ci95/p</td>
</tr>
</tbody>
</table>

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\begin{verbatim}
*b/ci95/p   b/ci95/p

\hline
\text{did}  \quad -11.54^* \\
\quad -21.48, -1.60 \\
\quad 0.02

\text{did1} \quad -10.80 \\
\quad -21.80, 0.20 \\
\quad 0.05

\text{did2} \quad -12.29^* \\
\quad -21.86, -2.72 \\
\quad 0.01

\hline
\text{r2} \quad 0.157 \\
\text{N} \quad 5724019

\hline
* p<0.05, ** p<0.01, *** p<0.001

\end{verbatim}

\begin{verbatim}
.  runDiDSubPops wtKidsCE199 IP_TotalDays
Regression m2
Regression m3

\end{verbatim}

\begin{verbatim}
*b/ci95/p   b/ci95/p

\hline
\text{sp1} \quad 0.20 \\
\quad -0.88, 1.27 \\
\quad 0.72

\text{sp2} \quad 0.31 \\
\quad -0.77, 1.40 \\
\quad 0.57

\text{sp2} \quad 0.08 \\
\quad -1.32, 1.47 \\
\quad 0.91

\hline
\text{r2} \quad 0.064 \\
\text{N} \quad 5724019

\hline
* p<0.05, ** p<0.01, *** p<0.001

\end{verbatim}

\begin{verbatim}
.  restore

.  .  .

******************************************************************************
******
).* TABLE 5 [QUALITY] INFORMATION**

.  .  .  .

******************************************************************************
******
\end{verbatim}
. ****AVOIDABLE ED VISITS****
.
**************************************************************************
******
.
\text{di "Ave Pre Tx"}
\text{Ave Pre Tx}

. mean \text{ED AvoidableVisits} \text{ if washout ==0 & trtGroup == 1 & post == 0 [pw = wtKidsCE199]}
Mean estimation Number of obs = 2,173,765

<table>
<thead>
<tr>
<th>\text{Mean}</th>
<th>\text{Std. Err.}</th>
<th>\text{[95% Conf. Interval]}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{ED AvoidableVisits}</td>
<td>12.31758</td>
<td>.0672362</td>
</tr>
</tbody>
</table>

. di "Ave Post Tx"
\text{Ave Post Tx}

. mean \text{ED AvoidableVisits} \text{ if washout ==0 & trtGroup == 1 & post == 1 [pw = wtKidsCE199]}
Mean estimation Number of obs = 3,030,827

<table>
<thead>
<tr>
<th>\text{Mean}</th>
<th>\text{Std. Err.}</th>
<th>\text{[95% Conf. Interval]}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{ED AvoidableVisits}</td>
<td>10.26173</td>
<td>.0506772</td>
</tr>
</tbody>
</table>

. di "Ave Pre Comparison"
\text{Ave Pre Comparison}

. mean \text{ED AvoidableVisits} \text{ if washout ==0 & trtGroup == 0 & post == 0 [pw = wtKidsCE199]}
Mean estimation Number of obs = 1,349,888

<table>
<thead>
<tr>
<th>\text{Mean}</th>
<th>\text{Std. Err.}</th>
<th>\text{[95% Conf. Interval]}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{ED AvoidableVisits}</td>
<td>14.21259</td>
<td>.0836444</td>
</tr>
</tbody>
</table>

. di "Ave Post Comparison"
\text{Ave Post Comparison}

. mean \text{ED AvoidableVisits} \text{ if washout ==0 & trtGroup == 0 & post == 1 [pw = wtKidsCE199]}
Mean estimation Number of obs = 1,731,968

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|       Mean   Std. Err.     [95% Conf. Interval] |
|-------------------+------------------------------------------------|
|ED_AvoidableVisits |   15.30964   .0787318      15.15533    15.46395 |

```
runDiffInDiffRegressions wtCE199 ED_AvoidableVisits
Regression m1
Regression m2
Regression m3
```

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
<th>m3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b/ci95</td>
<td>b/ci95</td>
<td>b/ci95</td>
</tr>
<tr>
<td>trendChecker</td>
<td>-0.19</td>
<td>-0.64, 0.27</td>
<td>-1.79**</td>
</tr>
<tr>
<td>did</td>
<td>0.00</td>
<td>-1.79**</td>
<td>0.00, 0.00</td>
</tr>
<tr>
<td>did1</td>
<td>0.00</td>
<td>-3.14, -0.44</td>
<td>0.00, 0.00</td>
</tr>
<tr>
<td>did2</td>
<td></td>
<td></td>
<td>-2.70, -0.07</td>
</tr>
<tr>
<td>r2</td>
<td>0.022</td>
<td>0.023</td>
<td>0.023</td>
</tr>
<tr>
<td>N</td>
<td>4747304</td>
<td>8286448</td>
<td>8286448</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001

```
**************************************************************************
******
***** NOW LOAD QUALITY DATABASE*****
.
**************************************************************************
******
```
use "\\CHSE\\Share\\EX-01_Oregon_CO&CCOs\\Year2Paper\\3 Final Stata Data Sets\\coor_qualityFile2", clear
.
capture drop washout
.
gen washout = cond(year(yearEnding)==2012,1,0)
drop if washout == 1
(4,326,991 observations deleted)
capture drop post
.gen post = 0

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. replace post = 1 if yearEnding >= date("9/30/2012","MDY")
(9,225,082 real changes made)

. gen did = post*trtGroup

. gen inPreTemp = cond(post == 0, 1, 0)
. gen inPostTemp = cond(post ==1, 1, 0)
. bys memberID: egen inPre = max(inPreTemp)
. bys memberID: egen inPost = max(inPostTemp)

. keep if inPre & inPost
(1,541,240 observations deleted)

******************************************************************************
******
****** TRIM WEIGHT AT 99th PERCENTILE
******
****** trim99 wtCE1

wtCE1

-------------------------------------------------------------
Percentiles      Smallest
1%     .8565388       .1689164
5%     1.066588        .177669
10%     1.151201       .1849484       Obs           4,177,753
25%     1.349723       .1878959       Sum of Wgt.   4,177,753
50%     1.700132                      Mean           2.257402
                          Std. Dev.      1.769439
75%     2.615571        132.048       Variance       3.130913
90%     4.991465        132.048       Skewness       7.780691
99%     8.872876        132.048       Kurtosis       180.7051
(41,773 real changes made)

. capture drop year

. gen year = year(yearEnding)
. gen post1 = cond(year == 2013, 1, 0)
. gen post2 = cond(year == 2014, 1, 0)
. gen did1 = post1*trtGroup
. gen did2 = post2*trtGroup
.
. gen month = month(yearEnding)
.
. keep if month == 12
(9,481,614 observations deleted)
.
. gen ave = num/den
.
. *convert to percentage
. replace ave = ave*100 if (measureID <68 | measureID>70)
(985,973 real changes made)
.
.
**************************************************************************
******
** ACCESS MEASURES
******
**************************************************************************

****CHILD/ADOLESCENT ACCESS TO PCP****

****MEASURE 15 *****

.* prePostQualityAverages 15
Ave Pre Tx
Mean estimation                   Number of obs   =     71,348
--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
Ave Post Tx

Mean estimation

<table>
<thead>
<tr>
<th>Mean   Std. Err.     [95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
</tr>
</tbody>
</table>

Ave Pre Comparison

Mean estimation

<table>
<thead>
<tr>
<th>Mean   Std. Err.     [95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
</tr>
</tbody>
</table>

Ave Post Comparison

Mean estimation

<table>
<thead>
<tr>
<th>Mean   Std. Err.     [95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
</tr>
</tbody>
</table>

qualityRegression wtCE199 15
Regression m1 at 11:13:50
Regression m2 at 11:13:53
End regressions at 11:13:55

<table>
<thead>
<tr>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95</td>
<td>b/ci95</td>
</tr>
<tr>
<td>did</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>-0.54,1.26</td>
</tr>
<tr>
<td>did1</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td>-0.85,1.06</td>
</tr>
<tr>
<td>did2</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>-0.39,1.79</td>
</tr>
</tbody>
</table>

r2            0.046   0.046
N            382747  382747

* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:13:56

. di " ****************************************************** "

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. di " "

. di " ****WELL CHILD VISITS AGES 3-6**** "
****WELL CHILD VISITS AGES 3-6****

. di " ****MEASURE 78 *****"
****MEASURE 78 *****

. di " "

. prePostQualityAverages 78
Ave Pre Tx
Mean estimation  Number of obs  =  41,612

--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |   60.45372   .2396957      59.98391    60.92352
--------------------------------------------------------------
Ave Pre Comparison
Mean estimation  Number of obs  =  25,653

--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |    65.6926   .3126655      65.07976    66.30544
--------------------------------------------------------------
Ave Post Tx
Mean estimation  Number of obs  =  98,578

--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |   57.51214   .1580084      57.20245    57.82184
--------------------------------------------------------------
Ave Post Comparison
Mean estimation  Number of obs  =  76,883

--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |   59.15776   .1923172      58.78082    59.53475
--------------------------------------------------------------
qualityRegression wtCE199 78
Regression ml at 11:14:12
Regression m2 at 11:14:14
End regressions at 11:14:16

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b/ci95</td>
<td>b/ci95</td>
</tr>
<tr>
<td>did</td>
<td>2.69***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.20,4.19</td>
<td></td>
</tr>
<tr>
<td>did1</td>
<td></td>
<td>2.52**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.00,4.03</td>
</tr>
<tr>
<td>did2</td>
<td></td>
<td>2.90**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.11,4.69</td>
</tr>
<tr>
<td>r2</td>
<td>0.026</td>
<td>0.026</td>
</tr>
<tr>
<td>N</td>
<td>283320</td>
<td>283320</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:14:17

****ADOLESCENT WELL CARE VISITS****

. prePostQualityAverages 13
Ave Pre Tx
Mean estimation                   Number of obs   =     75,230
|       Mean   Std. Err.     [95% Conf. Interval] |
|-------|-------------------------|-------------------------|
| ave   | 27.14874    .1621439      26.83094    27.46655 |

Ave Post Tx
Mean estimation                   Number of obs   =    117,950
|       Mean   Std. Err.     [95% Conf. Interval] |
|-------|-------------------------|-------------------------|
| ave   | 27.16796    .130782      26.91163     27.4243 |
### Ave Pre Comparison

Mean estimation  
Number of obs = 30,195

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>39.82431</td>
<td>0.3038519</td>
<td>39.22875 40.41987</td>
</tr>
</tbody>
</table>

### Ave Post Comparison

Mean estimation  
Number of obs = 58,071

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>33.76733</td>
<td>0.218572</td>
<td>33.33893 34.19573</td>
</tr>
</tbody>
</table>

```
. qualityRegression wtCE199 13
Regression m1 at 11:14:33
Regression m2 at 11:14:35
End regressions at 11:14:37
```

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95</td>
<td>6.77***</td>
<td>5.22,8.32</td>
</tr>
<tr>
<td>did</td>
<td>5.23***</td>
<td>3.64,6.82</td>
</tr>
<tr>
<td>did1</td>
<td>8.39***</td>
<td>6.66,10.12</td>
</tr>
<tr>
<td>did2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r2</td>
<td>0.051</td>
<td>0.051</td>
</tr>
<tr>
<td>N</td>
<td>364251</td>
<td>364251</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:14:38
Mean estimation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave</td>
<td>83.08538</td>
<td>0.1496188</td>
<td>82.79212  83.37863</td>
</tr>
</tbody>
</table>

Ave Post Tx

Mean estimation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave</td>
<td>80.98885</td>
<td>0.1021578</td>
<td>80.78862  81.18908</td>
</tr>
</tbody>
</table>

Ave Pre Comparison

Mean estimation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave</td>
<td>86.45773</td>
<td>0.2707282</td>
<td>85.92708  86.98838</td>
</tr>
</tbody>
</table>

Ave Post Comparison

Mean estimation

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave</td>
<td>81.08105</td>
<td>0.1471931</td>
<td>80.79255  81.36955</td>
</tr>
</tbody>
</table>

. qualityRegression wtCE199 2
Regression m1 at 11:14:52
Regression m2 at 11:14:55
End regressions at 11:14:57

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95</td>
<td>b/ci95</td>
<td></td>
</tr>
<tr>
<td>did</td>
<td>1.26*</td>
<td></td>
</tr>
<tr>
<td>did1</td>
<td></td>
<td>1.85***</td>
</tr>
</tbody>
</table>
0.88, 2.82
did2

0.73
-0.40, 1.85

r2

0.146
0.146

N

370808
370808

* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:14:58.

* * * OUTCOMES MEASURES * * *

********************************************
* * * PQI OVERALL * * *
********************************************

******

* * * MEASURE 68 * * *

******

.replace ave = ave*1000 if measureID == 68
(10,256 real changes made)

.prePostQualityAverages 68
Ave Pre Tx
Mean estimation Number of obs = 137,390

| Mean Std. Err. [95% Conf. Interval]
|ave | 7.181839 .2519794 6.687964 7.675714

Ave Post Tx
Mean estimation Number of obs = 291,569

| Mean Std. Err. [95% Conf. Interval]
<p>|ave |</p>
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>5.002233</td>
<td>.4623674</td>
<td>4.09598 - 5.908486</td>
</tr>
<tr>
<td></td>
<td>8.065434</td>
<td>.6357641</td>
<td>6.819346 - 9.311521</td>
</tr>
</tbody>
</table>

Ave Pre Comparison

Mean estimation

Number of obs = 36,879

Ave Post Comparison

Mean estimation

Number of obs = 116,298

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>did</td>
<td>-1.42</td>
<td></td>
<td>-3.08, 0.23</td>
</tr>
<tr>
<td>did1</td>
<td>-2.60*</td>
<td></td>
<td>-4.84, -0.36</td>
</tr>
<tr>
<td>did2</td>
<td>-0.22</td>
<td></td>
<td>-1.85, 1.41</td>
</tr>
<tr>
<td>r2</td>
<td>0.118</td>
<td></td>
<td>0.118</td>
</tr>
<tr>
<td>N</td>
<td>740184</td>
<td></td>
<td>740184</td>
</tr>
</tbody>
</table>

* p<0.05, ** p<0.01, *** p<0.001
****MEASURE 69 *****

```
di " "
```

```
.replace ave = ave*1000 if measureID == 69
(5,126 real changes made)
```

```
.prePostQualityAverages 69
Ave Pre Tx
Mean estimation
Number of obs = 137,390
```

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>2.825788</td>
<td>.1258257</td>
<td>2.579172  3.072404</td>
</tr>
</tbody>
</table>

```
Ave Post Tx
Mean estimation
Number of obs = 291,569
```

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>2.607824</td>
<td>.0838072</td>
<td>2.443564  2.772084</td>
</tr>
</tbody>
</table>

```
Ave Pre Comparison
Mean estimation
Number of obs = 36,879
```

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>2.529833</td>
<td>.2940284</td>
<td>1.953529  3.106137</td>
</tr>
</tbody>
</table>

```
Ave Post Comparison
Mean estimation
Number of obs = 116,298
```

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>3.487495</td>
<td>.2980671</td>
<td>2.903288  4.071702</td>
</tr>
</tbody>
</table>

```
.qualityRegression wtCE199 69
Regression m1 at 11:15:37
Regression m2 at 11:15:41
End regressions at 11:15:45
```

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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did                      -1.01**
                       -1.61,-0.41

did1                          -1.80***
                                  -2.79,-0.81

did2                          -0.18
                                  -0.95,0.60

r2                          0.081           0.081
N                          740184          740184

* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:15:46

replace ave = ave*1000 if measureID == 70
(6,145 real changes made)

Ave Pre Tx
Mean estimation          Number of obs =    137,390

|       Mean   Std. Err.     [95% Conf. Interval]
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>4.35605   .2049346      3.954382    4.757718</td>
<td></td>
</tr>
</tbody>
</table>

Ave Post Tx
Mean estimation          Number of obs =    291,569

|       Mean   Std. Err.     [95% Conf. Interval]
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>5.012385   .1626463      4.693602    5.331167</td>
<td></td>
</tr>
</tbody>
</table>

Ave Pre Comparison
Mean estimation                   Number of obs   =     36,879
--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |     2.4724   .3329034        1.8199      3.1249
--------------------------------------------------------------
Ave Post Comparison
Mean estimation                   Number of obs   =    116,298
--------------------------------------------------------------
|       Mean   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
ave |   4.577939   .5380941      3.523283    5.632595
--------------------------------------------------------------
. qualityRegression wtCE199 70
Regression m1 at 11:16:00
Regression m2 at 11:16:04
End regressions at 11:16:09

-------------------------------------------------------------------------------
|     m1      m2
-------------+-------------------------------------------------
|   b/ci95    b/ci95
-------------+-------------------------------------------------
did |   -0.42   -1.74, 0.91
    |            
did1 |   -0.80   -2.58, 0.97
    |            
did2 |   -0.04   -1.42, 1.34
    |            
r2  |   0.077    0.077
N   |   740184    740184
-------------------------------------------------------------------------------
* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:16:10

 Sustainability
. di " ****APPROPRIATE MEDICATIONS FOR INDIVIDUALS WITH ASTHMA **** "
****APPROPRIATE MEDICATIONS FOR INDIVIDUALS WITH ASTHMA ****

. di " ****MEASURE 11 *****
****MEASURE 11 *****

. di " 

. prePostQualityAverages 11
Ave Pre Tx
Mean estimation  Number of obs =  5,902
|        Mean   Std. Err.     [95% Conf. Interval]
---------+--------------------------------------------------
   ave |  74.02575   .5708212      72.90674    75.14477
-----------------------------------------------
Ave Post Tx
Mean estimation  Number of obs =  13,813
|        Mean   Std. Err.     [95% Conf. Interval]
---------+--------------------------------------------------
   ave |  69.89711   .4012982      69.11051     70.6837
-----------------------------------------------
Ave Pre Comparison
Mean estimation  Number of obs =  2,798
|        Mean   Std. Err.     [95% Conf. Interval]
---------+--------------------------------------------------
   ave |  73.40753   1.052183       71.3444     75.47067
-----------------------------------------------
Ave Post Comparison
Mean estimation  Number of obs =  8,747
|        Mean   Std. Err.     [95% Conf. Interval]
---------+--------------------------------------------------
   ave |  72.05347   .5783685      70.91974    73.18721
-----------------------------------------------

. qualityRegression wtCE199 11
Regression m1 at 11:16:24
Regression m2 at 11:16:25
End regressions at 11:16:26

m1          m2
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Err.</td>
<td>95% Conf. Interval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ave</td>
<td>61.91477</td>
<td>.8413721</td>
<td>60.26511</td>
<td>63.56442</td>
<td></td>
</tr>
<tr>
<td>ave</td>
<td>63.25505</td>
<td>.7229134</td>
<td>61.83779</td>
<td>64.67231</td>
<td></td>
</tr>
<tr>
<td>ave</td>
<td>63.25505</td>
<td>.7229134</td>
<td>61.83779</td>
<td>64.67231</td>
<td></td>
</tr>
</tbody>
</table>

**End estout at 11:16:27**

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|       Mean   Std. Err.     [95% Conf. Interval] |
|-----------------|-----------------|-----------------|
| ave             | 38.95701        | 1.22526         | 36.55391     | 41.3601 |

Ave Post Comparison

Mean estimation

Number of obs = 3,377

|       Mean   Std. Err.     [95% Conf. Interval] |
|-----------------|-----------------|-----------------|
| ave             | 37.89097        | .9071798        | 36.11229     | 39.66964 |

. qualityRegression wtCE199 23
Regression m1 at 11:16:41
Regression m2 at 11:16:42
End regressions at 11:16:43

                    | m1          | m2          |
|-------------------|-------------|-------------|
| b/ci95            | b/ci95      |             |
| did               | 4.01        |             |
|                   | -0.70, 8.72 |             |
| did1              | 2.75        |             |
|                   | -2.65, 8.16 |             |
| did2              | 5.32*       |             |
|                   | 0.10, 10.54 |             |

r2                          0.108    0.108
N                           17028    17028

* p<0.05, ** p<0.01, *** p<0.001

End estout at 11:16:43

. prePostQualityAverages 27
### Ave Pre Tx

**Mean estimation**  
Number of obs = 6,166  

<table>
<thead>
<tr>
<th>Ave</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>78.85177</td>
<td>0.5200873</td>
<td>77.83222 79.87132</td>
</tr>
</tbody>
</table>

### Ave Post Tx

**Mean estimation**  
Number of obs = 13,297  

<table>
<thead>
<tr>
<th>Ave</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>77.91684</td>
<td>0.3744954</td>
<td>77.18278 78.65091</td>
</tr>
</tbody>
</table>

### Ave Pre Comparison

**Mean estimation**  
Number of obs = 1,862  

<table>
<thead>
<tr>
<th>Ave</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>73.6823</td>
<td>1.187876</td>
<td>71.35259 76.01201</td>
</tr>
</tbody>
</table>

### Ave Post Comparison

**Mean estimation**  
Number of obs = 6,216  

<table>
<thead>
<tr>
<th>Ave</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>ave</td>
<td>76.22461</td>
<td>0.6438388</td>
<td>74.96246 77.48675</td>
</tr>
</tbody>
</table>

`. qualityRegression wtCE199 27`  
Regression m1 at 11:16:58  
Regression m2 at 11:16:59  
End regressions at 11:17:00  

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>b/ci95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>did</td>
<td>-2.89</td>
<td>-6.13, 0.35</td>
</tr>
<tr>
<td>did1</td>
<td>-2.25</td>
<td>-5.75, 1.26</td>
</tr>
<tr>
<td>did2</td>
<td>-3.62*</td>
<td>-7.15, -0.09</td>
</tr>
<tr>
<td>r2</td>
<td>0.065</td>
<td>0.065</td>
</tr>
</tbody>
</table>
N                           27541           27541
---------------------------------------------------------------------
* p<0.05, ** p<0.01, *** p<0.001
End estout at 11:17:00

. di " ******************************* "
   *******************************
. di " "

. di " ****AVOIDANCE OF HEAD IMAGING FOR UNCOMPLICATED HEADACHE **** "
   ****AVOIDANCE OF HEAD IMAGING FOR UNCOMPLICATED HEADACHE ****
. di " ****MEASURE 26 *****"
   ****MEASURE 26 *****
. di " "

. prePostQualityAverages 26
Ave Pre Tx
Mean estimation                   Number of obs   =     16,742

-------------------------------+-------------------------------------
                     |       Mean   Std. Err.     [95% Conf. Interval]
-------------------------------+-------------------------------------
ave |   15.94194   .2829239      15.38738     16.4965
-------------------------------+-------------------------------------
Ave Post Tx
Mean estimation                   Number of obs   =     30,939

-------------------------------+-------------------------------------
                     |       Mean   Std. Err.     [95% Conf. Interval]
-------------------------------+-------------------------------------
ave |   16.17181   .2170726      15.74634    16.59728
-------------------------------+-------------------------------------
Ave Pre Comparison
Mean estimation                   Number of obs   =      7,257

-------------------------------+-------------------------------------
                     |       Mean   Std. Err.     [95% Conf. Interval]
-------------------------------+-------------------------------------
ave |   18.46937    .583758      17.32504    19.61371
-------------------------------+-------------------------------------
Ave Post Comparison
Mean estimation                   Number of obs   =     18,823

---------------------------------------------------------------------
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|       Mean   Std. Err.     [95% Conf. Interval] |
|------------------|------------------------------------------------|
| ave |   17.04091   .3525963      16.34979    17.73203 |

. qualityRegression wtCE199 26
Regression m1 at 11:17:15
Regression m2 at 11:17:16
End regressions at 11:17:17

----------------------------------------------------
<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b/ci95</td>
<td>b/ci95</td>
</tr>
<tr>
<td>did</td>
<td>2.59***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.35,3.83</td>
<td></td>
</tr>
<tr>
<td>did1</td>
<td>1.34*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.08,2.61</td>
<td></td>
</tr>
<tr>
<td>did2</td>
<td>3.81***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.91,5.71</td>
<td></td>
</tr>
<tr>
<td>r2</td>
<td>0.050</td>
<td>0.050</td>
</tr>
<tr>
<td>N</td>
<td>94689</td>
<td>94689</td>
</tr>
</tbody>
</table>
----------------------------------------------------
*p<0.05, ** p<0.01, *** p<0.001
End estout at 11:17:18
### eTable 1. Sensitivity analyses for Measures of Standardized Expenditures, Models 1-7.

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Model</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total standardized expenditures</strong></td>
<td><em><em>Difference-in-Difference estimate (Coefficient</em>)</em>*</td>
<td>1.996</td>
<td>2.178</td>
<td>-0.273</td>
<td>1.874</td>
<td>-0.227</td>
<td>1.553</td>
<td>-0.17</td>
</tr>
<tr>
<td></td>
<td><strong>Test of parallel trends in pre-period (P-value)</strong></td>
<td>0.329</td>
<td><strong>0.002</strong></td>
<td>0.114</td>
<td><strong>0.002</strong></td>
<td>0.114</td>
<td><strong>0.002</strong></td>
<td>0.114</td>
</tr>
<tr>
<td><strong>Standardized expenditures on E&amp;M visits, tests, procedures, and imaging</strong></td>
<td><em><em>Difference-in-Difference estimate (Coefficient</em>)</em>*</td>
<td>-0.186</td>
<td>-0.203</td>
<td><strong>-1.069</strong></td>
<td>-0.28</td>
<td><strong>-1.053</strong></td>
<td>-0.572</td>
<td><strong>-1.209</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Test of parallel trends in pre-period (P-value)</strong></td>
<td>0.105</td>
<td><strong>0.016</strong></td>
<td>0.003</td>
<td><strong>0.016</strong></td>
<td>0.003</td>
<td><strong>0.016</strong></td>
<td>0.003</td>
</tr>
<tr>
<td><strong>Standardized expenditures on inpatient facility services</strong></td>
<td><em><em>Difference-in-Difference estimate (Coefficient</em>)</em>*</td>
<td>1.386</td>
<td>1.509</td>
<td>0.504</td>
<td>1.366</td>
<td>0.525</td>
<td>1.347</td>
<td>1.386</td>
</tr>
<tr>
<td></td>
<td><strong>Test of parallel trends in pre-period (P-value)</strong></td>
<td>0.771</td>
<td><strong>0.022</strong></td>
<td>0.911</td>
<td><strong>0.022</strong></td>
<td>0.911</td>
<td><strong>0.022</strong></td>
<td>0.911</td>
</tr>
<tr>
<td><strong>Propensity Score</strong></td>
<td>Includes demographics, clinical risk and PCP trends</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Includes demographics &amp; clinical risk</td>
</tr>
<tr>
<td><strong>Study population restrictions</strong></td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
</tr>
<tr>
<td><strong>Time trend included?</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Washout period excluded?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## 3. eTable 1. Sensitivity analyses for Measures of Standardized Expenditures, Models 8-14.

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Model 8</th>
<th>Model 9</th>
<th>Model 10</th>
<th>Model 11</th>
<th>Model 12</th>
<th>Model 13</th>
<th>Model 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total standardized expenditures</td>
<td>1.996</td>
<td>4.893**</td>
<td>1.994</td>
<td>3.445*</td>
<td>1.371</td>
<td>1.781</td>
<td>1.348</td>
</tr>
<tr>
<td>Difference-in-Difference estimate (Coefficient*)</td>
<td>0.329</td>
<td>0.290</td>
<td>0.329</td>
<td>0.290</td>
<td>0.381</td>
<td>0.057</td>
<td>0.057</td>
</tr>
<tr>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>-0.186</td>
<td>0.675</td>
<td>-0.186</td>
<td>0.04</td>
<td>-0.606</td>
<td>0.263</td>
<td>-0.152</td>
</tr>
<tr>
<td>Difference-in-Difference estimate (Coefficient*)</td>
<td>0.105</td>
<td>0.384</td>
<td>0.105</td>
<td>0.384</td>
<td>0.077</td>
<td>0.013</td>
<td>0.013</td>
</tr>
<tr>
<td>Standardized expenditures on E&amp;M visits, tests, procedures, and imaging</td>
<td>2.180</td>
<td>4.208**</td>
<td>2.179</td>
<td>3.397*</td>
<td>1.967</td>
<td>1.516</td>
<td>1.492</td>
</tr>
<tr>
<td>Difference-in-Difference estimate (Coefficient*)</td>
<td>0.771</td>
<td>0.407</td>
<td>0.771</td>
<td>0.407</td>
<td>0.910</td>
<td>0.292</td>
<td>0.292</td>
</tr>
<tr>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics, clinical risk and PCP trends</td>
</tr>
<tr>
<td>Propensity Score</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Study population restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>Enrolled pre-intervention and post-intervention</td>
</tr>
<tr>
<td>Time trend included?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Washout period excluded?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### eTable 2. Sensitivity analyses for ED visits, Primary Care Visits, Inpatient Days, Models 1-7.

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Model</th>
<th>Main specification</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.559</td>
<td>0.259</td>
<td>0.301</td>
<td>0.259</td>
<td>0.301</td>
<td>0.259</td>
<td>0.301</td>
<td>0.515</td>
</tr>
<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Inpatient Days</td>
<td>Difference-in-Difference estimate (Coefficient*)</td>
<td>1.386</td>
<td>1.509</td>
<td>0.504</td>
<td>1.366</td>
<td>0.525</td>
<td>1.347</td>
<td>0.655</td>
<td>2.674**</td>
</tr>
<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.771</td>
<td>0.022</td>
<td>0.911</td>
<td>0.022</td>
<td>0.911</td>
<td>0.022</td>
<td>0.911</td>
<td>0.407</td>
</tr>
<tr>
<td>Propensity Score</td>
<td>Includes demographics &amp; clinical risk</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Includes demographics &amp; clinical risk</td>
</tr>
<tr>
<td>Study population restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>No restrictions</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
</tr>
<tr>
<td>Time trend included?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Washout period excluded?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
eTable 2. Sensitivity analyses for ED visits, Primary Care Visits, Inpatient Days, Models 8-14.

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Model</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.559</td>
<td>0.515</td>
<td>0.559</td>
<td>0.515</td>
<td>0.546</td>
<td>0.845</td>
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<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.509</td>
<td>0.509</td>
</tr>
<tr>
<td>Inpatient Days</td>
<td>Difference-in-Difference estimate (Coefficient*)</td>
<td>1.386</td>
<td>2.675**</td>
<td>1.385</td>
<td>2.160*</td>
<td>1.251</td>
<td>0.964</td>
<td>0.948</td>
</tr>
<tr>
<td></td>
<td>Test of parallel trends in pre-period (P-value)</td>
<td>0.771</td>
<td>0.407</td>
<td>0.771</td>
<td>0.407</td>
<td>0.910</td>
<td>0.292</td>
<td>0.292</td>
</tr>
<tr>
<td>Propensity Score</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics &amp; clinical risk</td>
<td>Includes demographics, clinical risk and PCP trends</td>
<td>Includes demographics, clinical risk and PCP trends</td>
<td>Includes demographics, clinical risk and PCP trends</td>
<td></td>
</tr>
<tr>
<td>Study population restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>No restrictions</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td>Enrolled pre-intervention and post-intervention</td>
<td></td>
</tr>
<tr>
<td>Time trend included?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Washout period excluded?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
**eTable 3. Sensitivity Analyses for Inpatient per Diem Multiplier**

<table>
<thead>
<tr>
<th>Expenditure Measures</th>
<th>Changes in Oregon Medicaid compared to Changes in Colorado Medicaid, Average 2 year effect (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Main specification (per diem rate: $1,573)</strong></td>
</tr>
<tr>
<td>Total Standardized Expenditures (US $)</td>
<td>$2.00 (-$0.79, $4.78)</td>
</tr>
<tr>
<td>Inpatient Facility</td>
<td>$2.18 (-$0.46, $4.82)</td>
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</tbody>
</table>